"It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of Asia, will commit their observations to writing and send them to the Asiatic Society at Calcutta. It will languish if such communications shall be long intermitted, and it will die away, if they shall entirely cease." — Sir Wm. Jones.
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ERRATA

IN

JOURNAL, ASIATIC SOCIETY OF BENGAL, FOR 1873,

PART I.

Page 61, line 36, for सम read सना.
— 61, line 30, for चंपका read चंपका.
— 71, line 17, for आया read आया.
— 74, line 93, for रघुस read रघुस.
— 81, line 6, for बन read बन.
— 81, line 33, for कंकुंच read कंकुंच.
— 81, line 33, for कुक़स read कुक़स.
— 85, line 22, for Skr. Pr. and गाकां read Skr. गाकां and Pr. गाकां.
— 80, line 37,}
— 86, line 9, }
— 100, line 6, }
— 103, line 1, }
— 85, line 16, }
— 101, line 7, }
— 222, line 10, for river read G’hágrá river.
— 235, line 1, for to read and to.
— 236, line 25, for downfall read downfall.
— 236, line second note, for Koch read of Koch.
Note on two Coins from Kausambhi.—By The Honorable E. C. Bayley, C. S. I., C. S.

The two coins which I lay before the Society, come from the site of the ancient city of Kausambhi, situate on the river Jamuna, near Allahabad, a full description of which will be found in Genl. Cunningham’s work on the Geography of Ancient India, Vol. I, pp. 301-98, as also in his Archaeological Reports from 1862 to 1865, Vol. I, p. 301.

Babu Sivaprasad, C. S. I., the Inspector of Schools for the Banaras Division, to whom General Cunningham acknowledges his obligations for information regarding this site, some time ago sent me several coins found upon it. I told him, that though evidently containing types of much interest, they were unfortunately too imperfect for identification, but that I had no doubt, more perfect coins would yield a valuable result.

Babu Sivaprasad has now sent me the two present coins with a few others of less interest, one of the latter is of the type which Col. Stacy termed the “Cock and Bull” type, and bears the legend ‘Dova mita (sa?)’. This coin, however, is not from Kausambhi, but from Eastern Audh.

The first of the two coins which I am about to describe (Fig. i), is rather thin, weighing 37.035 grains, and is of a white metal which does not appear to be silver, but which I have not ventured to clean. The reverse bears a rude and faint representation of some animal, apparently the Indian bull. The obverse bears, in the field of the coin, the symbols of the sacred tree on the left; in the middle a curious semicircular disk, with a sort of handle and some marks within the semicircle, more like a spade or similar agricultural instrument than anything else to which I can compare it.
The symbol on the right appears to be identical with one often found on the early punched silver coins so common in India, and resembles the rod of Æsculapius, or rather perhaps two serpents entwined across a staff.

![Coins](image)

The legend, however, is the most remarkable part of the coin. It is quite legible, and I read it as नर्सवभज, or “Maha Varunā,” the last letter being a compound (as I take it) of the cerebral न = न and the cerebral ड = ड। The last letter may, however, be possibly नाल, in which case the word would read “varūṇā.” In either case, the word would be “varūṇa,” Prakrit for Vārūna, for which no other meaning is given in the dictionaries, but that of “king of the serpents,” of whom it was either the name or title. I am indebted to Itäjā Kālhri-hua for the etymology of the word, which he derives from the root य (यािििि), “to nourish or support,” or as in some lexicons, “to protect, to surround,”—a root from which is said also to be derived the word ‘varanda’ or ‘veranda’ in such common use among us.

The conclusions I would draw from the use of this term are as follows,—whether it was used as the name of the striker of the coin, as such names Balarām, Mahārām, Mahādeo, Suki-hn, are used in our own day, or as an invocation to the deity worshipped; in any case the use of the acknowledged name or title of the serpent king indicates the prevalence of snake worship at Kausambhi at a period which, from the character of the letters, I should be inclined to place at least one century before the Christian era, possibly much earlier.

The next coin (Fig ii) is, even yet more curious. It is of copper and thicker than one above. The weight is 60.444 grs. The reverse also apparently bears the figure of an animal, now undistinguishable; the obverse, however, is unusually clear and distinct, and from the form of the letters, I would give it a more recent date than the previous coin, but still place it not later than the first century of the Christian era.

The symbol to the left Bābu Pratāpachandra Ghosh assures me is the true “svastika,” that which is ordinarily so called, and which is identical with the “fylfot” or Odin’s seal being properly termed Vajrānkus’a.

The centre symbol is the sacred tree, and the third to the right a serpent. The legend runs plainly thus—


I have consulted Bābū Rājendralālā Mitra, Pratāpachandra Ghosh, and Sivaprasād as to the reading of this somewhat obscure compound. Admitting that “ṭhā” might be taken as the equivalent of “tha,” and that again as the Prakrit representation of “sthā,” Bābū Rājendralālā nevertheless prefers to read the legend as written, and I am disposed to agree with him so far. He would take the syllable “ṭhā” as representing the little used word “ṭha,” ṍ, an idol; “ha,” Ṛ, to break; and, jata, Ḍ for जित, conquering or conqueror, with of course “mita” मित, for मित, and would read the whole as “the friend of the conqueror of the idol breaker, or the “idol breaker conquering friend,” the latter construction being one used not uncommonly at the period which I have above assigned to this coin. Bābū Pratāpachandra Ghosh would prefer to read “sthā” for “ṭhā,” and the second letter as “pa,” thus making the two first syllables “sthā pa,” for sthā pa, which, taking “sthā” in the secondary of “the world,” would of course enable them to be rendered as “protector of the world;” but the second letter is, I think, too plainly “ha,” so that the reading of “pa” is not admissible.

Bābū Sivaprasād prefers reading “jata” as “jāta,” born, quoting the parallel name of “Ajātāsatru,” a suggestion which may be well worth considering, the entire thus read might be translated as “friend of him who was born an iconoclast.” Without expressing any preference for these readings, which I give only as suggestions, I leave the further discussion of this very interesting coin to Sanskrit scholars.

Accepting, however, as is, I think, almost unavoidable, Rājendralālā’s version of the two first syllables, the question naturally arises as to who “the iconoclast” is, to whom they point. Genl. Cunningham considers that the earlier Buddhists admitted the use of at most only symbols of the deity, and rejected all representations or worship of Buddha personally. If that be so, the “idol breaker” might well be one of the earlier Buddhist rulers or missionaries: in any case the term is curious as pointing thus early to a struggle against idolatrous worship.

In the next place it seems to me that this curious and somewhat ponderous combination of terms can hardly have been the actual name of any individual, but that it was more probably an assumed title, or synonym, perhaps that of some municipal functionary of Kausambhi. Bābū Rājendralālā has suggested as accounting for the use of the curious word ṍ, that it might have been employed under a custom by which the first letter of a Hindu name is often that of the asterism under which he is born, and as ṍ is the letter for Leo, the name might indicate the birth of its bearer under that asterism. If, however, it was an official title, this suggestion
would not apply, unless, indeed, it might perhaps similarly indicate the commencement of office under that asterism.

Any way, the coins are both very suggestive contributions to the little-known early history of India, and Bābu Sivaprasād deserves the thanks of the Society for bringing them to light.

Rude Stone Monuments in Chutiā Nagpur and other places.—
(With three plates.)

A passage in the address of our President published in the Proceedings for February last, reminds me that I should no longer delay in laying before the Society some extracts from my journal describing rude stone monuments in Chutiā Nagpur. We have here the advantage of possessing both ancient and modern monuments of this type. we may find them crusted with lichens of time and belonging to a generation of whom no tradition even remains, or we may find them still moist with the tears of the mourner!

In my work on Descriptive Ethnology, I have given all the information which I possessed regarding the ceremonies and solemnities adopted by the Kolarian tribes in the disposal of their dead, but in regard to their monuments, their dolmens and monoliths, there is much more to say, especially since, after reading Fergusson's deeply interesting work on the subject, I find that so little is apparently on record regarding the rude stone monuments of Bengal.

In the cold weather of 1871, my work took me through some of the wildest parts of the Singbhùm District, and I saw many good specimens of the sepulchral and monumental stones of the Larka Kols or Illos. The former are in the village sometimes in one place or burial ground under the finest and oldest of the village trees, but sometimes the principal families have each their own collection near their houses.

The sepulchral stones consist of huge slabs covering the spot or spots where the ashes repose in earthen urns, raised a few inches from the ground by smaller stones used as pillars. In the village of Borkola, eight miles south of Chaibásā, I noticed a burial slab placed over the ashes of the grandfather of Sikur, the present deputy Manki of the Pir. Its dimensions were as follows: length, 16 feet; breadth 7 feet; and 1 foot 3 inches thick. Another over Turam, the grandfather of the Manki, length, 16 feet; breadth 7½ feet; thickness, 1 foot. This stone, an enormous slate, was carried from its site three quarters of a mile from the village, and the people devoted two months to the work, moving it inch by inch on rollers, when men could be collected for the purpose.
It is not surprising that they should take all this trouble for a man in the position of the Borkela Manki who is a chief of considerable influence and old family; but at the next halting place, Sargam Hato ('the village of the Sāl Tree'), I saw a huge stone which had been brought to the village in anticipation of the death of an old woman who was in the last stage of decrepitude. This old crone was not a pleasing object to gaze upon, and she had been for many years a burden to her family, but she had been kindly cared for, and had the gratification of knowing that a public funeral had been decreed to her, and the satisfaction of gazing on the monumental stone which had already been prepared to commemorate her virtues.

The Saranda Pir is a mass of hills forming the southern geographical division of the District of Singhbhum, and has a population, chiefly Kols, of about 700 souls. I entered the northern portion of this wild, unfrequented tract on the 1st January, 1872, and passing through it from end to end, emerged in Bonai on the 7th.

The villages of Saranda are few and far between, and the scanty population of the Munda type of Kols are in a very primitive state having no intercourse with the world beyond their own valley. In marching through the Pir to Bonai, the road continued up the valley watered by the Koina, which we traced almost to its source, and the small villages were for the most part on or near its banks. The sites were picturesque enough, and we generally found for our bath, pools shaded and rock-bound, in which Diana and her nymphs might have disported themselves. The people were at first rather shy. Many of them had never before seen a white face, but they gained confidence as we quietly advanced, and no evil fell on them in consequence of our intrusion. On one occasion, the women of a village which we passed were induced to follow us to camp, and there they sang and danced for us. Most of the men were away clearing the road; but those we saw, and the girls, in number twenty-five, who danced for us, were of strikingly fine physique, and there was very little drapery to hide their grand proportions. The predominance of eyes, nose, and mouth of the Mongolian type was very remarkable; some of them were of very light and bright colour, one of the group from her features and complexion might have been taken for a Chinese girl. Such traits stereotyped in Saranda, seem to indicate that these Mundas have been there from a very remote antiquity without opportunities of miscegenation. Some of the young women told me they had never ventured to cross the borders of their Pir.

After the dance we remained on very good terms with the fair sex in Saranda. The young women joined the men in clearing our path through the forest, and the vigour with which they used their felling axes, the hearty, good humour with which they toiled at the work, greatly astonished and edified our comparatively indolent and apathetic camp followers.
There are no ruins in Saranda, no indications of its having ever been even partially inhabited by people of civilization superior to those who are now there. The Saranda Garh (i.e. fort) shewn in the map is a mere earthen wall and moat constructed round the site of a house, formerly occupied by a family who are said to have held the position of chiefs of Saranda. Within this enclosure, there is a wonderful iron kettle-drum of gigantic size. It lies bottom upwards half buried in the earth. The people of the place could not be induced to go near it, except as postulants in an attitude of prayer! The tradition is that when the chief wished to summon his people, the drum was conveyed to the summit of the highest hill, and it could thence be heard in every village in the Pir.

I give these extracts from my journal to shew that in the Saranda Kols we find a very primitive type of the race. They are, by their own account, the true autochtones of the country, and till recently, no one has ever attempted to intrude on their exclusive occupation of this mass of hills. They repudiate all traditions of migrations which neighbouring cognates accept. The country they occupy was made for them and they for the country, and how long have they been here?

The oldest looking village that I saw, was called Rongso, where my tents were pitched under some grand old tamarind trees of immense age. Close adjoining, two noble Banyan trees stretch out their long arms and great hands over a vast area of massive slabs, which cover the ashes of past generations of the villagers. The small huts in which the living dwell, are miserable structures, but the dead lie in the most solemn and impressive burial ground that I have ever beheld. I have seen no finer Banyan trees than those which here form not only the canopy of the mausoleum, but grow columns and arches separating the whole into compartments, which fill the mind with a vision or dream of aisles, transepts, and crypts,—an old abbey of the Elves or Dryads. The site, it is said, was originally taken up by one family. There are now fifteen houses and about 75 inhabitants. The deaths are at the rate of about two per cent. per annum. All who die do not attain to the dignity of a slab, and the ashes of several members of a family may be deposited under one stone; for this is the custom of the Mundas, and I found the Saranda people more Munda than Ho, that is, in customs resembling more the Kols of Chutiá Nágpúr proper, than the Singbhum members of the family. The slabs above ground considerably exceeded 300 in number, but there were more buried or nearly buried. We may assume 400 slabs, and if we give only two to a slab and make allowance for the increase which starting with one family there must have been in numbers, we have proof of great age in what we see.

But this is a pigmy burial-ground in comparison to some which I subse-

quently visited.
I am indebted to Mr. T. F. Peppé for having directed my attention to the great Munda burial ground of Chokahatu (‘the place of mourning’), and for the photograph of this very interesting scene, which I am sending with this paper.

This village is situated between Bundú and Buranda with Tamár to the south. These are all estates in the Lohardagga District, or it would be better to say in Chutiá Nágpūr proper, called now, with two others, Pánch (five) Parganah. The majority of the population and oldest people are Mundas, and the chiefs, who are usually called Rájás, are unquestionably Mundas too, though they are now thoroughly Hinduised, and call themselves Rájpúts and Kshatriyas. There is a burial ground at Bundú, which merits attention, as a section of an understratum of graves, buried by time, is shewn where the soil has been cut away by water, and the cinerary urns are exposed, but the account of one will suffice.

The road from Bundú to Chokahatu goes east through a highly cultivated country. It crosses the Kanchei River, and on the right bank of that stream, I came unexpectedly on some very old looking ruins of stone temples, eight in number, apparently dedicated to Sīva, as I noticed several lingas about, the only visible objects of worship.

The temples were mere shrines built of cut stones, squared and put together without any cement or clamps. No one in the neighbourhood has the faintest notion by whom, or at what period, these shrines were constructed. A quarter of a mile east of the ruins, I found a deserted Kol burial-ground, close to the village of Dāruhāru, but the people of Dāruhāru dare not use the old burial-ground; the descendants of those whose ashes lie there are gone out of sight and memory. And the Dāruhāru people’s remains must be taken to a spot two miles distant from their houses! Now I noticed that in this deserted burial-ground a very free use had been made of the stones cut for the temples, the slabs rested on such cut stones, so the deserted burial-ground was in use when the temple was in ruins, but all around have now passed away from the recollection of man, both those who worshipped the Sivas of the shrines, and those of another dispensation who helped to destroy them.

It was past noon when we came in sight of the great Chokahatu* burial-ground. It was then between us and the village of the name, the centre of a great plain, an anomalous interruption to a huge expanse of terraced cultivation. There are no great trees here to shade the graves, the field of mourning has no such solace.

The march had been a long one, and there was no time to lose, as I could not afford a halt, so I set all my clerks at once to work to count the slabs, and to measure the area of the space which they covered. The result gave

* Lat. 23° 10’, North; Long. 86° 50’, East.
seven thousand three hundred and sixty tombs, mostly of the dolmen or
cromlech form, almost covering an area of 22 bighas and 16 kattas, more
than seven statute acres, and so close together, that you might traverse the
ground in different directions stepping from grave to grave.

Many of the slabs appeared level with, some even below, the surface.
Their sunken condition proclaimed their age, as we may presume that origin-
ally they were like the others above ground, supported on vertical stones.
The horizontal slabs are many of them, huge masses of gneiss of various
irregular forms. One, 15 feet 3 inches in length, by 4 feet 6 inches in breadth,
was supported on five square pillars, 18 inches above ground; one half-buried
slab, nearly elliptical in form, measured 12 feet 9 inches by 9 feet 10 inches;
one nearly circular, like a table, 33 feet in circumference; another 18 feet in
length had seven legs. A triangular slab properly appeared as a tripod, and
one 13 feet 4 inches by 6 feet 8 inches had six legs.

I do not know that I have given the dimensions of the largest; there
were many that appeared at least as large as those I measured.

There is no question as to the object of these raised slabs. Chokahatuk,
the ‘place of mourning,’ is still used by the Mundas of the village so-called,
and nine of the surrounding villages, for the interment of their cinerary
urns, and I believe one need not be long there to witness the ceremony.
Many of the cromlechs appeared to have been freshly set up, many had
about them a look of hoary age.

I obtained a list of villages which have places allotted to them in the
burial-ground, and from the census returns, these villages contain nearly two
thousand Mundas who by their faith, if they preserve it, must there deposit
their cinerary urns. The mortuary statistics of the selected areas of the
Lohardagga District give an annual average death-rate of under 20 per
mille. If the population and the death-rate were always the same, and every
cromlech covered the ashes of only one person, the number of slabs (which we
may assume to be 8000, including buried and broken up graves not counted)
would represent a period of only 200 years; but if, as with the Kasias, each
cromlech is a family vault, and we allow for increase of population as years
advanced, and make corresponding deduction in the number of deaths annu-
ally, as we count back we might give 1000 to 2000 years as the age of the
oldest now existing, and probably excavation would disclose an understratum
of similar graves.

I was told on the spot that some of the slabs were known to cover the
ashes of several members of a family, but the ashes of one or two great men
reposed in solitude. In Singbhum, the latter custom is prevalent; but
amongst the Mundas of Lohardagga, the family grouping of ashes is prac-
tised.

It is, of course, hard to say what changes may have taken place, likely
to affect the numbers of the Munda people in this part of the country, but there is no reason for supposing that there has been any considerable reduction by emigration. All Mundas who make use of the Chokahatu cemetery, must, in accordance with the creed of the race, be the descendants of colonists who established themselves at Chokahatu or somewhere near it. The founders of the other villages must be offshoots from the first settlement; the probability, consequently, is, that the Munda population of this neighbourhood has greatly increased.

The monumental stones in this part of the Munda country are few in comparison with the sepulchral; but many are noticeable, some in the villages, even within the garden enclosures (as they are always placed by people of the Kharriah tribe), some scattered in the fields as if placed there for the benefit of the cattle, like those whose founder Scotchmen are said to bless, and some in groups. The arrangement of the group is in line, perhaps indicating a line of ancestors or a family. They frequently served for a father, mother, and their offspring; but I do not find that more than one monumental pillar is ever set up in honor of one person. The turban seen occasionally on the central and tallest of a line of such monuments in the Kasia Hills, I have never perceived amongst the Kols; but though I have not myself seen carved pillars erected by Mundas to the memory of the dead,* I have heard of them.

It appears from Yule's account† of the Kasia cenotaphs, that cromlechs are sometimes found in front of them, a flat stone resting on short rough pillars which form the ordinary road side resting place of the weary traveller. These are not cineraries. I have stated in my 'Ethnology' that the Singhbhum Kols, when they first set up a monument, make round it a plinth of earth, on which the ghost of the departed or other person who is bold enough to take the seat may rest, but I have recently seen both in the Lohardagga and Singhbhum districts.

Monumental monoliths with little cromlechs in front, ghost seats, resembling exactly the Kasia seats, depicted and described by Colonel Yule, I first saw in Sonapet, a beautiful valley, the hills forming which give birth to the Sona River, an auriferous stream, hence the name. This valley has been held for ages exclusively by Mundas. Each village is a parish with its separate burial-ground and head man, and at the entrance of one of these, the village of Sārsi, I saw, a fine monument of this description, raised to the memory of a respectable inhabitant recently demised. The Hārgari, or cemetery, was at the other side of the village, and his grave was there shewn to me. So there could be no doubt that the seat was not, as I

* Mr. T. F. Pepe has kindly favoured me with a sketch of such carved pillars which I forward.
† Journal, As. Society, Bengal, No. CIII, 1864.
had at first supposed, the itinerant. The pen and ink sketches herewith sent are of similar monuments in and near the village of Regadih in Kursaon.

As the monolithic monuments throughout the Kol country, nominally, bear no proportion to the cromlechs, we must infer that the erection of the former in the name of the deceased is a much greater and rarer honor than the construction of the latter. In Singbhüm, the Mundas and Mankis are even now ruminating on the expediency of cutting on the pillar at least a name and date to shew to posterity in whose honor it was set up and when; for they admit that the object is not attained under the present system, as the name does not survive to a third or fourth generation.

The same remark applies to many pillars which have been set up to commemorate some solemn compact or action of importance, of which the stone itself now tells nothing. The art of making the stone tell its own story must be taught at the Chaibásá Industrial School.

In some parts of the country, suitable stones are not readily procurable. The first alternative is a cairn, a heap of stones usually constructed round a post, the second the post alone; but the top of the post, if set up in honor of some deceased friend or hero, is credibly carved into the representation of some animal. It looks like a cross between a camel-leopard and a horse. It is, I believe, the Bir Sadom of the Kols, the jungle horse, the Nilgái, Antelope pica.

It is obvious that a people thus addicted to the use of these milestones of ages, (without figures unfortunately) must have left traces of themselves in all places which they have successively occupied; and from all I have heard and read and also from what I have seen, I am of opinion that such traces of Kolarian occupation may be found wherever the cognates of the Mundas of Chutiá Nágpúr have been located.

There are traditions of the pre-Aryan Kol occupation of the Bihár and Gayá districts, and Mr. T. F. Peppé, Sub-Deputy Agent, who takes great interest in these questions, has seen the monolithic monuments in Japlá, and Balaunja, in Siris Kútúmba, in the wilder parts of the Gayá district, and about Shergháthí. We thus have them up to the Son River and in the Gangetic provinces. Mr. Peppé’s note to me on the subject is appended.

From the western parts of the Mánbhüm district, the Kûrmis, it is said, expelled the Kols. We have good proof of this in the fact that the Kûrmis are now there in possession, and within their boundaries we find the sites of the old Munda villages clearly indicated by their old cemeteries and occasional monolithic monuments.

In a southerly direction, I have found these Munda footprints as far as the confines of the Sambhalpúr district, and indeed in that district, and in Bámrá.

In all the places above mentioned, we have either the Mundas in situ, or traditions of their occupation and the stone monuments to attest the tradi-
The great Munda Burial-ground at Chokhata (p. 448).
(from a photograph.)
Regadhi Monumental Stones with Ghost's seats.
(From a Sketch by Col. E.T. Dulton, C.S.I.)

Monumental Stones, carved and plain, near Bajpur,
Lohardaga, Chotia Nagpur.
REGADHI MONUMENTAL STONES WITH GHOST’S SEATS

(From an Ink Sketch by Col E. T. Dalton, C S I)
tion; where we find the latter without the traditions or the people, we may still safely infer that we have got on Munda tracks.

Note by Mr. T. F. Peppe.

'I have observed the monumental stones all along the boundary between Bihár and Chutiá Nágpúr, and have little doubt they would have been found in the more civilized portions of the Bihár and Patna districts, had not the custom been so common of erecting monumental stones in honor of deceased Hindús at the road sides leading into the village; and all sorts of stones are found set up in this way, many of them rude uncut stones, others parts of temples, and I feel sure many of them have been appropriated from their Kolarian predecessors.

'In the wilder parts of Bihár, in parganahs Japla, Balunja, Sirris Kútúnba and also in Shergháti, they are often to be met with, and their being found scattered over the country leaves little doubt of their Kolarian origin, to which local tradition assigns them.

'In several places, I have seen a singular kind of monumental stone in the Lohardagga district, and the accompanying sketch may give you some idea of those I have seen near Bajpúr, some few miles north of Nugri. They were claimed by the Pahan, or priest, of the village, who said that they had been set up in honor of his ancestors. I have seen them at other places also, but cannot remember where.

'With regard to Hargaris, or Harsaris, as they are sometimes called, I think it worth noting that the largest collections are found in the tract of country lying on both sides of the Subanrekhá, bounded on the west by the Chutiá Nágpúr Gháts, on the east by the Ajodia hill, on the south by the Singhbhúm hills, and on the north by the hills forming the boundary between Házáríbágh and Lohardagga and Mánbhúm. This tract includes the parganahs of Silli, Barunda, Rahi, Bundú, and Tamár on the west side of the Súbanrekhá, and parganahs Júlda, Bygonkudar, Bághmúrí and Patkom on the other side. Judging by the vast collections of grave stones, this tract must have been occupied by a Munda population for a much longer time than any other portion of Chutiá Nágpúr I have seen. As you approach or recede from this centre, the collections of grave stones increase or diminish in number and importance, and it is curious to observe that, in the upper portion of the Damúdar valley, such indications of a Munda population are wanting, only monumental stones being met with.

'The largest slab I measured at Chakahatu, was 16 feet by 6\(\frac{1}{2}\), by one foot in thickness, but at Barundah, about two miles to the north-west, there are some much larger.

'On remarking the comparative insignificance of the burial places on the plateau with those in the ‘Lutur Desum’ or low country, I have frequently been told in reply that it is only the Munda and his Bhúaínhárs who have slabs in the former, whereas down below every Muida family have their slab.'
The History of Pegu.—By Major General Sir Arthur P. Phayre, K. C. S. I., C. B.

(Continued from p. 57.)

Rádzidirít was succeeded by his eldest son, Binya Dhamná Rádzá. His two younger brothers, Binya Ran and Binya Keng, who were governors of Dala and Takuu (Rangoon), believing that he bore them ill will, entered into a mutual compact for their own protection. They came then to open war with the king, but Binya Ran made his peace, and was appointed crown prince. Binya Keng then wrote to the king of Ava, asking for assistance, and tendering his allegiance. The king of Ava at this time was Thiñhatthu. He at once sent a force into Pegu, which occupied Dala, but gave great offence to Binya Keng by plundering the town. Binya Keng, disgusted with his allies, secretly made submission to his brother. Some of the principal Burmese officers were treacherously murdered; and a small remnant of the invading force was allowed to retire to Prome. Binya Keng was now forgiven, and was sent to Dala to put the defences in order. After some time Binya Ran, wishing to have the western provinces under himself, induced Binya Keng to move to Muttama, where he was appointed governor; while Binya Ran had Dala, Bassein, and Tharawati. The king remained at the capital with only nominal authority. The king of Ava at this time was Mengrêthîñhatthú, who ascended the throne in 784 (A. D., 1422). He determined again to invade Pegu, and sent down an army under two generals. Binya Ran decided to enter into an alliance with him, and offered his sister Tsáubomé in marriage. This was accepted, and the princess having first been consecrated as a queen, went to Ava. After this, the king of Pegu was poisoned by one of the queens, instigated, it is supposed, by Binya Ran. He reigned only three years.

The crown prince now succeeded, and is known as Binya Rankit. He allowed Binya Keng to be viceroy at Muttama, where he was almost independent. He enjoyed that power for eighteen years, and was then succeeded by his sister, who was married to an officer of high rank. This king, though he had some causes for dissatisfaction with the king of Ava, did not go to war. In the Burmese history it is stated that, about the year 790 (A. D., 1430), he interfered in the succession to the throne of Thau ngu, and placed thereon Mengtsán-ú, the son of a former king. This event is not mentioned in the history of Pegu. The rulers of Thau ngu, at this period, were anxious to be independent of Ava, and the fact is, no doubt, correctly stated. About this time the king’s sister, who had been married to Mungthi-ha-thá, king of Ava, under the name of Tsáu-bo-mé, being dissatisfied with her position at that court, fled secretly with the assistance of two
Buddhist monks, and came to Pegu. She was received by her brother with great distinction, and now becomes known in Peguan history as Thakheng, of Sheng-tsáu-bú.

When Monhyin Meng-ta-rá succeeded to the throne of Ava, the ruler of Táungú, Theng-kha-rá, declared himself independent, and claimed to be the rightful king of Ava. He entered into correspondence with Binya Rankit, proposing that they should march with their joint armies to take Prome, and promising, if he was successful in gaining the throne of Ava, to present annually gold and silver flowers in token of allegiance. This was agreed to, and a force of 35,000 men with five hundred elephants, under the command of Tha-min-pa-rán, and 30,000 men by the river under Binya-in, proceeded to Prome.

The king himself went by water; the king of Táungu marched his men across the mountains, and the allied armies then invested Prome. The king of Ava was too much occupied at home in securing his own position, to be able to send any succour to Prome. The governor of that city was, therefore, obliged to surrender it. But negotiations were opened, and Binya Rankit married a daughter of the king of Ava, and then appears to have deserted his ally. Ava and Pegu were now on good terms, but the historian is silent as to what was done with Prome. Pegu was prosperous in this king’s reign, and he was much beloved. He repaired and adorned the two great national pagodas Shwé-máw-dau and Shwé-ta-kun. He died in the year 808, or A. D. 1440, after a reign of twenty years.

This king’s successor was his nephew and adopted son, Binya Wa-ru, the son of Sheng-tsáu-bú by her first husband. He reigned only four years. He was careful as to the administration of justice; the country was quiet; and there was unrestricted commerce with the adjoining kingdom.

The next king was Binya Keng, a son of Binya Rankit. The Burmese history says that he was assisted to gain the throne by Narapati, king of Ava. He reigned only three years, and was succeeded by Mháu-dau, his cousin.

This King was a cruel tyrant, and put to death all the male members of the royal family whom he could lay hold of. The whole people, clergy and laity, joined against him, and five noblemen put him to death. He reigned only seven months. All the leading men of the country now implored queen Sheng-tsáu-bú, the daughter of Mádžádít, to take the sovereign power of the kingdom. She consented and was consecrated. All the people, Mun, Mrámmá and Kulá, rejoiced, and the country had rest. The queen received letters from the kings of surrounding countries, and beyond sea from Ceylon and Bij-ja-ná-ga-ран, with which there was much commerce. The queen was devoted to religion; religious buildings were repaired or erected; and the two great national pagodas were entirely re-gilded. Additional land was assigned to them, and five hundred families were dedi-
cated as slaves to the service of the Shwé Dagun, with a complete establishment of artisans and warders for service, day and night.* One of the Buddhist monks who had assisted the queen to leave Ava, was chosen by lot to become a layman; he was then raised to the rank of crown prince, with the title of Dhammádzedi, and was married to the queen's daughter. Being suspicious that the other monk would, from envy, seek to raise a disturbance in the country, he had him put to death. After four years, the queen retired to Talkun, where she built a new palace, the site of which is still preserved by tradition. The crown prince remained at Hantháwati, where he carried on the duties of government, but once a month he came to pay his respects to the queen. Sheng-Tsáu-bú, after reigning three years at Ta-kun, died at the age of sixty-five years. Her name is held in high honour among the people to this day; and a national festival to her memory is celebrated once a year at Rangoon.

The crown prince Dhammá Dzedi was consecrated king. Some nobles were discontented as he had no hereditary right; but when they saw how well he ruled the country, they were reconciled to him. He is celebrated in the history of Pegu for his great wisdom. Numerous instances are given of the difficult questions which he solved, and the decisions he gave in various legal suits. Embassies came to him from China, Siam, Ava, Hau (?), and Ceylon. He was earnest in religion. He made no wars, but extended the boundary of his kingdom east of the Than-lwin, establishing the district of Mháing-lun-gyi. His subjects believed that he could make gold. He died after a prosperous reign of thirty-one years, in the year 853, or A. D. 1491. He received the funeral honours of a Tsekya-wati (Chakrawarti), or universal monarch, and a pagoda was built over his bones, which was crowned and gilded all over, as if it were an object of worship.

He was succeeded by his son Binya Ran, whose mother was the daughter of Sheng-tsáu-bú. During the long reign of this king, nothing is recorded as to intercourse with foreign countries, which had been so prominent in his father's time. He made a progress up the Bráwati at the head of a large army, which is called a pilgrimage to the Shwé-zi-gun pagoda at Págán. When passing Prome, he was received with high honour by the ruler of that city, who appears then to have been an independent prince. At this time, the king of Ava had little power beyond his own city. In the Burmese history, it is stated that Binya Ran made an attack on a fort built by the king of Táungu, but this is not mentioned in the Peguan history. Binya Ran died in the year 888 (A. D. 1526), after a reign of thirty-five years.

* For many centuries the servitors and warders of pagodas in Burma have been slaves, that is, persons condemned to the occupation, or descendants of such persons. They are degraded outcasts among the general population. Joshua condemned the Gibeonites to similar occupation. See Book of Joshua, chapter ix. 27.
This king had appointed one of his younger sons to succeed him. This was done through the influence of the mother, but the child was put to death the day his father died, and another son, named Ta-ká-rwut-bi, who was fifteen years of age, ascended the throne. He paid no attention to the affairs of the kingdom, but passed his time in frivolous amusements with evil companions. He disregarded all warnings, and as many evil portents appeared, and even a flaming comet waved in the sky, the people dreaded some dire disaster. At this time Meng-ta-ra Shwé-htí, called Ta-beng Shwé-htí, was the king of Taungu, having succeeded his father in the year 892, when he was only sixteen years of age. Taungu, from being an insignificant state, had slowly risen to importance, and when Ava fell to a race of Shan kings, the rulers of Taungu gradually came to be considered the representatives of the ancient Burmese monarchy. Binya Ran, no doubt, had made an attack on Taungu which had been repelled. The young king, a warlike and ambitious prince, determined to avenge the insult. His first attack on Pegu was made in the year 896. It was unsuccessful, but for four successive years he led his armies against his enemy. At last in the year 900 (A. D. 1538), he mastered the capital Hanthá-wati.* Takárwutbi is said in the Burmese history to have retired to Prome, where he was kindly received by the king; and it is added that the king of Ava, Tho-han-bwá brought a Shan army to his assistance. But Tabeng-Shwé-htí appeared with an army near Prome, and a battle was fought, chiefly by the flotillas on the Eráwati, in which he was victorious. But he does not appear to have been strong enough to take Prome; for he retired down the river, and no action was taken to follow him. The unfortunate king of Pegu, unable to induce his allies to support him further, marched down with a small force, and lost his life in the jungle of his native country. In the Taing history is stated that the king of Ava, who is referred to merely as a Shan Tsáu-bwá, came down to Pegu with an army to assist Takárwutbi, but as they could not agree to the term of an alliance, the former retreated without doing anything. The king of Pegu then died of sickness in the jungle of the district of Engabu. This was in the year 902 (A. D. 1540), and the Shan royal line of Pegu, which had been established by Wa-ro-ru in A. D. 1287, became extinct. The new dynasty pursuing a reckless career of conquest, raised the kingdom to a height of dazzling, but false, prosperity, which excited the astonishment of European travellers. But in less than half a century, the country was utterly exhausted, and the population so reduced by war, pestilence, and famine, that to this day it has not recovered.

The narrative having reached thus far into the sixteenth century, when

* These destructive wars which ended in the conquest of Pegu by the king of Taungu, are described in the Burmese history. See Journal, As. Soc. Bengal, Vol. XXXVIII, for 1869.
European voyagers, appeared in Burma and Pegu, it is desirable to relate what can be gathered regarding those countries from the narratives of travellers which have come down to us. They give, as might be expected, an insight into the condition of the people, which is not to be obtained from the native chronicles. Up to the beginning of the sixteenth century, European travellers had arrived in Indo-China, either by land, by sea from India, or after the Cape of Good Hope route was discovered, from Malacca. At that time there appears to have been no jealousy felt at their presence. That feeling was developed throughout Southern Asia by the conquests of the Portuguese, the Dutch, and the British, by which European dominion seemed, to the minds of the people, to loom like a dark cloud over their destiny.

After Marco Polo, who came into Burma from Yunan towards the close of the thirteenth century, the earliest traveller's narrative which has come down to us, is that of Nicolo Conti, a Venetian, whose travels have been edited by Mr. R. St. Major, for the Hakluyt Society. This traveller, leaving Europe on a trading expedition, arrived by land at Bussora, and sailing from the Persian Gulf reached Cambay. From thence he went to Ceylon and Sumatra, and sailed up the Malay coast to Ternasserim, now Tenasserim. Passing then by Pegu, he went to Bengal entering the mouth of the river Ganges. Remaining some months in India, he returned southward, and sailing apparently from Chittagong, came to the city of Rachan (Rakhaing, or in the modern Europeanized form, Arakan), and river of the same name.

From this city he travelled through "mountains void of all habitations, "for the space of seventeen days, and then through open plains for fifteen "days more, at the end of which time he arrived at a river larger than the "Ganges, which is called by the inhabitants 'Dava.' Having sailed up this "river for the space of a month, he arrived at a city more noble than all "the others, called Ava, and the circumference of which is fifteen miles."

It appears most probable from the narrative that Conti was at Ava about the year 1430, which would be in the reign of Monlyin Meng-ta-rá, the eighth in the list of kings who reigned in Ava. The river Dava, it has been suggested by Colonel Yule, was originally written "Fiume d'Ava," the name told to Conti for the Eráwati on first reaching that river, after having crossed the Yoma Mountains. The country of Upper Burma he calls 'Macinus,' derived from Maháchín, or Máchín, a name which Colonel Yule has shown to have been applied by Muhammadan voyagers both to China and Indo-China. Conti, no doubt, was in company with Indian traders from Bengal, from whom he would learn this name. In the Ain Akbari, it is stated that former writers called Pegu 'Chín.' Conti describes very correctly two methods employed in Burma for catching wild elephants.
He mentions the habit of tattooing the body, and says that the women practise it as well as the men, which is not now the case. The king, he says, has ten thousand elephants, which he uses in his wars. "They fix castles on their backs, from which eight or ten men fight with javelins, bows, and those weapons which we call crossbows." The number ten thousand is, no doubt, an exaggeration, probably double the actual number. From Ava, Conti proceeded towards the sea, "and at the expiration of seventeen days he arrived at the mouth of a moderately sized river, where there is a port, "called Xeythona, and having entered the river, at the end of ten days, he "arrived at a very populous city, called Panconia, the circumference of "which is twelve miles."

It is not said by what route Conti went from Ava, but apparently it was by land to Ramothen and Taungu. The port Xeythona may possibly be the town of Sittang, but that town being situated on the river of the same name some seventy or eighty miles from its mouth, and the river not being navigable from the sea, it can scarcely be called "a port." The name, therefore, is more probably meant for Tha-h tuna, which was an ancient and celebrated port, and was still to some extent frequented. It is now mentioned for the last time in the history of Pegu. The populous city of Panconia, a misprint probably for Panconia, is no doubt Pegu, or, as Conti would have heard it called, Pa-go or Ba-go. The traveller makes no mention of any war between the kings of Ava and Pegu, and from A. D. 1426 for many years no such war is recorded in the native histories. Conti's narrative agrees well with the local histories, and from his notices of the people, the truth of his statements is evident, even when he mistakes some of the native customs. Thus he observes of the Burmese: "All worship idols; nevertheless, when they rise in the morning from their beds, they turn towards the east, and with their hands joined together say, 'God in Trinity and his law defend us.'" All pious Buddhists in Burma, on first awaking in the morning, invoke or bless the three precious objects "Budha, his law, and his disciples;" but, of course, there is here no reference to God in Trinity.

The next traveller who claims our notice, is Athanasius Nitikin, a Russian, who came to India between 1428 and 1474. He mentions having gone from Ceylon to Shibait and Pegu. He merely observes of the latter— "It is no inconsiderable port, principally inhabited by Indian dervishes." He perhaps means that the principal merchants were Indians, as he says the products of the country were sold by the dervishes. Why he should style them dervish is not apparent, but probably most of the Muhammadan merchants assumed the title of Haji.

Hieronimo de Santa Stefano, a Genoese, came by the Red Sea to India, to the port of Calicut; thence to Ceylon and Coromandel, which latter
probably means a port on the Krishna or Godávari. From Coromandel, the traveller came to Pegu, and records that he was detained there for a year and a half, and that his companion Hieronimo Adorno died on St. John's day, 1496. He was buried "in a certain ruined church, frequented by none," which refers no doubt to a deserted Budhist kyaung, or monastery. Pegu he calls Lower India, and says of the capital:—"Here is a great lord who "possesses more than ten thousand elephants, and every year he breeds five "hundred of them. This country is fifteen days journey by land from another, "called Ava, in which grow rubies, and many other precious stones. Our "wish was to go to this place, but at that time, the two princes were at "war, so that no one was allowed to go from the one place to the other. "Thus we were compelled to sell the merchandize which we had in the city "of Pegu, which were of such a sort that only the lord of the city could "purchase them. * * * * * The price amounted to two thousand "ducats, and as we wished to be paid, we were compelled, by reason of the "troubles and intrigues occasioned by the aforesaid war, to remain there a "year and a half, all which time we had daily to solicit at the house of the "said lord." At this time, 1496, Binya Ran was king of Pegu. It does not appear from the native histories that he had any direct war with the king of Ava, but he did attack Dwárawati, a fort belonging to Táungu about this very year 1496; and as the king of Ava affected to consider himself the superior of the king of Táungu, some expectation of hostilities may have existed. An expedition was made up the Eráwati a few years later, as we shall see presently. Though the traveller complains of the delay in payment being made for his merchandize, yet he appears to have been treated justly. The property of his deceased companion was seized as a forfeit to the king, such being the ancient law of Burma in the case of foreigners dying in the country. He says, "I was so grieved and afflicted by his death, that it was "a great chance I had not followed him, but * * * * * being condoled "by some men of worth, I exerted myself to recover our property. In this "I succeeded, but with great trouble and expense."

The same king Binya Ran, who reigned from A. D. 1493 to 1520, appears from the account of another traveller, Lewes Vertomannus of Rome, to have been, as he expresses it, "of great magnificence and generosity." This traveller came to Pegu about the year 1503. In his narrative, as translated in Hakluyt, he states that he "came to Pegó from Bengalla with "a Persian. The city is walled and the houses built and very gayre of "stone and lime. Here are but few elephants. There are exceeding great "reedes, as big as the body of a gross man, or a tub. The king useth not "such pomps and magnificence as doth the king of Calicut, but is of such "humanity and affability, that a child may come to his presence and speak "with him. It is in a manner incredible to speak of the rich jewels, pre-
"cious stones, pearls, and especially rubies which he weareth, surmounting "in value any great city. Not long after, news were brought that the king "of Ava was coming with a mighty force, whom the king with an innumer-
"able army went to resist." This army probably was the force which Bin-
ya Ran led up the Eríwati to Prome, and then on to Pugán. This expedition
may have been made to resist an anticipated attack, but in the Taláing
history, it is represented, with some dubiousness, as a pilgrimage to the pago-
das at those cities. When Vertomannus says, "here are not many ele-
phants," he must mean in the city, for the great strength of Pegu consist-
ed in elephants; or they may all have been gathered at a distance to accom-
pany the army.

Early in the sixteenth century, we have notices of Pegu by Portuguese
voyagers, who under Vasco de Gama had doubled the Cape of Good Hope.
Their actions in Pegu are recorded in the history of "The Portuguese in
India, by Manuel de Faria y Sousa, translated by Stevens into English, and
printed at London in 1693." The Portuguese were established at Malacca
under Albuquerque in 1510. In 1517, John de Sylvera went to Bengal
with four sail. He was invited by the king of Arakan to his country, and
he appears to have gone to Chatigam, then a port of that king's dominions.
In 1519, it is recorded that Antony Correa, "concluded a treaty with the
"king of Pegu at Martavan, when peace was sworn to by both parties with
"solemn ceremonies. The metropolis of the kingdom is Bagao, corruptly
"called Pegu."

We have seen in the Taláing history that the last king of Pegu was
Ta-ka-rwut-bi, who succeeded to the throne in 1526, and was conquered by
the king of Táungu, styled Ta-beng Shwé-htí, the capital having surrendered
in 1538. How a Portuguese force happened to be present on this occasion
but which is not noticed in the native histories, is thus stated by Sousa:
"Ferdinand de Morales was sent by the Viceroy with a great galeon to
"trade at Pegu. Pegu was then invaded by the king of Bramá. Bramá had
"been tributary to Pegu, but had revolted. The cause of this was that 30,000
"Bramas laboured in the king of Pegu's works. The king used to visit
"them, attended only by his women. They suddenly rose and murdered
"the king, and fled to their own country. Then Para Mandara, king of the
"Bramas, rose, recovered his own kingdom of Ava, and overrun the Laos
"and other countries tributary to Pegu. The king of Bramá now invaded
"Pegu with such a power, that the two armies consisted of two millions of
"men with 10,000 elephants. Morales went into a galliot, and commanding
"the fleet of Pegu, made a great havock among the enemy's ships. Bramá
"came on by land like a torrent, carrying all before him, and his fleet
"covering the river, though as great as the Ganges. With this power he
"easily gained the city, and the kingdom of Pegu. At the point Ginamarre-
"ca was a furious, bloody, and desperate fight. But the Pegus overpowered "by the Bramas deserted Morales, who alone in his galliot maintained "himself against the enemies, performing wonders with vast slaughter of "them; but oppressed by the multitude, he was killed." Of the Peguans generally it is remarked that "their bodies are all wrought blue with hot "iron down to their knees. In general, they are not only not civilized, but "very brutal."

In this account it should be observed that the Portuguese historian, writing more than a century after the events described, and probably from imperfect documents, in addition to evident exaggerations on points where the European actors in this tragedy might have furnished more accurate information, has been led to narrate supposed events, which caused or preceded the invasion of Pegu by "the king of Brama." These are in themselves highly improbable, and not to be found in the native histories. The king of Brama is, in fact, Meng-ta-rá, or Tabeng Shwé htí, king of Táungu, who, as has already been stated, had by a remarkable train of events come to represent the national party of Burma, against the Shan dynasties of Ava and Pegu. The term Pará Mandara (Phrá Mengta-rá) is a title equivalent to the king's Majesty. In the native histories no distinct cause is alleged for the invasion of Pegu by the king of Táungu; but the relations between the two monarchies, for about a century before, sufficiently account for the event. If "Brama" of Táungu had not been exactly tributary to Pegu, he had for several generations, when it was convenient, depended on the latter to support him in resisting Ava. By the Burmese history, the chief of Táungu, so early as the year 788 (A. D., 1426), had offered to become tributary to Binya Rankit, if he helped him to the throne of Ava, which the chief of Táungu claimed as his right. The two kings had entered into an alliance, and in 1481, the then king of Táungu, fearful of an attack from Ava, sent his wife and children for safety to Pegu. Afterwards, the two kings quarrelled in A. D. 1496, or thereabouts; the king of Pegu attacked Dwárawati, a fort and city belonging to Táungu, but the expedition was unsuccessful. Such an incident as Burmese prisoners or labourers when at work, being visited by a king of Pegu unaccompanied by male attendants, may be regarded as in the highest degree improbable. There is no trace of such an event or of the king's death under such circumstances in the Taláing or Burmese history. The last king of Pegu, of the Shan dynasty, who was dethroned by Tabeng Shwé htí, died, as we have seen, in the jungle, having no army, and the king of Ava having failed to give him further support. Some rumours of his having been assassinated in the jungle may have reached the Portuguese, and have given rise to the tale recorded. "Pará Mandara, king of the Bramas" who conquered Pegu, was not the king who recovered his own "kingdom of Ava, and overran the Laos and other countries tribu-
tary to Pegu." Those conquests were accomplished many years after the conquest of Pegu, by the successor of Tabeng Shwé hti, who is generally styled Bureng Náung, and by the Portuguese historian 'Branginoco' and 'Chaumigrem.' Both of these kings are mentioned in the Taláing history with the title Meng-ta-rá (to which Phrá would be added in speaking of them); both invaded Siam, and both besieged Prome, so that the error which confused one with the other, is not to be wondered at.

It is doubtful whether Bureng Náung had any hereditary right to succeed Tabeng Shwé hti. His claim seems to have been his great military talent, and his marriage with the king's sister.

The following statement is taken from the Universal History, Vol. VI., published in London in 1781. It professes to derive its information regarding Pegu and the adjoining countries from Portuguese, Dutch, and English authorities. "In 1519, Antony Correa was sent to Bressagukan (Binya "Ran), king of Pegu, to conclude a treaty. That king was slain, in 1539, "by some Barma labourers who were furnished by Para Mandara, king of "the Barmas. The cause of the rising is not stated. The king of Barma "now invaded the country, and Dacha Rupi, the heir to the deceased, was "unable to oppose him. At this time, Ferdinand de Morales arrived with "a great galleon, sent by the Viceroy of Goa to trade. He took the side "of Dacha Rupi, but they could not resist the overwhelming numbers of "the Barmas, and De Morales was slain. This occurred in 1539."

Here we have the names of the two last kings of Pegu, one considerably distorted, and it is Binya Ran who is here said to have been killed by the Burmese labourers in 1539. But that king as we have seen, died peaceably before the great troubles came in 1526. His son and successor Takárwutbi, whom we recognise in Dacha Rupi, died (or was killed) in the jungle in 1539 (or 1540, by the Taláing history), and this date with his flight and death in the jungle seems to give the clue to the origin of the story of the king killed by Burmese labourers.

Tabeng Shwé hti, having taken the city of Hantháwati, proceeded to lay siege to Muttama. This city, which lies to the south-west of the ancient capital, and at a travelling distance of nearly one hundred miles, was then governed by Tsau-bi-nya, brother-in-law of the conquered king, who had the rank of a Viceroy. The siege operations against Muttama, or Martaban, are related in detail in the Burmese Mahá Rádzáweng,* but the Taláing narrative is brief, and draws a veil over the final defeat of the Mun race. The besieging army numbered 130,000 men, with numerous vessels of every description. The whole was under the command of Bureng Náung, the king's brother-in-law, who is called by the Portuguese historian 'Branginoco.' Not a word is said in either of the native histories of Europeans being in the service of the

king of Pegu on this occasion, but it is mentioned that several ships were moored in the river opposite to Muttama, for the defence of the city, which were manned by Muhammadans, called on this occasion in the Burmese history 'Kulá-Pánthê.' The native histories make the siege occur in the year 1540, while the Portuguese account places it in 1544. The first is probably correct; the dates in the Portuguese history are not to be depended on. But the story of the siege is told in simple language, and reveals the dreadful doom of the Viceroy and his family, inflicted by the pitiless conqueror, which is passed over in silence by the native historians.† The account is as follows: "In the year 1544, the king of the Bramas, by sea and land, besieged the city of Martavam, metropolis of the great and flourishing kingdom of that name, whose yearly revenue was three millions of gold. Chaubainaa was then king, and Nhay Canotoo Queen thereof, who from the height of fortune fell to the depth of misery. The Brama fleet consisted of 700 sail, 100 of them great galleys. In them were 700 Portuguese, commanded by one John Cayero, reputed a man of valour and conduct. After a siege of seven months and five assaults, wherein the Bramas lost 12000 men, Chaubainaa found it was impossible to withstand that power; provision being already so scarce, that they had eaten 3000 elephants. He offered to capitulate, but no conditions were allowed by the besieger. He, therefore, resolved to make use of the Portuguese, to whom he had always been very just and serviceable. But man never remembers favours received in prosperity of those he sees in adversity."

The history then narrates how the unfortunate Viceroy entered into communication with Cayero, through Seixas, a Portuguese in his service, and offered, if supported by all of them, to become the vassal of the king of Portugal. But this was rejected, and a large body of men from the city having deserted, discovered the design to the besieger. The narrative proceeds: "The king thus betrayed, capitulated with the enemy for his own and the lives of his wife and children, and leave to end his days in retirement.

* The Burmese historian has somewhat carelessly applied the word Pán-thê to Muhammadans from India and Persia. In the present day, it is used to designate the Muhammadans of Yunan only. All Muhammadans from countries west of Burma are called 'Pañ-thê,' which is believed to be a corruption of 'Faršt.' The word Pánthê has probably a different origin. The Burmese became acquainted with the Muhammadans of Yunan several centuries ago, from the caravans of those people trading to Ava. As their religion, and some of their customs, differed from those of the Chinese, they, to avoid the hateful name of foreigner, spoke of themselves as being Pan-ti or Pun-ti = indigenous, and thus, it is believed, the name originated in Burma.

† In the paper on the History of the Burma race, J. A. S. Bengal, Vol. XXXVIII, of 1869, it was stated that the governor of Martaban was pardoned by the conqueror. I am now satisfied that this was not the meaning of a somewhat obscure sentence in the Burmese history.
"ment. This and more was granted easily, because the conqueror designed "to perform no part of the promise. From the city gate to the king of "Brama's tent was a league distance, all which way was a lane of many "thousand musketiers of sundry nations, and next the gate were posted the "Portugueses. The first came out was the Queen in a chair with her two "daughters, and two sons in two others. About them forty beautiful ladies "led by as many ancient ones, encompassed by Talegrepos (a sort of reli-
igious men among them, habited like our Capuchins), who prayed and com-
forted them. Then came the king guarded by his enemies, seated on a "small she-elephant, clothed in black velvet; his head, beard, and eyebrows "shaved, and a rope about his neck, which moved even the enemy to com-
passion. The unfortunate king seeing the Portugueses, would not stir "one foot till they were removed from that post, and that done went on. "Being come before the king of Brama, he cast himself at his feet, but not "being able to speak for grief, the Raolim of Mounay Talaypor, Chief Priest "of those Gentiles, and esteemed a saint, made an harangue in his behalf, "of force to have moved to compassion any other but that obdurate king. "The miserable king, his queen, children, and ladies were secured. The two "following days were spent in removing the treasure, at which a thousand "men laboured, and it amounted to 100 millions of gold. The third day, the "army had liberty to plunder, which lasted four days, and was valued 12 "millions. Next, the city was burnt, wherein perished by fire and sword "above 60,000 souls, besides as many made slaves; 2000 temples, and "40,000 houses were laid even with the ground. There were in the town "6000 pieces of cannon, 100,000 quintals of pepper, and as much of other "spices. The morning that followed this destruction, there appeared on a "hill, called Boydoo, 21 gibbets, with a strong guard of horse. Thither was "led the queen with her children and ladies, in all making 140, and were all "hanged up by the feet. The king and fifty men of great quality were "cast into the sea with stones about their necks. The army seeing this "barbarity mutinied, and the king was in great danger. He leaving peo-
ples to rebuild the ruined city, returned to Pegu with the rest of his army, "and among them John Cayero and his 700 Portugueses. Of these four "stayed at Martavam."

King Tabeng Shwé htí, before his departure for Pegu city, received the submission of the governor of Maulamyáíng, and took the precaution to guard the frontier towards Zimmé. At the ancient capital he was con-
secrated king. He put the fortifications in repair, and with great solemnity placed a new htí on the summit of the Shwé mau dau pagoda, and after-
wards one on that of the Shwé Dagun. He thus proclaimed his sovereignty of the ancient Talāíng kingdom. But he determined to push his conquests without delay. As a first step towards asserting his right to the throne of Ava,
he collected an army to advance against Prome, where Meng Kháung was tributary king under the Shan king of Ava, Thohánbwa, whose daughter he had married. Tabeng Shwé htí proceeded with his army up the Eráwati, Bureng Náung being the general in command. He invested Prome by land and water, but did not make any assault, as the place was strong and well defended with guns. While thus engaged, news arrived that the Shan king of Ava was marching down with a large army to the relief of Prome. Half of the army was sent to meet this force. It was under Bureng Náung, who attacked the Ava force with his accustomed vigour and utterly defeated it.* A force from Arakan also, brought to assist the besieged, was compelled to fly. The besieging force having sustained heavy loss, was compelled to trust to famine for the surrender of the city. The unfortunate king of Prome was at length forced to surrender, and proceeding to his conqueror's camp, attended by the superior of the Budhist monks, implored mercy for himself and family. The native histories place this event in the year 901, or June 1542, the siege having lasted for seven months. The king and queen, it is stated in the Burmese history, were sent as prisoners to Táungu, and no more mention is made of them. The Portuguese history states that the siege occurred in 1546. This is incorrect, but the events recorded may, no doubt, be relied on. The queen of Prome, who was older than her husband, appears to have had the direction of affairs in the city. She offered to pay tribute, and hold the crown from Tabeng Shwé htí. But "the king insisted that the queen "should put herself into his hands with all her treasure; but she knowing "how perfidious he was, resolved to defend herself. He gave several assaults, "and by the sword and a plague that raged in the army, lost 80,000 "men, among which were 500 Portuguese." It is also stated that a mount was raised overlooking the town, and being well armed with cannon left no place of safety to the besieged. But in a sally, the besieged destroyed the mount, and carried off 80 cannons. Tabeng Shwé htí on this occasion was wounded, and "in a rage slew 2000 Portuguses that were upon the guard as negligent of their duty." Probably there is an error here in the number; 200 artillery men being more likely intended. The savage treatment of the king and queen is very different to what is narrated by the Burmese historian. "The queen was publicly whipped and delivered up to the lust of

* The Portuguese history has caused some confusion regarding the events which led to this siege by stating—"The king of Brama was alarmed by him of Siam, who attempted to recover the kingdom of Táungu, which had been wrested from him." For Siam here must be understood the northern Shan or Shian confederation, now led by the king of Ava. This king did claim the allegiance of Táungu, which state had formerly been subject to his predecessors. It was never claimed by Siam. The Siamese and Shians both belong to the Tháï race, and the early European writers may thus occasionally have confused the two. In Father Sangermanno's work on Burma, the Shan people are always called 'Siam'.
“the soldiers until she died. The young king was tied to her dead body "and cast into the river. The same was done with 300 gentlemen, after “stakes were drove through their bodies.”

Tabeng Shwó hti appointed one of the brothers of Bureng Náung tributary king of Prome, with the title of Tha-dodhamma Rídžá. He then returned to Hantháwatí, where he endeavoured by works of religious merit to atone for the guilt of bloodshed. He cast a pure gold image of Buddha, and next built a new palace. But he was not left long in repose. In Ava on the death of Tho-hanbáw, the chief of Unbáung named Khun-mhúng-ngé had been elected to the throne. He determined to retake Prome. He marched down at the head of an army formed of the troops of seven Shan chiefs. Tabeng Shwó hti quickly came to the rescue of his tributary king. The Shans once more were defeated near Prome, and Bureng Náung followed them up the Eráwati, capturing all the cities as far as Pugán. He also appeared before Ava, but apparently thinking it too strong to be safely attacked, the army returned to Pugán, and there he established his frontier post.* The king having taken measures for the safety of his army, returned to Pegu, where he arrived in the year 906, or August, 1544. In the following year, he was again solemnly consecrated, assuming the title of King of Kings, which may be translated ‘Emperor.’ The tributary kings of Prome, Táungu, and Martaban were present to do homage; and Bureng Náung was formally declared Ein-Shé-meng, or crown prince.

About this time, the king of Arakan died, and Tabeng Shwó hti made an expedition to that country, to place his brother on the throne. The emperor appears to have failed to take the capital, but eventually the son of the late king, styled Mahá Dhammarít, on agreeing to present gold and silver flowers, was confirmed on the throne, and the emperor then returned to Pegu. This expedition occurred in the year 908, or A. D., 1546-47. The return of the emperor seems to have been hastened by news of a movement, which this time was really made by the king of Siam. That monarch had lately taken possession of Tavoy, a town which for many years had been a disputed possession between the two countries. The emperor determined to punish this aggression, not by seizing the town in question, but by marching on the capital of his enemy. All the arrangements were as usual entrusted to Bureng Náung. The emperor left his capital in the year 910 (November, 1548), and proceeded to Muttama (Martaban), where the army had already

* This expedition up the Eráwati, called the ‘Quoytor’ by the Portuguese historian, has by him been mixed up with the siege of Prome two years earlier. It is said that the invader returned from Ava, because he heard the king of Siam was coming to its relief. This can only refer to the northern Sháns. In the native histories, no reason is given for the retreat from Ava on this occasion. The Portuguese historian then refers to the Empire of Calaminam, and to affairs which occurred many years later, but of which the writer evidently had a very confused notion.
assembled. The plan was to march eastward from that city to Myawati on the Tháung-yin River, and from thence to the upper course of the Mo-nam, the ‘mother of waters’, on which river Yodaya, the then capital of Siam, was situated. The army occupied in succession the fortified cities of Kamánbaik, Tháuk-katé, and Pi-tha-lauk, and then moved down by land and water to the capital. But from the strength of the wall, the deep and broad moat, the numerous water courses, and the ships moored and armed with guns manned by foreigners, the city was deemed to be too strong for an assault, and the emperor, with the advice of Bureng Náung, determined to retire. In retreating towards Kamánbaik (‘Camambee’ of the Portuguese) and the other places they had captured, they were attacked by the Siamese, but entirely defeated them, and even took prisoner a son-in-law of the king’s. According to the Burmese history, the king of Siam then entered into negotiations and promised, if his son-in-law were released, to pay tribute. This was agreed to by Tabeng Shwó htí, and the invading army then retired. The king returned to his capital in April, 1549.

The Portuguese history gives two accounts of this expedition; one in the first volume, in which it is (wrongly) represented as the second invasion of Siam by Tabeng Shwó htí, and states that the Portuguese who accompanied the army, were only 180 men under James Soarez; and another more detailed account in the third volume, in which the Portuguese force is stated to have been one thousand. Both accounts give the year 1549 as the date of the expedition, and the Burmese history states that it lasted from November 1548 to April, 1549. In the Burmese and Taláing histories, not a word is said as to the leader of the Portuguese, James Soarez de Melo, though they speak generally of foreigners. But there is no doubt that the guns, which were worked by the Portuguese, were regarded with great importance by the emperor. The Portuguese history after relating that an illegitimate son of a murdered king of Siam had succeeded to the throne, continues thus:—“The king of Brama, or Pegu, for it is the same, seeing the affairs “of Siam in confusion, resolved to conquer that kingdom. He raised an “army of 800,000 men, among which were 1000 Portuguese, 40,000 horse, “60,000 musqueteers, 20,000 elephants, 1000 cannon drawn by as many “yoke of oxen and Abadas, and 1000 wagons of ammunition drawn by “buffaloes. The Portuguese were commanded by James Soarez de Melo, “called the Gallego, who came to India in the year 1538; in 1542, was “pyrating about Mozambique; in 1547, was at the relief of Malacca; “and in 1549, being in the service of this king, was worth four millions in “jewels and other things of value, had a pension of 200,000 ducats yearly, “and the title of the king’s brother, was supreme governor of all his “dominions, and general of his army.” The king marched with that

* The position of Soarez is here perhaps exaggerated; but that he held a high
"prodigious multitude, and after one repulse took the fort of Tapuram, defended by 2000 Siamites, putting all to the sword with the loss of 3,000 men. By the way the city of Tuvopisam surrendered, and he sat down before Odiaa, the capital of Siam, which seemed to make no account of that great power. James Soarez, who commanded in chief, surprized hereat, gave an assault and lost 10,000 men. Another attempt was made with elephants, but with no better success. * * * * * Five months being spent with the loss of 150,000 men, news was brought that Xemindoo, a man of great parts had rebelled at Pegu and killed 15,000 men that opposed him. As soon as this was known in the camp, 120,000 Pegues deserted, in hatred to that foreign king that oppressed, and to the insolence of James Soarez who commanded them."

It appears that there were some Portuguese in the city under the command of James Pereyra, who served the guns, and probably caused the failure of the attack. Certain differences are apparent in the accounts of the native historians and of the Portuguese, as to the causes which led to the retreat of the Burmese army. The former attribute it to the prudence of the king on seeing the great difficulties before him; and omit to mention the failure of an assault. The insurrection of Xemindoo in Pegu at this time also is not mentioned. But it broke out, according both to the Burmese and Taláing histories, immediately after the return of the army, and possibly the presence of the discontented Taláing soldiers was deemed a favourable opportunity. Before the insurrection, the Burmese history relates that king Tabeng Shwó htì had become utterly incapable from constant drunkenness, the liquor being supplied by a nephew of James Soarez, a youth to whom the emperor had taken a liking, and who was his constant companion.* At length, Bureng Naung banished this young man from the country, and then took the whole power into his own hands. His father, who was the tributary king of Taugu, had died in the previous year, and one of his brothers or kinsmen had been appointed with the title of Meng Khaung. Bureng Naung was the virtual ruler of the empire, and the acknowledged successor of the emperor, to whom he appears to have been a faithful officer.

It was in the month Pyatho, 911 (December, 1540), according to the Burmese history, that the insurrection of Thamin-htau, or Thaminhtau rá ma, broke out. He is called by the Portuguese 'Xemindoo.' He is represented in the Taláing history as being a son of Binya Ran, the last king but one of the dynasty of Wararu, by an inferior woman of the palace. He had been post is apparent from the Burmese history, in which subsequently his name occurs as Pits-ssa-rít, with the affix "Meng," or Lord. His miserable end will be seen hereafter.

* In a royal order, issued not very long ago, degrading an officer of high rank, this historical incident was referred to, as illustrating the evil effects of drinking intoxicating liquor, and the danger of familiar association with foreigners.
a Rahán, but threw off his monastic habit and became a layman. He then took the name of Thaminhtau, and began to collect followers in the delta of the Eráwati, where the Mun race was most numerous, and where a rebel force could most easily avoid attack. He was at first very successful, having taken Dála and even Syriam; he then marched boldly to attack Makau, a fort only sixteen miles south of the capital. Here he was attacked by troops sent from Hantháwati, and was defeated. He retreated to Syriam, where Bureng Náung routed his followers. He fled westward, and Bureng Náung followed him up, and fixed his head quarters at Dála, from whence he sent out parties in all directions to hunt down the fugitives. During this confusion, the emperor was under the care of the governor of Tsit-táung, who had the title of Thamin-tsau dwut, or Thamindurit. He is called by the Portuguese historian ‘Xemin of Zatan.’ This young man also was a scion of the Shan royal family of Pegu. He had been educated at the same kyoung as Thaminhtau, and was strongly recommended to the emperor by the Phungyi, or abbot, of the monastery. He was soon taken into favour, and was entirely trusted by Bureng Náung. His two younger brothers had appointments in the palace, one being commander of the emperor’s bodyguard. The emperor had gone for change to a temporary palace at Pantaran, when a report was brought, no doubt to draw him away to a remote place, that a white elephant had been seen cast of the Tsit-táung River, near the ancient city of Kátha. To capture a white elephant at this juncture would have a good effect on the whole people, and the emperor was easily inveigled into the jungle at the foot of the mountains. There he was murdered by one of the brothers of Thamindwut, in May, 1550. The latter at once proclaimed himself king at Tsit-táung, and soon after took possession of Hantháwati, where he was consecrated according to ancient custom.

Tabeng Shwé htí had reigned ten years in Táungu, his native kingdom, and ten years as emperor in Hantháwati. The Taláing history records that he made great gifts to the national pagodas of Shwé-maudau and Shwé Dagun; and that he constructed a road between Pegu and Táungu, with wells, zayáts, and gardens for the use of travellers. This road, which was well raised above the level of ordinary floods, still exists. He built a pagoda at Táungu, which was completed only the year before his death, as has been proved from an inscription on a silver scroll, discovered at that city a few years ago. The pagoda was built for the benefit, by means of the merit acquired by building it, of himself and family, and in memory of his father. He was only thirty-six years of age when he died.

Bureng Náung was at Dála when these events occurred, and finding the strength of the country against him, determined to march to Taungu. On the way he was joined by his wife who managed to escape from the city. When arrived at Taungu, he found that his brother Thi-ha-thu
would not open the gates to him. But all the best officers, Burma, Taláing,
and Shan, had great confidence in him, and gathered to his camp. A force
sufficient to blockade the city was thus collected. In Pegu, the struggle
went on between the two Taláing chiefs, Thaminhtau and Thamindwut.
The latter, in possession of the capital, exercised his authority with such
cruelty, that the nobles called in his rival, who advanced with an army
collected principally at Muttama. A battle was fought near the city in
which Thaminhtau was victorious. Thamindwut was taken prisoner and
beheaded. He had reigned for three months and a half. These events are
thus recorded in the Portuguese history: "Xemindoo (Thaminhtau)
rebelled against the king of Pegu (Tabeng Shwé htí), and sent James
Soarez to suppress him. He followed him to the city of Cevadi, and he
slipping by, got into Pegu,* because the city sided with him. The queen
fled to the castle,† where she was defended by twenty Portugueses till the
king came and put the rebels to flight.‡ The army entered the city and
put to the sword not only men, women, and children, but even the beasts;
nothing escaped, but what was within the liberty of James Soarez his house,
which the king had ordered should be exempted.§ Above twelve thousand
saved themselves therein. The plunder was unaccountable. James Soarez
alone got above three millions. At his intercession, the king pardoned a
Portuguese who had furnished Xemindoo which ammunition. Though the
king escaped the hands of Xemindoo, he could not the villainy of Ximi-de-
Zatan (Ximi is equivalent to a Duke, and he really is one of Satan's crea-
tings), who murdered him in the delightful city of Zatan.|| The traitor was
immediately proclaimed king, and falling among the murdered Prince's
men, killed three of those that belonged to James Soarez, who fled to the
city Ova, and afterwards at Pegu was reconciled to this new king, till
Xemindoo, who fled before, came on again with a powerful army. Ximi
commanded James Soarez and his Portugueses to march with him against

* The Portuguese historian here confuses Thaminhtau (Xemindoo) with Thamindwut (Ximindezaton). The first did not enter the city of Pegu until he had conquered the last; whereas Thamindwut entered the capital in little more than a month after the murder of the Emperor. Covadi is Saráwudi. = Tharáwati.
† This may be either the queen of Tabeng Shwé htí or of Bureng. The latter as we have seen soon after joined her husband.
‡ This can only refer to Bureng Náung on his march to Taungu, when, though he was not attacked, he did not venture to enter Pegu city.
§ This sentence can only refer to the taking of the city by Thamindwut, when his army would be sure to plunder the city. The Portuguese historian has been puzzled by the numerous "kings," who in a short time enjoyed that title among the people.
|| Tabeng Shwé htí was murdered some distance from the city, but within the territory pertaining to Tsit-táung (= Zatan).
the enemy; but before he came thither, the punishment of his great insouciance reached him, as we shall see hereafter. Zatan was taken and beheaded by Xemindoo, who gave out it was for the killing of Soarez, as if the murder of the king had not been a more justifiable motive. Thus the first rebel possessed himself of the crown till Mandaragri, the late king's brother-in-law, claimed it in right of his wife, and coming to a battle, gave him such a total defeat, that Xemindoo fled to the mountains where he married a poor fellow's daughter. He discovered himself to her, and she revealed it to her father, at such time as great rewards were proposed to such as should discover him. The father-in-law delivered him up to the "king who cut off his head."

In a subsequent part of the history, this story is again told, but with some variations, and the battle between Xemindoo and the king (Bureng Náung) is erroneously represented as having occurred before Xemin de Zatan became king, thus antedating the event by more than a twelvemonth. The account is extracted, as it relates the fate of Soarez in the city of Pegu, after he became "reconciled" to the usurper. "Xemindoo was of the ancient blood royal of Pegu, a great preacher and esteemed a saint. He made a sermon so efficacious against the tyranny of princes and oppression of that kingdom, that he was taken out of the pulpit and proclaimed king, whereupon he slew 5,000 Bramas in the palace, seizing all the treasure, and in a few days all the strongholds in the kingdom submitted to him. The armies of the two kings met within two leagues of the city of Pegu. That of Brama consisted of 350,000 men, Xemindoo's of 600,000. Of the latter about 300,000 were slain, and 60,000 of the former. The victorious king entered Pegu, and contrary to agreement slew many, and seized great treasures. Meanwhile the city Martavam declares for Xemindoo, killing 2,000 Bramas. Xemin of Zatan did the same in the city of that name. The king marched towards him, but he contrived to have him murdered by the way. This was the end of that tyrant. Xemin was proclaimed king by his party, and in nine days gathered 30,000 men. Chaumigrem, brother to the dead king plundered the city and palace, and fled to Táungu, where he was born. Xemin de Zatan became so odious by his ill-government, that in four months many of his subjects fled, and some joined with Xemindoo, who made an army of 60,000 men. Let us leave him awhile to relate the end of James

† Thaminhtau was defeated at Makau sixteen miles from Pegu, before the other rebel had murdered the king. But that is evidently not the battle alluded to.
‡ As has already been seen, this entirely misrepresents the circumstances under which Xlbeng Shwé hti was murdered.
§ Chaumigrem is another name for Bureng Náung, but is here probably meant for his half brother Thihathin, who left the capital when the king was murdered, and retired to Táungu.
"Soarez de Melo, after the wonderful rise already mentioned. James Soarez passing by a rich merchant's house on the day after his daughter's wedding and seeing the great beauty of the bride, attempted to carry her away by force, killing the bridegroom and others who came to her rescue. Mean-while the bride strangled herself. The father expecting no justice while that king reigned, shut himself up, and never stirred abroad, till Xemin de Zatan coming to the crown, he so lamented his wrong about the town, that above 50,000 of the people gathered about him, crying out for justice. The new king fearing some worse consequence, caused Soarez to be apprehended and delivered up to that rabble. This was accordingly performed, and the multitude stoning him, he was in a minute buried under a heap of rubbish. No sooner was that done, but they took the body from under that pile, and tearing it in pieces, delivered it to the boys to drag about the streets, they giving them alms for so doing. His house was plundered, and the treasure found being much less than what was expected, it was believed he had buried the rest. The new king, Xemin de Zatan, soon followed James Soarez, for his subjects no longer able to bear his cruelty and avarice, fled in great numbers to Xemindoo, who was now master of some considerable towns. He marched to the city of Pegu with 200,000 men and 5,000 elephants. Zatan met him with 800,000, and the fight was long doubtful, till Gonsalo Neto, who with 80 Portugueses followed Xemindoo, killed Zatan with a musket shot, which opened the way for Xemindoo into the city, where he was crowned on the 3rd February, 1550. Gonsalo Neto received 10,000 crowns for that fortunate shot, and his companions 5000."

It may be well here to explain how the Portuguese historian has failed to recognise Bureng Nāung when mentioned under other names or titles. He probably drew information from letters and reports sent by many different officers through a long series of years to the Viceroy at Goa, and these were not used for the history until about a century later. Bureng Nāung was for ten years the general of the armies of Tabeng Shwé hti, and afterwards his successor. When he became emperor, he assumed different titles at different periods, and the writers of reports regarding him probably used these different titles, so that it would not be possible without some key to understand that they all referred to the same person. The term Bureng Nāung is rendered 'Branginoco' by the Portuguese, and in some accounts his actions, under this title as general, are attributed to him as king. Mandaragi is a common title for a king, used in conversation. The term 'Chaumigrem' is for Tsheng-phyu-myha sheng, = Lord of many white elephants, one of the later titles assumed by Bureng Nāung. The letter 'n' in Chaumigrem, is a misprint for 'n.'

In another part of the Portuguese history, as we have seen, it was
stated that "Zatan was taken and beheaded." Yet the fortunate shot of Gonzalo Neto is told very circumstantially and can scarcely be an invention. Perhaps the wound inflicted led to his capture.

Thaminhtau was now declared king, and was consecrated after the ancient custom in the capital. He is henceforth called in the Talâiing history 'Dzag-ga-li Meng.' The Talâiing historian dwells fondly on the details of the consecration, which was the last received by a native sovereign in Pegu.

While these events were passing in Pegu, Bureng Nâung had forced the city of Táungu to surrender. He forgave his half-brother Thihathu, who had refused to acknowledge him, and had taken the title of Meng Khâung. Bureng Nâung then caused himself to be consecrated king, as successor to his father who had been tributary king of Táungu under the late emperor. He next determined to possess himself of Prome, where another of his brothers had, under Tabeng Shwó hti, been tributary king, but of which a noble, styled Thadothu, had possessed himself. He marched across the hills, and after some delay Prome was surrendered by treachery, and Thadothu was put to death. His brother Thado Dhammá Râdzâ was then reinstated as tributary king. It was now the year 913 (A. D., 1551), and Bureng Nâung had possession of Táungu, Prome, and the country of the Erâwati as far north as Pugán. In Ava, a struggle for supremacy was still going on among the Shan chiefs, and Bureng Nâung deemed the time propitious for asserting his claim to that kingdom as the successor of Tabeng Shwó hti. But hearing of attacks from the Pegu side on his territory, he considered it prudent first to settle affairs there, and concentrated his forces for that purpose at Prome and Táungu. Just then Mobyé Meng, king of Ava, being conquered by Tsithu-kyau-h teng, had fled and taken refuge in Prome. Bureng Nâung determined to invade Pegu from Táungu, and marched to that city, taking Mobyé Meng with him. He set out on his expedition in April, 1551. His army consisted of 110,000 men, 400 fighting elephants, and 5000 horses.

In Pegu Thamin htau, according to the Talâiing history, had entered the capital in August, 1550. Having placed his own adherents in the several districts of the delta, he, in November, marched against the governors of Martaban and Maulmain, who had refused to submit. Having subdued both without difficulty, he returned to Hanthâwati. He received an embassy from the king of Arakan, and did everything possible to make himself popular, and above all, to acquire religious merit by gifts to the pagodas and monasteries. But hearing of the surrender of Prome to Bureng Nâung, he knew he would soon have to fight for his kingdom; and it was not long after, that news was brought that Bureng Nâung himself was marching down by land from Tâungâ, and that a force under the king of
Promo was coming by water. He determined not to await attack in the city. The army took post at Muau to await the Burmese enemy, and the battle took place close to the capital. A portion of the city was set on fire during the engagement by a force detached for that purpose by Bureng Naung, in order to alarm the enemy. Thaminhtau fought with courage, but his army was defeated, and he was obliged to leave his elephant, and mount a horse to fly from the field. He fled to Dala. Bureng Naung entered the city on the following morning. The battle was fought in the latter end of April, 1551. There probably were Portuguese on both sides in this battle, but no detailed account of it is to be found in the Portuguese history. The clearest reference thereto is in the following passage—"Chau*migren who, the year before, retired to (from) Pegu, hearing afterwards "that Xemindoo was unprovided, marched against him, and obtaining "the victory, brought that crown again under the subjection of the Bra- "maes. Xemindoo, taken some time after, was publicly beheaded." And again we read in another volume—"The first rebel possessed himself of the "crown, till Mandalagi, the late king's brother-in-law, claimed it in right "of his wife, and coming to a battle, gave him such a total defeat that "Xemindoo fled."

Most of the Taling nobles submitted to the conqueror. On the third day after the battle, Bureng Naung started in pursuit of Thaminhtau, who was striving to rally his followers in the forests of the delta. Being at last compelled to fly, he once more assumed the dress of a Phungyi, or Budhist monk, and took refuge in the district of Basscin. From thence he found means to fly with a few followers by boat to Muttama.

Bureng Naung remained at Basscin until August, 1551, settling the affairs of that part of the country, and then returned to Pegu city. His first care was to repair the holy buildings injured during the war, and he built a Dzé-di over the remains of Tabung Shwé-htí. Not long after, the unfortunate Thaminhtau, having been betrayed, was brought in. Bureng Naung offered him his life, if he would make obeisance; but this, the Taling history states, he refused to do, and he died of a wound he had already received. The Portuguese account says that he was beheaded; and the Burmese historian merely observes, "An evil-minded man, had an evil death."

Muttama having now been occupied, another of Bureng Naung's brothers was made tributary king with the title of Meng-re-tei-thú. Bureng Naung assumed the title of King of Kings or Emperor; and his eldest son was declared Mahá Upá Rádzá, or Crown-prince. The emperor ruled over a wide extent of country, and prepared to assert his claim to the throne of Ava; for as the successor of Tabung Shwé htí he assumed the title of king of the Burma race, though neither of them had reigned in the country of Burma proper. An army was sent up the Eráwati in July, 1553, under the
command of the Crown-prince. Either this was intended only as a reconnoitring expedition, or the strength of the king of Ava, Tsú-thú kyau hteng, had been miscalculated. The Crown-prince advanced no further than Pugán, and was then recalled.

During this year great exertion had been made to build the palace, which was completed in November, when a grand festival was held. The emperor was then, as stated in the Taláing history, consecrated according to the ancient ceremonies. Numbers of boats were being built in all parts of Pegu, and provisions were collected along the Eráwati as far as Pugán, with a view to an advance to Ava. In July 1551, the son and the nephew of the king of Arakan arrived. The latter was married to one of the emperor’s daughters, and the former to a daughter of the king of Muttama. In November, the army of invasion set forth. The Crown-prince was left at the capital as his father’s representative. The army in two main columns, one of which accompanying the flotilla, proceeded up the Eráwati route. The other with which was the emperor, marched from the capital to Taung. From that city, the emperor led a corps across the hills to Taung-dwen-gyi, and on to Pugán, where they joined the water column. The remainder marching from Taungu under the emperor’s brothers, Meng Khaung, king of Taungu, and Meng rai kyau hteng, entrenched themselves to the south of the ancient capital Pányá, to await intelligence from the emperor. The main army by means of the flotilla crossed the Eráwati to the western bank, probably because provisions were more plentiful there than on the other. The march was continued along the right bank, and up the Khyendwen to Amyen, where that river was crossed. The army then marched to Tsagaing, situated on the Eráwati opposite to Ava. The emperor’s first care was to communicate with his brothers who were entrenched near Pányá. Arrangements for an attack on the city having been made, the two brothers issued from their entrenched position, but were at once attacked by Tsithu-kyau-hteng, the king of Ava. He was, however, defeated and forced to retire into the city. The emperor’s army now crossed the river, and a combined attack was made. Ava was taken in March 1555, and the king, the last of the Shan dynasty, was made prisoner. He was well-treated and sent to Pegu. But two sons of the last native king of Pegu who were found here, were put to death. The emperor’s brother Meng-rai-kyau-hteng was made tributary king of Ava, with the title of Tha-do-meng-tsau. The emperor delighted to continue Hanthawati as the capital of his empire, but determined to remain at Ava until the northern Shans were subdued.

It is much to be regretted that the Portuguese historian gives no account of this expedition, though it is almost certain that Portuguese are alluded to in the Burmese history, which speaks of four hundred Western
foreigners dressed in uniforms and armed with muskets, whose position was in front, flanks and rear of the emperor's elephant. In the following passage, however, the Portuguese historian no doubt alludes generally to the conquests of Bureng Náung, including the campaign of Ava. The "kingdom of Pegu, before not very considerable, was raised to be one of the greatest empires in Asia, by the king of Uva and Bráma, assisted by 1,000 Portuguese under the command of Antony Ferreyra de Braganca, who served "him as his natural prince."

Columns were despatched into the country north of Ava, and the emperor himself proceeded to Myé-du on the Mú River. But the rainy season being at hand, and the troops worn out with fatigue, it was deemed expedient not to advance further at this time. A garrison was placed there, and the emperor himself returned to Ava, and thence to Pegu, where he arrived in June, 1555. The new king of Ava remained in his capital.

The emperor had before determined to build a fortified post at or near the ground where he had defeated Thaminihtau, and it was completed in this year. This is referred to by the Portuguese historian in the following words: "The king, not thoroughly satisfied with the people of Pegu, built, not far from it, another great and strong city." The emperor was careful to observe what was required of him as a good Budhist. Additional gold was placed upon his father's pagoda at Táungu, offerings were sent to the holy tooth relic in Ceylon, communication having been opened with Dhummánapála, the king of that island. A scandalous custom which had hitherto prevailed, of annual sacrifices of animals to the Náts of the Mountain Púmpá, which had existed from the time of the kings of Pugán, was suppressed as contrary to religion. In the Burmese history, it is stated that many thousands of people used to assemble annually to sacrifice bullocks, buffaloes, pigs, and other animals on this occasion. *

About this time the Tsaubwá of Unbáung having died, a dispute occurred among the relations as to the succession. The member of the family who succeeded was then attacked by the Tsaubwá of Moné, and he appealed to the emperor for assistance. The emperor deemed this an excellent opportunity for subduing the whole of the Shan country, and determined first to proceed against those in the north. A large army under the king of Táungu was assembled on that frontier to watch the southern Shans; while the emperor himself proceeded with his whole court to Ava, where a large army was also assembled. He arrived there early in 1557, and soon after proceeded up the Eráwati to Tsampaunagó, where his army was assembled. He then marched to Momeit, the Tsaubwá of which state had joined the enemy, while the king of Ava and other commanders proceeded against

* Similar customs still exist in some remote parts of the country, though utterly contrary to Buddhism.
Unbáung. The whole of the country east of the Eráwati was subdued and annexed to the kingdom of Ava. As many heretical customs existed among the Shans, the observance of these was prohibited. On the death of a Tsaubwá, it had been the practice at his funeral to sacrifice his riding elephant, his horse, and his favourite slaves, and bury them in one grave with him. This was in future strictly prohibited. Pagodas for worship were erected; kyoungs were built, and orthodox monks placed in them, in order that religious duties might be exemplified and observed. Weights and measures were introduced in accordance with those existing in Hantháwáti, and officers of justice appointed. Thus did the emperor provide for the temporal and spiritual welfare of the people. The emperor then determined to march against Modyin and Mogáung, which had formerly been subject to China. For this purpose, he crossed to the west bank of the Eráwati, and after an arduous march north subdued both those states. The Mogáung Tsaubwá swore fealty, and the Monyin Tsaubwá was taken as a hostage, his son-in-law being appointed chief. The same reforms were introduced into these states, which had been enforced in Unbáung and Momeit. The emperor had now subdued the country as far north as the Patkoi range of hills, which separates Burma from Asáüm. He returned to Ava, and from thence proceeded to Pegu, which he reached in August, 1557.

But already another disturbance had arisen among the restless Shan chiefs. The Moné Tsaubwá had attacked the chief of Thi-bá. The emperor determined to punish both. In November, he marched to Táungu and across the mountains towards Moné. Many Tsaubwás had united their forces, but were defeated. The emperor pardoned the Moné chief on account of his youth; but in this and the adjoining states the reformed worship was introduced. These states received the name of Kambaudza, or this ancient name was now revived.

The emperor now held a council as to future proceedings. It was agreed that, as all the northern Shan states west of the Than-lwín river, except Thinní, had been subdued, nothing should at present be attempted in that direction. Thinní was still subject to China, and should not be interfered with. But it was determined to march against the Ywn Shan of Zimmé, after which it would be easy to occupy the country of the Gun or Gyun, Kyáing-run and Kyáing-tun, with other neighbouring states bearing collectively the classic names of Mahánágóra and Khemáwára. The army was at once put in motion from Moné, and made twenty-four marches to

* The northern Shan states in the valley of the Eráwati had, no doubt, been tributary to China. In the sixteenth century, the Ming dynasty had become weak, and the Manchoos had begun to assail the empire. It was these circumstances, probably, which determined Bureng Náung to attack those out-lying districts of the Chinese empire.
the Hta-tseng-tehcik on the Than-lwin, where that river was crossed. From thence twenty-one marches brought the invader to Zimmé. The king of that country had determined to defend himself in his capital, which was well provided with jinjáls. The emperor, however, had so large a force with superior artillery, that he surrounded the city and compelled a surrender. The king swore fealty, the emperor asking him if even the great ruler of China could help him. He agreed to pay an annual tribute of elephants, horses, silk, and other natural products of his country. Many artificers with their families were carried away to Hantháwati. No religious reforms were considered necessary. An army of occupation, numbering fifty thousand men, was left in Zimmé, and was placed on the frontiers of Siam and Leng-dzeng. The emperor then set out on his return to Ava. Being suspicious of the conduct of the Tsaubwás of Mong, Ngyán-ywé; and other states, they and their families were detained as prisoners. The Tsaubwá of Thinní appeared with presents, but was not required to make his submission. The emperor arrived at Ava, in August, 1558. There he remained settling the country and repairing the religious buildings. All the Tsaubwás in the hills east of Bamau appeared and did homage. While thus engaged, news was brought that the king of Leng-dzeng* was assembling a force, to attack the Burmese army in Zimmé. The king of Ava was at once sent with reinforcements, and he forced the king of Leng-dzeng to retreat. Some cities nearer to the Mok-kong River were now occupied, and the king of Ava was then recalled. The emperor returned to Pegu in May, 1559.

He had before commenced the foundation of a pagoda, and the work was now pushed on. Numbers of supposed holy relics were placed in the relic chamber, with golden images of the family of Budha and his disciples, and of the royal family. The religious zeal of the emperor did not stop here. He was shocked at the number of animals put to death by the Muhammadans at the capital and other cities. Those people seemed actually to rejoice in taking the life of a goat or a fowl. The emperor desired to put an end to such sinful deeds. He built a magnificent Tatsháung, or place of assembly, and ordered the foreign people to attend. The true religion was then preached by the royal teacher, and numbers of the foreigners embraced the doctrine of the three treasures.†

* Leng-dzeng is the Burmese name for the ancient Lao kingdom, east of the Mokong, or river of Cambodia, of which either Muang Luang Phaban, or Vion Chun, called also Lantochiug, was the capital. It is now subject to Siam. See Captain McLeod's Journal, p. 89, and Travels by Louis de Carté, p. 125.

† There are in Pegu a number of families who are Buddhists and in no way distinguishable from the people of the country, but who state that they are of foreign origin. They bury their dead and erect tombs over them; and they abstain from eating pork. In other respects, I am not aware that they have any peculiar customs. It is probable they are descendants of those converted by Bureng Náung, whose
The empire enjoyed rest for nearly three years. The chief of Kathe (Manipur) indeed made an encroachment on the territory of the Kale Tsaubwá, but this was soon settled. About the middle of the year 924 (A. D. 1562), a more serious attack occurred. The Tsaubwá of Mo-mit reported that some of his frontier villages had been attacked by the Tsaubwás from Ho-tha, Tsánda, and other states eastward of Bamáu. The emperor called a council, and observed he had no doubt but that these Tsaubwás depended on the assistance of the emperor of China, but, as before the destruction of Pugán, all that country was a part of the territory of that kingdom, he should punish this aggression. He sent an army under the three tributary kings of Ava, Prone, and Taungu, and his son, the crown-prince. The Tsaubwás then all appeared at Bamáu and swore fealty to the emperor. The religious reforms were introduced; pagodas and kyouns were built, and orthodox phúngyis sent, in order that the four monthly worship days and other religious duties might be carefully observed. Times of payment for the royal revenue were fixed, and once in three years the Tsaubwás themselves were to come to the royal seat. Later in the same year, it was discovered that the Tsaubwá of Tanenthari had been sending presents to the king of Siam, and a small force was sent to supersede the Tsaubwá. But the commander was wounded and the expedition was a failure.

The emperor still had his designs against both Siam and Leng-dzeng, but was willing to forego them if the king of Siam would be reasonable. In open court he observed that in the time of the younger brother, (so he now designated Taibeng-Shwé-htí), Siam was a tributary country; that he neither wished for war, nor did he wish to worry his officers and the army; but the king of Siam had four white elephants and ought to present one. This appeared to his ministers and courtiers only reasonable. Messengers were, therefore, sent and the king of Siam was reminded that, in ancient times, his ancestor had presented a white elephant to Wareru, the king of Pegu, to whose rights the emperor had succeeded. The reply of the king of Siam, veiled in ambiguous terms, was interpreted as a refusal, and the emperor determined to march on the capital of his enemy. According to the Burmese history, the army consisted of four great corps, each under one of the three northern tributary kings and the crown-prince. Each corps consisted of 140,000 men, 400 fighting elephants, and 5,000 horses. The emperor's own guards under his immediate command consisted of 40,000 men, 400 fighting elephants, and 4,000 horses.* The army was composed measures for attaining the object in view were probably not so mild as is represented in the history.

* The Portuguese historian gives no details of the march of the invading army, and, it is probable, did not clearly distinguish the two sieges of the capital of Siam by
of men from all parts of the empire, Pegu, Burma, and the most distant Shan states. The plan of the campaign was for the several corps to march, on Zimmé, those starting from Pegu getting as far to the north as possible, and none proceeding from Muttama by the route eastward, which was the route followed by Tabeng Shwé lti in 1548. From Zimmé it was intended that the river should be used to convey stores for the army down to Yodayá, the capital of Siam.

The main army left Hantháwati in November, 1563, and marching up the valley of the Páung-láung River as far as Taungu, passed the eastern mountain range at various points. The several corps were assembled at Zimmé or the neighbourhood, but the king of that country had refused to join the expedition and absented himself. All the places of strength in the territory of Zimmé had to be besieged, though some surrendered on being summoned. The invader thus occupied Tháuka-tó, Pithaláuk, and other cities, and Au-ga-dhammá Rádzá, a son-in-law of the king of Siam, was taken prisoner. Negotiations were now opened with the king of Siam, but he refused to come to terms. The invader gradually approached the capital Yodayá, and invested it on all sides. But it was necessary first to get possession of three ships mounted by Portuguese, which were moored in the river for the defence of the city, and were supported by batteries on shore. With great difficulty and loss these batteries were stormed, and the ships surrendered. The foreigners, it is said, were taken into the emperor's service. The king of Siam, disheartened at the loss sustained, now consented to appear before the conqueror, and though he was not required to do homage as a subject, he was dethroned, and his kingdom reduced to a tributary state. The king and his queens were carried off as prisoners and hostages, together with his younger son, styled Brá-rá-ma-thwun. The elder son, styled Bráma-hin, was made tributary king of Siam; the king's son-in-law and other members of the royal family were appointed governors at Pithaláuk, Tháuk-kató and other cities. These arrangements were made in March, 1564, and the emperor, after making all arrangements at Yodayá, set out with his prisoners for Pegu, where he arrived during the following June. He brought away three white elephants and numerous artificers.

The Portuguese historian, in the 3rd volume of his work, records these events in the following words, in which some errors will be observed: "For the conquest of Siam he led a greater force, possessed himself of the kingdom, and took the king and his two sons, called by reason of their Burmese name, as well as that during the reign of Tabeng Shwé lti, when he was general. The following passage in the third volume appears to refer to the invasion now related: "The war began again between Chhamigrem, king of Pegu, and him of Siam. The army of Pegu consisted of 100,000 men, among whom were many Portuguese, and 17,000 elephants. All this army came to ruin."
"different colour, one the black, tho other the white. He was content to
leave that king in possession of the crown as his vassal, having himself
been till then his subject,* carrying away his two sons as hostages.
"Branginoc'o returning victorious to Pegu, entered the city in triumph,
"many waggons going before loaded with idols and inestimable booty. He
"came at last in a chariot with the conquered queens, loaded with jewels, at
"his feet, and drawn by the captive princes and lords. Before him marched
"two thousand elephants richly adorned, and after him his victorious
"troops."

The emperor, notwithstanding this victory, was dissatisfied that nothing
had been done to punish the king of Zimmé for his defection. He had
retreated eastward, and was sheltered by the king of Leng-dzeng. Another
large army was collected, and among the imperial guard and artillery one
thousand Muhammadans and four hundred Portuguese are mentioned in the
Burme'ese history. The emperor himself left the capital in November 1564,
and proceeded to Labong, near Zimmé. A column under Bin'yá Dálá, an
officer high in repute, took a southern route by Yaháing. All the Taubwás
of the Yün tribe were anxious to support the independence of the king of
Zimmé, but he himself came to the emperor and voluntarily submitted,
saying that he did not wish to reign longer. He with his queen and their
attendants then followed the emperor's camp. Troops were sent into the
country cast of Zimmé, to subdue the several petty chiefs.

While the emperor was thus engaged, a rebellion broke out in Pegu,
headed by a Shan captive named Bin'yá Kyan, with numerous Shan
prisoners, and in which thousands of Taláings joined. They marched
towards the capital, and the officers in command there were so alarmed, that
they were on the point of sending off the empress and the whole of the royal
family to Táungu for safety. They, however, took the advice of the deposed
king of Ava, Narapati Tsíthu, who pointed out that most of the rebel force
were mere unarmed rabble, and might be easily checked. The ex-king was
instructed with a force, and went out and defeated the rebels close to the
city. The leader was killed, and the rest fled into the thick woods of the
delta. As soon as the emperor heard of this outbreak, he hastened back
from Zimmé with a small force, and reached the vicinity of the city in June,
1565. Seeing that all the magnificent kyáungs and other buildings outside the
city walls, which he had erected at vast expense, had been burnt by the rebels,
he was so enraged, that without entering the city, he proceeded on to Dala
to hunt them down. The king of Prome who had accompanied the emperor
from Zimmé, was employed on this service; the rebels were utterly defeated,
and several thousands of them taken prisoners. The whole of those the

* This apparently refers to the erroneous idea before mentioned, that Táungu
had been tributary to Siam.
emperor intended should be enclosed in a vast temporary building of inflammable materials, and burnt alive as rebels according to Burmese law. The Burmese and the Talâsing histories, however, both state that on the intercession of the Buddhist monks, Burmese, Talâsing, and Shan, he pardoned all except the leaders, and those who had accepted titles from the rebel chiefs.

The emperor's eldest son, the crown-prince, had been left in command in the Yun country, and found great difficulty in subduing the chiefs, east and north-east of Zimmé. At length, they were driven to shut themselves up in Maing-zán, in which also was the king of Leng-dzeng and his family. The town was taken, and all were captured except the king of Leng-dzeng, who escaped in the confusion. The crown-prince leaving his sick and wounded in the town, followed up the fugitives, but the Burmese army suffered from want of food and long marches, and after much loss was forced to return to Maing-zán. The crown-prince then sent to Pegu all who were able to travel, with a report to the emperor of the difficulties encountered. Orders were at once issued for the return of the army, and the crown-prince reached Hanthâwati in October, 1565. The queen of Leng-dzeng, and the whole of the prisoners of high rank, were brought and placed in the palace.

The emperor now occupied himself in building new city walls and other public works. The outer wall or rampart was a square of seven thousand yards on each face. There were five gates on each face, each gate being constructed by a tributary king and called after him. A new palace was likewise built, to which the tributary kings contributed materials. The whole was finished in March, 1567, when a grand festival was held.*

The last expedition of the emperor against the king of Zimmé appears to be referred to in the second volume of the Portuguese history in the following words: "Then he marched with an army of 1,600,000 men "and overran many neighbouring countries. But another rebellion break-"ing out at Pegu, the queen was forced to fly to the castle, chiefly relying "upon thirty-nine Portuguese, who defended her till the king came and "vanquished the rebels. Then the king sent an officer to bring those men "who had defended the queen to his presence. He brought him some Moors "of note. But the king knowing the Portugueses were the men, said in "anger, 'I sent you for men, and you bring me cowards; go, bring me men.'

* Of this palace the Portuguese historian writes: "He built a palace as big as "an ordinary city. The least part of its beauty was rich painting and gilding, for "the roofs of some apartments were covered with plates of solid gold. Some rooms "were set with statues of kings and queens of massive gold, set with rich stones, as "big as the life. He was carried on a litter of gold upon many men's shoulders. the "reverence paid him was more like a God than a prince." He called this palace, which was a vast collection of grand pavilions, Kambauza détha after one of the Bu-

"
“The Portugueses being brought, he bid them ask whatever reward they "would, and they with the surprise doubting, the king loaded them with "riches, praises, and honours.”

In the Burmese and Talâing histories, the Portuguese are not mentioned as contributing to the suppression of the rebellion in 1565. Although it is stated that the officers in command, during the emperor’s absence, were utterly bewildered, the whole credit is given to the deposed king of Ava, and to an officer commanding a body of light troops detached by the emperor from Zimmé, and who advanced by forced marches on the capital. But it is evident that in the native histories, the services rendered by the Portuguese are systematically suppressed, and there appears no reason to doubt the truth of the anecdote above related.

The king of Leng-dzeng continued to make demonstrations against the towns in the Zimmé territory held by the emperor’s officers. But his son-in-law came in and made his submission. Everything now looked promising. The capital was crowded with people, and was a scene of constant bustle and alacrity. But suddenly rice became scarce, which caused much suffering. The deposed king of Siam became a Rahan, and was permitted to go to his own country to worship. His son Bra-râ-ma-thwun had died, and his widow was allowed to return to Siam with her children. The tributary king of Siam now began to take measures for once more being independent, and in this was supported by his father. But his brother-in-law, who was governor of Pithalâuk, would not join them, and leaving his government, came to Nanthâwati with his family, where he arrived in June, 1568. The emperor saw that another invasion of Siam would be necessary, and began to make preparations. But as the campaign could not commence in the rainy season, he contented himself with strengthening the garrison of Pithalâuk and the king of Siam’s son-in-law was sent back there. The reigning king of Siam determined to attack Pithalâuk at once, and the king of Leng-dzeng appeared with an army to help him. But the garrison resisted all their efforts by land and water. Their force became so reduced, that they at length drew off to a distance.

The emperor had collected even a larger army than before to march against Siam. It consisted of 5,300 fighting elephants, 53,000 horses, and 546,000 men. In the emperor’s bodyguard were 4,000 Portuguese, and 4,000 Muhammadans, all armed with muskets, and cannon in great numbers. The army marched in October, 1568, and in forty-seven marches had reached sufficiently near Pithalâuk to relieve that place. The old king of Siam who had been deposed, appears to have resumed his position, having thrown off his monk’s gown. He had made great preparations for the defence of the city, and his son Brâmahin who had resigned power to his father, nobly seconded him. On the upper Menam and its tributaries, the emperor
collected numerous boats to convey stores of all kinds for the army on its march down to the capital. The commander under the emperor was Binya Dala, through whom all orders were issued. A portion of the army remained in the upper Menam to plant rice when the rain began to fall; in case there should be a scarcity lower down. The army invested the capital without any resistance. The emperor had determined to reduce it by famine. But after four months, that is, in May 1569, little or no effect had been produced. At this time the old king of Siam died, and his son Brāhmahin made some overtures for surrender, but these were not accepted. The losses in the Burmese army had been very severe, and the emperor becoming anxious, put two of his superior officers to death for neglect of duty. At this time, the king of Leng-dzeng approached with an army to relieve the capital. The emperor leaving Binya Dala in command, himself proceeded with the crown-prince and other officers, and a battle was fought in which the Laos king was defeated. The king now returned to renew the siege. Affairs had become very serious and the emperor had recourse to a stratagem. One of his Siamese supporters, a noble of high rank, pretending to desert, entered the city with irons on his legs. He was received with joy by Brāhmahin, and appointed to a high command. In pursuance of his treacherous design, he maintained a correspondence with the emperor, and opening one of the city gates allowed the enemy to enter. The city was taken in August, 1569, after a siege of seven months. It was given up to plunder. The unfortunate king Brāhmahin was made prisoner.* The emperor remained in the city of Yodaya for two months, and appointed Tháung-kyi, a member of the Zimmó royal family, tributary king of Siam. In a council of all the principal officers, it was decided, that it was now essential that the king of Leng-dzeng should be followed up. Sending back all surviving disabled men to Pegu, and an immense quantity of plunder, the emperor himself proceeded up the Menam, and fixed his head quarters at Pithaláuk. From thence the several divisions of the army marched eastward. After a long and tedious march, the emperor encamped on the right bank of the Mekong, opposite Máing-zán. Nothing had been heard of the corps commanded by the crown-prince and other generals. Orders were issued to fell trees, to prepare boats and rafts, to cross the river. A bridge of boats was at last made by which the army passed, and the enemy deserted Máing-zán. The other divisions, after great sufferings, had crossed the river some distance to the north, and now marched down to join the emperor. Máing-zán being made a depot for stores and the sick, the king of

* Nothing more is said of this king in the Burmese history. Both that and the Taláing history dwell on the death of the old king and of the generosity of the conqueror in giving him a grand funeral. His son, it would appear, committed suicide, as we learn from an old Venetian traveller quoted hereafter.
Táungu was left in command, while the rest of the army under the emperor marched in pursuit of the enemy. The Leng-dzeng king was too wary to come to an engagement, and the invaders were wearied with long marches and want of food. At length, they returned to Mán-gán, and the whole army re-crossing the Mekong reached Pithaláuk, in June 1570.* From thence the emperor reached Mantáwáti in the following month. Of the original army which marched to subdue Siam, very few survived.

The emperor's first care after his arrival was to make rich offerings to the pagodas; to cast fresh images in precious metals, and to complete a new Hlwut dau, or royal council chamber, within the palace. He had turned his attention to foreign trade by sea, and built a ship of his own, which he sent loaded with merchandize to Melaput (?) and other ports of Ceylon and Southern India. In 1571, a rebellion of the northern Shans of Mo-gáung and Monhyin occurred. A force under the crown-prince and the king of Ava was sent against them; but the Tsaubwás could not be found, and the army was recalled. During this interval, the king of Leng-dzeng for some unexplained reason made an attack on a city belonging to Cambodia,† and was killed. One of his nobles usurped the throne. But the emperor, who had the deceased king's brother, named Ubarit, at his court, determined to support his claim, as he consented to become a tributary. An army was sent under the great general Binya Dala, to place him on the throne, but the expedition was unsuccessful. He was either put to death or sent into exile to a sickly place where he died. Binya Dala appears to have been a native of Pegu, but probably of Shan descent.

The last expedition of Bureng Náung against Siam, and afterwards into Laos, is related by the Portuguese historian in such a manner, that it appears to assert that the city of Yodayá was not taken. The fact of its surrender, however, admits of no doubt, though from the great loss sustained by the besiegers, it probably would not have fallen, had it not been for the treachery which has been related. De Sousa, after relating the capture of the Siamese princes in the first siege, but apparently not knowing that their father, the senior or first king of Siam was carried off as a hostage, proceeds thus: "After some time, the two brothers asked leave of the king to visit their father, which he granted, and afterwards sending to demand the usual

* This is probably a mistake for June, 1569, as will be seen farther on.
† Cambodia is called in the Taláing history 'Khameng,' probably a corruption of the native name Khmer. Cambodia seems to be the Portuguese form of Kam-phoutche, which itself is probably derived from Kambauza, the name of an ancient Buddhist country of India. All the Indo-Chinese nations have been in the habit of calling their cities after famous Indian cities. A portion of the Shan country was also called Kambauza, and the country east of Bamán was named Kosambi, which in popular language has been changed to Ko Shán pyèl. Yodayá, the capital of Siam, is the Indo-Chinese form of the famous city of Ráma.
"tribute, the black Prince refused to pay it. The king in a rage sends his
great favourite Banna, with a powerful army against him. Banna ravaged
the country of Siam, and besieges the Prince in Hudixa, who defended it
so bravely, that Banna being forced to draw off, he fell upon and totally
defeated him. The king sends his brother-in-law with a greater power, and
he receives a greater overthrow; 200,000 of his men were cut in pieces
with a great number of elephants and horses, many more of both taken.
The black Prince remained victorious, his men were enriched and all en-
couraged to follow their good fortune. The king of Pegu raises another
army of 1,700,000 men, 1,500 elephants, 80,000 horses, and all necessaries
proportionable. The command of it he gave to Mapa Raja* his son, with
the title of king of Siam, not doubting of the victory. At the news of this
power, all Siam trembled except the valiant black, now king, who met his
enemy and gave him battle. The two kings encountering on their ele-
phants fought, and he of Pegu was cast dead off his elephant, at which
sight his men fled and the Siamites pursued them a month, destroying the
"greatest part of that vast army."

This account seems to mix up the three or rather four separate expedi-
tions which we have given from the native histories. The first against
Yodayá, where, though Bureng Náung was victorious, it was with immense
loss; the two expeditions into Leng-dzeng, the last being under Binya Dala
and both unsuccessful; and that, to put down the insurrection of the north-
ern Sháns, under the crown-prince, which was also a failure.

Some light is thrown upon this period of the history by the narrative of
Master Cæsar Fredericke, the Venetian, who, as translated in Purchas, states
as follows:† "Sion, or Siam, was a great city, but in the year 1567, it was
taken by the king of Pegu. The number of his army was a million four
hundred thousand men of warre. I was in Pegu six months after his
departure, and saw when that his officers that were in Pegu sent five
hundred thousand men of warre to furnish the places of them that were
slaine and lost in that assault. Yet for all this, if there had not been
treason against the citie, it had not been lost; for on a night there was
one of the gates set open, through the which with great trouble the king
gate into the city, and became governor of Sion; and when the emperor
saw that he was betrayed, and that his enemy was in the city, he poisoned
himself; and his wives and children, friends and noblemen that were not
slain in the first affront of the entrance into the city, were all carried

* This means Upa Rádzá—the Yuvaraja of the ancient Hindus,—which was the
title Bureng Náung conferred on his eldest son. It is equivalent to Ein-She Meng of
the present day.

† Cæsar Fredericke, seems to have been in different parts of Pegu during 1567,
1568, and 1569.
"captives into Pegu, where I was at the coming home of the king with his
"triumphs and victory; which coming home and returning from the wars,
"was a goodly sight to behold, to see the elephants come home in a square,
"laden with gold, silver, jewels, and with noblemen and women that were
"taken prisoners in that city."

It will be remarked that there is a difference of one year in the date
given in the Burmese history, and that by Cesar Fredericke as to this in-
vasion of Siam. The difference is extended to the date of "the coming home
of the king," which the Venetian traveller apparently places in 1569; and
the Burmese history in 1570, after the conclusion of the expedition into
Long-dzeng.

Cesar Fredericke visited Martaban where, as he states, "we found ninety
"Portugals of merchants and other base men, which had fallen at difference
"with the Rector or governor of the citie. At that time, the city was
"empty of men, by reason they were gone all to the warres, and in busi-
"ness of the king."

He then proceeded to Pegu, "which are two cities, the old and new. In
"the old city are the merchant strangers, and merchants of the country.
"The merchants have all one house, or Magason, which they call 'Godon,'
"which is made of brickes, and there they put all their goods of any value.
"In the new city is the palace of the king, and his abiding place with
"all his Barons and Nobles, and in the time that I was there, they
"finished the building of the new city. It is a great city, very plain
"and flat, and four square, walled round about, and with ditches that
"compass the walls about with water, in which ditches are many crocodiles.
"It hath no draw-bridges, yet it hath twenty gates, five for every square,
"on the walls. There are many places made for centinels to watch, made
"of wood, and covered or gilt with gold. The streets thereof are the
"fairest that I have seen; they are as straight as a line from one gate to
"another, and standing at the one gate you may discover the other;
"and they are as broad as that ten or twelve men may ride abreast in them.
"And those streets that be thwart, are fair and large. The houses be made
"of wood and covered with a kind of tiles in form of cups. The king's palace
"is in the middle of the city, made in form of a walled castle, with ditches
"full of water round about it. The lodgings within are made of wood, all
"over gilded, with five pinnacles, and very costly work covered with plates of
gold." The whole of this description of the city of Hanthawati, and of the
palace, would answer for the present capital Mandalay, except that the
streets of the latter are broader than is here indicated, and that the palace
wall has no ditch. The traveller gives an intelligent description of the
army of the king of Pegu; of the war elephants; the "good ordnance made
of very good metal;" he hath "eighty thousand harquebusses, and the
number of them increaseth daily;" the rest of the soldiers are armed with bows and arrows, pikes and swords, "but their armour and weapons are very naught and weak;" this was compared with the European armour and heavy pikes of the period. The account given by this observant traveller shows that the native histories do not exaggerate his power and magnificence. Indeed, they state the number of his soldiers much below that given both by the Portuguese historian and the Venetian. The latter concludes this part of his narrative by stating—"The king of Pegu hath not any army or power by sea, but in the land, for people, dominions, gold, and silver, he far exceeds the power of the great Turk in treasure and strength."

The traveller also describes how "the king sitteth every day in person to hear the suits of his subjects," he sitting "up aloft in a great hall on a tribunal seat, with his Barons round about," while on the ground "forty paces distant" are the petitioners "with their supplications in their hands, which are made of long leaves of a tree," and a present or gift according to the weightiness of their matter." If the order be favourable, "he commandeth to take the presents out of their hands; but if he think their demand be not just or according to right, he commandeth them away, without taking of their gifts or presents." So the pitiless Burung Nāung had a conscience, when sitting as a king to hear his people's complaints.

The Talāing history records that the emperor desired another expedition to Leng-dzeng, to retrieve the last disaster there, and "destroy the head and not the mere tail of the cobra." The levy of an army was commenced, but the people murmured loudly, and many were heard to say that it was better to die at home than to perish of hunger and fatigue in a far country. The Shans were equally discontented, and some of the Tsaubwās, it is said, were supported in their opposition by the emperor's half brother and son-in-law, the king of Ava. The project was deferred for the present, but in 1574, the emperor determined to place Ubarīt on the throne of Leng-dzeng. He marched in October of that year, and arriving at Máing-zán, laid in stores of grain. He did not march into the country, but issued a proclamation that he had come to place the rightful heir upon the throne. He then bestowed, the regalia upon Ubarīt with much good advice, and departed, leaving his tributary at Máing-zán with some troops. He reached Hanthāwati in May, 1575. But a new expedition against Mogāung and Monyin had now become necessary; for those restive states had refused to join the last expedition to Leng-dzeng, and were in open revolt. A force directed by the emperor himself proceeded north from Ava. The Tsaubwā of Monyin was killed, but the other fled, and though the troops followed him into regions where there was only snow for water, they could not capture him. In Leng-dzeng, however, the course of events was more fortunate. The usurper was delivered up by his own officers, together with his son, and the
Burmese commanders, apparently glad to leave, returned at once with their prisoners to Zimmé. There a portion of the force remained, and the remainder came on to Hantháwati. These important prisoners were forwarded to the emperor who was still at Mogáung, as the exhibition of them in that quarter would, it was considered, have a good effect. The Tsaubwá of Mogáung, however, could not be caught, and the emperor, recalling his son and other officers from the pursuit, returned to Pegu, and reached his capital in July, 1576.

There a great triumph awaited him. The emperor had long been in communication with ports on the coast of India and with a Buddhíst king in Ceylon. He was the most powerful protector of the three treasures in Indo-China, and his support was naturally sought for by the now petty rulers in the holy island of Budhism. Two years before, a Singalese princess had arrived and had been received with high honour, though the Portuguese historian asserts that the lady sent was only a daughter of the chamberlain of the king of Colombo. Now, at the very time the emperor returned to his capital, news was brought of the arrival of the holy tooth relic of Gautama Budha in a ship at Bassein. As the season was unfavourable for the ship to come to Pegu, a deputation of all the nobles of the highest rank was sent, and they bore a golden vase, adorned with the richest jewels taken from the conquered kings, in which the precious relic was to be deposited. A letter was also received from Dhammápála, the king of Ceylon, announcing that he was the only orthodox king of the four who ruled in the island. Arrangement were made for building a suitable pagoda for the reception of the relic; and with reference to Dhammápála’s complaints of his being rather overborne by the three heretical kings, an envoy with a small force selected from all the various races in the emperor’s army, was despatched by sea to Ceylon. This, it is intimated, had the effect of causing the Buddhíst king to be much respected, and the envoy then returned.

The Portuguese historian places the arrival of the pseudo-princess and the pseudo-relic at the same time, but otherwise his statement appears substantially correct. It is as follows: “Among the treasure lately taken from the king of Jafanatapan, was an idol adored throughout all the coast of Asia, and so highly esteemed by all those princes, particularly the king of Pegu, that he every year sent ambassadors with rich presents to get a print of it.” The king of Pegu hearing that the Portuguese Viceroy had this idol—the tooth relic—offered 300,000 ducats for it. This was refused, and the tooth was beaten to dust in a mortar and burnt at Goa, by order of the Viceroy Don Constantin. “All men,” adds de Sousa, “at that time seemed to applaud the act; but not long after, two teeth being set up instead of that one, as shall be related in the government of Don Antony de Noronha, they as much condemned and reviled at it.” As to the
Princess, the Portuguese historian relates—"Brama, king of Pegu, being told
by astrologers that he was to marry a daughter of the king of Colombo, sent
"to demand her, and he had never a one; but his chamberlain had one the
"king esteemed as his own." He agreed also to give the tooth in dowry
with the bride. They were received "with the greatest pomp that ever has
"yet been heard of. Many galliots were fitted out, but that which was for
"the queen, was covered with plates of gold, and rowed by beautiful young
"women, richly clad, and brought up to this exercise. The king of Candea
"understanding the deceit of this marriage, and envying that great fortune,
"acquainted Brama* therewith, offering him a true daughter and tooth,
"and affirming both that of Columbo, and the other of Don Constantin
"were counterfeit, and the true one was in his hands." Nothing of this is
to be found in the Burmese or in the Talâing history; the relic, though
received with much pomp, disappears from history, and from the memories
of the Budhist nations, where, if believed in, it would have been enshrined
for ever. It was deposited in the relic chamber of a Zedi built to receive
it, and in which gold and jewels of such immense value were placed, that
the Zedi was probably broken into, and the relic chamber plundered, in the
time of the Portuguese adventurer, Philip de Brito, about twenty-five years
later.

After the acquisition of this relic and, it is inferred, from its good
influence, the Tsaubwâ of Mogâung was surrendered by his chiefs to one of
the emperor's sons, styled Thâ-yâ-wâtâ Meng, who had been sent with a
detachment into that country. The young chief was brought to Hannâ-
wâtâ, and the emperor reproached him with his ingratitude, after the kindness
with which he had formerly been treated. His life wss spared, but he was
exhibited at one of the city gates in fetters for seven days, after which he
was released. About one hundred of his followers who had supported him
in his gallant resistance, were sold as slaves to Kulá merchants, and being
put on boardship were sent beyond sea. The emperor had thus rid himself
of his most troublesome enemy, but affairs in Leng-dzâng were not satisfac-
tory. To strengthen his position in that quarter, he now appointed his
son, the Thâ-yâ-wâtâ Meng, who had shown great energy and ability, the
tributary king of Zimmó. He left for his kingdom in March, 1578, and
the emperor enjoined him to remember that he owed allegiance to his elder
brother the Upa Rádzâ. He received the title of Nâurahta Dzâu. But the
emperor, from the anxious care he took to bind the two brothers together,
seems to have foreseen the danger of future struggles among the tributary

* Brama was the usual Talâing pronunciation of the national name for what
we now style Burma, or as now written by the Burmese, Mrammá and Bamá, but
originally Brahmm. Burong Nâung, as already explained, claimed to represent the
ancient Burma race, and is thus correctly designated by the Portuguese historian.
kings of the empire he had founded. It was again necessary to send an army into Leng-dzeng. A pretender had appeared claiming to be the dead king Bya-tsétsít, and Ubarít was unable to meet him in the field. The Upa Rádzá set out in October, 1579, and marched to Máingzán where Ubarít joined him. The expedition was successful, and the crown-prince returned to Pegu in the spring of 1580, bringing some prisoners of importance.

The emperor had now subdued all the enemies with whom he had fought for so many years. Even Leng-dzeng was to a considerable extent subject to his tributary king. Instead, however, of resting or granting his subjects relief, he turned his attention to Arakan. The king of that country, he observed, desired to be independent, contrary to his engagement, and it was necessary to coerce him. A large fleet of vessels and boats of all sizes were collected, in which an army of eighty thousand men was embarked, and the fleet proceeded to a point on the south coast of Arakan, where the men landed and marched to Thán-dwé (Sandoway) in November, 1580. The force was commanded by one of the emperor's sons, who received the title of Thiritlu-dham-má Rádzá. He entrenched himself at Thándwé, and awaited further orders as to an advance on the capital of the kingdom. This expedition is noticed by the Portuguese historian, who states that a ship belonging to the king of Pegu was loading at Mazulapatan. The governor sent some ships to seize it, on what account is not stated. They did not encounter it there, but afterwards near the mouth of the river Negraes, and there sunk it. Near this, they met the Prince of Pegu with a fleet of 1,300 sail, designed for the conquest of the kingdom of Arakan. A fight took place, the Portuguese disabled and took some of the enemy, but were obliged to withdraw, on account of the great number opposed to them, and got into the port of Arakan. The Portuguese then considered themselves at war with the emperor of Pegu, which probably resulted from his interference with the petty kings of Ceylon. In the native histories no notice is taken of this attack on the Burmese fleet. The army sent by the emperor seems to have remained inactive at Than-dwé for nearly twelve months. In October 1581, reinforcements were sent, but these did not go by sea. The emperor's days, however, were numbered, and before the whole of the reinforcements reached their destination, he died very suddenly in November, aged sixty-six years, and after a reign of thirty years in Hanthá-wati. There is a studied obscurity in the native histories as to the lineage of Bureng Naung, but as he had in early life married a sister of king Tabeng Shwé htí, it is probable that he belonged to the royal family of Táungu.
### List of the Kings of Pegu of Shan race, who reigned after the re-establishment of the kingdom under Waré-ru, A. D. 1287.

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<td>6 Binaq-ú, or Thaeng-phyú-sheng</td>
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<td>16 Ta-káarcu-tûn-bi</td>
<td>...</td>
<td>1328</td>
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Sir Arthur P. Phayre—The History of Pegu.
Notes on the age of the ruins chiefly situate at Banáras and Jaunpúr.—By the late Mr. Charles Horne, B. C. S.

The following notes refer chiefly to the ruins at Bakhāryā Kund at Banáras, full accounts of which have appeared in the Journal of the Asiatic Society of Bengal for 1866, and those at Jaunpúr, viz., the three great mosques of Aṭālāh-Lal Darwázah and the Jāmī’ Masjid; although a large portion of them will apply to many other buildings in this part of India.

Up to the winter of 1870, I had always believed, and my belief had been strengthened by the opinions of others, that these buildings had in general been built upon Buddhist or ancient Hindú substructures, or had been altered and converted from such buildings for Muhammadan purposes. They had been so treated by the Rev. M. A. Sherring and myself, when describing them, and General Cunningham, Archaeological Surveyor of India, appeared to be of the same opinion. Thus these substructures would date very early, even to 300 and 500 A. D., at least.

My attention to the subject of this alteration and conversion had been first aroused by Mr. Fergusson’s admirable account of such conversion, and most of these buildings show traces of such alteration. But happening to refer to Mr. Fergusson’s History of Architecture, Vol. II, page 663, for a description of Indian Saracenic Architecture, the edition now used by me being of a later date than that I possessed before the meeting in 1857, I find that the writer, speaking of Bakhāryā Kund near Banáras, says, that “there is a singular group of tombs and other buildings by the Moslems which are singularly pleasing specimens of the Jaunpúr style.”

In the upper part of the page, there is a description of the grand old Aṭālāh Mosque (अटलाह) at Jaunpúr, in which Mr. Fergusson says that he was “almost inclined to agree with Baron Hügel in considering this a Buddhist monastery.” I have lived five or six years in the immediate vicinity of all these buildings, and have examined them most carefully and duly weighed all the evidences of antiquity I met with, and I entirely agree with Baron Hügel in holding that much of the substructure as well as the general plan is Buddhist or Ancient Hindú. If so, they are most interesting examples of their class and built examples of an ancient style which Mr. Fergusson holds not to exist in India at the present time. Hence the subject assumes great interest, and is worthy of careful and temperate discussion. Unfortunately, to be properly dealt with, it requires many plates.

In two manuscript copies of the Jaunpúrnámah, or ‘History of Jaunpúr,’ which I have compared, and which was compiled some seventy years...

* In a footnote to the same page we find:—Journal of the Asiatic Society of Bengal, for 1866 (should be 1866). There however, they are mistaken for Buddhist remains, which they are not.”
since by Khairuddin Iláhábádí, a most learned Muslim of the city, from manuscripts and from local oral tradition, the Atálah Masjíd is spoken as an existing idol temple when Firúz Sháh founded the city. In this record we are told that Rájah Jay Chand overcame the giant Karábir, who resided at Jaunpúr, and destroyed an idol temple; but this temple would seem rather to have stood on, or below, the site of the Fort of Jaunpúr, and of it but few traces remain. These consist of carved stones built into the mosque, which was afterwards constructed chiefly thereof in the Fort area.

This view is supported by the fact that, in 1859-59, when mines were drawn under the fort for the purpose of destroying the fortification, carved stones and fragments of friezes were dug out, of the same patterns as those used by the Muslims in their erection of the propylus of the mosque of Atálah. This fort dates (as a fort) with the bridge, or perhaps a little earlier, i. e. the latter part of the 15th century. The temple of Atálah Deví, or Dewal Atálah, is spoken of throughout the history as having been a place of great sanctity, and it would seem that the Bráhmans on the overthrow of Budhísm had appropriated it, and making Sákhyá Muni the ninth Incarnation of Vishnu, left his figures standing therein. The fact of there being such figures, many remains of which still exist, only proves that the monastery was built after the faith had become much degenerated. Firúz Sháh granted the people a sanad whereby their temples were not touched, but no new temples were to be erected. Subsequently, we are told, that naturally, as the Muslims gained power, they converted it into a mosque, and it became the state place of prayer; but subsequently falling into disrepair, it was never restored.

This, remember, was written by Muhammadans who could have no possible object in misrepresentation, and who, if it were so, would certainly claim the mosque as an original erection.

When most carefully examined by me, I found no traces of statues of any other than Buddhist, i. e. Sákhyá, at the Atálah, although some others were found built into the other mosque. In the basement niches there would appear to have been cut in relief bells supported by chains or twisted rope. This is a well known form of ancient Hindú ornamentation, and the cloisters at the Qútb near Díhlí, which Cunningham so clearly shows to have been constructed of Hindú temple pillars, are covered with them. Report for 1862-63, page xxxix.

This last named writer in one place speaks of the apparent conversion of these bells most ingeniously into seal and stands with a Muhammadan inscription upon them, and this would appear to have been done at the Atálah, notably in the vestry room, converted by them into a room for their women who entered by a private door and staircase, and they then appear to have cut upon the said seals their profession of faith.
Again, the brackets within the courtyard which supported the eaves of the upper cloister have originally been animals. Their forms have been defaced, but it cannot be concealed, and surely no Muslim ever put these up. Throughout the three mosques at Jaunpūr there are built into the restored or altered parts, such as the gateways, and domes, very many defaced Hindu figures, chiefly Buddhist, built face inwards into the masonry, all shewing most plainly whence the materials were obtained.

The Mahāwanso tells us that the pulpit in Buddhistical Vihāras always faced the East, and that the principal door faced the East also. Hence the direction of Makkah was already arranged for.

The great porch of the Jaunpūr mosques may be entirely of Muhammadan construction; but the principle of the arrangement of the doorway is very ancient Hindu, whereby the light enters from over the high door and falls at a certain hour on the figure of Sákhya, which was always placed upon a 'singhāsana,' or throne, facing due East.

The cloisters around appear to be much as they ever were, excepting that they have been constantly repaired, and pillars here and there replaced. I have never heard of such pillars being claimed by Musalmāns; and we find the same at the rock cave temple in Bihār, whilst the cruciform capitals are as ancient as any form of Indian architecture that I know of.

The centre gateways are manifestly inserted, and although ancient materials have been used, the work is Muslim. Here any unprejudiced person can see at a glance how the ancient work has been overlapped and built in. He has only to look at the columns and at the ground basement moulding running under the very steps. This basement moulding appeared to Mr. Sherring and myself to be part of the original building, and here I may remark that the Muhammadans, when preparing a mosque, never cared to disturb the good old foundations or the basement moulding. They built on whatever they found that suited their purpose, and hence we find more ancient substructures.

In General Cunningham's Report for 1862-63, para. 261, p. 23, he says, speaking of remains at Kanauj—"On comparing, therefore, this cloistered Masjid (the Sīta-kā-Rasul) with those of Jaunpūr, which are acknowledged rearrangements of Hindu materials, we see at once that..........are not Muhammadan. Vide also para. 264, which applies still closer to Jaunpūr.

As doubtless the masons employed by the Muslims were Hindus, any mason marks made by them during the rearrangements would prove nothing. They are not therefore quoted in this place. Some were published by me in the 'Builder,' of June 26th, 1869.

The cloister pillars also shew beneath the new work of the porch, which is scaling off and falling down.

The whole country in this neighbourhood was formerly covered with ancient temples, and we found in the foundation under the front gateway...
of the Lāl Darwāzah a Hindū pillar carved over with chains and bells. The fact that Jaunpūr, under some other name, is not mentioned by the Chinese travellers is not surprising; for, as I said before, the whole country is covered with the remains of such buildings, and they had enough to see and describe without going out of their way.

Before leaving these interesting buildings, I would wish to remark a curious coincidence. The "Sita-ka-Rasui" at Kanauj is quoted by Mr. Fergusson from Cunningham's Report as having been rearranged from a Jain temple by the very Ibrāhīm Shāh of Jaunpūr in 1406, A. D., i. e. just the same time as that assigned by that gentleman (viz., A. D. 1419) for the erection of the Jaunpūr mosque by Ibrāhīm Sh. h. The inference is very clear. He says that they were commenced at this time, and finished by Husain, 1451-78.

In all this, I do not deny that the Muslims may have copied ancient patterns in carving, as is notably seen in old cloisters in the Fort at Rajghat, Banāras, the adaptation of which has never been disputed, and they certainly used carved stones found on or near the spot for their new work. Mr. Fergusson writes to me that our difference of opinion is not one of degree, it is absolute; "I deny in toto that these mosques are built on Buddhist sites, or that their details are Buddhist, or even copied from Buddhist buildings."

The closed cells under the courts are not wanting, and are visible in a marked degree under the Mosque of Aurungzeb in the centre of Banāras, where all may see them.

The very many ancient carved stones found within the precincts of the mosques prove that at the best they were sites of buildings of great antiquity.

I will now say a little relative to the ruins of Bakhāryā Kund and the grounds upon which we (Mr. Shering and I) assigned them the date we did, viz., that of the Gupta dynasty, according to Mr. Fergusson, 300 to 400 B. C.

At Jaunpūr, I am not aware of any inscriptions having been found to fix the conversion of the mosques; but at Bakhāryā Kund we were more fortunate, and the reader will find one of the time of Firūz Shāh, A. D. 1375, quoted by Mr. E. Thomas in his work on the Chronicles of the Pathan kings of Delhi, to shew how they appropriated and built upon temples which came to their hand. In fact, I may in passing remark, that I have only found one temple at Banāras which can claim date before the time of Mahmūd, the destroyer of temples. It is at Khundūa on the Pachkosi road, and is well worthy of the visit of any passing archeologist.

The Chinese traveller of the 7th century, Hwen Thsang, mentions many Buddhist monasteries at Banāras in his day, and states that there were thirty, to most of which were probably attached temples, and considering the massive structure of the day, I hold that some remains must exist even now. Hence Mr. Sherring and I examined well the line of country where they were
likely to be, and we reported our success in the pages of this Journal. Chief amongst these was the one at Bakharyá Kund, which Mr. Sherring brought to notice some years ago. Here we found a small mosque, the substructure of which we hold to be original ancient Hindú or Buddhist work. There were also many terraces, girt at their base with massive mouldings, breast works built up of large cut stones, low cloisters constructed of old square columns, and foundations built of huge brick and very many feet in thickness (10 to 30 ft.). Over the ground were scattered carved stones, broken statues, kulsis or top stones, 9 feet in diameter, with many other remains. Below these basement mouldings or blocks of stones, squared on three sides and rough internally, which had been laid bare by the weather, were many incised inscriptions in the Gupta character. A few of these have been collected on the accompanying plate, and these have principally, but not wholly, been copied from stones 'in situ.' This is one of the principal grounds of our opinion, which was not hastily formed. The inscriptions were kindly translated for me by my learned friend Babu Rájendralála Mitra.

The small mosque is a very curious one of conversion, if it be one. The ground plan is not that of a mosque at all, but of an Indian temple. It is a square with a square projected on each face. On that facing the East, however, the projection has not been carried out, but instead an enormous stone has been let in as a base for the singhásan on which was to stand the figure of Sákhyá. From the base arise pillars, severe in character, square as all the ancient Hindú pillars were in this part of the country, whilst above the Muslims have put on a dome. It has been figured in our account in the J. A. S. for 1866, and even struck J. Prinsep who lithographed it in his views of Banáras. The massiveness of the pillars, which are built up of single stones without mortar, has ensured permanence.

Other remains near are held by us to be of equal antiquity. These have been preserved by being used as tombs for the burial of great men or of saints. With the wealth of material lying about, the Muslims of Banáras appear seldom to have built a tomb, but at Jaunpúr there are most elegant mausoleums in which little or no Hindú materials have been employed.

The strange way in which pillars have been used as architraves at Bakharyá Kund is very singular, but the height of absurdity was at Sayyidpúr Bhitari, a great Buddhist site, where I saw a linga put up for a Muhammadan head stone at a grave, with a little niche for the lamp cut in it, and this linga had been carved out of a Buddhist column. After this, one can wonder at no amount of conversion or alteration by the Muslims.

I trust that in the above notes I have shewn some ground for the views I hold in regard to the buildings, the date of which is under discussion, and I would beg to refer the reader to the ample details in this Journal for 1868.
| Image 0x0 to 366x554 | A few of the numerous writings on stones at Bakrareya Khundi, Benares, chiefly inscriptions.

| Image 0x0 | One main Inscription in the Gupta character.

| Image 0x0 | Kaśi (śā) Gupta (bhy) Gupta.

| Image 0x0 | Parvati (name in Gupta) Gupta.

| Image 0x0 | Gaśi (śā) name in Gupta.

| Image 0x0 | Ma phai (name) Gupta.

| Image 0x0 | In the name, if the last syllable is a, the word would mean, just to which the charming person is joined.

| Image 0x0 | Vāja base of colon (as) Gupta.

| Image 0x0 | Vīja a straight bar.

| Image 0x0 | Hāri da (name) do.

| Image 0x0 | Bāla (to) bha (meaning) spirally fluted.

| Image 0x0 | Vādava ma (a) Name.

| Image 0x0 | Ma kāra mādha.

| Image 0x0 | Ka 99 na (K) of the left.

| Image 0x0 | Vāre ha (śā) (name) (s) of the long column.

| Image 0x0 | Na ba (śā) Nāru or Nānity.

| Image 0x0 | Kicha (śā) Middle (or times).

| Image 0x0 | Hammā (śā) fuller.

| Image 0x0 | Je (śā) this Name.

| Image 0x0 | Wāra (śā) of the upper corner.

| Image 0x0 | Māra da (śā) Rā-mākādaśa.

| Image 0x0 | "1975 Photo Lith."

As the first fasciculus of the text of this ancient poet has now been published, it may be hoped that scholars in various parts of India will begin to co-operate with those few persons who have hitherto had access to the MSS. in elucidating the mysteries of his crabbed and archaic style. The time seems opportune, therefore, for collecting such observations as I have been able to make from time to time on the grammatical peculiarities which Chand’s language exhibits. I have not been able to study the whole of the vast work, indeed such a task would take up all the time of more than one student even if he were not like me much occupied with official duties; but as the style, even in its irregularities, seems to be uniform throughout, notes on those books which have been examined, will probably be found applicable to the rest. The illustrations hereinafter given are taken chiefly from the 1st book as it is now in print. The 10th, 64th and 65th books, have also been cited. There are, moreover, several quotations from various parts of the first eighteen books, and one or two from the 21st, the celebrated Mahoba Khand.

By way of getting at a sound working basis, it is necessary first to clear out of the road certain obstructions partly peculiar to Chand and partly shared by him with all early Indian poets. The first of these is the uncertainty of the spelling; in respect of vowels, we find the same word written at one time with a long vowel, at another with a short one; vowels are inserted or omitted at will, and diphthongs are written in two or three different ways. In respect of consonants, arbitrary insertions or omissions occur, double consonants are written as single, and single as double, aspirates are deprived of their aspiration, and unaspirated letters are aspirated at will. The following examples may be taken:

a. Vowels. नारि and नारी; चास, चत, चत्त and चत, चाक्स and चाक्स; केलि and केली; रिप, रिप, रिप and रिप (क्षिप); चिर and चिरि; चुस्त, चुस्ता, and चुस्त; दुर्षर्य for दूरा or दुरा; वैया, वैया, वैया, वैया (क्षिप); जै, जब, and जश्व; नेप, नेप, नेप, नेप, नेप; सम, सम, सम, and सम; सूडकर, सूडकर, सूडकर, सूडकर; सुन, सुन, सुन, सुन, सुन; दशि and दशि; बूहर and बूहर; चाब, चाब, चाब, चाब; बिमंत, बिमंत, बिमंत and बिमंत; च, च, च, च and द्व, द्व, द्व and द्व.

b. Consonants. पटभर, and पोकखर; पटरी, पश्मनि, पश्म and पाग; सन्, and ṣन्; शन् and शन्; काज्ञ and काज्ञ also कव्ञ; विथि and विथि; चेंि and चेंि; चुख, चुख, चुख, चुख; चुक, चुक, चुक, चुक; चुक, चुक, and चुक; चुक, चुक, चुक, चुक; चुक, चुक, चुक, चुक; चुक, चुक, चुक, चुक; चुक, चुक, चुक, चुक; चुक, चुक, चुक, चुक; चुक, चुक, चुक, चुक;
Two explanations suggest themselves for this state of things. In the case of alterations which affect the metrical quantity of the syllable, we may suspect that they had been made _metri causā_, as is customary in Hindi poetry; and in those which do not affect the quantity, we can often see various forms of the same word in successive stages of phonetic corruption.

But those two explanations do not account for every change, nor is all yet explained, even if we add the ignorance or carelessness of copyists. Moreover, we are led to be very shy about using the _metri causā_ argument from observing the extreme laxity of the poet in this respect. Looking at his metres simply according to the name they bear, we may divide them into three classes:

1st. Those identical with Sanskrit metres.
2nd. Those peculiar to the poet.
3rd. Those identical with modern metres.

Leaving out the second as indeterminable at present, if we take the first and third we find that by no process can we make them scan. We may indulge to the full in the liberty of inserting or omitting the _unwritten short a_, we may pronounce diphthongs as one, two, or three syllables, but not even thus can some of the lines be brought to accord with the scale. Sometimes ten lines will scan quite accurately, and the eleventh be all wrong. The bards of the present day call Chand's style the 'dingal bhākhā,' as contrasted with 'pingal bhākhā,' or verse constructed according to strict rules of prosody. It must be remembered that many of these poems were _impromptu_ productions, and most, if not all, were written to be sung, and any deficiency of syllables could be covered by prolonging one sound over two or three notes, as often happens in English songs, or on the other hand two or more syllables could be sung to one note as in our chanting. Where so much license exists, we cannot use the metrical argument except with great caution.*

We are, therefore, driven back to the conclusion that in Chand's time the form of words and their pronunciation was extremely unfixed. This is probable from historical considerations also; and the use of the conclusion itself to us in our present enquiry is that it removes out of the way the necessity of attempting to establish a fixed set of forms for words and inflexions. We take all Chand's words for the present as they stand, we take each word in four or five different forms if used be, and do not trouble ourselves to find out which is the right form for Chand's period, simply because we do not believe there _was_ any right form, any one form, that is, more used and more generally accepted than any other. In fact, we

* Since writing the above, I have been informed by Dr. Hocqniol that he does not find Chand's metres so irregular as the bards report, but the learned professor allows himself to alter the spelling of the text to bring the words into agreement with the metres, a practice which seems somewhat premature.
recognize the thoroughly transitional character of the language we have
to deal with.

The second obstruction to be removed is that of texts; so far as I have
seen, the MSS. at present available, some five in all, have all been copied
from the same original text, and servilie repeat the old mistakes. Where
they differ from one another, we can generally detect merely an additional
error of the copyist. It is not necessary therefore to enter upon a detailed
collation of texts, such a process would not lead to our finding out or
establishing one settled and correct reading. Sometimes for thousands of
lines together, there is not the divergence of a single letter between the
whole five MSS., the same obvious errors being faithfully repeated by all.
Historically the Baidla MS. has the best right to be considered the
representative of the original text. Tod's and Caulfields' MSS. belonging
to the Royal Asiatic Society, were made for the officers whose names they
bear in the second decade of the present century, as stated in the colophon
to each, though it is not stated from what older MS. they were copied. The
Bodleian has no colophon, but agrees, as far as I was able to compare it,
with Tod's. The Agra which is the worst, and most carelessly written of
all, is also from the same origin, with a great many extra blunders of its
own. I do not know from what source the translations lately printed in
the 'Indian Antiquary' are derived, but from the absence of proper arrange-
ment and the scanty nature of many of the extracts, it is probable that the
MS. was not a perfect one. As to the many imperfect scraps which may be
found here and there in the libraries of native princes, they are so
fragmentary and so interspersed with matter which Chand never wrote, and
their language has often been so obviously modernized, that it will be wiser
to disregard them altogether, classing them under the head of "pseudo-
Chand fragments," and sticking to the few complete copies which are
accessible. For working purposes, Dr. Hoernle and myself are taking Tod's
as our basis, occasionally assisted by the Baidla and Agra. Caulfield's and
the Bodleian being locked up in English libraries cannot be used.

Taking then the work as it stands, and not troubling ourselves in our
present initiatory stage with either spelling or text, the following notes may
be found useful to start with, though many of them may have to be modified
as we learn more about our subject. For it must be steadily borne in mind
that we are only at the beginning of the battle, and have no predecessors in
the field, of whose labours we can avail ourselves. Everything hereinafter
stated, is therefore tentative, and, pro hac vice only, dogmatizing would be
premature. Moreover, Chand is the earliest poet in the language, and we
can therefore illustrate him only by his successors; his relations to those who
went before him are absolutely indeterminable for the present, and will
probably long remain obscure.
The pronoun as the oldest and most characteristic part of the language may be taken first. The forms observable approach very closely to those in use in all the IIindī poets down to a late date, the pronoun being peculiarly tenacious of its ancient forms.

Both in the noun and pronoun, the synthetical process has been to a great extent rejected, while the analytical is as yet in an imperfect state of development. Thus, three states or forms of the singular, and three of the plural, may be detected in the pronoun: first, the direct or simple form, used for the nominative: second, the oblique, used for all cases, sometimes with the addition of post-positions as झी, झी, घे, घक, etc., but more often without any distinguishing mark: thirdly, a special form for the genitive.

The pronouns of the first, second, and third persons are exactly parallel, the first being modifications of a theme मो, the second of तो, and the third of ता (या and वा).

It will perhaps be useful in a little known author like Chand to give rather copious illustrations of each form first, and then to tabulate the results at the end.

The commonest form for the nominative of the first person is झी. This is derived from the Skr. झरस् by rejection of the झ and resolution of the final म into its compound elements, as in मो = मष्ट (see my Comp. Gram., Vol. I, p. 254). One example may suffice for this very frequent form.

Then I quit the body (i.e., kill myself) I. 157. 2.*

Differing only by the omission of one of the top strokes and therefore to be regarded more as a variation in writing than as a separate form is झी, as झी झे झे झे झे झे सर झे सर 

I am (constantly) hearing all that, O mother. I. 160. 4.

I knowing science tell this to thee. III. 27. 50.

The form झी often written झी and so hardly to be distinguished from the post-position ‘in,’ occurs in a few passages, as झी सुन्य सा साच बिन बाहि दोि न सरि बा झी दोि न 

I heard the Shah had deprived (him) of eyes.

Abandoning food I practised austerities and penance. LXV. 110, 17-18

In these lines, and wherever else it occurs, झी is used before the past tense of an active verb, showing that it was still regarded as an instrumental, as it is by origin from the instr. of Sanskr. सया, Prak. सर and सर. Chand I believe wrote simply झी, as in Marathi स; the anumanāśika is a modern

* The Roman numeral indicates the Book of Chand’s poem, the first Arabic numeral, the canto or poem (Kavitt), the second the line. Tho numbering follows my list in J. A. 8 B., Vol xlii, p. 204.
addition, so is the use of श्रेय as a nominative, and the modern fashion of saying श्रेय is founded upon ignorance of the true nature of the word and contains the instrumental twice over.

For श्रेय, commonest of the oblique forms, innumerable examples may be found. Two may suffice, as the form is also in use in mediaeval Hindi, down to the seventeenth century at least.

श्रेय श्रेय मान श्रेय || I, 192. 2.
The lord of Mohini (Durgā) hath said to me.

नरी श्रेय काम पिता राजपान || LXIV, 366. 9.
There is no business for me in my father’s palace.

(i. e., What have I to do with it ?)

It is apparently Chand’s idea of metre, for he has some ideas on the subject, that leads him to shorten this form constantly into सुचि, as:

ओ सुचि दुंडा निमग्नि || I, 170. 2.

If Phundha shall swallow me.

तब लगि कद दुरिन्द तन ||
तब लगि लघु सुचि गात

अब लगि श्रेय भागि नरी || तो पार न सेवास || I. 276. 1-4.
Till then pain and poverty (were in my) body.
Till then my limbs were light; (i. e., mean, contemptible).
As long as I came not (to thee),
And worshipped at thy feet.

The final short ति is sometimes omitted, as

सुचि सुचि सुचि सत || I. 179. 2.

This opinion seems (right) to me.

Commoner than any except मोहि is the form श्रेय, used for all cases, sometimes with, but oftener without, post-positions, as

किम उपार श्रेय चार || I. 188. 11.
How shall there be salvation for me.

श्रेय श्रेय श्रेय श्रेय तास गर || I. 49. 9.
He who killed the snake (on) my father’s neck.

भइ आति बाबिष्य मृगति || VI. 18. 1-2.

भार नाम श्रेय चन्द ||
Bhat by casto, king of poets.

Lord! my name (is) Chand.

श्रेय श्रेय श्रेय श्रेय बड़े पारं || I. 160. 1.
Having thus said for me you find fear.

(i. e., You put fear into mind).

ओ श्रेय श्रेय श्रेय श्रेय श्रेय || I. 157. 1.
If you do not speak the truth to me.

Instances of the form सुचि are also frequent.
This land (was) my father's and my ancestors'.

Who (am I), from what race sprung
Tell thou to me, O mother.

Instances of सरे are as follows:

सरे कबूँ राय न खावः || I. 160. 2.
You have no pity on me.
(Lit. Of me any pity not comes.)
खत खात सरे चाते ||
Seven brothers of mine are slain. V. 61. 3.
रच्छ सेरो खरदादिः || (i. e. عرضداشت).
This is my petition. I. 228. 2.

For the nominative plural इस is universal;

इस तुम काम रूप विद्वद ||
We (and) you had never strife, I. 210. 29.
इस तुम काम रूप विद्वद ||
We and you (have) business (on) this field to-day. Ib. 31.
The oblique form is इभमि and the genitive चमरा और और.

खाल होता चमरो वानोय ||
Alhá, hear my word. XXI. 145. 2.

The nom. is used when we must translate by a genitive or other oblique case, as in इस सरज दिपस्य, the day of the death of me. I. 210. 27. It is a nom. again in

करै रमै इस साती सबल ||
Quoth Kanh, honorable (are) we all. VI. 82. 1.

The post-positions are affixed as in the modern language इस सै, etc.

For the second person the singular nom. चूँ has been quoted above, as also the plural nom. चूँ; the former has an emphatic form as in the hymn to Bhavani—

तुंचो गड़ गाँधारी गोमतीय ||
तुंची नवंदा जमुना चरसतीय ||
Thou art Gangá Godāvari, Gomati,
Thou, Narbadá, Jamuná, Saraswati. LXV. 16.

And so on through some forty lines. In the following, however, we have the oblique form: the only difference is the absence of the anunasikā.
The त is lengthened metri gratiā;

चबै कबा सहे || तुंची नाम चाने||
Before all affairs. Thy name is affixed.

The regular form for the oblique is, as might be expected, तुम। The
shortened form in the line

\[ \text{I. 279. 3, 4.} \]

Either I will yield my head to thee,
Or I will put the umbrella over my head. I. 279. 3, 4.

(i.e., I will conquer thee, or die.)

The post-positions are used with तुम, as तुम कै, तुम कै, etc.

For the third person we have a definite personal pronoun चै, as well as
the two demonstratives रस and रस = this, that, with their respective
formations.

रस ‘this’ is found repeatedly तीसर रस शास्त्र बुझ्य दे To me this future
appears clear. I. 28. 2.

The oblique form is बौद्ध, बौद्ध लगभग को ग्राम काव्य। To complete this
(is) a work determined on. I. 87. 6.

I am disposed to see a shortened form in the line

\[ \text{I. 254. 5, 6.} \]

In order not to prolong this section too far, I will now merely give the
scheme of the pronouns as far as I have found them, or can construct them from analogy. The latter are in brackets.

1st Person.

| Sing. Nom. | आँ, एँ | आँ this आँ | आँ that आँ. आँ | आँ occasionally in Gāthā तर्थ
|---|---|---|---|---
| Oblique | आँ, आँहि, मूँहि, तृँ, तृँहि, तृँ० | आँ, आँहि, मूँहि, तृँ, तृँ० | आँ, आँहि, मूँहि, तृँ, तृँ० | आँ occasionally in Gāthā तर्थ
| Genitive | आँ, एँ, एँ० | आँ, एँ, एँ० | आँ, एँ, एँ० | आँ occasionally in Gāthā तर्थ |

Plur. Nom. रूँ

| Oblique | रूँ, रूँहि, रूँ० | रूँ, रूँहि, रूँ० | रूँ, रूँहि, रूँ० |
| Genitive | रूँ, रूँ०, रूँ०० | रूँ, रूँ०, रूँ०० | रूँ, रूँ०, रूँ०० |

3rd Person.

| Sing. Nom. | तो, तो | तो this तो | तो that तो. तो | तो occasionally in Gāthā तर्थ
|---|---|---|---|---
| Obl. | तो, तो | तो, तो | तो, तो |
| Gen. | तो, तो | तो, तो | तो, तो |

<table>
<thead>
<tr>
<th>Pl. Nom.</th>
<th>ते, ते</th>
<th>ते रूँं</th>
<th>ते</th>
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<tbody>
<tr>
<td>Obl.</td>
<td>ते, ते, ते, ते</td>
<td>ते, ते, ते, ते</td>
<td>ते, ते, ते, ते</td>
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<tr>
<td>Gen.</td>
<td>ते, ते</td>
<td>ते, ते</td>
<td>ते, ते</td>
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</tbody>
</table>

तात्ति is shortened into तातहिं, and thus corresponds with तात्ति (pl. तातैंिि and तातैं) from की.

The interrogative is को or की, oblique कीिि, pl. कीिि. Of other forms may be cited कतिििि and its series, also केशि and its series shortened at times to किििि, जिििि etc. A curious double form occurs in the lines

आकेशि देशि न देशि ॥

तात्ति केशि के गतिइिे ॥

Ho of whom there is no body,
Him in what way can one catch? I. 161. 8.

I suspect के here to be a relic of the verb कैर, as in the same passage occurs the phrase

जिनिि दिखि न दिखि ॥

तात्ति केशि किरि ताति ॥

Where the sight does not penetrate
There in what way can one see? ib. 4.

It would mean in full ‘how having done? in what manner having acted.’ The oblique form of the plural is used adverbially for ‘how?,’ and takes anuswāra as in the first of the two last quoted instances. In the following it stands alone—

शारक दे केशि कुष कीिििे ॥ I. 154. 4.

How did Sārāng De make war?

For कतिसििि and its series we have also कसििििि and the rest.

केशि जर रिष राई ॥

वर सहर दसििि ॥ I. 162. 3-4.

How many men, and Rajārshis,
Have there been (and) gods and demons of you.
Chand's noun is rather a formless affair, as might have been expected, not only from the age in which he wrote, but from the style common to all those most obscure and difficult of writers, the Hindi poets. Like them, he loves to string together crude nouns, and leaves the reader to construct sentences out of them by mentally supplying the needful case-signs. This he does not merely in his rhapsodies where perhaps no very definite meaning is to be expected, but even in his narrative portions. Thus in the very first stanza


All which may be put together into a sentence as the reader likes; or again—


The darbār became like a tank full of blood as water. V. 37. 1.

The case-signs, however, are fully and freely used when the metre allows, and I shall now give instances of their use, exhibiting the more ancient as well as the transitional forms, and those which are identical in form with the modern post-position.

The objective case, including both dative and accusative, is indicated by the preposition, concerning whose origin I reserve my opinion for the present, कँ. Variant forms are क्रं, कौ, की, from the last of which by dropping the anuswara comes the modern की.

He seeks one of you. I. 88. 9.

* Provisionally, Trumpp's theory of the origin of this form from क्रं, resulting from क्रं by aspiration of the र owing to elision of the र, may be accepted, but there are difficulties even in this theory. (See his Sindhi Gram. p. 115). Caldwell's connection of this form with the Dravidian कु (kku) must in any case be regarded as finally exploded and no longer tenable.
At morning time the hero to Brahmans
Dividing with his own hand gave (gifts) VII. 5. 3-4.
Having made obeisance to all. VI. 38. 2.

Another instance was quoted a while back under סא. The י is lengthened metri gratiā in
For the war with Prithiraj at Mahobā Parimál has summoned us, XXI. 84. 6.

The other forms are too common to need quotation.
Under the head of ablative, come several post-positions. סא is the older form from which come the forms סא, סא and סא; thus—
Says the messenger to Prithiraj. XIII. 16. 1.

In Mod. Hindi, verbs of speaking take סא; the original meaning of which is shown by its derivation from סא to be ‘with,’ though in modern times often used in the sense of ‘from;’ for which latter the proper word is סא or סא to be noticed presently. Instances of סא occur frequently, one has been given above, another one of סא is סא רחט סא יב ‘says the wife to her husband,’ I. 7. 1., where סא precedes the noun; as it stands we should understand it to mean ‘says the husband to the wife,’ there is, however, no doubt from the context that it is Chand’s wife who speaks to him, not he to her. The use of the particle before the noun, shows that it had not yet thoroughly sunk into a post-position, but is still used as a conjunction, as in Sanskrit.

שא with forms י, שא, and שא is used as in ordinary old Hindi.
שא, mostly with abnormal anuswar שא, is I take it from שא, (just as שא from שא or שא) a regular ablative termination in Prakrit, from the Sanskrit adverbial ablative in סא, as שא, from a village, though it has become severed from the noun and is treated as a post-position. Instances are

From his race sprung. I. 164. 1.

(i.e., If you give the order, I will kill him.)

For the locative, we find the many-formed post-position represented in modern times by שא. In its earliest form it is שא, then dropping the ש, it becomes
Immortal dwelling among mortal. I. 3. 8.
Having spoken this speech, he came amongst the army. XXI. 10. 17.

Next comes the solution of the semivowel into its vowel, giving सति—

Thousands three fell on earth. XXI. 7. 59.

Sometimes written सति, when a long syllable is required,

The witch went among the queens. I. 178. 9.

The natural transition from द + च into च (see my Comp. Grammar, p. 326.) gives the form सति—

Fell headlong into the bottomless pit. I. 79. 10.

Final short vowels are of very little account in Hindi, and are omitted or inserted at will. Thus forms सांस and संस, with inorganic anuswāra, and in the former with lengthening of the vowel,

They themselves went into the garden. XXI. 5. 6.


The metre is Gatha which accounts for the Sanskritisms. Chand always puts an anuswara to the last syllable of his words when writing Gatha, he seems to be under the impression that by so doing, he is making them into Sanskrit! In the next line we get—

In wealthy Ujjain.

(परचर = पशुर abounding in wealth). I. have seen also frequently संस and संस, but have lost the references to them in my notes. A lengthened or secondary form संस्कार is also in use with the more definite meaning of “in the midst of.”

Alluding to the Holi festival.
Having received the news she arrived in the midst of the city. I. 178. 4.

The enemy fled into the hills and forests. I. 206. 38.

A step further brings to the rejection of the organic portion of the aspirated letter, leaving only ठ, we thus account for the form सचि, which is extremely common.

काल्यान सचि कलौरी
रानी रेड्नत नयन गुणार्र
Putting musk into lamp black
The queen streaks her eyes for ornament. (Gàtha) I. 20. 1.

(रेड्नत from रेड्ना, line).

दिन गत खण्डी खंत रति
परि छ छबे विना सचि
A period of seven days is ample time,
Hari can save in a single instant. I. 60. 12.

The post-position is here affixed to the genitive as indicated by क, see further on under that case.

आरण्यांस सचि घरत
grazing in Jhárkhand. I. 61. 3.

It is lengthened to साती—
देखति खण्डी खंति गोदा साती
Seeing the king sitting in sleep. I. 191. 4.

खेली चिर जललन पत्ती घर सांडे
The hero Jalhan was smitten and fell on the ground. XXI. 264. 20.

And if I am right in my translation, still further to साती—
पिय रव मांज़े सरे

(If her) husband die in battle,
The wife does not become a Sati. XXI. 175. 1.

Lastly, we have the ordinary modern form चैं, the anuswara of which is, as so often the case in Hindi, a mere inorganic accretion.

पिय रव मांज़े रचे

The wife who survives when her husband dies, and hopes for progeny,

That woman certainly makes her abode in the great hell.

XXI. 174.

I suspect the whole of this verse to be a modern interpolation. The style and versification are too regular for Chand, and the sentiment is
repeated from the preceding lines which are more rugged and Chandesque

विष्णु िेंद्र नरक ताहि भये।

पिय की सरत बिया तन राये।

It is, however, found in many passages where there is no reason for suspicion.

एक मास में गगर बियाये।

In one month he established a city. I. 218. 3.

बहुस कृष की कब ये बिया नाये।

He brought down his sword on the shoulder of strong Kanh.

XXI. 204. 24.

Of the instrumental case indicated by ने as we have it in modern times, I cannot point to any clear instance. When we come to treat of the verb, the construction involving this case will be illustrated.

There remains only the genitive, and this is indicated by the particles कौ, के or कू, and की, as in ordinary Hindi. Sometimes shortened to क as in one instance quoted above. Two passages may be noted in which the older form किरी, कोरी, which has been recently brought to light by Dr. Hoernle, seems to be found. The first is that in the nineteenth (now 20th) book, in which I formerly saw a pret. of a verb केरेना. This view must now be given up, and the passage translated differently; it is a very obscure passage, however, and I now only give a tentative rendering. It is the rout of Shihabuddin's army by Prithiraj.

दैरे मज बंधे चापाव चरी।
करीघ निरदेश चिरें चाप फरी।

Blind (from flowing of blood) ran the elephant of the Chauhan,
Making a circle he surrounded on all four sides. XX. 141. 7-8.

The other passage is at the meeting of the armies before Mahobá.

किया नद भीम जोंं शुरु फरी।
भिन्न दिलिप ठंग दिलिप चापाव करी।

XII. 29. 9-10.

कोंं in Chand and in other bards, though plural in form, is always treated as a feminine singular.

The kettle drum made a noise, the army turned,
The sight of the Chauhan was separated from view.

That is, the two armies lost sight of each other, probably from the dust they raised. It will be observed that केरा in the first quotation agrees with the masc. गम्य, and केरी in the second with the fem. बिया, so that we have so far confirmation of Dr. Hoernle's theory. I have traced forms करा and करी, as well as कर, in the cognate languages. From the vast ocean of Chand fresh examples will probably be fished up, as we get to know more about it; at present I have only these two instances in my note book.
With regard to the modification of the base in nouns nothing noticeable is to be found, except that Chand occasionally uses the nom. or direct form of bases in ə before the post-position, as

राज छाए छेवा काँच।

The king came into his tent. I. 193. 2.

Where we should expect छेवा; and again

तिरित छेवा धार जान। छेवा माछि पनि।

At that time came somehow into the tent a snake. I. 243. 4.

Instances of this practice may be found in Tulsi Das and later poets, and in the tika to the Bhaktamala, and it is universal in Bengali.

There is a curious word in two or three forms, as usual with Chand’s words, about which there is some obscurity. It is जन्ता or जन्त in which case I take it to be one step in the process by which we get to ज्ञा, which will be noticed under the verb. I give the examples I have noted. In the first, Bisal De is asking his minister about the shrine of Gokaran which he wishes to visit.

केशव दूर बाजारें जन्त।

दिन दोषं संबं ठीके पल्ली।

How far (is it) from Ajmer?

In two days easily one arrives. I. 178, 47.

Here, by the bye, is ज्ञान which I wanted a while ago. When Bisal gets to Gokaran he meets a Siddha who asks him where he comes from.

बचि विषं किन्तु पुर ज्ञात।

कोंब गोंत किन्तु नाम।

दिव तौरब जाने ज्ञात।

के बागै कोई काम. I. 184.

Saith the Sidha from what city,

What family, what name?

Had you come here on pilgrimage,

Or (have you) further on any business?

In the first line ज्ञात must be “from,” but in the third line ज्ञात is pl. of ज्ञात, = या. In the next passage the doubt is still greater, and the whole passage is a peculiarly crabbed one.

राज दशकासुय पद।

कस्त वरसु छबिसु छ कंड।

बाद बाझ तियाग सेर।

हुजु जन्ता दुमोतिय सेर। I. 48. 1-4.

Here begins the Hanuphâl metre.

In the Kali (Yug) heroes (had with) heroes strife,
Not together harmony or union,
Brahmin was to Brahmins cruel.

दायक is still used in Panjabi for "with," मेलर is still Marwari भूरा 'wicked, cruel,' mod. Hindi भूरा. Now in this passage भूरा may either be "was," or we may render it "from," as "Brahmin from Brahmins (was) adverse, or cruel." The meaning would more strictly be 'towards,' but in the mod. language देव would be quite admissible. On the whole, though, I am in favour of regarding it as a verb in this passage.

In those places where it is clearly a postposition, it may still be derived from the root देव, and be analogous to the Bengali দেইচড়, 'from,' Marathi देव, and comes from the Prakrit ablative plural देव.

The plural is formed by भूरा, the final र of which is frequently omitted, and the plural itself is often represented by the singular form. The practice of confounding the two numbers is as old as Chand, and probably, for all we know, older. Plural verbs are used with singular nouns, and feminine verbs with masculine nouns and vice versa, as in the line

तथ भूरा भद्य एक नारि।
Then all the women were assembled together. I. 178. 1.

Where नारि is plural in sense, though singular in form, while the verb is singular.

तथ नारि महान राम।
All the wives said. ib.

Here again नारि is fem. pl. and the verb masc. sing., which arises from the instrumental construction.

कम्या किष्ठा पंडोड़ा।
The bride made lamentation. I. 171. 2.

III.

The verb is modern in form, exhibiting the birth of the analytical system, as yet weak and uncertain, but already indicating the direction of its future development.

The number of forms in use is few, and Chand seems to regard verbs as a superfluity in many instances, omitting them at will, and often substituting for all forms of the verb what I may call the verbal crude form, produced by adding a short i to the root. Though this form is strictly speaking that of the conjunctive participle "having done," and the like, yet there are countless passages in Chand where it will not bear this meaning, but is a present, past, or future, as the context may require. For instance in

चष्ट्र्य बाही मात्र निष्ट। कचि चष्ट दात फुड़ा।
चोम बनायम यंग जै। पूर्णि चष्ट आर। I. 309.
Anal having come met (his) mother, having told and recited the whole affair,

People and merchants having taken with (him), having gone colonized the land.

All the forms in as आति, आति, अति जानि are true conjunctive participles, and the only finite verb in sense is वाणि, and even that is a participle in form agreeing with the fem. noun मृति and postulating the instrumental form of the agent. In modern Hindi we should have वनि ने जिंद वाणि। On the other hand, however, we find the form in short र requiring a finite sense in the following:

रिय सिद्ध क्रम भोग नारक II

Bisal the king arrays the umbrella over his head. I. 166. 1.

If we translate रिय “having arrayed,” the sentence will be incomplete as there is no finite verb following. The explanation of this use of the र form is probably that it is a shortening of the र of the 3 pers., and in this place it would stand for रिय। The simple indef. present is the same in all the modern Aryan languages, and in Chand presents no peculiarities.

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. करै, करू</td>
<td>करे</td>
</tr>
<tr>
<td>2. करै</td>
<td>करै</td>
</tr>
<tr>
<td>3. करै</td>
<td>करे</td>
</tr>
</tbody>
</table>

It is unnecessary to quote examples for the regular verb; the irregular verbs (to use a rather unscientific term) will be noticed presently.

For the simple past the forms are participial and the same for all three persons on account of the implied or expressed instrumental construction.

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
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<tbody>
<tr>
<td>1. 2. 3.</td>
<td>करै</td>
</tr>
</tbody>
</table>

In the masc. sing. the final य is sometimes separated by a short a from the root, according to no rule apparently; for in I. 170. 12 we find सिव वार बिनख़ख़ा। 'there a lion destroyed the bridegroom,' while in the very next line it is written सिव विनाख़ी। As variants of the form in य constantly occur those in यूः—यूः, where the य has been softened to the palatal vowel and the vowel ह hardened to its semivowel. Thus-

यूः दुरुः दुरुः यौन यूः गाय II

Looking looking down wandered the cow. I. 79. 9.

In the same passage occur सुखेंि, quoted above, and मनेंि ‘she heard’ (root जाष). Instances of the shorter form are

सियिर चाषष दुखिष तांत II

Again Allá spoke in wrath. XXI. 109. 47.

Also गखिष, गखिष, and many others. The form in र्य is common in Tulsi Das.
For the future where no very strong idea of futurity is implied, the indefinite present is used, as in तैं चैं चलैं रूप, 'then I will quit the body.' But the ordinary form of the future is derivable directly from the second or periphrastic future of Sanskrit, as in भविष्यति, भविष्यति, and in the third person postulates a non-classical form भविष्यति, for which in Sanskrit we have only भविष्य without the substantive verb. The forms are—

**Singular.**

| 1. भविष्य | भविष्य |
| 2. भविष्य | भविष्य |
| 3. भविष्य | भविष्य |

To be referred back to a Sanskrit series, Singular भविष्यति, भविष्यति [भविष्यति]; Plural भविष्यति: भविष्यति, [भविष्यति], but in all cases with elision of the syllable ता, so that we should imagine a form भवि+भवि भविष्यति. The terminations rest on the excessive corruption of the feeble verb चन्द्र; so that भवि becomes भवि and then, by rejection of च, भवि. The resolution of च श into its component parts, the labial and nasal, so frequently noticed in other instances, gives च, whence च, so that we have three words च, one from भवि, a second from भविष्य, and a third from भवि. As a good instance of this verb in a transitional state the Marathi forms may be adduced.

**Singular.**

| 1. भावि (भवि) | भावि (भवि) |
| 2. भावि (भवि) | भावि (भवि) |
| 3. भावि (भवि) | भावि (भवि) |

In old Hindi also, as for instance in Kabir's Ramaini, occur the forms भावि 'is' and भावि 'are,' from which we get रि and रि in mod. Hindi.

It would lead me too far away from my present object, which is merely to illustrate Chand's forms, were I to work out all these processes here. I content myself therefore with merely noticing them, and pass on to give examples. Of the first person we have already had the instances समिष्यति 'I will yield,' as it were, from (ससिष्यति fut. of the causal of च with च) and भविष्यति, 'I will place.' The third person, with which the second is identical in form, was shown in लिगिष्यति 'he shall swallow;' for the first plural

इस चांदन व अधिष्ठति ||

राज चंदेश न आय ||

We nobles all will fight,
That the kingdom of the Chandel may not perish. XXI.

94. 3-4.

* We must take the full ancient forms assi, asnah, astha, and asanti, instead of the more modern classical Sanskrit forms, as the letters which have been dropped in the latter are phonetically necessary to produce the Marathi, Hindi, and other words.
The infinitive or verbal noun has two forms, the abstract in *ana*, and
the functional in *iba*. Of the former one instance out of many is

\[ \text{पुज्यात्मक सिन वंशन विचारिः} \]

Having plotted to stop (or the stopping of) his virility
I. 178. 1.

\[ [\text{पुज्यात्मक} = \text{पुज्यात्मक}]\], and with nominal inflexion,

\[ \text{किये चलन की तारा} \]

He made preparation for going. XX. 28. 4.

\[ \text{अंग जुरेन ज्ञानिम ज्ञानार} \]

(अंग \(=\) ज्ञानिम \(=\) ज्ञानार)

In joining battle a terrible warrior. XX. 31. 5.

The functional form is of very common use, just as it is still in Gāṇwārī Hindi, in Bengali, Oriya, and Gujarati.

\[ \text{जो विसंग करि रहै} \]

\[ \text{सा वायिक चलने कोई खायेः} \]

If any one made delay,

Then he came to strike him. I. 198. 7.

\[ \text{छठ लारिये की धामेः} \]

Rising up, ran to fight. I. 254. 7.

The construction is strange, but not unknown to modern colloquial Hindi in

\[ \text{गोरि मात विस्वरेण्} \]

\[ \text{पुष्य ज्ञानस्क रस विश्वरेण्} \]

Through learning (it) from his mother Gauri

Her son Anal learnt this. I. 258. 1-2.

In modern Hindi, गोरि सा क दीयने से घड दीया जानस्क न.

The imperative exhibits the ordinary forms करेंग दे

के अरेंग घर जाएँ

Bard Jagnak, now go thou home. XX. 77. 1.

Owing to the careless way in which \(i\) and \(u\) are mixed up, we have a
form in छ—

\[ \text{सिन छ गरि छस्विक काँचिः} \]

Say a good word about them. I. 9. 12.

In two quotations above we have seen conversely पारेंक and झारेंक used
as present indicatives, for पारेंक and झारेंक.

The present participle ends in \(at\), as छुसत, देवत, and in Gatha, as well
as occasionally in other metres where a long syllable is wanted, in \(ant\), as in

रेंत, करेंत. The feminine is in short \(i\), as देवति, also of course \(i\), as झरती,

करती, etc.

The conjunctive participle in \(i\) has already been mentioned, its original
full form is in भार, from the locative of the part. pret. of Skr. Thus from

वहिने वै देवतिः जानिः

207. I see nothing in the extracts given by Trumpp in that article to justify his assertion that the language of the Granth is not Hindi, but old Gurmukhi. It is a mistake, though common among Sikhs themselves, to apply the term Gurmukhi to the dialect of the Panjab, instead of the variety of Devanagari in which it is written, *sed hanc obiter.*

Having subdued the rulers of the land with fire and sword.


This is of course often also written with *e,* as *दुनिये,* whence we get another of Chand’s confusions, as this form is also used for the respectful imperative, as in


dw vdpj day dwunie ne kaam

This destroyed science do not listen to. I. 173. 9.

One of the principal difficulties in Chand lies in his construction; an abrupt and elliptical style is imposed on him by his rules, and he makes it worse by trying to say too much at once. So that we have often to expand four of his words into twelve English, and his transitions are so rapid from one fact to another, that we are often landed quite in the middle of a fresh set of events before we are well quit of the old ones.

The custom of constructing the past tense of transitive verbs with the instrumental of the agent with the post-position न, though identical in character with the Sanskrit construction, as in ते वाच विद्वीश, is yet apparently in its present shape at least of modern origin. It is an obscure question what this न really is. That it is not derived from the न्न of the Sanskr. is pretty clear. न the older form, sometimes written ज़ा, is a dative, and is, I believe, connected with the same root as the Marathi शही, Naipali and old Bengali जापि, whence also Marathi शा, the ordinary sign of the dative. It is difficult to decide exactly what Chand’s usage is in this respect. While in some cases the agent is in an oblique form, in others it is in the direct or nominative.

The modern Aryan languages know of three constructions or *prayogas.*

1. The *Karta,* or subjective, in which the verb agrees with its subject. 2. The *Karma,* or objective, in which it agrees with its object. 3. The *Bháva,* impersonal, in which it agrees with neither. They may be thus illustrated in Latin.

Karta—ille urbem condidit.
Karma—ab illo urbs condita.
Bháva—ab illo urbi conditum.

These three constructions are seen in their full force in that most complicated of all the languages, Marathi, with its irritating three genders and old-world rubbish of that sort. Hindi is more enlightened and simpler.
It has the subjective construction for all tenses of the intransitive verb, and for all tenses of the transitive also, except the preterite in which it admits the objective construction, as राजा ने बात दुश्मनों, also the impersonal as राजा ने लूटको को रौखा. In the former the verb agrees with the object, and in the latter is neuter and impersonal, Hindi having amalgamated the neuter with the masc., the verb has attained to the masc. form, though really neuter.

Applying the above principles to Chand, we are struck in the first instance by the absence of ते with the instrumental sense. For instance—

**प्रतिराज घनि कुंवर ने**

**हे फुक्षाए चित्र**

Hearing it, the prince Prithiraj

II himself invited them kindly. V. 13. 3.

Here if we are to see in this ते our modern friend, the object not being noted, but being understood as living beings, we should according to rule expect बुझायिं, and the sentence would, run in ordinary Hindi कुंवर ने उत्तराँ की बुझायिं, in other words, the construction would be the impersonal one, the verb would be singular (masc.), unless it be that the verb is here put in the plural out of respect. This instance, however, seems at present quite exceptional, more usually the agent is in the oblique crude form, and both the objective and impersonal constructions are used; a good example of the former is

**तिन रचा कीनी छु दुश**

He protected the Brāhmins. I. 136. 1.

Where the verb agrees with the object रक्षद, and the agent is in the crude oblique which may be any case we like to call it; again

**जिसिः रचेः दुभा भू घन पाताल**

Who arranged heaven, earth, the seven hells. I. 11. 11.

The various nouns agree with the verb रचेः in the neuter pl. and the agent is again singular oblique. On the other hand, we have the direct or subjective construction in

**छ खर बुभाध राज**

**दुश न दियें चरर काज**

Ten times the king asked


And as a remarkable instance of Chand’s indifference to the subject we have in one line (I. 49. 9.) जिचि रचेः यथः ‘he who killed the snake,’ and the next line जी रचेः यथः, with the direct construction. It is perhaps too early to lay down rules for Chand yet, but it may be hinted that in common with many of his successors in Indian poetry, he generally uses the subjective construction when the agent is a noun, and occasionally the objective or impersonal when the agent is a pronoun, and even in that case he is careless
and quite as likely to use one as the other. As far as I have gone, I have met very few instances of the use of the post-position ते, and several of those seem doubtful.

One example is

In his youth to Prithiraj
In a dream at night (came) a sign:
Having taken Juginipur (Delhi)
He put the tilak (of sovereignty) on his brow. III. 3. 1-4.

Here it is clearly a dative.

With regard to the irregular verbs, or to speak more correctly, those which still retain traces of the older synthetical organization, the array of forms is rather varied. Some few well-worked verbs differ from their fellows in this respect that, whereas the latter have taken from the Sanskr. or Prakr. only the root, or some one form on which they have built up their modern verb with all its varied tenses, these verbs of the older creation adhere more closely to the Prakrit and take their preterite from its preterite and some of their other forms from those of the corresponding tense in Prakrit. Thus देना makes its past tense दिया, from दिये, for दिये; also दीपा from दिया, and दौड़ा from दिये, दिया, and दिया, all three Prakr. forms. Of the three the commonest perhaps is दीपा; to which rhyme कोइना from करना, and छोड़ा from लेना. In one or two passages occurs a form कोइना, which I have rendered " filled," supposing it to be from करना on the analogy of देना. In the cases of करना and लेना, Chand has also the preterites कोइ या and किया, छोड़ा, but not छोड़ा, the cause of which will be explained below. The three words दीपा, कोइना, and छोड़ा are often shorn of their last syllable especially at the end of a line, as

बनक तुझा तरां कीन ॥
He performed there the ceremony of kanaktulā. VIII. 5. 2.

To which rhymes

बंति भांग कर दीन ॥
Dividing, with his own hand gave. ib. 4.

परिमाल युध पर जबुब दोम ॥
Parimal gave the order for war. XXI. 5. 32.

द्वस कोइ जाय सुकाम कीन ॥

विश गाख बावर पूर छुट कीन ॥
Having gone ten kos he made a halt,

The villages, towns and cities between he plundered. 208. 9-10.

It is one of Chand’s favourite rhymes, and in all these cases the subject of verbs is a nom. masc. sing. Of the full forms, the following are examples:
Concerning the translation of this passage there may be some doubt; literally it is easy enough, as the meaning of each individual word is well known, but how to put them together so as to make consecutive sentences is a difficulty; "Anangpal—daughter—beautiful (or, taking सु as an expletive, 'delight')

Son—wish—fruit—gave.
Cocoanut—fruit—good fruit.
Spell (mantra)—beginning—made.

It probably means that Anangpal had a daughter whose desire for a son bore fruit (to wit by the birth of Prithiraj), the fruit of the cocoanut is the emblem of marriage, and he or she, commenced some spells, why or wherefore non liquet. It is a fair specimen of Chand's enigmatical style.

Good speed the Chandel made,
(Saying) "Parimal hath written this" gave it into his hand.

Of the forms दिस्त and दौष the following instances have been noted:

Dhundha the king gave a blessing. I. 305. 1.
Prisharaj gave him two provinces. I. 307. 61.

Here the final syllable is cut off to rhyme with परिब्रम in the next line.

(For) joy (of his) daughter's (having a) son, gifts and honours many he gave,
House to house singing songs of joy, like a serpent finding a jewel in the forest (?).

The past tense दिश्य arises from the fact that the verb lend in Hindi is derived from the Skr. देन, through forms दस्तम and दधिक, and the pp. in Skr. is देश, whence H. दिश्य. Although in Hindi the number of verbs of this class, those namely which form their present from one part of a Sanskr. verb, and their preterite from another, is so small that they have been classed as irregular, yet in the other cognate languages, notably in Sindhi and Gujarati, the number is very large; for instance Sindhi उभ” to take (H.
makes its pp. चद्धि, i.e. चद्धि. (See Trumpp's Sindhi Gr. p. 272, and my Comp. Gram. p. 138.)

I have also noted an instance in which the ष under the influence of the adjacent palatal vowel changes into झ (झ)—

जगरी नाच आइ झंड किया।

झाठा तबीज उतरन न दिया।

Carts and boats he went and stopped.

Alà and Udil he allowed not to alight.

In Modern Hindi, दध किया and दध में निया.

Leaving for the present the further discussion of these verbs whose real nature seems not to have hitherto been clearly understood, I now proceed to draw out the manifold variations of the verb 'to be,' whether derived from the root चद्धि or from झू or (if it be so at all, which I much doubt in Hindi) from झा.

Illustrations from Chand serve not only for his works, but in many cases also for old Hindi literature in general. Tulsi Das, Sur Das, Kesab Das, Kabir, and others are all writers in virtually the same idiom, though Chand is older and more obscure than most of them, and has occasionally forms which have dropped out of use since his time. It will strike the reader, however, that Chand uses the same word in different stages of development according as it suits his purpose. In the case for instance of चद्धि, we have every stage from the pure Sanskrit down to the modern vernacular. In such cases it is generally the modern and later forms which agree with those in use in the general run of Hindi poets. Tulsi Das, though, from his extensive popularity, he is usually taken as the typical poet of medioeval Hindi, is not so really from a linguistic point of view. His language is very rustic, and seems, as Dr. Hoernle has remarked, to contain words and forms taken from all the provinces of Hindustan. Sur Das is much purer and more typical. The forms given below are not then all peculiar to Chand, but many of them he shares with his successors.

The preterite, which for convenience sake I take first, as in a narrative poem like this, it naturally occurs oftener than the other tenses, has three forms.

1st form Sing. m. चद्धि, Pl. M. चद्धि

f. चद्धि [चद्धि]

चद्धि is very common, as in चद्धि ताम ताम राज.

Wroth was then the king. I. 48. 20.

Thus was the wonderful Rishi. सा।

Anangpal became king. III. 17. 4.
It is contracted to श्री in सुनि श्रेष्ठ राज सम ये उदेश।
Hearing the news the king was perturbed in spirit. I. 172. 4.
सतै वाच कष्ट पुनि शारदय।
Laughter was in her mind, then pity came. III. 10. 4.
Feminine मह, as in ordinary mediumal Hindi, as
पुष्प कपा ची भरे।
How the former story was. III. 15. 2.
Plural masc. मह, as श्रविक्ष चोप घरस्थ जनार।
The folk were harassed, wounded, and distressed. XXI. 5. 5.

Of मह, the fem. pl., I have no examples. In तब सकल महय एक नारी। quoted above, it may perhaps be that a fem. pl. is meant and the anuswara has been omitted by the copyist.

The second form is तना and तना, plural तन, of which I have already given instances. It is from this form (Skr. मह) that I derive श्र, and not from दित्र. The उ of तना goes out in Gujarati तना, तना, etc., in which language the form तना, the legitimate descendant of दित्र, stands in its proper place as the preterite of a verb दु दु 'from दु, parallel to which is Oriya दित्रा, preterite of दित्र, side by side with देसा from देसा (भू). From the form तना, by elision of न and coalition of the vowels (perhaps through a transitional form तना), comes the ordinary Brijbhasha form दे दे, दे, etc., and by another process the form तना became दे, i.e. तो, for द्वो. The Hindi appears not to have retained any relics of the verb दु, as a verb, though it has numerous nominal derivatives of it.

Chand has yet another form of the preterite दु with short final ा, not very uncommon in occurrence, as
मति कारद्व घो दम सं ज सामि।
कार राज कार बर चाओरान।
Grieve not, but heed my spell
Ruling has (ever) been the business of the doughty Chauhan.
III. 27. 26.

Connected with which is the conjunctive participle दे, in
वीरार कृषि वर वन गय।
The marriage having taken place, the bridegroom went to the forest. I. 170. 11.

The present tense contains no peculiarities. दे ‘I am’ has been quoted, but I may mention that I have not yet come across the modern दे ‘is.’ It seems to come from दःित्र, which is first split up into दःित्र, then the न is dropped leaving दःित्र from which by change of द into द and interpolating a second द, we get Tulsi Das and Kabir’s form दःित्र, whence the transition is easy to द, i.e. दे. It does not appear quite certain that all this process had been as yet gone through in Chand’s time, the cases where दे occurs are
all explainable as futures like करिः, जुरिः "he will do," "he will fight," and the like. Thus is formed the future चः, contracted into चे, just as in the imperative चाहे 'let there be' becomes चे.

चः चे चाहे तिन चंस ||
Destruction shall be on their race. III. 29. 6.

श्रष्ट चाहे कदरौः से चिच्चा चिच्चा ||
All speaking said, 'May there be success, success.' I. 178. 12.

Another form is चाहे,

चाहे अद्वैत्यम स्तुतच ||
The Jadavani shall be with child. I. 249. 6.

and the simpler form of the imperative is चा

चिण छन्न छु चंस चा चाहे तन्त्र चा ||
(तन्त्र = तन्त्री)
Which bearing be thy nature purified, O lady. I. 14. 4.

In the substantive verb the vague crude form in short च occurs constantly, as a present and as future as well as in its more correct sense of a conjunctive participle. It is one of the commonest words and forms in Chand and more than one illustration must therefore be given.

There can be little doubt as to its future sense in the following:—

दिवस चंस के चंस चे || चाहे छ दिखी पति ||
In five days' time he shall be lord of Delhi. III. 11. 4.

Again a few lines later on

"जोगन्नर जोतिंग करे || पशु छ चईर पशु राव ||

Of Jognagar (Delhi), saith the astrologer,

"श्रष्ट होइ लली राव ||
Shall be lord indeed Prithi Rao (Prithiraj). ib. 13. 3-4.

And again—

श्रष्ट होइ चाहे चंस चाहे चंस हरवकाने ||
After the Tuar the Chaluván, lastly shall be the Turk. ib. 26. 8.

All these three are prophecies, and there can be no doubt about the future sense, in which case we may regard this form as shortened from the fuller चाहे. Less distinct, and hovering round to a potential present are—

कोइ मध्य चाहे नाम चर ||
How may there be release from the curse for the hero. I. 58. 3.

कार चको चा तो चाहे चाहे ||
If I were to boast, then there might be laughter. I. 11. ult.

In the next quotation it must, I think, be regarded as distinct historical present—

कारे चंस गुरु चंस पति ||

श्रष्ट च दंगेर चेतर ||

श्रष्ट च दंगेर चेतर ||

चाघा चंसें चुल ||

कंदरे चुमज चाहे || XXI. 1. 1-4.

Telleth Chand reciting a virtuous strophe,
That wrath and discord,
(When twixt) Chahuván and Chandel tribes
Strife is engendered.

So also in

The ear hearing it is broken. I. 159. 2.

The rape of Sítá, (which was) predestined, takes place. III. 27. 34.

In this latter case it may also be a preterite. Finally, as instances of
its use in its more legitimate sense of a conjunctive participle,

Being pleased saith Sukdev. I. 60. 10.

They who swayed having conquered the three worlds,
They too have gone at last, being without profit. III. 27. 53, 54.

(काच = काय)

Of the present participle there are two forms करत and चाहत.

Thy voice is a pleasing voice, laughing being prevented. I. 12. 4.

(i. e., no one can laugh at you.)

The son being born she died. I. 170. 3.

(i. e., she died in giving birth to the son.)

Of the future participle चान्हा ‘that which is to be,’ destiny, an
illustration has just been given. Others are—

Thou knowing somewhat of that which is to be. XXI. 92. 2.

And a few lines further on in a slightly different shape—

Thus is written (as) about to be

The plan which Allhá has said. XXI. 94. 1, 2.

Want of leisure prevents me at present from continuing these studies.
I hope at a future time to supplement these remarks on the leading features
of Chand’s style, by some further suggestions as to some of his more
exceptional and unusual forms—many of which are puzzles of the most
startling description. Perhaps the notes here given may be of use so far
as they go, and the copious quotations will illustrate many more points than those which they are specially intended for. To those who approach Chand fortifying by previous reading of the mediaeval Hindi poets, the majority of the forms given above will be already to a great extent familiar, but to those who approach him from the direction of Sanskrit and Prakrit studies, his style will be absolutely unintelligible without some such clue as that, the outlines of which I have sketched in these notes.

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Further note on coins from Kausambhi.—By The Honorable
E. C. Bayley, C. S. I., C. S.

Since writing on the two coins sent by Babu Sivaprasad from Kausambhi,¹ I have had the advantage of showing the coins themselves to General Cunningham. He at once expressed his preference for reading the third letter of No. 2, as स, instead of जा. He said that he thought he had coins in his cabinet which would throw light on the matter.

He has since found two of which he kindly allows me to make use. One of these is the exact duplicate of coin No. 2, but has only the latter half of the inscription perfect. The other coin is in better preservation; its material is brass, and while it differs slightly in type, has the same legend as No. 2, but the third letter is unmistakably स. The whole of the letters on this coin are of a squarer type than those of my coin, so much so that the first letter might almost be read as व, “वा,” if it were not for the clear shape of the letter on my coin.

The total legend must, however, now be read as—

उष च व न सित, "ṭhaha sata mita"

“The friend of the virtuous iconoclast”—

A reading which is a clear improvement on those previously suggested.

Both of General Cunningham’s coins have the same reverse, a bull with the svastika over its hindquarters and standing in front of a Buddhist chaitya with Buddhist railing very clear, so that now there can hardly be any doubt of the Buddhist character of the legend. General Cunningham’s best coin has the symbol on the left of the obverse somewhat different from my coin, but it is not quite distinct enough for satisfactory recognition. General Cunningham says that one of the coins at least was procured at Batesar, which is on the Jamuna, though at some distance above Kausambi, from which place it may have possibly come.

¹ Vide above, page 109.
The History of the Portuguese in India is a subject of considerable interest, though the attention given to it, of late years, by English orientalists is scant. As a contribution to the subject I submit a list of the authors whose works are most valuable. The list does not profess to be exhaustive, but it will be found to embrace the most important sources of information.

I limit the range of these authorities to the period between 1498, when Vasco da Gama discovered India, and 1663, when the capture of Cochin by the Dutch finally broke the power of the Portuguese, and established the supremacy of others in the East. During that period, the adventures of the Portuguese form a chapter of Universal History. In years subsequent to 1663, the subject, though not devoid of incidents of gallantry and romance, dwindles to one of national rather than universal interest.

As an introduction to the subject must be read Mr. Major's interesting Life of Prince Henry the Navigator. This is founded chiefly on old Portuguese authorities, an account of whom is given in the preface; but Mr. Major's narrative is, to all appearance, so complete and accurate, that we may accept it, coupled with the well written summary by Barros, without consulting other authors.

For our present purpose, research must begin where the main thread of Mr. Major's work ends. Starting then from 1497, we have first—

Gaspar Correa. Lendas da India, 4 Vols., 4to. Correa is the oldest historian, and is by many considered the most reliable; but, strange to say, his
history, though written in or about 1561, lay in manuscript till a few years ago, when it was printed by the Lisbon Academy. The publication was commenced in 1858 and concluded in 1864. Correa came to India in or about 1512, and served as Albuquerque's amanuensis. His stay in India was not continuous, but it was at Goa that he ended his days.

His history comprises the period from Vasco da Gama's voyage in 1497 to the Government of Jorge Cabral in 1550. The earlier portion is partly founded on the manuscript (now lost) of Joao Figueira, a priest who accompanied Vasco da Gama. The bulk of the work from 1512 to 1550 has all the advantages of contemporary history by the pen of a truthful and intelligent writer. The work is illustrated with pictures of towns, and portraits of the Viceroy's taken, I believe, from pen and ink sketches by Correa himself. Most of the towns are fairly represented, though without accuracy of detail. For instance Aden, Diu, and Colombo, as they appeared in the sixteenth century, can at once be identified by anyone who has seen them as they are now. Correa has been termed the "Polybius" of Portuguese History in India. Selections from his work, comprising the three voyages of Vasco da Gama, have been translated and published in English by the Hon. H. Stanley.

João de Barros, the Livy of Portuguese History. His work, in four Decades, though somewhat later than the histories by Correa and Castanheda was, until the last few years, universally regarded as the standard authority on the subject. The recent publication of Correa's Lendas raises the question whether Correa or Barros should be followed where discrepancies exist (and in detail such discrepancies are numerous); upon the whole it seems likely that Barros will always hold his place in the opinion of his own countrymen as well as in that of foreigners as the chief of Portuguese Historians. His style is admired, and he gives an interesting sketch of the Portuguese discoveries prior to Vasco da Gama's voyage, a necessary introduction, which Correa and Castanheda omit. Barros died in 1570. He never visited India, but had special facilities for his study as an official in the India Office at Lisbon.

Diogo de Couto, the continuator of João de Barros. De Couto served in India, and though his portion of the History is not considered equal to that written by Barros, it is the best we have for the latter half of the sixteenth century. The fourth Decade by Barros comes down to the death of Nuno da Cunha in 1539, but as this Decade had not appeared when De Couto commenced his continuation, he began twelve years earlier, bringing the continuation down to 1600. The joint History of De Barros and De Couto consists of twenty-four 8vo. Vols., there being for the reason above stated a duplicate account of the twelve years comprised in the governments of Lopo Vaz de Sampayo and Nuno da Cunha.
Castanheda. This historian came to India in 1528, and the eight books of his History were published between 1551 and 1561. They bring the narrative of Portuguese conquest down to the first siege of Diu in 1538, covering nearly the same period as De Barros. Castanheda intended to publish ten books, but the last two seem to have been suppressed, because they reflected on some of the grandees who had influence at Court. I cannot, however, say for certain that the last two books of Castanheda were never published. My own copy omits them, but from a list kindly given to me by Senhor da Cunha Rivara, Secretary to the Portuguese Government at Goa, it would appear that Castanheda’s history is brought down to 1550. Castanheda is said to have travelled all over Portuguese India, with the laudable desire of testing and correcting his history.

Maftei, Historia Indicarum, a Latin history, based I believe on Barros. It is in one volume comprising sixteen books. It ends with the death of King John the Third in 1557, and is dedicated to Philip the Second. The author was a Jesuit; and attached to his principal work are four books of Epistole Indicarum, selected letters from India, a very valuable appendix.

San Romano, a Benedictine monk, wrote a History of the same period in Spanish. I have not seen this work, but believe it is founded on Maffei and is inferior to the original.

Faria y Sousa. His History was published in both Portuguese and Spanish. It embraces a more extended period than any of the others, beginning with the early voyages of discovery, and ending in 1640, at the eve of the Revolution which restored Portuguese independence. An English translation from the Spanish was published in 1695, with a dedication to Catharine, Queen Dowager, Charles the Second’s widow.

For the sixteenth century, Faria y Sousa is an inferior authority to the earlier writers, but he is the one generally quoted by English authors, because his account is the most complete as well as the most easily read. I am surprised that the Library of the Asiatic Society at Calcutta does not contain a copy of the translation. The copy of the original in the public library at Goa seems to be imperfect. Faria y Sousa gives a list of the books and manuscripts from which he collected his information.

Lafitaux, “Histoire des Découvertes des Portugais,” in French, 2 Vols. There is a copy in the public library at Pondicherry, but not, I think, in our own library at Calcutta. I have not read this work through, but from a cursory examination, it seems like most French Histories to be readable and interesting. Lafitaux names the authors he has consulted, and brings his narrative down to the same time as Faria y Sousa.

The above authors are all professed historians, who treat their subject generally. But history is usually more indebted to particular accounts,
memoirs, and personal narratives than to prolonged chronicles which are necessarily themselves compilations. This is especially true of Portuguese History in India. Passing on then to this class of authors we find—

"The Roteiro," the account of Vasco da Gama's voyage, followed by Mr. Major in his Life of Prince Henry. I have not seen this, but it is evidently a work of authority.

The Commentaries of the great Albuquerque, compiled by his son from the official despatches sent by Albuquerque to King Manuel. They appeared in 1557.

The Chronicle of King Manuel himself by Damiao de Goes, published during the reign of King Sebastian, and dedicated to the Cardinal Prince Henry.

The History of the Portuguese during the reign of Emmanuel, by Osorio, Bishop of Sylves, in Latin. This, though based on the Chronicle of Damiao de Goes, is superior to it as a literary work. There is an English translation, published in 1752.

Antonio Galvan, a contemporary of the Governor Nuno da Cunha, is said by Faria y Sousa to have written much concerning India and particularly about the Spice Islands, but Faria y Sousa was unable to find any of his works except" the Book he calls of Discoveries, which is only short hints of things." I presume this is the "Tratado dos diversos e desvayrados caminhos, &c." If any other works by this author are extant, they will be very valuable. Crawfurd eulogizes the author in the following terms: "Of all the Portuguese names connected with the Indian Archipelago incomparably the greatest, except of Magellan, is that of the virtuous, the pious, the discreet, and heroic Antonio Galvan." The failure of Faria y Sousa to find his manuscripts is no proof that they do not exist; for the instance of Correa's great History, to say nothing of numerous other books, shows that in Portugal the most valuable manuscripts may lie hidden for centuries.

I here insert a note by the editors of Correa's History, which details all the printed works prior to the date of that author.

"The printed Portuguese books regarding the History of India, of which Gaspar Correa might have had knowledge, although he may not have seen them all, still less possessed them, are,—the Life of D. Joao II., by Garcia de Resende; Castanheda's History; the three first Decades of Joao de Barros; the first book of the siege of Diu, by Lopo de Sousa Coutinho; the Commentaries of Albuquerque; the Itinerary of Antonio Tenreiro; the Book of Antonio Galvao, Tratado dos diversos e desvayrados caminhos, &c.; the Relation of the Embassy of the Patriarch D. Joao Bermudez; the Chronicles of the King D. Manuel and of the Prince D. Joao by Damiao de Goes; the treatise on the affairs of China by Fr. Gaspar da Cruz; the
commentary of the siege of Goa and Chaul, by Antonio de Castilho; and some other which we have forgotten."

The Life of D. Joao de Castro, by Jacinto Freire de Andrade. This work has passed through several editions and is considered one of the Portuguese classics. The second siege of Diu by the King of Gujarát occurred during the Viceroyalty of D. Joao de Castro, and the defence and relief of the fortress are deservedly regarded by the Portuguese as among the greatest of their achievements. The edition of the "Life" published in 1835 contains valuable notes with selections from Castro’s correspondence, among these are letters regarding Persian histories of Alexander the Great, probably the "Sikandarnámah," for which D. Joao de Castro, who was a man of literary as well as military ability, had sent. There is a work by D. Joao de Castro himself, the "Roteiro," giving an account of his voyage up the Red Sea in 1540.

The Chronicle of King John the Third, by Andrade, is another work thought very highly of by the Portuguese themselves.

There must be frequent references to Indian affairs in the Chronicles and Histories of other Portuguese and Spanish Monarchs, but the reigns of Emmanuel and John the Third were the "golden age" of Portuguese rule in India. Those of Sebastian and Philip the Second may be considered the "silver age," and subsequent reigns down to the capture of Cochin "the age of brass."

St. Francis Xavier was a contemporary of Don Joao de Castro; his life and work are so intimately connected with Portuguese India, that authorities regarding them may well be referred to here. Xavier’s own letters are the best source of information regarding him. There is the old Latin edition of Tursellinus, and a modern French one by Léon Pagès. Of professed biographies, the most authentic is that in Portuguese by Lucena, and the most popular that in French by Bohours. Three recent biographies should also be consulted. First that by Venn, written from the Protestant standpoint. Second, a volume of Xavier’s life and letters, published last year, 1872, by the Rev. H. J. Coleridge, an English Jesuit. (The second volume has not yet appeared.) Third, a Life of the Saint published at Goa in 1861, by Senhor Felippe Neri Xavier, Director of the National Press. This contains much miscellaneous information regarding Xavier and his tomb.

As Xavier is the Saint of Portuguese India, so is Camoens its Poet. The Lusiad is an authority in Portuguese History just as Shakespeare is for our own Plantagenets. National pride and patriotism pervade it, and great events which would be smothered in a mere chronicle of facts are brought by it prominently and picturesquely to view. There are many well known lives of Camoens, and many editions of the Lusiad in all European languages. The Portuguese (I believe) regard the edition of the
Lusiad by D. José Maria de Souza Botelho with most favour. In English, Adamson's Life of Camoens, and Mickle's translation of the Lusiad are best known.

There is another Portuguese epic "Malaca conquistada," of which Albuquerque is the hero, but this has never attained general celebrity.

The Chronicle of Luis de Ataide, by Antonio Pereira. I have not seen this work, but it is quoted both by Faria y Sousa and by Lafitau. Luis de Ataide was twice Viceroy of India, in 1567, and again in 1578.

Diogo de Couto, the continuator of Barros, was a voluminous writer, and during his prolonged connection with Indian affairs (from 1556 to 1616) wrote many minor works besides his History. Among these are numerous orations to the incoming Viceroy's. Also a Life of D. Paul de Lima, a celebrated Portuguese Captain, who died about 1589, and an interesting treatise called the "Soldado Pratico." I have not seen any of these works, but Mr. Stanley in the introduction to his "Three voyages of Vasco da Gama" gives an abstract of the "Soldado Pratico," which is a critique on the numerous defects of the Portuguese administration in India.

The Portuguese Missions to Akbar from 1582 to 1605 constitute one of the most interesting chapters in the History of Portuguese India. The account usually quoted is that by M. M a n o u c h i, who was for many years Aurangzeb's physician. I have not seen his History, but it appears to have been published as a separate work. According to Hough, who devotes a chapter to these Missions, there are valuable manuscript accounts in the British Museum, some it seems in the original handwriting of the Missionaries. There are also narratives of the Mission in Murray's Asiatic Discoveries. There is an Italian account of Akbar and of the Jesuit Mission by Peruschi.

The close of the sixteenth century is remarkable in the annals of Portuguese India for the attempt to reconcile the heretical Syrian Church of Travancor to Rome. The chief authorities for this episode are Gouvea's Jornada do Arcebispo de Goa, D. Fr. Alcindo de Meneses as Terras do Malabar; Geddes, History of the Church of Malabar; La Croze, Histoire du Christianisme des Indes; Hough's Christianity in India; Lee's History of the Syrian Church, in one of the Church Missionary Society's Reports; Howard's Christians of Saint Thomas; Day's Cochin.

There are several other accounts, but the above contain all that is important. Day's Cochin is a valuable work generally, as Cochin was the most important Portuguese settlement in continental India next to Goa, and everything connected with it has some bearing on our subject.

While we are on the ground of ecclesiastical history, the following works may be named as in some way connected with Portuguese India, where formerly the predominance of ecclesiastical influence was so marked.
The "India Orientalis Christiana" by Paulinus Bartholomaeus, said to be a work of great merit but very rare.

Francisco Sousa's "Oriente conquistado a Jesu Christo pelos padres da companhia de Jesus." This work was published in the beginning of the eighteenth century. It seems to be regarded by later Portuguese writers as an authority for secular as well as ecclesiastical history, and is, I presume, the work referred to in Cottinean's Sketch of Goa, page 21.

Bartoli's Asia. This, I believe, is the standard Jesuit authority, but there are numerous other histories of the Jesuits.

Histria das Inquisições, published at Lisbon in 1821.

Histria da origem e estabelecimento da Inquisição em Portugal, by Herculanus.

I have not seen the above works but the following which also have some bearing on the subject are to be found in the Public Library at Goa—

Tellez, Chronica da companhia de Jesus.

Luis de Sousa, History of the Dominicans.

Damian Cornejo, Chronica seraphica, or History of the Franciscans.

Pedro Monteiro, History of the Inquisition.

It may be observed that the Goa Library is chiefly composed of books which were taken from various convents when the monastic orders were suppressed. No doubt, it contains many other books of historical interest, which a hurried visit did not give me time to discover.

Faria y Sousa refers to a manuscript ecclesiastical History, called "The Spiritual Conquest in Asia," written by F. Paul of the Trinity, a Franciscan, in the year 1630. Probably this has since been printed.

For the seventeenth century printed authorities are rare. Faria y Sousa refers to a manuscript by Antonio Bocarro, apparently a continuation of De Couto, and also to accounts of Nuno Alvarez Botello and the Count de Linhares (1629 to 1635), the former in print, and the latter in manuscript. I suppose, it was the same Antonio Bocarro who wrote the description of the Fortresses of India, extracts from which have been published by Sr. da Cunha Rivara in the "Tissuary."

Mr. Stanley gives a summary of a manuscript found by him in the Library of Lisbon, entitled "History of the Elevation and Decadence of the Portuguese Empire in Asia," which gives some account of the seventeenth century.

Between 1640, the date at which Faria y Sousa closes his History (also the year in which Portugal recovered her independence), and 1663, the year in which Cochin was taken by the Dutch, there seems to be almost a blank so far as printed Portuguese authorities are concerned, but the deficiency is made good by an increased number of Dutch and French writers. The
eclesiastical history of these few years is carried on by a Carmelite missionary, Vincenzo Maria, in his Viaggio all'Indie Orientali.

The expeditions, military and ecclesiastical, to Abyssinia; the rise and fall of Christianity in Japan; the rivalry with the Spaniards and Dutch in the Malay Archipelago; and the wars in Ceylon, may fairly be treated as episodes in the History of Portuguese India.

Regarding Abyssinia, the chief authorities are:
Francisco Alvares, Terras do Preste Joao.
Tellez, Historia de Ethiopia.
Joao dos Santos, Ethiopia oriental.
Geddes, Church History in Ethiopia; La Crosse, Christianisme d'Ethiopie; Ludolf's Historia Ethipica.

Regarding Japan,—Kämfer's well known book is generally accepted as the best authority.

There is a work in Spanish "Christiandad del Japon," by Si cardo, of which there are copies in the public library at Goa. There are also collections of "Epistolae Japanicae," as of "Epistolae Indicae." The Rev. H. J. Coleridge states that M. Léon Pagès is about to publish a work on the subject.

The Chinese mission, though organised from Macao, was not so connected with politics as the Japan mission, and the early missionaries were mostly Italians not Portuguese. There is a description of China by Faria y Sousa, founded on the Memoirs of Semedo, and there is a separate account of the commencement of the mission under Ricci. There is also the great work of Du Halde.

Regarding the Malay Archipelago, most English accounts of the islands give a sketch of the early Portuguese rule. Crawford's works, and St. John's Indian Archipelago may be cited as the most useful. Raffles' Java scarcely refers to the Portuguese, but his Life and Journal gives a native account of the arrival of the Portuguese at Malacca. I have not yet had an opportunity of referring to Marsden's Sumatra. Faria y Sousa, besides his reference to Antonio Galvan, mentions Bartholomew de Argensola as an authority, though an unsafe one, for the History of the Spice Islands. I have a French translation of Argensola entitled "Conquête des Isles Moluques par les Espagnols, par les Portugais, et par les Hollandais." The third volume containing the conquest by the Dutch is a continuation of the original work. There is also an English translation of Argensola. There is another account of the Moluccas, by Gabriel Rebello, in the sixth volume of the "Noticias para a Historia e Geografia das naoces ultramarinas."

Regarding Ceylon, our information may be considered abundant and satisfactory. Sir Emerson Tennent devotes the first two chapters of his second volume to the Portuguese and Dutch rule, and refers to two Portu-
guess authorities who treat specially of Ceylon,—Ribeiro, and Rodrigues de Sa. The latter wrote an account of the expedition of 1630, in which his father was killed. There is also a Portuguese account of the siege of Colombo, translated and attached to Baldaeus' narrative in Churchill's voyages. Baldaeus himself, a Dutch writer, is the best authority for the final struggle between the Dutch and Portuguese, giving a sketch of the negotiations and military movements, with details of the sieges of Colombo and Cochin and engravings of the different forts and towns. Ribeiro's History is contained in the fifth volume of the "Noticias para a Historia e Geografia das nacões ultramarinas." There is a French translation by LeGrand and an English translation, now rare, by Lee. Sir Emerson Tennent mentions Johann Jacob Saars, as giving in German an account of the campaign in which Colombo was captured. Wouter Schouten's "Oostindische Voyagie" is another narrative of the same period.

The above list does not include many "Travels," although the most vivid and faithful pictures of Portuguese India in the 16th and 17th centuries are to be found in the narratives of European travellers. The number of these is so great, that we can only specify a few, referring enquirers to the standard collections of voyages for further details. These collections are well known,—Ramusio, Purchas, Hakluyt, De Bry, Le Brun, Hulsius, Recueil des Voyages de la Compagnie des Indes Orientales des Pays-bas, La Harpe, Dampier, Harris, Pinkerton, Thevenot, Churchill, Astley, Lockman, Kerr, Murray, and others. There are two or three Italian collections of value besides Ramusio, and there are some Indian voyages in the Portuguese "Noticias."

Among individual Travels the most noteworthy, either for their intrinsic value, or for their bearing on our present subject, are—

*Odoardo Barbosa.* The earliest description of India after Portuguese discovery.

*The voyage of Magellan,* which first took the Spaniards to the East.

*The voyage of Sir Francis Drake,* the first appearance of the "Heretics" in those seas.

*The "Peregrinações" of Mendez Pinto.*

*Linschoten's Itinerarium.*

*Travels of Pyrard de Laval* (1601 to 1611). The original is in French, but there is a Portuguese translation, published at Goa by Senhor Rivara. Pyrard de Laval's book is of special value as he resided at Goa when the prosperity of that city was at its height; for although the glory of Portuguese India had begun to diminish some years earlier, the splendour of Goa as a city, was greatest during the first few years of the seventeenth century. Pyrard's description is detailed and interesting.

*Dellon's* narrative of the Inquisition of Goa. The original was pub-
lished in French in 1687, but there is a Portuguese translation, published at Goa in 1866 under the auspices of Sr. Rivara. This translation contains some valuable notes, and adds as an appendix the account of the Inquisition given by Dr. Claudius Buchanan in 1808 in the Christian Researches.

A narrative of the expedition against Ormus, when the Persians and English united to expel the Portuguese in 1622. This is contained in the collections by Purchas and Kerr.

Baldaeus, the Dutch historian of the final struggle between Hollanders and Portuguese. The translation of his Travels is in Churchill's Collection.

Tavernier gives a description of Goa, a narrative of the persecution in Japan, a sketch of Dutch history in the East, and an account of the capture of Cochin. Altogether, Tavernier is a very valuable writer for our present purpose, as his information refers precisely to the period when Portuguese supremacy in India was disappearing.

There are numerous travellers a little later than Tavernier, whose narratives contain frequent references to the Portuguese. Among these may be named Bernier, Nieuhoff, Carreri, Fryer, and Hamilton.

Lastly, there is a modern account of Goa, written in English by the Rev. Cottenean de Kloguen and published at Madras in 1831. This contains a complete historical sketch of Goa from 1509 down to 1812, and gives a description of all the churches, convents, and other public buildings, accompanied by a map. It is, in fact, a modern guide to Goa. There is a Portuguese translation, which I have not seen. * Probably the notes of the translation are of value, as it was published in Goa itself at a comparatively recent date (1838).

There is another modern account of the Portuguese possessions in Asia, by Gonçalo de Magalhaes Teixera Pinto, also published at Goa with notes by Sr. Rivara. It is a mere pamphlet, but it contains some official documents regarding the transfer of Bombay to the English.

As the Dutch were for sixty years the rivals of the Portuguese in Asia, it is reasonable to suppose that voluminous information may be collected from Dutch authorities. Besides the early Dutch voyages, and the travels of Baldaeus already referred to, there is the great work of Valentyn, 'Oud en Nieuw Oost Indien.' Tennent refers frequently to this work. There is one copy in our own library at Calcutta, and there is another, wanting the first volume, at Madras. No doubt, a student acquainted with Dutch would find the works of numerous other authors at Batavia and Amsterdam.

It remains to notice official records and periodicals. I believe there are now few records of value at Goa. All that survived have been transferred to Lisbon, and are to be found there in the Torre do Tombo and other collections of Archives. But a very valuable work has been published at Goa.
by Sr. da Cunha Rivara from the records of the 16th century. This work the "Archivo Portuguez oriental" is in five fasciculi, comprising altogether eight volumes. Of these, fasciculus No. 1 is out of print, the remaining seven volumes may be obtained from the Imprensa Nacional at Goa. The contents of the eight vols. are as follows:

Fasciculus 1, letters from the Kings of Portugal to the City of Goa.
Do. 2. Book of the privileges of the City of Goa.
Do. 3 (2 parts or vols). Letters and instructions from the Kings of Portugal to the Viceroy's and Governors of India, and also charters and ordinances of the Kings and Viceroy's.
Do. 4. The Ecclesiastical Councils held at Goa and the Synod of Diampar.
Do. 5. (3 parts). Various documents of the 16th century. Among these are important regulations regarding the administration of justice, the management of the Goa hospital, military and commercial matters. The references to the contemporary history of Muhammadan India are not very many. There are, however, some diplomatic documents referring to Bijapur.

In the preface to his third fasciculus, Sr. da Cunha Rivara discusses an interesting question regarding some of the 16th century records. During the 16th and 17th centuries, the intercourse between India and Portugal was chiefly carried on by annual fleets to and fro, and the annual letters that they carried. As the arrival and despatch of the fleets were regulated by the monsoons, the registers containing copies of official letters were known as the 'Livros das Monsoens,' 'Books of the Monsoons.' At the time Sr. Rivara wrote his preface, the record rooms at Goa appear to have contained fragments of the "Livros" for the years 1568 and 1583, then a series from 1584 to about the end of the century, and then (after a gap of fifty years) a continuous series from 1651 to modern times. It was long believed that the absence of the "Livros" earlier than 1568 had been caused by the Marquis de Pombal, under whose orders sixty volumes of the series were despatched to Portugal in 1777. Sr. Rivara, however, proves that the sixty volumes so despatched, were those between 1606 and 1651, and that they at least are safely housed in the Torre do Tombo at Lisbon. About the same time, and in obedience to the same order all the ecclesiastical records of an early date were also sent to Lisbon, but these, it seems, have been lost sight of.

I believe I am right in adding that the remaining "Livros das Monsoens" have been recently transmitted to Lisbon, since the publication of Sr. Rivara's Archivo. Possibly some of the missing records are to be found in our own British Museum; for Sir Emerson Tennent in the introduction to his "Ceylon" writes—"Within the last few years, the Trustees of the British
Museum purchased from the library of the late Lord Stuart de Rothesay the diplomatic correspondence and papers of Sebastiao Józé Carvalho e Mol-lo (Portuguese Ambassador at London and Vienna, and subsequently known as the Marquis de Pombal) from 1738 to 1747, including sixty volumes relating to the history of the Portuguese possessions in India and Brazil during the 16th, 17th and 18th centuries. Amongst the latter are forty volumes of despatches relative to India entitled Colleçam Authentica de todas as Leys, Regimentos, Alvarás e mais ordens que se expediram para a India, desde o establecimento destas conquistas. Ordenada por proviram de 28 de Marco de 1751. Mss. Brit. Mus., Nos. 20,861 to 20,900."

The "Archivo" is so far defective that it only gives the outward despatches and letters from Lisbon to Goa together with other documents issued in India. It does not give despatches from Goa to Lisbon, which would be of yet greater value to the student of Indian History. I cannot gather from Sr. Rivara's preface to the third fasciculus where these are, nor does he expressly state that the early "Livros das Monçöens" are lost beyond recovery. Perhaps the introduction to his first fasciculus, which I have not been able to obtain, throws some light on these points. This much is certain. The Torre do Tombo and other libraries at Lisbon contain a number of valuable records of both the 16th and the 17th century, though it would seem from the preface to "Gaspar Correa" that they are not valued as they deserve to be. I must add that Sr. Rivara's "Archivo," though richer towards the end, contains a great many documents belonging to the early part of the 16th century. The early "Livros das Monçöens" have been lost, but there were other early records which Sr. Rivara by publication has saved from a similar fate.

Many articles of historical and antiquarian value have been published in the "Boletim do Governo," the "Government Gazette" of Portuguese India. Among those of recent numbers may be enumerated the "Capitúlos de um livro inédito," containing information as to ecclesiastical matters in the 17th century, and a series of Treaties of the same period. Many similar articles are scattered through back numbers of the Boletim, including, I believe, an account of the records by Sr. Filipphe Neri Xavier. I hope Sr. Rivara, under whose auspices the majority have been published, will collect and republish these papers in a separate form. It is much to have saved ancient records from destruction, but the service to History will be enhanced by republication. Papers are not readily accessible when scattered through the old files of a Gazette.

I may mention here that Sr. Rivara in addition to the numerous publications above referred to, is the author or editor of several other important works more or less connected with our present subject; among these an historical essay on the Concan, or dialect, of Goa; a dictionary and grammar of the same;
a publication regarding village communities; and several regarding the ecclesiastical rights of the Crown of Portugal and the Archbishop of Goa— vexed questions among the Roman Catholics of India.

Two facts regarding other records may be added from Day’s Cochin.

1. The Dutch Government records of Cochin are, it seems, still there, and apparently the early volumes refer to the capture, or to the period immediately following the capture, from the Portuguese (page 121).

2. The records of the Verapoly Monastery were lost in the river, as the priests were endeavouring to carry them away from Tippu’s troops in 1790 (Chronology at end of book).

So far I have only referred to European accounts of Portuguese India, but what Indian authors are there on the subject? Hindus, who care so little for history, are not likely to give us much help, but it is different with Muhammadans. They are given to chronicle writing, and we may fairly expect some account of the Portuguese from them. As yet, however, I have not found any special Muhammadan history on the subject, except the “Tuhfat ul Mujahidin.” This is a valuable work, as it describes the wars of the Portuguese and Muhammadans between 1498 and 1583, from a Muhammadan point of view. There is an English translation, No. 30, in the series of the Oriental Translation Committee.

Firishtah must be consulted, because his histories of the Dakhin States are so full, and refer specially to the period when the Portuguese power was at its height. The eleventh chapter, on the Muhammadans in Malabar, is founded on the Tuhfat ul Mujahidin. Besides this, Briggs gives in an appendix an epitome of the wars of the Portuguese in India. But Firishtah’s allusions to the Portuguese, except in the eleventh chapter, are very meagre. He gives a brief account of the death of King Bahadur, and of the siege of Chaul by Burhan Nizam Shâh in 1592, but he does not even mention the great siege of Diú. Still the constant references to the Muhammadan kings by Portuguese historians, and the constant intercourse that must have gone on between the Orientals and the European invaders, render it necessary to consult Firishtah.

Next to Firishtah may be mentioned the Mir-át i Ahmadi, with its translation by Bird, and the Mir-át i Sikandari, on which the Mir-át i Ahmadi was founded.

Firishtah’s History of Bijapur was prematurely closed in 1506, while we seek for information down to 1663. The following supplementary histories of the Dakhin states and particularly of Bijapur, the one that had most dealings with Goa, are described in Mr. Morley’s list of the historical manuscripts preserved in the Library of the Royal Asiatic Society.

Tazkirah i Ahwâl i Salâtîn i Bijâpûr, composed in 1806 from two earlier histories of the ‘Adil Shâhi dynasty. Morley describes this work as concise, but valuable.
Basátín us Salátín. This is also a modern manuscript (1824), but the preface enumerates the authorities from which it was compiled.

Muntakhab i Tawáríkh i Bahri, containing a history of the Nizámsháhí dynasty.

Táríkh i Sultán Muhammad Quṭbsháhtí, a history of the Quṭbsháhí dynasty of Golkonda; an abridgement of this is also given in Brigg’s Firishtah. Mr. Bird in his account of Bijáhpír refers to another history the “Táríkh i Haft kursí” and also to the “Táríkh i Asad Khání,” which he appears to consider as the same work under a different name. He says that the “Táríkh i Haft kursí” was written in the reign of ‘Alí ‘Adil Sháh II. (1650 to 1672).

I have not seen any of these manuscript histories of the Dakhin states, but mention them as to some extent bearing on the subject. The names given by Portuguese authors are frequently unintelligible until compared with Persian accounts. But it is not likely that any of these histories give more than casual allusions to the Portuguese.

Passing from the Dakhin to the Mughul histories—

The Ṭabaqát-i Akbári contains a few references to the Portuguese, including an account of King Bahádúr’s death. It refers also to the construction of the Súrat fort against the depredations of the Portuguese.

The Akbarnámah refers to King Bahádúr’s death, and gives some account of the Jesuit missions at Akbar’s court. Probably it contains other references to the Portuguese, but I have not yet examined the Akbarnámah. I hope Mr. Blochmann, who is so well acquainted with the Persian histories of this period, will add some further account of these references. The Inshá i Abulfazl contains a letter from Akbar, a translation of which is given by Hough in his second volume, page 261. This is said to have been intended for the King of Portugal, but the address in my copy of the Inshá is “Dá-náyán i Farang,” as though intended for the Jesuits.

The Muntakhab ul-táwáríkh of Badáóní also refers to Diú and to the Jesuit missions at Akbar’s court. Mr. Blochmann’s extracts, attached in a note to the 77th Ain, read with the Jesuit account, give a vivid picture of Akbar and his court.

The Dabístán contains an account of the Christian religion derived from the Portuguese priests, and gives a sample of the discussions before Akbar.

The Tuzuk i Jahángírí alludes in several places to Muqarrab Khán and to Súrat affairs. One passage appears to refer to the attack by Azevedo on Downton’s ships in 1614. Elsewhere the Tuzuk refers to presents from the Portuguese and to some Portuguese in Jahángír’s employ.

The Pádisháhnámah, page 433, Vol. I, gives a detailed account of the siege and capture of Húgli. Farther on, this is again referred to in letters to Nazr Muhammad Khán, the ruler of Balkh, and to the Sháh of Persia. At
page 534, the fate of the captives is described. In the second volume, there is an account of the Portuguese at Chittagong.

Khāfi Khān, the most useful of the Muhammadian historians after Firistah, also gives an account of the siege of Hūglī, prefixing to it an interesting description of the Portuguese from his point of view. A fuller description is found in the second volume, page 400, reign of 'Alamgir.

Mr. Blochmann, to whom I am indebted for several of the above references, tells me that the Portuguese are frequently mentioned in the Maisir ul Umārā, a work containing biographies of the great men of the Mughul empire, and that there are occasional bigoted allusions to them in the Farhang i Rashīdī, a Persian dictionary written in 1653.

A certain amount of information is scattered through different periodicals. No. 3 of the Calcutta Review contains an article on the Jesuit missions; No. 10, the Portuguese in North India; No. 51, the Shiry Family; No. 57, the Inquisition at Goa; No. 77, the Life of Xavier; Nos. 102 and 103, Topography of the Mogul Empire; No. 105, the Feringhes of Chittagong.

The Asiatic Researches contain articles on Malabar; The Syrian Christians; Nobili's imitation of the Veda; and Bijāpūr.

The Bengal Asiatic Society's Journal is singularly deficient in articles bearing on our subject. The volume for 1841 mentions the Portuguese in connection with Arakan. That for 1843 contains an interesting account of Abyssinia, and the Portuguese missions there, and the volume for 1844 contains an article called "Political events in the Carnatic from 1564 to 1687," which may be considered to have a distant connection with the contemporary history of Portuguese India. There is also a modern account of Socotra, but so far as I have seen, there is not a single article devoted specially to Portuguese Asia.

The Journal of the Royal Asiatic Society is as deficient as our own in this respect. I cannot find a single article specially devoted to Portuguese India, but the following appear to have a distant bearing on the subject; Vol. II, Transactions, Diplomatic relations between the courts of Delhi and Constantinople, in the 16 and 17 centuries. Vols. I and II, Journal, Memoir on the Syrian Christians; Vol. II, Sea ports on the coast of Malabar; Vol. V, (or VI, ?) account of the Sherley family; Vol. VII, Tribes of the Northern Concan; Vol. V (new series), on Malabar, &c.

The last series of the "Journal Asiatique" gives no help. I have not seen the earlier series. We might expect more assistance from Bombay, as that Presidency has been always intimately connected with Portuguese India. But so far as I have ascertained, there is not much. Vol. II of the Bombay Literary Transactions contains a Turkish account of a naval expedition in the sixteenth century with references to the Portuguese. I have not seen Vol. III., but I believe it contains a description of Bijāpūr, and
possibly, some other articles connected with the subject. I believe there are some articles in the Journal of the Bombay Geographical Society. The Journal of the Bombay Asiatic Society contains (1841) Translations from De Couto; (1848) Bird's description of Bijápúr; (1849) Marathi works composed by the Portuguese; (1868) Translations of Portuguese Inscriptions found at Bombay.

The Bombay Quarterly Review, vol. 4, contains an interesting article by the late Mr. Anderson regarding the capture of Bassein and other Portuguese forts between Bombay and Daman by the Maráthis. This, however, was in the eighteenth century, and our present review does not extend to a later date than 1663.

Doubtless there are numerous articles scattered through the Journals and Proceedings of the various Societies at Madras, Singapore, Batavia, Amsterdam, and Lisbon, but these I have not yet examined.

More valuable than most of the above, for our present purpose, is the "Chronista de Tissuary," a periodical which appeared at Goa under the editorship of Sr. Rivara, between 1866 and 1869. Every article in this is of value, though many refer to a period in the history of Portuguese India later than that under review. It contains among other papers an account of transactions with 'Adil Shah, treaties of peace with Jahángír and Sháh Jahán, descriptions of the Portuguese fortresses as they were in 1634, and notes of the inscriptions existing at the present day. Copies of the inscriptions with which the fortress of Diú is covered, have been published by Sr. Rivara in a separate pamphlet.

The "Gabinetee Litterario das Fontainhas" appears to have been a similar periodical of earlier date. This statement, however, is subject to correction, as I have not seen the "Gabinetee Litterario."

The above summary of authorities regarding Portuguese India has been prepared, partly from a list given me by Sr. Rivara, partly from Faria y Sousa, and partly from other books in my possession. Sr. Rivara who is a member of the Bombay Asiatic Society, will be able to enlarge the list and to correct any details that may be faulty where Portuguese authors are referred to. I hope he will do me this favour, and if Mr. Blochmann will kindly render the same service where Muhammadan authors are quoted, or where other information may be available in the Society's Library, it will be a great assistance to students interested in the subject.
Contributions to the Geography and History of Bengal (Muhammadan Period).—Part I., Geographical.—Part II., Historical, based on Inscriptions received from General A. Cunningham, C. S. L., Dr. J. Wise, E. V. Westmacott, Esq., W. L. Heeley, Esq., Walter M. Bourke, Esq., &c., and on unpublished coins, with notes by E. V. Westmacott, Esq., and Dr. J. Wise.—By H. Blochmann, M. A., Calcutta Madrasah.

In the end of last year, General Cunningham, Director of the Archaeological Survey of India, forwarded to the Asiatic Society, for publication in the Journal, a unique collection of rubbings of Muhammadan inscriptions from Bengal and various places up-country, and in the Proceedings of our Society for January last, I gave an account of the importance of these rubbings with reference to the history of Bengal. Dr. J. Wise of Dacca, Mr. Walter Bourke, Mr. E. V. Westmacott, C. S., and Mr. W. L. Heeley, C. S., have also favoured the Society with valuable rubbings and notes on the localities where they were obtained, and I shall delay no longer to carry out the wishes of the donors and publish my readings with a few notes suggested by the subject. I have also examined our coin cabinet, which I found to contain some unpublished Bengal coins of great value.

The importance of mural and medallic evidence for Bengal History arises from the paucity and meagreness of written sources. Whilst for the history of the Dihli Empire we possess general and special histories, often the work of contemporaneous writers, we have only secondary sources and incidental remarks for the early Muhammadan period of Bengal, i.e., from A. D., 1203 to 1538. Nizámuddín Ahmad, who served Akbar as Bakhshi, the friend and protector of the historian Badáóní, is the first writer that gives in his Ṭabaqát i Akbarí, which were completed in 1590, a short connected account of the independent kings of Bengal from 1338 to 1538. For the time between 1203 and 1338, we depend on incidental remarks made by Dihli writers, as Minháj i Súraj, Barání, and 'Affī. Firishtah, who flourished in the beginning of the 17th century, has a chapter on the same period as Nizám; but though he gives a little more, it seems that he used the same, at present unknown, source as the author of the Ṭabaqát i Akbarí. But there can be no doubt that this source was a work defective in chronology and meagre in details. Firishtah also cites a historical compilation by one Háji Muhammad of Qandahár, of which no copy is at present known to exist.

The latest writer on Bengal History is Ghulám Husain of Zaidpúr, poetically styled 'Salím,' who composed his Riyádzussalátín, or 'the Gardens of Kings,' at the request of Mr. George Udney of Máldah. This work, the
title of which contains in the numerical value of the letters the date of its completion (A. H. 1202, or A. D. 1787-88), is rare, but is much prized as being the fullest account in Persian of the Muhammadan History of Bengal, which the author brings down to his own time. From a comparison of his work with that by Firishtah, it is evident that for the early portion he has used books which are likewise unknown at present, and it is unfortunate that his preface gives no information on this point. * His additional source, it is true, cannot have been a work of considerable size; yet he gives valuable dates which, as will be seen below, are often confirmed by collateral evidence. Salim has also made a fair use of the antiquities of the Gaur District. Stewart, who used the Riyāż as the basis of his History of Bengal, has given a translation of the greater part of the work; but from a leaning to Firishtah he has left out useful passages, which will be found below.

A commentary on Inscriptions necessarily contains references to the history and the geography of the country; but in order not to overload the subject with unconnected remarks, I have, in the following, separated the geographical from the historical portion, and have thus found means to collect, in a convenient way, numerous stray notes which for several years have been accumulating in the course of my historical studies.

* When quoting this unknown source, Salim uses phrases as 'dar risdlaah o d/lah-am,' 'I have seen in some pamphlet,' or 'ba-qanul, ' according to another statement,' &c.

The Asiatic Society Library has one MS. of the Riyāzussalātīn (No. 526), written in bold shikastah, 277 pages, 8vo., 15 lines per page, copied in 1851 at Hījijpur by one Sadrudīn Ahmad. Beginning—Johān jahān hamol sazavrā i ḫeqāh i jahān-ajārine ast, kih in mazāhir ik kaut-ād ba-yad i qudrat i kāmilah i kūrsh ba-hilyah i wunjād muhalla sākhtah, &c. The work consists of a Preface in four parts, and four Chapters, of which the last contains two parts. The end contains the following description of the character of the "new rulers":

"The English among the Christians are adorned with the head-dress of wisdom and skill, and ornamented with the garb of generosity and good manners. In resolution, activity in war, and in festivities, in administering justice and helping the oppressed, they are unrivalled; and their truthfulness is so great, that they would not break a promise, should they even lose their lives. They admit no liar to their society, are pious, faithful, pitiful, and honorable. They have neither learnt the letters of deceit, nor have they read the page of vice; and though their religion is opposed to ours, they do not interfere with the religion, rites, and propagation of the Muhammadan faith.

گفتگوی گنبد دور این گنبد در کوچک که خواب یک خراب است باشد سیاهم تعبیراً

All wrangling about faith and heresy leads to the same place: the dream is one and the same dream, though the interpretations may differ."
Thus the conquered country of, of the, of, made much at, from, different I'adma conquered 1873. guishes to western lladha, of the five India the the which of the the the the Padma (Podda) and between the Karatayá and the Mahánandá rivers; and (5) Mithilá, the country west of the Mahánandá. We do not know whether these names refer to revenue districts, or merely indicate (as they now do) popular divisions based upon the course of principal rivers; but as the different orders of Bráhmans and Káyasths take their distinctive names from these divisions, it may be assumed that they existed or were recognized at the time of Ballála Sen, who classified the two castes.

The case with which Bakhtyár Khiljí took possession of Bengal by his surprise of Nadiyá,* the then capital, stands unparalleled in history, unless we compare it with the almost peaceful transfer of the same country, five hundred and fifty-five years later, from the Muhammadans to the East India Company. But it would be wrong to believe that Bakhtyár Khiljí conquered the whole of Bengal: he merely took possession of the south-eastern parts of Mithilá, Barendra, the northern portions of Rádha, and the north-western tracts of Bagdi. This conquered territory received from its capital the name of Lak'hnauti, and its extent is described by the author of the Tabaqá† i Náçirí, who says that the country of Lak'hnauti lies to both sides of the Ganges and consists of two wings: the eastern one is called Barendra, to which Deokot belongs; and the western has the name of Rál [i. e., Rádha], to which Lak'hnúr belongs. Hence the same writer also distinguishes Lak'hnauti-Deokó† from Lak'hnauti-Lak'hnúr. From the town of Lak'hnauti to Deokot on the one side, and from Lak'hnauti to the door of Lak'hnúr, on the other side, an embanked road (pul) passes, ten days’ march. Distinct from the country of Lak'hnauti is Banga (diydr i Bang, Bangladesh, Tabaqát, p. 207), and in this part of Bengal the descendants of the Lak'hnaniyáh kings of Nadiyá still reigned in A. H. 658, or 1260, A. D., when Minháj i Siráj, the author of the Tabaqát, wrote his history.‡ Deokót, which still gives name to a large parganah, was correctly identified by Buchanan with the old fort near Damdámá, on the left bank of the Púrná-

* Lak'hnúr Sen, the last king of Bengal, though called king, cannot have been much more than the principal zamindár of his time. “He was a liberal man,” says the author of the Tabaqát, “and never gave less than a lak'h of cowries, when he made a present—may God lessen his punishment in hell!”
† Tabaqát, pp. 162, 242.
‡ Tabaqát Náçirí, p. 151. Thus an expedition against Banga by the governor of Lak'hnauti is mentioned in 657. Tabaqát Náçirí, p. 207.
bhaba, south of Dinajpur. Close to it lies Gangarampur with its ruins, and the oldest Muhammadan inscription known in Bengal. Lakhnúr, the town or ‘thanah’ of the other “wing,” has not yet been identified. The name occurs in no Muhammadan history after the time of the Tabaqát-i Náṣirí, and the only hint given is, that it lay west of the Húgli, on the road, at about the same distance from Lakhnúti city as Deokot lay from the capital—which would be the northern portion of District Bihármūn.

Minhaj’s remark that Banga was, in 1260, still in the hands of Lakhmán Sen’s descendants, is confirmed by the fact that Sunnárgáon is not mentioned in the Tabaqát; nor does it occur on the coins of the first century of Muhammadan rule. It is first mentioned in the Tábíkh-i Barání as the residence, during Balban’s reign, of an independent Ráj; but under Tughluq Sháh (A. D. 1328), Sunnárgáon and Sátgáon, which likewise appears for the first time, are the seats of Muhammadan governors, the term ‘Bangálah’ being now applied to the united provinces of Lakhnúti, Sátgáon, and Sunnárgáon.

The Tákíkh-i Barání, the Tákíkh-i Firuzsháhi by 'Alí, and the Travels of Ibn Bátútah yield but little additional information. Firuzábád, or Paṇḍuáh (north of Mákdáh, or Mákdáh) which General Cunningham significantly calls ‘Hazrat Paṇḍuáh,’ or ‘Paṇḍuáh, the Residence,’ appears as the new capital, and in connexion with it Fort Ekáláh, said to be ‘near Paṇḍuáh.’ The actual site of this fort is still a matter of doubt; even the


† Major Raverty, of whose translation of the Tabaqát two fasciculi have just appeared, informs me that all his best MSS have Ý, Lakhnúr. The Bibliotheca Indica edition has جلکه؛, and often also جلکه؛ and it was, no doubt, the last spelling that led Stewart to substitute Nágor (in western Bihár-mún), which certainly lies in the direction indicated. Outside of the Marátha wall of Nágor, we have a Lakhipúr and a Lakhnáráyan-púr.

‡ Barani, p. 452. He spells Sátgáon, not Sátgáon. It is almost useless to remark on the geography of Bengal as given in the Tabaqát before the appearance of Major Raverty’s translation, who has collated nearly all existing MSS. of the work. The Bibliotheca Indica edition is untrustworthy. Taking it, however, as it is, we find the following places mentioned—Núdiyáh, in this spelling, for Núdiyá; Lakhnúti; Banga; Ráj (Rájáha); Barendra; Lakhnúr; Deokot; Narkot (?), دیبار کونی، تاکونی (؟), کنکوری ؛ کنکوری ؛ (؟), pp. 156 to 158; مکیده ؛ منطوق ؛ (؟); p. 158; and (perhaps سنتوس), p. 158; Bangáon, p. 153; Fort Bishnkot, founded by Husámaddín 'Iwaz near Lakhnúti, pp. 180, 243. Besides these, a few places are mentioned on the frontiers of Bengal, as Kámrud (always with this spelling) for Kámrud, جدایر (Parí) ؛ and a few places in Assam or Tibbat; جاپور (تیبت)، pp. 263; and Jánagar, regarding which vide below.

The Tákíkh-i Firishtháh furnishes the isolated fact of the foundation of Bangápúr by Bakhtýár Khilji on the frontier of Bengal (Lucknow Edition, p. 293).
author of the Riyázussalátin, who lived in the neighbourhood of Mál-dah and Pan-đuah, says nothing about it.∗

About 850 A. H. (A. D. 1440), during the reign of Náciruddín Maḥmúd Sháh, the capital was transferred to Gaur. Thus Lak'hnautí is henceforth again called in history. The transfer, though it may have been connected with the restoration of an old dynasty, was unfortunate. Gaur lies in the middle between the Ganges and the Mahánandá, thus occupying, as is the case in all Deltaic lands, the lowest site; and east of it lies the Kallak Sajá marsh, called in the Ain Chuttiá-pattiá, into which the drainage of the town opened. Every increase in the waters of the Ganges caused the marsh, which is connected with it, to rise, and "if the [earthen] embankment broke, the town was under water,"† and the drainage was driven back into the town. Hence the removal of the capital, a short time afterwards, to Tán-dhá,‡ and the ultimate desertion of the town as a fever centre for Rájmahall.

The meagre information supplied by the Ṭabaqát i Nizámí and Firish-tah throws no further light on the geography of Bengal, but leaves the impression that during the reigns of the independent kings (A. H. 739 to 944, or A. D., 1338 to 1338) the extent of Muḥammadan Bengal was the same as what we find it in A. D. 1582, the year in which Todar Mall prepared his rent-roll of Bengal, a copy of which Abul Fazl has given in the Ain.

The coins and inscriptions of the above period yield a few particulars. We have the seven Bengal mint towns given by Thomas,§ to which I can

∗ Mr. Thomas compares with Ekdálah the name of 'Jugdula,' a village east of Hasrat Paṇḍuah, towards the Púrnbubba. The Indian Atlas Sheet No. 119 also mentions a village Jugdál due north of Mál-dahá, near the Mahánandá, in Lat. 25° 17' 30", and a 'Jugdul' and a 'Jugdála' will be found south-east of Gaur, Long. 88° 25', Lat. 24° 42'. Even in other parts the name is common; for Jágdal is the Bangáli 'Jogodul,' 'a leaf of the world,' the world being the lotus, and each town a petal of it. Another Ekdálah will be found on the same sheet, south-east of Bográ (Bagurá), Long. 89° 40' 30", Lat. 21° 35' 15", and a third is in Rájsháhi, a little south-west of Nántor. The name seems to be the Bangáli জগড়া, 'having one wing;' and Dodiá 'having two wings,' occurs likewise as a name of villages.

† Ain i Akbarí.

‡ Rennell marks 'Tarah' near the Paλá River (a branch of the Ganges and perhaps the old bed of the river), south-west of the fort of Gaur. "Tanda standeth from the river Ganges a league, because in times past the river flowing over the banks, in time of rains did drown the country and many villages, and so they do remain. And the old way the river Ganges was wont to run, remaineth drie, which is the occasion that the citie dooth stand so farre from the water." Ralph Fitch.

The losses of Akbar's Bengal army in Gaur will be found in my Ain translation, p 376.

§ Lak'hnautí, Firázbád (Paṇḍuah), Sátgáon, Shahr i Nau (?), Ghıyáspúr, Sunnárgáon, and Mu'azzamábádá. Chronicles, p. 161.
now add three more, viz. Fathábad, Khalifatábad, and Husainábád, which will be discussed below. The inscriptions reveal the important fact, that Bengal was divided into revenue divisions called Mahalls, over which, as in the Dihli empire, Shiqdárs* were placed, and into larger circles under 'Sarlashkars,' or military commanders, who have often also the title of Vazir (Díwin). Of places mentioned on inscriptions I may cite—Iqlím Mu'az zamábád (Eastern Maimansingh); Thínah Liúr (north-western Silhat,— both occur also united under the same Sarlashkar); Sarhat, in western Birbhúm, now in the Santal Pargana; Láopallah, east of the Island in the Húgli opposite Tribeni Ghát, evidently in olden times an important place as lying at the point where the Jabuná leaves the Húgli and commences her tortuous course, first easterly, then southerly, into the Sundarban;† and also several places which have not yet been identified, as Simlábád, Hádigař, and Sájí-là-Mankhábad.‡

From the middle of the 16th century we have the works and maps of Portuguese historians, notably the classical ' Da Asia' by Joao de Barros (died 1570); and the graphic descriptions of Cusar Frederick (1570) and Ralph Fitch (1553 to 1591). Nor must I forget the Persian traveller Amin Rázi, an uncle of Núr Jahán, who composed his ' Haft Iqlim' in A. H. 1092 (A. D. 1591); but it is doubtful whether he visited Bengal, or merely wrote down what he heard at Agra; I shall occasionally refer to the works of these travellers below.§

But by far the most interesting contribution to the geography of Bengal, in spite of the unsatisfactory state of the MSS., is Todar Mall's rent-roll. Though of 1582, it may be assumed that Todar Mall merely gave in it what he found to exist with regard to both divisions and revenue; for Bengal was only subjugated during Jahlángir's reign, and properly assessed

* How extensively the Hindús were employed as revenue officers may be seen from the fact that the Arabic-Persian Shiqdár and Majmu'abádár have become Bangálí family names, generally spelt ' Sídár' and ' Muhammadar.'

† The island opposite Tribeni has a conspicuous place on De Barros' Map of Bengal and on that by Blaeu (vide Pl. IV.). The maps also agree with Abul Fuzá's statement in the Kín, that at Tribeni there are three branches, one the Saraswati, on which Sáigón lies; the other, the Ganga, now called the Húgli; and the third, the Jóp or Jabuná (Jamuná). De Barros and Blaeu's Maps show the three branches of almost equal thickness, the Saraswati passing Sátigón (Sáigón), and Chourá (Chamúkhá in Húgli District, north), and the Jabuná flowing westwards to Burám (Bofrhan, in the 24-Parganahs).


§ I have not mentioned Nicolò de Conti's Travels (1419 to 1444, A. D.), because he only mentions one town in Bengal, Cernoxe on the Ganges, which Col. Yule has identified with the ' Sháh i Nán,' or ' New Town' on Sikundar Sháh's coin of 1379 (Thomas, In. Coinage of Bengal, Journal, A. S. Bengal, 1867, p. 66); but the position of this town is still a matter of doubt.
by Prince Shujá' a short time before 1658. In the Ain we find that Bengal proper was divided into 19 Sirkárs, and 682 Mahalls. Eight of the 19 Sirkárs, and 204 of the 682 Mahalls, have Muhammadan names. The rent-roll included both the khalíqah ("genuine," vulgo khalsa) or crownlands, and the aqá or jágir lands, i.e. lands assigned to officers in lieu of pay or maintenance of troops. The distribution of the Sirkárs depended, as in the old Hindu division, on the courses of the Ganges, Bhagirathi, and Megna, or, as the Ain expresses it, on the courses of the Padmávatí, Ganga, and Brahmaputra, as will be seen from the following list of the Sirkárs.

A. Sirkárs North and East of the Ganges.

1. Sírkár Lak'hnautí, or Jannatábád, extending from Taliágarhi (Khágán, Colgong) along the northern banks of the Ganges, and including a few mahalls now belonging to district Bhágalpúr and Purniah, and nearly the whole of Málldah district. Besides Gaur, this Sirkár contained the ancient town of Rángímatí.* 66 mahalls; khalsa revenue, Rs. 471,174.†

2. Sírkár Púrniáh, or Púrannah, the greater and chiefly westerly portion of the present district of Púrniáh, as far as the Mahánanda.‡ 9 mahalls; revenue Rs. 160,219.

3. Sírkár Tájpúr, extending over Eastern Púrniáh east of the Mahánandá, and Western Dinájpúr. 20 mahalls; revenue, Rs. 162,096.

4. Sírkár Panjra h, so called from the Hawéli mahall Panjrah, north-east of the town of Dinájpúr, on the Atrai River, comprising the greater part of Dinájpúr district. 21 mahalls; revenue, Rs. 115,081.

5. Sírkár G'horác'hat, so called from the town of G'hórag'hat or Chauk'handi on the right bank of the Karlátáyá, comprising portions of Dinájpúr, Rangpír, and Bagúrá (Bogra) districts, as far as the Brahmaputra. Being a frontier district towards Koch Bihár and Koch Háo, it contained numerous jágir lands of Afghán chiefs and their descendants. The Sírkár produced a great deal of raw silk. 88 mahalls; revenue, Rs. 202,077.§

6. Sírkár Bárbakabád, so called from Bárbak Sháh, king of Bengal (vide above), and extending from Sírkár Lak'hnautí along the Podda to Bagúrá. It comprises portions of Málldah and Dinájpúr, and a large part of Rájsháhi, and Bagúrá. Its cloths were well known, especially the stuffs

* Málldah is once mentioned in the Tusaq i Jahángír (p. 178) — "When I [Jahángír] was prince, I had made a promise to Mir Ziyáuddin of Qazwín, a Saífi Sayyid, who has since received the title of Muqáṣáf Khán, to give him and his children Parganah Málldah, a well known Parganah in Bengal. This promise was now performed (A. D. 1617).

† Akbarahá bí Rupees (1 Rupee = 40 dâms). Grant substitutes 'Sicca Rupeess,' at 2s. 3d.

‡ It seems as if the Mahánandá, in its upper course, is often called Mahánadí. Van den Broucke calls it on his map 'Martnado.'

§ Some MSS. have 200,577 Rs.
called khácah (the "koses" of old writers) as the khácah of Shahbázpur, the čahan ( crusher, the 'sanen,' or 'sahnes' of Dutch writers), and the múnini. 38 mahalls; revenue, Rs. 436,288.

7. Sírkár Bázúhá, extending from the preceding across the Brahmaputra into Silhát, comprising portions of Rájsháhi, Bagurá, Pabñá, Maimán Singh, and reaching in the south a little beyond the town of Dháká (Dacca).

The name 'Bázúhá' is the plural of the Persian word bázú, 'an arm, a wing;' and all mahalls in this Sírkár have the word bázú after their name, which on our survey maps appears under the Bangáli form 'Bajoo.'† 32 mahalls; revenue, the largest of all Sírkárs, Rs. 987,921. To this Sírkár belonged Dháká, and Şerpur Murcha, or Mihmánsháhí, south of Bagurá on the Karataya, which is several times mentioned in the Akbaránámah as a military station.

8. Sírkár Silhát, adjacent to the preceding, chiefly east of the Surná River. As will be seen below, the country was only conquered by the Muhammadans in the end of the 14th century, and was exposed to continual invasions from Tiparah and Asám. According to Marco Polo, the Kín, and the Tuzuk, Silhát supplied India with eunuchs. Jahangir issued an edict forbidding the people of Silhát to castrate boys. Like Kámrup, Silhát is also often mentioned as the land of wizards and witches, and the fame of its játó, or witchcraft, is still remembered at the present day. 8 mahalls; revenue, Rs. 167,032.

9. Sírkár Sunnárgáon, to both sides of the Megna, and the Brahmaputra, containing portions of western Tiparah, Bhalúá, and Noák'háli, subject to repeated attacks by the Rajahs of Tiparah and Arakán. 52 mahalls; revenue, Rs. 258,283. The Haft Iqlim gives Rs. 330,000.

* Stewart says that Dháká is a modern town, "because the name does not occur in the Kín." But it does; vide my text edition, p. 407, where the Mahall to which it belongs, is called Dhakká Bázú. In Gladwin's spelling 'Dukha Bazoo' it is, however, scarcely recognizable. Dháká occurs in the Akbaránámah as an Imperial thánah in 1584; and Sir A. Phayre (vidé above, p. 53) mentions it in 1400.

† Thus the country west of Pabna is called 'Bajooraas' and east of it 'Bajoochup' —corruptions of Bázú i rást, 'the right wing;' and Bázú i chāp 'the left wing.' Other corruptions are—Esúb, or Eshub, or Esop, or Isaf, for 'Yúsuf;' thus 'Eshubeys, for 'Yúsuf-sháhí;' Nasipore, for Nasipbúr, (from Naçib Sháh); Nujeepore, for Najibpúr; Halacshur (opposite Tribeni) for Hálishahr, = Hawoli i Shahr [Sátgón]; Mahomedshye for Mahmúdsháhí, (Jassore); Bajitpore, for Báýaçídípúr (in Dínájápur); Juffursy, for Zafarsháhí, (not Ja'farsháhí) Káli Modunpúr (which sounds like a Hindú name), Kál-fudunpúr; Puladassý, north of Bagurá, for Fuládsháhí; Masidpore and Majidpore, for Masjidpúr (vide Beamos, Comp. Grammar, p. 209).

In the spelling of Bengal names care should be taken with the frequent ending daka, 'eddy;' as Máládáh, spelt in Persian Máldáh; but the final h is radical, and the name should not be spelt Máldá, as Málwah, Rájah, &c., = Málwá, Rájá, &c.

Aurangzib forbade by edict spellings like Málwah, Rájah, &c.; he wanted people to spell Málwá, Rájá.
The name enjoy of Murshidabad occurs conspicuously in the map. 

B. Sirkars in the Delta of the Ganges.

11. Sirkar Satgao. A small portion only, the land between the Hugli and the Saraswati, lay west of the Hugli, whilst the bulk of the Sirkar comprised the modern district of the 24-Parganas to the Kabadar, western Nadiya, south-western Murshidabad, and extended in the south to Hatiaganj below Diamond Harbour. To this Sirkar belonged Mahall Kalkattâ (Calcutta) which, together with two other mauza’s, paid, in 1582, a land revenue of Rs. 23,905. 58 mahalls; revenue, Rs. 418,118.

12. Sirkar Mahmudabad, so called after one of the three Mahmud Shaiks of Bengal, and comprising northern Nadiya, northern Jessore, and western Faridpur. 88 mahalls; revenue, Rs. 290,256.

13. Sirkar Khalifatabad, or southern Jessore and western Bajirganj. The Sirkar is called after Kaliyatabad, which was the name of the small Haweli-parganah near Bagherhat (vide below). The largest mahall of this Sirkar was Jesar (Jessore), or Rasulpur; and among others, we find here the Mahalls Mumdagachiha and Malikpur, which the Khan i A’zam, when governor of Bengal under Akbar (Ain translation, p. 326), is said to have given to Bhabeshwar Rai, the ancestor of the present Rajahs of Jesar. The name of Jesar, therefore, occurs as early in 1582; hence Van den Broucke’s map (1600) also gives it conspicuously as ‘Jessore.’* 35 mahalls; revenue, Rs. 135,053.

14. Sirkar Fathabad, so called after Fath Shah, king of Bengal, comprising a small portion of Jessore, the whole of Faridpur, southern Bajirganj, portions of Dhaká district, and the Islands of Dak’hin Shahbazar, Sondip, and Sidhu, at the mouth of the Megna. The town of Faridpur lies in the Haweli Parganah of Fathabad. 3 mahalls; revenue, Rs. 199,239.

15. Sirkar Banka,† or Ismailpur, north-east of the preceding, comprising portions of Bajirganj and Dhaká districts. It is the Bacala of old maps. 4 mahalls; revenue, Rs. 178,756.

C. Sirkars South of the Ganges and West of the Bhagirathi (Hugli).

16. Sirkar Audambor, or Tanjâh, comprising the greater portion of Murshidabad district, with portions of Birbhum. The name Audambor occurs also in other parts of India, e.g. in Kachh.† Tanjâh did not long enjoy the position of capital; Sher Shâh already had made plans to remove it

* Vide, however, Westland, Jessore Report, p. 29.
† The author of the Siyarul Mutawakkilin calls it Hogla (حگل), from the Bangali word hogla, which signifies marsh reed—a name which no doubt explains the name of Hugli; but he strangely confounds Sirkar Bakla with Sirkar Satgao (Hugli).
‡ Vide Cunningham, Ancient Geography of India, I, p. 248.
to Ag Mahall on the opposite bank. But this was only carried out by Rájah Mán Singh, who changed the name of Ag Mahall to Ráj Mahall, and subsequently to Akbarnagar. The same Sirkár became again in later times under Prince Shujá' the seat of government, and later still under Nawáb Ja'far Murshíd Quli Khán, who changed the name of the old town of Makhcúcábád, *the Muxabad or Muxadábád of old maps, to Murshidábád. 52 mahalls; revenue, Rs. 601,985. The Haft Iqlím gives its revenue at Rs. 597,570.

17. Sirkár Sharífábád, south of the preceding, comprising the remaining portions of Bîrbhûm, and a large portion of Bardwán district, together with the town of Bardwân † itself. Mahalls Bârbak Singh and Fath Singh, so called after the Bengal kings Bârbak Sháh and Fath Sháh, and Sherpur 'Atáí, where Mán Singh defeated the Afgáns (Aín translation, p. 341) also belonged to this Sirkár. 26 mahalls; revenue, Rs. 562,218.

18. Sirkár Sulaimánábád, a straggling Sirkár, which comprised a few southern parganas in the modern districts of Nadiyá, Bardwán, and the whole north of Húgli district. This Sirkár was so called after Sulaimán Shah of Bengál, who also called several parganas after himself in Murshidábád, Jessore, and Bâqirganj districts; but whether the name was too long, or was purposely changed after Akbar's conquest of Bengal in honor of Prince Salín (Jahángír), it only occurs now-a-days in the form 'Sulimábád.' The chief town of the Sirkár was Salimábád [Sulaimánábád], on the left bank of the Damúdar, south-east of the town of Bardwán. It is marked as 'Silimath' on Van den Broucke's map. Olá (the old name of Birnagar) in Nadiyá, known from the Srimanta legend, and Pañduadh, on the E. I. Railway, with its Buddhist ruins and ancient mosques, also belong to this Sirkár. 31 mahalls; revenue, Rs. 440,749.

19. Sirkár Madáran, extending in a semicircle from Nágor in Western Bîrbhûm over Kúnigánj along the Damúdar to above Bardwán, and from there over K'hand Ghosh, Jahánábád, Chandrákoná (Western Húgli District) to Mandalghá t, at the mouth of the Rúpnáráyan River. 16 mahalls; revenue, Rs. 235,985.

Thus the above nineteen Sirkárs, which made up Bengal in 1582, paid a revenue on khalsa lands, inclusive of a few duties on salt, hifa, and

* The Akbarnámah mentions a Makhcúc Khán, brother of Sa'id Khán; vide my Aín translation, p. 388. Makhiçíc Khán served in Bengál and Bihár, and his brother Sa'id Khán was for some time governor of Bengál.

† The Muhammadan pronunciation of the Bangáli Bordomán. The Haft Iqlím mentions an extraordinary custom that obtained in this Sirkár. "Feminæ hujus provinciæ instrumentum quoddam ficetile penis instar in vulvum et in anum inferunt, ut sordes removant. The old kings have in vain tried to break them off this habit."

fisheries, of 253,482,106 dâms, or Rs. 6,337,052.* According to Grant, the value of the jâgîr lands was fixed at Rs. 4,348,892, so that we have, in 1582, A. D., as total revenue of Bengal, in its then circumscribed limits, the sum of Rs. 10,685,944. This was levied from the ryots in specie as the equivalent of the rub' or fourth share, of the entire produce of the land, claimed by the sovereign as despotic proprietary lord of the soil.

This rent-roll remained in force during the reign of Jahângîr. The remittances from Bengal to Dihli were, it is true, not very regular, nor up to the sums levied, so much so that Jahângîr appointed, in the end of his reign, Fidâi Khân, governor of Bengal, merely because he promised to send regularly one million of rupees to court. Under Shâhjahân, the boundaries of Bengal were extended in the South-West, Medinípur and Hijlí having been attached to Bengal, and in the East and North-East by conquests in Tiparah and Koch Hájo; and when Prince Shujá' was made governor, he made, shortly before 1658, a new rent-roll, which shewed 34 Sirkârs and 1350 Mahalls, and a total of revenue, on khalsa and jâgîr lands, of Rs. 13,115,907. Shujá's rent-roll remained in force till 1722, an addition having been made after the conquest of Châtgâon. In that year, Nawâb Ja'far Khân (Murshid Quî Khân) issued his Kâmîl Jâna Tâmârî; or 'Perfect Rent-roll,' in which Bengal was divided into 34 Sirkârs, forming 13 Chaklahs, and sub-divided into 1660 Parganas, with a revenue of Rs. 14,288,186.

It was, however, only after the rule of Nawâb Ja'far Khân that the Abbâb revenue† gradually appeared in the books. Though vast sums had been levied on this head, they had been looked upon as private emoluments of office. As early as in the tenure of Shujá' Khân, Nawâb Ja'far's successor, we find the Abbâbs entered as yielding Rs. 2,172,952, and they rapidly increased under 'Ali Virdi Khân and Qásim Khân, so that, when the E. I. Company in 1765 acquired the Dîwâni, the net amount of all revenue collected by authority in Bengal was Rs. 25,024,223.

It is not my intention to enter here further in the historical portion of the revenue question of Bengal, nor shall I minutely describe the Sirkârs and the Mahalls or detail the historical and geographical

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* Grant's total is Rs. 6,344,260, or Rs. 7,208 more, chiefly on account of the higher sum given by him for Sirkâr G'horâg'âlat. Vth Report, p. 258.

† "The ryots (ra'îyyat) of Bengal are obedient and ready to pay taxes. During eight months of the year they pay the required sums by instalments. They personally bring the money in rupees and goldmuhurs to the appointed place. Payment in kind is not usual. Grain is always cheap. The people do not object to a survey of the lands, and the amount of the land tax is settled by the collector and the ryot (nausar). His Majesty, from kindness, has not altered this system." Âbu i Akbar.

† Imposts as fees on the renewal of annual leases of zamindârs (kháqnawâsî); naârânakhs; fees for remission of imperial revenue; zar i mohant, or imposts levied for the maintenance of the Nawâb's elephants; and many more.
changes that took place; these I must necessarily reserve for the second volume of my Ain translation. But I shall now attempt to trace the frontiers of Bengal under the Muhammadan rule as far as existing historical sources allow us to do.

The Frontiers of Muhammadan Bengal.

Abulfazl estimates the breadth of Bengal from Garhí to Chátgáon at four hundred kos. From north to south, the longest line was from Koch Bihár to Chittúa in Sirkár Medinípúr. “The zamíndárs are mostly Káyasths.” Not a word is said on the strength of the Muhammadan population, or the progress of Islám—comparative statistics were not thought of in his age. The remark made by old English travellers that the inhabitants of the islands and the coast of south-eastern Bengal were chiefly Muhammadans, and the uncertain legend regarding the introduction, in the beginning of the 16th century, of Islamic rites into Chátgáon by Nuqrat Sháh are the only allusions that I have seen on the subject. Neither history nor legends allude to the conversions among the semi-aboriginal rural population, that must on a large scale have taken place during the reigns of the independent kings of Bengal, chiefly, no doubt, through the exertions of the numerous Afghan Jágiríárs.

The military and naval power of the country is fixed at 23,330 horse, 4,260 guns, 1,170 elephants, and 4,400 boats. In Nawáb Ja’far’s rent-roll, however, the strength of the naval establishment (nawárá) consisted of 768 armed cruisers and boats, which were principally stationed at Dháká, to guard the coast against the Mags and foreign pirates; and the number of sailors included 923 Firingis, chiefly employed as gunners. The annual charges of the navy, including construction and repairs, was fixed at Rs. 843,452, which was levied under the name of ‘amalah i nawárá from parganahs in South-Eastern Bengal. The same rent-roll mentions that the garrisons along the whole eastern frontier from Chátgáon to Rángámáti on the Bramhaputra consisted of 8,112 men (akháim), who cost 359,180, Rs. per annum.

Of the roads in Bengal we have no information prior to Van den Broucke’s map (1660) in Valentyn’s work. He marks (1) a principal road passing over Patna, Munger, and Rájmahall to Súti, where the Bhagiráthí leaves the Ganges. From here a branch went to Moxulábath (Murshidábád), Plassí (Falási), and Hagdia,* crossed the Bhagiráthí for Gasiapore,

* Hagdia is Agardíp. Van den Broucke’s map gives here an interesting particular. He marks Hagdia on the left bank of the river, and Gasiapóor (Gházípúr) on the right bank. Both places lie now far from the right bank, with only a small k’hál between them, and a large semi-circular lake round both. The lake, as else-
and passed on to Bardwan, Medinipur, Bhadrak (wrongly marked on the right bank of the Baitarani), and Katak. The other branch went from Suti along the right bank of the Podda to Fathabad, from where it passed on to Dhaka. These two branches are marked as principal roads (*shahi rastah*).

(2) A road from Bardwan to Baccaresoor (Baklesar in Birbhumi, famous for its hot springs, within the Maratha Intrenchment of Nagor), and from there to Qasimbazar and the banks of the Ganges, and across the river to ‘Hasiarhati.’ This is Hajrahati, on the left bank of the Podda, now also a ferry place, near the entrance of the Burul River, below Rampur Balia; and seems to be the Qazihatti (Beng. Kajierhatti), which Abulfazl mentions in the Ain. From Hasiarhati the road passed to a place called Harwa, and from there to Ceerpoor Mirts, i.e. Sherpur Murehah, on the Karataya, and passing over Tessiadin (Chandlijin, north of Sherpur,?) to Gorregaut (Ghorag‘hât) and Bareithela (Baritâla) on the Brahmaputra, which will be mentioned below as a frontier town. (3) A road from Bardwan over Salimabad, Hugli, Jessore, Bosnaye, Fathabad, across the river to Sjatterpoor,* Casisella, and Idrahpur, opposite the confluence of the Lakhiya and the Dalasari, near Ballal Sen’s palace. (4) A road from Dhaka, across the Dalasari to Piaarpore and Bedulia, which latter place is marked at the point where the Dalasari leaves the Jamuna, and from there to Sasiadpoor (Shahzadpur, in Pabna), and Handiael (Hariâl).

The Western Frontier.

In the north-west, the frontier of Bengal extended but little beyond the Kosi River; but under some of the early Muhammadan governors and the independent kings, the Bengal empire included all upper Bihar north of the Ganges as far as Saran. Of Ilyas Shâh, for example, it is asserted that he was the founder of Hajipur, opposite Patna, on the Ghandak, although Firuz Shâh, on his return from Bengal, appointed for the first time Imperial collectors in Tirhut. Sikandar Shâh’s coins, again, have been found far west of the Kusi.

Southern Bihar only belonged to Bengal from the time of the conquest by Bakhtryar Khilji to about 730 A. H. (A. D. 1330), when Muhammad Tugluk annexed it to Dihli. From 800 again (A. D. 1397), the whole of Bihar belonged to the kingdom of Jaunpur. Under Buhuli again, Darya Khán Lohâni was governor of Bihar; and under Ibrâhim, Darya’s son Bahadur Khán assumed independence in Bihar under the title of Shâh Muham-

where in Bengal, is the old bed of the river, which now follows the shorter route along the chord of the loop. This change, therefore, took place after 1660.

Thus also Nadîya lies now on the right bank of the river; but west of the town, there is still the old channel, which goes by the name of Ganga Bhârat.

* Reunel gives Satrapur; but modern maps give no such name.
mad.* It is not clear how far these Afghan chiefs depended on Husain Sháh of Bengal, whom inscriptions represent firmly established in 908 at Munger, while other inscriptions from Bonhára and Cheran (near Sárán) would lead us to conclude that the whole of Upper Bihár and the western portions of Southern Bihár belonged to him in A. H. 908 and 909 (A. D. 1502, 1503). On the other hand, we hear in history of the cession by Husain Sháh of Bihár, Sárán, and Tirhut, and of the reconquest of these lands by Núrát Sháh, who, if he could not hold them, assisted the Afgháns against Bábár. Núrát Sháh seems even to have passed beyond the Ghandák; for a mosque near Síkádarápur, on the right bank of the river, in District A’zamgär, was built during his reign.

South of the Ganges, the western frontier is better defined. Fort Tálíkár, or Garthi,† near K’halgrón (Colgong) on the Ganges, was looked upon as the entrance, or key, to Bengal—a position which Muhammadan historians compare with that of Fort Sahiwán on the Indus, the key of Sind. From Garthi the frontier passed along the Ganges to the south of Ag-Mahall (Raj Mahall), when it again turned westward to north-western Birbhum, passing along the boundary of the modern Santál Pargana to the confluence of the Barákar and the Damúdar, from where it went along the left bank of the Damúdar to the neighbourhood of the town of Bardwán. From here the frontier took again a westerly direction, and passed along the north-western and western boundaries of the modern Húgli and Hábárah (Howrah) Districts down to Mandalgh’nát, where the Rúpnaráyan flows into the Húgli River.

This boundary, it will be seen, excludes the whole of the Santál Pargana to the south of K’halgrón to the Barákar, Pachet,‡ and the territory of the Rájahs of Bishupúr (Bankura). In vain do we look in Santalí for Muhammadan names of villages and towns; and though there can be no doubt that the Muhammadan kings of Bengal tried to hold parts of the hills by establishing thánahs and appointing jágirholders, no permanent settlements were formed. One of the most westerly thánahs in southern Santalí was Sarhat, N. W. of Shiúrí (Soory) in Birbhum, which is mentioned in Tribeni inscriptions.§ whilst the settlement of Pathán

* Called in many MSS. Mahmúd.
† It is not known which king built the fort; but it may be accidental that the name does not occur in the Tabaqat i Náqiri and in Baráni. At K’halgrón, Mahmúd Sháh III., the last independent king of Bengal, died in 945 (1538 A. D.).
‡ Regarding the invasion of Chutiá Nágpúr by the Muhammadans, vide J. A. S. B., 1871, Part I, p. 111.
§ Sarhat, spelt on inscriptions Sirhat, lies on the left bank of the Ajáí River. Its name on modern maps is corrupted to Saruth. Rennell has Sarhaut. Outside the place, the survey maps mark two old forts. A little to the south of it, a village of the name of Lukrakhonda is marked. Rennell on his map of Birbhum (Bengal Atlas,
jágrídárs, before and after the time of Sher Sháh, as a standing militia against the inroads of the tribes of Jhárkh'hand (Chutiá Nágpúr), led to the formation of the great Muhammadan zamíndári of Bhirbhum, which gave the E. I. Company some trouble.

In Todar Mall’s rent-roll the following Mahalls are mentioned along this portion of the western frontier of Bengal—Ag’ Mahall (Rájmahall), Kánkjol, Kúñwar Partáb, Molerás,* in Sirkár Audambar or Táńdah; Bharkundah, Akbarsháhi, Kátangah, in Sharifábád (Bhirbhum); Nágór, Sainbhúm, Shergárh (Ráníganj), Champánagári (N. W. of the town of Bardwán), Madaran (Jahánábád and Chandrákoná, west of Húgli), Chittúa (District Medinípúr), and Mándalgháát, at the mouth of the Rúpnáráyan, all belonging to Sirkár Madáran.

The name of the frontier mahall of Bhárkundáh in Bhirbhum, mentioned above, seems to have been formerly extended to the whole of Bhirbhum and the Santál Parganahs. In this extended sense, it is used in the Túrikh i Dáúdi,† on De Barros’ map of Bengal, and on Blaev’s map of India (vide Pl. IV). In the latter, it is only given as ‘Bárcunda,’ but in the former as ‘Reino de Barcunda,’ extending from Ferrandus (a corruption of Bardwán) to Gorjí, in which we recognize Gárhí, the ‘key of Bengal.’ West of Barcunda, De Blaev and De Barros give ‘Patanés,’ i.e. the Patháns, the military and semi-independent landholders of the western Bengal frontier. On the Ganges, both maps shew Gouro (Gaur), and opposite to it, ‘Pára,’ for which De Barros gives ‘Rara.’‡ Both spellings may be mistakes for Tára, i.e. Táńdah, which should of course be on the other side of the river; or ‘Rara’ stands for the old Hindú division of Rádha, which there commences. South of Ferrandus, the old maps give ‘Mándarám’ and ‘Cospetir,’ which latter name is wrongly placed on Blaev’s map north of Mandaram, whilst De Barros has it correctly west of it. In Mandaram we recognize Madáran, the chief town of Sirkár Madáran, a name which even now-a-days is pronounced by the peasants Mandáran.§ ‘Cospetir,’ or De

No II.) places a ‘Lacaracoond,’ in conspicuous letters, south of Nagor; but modern maps gave no such locality. Could this be the Lakh’náár of the Tábaqát?

* Sábiq (i.e. former) Molerás and Darín Molerás. The former name is wrong spelt in the Indian Atlas (Sheet 113) Sarik Molisser.

† Downson, Elliot’s History of India, IV., pp. 360, 364.

‡ South of Pára or Rara, Blaev and De Barros give a place of the name of Moulanandangar; and below Gouro, Patana or Patuna, and Meneitipúr, which I have not identified.

§ I have identified Madáran with Bhítargárh in Jahánábád, in the north-western corner of Húgli District. Vide Proceedings, As. Socy. Bengal, for April, 1870, where the legends of the place are given.

As the name of Jahánábád occurs in the Akbarnámáh, it has no connexion with Sháhjábán’s name, but refers more likely to one of the numerous Khán Jaháns of the Patháns rule.
Barros’ ‘Reino Cospetir,’ a name that puzzled me long, is clearly ‘the kingdom of the Gajpati,’ or Lord of elephants, the title of the kings of Orisá, the final *r* being nothing but the ending of the Bangálí genitive. Sirkár Madárán was indeed the frontier of Orisá; but if the legends of the Húgli District speak of the Gajpatís having once extended their kingdom to the Ganges (Húgli River), it must have been prior to the time when Sátgáon became the seat of Muhammadan governors.

It is remarkable that among the names of the jungly and hilly frontier districts, we find so many ending in *bhúm.* Thus we have Birbhúm;* Sainbhúm, along the left bank of the Ajai, in Birbhúm district; Sik’harbhúm or Shergarh, the mahall to which Ráníganj belongs; Gopibhúm, along the right bank of the Ajai; Bámabhúm or Bráhmanbhúm, in northern Medinipúr District; Mánbhúm, Barábhúm, Dhalbhúm, Singbhúm, in Chutiá Nágpúr; Túnbhúm, in southern Parúliá; Malbhúm, the frontier of Bardwán and Medinipúr Districts; Bhanjibhúm, with the town of Medinipúr,† &c. Similarly, the frontier district between Rangpúr and the Brahmaputra, comprising Mahalls Bhítarband and Bábírband, is called in Shujá’s rent-roll ‘Bangálbhúm.’

I mentioned Mahall Mandalg’hát at the confluence of the Rúpnáráyan and the Húgli as the south-western frontier of Bengal. The Districts of Medinipúr and Hijlí (south-east of Medinipúr) were therefore excluded. They belonged to the kingdom of Orisá till A. H. 975, or A. D. 1567;‡ when Sulamán, king of Bengal, and his general Kálá Páhár defeated Mukund Deb, the last Gajpatí. Even after the Afghán conquest, Medinipúr and Hijlí continued to belong to the province of Orisá, when Khán Juhán Afghán was appointed by Dáúd Sháh governor of Orisá, Qutlá Khán Lohání being made governor of Púrí. On the 20th Zi Qa’dah, 982, (3rd March, 1575) Mun’im Khán Khánán, Akbar’s general, defeated Dáúd Sháh at Tukaroi or Mughulmáří, north of Jalesar, and in the peace of Kaţák, in the beginning of 983, Bihár and Bengal were ceded. In 984, Dáúd again invaded Lower Bengal, but was defeated and killed on the 15th Rabi’ II, 984, near Ag Mahall by Husain Qlí Khán Juhán, when Bengal was again annexed to Dílí, and the Afgháns withdrew to Orisá. Then the Bengal Military Revolt broke out, and Orisá was invaded, in A. H. 1000, (A. D. 1592) by Mán Singh, when the country was finally annexed to the Dílí empire. Hence Medinipúr and Hijlí appear

* The name occurs in the *Áin* as a Mahall; but as name for a large division it does not seem to have been used before the 18th century.

† The *Áin* also mentions a mahall Bhowálbhúm under Sirkár Madárán; modern maps do not give this name.

‡ So according to the Akbarnámáh. Stirling fixes an earlier date; but Sulaimán reigned from A. H. 975 to 980. Besides, Akbar sent in 972–973 ambassadors to Mukund Deb.
10. **Sirkār Chātgaon** (Chittagong), never properly annexed before the reign of Aurangzib. 7 mahalls; revenue, Rs. 285,607.

**B. Sirkārs in the Delta of the Ganges.**

11. **Sirkār Sātgāon.** A small portion only, the land between the Húgli and the Saraswati, lay west of the Húgli, whilst the bulk of the Sirkār comprised the modern district of the 24-Parganahs to the Kabadak, western Nadiyá, south-western Murshidábád, and extended in the south to Hatiágarh below Diamond Harbour. To this Sirkār belonged Mahall Kalkattá (Calcutta) which, together with two other mauza's, paid, in 1582, a land revenue of Rs. 23,905. 53 mahalls; revenue, Rs. 418,118.

12. **Sirkār Mahmúdábáq,** so called after one of the three Mahmúd Sháhs of Bengal, and comprising northern Nadiyá, northern Jessore, and western Farídpur. 88 mahalls; revenue, Rs. 290,256.

13. **Sirkār Khalfatábád, or southern Jessore and western Bāqirganj.** The Sirkār is called after Khalfatábád, which was the name of the small Haweli-parganah near Bághherhát (*vide* below). The largest mahall of this Sirkār was Jessor (Jessore), or Rasúlpúr; and among others, we find here the Mahalls Múndagáchhia and Malikpúr, which the Khán i A'zam, when governor of Bengal under Akbar (*A'in translation, p. 326), is said to have given, to Bhábešhwar Ráí, the ancestor of the present Rájahs of Jessor. The name of Jessor, therefore, occurs as early in 1582; hence Van den Broucke's map (1660) also gives it conspicuously as 'Jessore.'* 35 mahalls; revenue, Rs. 135,053.

14. **Sirkār Fatábád, so called after Fath Sháh, king of Bengal, comprising a small portion of Jessore, the whole of Farídpur, southern Bāqirganj, portions of Dháká district, and the Islands of Dak'hin Shahbázpur, Sondip, and Sidhú, at the mouth of the Megna.** The town of Farídpur lies in the Haweli Parganah of Fatábád. 3 mahalls, revenue, Rs. 199,239.

15. **Sirkār Baklā;** or Ismá’īlpúr, north-east of the preceding, comprising portions of Bāqirganj and Dháká districts. It is the Bacala of old maps. 4 mahalls; revenue, Rs. 178,756.

**C. Sirkārs South of the Ganges and West of the Bhagirathi (Húgli).**

16. **Sirkār Audambar, or Tándah,** comprising the greater portion of Murshidábád district, with portions of Birbhúm. The name Audambar occurs also in other parts of India, e. g. in Kachh.† Tándah did not long enjoy the position of capital: Sher Sháh already had made plans to remove it

* Vide, however, Westland, Jessore Report, p. 29.

† The author of the *Siyarul Mutāakkhkhrin* calls it Holá (هوگلā); from the Bangáli word hoglá, which signifies marsh reed—a name which no doubt explains the name of Húgli, but he strangely confounds Sirkār Baklā with Sirkār Sātgāon (Húgli).

† Vide Cunningham, Ancient Geography of India, I, p. 248.
to Ag Mahall on the opposite bank. But this was only carried out by Rájah Mán Singh, who changed the name of Ag Mahall to Raj Mahall, and subsequently to Akbarnagar. The same Sirkár became again in later times under Prince Shuja the seat of government, and later still under Náwáb Jákfar Murshid Qulí Khán, who changed the name of the old town of Makhúcábád, the Muxabad or Muxadabad of old maps, to Murshidábád. 52 mahalls; revenue, Rs. 601,985. The Haft Iqlim gives its revenue at Rs. 597,570.

17. Sirkár Sharífábád, south of the preceding, comprising the remaining portions of Bbirhúm, and a large portion of Bardwán district, together with the town of Bardwán itself. Mahalls Bárbak Singh and Fath Singh, so called after the Bengal kings Bárbak Sháh and Fath Sháh, and Sherpur 'Aṭáí, where Mán Singh defeated the Afgáns (Ain translation, p. 344) also belonged to this Sirkár. 26 mahalls; revenue, Rs. 562,218.

18. Sirkár Sulaimánábád, a struggling Sirkár, which comprised a few southern parganahs in the modern districts of Nadiyá, Bardwán, and the whole north of Húgli district. This Sirkár was so called after Sulaimán Shah of Bengal, who also called several parganahs after himself in Murshidábád, Jessore, and Bápírganj districts; but whether the name was too long, or was purposely changed after Akbar's conquest of Bengal in honor of Prince Salim (Jáhángír), it only occurs now-a-days in the form 'Salimábád.' The chief town of the Sirkár was Salimábád [Sulaimánábád], on the left bank of the Damúdar, south-east of the town of Bardwán. It is marked as 'Silimath' on Van den Broucke's map. Olá (the old name of Birnagar) in Nadiyá, known from the Srimanta legend, and Pauduah, on the E. I. Railway, with its Buddhist ruins and ancient mosques, also belong to this Sirkár. 31 mahalls; revenue, Rs. 440,749.

19. Sirkár Madáran, extending in a semicircle from Nágó in Western Bbirhúm over Ránígajj along the Damúdar to above Bardwán, and from there over Khand Ghosh, Jahánábád, Chandrakóná (Western Húgli District) to Mándalgát, at the mouth of the Rúpánárâyán River. 16 mahalls; revenue, Rs. 235,085.

Thus the above nineteen Sirkárs, which made up Bengal in 1582, paid a revenue on khalsa lands, inclusive of a few duties on salt, háf, and

* The Akbarnámah mentions a Makhúc Khán, brother of Saíd Khán; vide my Ain translation, p. 388. Makhúc Khán served in Bengal and Bihár, and his brother Saíd Khán was for some time governor of Bengal.

† The Muḥammadan pronunciation of the Bengál Bódromán. The Haft Iqlim mentions an extraordinary custom that obtained in this Sirkár. "Feminine hujas provinciae instrumentum quodiam flectile penis instar in vulvam et in annum inferunt, ut sordes removeant. The old kings have in vain tried to break them off this habit."

Regarding the Muḥammadan antiquities of Bardwán, vide Journal, As. Bengal, for 1871, Pt. 1, p. 254.
fisheries, of 258,482,106 dâms, or Rs. 6,337,052. According to Grant, the value of the jâgîr lands was fixed at Rs. 4,348,892, so that we have, in 1582, A. D., as total revenue of Bengal, in its then circumscribed limits, the sum of Rs. 10,685,944. This was levied from the ryots in specie, or the equivalent of the rub', or fourth share, of the entire produce of the land, claimed by the sovereign as despotic proprietary lord of the soil.

This rent-roll remained in force during the reign of Jahângîr. The remittances from Bengal to Dîhil were, it is true, not very regular, nor up to the sums levied, so much so that Jahângîr appointed, in the end of his reign, Fidâî Khân, governor of Bengal, merely because he promised to send regularly one million of rupees to court. Under Shâhjahân, the boundaries of Bengal were extended in the South-West, Medinipûr and Hîljî having been attached to Bengal, and in the East and North-East by conquests in Tiparâh and Koch Hîjû; and when Prince Shujâ' was made governor, he made, shortly before 1658, a new rent-roll, which shewed 34 Sîrkârs and 1350 Mahalls, and a total of revenue, on khalsa and jâgîr lands, of Rs. 13,115,907. Shujâ's rent-roll remained in force till 1722, an addition having been made after the conquest of Châtigaon. In that year, Nawâb Ja'far Khân (Murshid Qulî Khân) issued his Kâmîl Jâma' Tâmrî, or 'Perfect Rent-roll,' in which Bengal was divided into 34 Sîrkârs, forming 13 Châklahs, and sub-divided into 1600 Parganaâhs, with a revenue of Rs. 14,288,186.

It was, however, only after the rule of Nawâb Ja'far Khân that the Abwâb revenue gradually appeared in the books. Though vast sums had been levied on this head, they had been looked upon as private emoluments of office. As early as in the tenure of Shujâ' Khân, Nawâb Ja'far's successor, we find the Abwâbs entered as yielding Rs. 2,172,052, and they rapidly increased under 'Ali Virdi khân and Qâsim Khân, so that, when the E. I. Company in 1765 acquired the Dîwanî, the net amount of all revenue collected by authority in Bengal was Rs. 25,624,223.

It is not my intention to enter here further in the historical portion of the revenue question of Bengal, nor shall I minutely describe the Sîrkârs and the Mahalls or detail the historical and geographical

* Grant's total is Rs. 6,344,280, or Rs. 7,208 more, chiefly on account of the higher sum given by him for Sîrkâr G'hôrâgh'hit. Vth Report, p. 238.

† "The ryots (ra'îyyat) of Bengal are obedient and ready to pay taxes. During eight months of the year they pay the required sums by instalments. They personally bring the money in rupees and goldmuhurs to the appointed place. Payment in kind is not usual. Grain is always cheap. The people do not object to a survey of the lands, and the amount of the land tax is settled by the collector and the ryot (nasaq). His Majesty, from kindness, has not altered this system." A'in i Aâbâr.

‡ Imposts as fees on the renewal of annual leases of zamindârs (khâqanawîs); nasrânahs; fees for remission of imperial revenue; zar i mohant, or imposts levied for the maintenance of the Nawâb's elephants; and many more.
changes that took place; these I must necessarily reserve for the second volume of my Xin translation. But I shall now attempt to trace the frontiers of Bengal under the Muhammadan rule as far as existing historical sources allow us to do.

The Frontiers of Muhammadan Bengal.

Abulfazl estimates the breadth of Bengal from Garhí to Chátgáon at four hundred kos. From north to south, the longest line was from Koch Bihár to Chittúá in Sirkár Medinípúr. "The zamindárs are mostly Káyasths." Not a word is said on the strength of the Muhammadan population, or the progress of Islám—comparative statistics were not thought of in his age. The remark made by old English travellers that the inhabitants of the islands and the coast of south-eastern Bengal were chiefly Muhammadans, and the uncertain legend regarding the introduction, in the beginning of the 16th century, of Islamic rites into Chátgáon by Nuqrat Sháh are the only allusions that I have seen on the subject. Neither history nor legends allude to the conversions among the semi-aboriginal rural population, that must on a large scale have taken place during the reigns of the independent kings of Bengal, chiefly, no doubt, through the exertions of the numerous Afghan Jágírddár.

The military and naval power of the country is fixed at 23,330 horse, 4,260 guns, 1,170 elephants, and 4,400 boats. In Nawáb Ja'far's rent-roll, however, the strength of the naval establishment (navárá) consisted of 768 armed cruisers and boats, which were principally stationed at Dháká, to guard the coast against the Mags and foreign pirates; and the number of sailors included 923 Firingis, chiefly employed as gunners. The annual charges of the navy, including construction and repairs, was fixed at Rs. 843,452, which was levied under the name of 'amalákh i navárá from parganahs in South-Eastern Bengal. The same rent-roll mentions that the garrisons along the whole eastern frontier from Chátgáon to Rángámáti on the Brahmaputra consisted of 8,112 men (akhám), who cost 359,160, Rs. per annum.

Of the roads in Bengal we have no information prior to Van den Broucke's map (1660) in Valentyn's work. He marks (1) a principal road passing over Patna, Munger, and Rájímaháll to Sútí, where the Bhagirathi leaves the Ganges. From here a branch went to Moxudábáth (Murshidábád), Plessi (Páltá), and Hágdia, * crossed the Bhagirathi for Gásiapóre,

* Hágdia is Agardíp. Van den Broucke's map gives here an interesting particular. He marks Hágdia on the left bank of the river, and Gásiapóre (Gházípúr) on the right bank. Both places lie now far from the right bank, with only a small k'hál between them, and a large semi-circular lake round both. The lake, as else-
and passed on to Bardwán, Medinipur, Bhadrak (wrongly marked on the right bank of the Baitaran), and Katak. The other branch went from Suti along the right bank of the Podda to Fathábád, from where it passed on to Dháká. These two branches are marked as principal roads (sháhi rastah).

(2) A road from Bardwán to Baccaresoor (Baklesar in Birkhúm, famous for its hot springs, within the Marátha Intrenchment of Nágor), and from there to Qásimbazár and the banks of the Ganges, and across the river to 'Hasiaarhati.' This is Hajráhattí, on the left bank of the Podda, now also a ferry place, near the entrance of the Búrul River, below Rámpúr Boáliá, and seems to be the Qázihátti (Beng. Kajierhátti), which Abulfazl mentions in the Ain. From Hasiaarhati the road passed to a place called Harwa, and from there to Ceeppoor Mírts, i. e. Sherpúr Murchah, on the Karataya, and passing over Tessiadín (Chandiján, north of Sherpúr,?) to Gorregaut (G'hórág'hát) and Bareithela (Baritalá) on the Brahmaputra, which will be mentioned below as a frontier town. (3) A road from Bardwán over Salimákbíd, Húglí, Jessore, Bosnah, Fathábád, across the river to Sjatterapoor,* Casisella, and Idrákpúr, opposite the confluence of the Lákhiá and the Dalásári, near Ballál Sen's palace. (4) A road from Dháká, across the Dalásári to Píanapoor and Bedlia, which latter place is marked at the point where the Dalásári leaves the Jamuná, and from there to Sasiapoor (Sháhzádpúr, in Pabnah), and Handsiel (Hariál).

The Western Frontier.

In the north-west, the frontier of Bengal extended but little beyond the Kosí River; but under some of the early Muhammadan governors and the independent kings, the Bengal empire included all upper Bihar north of the Ganges as far as Sárán. Of Ilyás Sháh, for example, it is asserted that he was the founder of Hájípúr, opposite Patná, on the Ghandak, although Fírúz Sháh, on his return from Bengal, appointed for the first time Imperial collectors in Tirhoot. Sikandar Sháh's coins, again, have been found far west of the Kúsí.

Southern Bihar only belonged to Bengal from the time of the conquest by Bakhtyár Khilji to about 730 A. H. (A. D. 1330), when Muhammad Tughluq annexed it to Dihli. From 800 again (A. D. 1397), the whole of Bihar belonged to the kingdom of Jaunpur. Under Buhlil again, Daryá Khán Lohání was governor of Bihar; and under Ibráhím, Daryá's son Bahádur Khán assumed independence in Bihar under the title of Sháh Muham-

where in Bengal, is the old bed of the river, which now follows the shorter route along the chord of the loop. This change, therefore, took place after 1660.

Thus also Nadiyá lies now on the right bank of the river; but west of the town, there is still the old channel, which goes by the name of Ganga Bhárat.

* Ronnel gives Satrapur; but modern maps give no such name.
mad.* It is not clear how far these Afghán chiefs depended on Husain Sháh of Bengal, whom inscriptions represent firmly established in 903 at Munger, while other inscriptions from Bonhárá and Cherán (near Sárán) would lead us to conclude that the whole of Upper Bihár and the western portions of Southern Bihár belonged to him in A. H. 908 and 909 (A. D. 1502, 1503). On the other hand, we hear in history of the cession by Husain Sháh of Bihár, Sárán, and Tirhut, and of the reconquest of these lands by Núcrat Sháh, who, if he could not hold them, assisted the Afgháns against Bábá. Núcrat Sháh seems even to have passed beyond the Ghandak; for a mosque near Sikandra-púr, on the right bank of the river, in District A'zamgarh, was built during his reign.

South of the Ganges, the western frontier is better defined. Fort Taliágárh, or Garhī,† near K'hálgição (Colgong) on the Ganges, was looked upon as the entrance, or key, to Bengal—a position which Muhammadan historians compare with that of Fort Sahwán on the Indus, the key of Sindh. From Garhī the frontier passed along the Ganges to the south of Ág-Mahall (Ráj Mahall), when it again turned westward to north-western Birbhúm, passing along the boundary of the modern Santál Parganas to the confluence of the Barákar and the Damúdar, from where it went along the left bank of the Damúdar to the neighbourhood of the town of Badwán. From here the frontier took again a westerly direction, and passed along the north-western and western boundaries of the modern Húglí and Habráh (Howrah) Districts down to Mandalg’hát, where the Rúmpáráyan flows into the Húglí River.

This boundary, it will be seen, excludes the whole of the Santál Parganas from the south of K'hálgição to the Barákar, Pachet,‡ and the territory of the Rájahs of Bishnpúr (Bankurá). In vain do we look in Santália for Muhammadan names of villages and towns; and though there can be no doubt that the Muhammadan kings of Bengal tried to hold parts of the hills by establishing thánahs and appointing játirholders, no permanent settlements were formed. One of the most westerly thánahs in southern Santália was Sarhat, N. W. of Shíúrí (Soory) in Birbhúm, which is mentioned in Tribeni inscriptions;§ whilst the settlement of Pathán

* Called in many MSS. Mahmúd.

† It is not known which king built the fort; but it may be accidental that the name does not occur in the Tabaqat i Nácirí and in Barani. At K'hálgição, Mahmúd Sháh III., the last independent king of Bengal, died in 945 (1538 A. D.).

‡ Regarding the invasion of Chutía Nágpúr by the Muhammadans, vide J. A. S. B. 1871, Part I, p. 111.

§ Sarhat, spelt on inscriptions Sirhat, lies on the left bank of the Adj River. Its name on modern maps is corrupted to Saruth. Rennell has Sarhatt. Outside the place, the survey maps mark two old forts. A little to the south of it, a village of the name of Lukrakhonda is marked. Rennell on his map of Birbhúm (Bengal Atlas,
jágríndás, before and after the time of Sher Sháh, as a standing militia against the inroads of the tribes of Jáhrk’hand (Chutiá Nágpré), led to the formation of the great Muhammadan zamíndári of Bárbhúm, which gave the E. I. Company some trouble.

In Todar Mall’s rent-roll the following Mahalls are mentioned along this portion of the western frontier of Bengal—`Xg.’ Mahall (Itájmahall), Kánkjol, Kúwar Partáh, Molesar, in Sírká Audambor or Táñqáh; Bhárkundáh, Akbarsháhí, Káštángah, in Sharifáhád (Bárbhúm); Nágór, Sainbhúm, Shergáhr (Ráníganj), Champánagári (N. W. of the town of Barwán), Madáran (Jahánábád and Chandrákoná, west of Húgli), Chittúa (District Medinípúr), and Mandalghá’át, at the mouth of the Rúpnaráýán, all belonging to Sírká Madáran.

The name of the frontier mahall of Bhárkundáh in Bárbhúm, mentioned above, seems to have been formerly extended to the whole of Bárbhúm and the Santal Parganahs. In this extended sense, it is used in the Tárikh i Dá’údi,† on De Barros’ map of Bengal, and on Blaev’s map of India (vide Pl. IV). In the latter, it is only given as ‘Bárcunda,’ but in the former as ‘Reino de Barcunda,’ extending from Ferrandus (a corruption of Bardwán) to Górij, in which we recognize Garhí, the ‘key of Bengal.’ West of Barcunda, De Blaev and De Barros give ‘Patanés,’ i.e. the Patháns, the military and semi-independent landholders of the western Bengal frontier. On the Ganges, both maps shew Gouro (Gaur), and opposite to it, ‘Para,’ for which De Barros gives ‘Rara.’‡ Both spellings may be mistakes for Tara, i.e. Táñqáh, which should of course be on the other side of the river; or ‘Rara’ stands for the old Hindú division of Rádha, which there commences. South of Ferrandus, the old maps give ‘Mándáram’ and ‘Cospetir,’ which latter name is wrongly placed on Blaev’s map north of Mandáram, whilst De Barros has it correctly west of it. In Mandáram we recognize Madáran, the chief town of Sírká Madáran, a name which even now-a-days is pronounced by the peasants Mandáran.§ ‘Cospetir,’ or De

No II.) places a ‘Lacarancoond,’ in conspicuous letters, south of Nágór; but modern maps give no such locality. Could this be the Lak’hnúr of the Tábaqat?

* Sábiq (i. e. former) Molesar and Darí Molesar. The former name is wrong spelt in the Indian Atlas (Sheet 113) Surík Molíssor.

† Dowson, Elliot’s History of India, IV., pp. 360, 364.

‡ South of Para or Rara, Blaev and De Barros give a place of the name of Mouhanadungur; and below Gouro, Patana or Patona, and Ménéitipour, which I have not identified.

§ I have identified Madáran with Bítargáhr in Jahánábád, in the north-western corner of Húgli District. Vide Proceedings, As. Sncy. Bengal, for April, 1870, where the legends of the place are given.

As the name of Jahánábád occurs in the Akbarnámah, it has no connexion with Sháhjáhán’s name, but refers more likely to one of the numerous Khán Jaháns of the Patháns rule.
Barros' 'Reino Cospetir,' a name that puzzled me long, is clearly 'the kingdom of the Gajpati,' or Lord of elephants, the title of the kings of Orísá, the final r being nothing but the ending of the Bangáli genitive. Sirkár Madáran was indeed the frontier of Orísá; but if the legends of the Húglí District speak of the Gajpatis having once extended their kingdom to the Ganges (Húglí River), it must have been prior to the time when Sátgáon became the seat of Muhammadan governors.

It is remarkable that among the names of the jungly and hilly frontier districts, we find so many ending in bhúm. Thus we have Birbhúm;* Sainbhúm, along the left bank of the Ajai, in Birbhúm district; Sik'harbhúm or Shergarh, the mahall to which Rániganj belongs; Göpíbhúm, along the right bank of the Ajai; Bámabhúm or Bráhmanbhúm, in northern Medinípur District; Mánbhúm, Barábhúm, Dhalbhúm, Singbhúm, in Chutiá Nágpúr; Túnbhúm, in southern Parúlía; Malbhúm, the frontier of Bardwán and Medinípur Districts; Bhanjibhúm, with the town of Medinípur,† &c. Similarly, the frontier district between Rangpúr and the Brahmaputra, comprising Mahalls Bhitarband and Báhirband, is called in Shujá's rent-roll 'Bangálbhúm.'

I mentioned Mahall Mandalghá't at the confluence of the Rúnpáráyan and the Húglí as the south-western frontier of Bengal. The Districts of Medinípur and Hijlí (south-east of Medinípur) were therefore excluded. They belonged to the kingdom of Orísá till A. H. 975, or A. D. 1567;‡ when Sulaimán, king of Bengal, and his general Kálá Pahár defeated Mukund Deb, the last Gajpati. Even after the Afghán conquest, Medinípur and Hijlí continued to belong to the province of Orísá, when Khán Jahán Afghán was appointed by Dáúd Sháh governor of Orísá, Qútlu Khán Lohání being made governor of Púr. On the 20th Zi Qa'dah, 982, (3rd March, 1575) Munn'im KhánKhánán, Akbar's general, defeated Dáúd Sháh at Tukaróf or Mughulmári, north of Jalesar, and in the peace of Kátaq, in the beginning of 983, Bihár and Bengal were ceded. In 984, Dáúd again invaded Lower Bengal, but was defeated and killed on the 15th Rabí' II, 984, near Ag Mahall by Husain Qulí Khán Jahán, when Bengal was again annexed to Dihlí, and the Afgháns withdrew to Orísá. Then the Bengal Military Revolt broke out, and Orísá was invaded, in A. H. 1000, (A. D. 1592) by Mán Singh, when the country was finally annexed to the Dihlí empire. Hence Medinípur and Hijlí appear.

* The name occurs in the Kín as a Mahall; but as name for a large division it does not seem to have been used before the 18th century.

† The Kín also mentions a mahall Bhowálbhúm under Sirkár Madáran; modern maps do not give this name.

‡ So according to the Akbarnámah, Stirling fixes an earlier date; but Sulaimán reigned from A. H. 975 to 980. Besides, Akbar sent in 972-973 ambassadors to Mukund Deb.
together in Todar Mall's rent-roll as one of the 5 Sirkārs of the province of Orīsā. Subsequently, Orīsā had separate governors; but under Prince Shujā' their power was lessened, and the portion from Mandalg'hāt, to Baleswar (Balasore) was separated from Orīsā and permanently attached to Bengal.*

Hijli (Hidgelee, Hedjelee, Grant; Hingeli, Van den Broucke; Ingellee, Rennell; Injelee, Stewart, Marshman; Angeli, Purchas, De Laët, &c.) appears in the Ain under the name of Māljhattā. According to the legends preserved in the District, the Muhammadans first attempted a settlement during the reign of Husain Shāh of Bengal, about A. D. 1503, when one Tāj Khān Masnad i 'Ali and his brother Sikandar Pahlawān established themselves at the mouth of the Rasūlpūr River,† opposite Sāgar Island. They conquered the whole of Hijlī, which is said to have remained in the family for nearly eighty years, when it passed into the possession of a Hindū. As late as 1630 we hear of the conquest of Hijlī. "Hingeli, which had for many years a chief of its own, was conquered about 1630 by the Great Mogul; but in 1660, the lawful chief of Hingeli, who from a child had been kept a prisoner, found means to escape, and with the help of his own to re-conquer his country. But he did not long enjoy it: he was in 1661 brought into Aurangzeb's power with the help of the E. I. Company [the Dutch Company], and was again imprisoned and better looked after than at first."‡

The Southern Frontier.

The southern frontier of Muhammadan Bengal was the northern outskirt of the Sundarban, which extended, generally speaking, in the same manner almost as it now does, from Hatiāgarh, south of Diamond Harbour on the Hūgli,

* "Sjah Sousa had already during his time divided Hingeli from Orisa, and had put there a separate governor, and it is for this reason alone that Hingeli, which by position belongs to Orisa, has been attached to Bengal. So it is also with the governors of Ballasour and Pipeli [Pi plf or Shāh bāndar, now deserted, on the Subarnarekha River], which the Great Mogul ordered once to be under the governor of Orisa and then again under the governor of Bengal, because the two places are close to the sea." F. Valentyn, Vol V.

Van den Broucke's map of Bengal in 1660, given by Valentyn, still shews north-west of the town of Modināpur the "Gedenktoeken," or memorial stone, (corresponding to the 'Old Tower' of modern maps) that marked the frontier between Bengal and Orīsā. Grant says that the coast of Hijlī and Medināpur as far as Balasore (Baleswar) was attached to Bengal on account of the Mags and the Portuguese privateers, who were to some extent controlled by the Imperial fleet stationed at Dhakā.

† Few rivers in India have Muhammadan names. Due south of Contai the maps give a village of the name of Masnad 'Ali pur. Tāj Khān's tomb is on the Rasūlpūr River.

‡ From Valentyn's work, Vol V. Tho 'Xlangirnāmah says nothing about it.

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to Bāgherhāt in southern Jessore and to the Haring'hātā (Horinggotta), or 'Deer-shore River'; *i. e. along the southern mahalls of Sirkārs Bāghtān and Khalifatābād. Beyond the Haring'hātā and its northern portion, called the Madhūmati or 'honey-flowing,' the frontier comprised Sirkārs Baklā and Fathābād, the modern districts of Faridpūr and Baqirganj (north). Sirkār Fathābād included the islands of Dak'hin Shahlāzpūr and Sundīp, at the mouth of the Megna. Tiparah, Bhaluah, Noak'hāli, and District Châghtāon, were contested ground, of which the Rājahs of Tiparah and Arakan were, at least before the 17th century, oftener masters than the Muhammadans.

It was only after the transfer of the capital from Rājmahall to Dhākā, that the south-east frontier of Bengal was extended to the Phañi River, which was the imperial frontier till the beginning of Aurangzib's reign, when Châghtāon was permanently conquered, assessed, and annexed to 'Qūbah Bangālah.'

Various etymologies have been proposed in explanation of the word 'Sundarban.' It has been derived from sundar and ban, 'the beautiful forest;' or from sundari, a small timber tree (Heretiera litoralis), which is exported as fuel in vast quantities from the coast and is supposed to have been so called from its red wood. Others again have derived the word from Chandrālp-ban, or Chandrādīp forest, from the large zamindāri of Chandrādīp, which occupies the south and south-east of Bāqirganj District. Or, the name has been connected with the Chandabhandas,* an old Sundarban tribe. Grant derives it from Chandraband, 'the embankment of the moon,' which seems to have been the etymology that obtained at his time, and which has led to the spelling 'Soonderbund' adopted by Europeans.

The application of the name to the whole seacoast of southern Bengal is modern. Muhammadan historians call the coast strip from the Hūgīl to the Megna 'Bhātī,' or 'low land subject to the influx of the tide,' and even now-a-days this name is very generally used. The sovereignty of this district, according to the Akbarnāmah and the Rājah Pratīpaditya legend, was divided among twelve chiefs; and Col. Wilford, whatever may have been the source of his information, says that "the kings of Arakan and Corinlā were constantly striving for the mastery, and assumed the title of lords of the twelve Bhūnīyān,"†

The sea coast itself is marked on Van den Broucke's map in Valentyn's work as 'onbekent,' or 'unknown,' consisting of numerous islands and

* A copper plate grant in the possession of the Society, found at 'Adilpūr (Edilpore), mentions that the villages of Bagnūl, Hitogādā, and Udnya muna, were given, in the third year of the reign of Kashah Sen, i. e. in 1186 A. D., to one Juvaredeh Sarma. The grant mentions the tribe of the Chandabhandas. The reading Chandabhanda, as Bābu Pratāpachandra Ghosh informs me, is an improved reading for Chattabhanda, as the name was read by Gobind Ram; vide Journal, 1683, Vol. VII, p. 40.

† As. Researches, XIV, p. 451.
rivers, 'per-reculeous' for ships, being the place where the "Jagt ter Shelling"* foundered in 1661.

In order to trace the direction of the northern outskirt of the Sunderban, as it existed some time before 1582 A. D., we have again recourse to Todar Mall’s rent-roll in the Ā’in. There we find that Mahall Hatiś-gaṛ (below Diamond Harbour) was, in 1582, the most southerly assessed mahall of Sirkār Sātgāon. The jungle boundary then passed north-east to Baridhatti and Medinimall, north-west of Port Canning, to Bālīndā and Máhīhatti (Mychattée), then south again to Dhuliāpur,† and Bhalukā to the Kabadak River. These mahalls belong to what is now called the 24-Parganahs; and Sheet 121 of the Indian Atlas of the Survey Department will shew that they lie even now-a-days very little north of the present northern limit of the Sunderban in the 24-Parganahs. Going up the Kabadak, in Jessore, we come to Āmādi,‡ to the north of which, in the immediate neighbourhood, we have Masidkoor, a corruption of Masjidakur, one of the clearances of Khān Jahān (died A. D. 1459);§ the warrior saint of Khalisfātābād or Southern Jessore, to whom the traditions of the present day point as an indefatigable establerisher of Sunderban-ābādīs (clearances.) The Ā’in then gives Mahall Tālā, with Talā on the left bank of the Kabadak as chief town and Kopilununī near it, and then mahalls Sāhas, Khālibpur, Chālōli, Rangdiyā (wrongly called in the Indian Atlas Sāngdīa) and Salmābād,† north of the modern Morrellganj at the beginning of the Haringhātā. North-west of Morrellganj, on the Bhaia, (the ‘dreadful’), we have the small station of Bagherhāt, which gives name to a Sub-Division, and in its immediate neighbourhood we come to another clearance by the patron-saint of Jessore, where his mosque and tomb stand. It is the country round about Bagherhāt which up to the end of last century bore the name given it in the Ā’in, ‘Haweli Khalisfātābād,’ the ‘Vicegerent’s clearance.’ Here, amidst the creeks and the jungles, which no horseman can approach, Nuḍrāt Shah, as will be seen below, erected a mint, apparently in opposition to his father 'Alāuddin Husain Shah.**

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* Vide Mr. Foster’s article, Journal, As. Soc. Bengal, 1872, Part I, p. 36.
† North of Ishwarāpur (Issuripore), the residence of Pratāpaditya.
‡ Marked wrongly on the Survey map Armadi. Rennoll has correctly Amadi.
¶ Here also the Ā’in has the form Sulaimanābād.

** It is curious that a little higher up on the Bhaia, east of Khulnā, where the Athārābanka (the ‘eighteen windings’) joins the Bhaia, there is an ‘Alāipūr, i. e. ‘Aláuddin’s town. Were it not for the distinct statement of the Riyādsussalāfīn that 'Aláuddin, after arriving as an adventurer in Bengal, settled at a Chandpūr (a very
Thus we see that in southern Jessore also the northern limit of the
Sundarban has not considerably changed since 1450 A. D.

Passing from the Haring'háṭá eastward, we come to Sirkár Başkálá and
Fathábád. Sirkár Baklá only contained four mahalls, viz. Ismá'ilpúr or
Baklá; Srírampúr; Sháhzádpúr; and 'Adilpúr, (from 'ādīl' just,' corrupted
on the maps to Edilpore), which all belong to Bāqīrganj District. Abulfazl, in
speaking of the great cyclone that swept in 1583 over Baklá, says that
the then zamindár of Baklá had a son of the name of Pramánañand Ráî.
Sirkár Fathábád derives its name from the Haweli mahall Fathábád, in
which the modern station of Faridpúr lies. Yúsufpúr and Belphúli, in
Jessore District; Haweli Fathábád and Sirká (Sherdín), in Faridpúr;
Balaur, Telhatti, Sarail or Jalálpúr,* Khargapúr, in both Faridpúr and
Dháká; Hazratpúr, in Dháká; Rasúlpúr, in Dháká and Bāqīrganj; the
Islands of Sondip and Shahbázpúr; and a few other mahalls which I have not
yet identified, belong to this Sirkár. Thus we see that the greater
portion of both Sirkár is lies between the Haring'háṭá (Madhúmati) and the
Tituliá River, which flows between Bāqīrganj District and the island of
Dak'hin Shahbázpúr. At the mouth of the Tituliá we find the Don Manik
Islands, one of the few still surviving geographical names of the Portuguese.†
Opposite to these islands we have mahall Názi r púr, which we find on the
maps of De Barros and Blaev, placed rather far to the north. Near it, we also
have 'Fatiabas';‡ the chief town of Sirkár Fathábád. The whole south and
south-east of Bāqīrganj District is occupied by the old Chandradip
zamindári, which according to some, as we saw above, gives name to the
Sundarban. On Kennell's map it is marked 'depopulated by the Mugs.'

Abulfazl says that there were in Sirkár Fathábád three classes of
zamindárs, which perhaps refers to the independent Afghán, Hindú, and
Portuguese chiefs. When Akbar's army, in 1573, under Mun'im Khán-
Khánán invaded Bengal and Orísá, Murád Khán, one of the officers,
was despatched to South-Eastern Bengal. He conquered, says the
common name) in Báţha District, i. e. west of the Húgí, I would be inclined to
identify the Chandpúr near this 'Aláipúr as the place where the Hussein dynasty of
Bengal kings had its home, especially because Hussein first obtained power in the
adjacent district of Faridpúr (Fathábád), where his earliest coins are struck.

The Indian atlas (sheet No. 121) spells 'Aláipúr 'Ayppore,' which blots out every
historical recollection, and places it moreover wrongly on the right bank, instead of
on the left, of the Athárabanká. 'Aláipúr is a flourishing place and has numerous
potteries.

* Which, like the name of the Sirkár, reminds us of Jalaludín Fath Sháh.
† Their names for Húgí (Porto Piqueno) and for Chátţágán (Porto Grande) are no
longer known; but Sherpúr Firingi, Firingibázsár, Point Palmyras, still remind us of
their former importance in this part of India.
‡ Van den Broucke's map has wrongly Fathpúr.
Akbarnámah, Sirkárs Baklá and Fathábád, and settled there; but after some time, he came into collision with Mukund, the powerful Hindú zamíndár of Fathábád and Bosnah, who, in order to get rid of him, invited him to a feast and murdered him together with his sons.* This notice helps us to explain a remark made by Grant that in Sháh Shujá’s rent-roll (1658) a portion of Sundarban land had for the first time been assessed at Rs. 8,454, the ábádís being called Murádkhánah.† The name of Mukund still lives in the name of the large island ‘Char Mukundia’ in the Ganges opposite Farídpúr. This Mukund is the same zamíndár whom the Pádisháhnámah wrongly calls ‘Mukinda of Bosnah.’ His son Sártrjít gave Jahángír’s governors of Bengal no end of trouble, and refused to send in the customary peskkaš or do homage at the court of Dhráká. He was in secret understanding with the Rájahs of Koch Bihár and Koch Hájo, and was at last, in the reign of Sháhjáhán, captured and executed at Dhráká (about 1636, A. D.) One of his descendants, or successors in the zamíndári, is the notorious Sitárám Ráí of Mahmúdpúr.‡

Another Zamíndár of Fathábád is mentioned in the beginning of Sháhjáhán’s reign, Majlis Báyázid,—by his very name an Afghan.

The Parganahs to the south of Búzurgganj are called on the maps ‘Báoóorogoomedpore’ and ‘Arangpore,’ which names are connected with Búzurg Uméd Khán, son of Sháistáh Khán (Aurangzíb’s governor of Bengal from 1664 to 1677) and with Aurangzíb, ‘Araŋ’ being a corruption of Aurang. East of these two Parganahs we have Sháistáhnagar.§ These names, though they do not perhaps shew when the mahalls were reclaimed, point to the time when they came for the first time on the Imperial rent-roll.

Sirkáir Fathábád, as stated above, comprised the islands of Dak’hin-Shahbázpúr, Soundíp, &c. Of the latter island we have a short notice by César Frederick, the Venetian merchant, who travelled in Asia, as he himself says, from 1563 to 1581. He left Pégú for Chatigan (CháIGaon), "between

* Ain translation, p. 374.
† Grant derives the name from murád and khánah, the ‘house of desire;’ but there is little doubt that we should derive it from Murád Khán, ‘Murád Khán’s clearance.’ I do not know to what part of Búzurgganj or Farídpúr the name was applied. Grant also says that Murád Khánah was sometimes called Jerádkhanah.
§ Sháistáh Khán’s real name is Mirzá Ábdú Tálib; hence we find in Dhráká District a Talibábad. Núr Jahán was Sháistáh Khán’s aunt; vide Ain translation, p. 512.
which two places there was much commerce in silver,"* but "encountered a 'Touffon' (túfán, cyclone), which take place in the East Indies every ten or twelve years; they are such tempests and storms, that it is a thing incredible but to those that have seen it," and was driven to Sondip. "And when the people of the Island saw the ship, and that we were coming a-land: presently they made a place of bazar, or a market, with shops right over against the ship, with all manner of provision to eate, which they brought down in great abundance, and sold it so good cheape, that we were amazed at the cheapness thereof. I bought many salted kine there for the provision of the ship for half a Larine apiece, which Larinet may be 12 shillings 6 pence, being very good and fat; and 1 wilde hoggis ready dressed for a Larine; great fat hennes for a Bisse [piece] a piece, which is at the most a penny: and the people told us that we were deceived the half of our money, because we bought things so deare. Also a sack of rice for a thing of nothing; and consequently all other things for humane sustenance were there in such abundance, that it is a thing incredible but to them that have seen it. This Island is called Soudiva, belonging to the kingdome of Bengal, distant 120 miles from Chatigan, to which place we were bound. The people are Moores, and the king a very good man of a Moore king, for if he had been a tyrant as others be, he might have robbed us of all."

Ralph Fitch also was about the same time in south-eastern Bengal. He says,† 'From Chatigan in Bengala I came to Bacoila [Sirkár Baklā]; the king whereof is a Gentile [Hindú], a man very well disposed and delighted much to shoot in a gun. His country is very great and fruitful, and hath store of rice, much cotton cloth, and cloth of silke. The houses be very faire and high builded, the streetes large, the people naked except a little cloth about their waste. The women wear great store of silver hoopes about their neckes and armes, and their legs are ringed with silver and copper, and rings made of elephants teeth.

"From Bacoila I went to Serre pored,‡ which standeth upon the river Ganges, the king is called Choudery. They be all here abouts rebels against their king Zebaldim Echebar;§ for here are so many rivers and islands,

* The export of silver from Pegú to Bengal may have supplied the Bengal mints with silver. Sir A. Phayre and Dr. T. Oldham speak of the export of gold from Burma to the Coromandel coast. Considerable quantities of silver may also have come from Assam, where silverpieces even for small fractions of a rupoo were current.

† Lári (لاقی). Aín translation, pp. 23, 37. It is so called from Láristán in Persia.

‡ Shempúr Firingi, marked by Van den Broncke a little south of Idríkpúr, on the Dalássari, in Parganah Bikrampúr, where Rájá Ballál Sen's residence was. It is not given on modern maps.

§ The first b is a constant misprint for l; Jáláudder Akbar.
that they flee from one to another, whereby his horsemen cannot prevail against them. Great store of cotton cloth is made here.

"Sinnergan [Sunnárgáon] is a town six leagues from Serrepore, where there is the best and finest cloth made of cotton that is in all India. The chief king of all these countries is called Isacan, and he is chief of all the other kings, and is a great friend to all Christians. * * * I went from Serrepore the 28th November 1582 for Pegu."

Sondip was only conquered in the end of 1606 (middle of Jumáda II., 1076), when Diláwar Khán Zamíndár submitted, though not without fighting, to Aurangzib’s army that invaded Chátgáon.

I have a few words to say on the hypothesis which has often been started, that the whole of the Sundarban was once in a flourishing condition. No convincing proof† has hitherto been adduced; and I believe, on physical grounds, that the supposition is impossible. The sporadic remains of tanks, gháts, and short roads, point to mere attempts at colonization. The old Portuguese and Dutch maps have also been frequently mentioned as affording testimony that the Sundarban, even up to the 16th century, was well cultivated; and the difficulty of identifying the mysterious names of the five Sundarban towns Pácaeculi, Cuipitavaz, Noldy, Dipuría (or Dapara), and Tiparía, which are placed on the maps of De Barros, Blaeu, and Van den Broucke close to the coast-line, has inclined people to believe that they represent “lost towns.” Now the first of these five towns, from its position, belongs to the Sundarban of the 21-Parganahs, and the second (Cuipitavaz) to that of Jessore District, whilst the remaining three lie east of it. But Pácaeculi is either, as Col. Gastrell once suggested to me, a mistake for Paecuculi, i.e. pakká kafhi,‡ a factory or warehouse, erected by some trading company, as we find several along the Húgli; or it stands for Penchakuli, the name of the tract opposite the present month of the Dunaídar, or a little above the northern limit of the Sundarban. Cuipitavaz I have no hesitation to identify with Khalisfatábad.§ Van den Broucke also places it correctly south-east of Jessore. Noldy is the town and mahall of Noldí (Naldí) on the Nobóganga, east of Jessore, near the Madhúmatí. Dipuría is Dapara, or Dapara, south-east of Báqirganj station, near the right bank of the Tituliá, still prominently marked on Rennell’s map; and Tiparía cannot stand for anything else but the district of Tiparáh, which is correctly placed north-east of Dapara.

* Yáh Khán. Abul Fazl calls him ‘king of Bhatí,’ and says that twelve zamíndárs were under him. He was powerful enough to make war with Koch Bihár. Vide Afn translation, p. 342, note.
† Westland, Jessore Report, p. 231.
‡ Houses are either kochhé [mud-houses], or pakká, brick or stone-built.
§ The letter f often turns in Bangalí to p; hence Khalisfatábad. becomes Kolpitábad. Thus Pírúzpúr becomes Perojeporo.
The old Portuguese and Dutch maps, therefore, prove nothing. They support the conclusion which I drew from Todar Mall's rent-roll, that in the 24-Parganahs and Jessore the northern limit of the Sundarban, omitting recent clearances, was in the fifteenth century much the same as it is now. But considerable progress must have been made in Báqirganj District, as we see from the numerous accessions, during that period, to the Imperial rent-roll.

Of other names given on old maps along the southerm boundary of Bengal, we have (above Noldy) Nao Muluco (?), Buram (Borgluin, in the 24-Parganahs); Maluco (Bhaluká, on the Kabadak, ?); west of them, Agrapara and Xore, (Agrapará and Dak'hineshor, north of Calcutta); and on the other side of the Húgli, Abegaca, which seems to be some Ambáchha, unless it is slightly misplaced and refers to Ambiká (Kahnah); Bernagar, which should be Barnagar, on the other side of the river below Xore; Better (?) as on Blaev's map, and Belor (?), on that of De Barros. Van den Broucke's map gives, in Húgli District, Sjanabath (Jahánábád); Sjanderecona (Chandrakona); Cannacoel (Kánákul); Deniachali (Dhonek'háli); Caagtam (Sátgáon); Tripeni (Trípaní, the Muhammadan form of Tribeni); Pandua (Panduah); Sjanegger; Basanderi (the old mahall Basandhari), where Van den Broucke makes the remark, 't Bosh Sanderie alwaaar Alexandre M. gestuwt werd, 'the bush Sanderie where Alexander the Great was stopped!'

Again, along the lower Ganges the old maps have Bicaram (Bikram-púr, south of Dháká); Belhaldy; Angara (Angaria, at the confluence of the Kirtinása and the Mégna); Sornagam (Sunmárgáon); Dacea; Mularangue;* Bunder (Bandar, 'harbour'); Nazirpur, mentioned above; Bulnei or Bulnee, ?; Guacala or Guacala, perhaps a mistake for Bacala; Noorkuly or Noriceel, as Van den Broucke gives it, (Norikol, due south of Dháká, and a little south of the right bank of the Kirtinása); Sundiva (Sondip Island); Jugadia (Jogdiah in Noák'háli near the Little Phani, mentioned in the 'Alamgirnáma as an Imperial thánah, and often quoted as the seat of English and French factories in the eighteenth century); Traquetea, ?; Maúa, or Moua, and Alvia, for which Van den Broucke gives Mava and Alvia, ?; Jefferi, on Van den Broucke's map, the same as Rennell's Jeffri, at the mouth of the Phani, right bank.

The coast of Arakan on the maps of De Barros and Blaev is broken up into numerous islands as the Sundarban coast: it looks as if some of them belonged to Bengal. Thus we find Bulua and Baeala, which must refer to Bhaluah in south Tiparah and Baklá. Chukuria may be identified with Chukuria, marked on modern maps opposite Maskal Island, on the Mamori

* As this place is marked on an island south-west of Dháká, it seems to be Múlnadángí in the south of Char Mukundiá.
River, as thánah and saltgolah; but the names Irabu, Macá (perhaps a mere repetition of the Maua given above), Santatoly, Orieton, are unknown to me.

Blaev's map (Pl. IV) and the Chart of the empire of the Grand Mogul by N. Sausson (A. D. 1652) give opposite Chatigam (Chittagong) a town, called Bengala or Bengola. Purchas (a compiler who never came to India) says in his 'Pilgrims,' "Gouro, the seat Royall, and Bengala are faire Cities. Of this, the Gulf, sometimes called Gangeticus, now beareth name Golfo di Bengala." Rennell, in his 'Memoir,' mentions the town as being given "in some ancient maps and books of travels; but no traces of such a place exist." But he says that it is placed near the eastern branch of the Ganges, and that it may have been carried away by the river (Ganges?). Lately also, a writer in Mookerjea's Journal (Dec. 1872), Mr. H. J. Rainey, published an imaginative account of the submersion of this now lost city, which in his opinion had given name to the kingdom of Bengal. But the town is nowhere mentioned by Muhammadan historians, nor by Ibn Batútah, Cesar Frederick, and Ralph Fitch who were in Chatgáon, nor by De Barros and Van den Broucke. The probability, therefore, is that no such town ever existed, and that the name was put on Blaev's map from Purchas's statement; or else the name 'Bengola' is a mere corruption of what we call a 'Bungalow' (লোন, bengalal), or a 'Flagstaff' Bungalow, of which we find several marked on District maps of Chittagong along the Karanphúl River, as early as on Rennell's chart. However, this mysterious town is not to be identified with the place 'Dianga' given by Van den Broucke half way between Chittagong and Rammoe (Rámú, or Rambú*), because Dianga is the Dak'hindángá or the Brahmandángá, both on the Sangá River, south of Chatgáon, where saltgolahs still exist.†

Regarding the State of Codavasenam, which the old maps place east and north-east of Chatgáon, vide Wilford's Essay, As. Researches, Vol. XIV, p. 450.

The province of Chatgáon was no secure possession, and seems to have been alternately in the hands of the kings of Bengal, the Rájahs of Tiparah, and the kings of Arakan. In 750 A. H. (A. D. 1350), about which year Ibn Batútah was in Chatgáon,‡ it belonged to king Fakhruddin of Sumnárágáon. That year falls within the reign of the Arakanese king Meng-di, who is said to have reigned from A. D. 1279 to 1385, or 106 years,§ when the king of Thu-ra-tan (Bengal), called Nga-pu-kheng, courted

* The most south-easterly point to which the Mughals advanced.
† The word 'dángá,' which occurs so often in geographical names in Bengál signifies 'high land'.
‡ Called in Lee's translation مکون. Regarding Fakhruddin vide below.
his alliance. About 1407, again, the king Meng-tsaウ-mwun fled to Bengal, and witnessed the war between Rājah Kāns and Jaumpūr. He was ultimately restored to his throne with the help of Bengal troops; but he became "tributary to the king of Thu-ra-tan, and from this time the coins of the Arakan kings bore on the reverse their names and titles in the Persian character. This custom was probably first made obligatory upon them as vassals; but they afterwards continued it when they had recovered their independence, and ruled the country as far as the Brahmaputra River. Meng-tsaウ-mwun, having got rid of his allies, meditated a change of capital."

In 1512, Chāṭgāon was conquered, according to the Rāj Mālā, by the Rājah of Tiparāh, who drove away Husain Shāh's garrison. Whether the Rājah of Tiparāh kept it for any time is doubtful; for in 1517, "John de Sylvera was invited by the king of Arakan, and he appears to have gone to Chatigam, then a port of that king's dominions." Anyhow, we can now understand why Nuγrat Shāh, Husain Shāh's son, should have invaded Chāṭgāon; but although popular belief ascribes to his invasion the first Muhammadan settlements in the District, it is clear from the preceding that his invasion cannot have been the first.

It is not known how the District was again lost; but during the troubles of Sher Shāh's revolution, the Mughul invasion, the aggressions of the Portuguese, and the Bengal Military Revolt, Chāṭgāon did not belong to Bengal. If, therefore, Todar Mall in 1582 included it in his rent-roll, he did so on the principle on which he included Kalinga Dānpāt and Sīrāk Rājahmandrī in the rent-roll of Orīsā.

The eastern frontier of Muhammadan Bengal extended from Sumār-gāon and the Megna (but in Shahjahan's reign, from the Phani River over southern and western Tiparāh) northward, and then passed to the east including the District of Silhāt. The boundary passed along the southern slopes of the Jaintiah, Khasiah, and Gāro Hills to Mahall Sherpur in northern

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§ "From Satagam [Sātgaon-Hāγli] I travelled by the country of the king of Tipara, with whom the Mogen [Mags] have almost continual warres. The Mogen which be of the kingdom of Recon [Rakhāing, Arakan] and Rame [Rāmā], be stronger than the king of Tipara, so that Chatigan, or Porto Grando, is often times under the king of Recon." Ralph Fitch.

Muhammadan historians spell the word 'Rakhāing', رخنگ, Rakhāng, or give the still shorter form رخ Rakh, whence De Laët's "Roch, on the borders of Bengal."
Maimansingh to the right bank of the Brahmaputra near Chilmári, and from here along the river to Mahall Bhitárbando, which formed the north-east frontier. The sirkárs that lay along the boundary were Sunnár-gáon, Bázúlá, Silláht, and G’hórag’háót; and the neighbouring countries to the east were Tiparáh, Kachhlá (the old Hirumba), the territories of the independent Rájahs of the Jaintiah, Khasiah, and Gáro Hills, and, on the left bank of the Brahmaputra, the Karibári Hills, the zamindsár of which were the Rájahs of Sosang. They depended in reality on the powerful kingdom of Koch Hájo,* the ‘Azo’ or ‘Asoc’ of old maps, which extended along the left bank of the Brahmaputra to Kámhrúp. In the Karibári Hills, the Muhammadáns possessed, opposite to Chilmári, the old frontier thánah Hátsiláh, which Rennell still marks as ‘Hautchella.’ The north-eastern frontier was never absolutely fixed. Baritalah, on Van den Broucke’s map Bareithella, was looked upon as a frontier town till the beginning of Aurang-zib’s reign.

The invasions on the part of the Asamese were as numerous as the inroads of the Muhammadáns into Ásám, which had commenced under the successors of Bakhtyár Khílji. During the reigns of Rájah Káns and his son, the Asamese under Chudangpha (A. D. 1414 to 1425) conquered north-eastern Bengal as far as the Karataya;† and about the same time Jaunpúr was at the height of its power, successfully encroaching on the western frontier, and the Rájahs of Tiparáh made likewise invasions;‡ we may assume that Bengal under the kings of the Káns dynasty was most circumscribed. With the restoration of the Ílyás Sháhi dynasty (about A. D. 1440) and the gradual downfall of Jaunpúr, Bengal recovered her ancient limits, and entered upon her most flourishing period. The invasion of Husain Sháh into Kámhrúp is well known;§ but Kámhrúp was only permanently annexed in 1637, when Gauhattí became the north-eastern frontier of Bengal.

Silhátt, as we shall see below, was conquered in A. D. 1384, and the earliest inscription hitherto found there, belongs to the reign of Yúsuf Sháh (A. D. 1480). North-western Silhátt had the name of Láúd, or Láúr, and the thánah which the Muhammadáns established there, was under the commander of the ‘Iqlím Mu’ázzamábád,’ ‘the territory of Mu’ázzamábád,’ also called ‘Mahmudábád.’ The exact extent of Mu’ázzamábád is still unknown; but the name occurs on coins and on Sunmárgáong inscriptions, once in conjunction with Láúr, and once with Tiparáh, and it seems, therefore, as if the “iqlím” extended from the Megna to north-eastern Maimansingh and

† So according to the Ásám Búranjí; vide Useful Tables, p. 273.
‡ Rájmátt, J. A. S. B., XIX, 1850, p. 542.
the right bank of the Surná. In the Aín, we find, indeed, under Sirkár
Sunnárgaon, a Mahall Mu'azzampúr, the chief town of which lies between
the Brahmmaputra and the Lak'hib and bears the same name. The present
inhabitants, as Dr. Wise tells me, know nothing of its ancient renown;
and the only old building is a ruinous dargáh, called after a saint Sháh
Langar, the impression of whose foot draws crowds of pilgrims about
the time of the I'd ul-îsil festival. The saint is said to have come from Egypt.

The thánah Láúr is also mentioned in the Aín as a Mahall of Sirkár
Silhat, which consisted of Partáhgh; Punchkhand; Banyánpang; Bajúa
Bayájú (?); Jaintia; Haweli Silhat; Satrk'handal; Láúd;* and Harinagar.
The author of the Haft Iqlim calls Silhat repeatedly سریہمت Sarihát, and
this form explains perhaps the 'Reino Sirote,' which De Barros and Blaeu
give instead of 'Silhat' (vide Pl. IV). The town of Sirote is correctly
placed on the right bank of the Surná, which leaves no doubt as to the
identity of both names.

Kámrúp, which also appears under the names of Kámrudd, Kámru,
and Kánuwr, is often mentioned together with Kámata.† The Brahmmaputra
which Ibn Baštah calls the 'Blue River,' is correctly described by the old
traveller as coming from the mountains of Kámrúp. De Barros, however,
and Blaeu give the river the name of Caor, and show it as flowing from the
Reino de Caor, north of Conota and Sirote. Wilford identifies Caor with
"Goça or Gaur, i. e. Gorgaun," meaning G'hardún, the capital of Asám.
But G'hardún (which is the correct spelling) was only built by Chu-kurança,
between A. D. 1549 and 1563, i. e. at a time when the materials had
long been sent to Europe from which De Barros in Lisbon wrote his book.
It seems, therefore, more natural to compare 'Caor' either with 'Gaur,'
the old name of northern Silhat, and which under the form of Gor is placed
by Blaeu north of Bengal, or with the name of the Gáros who inhabit the
hills near the bend of the Brahmmaputra.‡

The south-east frontier was Tiparáh, or Tripura, spelled on old Muham-
manad inscriptions Tipárah, whence perhaps the form Tipora given by De
Barros and Blaeu. Abulfazl, in the Aín i Akhuri, says—"Tiparah is indepen-
dent; its king is Bijai Mánik. The kings all bear the name of Mánik,§

* So at least according to some MSS. Vide my text edition, p. 406, where
سرکونندل is a misprint for سرکونندل. Láúr lies at the foot of the hills.
† For Kámata vide below. Husain Sháh is said to have invaded Kámrúp and
Kámata; and the Aín says, Kámrúp and Kámata are in the possession of the Hájah
Koch Bihár.
‡ Regarding Wilford's identification of Sirote, vide Asiatic Researches, XIV, pp.
357, 436. The places which Blaeu gives between Gor and Caor, as Kauanna,
Mowat, &c., are mentioned below.
§ According to the Hájmálá, the kings of Gaur had conferred this title on the
Tiparah Rájahs. It is impossible to reconcile the discrepancy between the Hájmálá
and the Aín as regards the time when Bijai Mánik reigned. According to the Aín
and the nobles that of Náráyan." The military power was estimated at 200,000 foot and 1,000 elephants; and numerous invasions of Silhat and Sunnárgaon by the Rájahs of Tiparah are mentioned in the Rájmála. The old capital was Udáipúr, or Bángámáti, on the left bank of the Gumtí. Hence Van den Broucke speaks of 'Oedapoor and Tipera;,* but on his map he places between Tipera and the Brahmaputra, above Bolua, the "Ryk van Udesse," which is not marked on the maps of De Barros and Blaeu. As he does not mention Udesse in his text, the name is either a mistake for Udáipúr, or he has been misled by his countryman De Laët, who says, "Udesssa, or Udeza, whose metropolis is Jokanat or Jekanat, the furthest province of this empire to the eastward, is adjacent to the Mag kingdom, whose inhabitants are most ferocious barbarians," and who thus places Oritisá (Odessa) and Jagarnáth near Arakan.

The western and southern portions of Tiparah are included in Todar Mall's rent-roll in Sirkár Sunnárgaon; but they were only conquered, according to Grant, in Sháljahán's reign; and in A.D. 1728, we hear of a re-conquest, when the district was placed on the rent-roll under the name of Raushanábád.

Before going further, I have a few words to say on the country of Jáñagar, which Stewart, Stirling, Dowson, and Thomas agree in identifying with Tiparah. Stewart and Dowson, however, also apply the name to a portion of Oritsá, and compare the word with the name of the town of Jájpúr, north-east of Kašak, on the Baitarani. Jáñagar is mentioned as a country full of wild elephants (مرغزرفیل) in the Tabaját i Náşirí, and the two Tárikh i Fírz Shúlis, i. e. up to about A.D. 1440, after which the name disappears. It also occurs in the Ain; but the passage refers to the reign of Hoshang of Málwah (A.D. 1405 to 1434).†

It is first mentioned as lying, together with Bang, Kámúd, and Tirhut, near the kingdom of Lak'hnautí;‡ and when Tughlán Khán (Izzuddín Abul Fath Tughril) invaded Jáñagar, he left Lak'hnautí city in Shawwál, 641, and arrived after about a month, on the 6th Zi Qadjah, at Katásan, the frontier of Jáñagar.§ In the following year, 642 [A.D. 1244], the Rái of Jáñagar invades the kingdom of Lak'hnautí, and first seizes on Lak'hnor, which above was identified with Ráilha (west of the Hügli), where he kills the jágirdár Fakhruddín Lághari, and then marches on Lak'hnautí.

he would have reigned towards the end of the 16th century; but the Rájmála places his reign much earlier. Journal, Vol. XIX, for 1850, p. 546.

* "The countries of Oedapoor and Tiparah are sometimes independent, sometimes under the great Mogul, and sometimes even under the king of Arakan."
† It may be that Da k'hir historians use the term to a later period.
‡ Tab. Náširí, p. 163.
§ Loc. cit., p. 244. Katásan has not been identified. The MSS. have also Katás, and Katásfn.
This remark would seem to shew that, in the opinion of the author of the Tabaqát, Jájnagar lay somewhere west or south-west of the Bardwán and Húgli Districts, i. e. in Jhárkhând, or Chutiá Nágpúr.

The next invasion, on a large scale, was undertaken by the Emperor Balban, who in his pursuit of Sultán Mughís, about A. D. 1280, marched from Lakhnautí to Sunnárgáon, the independent Rái of which makes himself responsible not to let Mughís escape either by land or by water. From Sunnárgáon, Balban arrives, after a march of 60 or 70 kos, at the confines of Jájnagar, where Mughís is surprised and killed.

From this remark by Barañí, Stewart, Stirling, Thomas, and Dowson† conclude that Jájnagar corresponds to Tiparah; and the eastern parts of Hill Tiparah certainly lie about 70 kos from Sunnárgáon. The Rájmálá, however, does not state that Tiparah had the name of Jájnagar.

Jájnagar is again mentioned during the reign of Ghiyássuddín Tughluq, when Ulugh Khán, in 1323 A. D., invades Talinga, Jájnagar, and Bédar; and lastly, when Firúz Sháh, after his second unsuccessful invasion of Bengal to conquer Sikándar, returns, in 1360, from Hazrat Pańduah to Zafárábád and Jaunpúr, where he stays during the rainy season. He then marches over Bihár to Jájnagar; arrives at Satgañ (?), the Itái of which retreating; then comes to Báránasí, the residence of a great Rái; crosses the Mahindrí, and goes for some distance into Talinga, to which country the Itái had fled. Firúz Sháh then retreating, passes through the country of Rái Paríhán [Bir Bhán Deo, Lucknow Edition], and arrives in Padmáwatí and Barántalá, great fields for elephants, and returns quickly to Kañhá.||

Lastly, in the Ain (my text edition, p. 172, l. 6), Hoshang of Málwáh goes in disguise to Jájnagar, in order to obtain elephants.

In these passages it is clear that Jájnagar represents a country between Talinga and Bihár, or, as expressed in the Tabaqát, west of Rápha, i. e., the

* Barañí, p. 87. The Bibl. Indica Edition has Hájinagar, Jájnagar, and (once) Jájnagar.
§ Zafárábád, which is so often mentioned by Muhammadan historians, lies on the right bank of the Gámtí, a little below Jaunpúr, which lies on the left bank. *The maps give, of course, Jaffurabad.||
Babarí, I, 247. Dowson, III, 312 to 316. Dowson has Bánárasí, for Báránasí; and Firiaštah (Lucknow edition, p. 147) has Banárasí, which is the residence of the Rái of Jájnagar.||

Kāṭāk is called in the Ain ‘Kāṭāk Bánárasí’; and from the account translated by Dowson from ‘Afif it is clear that south-western Orísá is meant, although the comparison of Jájnagar and Jápúr may be redundant. Ronnell in his Bengal Atlas (Map VII) gives a Baramtalá in Singhbhum, near northern Mayurbhanj.
wild districts of western Orissa, Chutiá Nágpur, and the eastern portions of the Central Provinces, of which Ratanpúr, Bastar, and Siriguja are also mentioned in the Ain as hunting places for wild elephants. But it is remarkable that Barani, in relating Balban's expedition, places Jájnagar 70 kos beyond Sunnárgáon, whilst in his account of Tughluq Sháh's reign he gives the same name to a district near Talinga; and we are forced either to believe that there were two Jájnagars, one famous for elephants near south-western Bengal (Ṭabaqát i Nácirí, Barani, Firúzsháhi, Ain), and another in Tiparah or south-eastern Bengal (on the testimony of a single passage in Barani); or to assume that there was in reality only one Jájnagar, bordering on south-western Bengal, and that Barani in the above single passage wrote Sunnárgáon by mistake for Sátgáon,* which would remove all difficulties.

The Northern Frontier.

From Bhítarband, near the bend of the Brahmaputra, and in later times from Gauhatti in Kámrúp over K'hонтаг'hat, the frontier passed along the southern portions of Koch Bihár to Mahall Páltgáon, or Pátgrím (west of Koch Bihár), which is mentioned by Mughul historians as the frontier-town in the extreme north, and from there along the foot of the hills and forests of Sikkim and Nepál to the northern portions of Pùrniah District. Thus by far the greater portion of what is now-a-days called the Koch Bihär Division, did not belong to Bengal.

The Sirkárs along the northern frontier were G'hórag'hát, Panjrah, Tájpúr, and Pùrniah.

The inhabitants of northern Bengal according to the Ṭabaqát i Nácirí were the Koch, Mech, and Tharú tribes, whose Mongolian features struck the first invaders as peculiar.†

The Rájahs of Northern Bengal were powerful enough to preserve a semi-independence in spite of the numerous invasions from the time of Bakhtyár Khiljí, when Debokt, near Dinájpúr, was looked upon as the most important military station towards the north.

During the fifteenth century, the tract north of Rangpúr was in the hands of the Rájahs of Kámätá (_prov.), to which country passing allusion was made above. The kingdom is prominently marked as 'Reino de Comotah;' or Comotay, on the maps of De Barros and Blaev (Pl. IV). The town of

* Barani's statement of the distance of 70 kos would admirably suit Sátgáon; it would bring us to Mayurbhájan and western Chutiá Nágpur.
† For 'Thárú' Stewart has Neharu, but there can be no doubt that the author of the Ṭabaqát means the Thárú of Mithila. Vide Dalton, Ethnology of Bengal, p. 126; J. A. S. B., 1872, Part I, p. 66.

The _Pádisádánmáha_ says of the Asamese also that they resemble in features the Qarávalpáks of southern Siberia.
Kámátá, or Kámátápúr, lay on the eastern bank of the Darlá river, which flows south-west of the town of Koch Bihár, and joins the Brahmaputra near Bagwah. The river near its confluence with the Brahmaputra, separates mahall Bhitarband from Bahirband. The town itself and the Darlá river are correctly marked on the old maps. Buchanan estimated the circumference of Kámátápúr at nineteen miles; the palace, as in the case of Burmese and Chinese towns, stands in the centre. History informs us that Kámátá was invaded, about 1498 A. D., by Husain Sháh, and legends state that the town was destroyed and Nilamba, the last Kámátá Rájah, was taken prisoner. He escaped, however, and disappeared; but people believe that at some time in future he will be restored.

The Kámátá family was succeeded by the Koch dynasty, to which the present Mahárájá of Koch Bihár belongs. The new Rájás secured their possessions by erecting along the boundary a line of fortifications, many of which are still in excellent preservation.

The prevalence of human sacrifices in Koch Bihár is known from the Ain. The Haft Iqlím has the following: "There is a cave in this country, which, according to the belief of the people, is the residence of a Deo. The name of the Deo is Aí, and the people are zealous in their worship. Once a year they have a feast, when they kill all sorts of animals found in the country, believing that the meritoriousness of the slaughter comes from Aí. They likewise kill on the same day the Bhogís, who are a class of men that have devoted their lives to Aí, saying that Aí has called them. From the time they become Bhogís, they may do what they like; every woman is at their command, but after one year they are killed."

The first European traveller that visited Koch Bihár was Ralph Fitch. He says: "I went from Bengala into the country of Couche or Quicheu, which lies 25 days' journey northwards from Tanda. The king is a Gentile; his name is Suckel Couose;° his country is great and lieth not far from Cauchin China: for they say they have pepper from thence. The port is called Cácchegatè.† All the country is set with bamboos or canes made sharp at both ends and driven into the earth, and they can let in the water and drown the ground above knee deep, so that men nor horses can pass. They poison all the waters if any wars be. Here they have much silk and musk and cloth made of cotton. The people have cars which be marvelous great, of a span long, which they draw out in length by devises when they be young. There they be all Gentiles, and they will kill nothing. They have

† I. e. the place where the merchants from China meet. Cácchegato is Chí-ch'ê-kó-tá, north of the town of Koch Bihár and south of Baksa Fort, Long. 89° 35', in the Bengal Duâra. It is now British.
hospitals for sheep, goats, dogs, cats, birds, and for all living creatures. When they be old and lame, they keep them until they die. If a man catch or buy any quick thing in other places and bring it thither, they will give him money for it or other victuals, and keep it in their hospitals or let it go. They will give meat to the ants. Their small mony is almonds, which often times they use to eate."

As Ralph Fitch mentions Chichákoṭā, and the 'A'lamgírnamah Kanṭhallsári,* as belonging to the Koch Bihár, it follows that portions of the Dúárs must have once belonged to Koch Bihár.

Aurangzib's army under Mīr Jumlāh took Koch Bihár on the 19th December, 1661, when the town was called 'A'lamgírnagar,† a name which has not come into use; and the imperial collectors expected to raise a revenue of eight lak'hs of rupees, whilst in Prince Shuja's rentroll of 1653 Koch Bihár is put down as yielding Rs. 3,27,794.

On Van den Broecke's map, the whole Himalaya tract, from northern Bihár to Asám, is called 'T Ryk van Itagjavarra,' or the realm of Itágjavirá and in the text he says, that "Ragjavarā consists of several separate countries, which sometimes fight the Great Mogul, and at other times are forced to submit." Of these several countries he mentions on the map 'T Ryk van Morang and 'T Ryk van Jesval, which latter name is also given on Blaev's map and will be remarked on below.

The Morang was entered by Mughul troops in the beginning of Aurangzib's reign. We first hear of an expedition led by Mírzá Khán, Faujdār of Darbhanga, and Iláh Virdi Khán, Faujdār of Gorakhpúr, against the refractory zamindárs of Morang (beginning of 1675, or end of A. D. 1661). Mírzá Khán died during the expedition; but Iláh Virdi Khán returned with fourteen wild elephants and nine presentation elephants.‡

In the end of 1079 (beginning of 1669), Ma'cúm Khán reported that a false Shuja had appeared in Morang and had caused disturbances there, and Ibráhím Khán and Fīdá Khán received orders to capture him wherever he shewed himself, and to send his head to Court. Lastly, in 1087 (beginning of 1676), we hear of a conquest of Morang, but no particulars are given.

* West of Kanṭhallsári, the maps give a place called Mughulmuri [Mughulmári], evidently the scene of a fight with Mughul troops. Another Mughulmári lies between Bardwán and Jháhnábád; a third between Medinípúr and Jalesar, where Akbar's troops defeated Dádd Sháh (Kín translation, p. 376); and a fourth, eight miles north of Medinípúr.

† Thánah Sangrángārph, one of Aurangzib's frontier thánahs near Noák'hálí, had received the same name in allusion to the title of the emperor.

‡ 'A'lamgírnamah, pp. 850, 875. Mādsir i 'A'lamgírī, pp. 64, 150.
Blaev's Map of Bengal and of the Mughul Empire.

The map of Upper India by William and John Blaeu (Pl. IV) is taken from their "Theatrum Orbis Terrarum," Amsterdam, 1615 to 1650, Vol. II,* and is based upon the Portuguese and Dutch charts that existed at the time, and upon the descriptions of European travellers. As far as Bengal is concerned, it is a reprint of De Barros' map, and represents, therefore, the knowledge which European geographers had of Bengal about 1540. In point of accuracy it is much inferior to Van den Broucke's map of 1660,† given in Valentyn's work. But the map is of great interest, as it helps us to unravel the difficulties in Terry's enumeration of the provinces of Bengal and other portions of the Dihli empire,‡ which has also been followed by the Dutch traveller De Laët in his "India Vera" (Amsterdam, 1631), and of which traces may still be found on Van den Broucke's map. It is with a view to explain the extraordinary configuration of Bengal on the old maps that I have given the present chapter a place in this essay.

From a glance at the map, it will be seen that our early geographers had no information of the extent and situation of the countries which we now-a-days call the Central Provinces and Chutiá Nágpúr. Hence Gwáliár, Narwar, and (on Van den Broucke's map) Málwá, bound Bengal on the west; the Santál mountains are continued eastwards to meet the Ásám mountain-chains, and places belonging to the Central Provinces have been put north of Bengal.

Terry enumerates the following provinces as belonging to the Mughul empire—1. Candahore, Qandahár; 2. Cabul; 3. Multan; 4. Haiacan, Hájikán, a sirkár of Sindh; 5. Buckor, Bhakkar; 6. Tatta; 7. Soret with Jonagar, Sorat’h with Júnagár; 8. Jessie meere; 9. Attok; 10. Peniab, Panjáb; 11. Chiskmeere, Kashmir; 12. Banchish, "the chief city is called Bishur; it lyeth east, somewhat southerly from Chishmeere, from which it is divided by the River Indus." Here we have the first misplacement. Terry means Bangash and Bajor (Sawád, Swat); but for East, he should have said West.

* Capt. J. Waterhouse drew my attention to a copy of this work in the Library of the As. Society.
† Mattheus Van den Broucke was Land-Voogd, or governor, of Choromandel, which included Bengal, from 1658 to 1664, during which time he compiled the map in the Vth Volume of the 'Beschryving van Choromandel' in François Valentyn's 'Oud en Niew Oost Indien', Amsterdam, 1728. (Library, As. Soc. Bengal, No. 2268.)
‡ Edward Terry was chaplain to Sir Thomas Row, the Ambassador to Jahángír's Court, and was later Rector of the Church at Greenford, Middlesex. He presented his 'Voyage to East India,' in 1632, shortly after his return to England, to the then Prince of Wales; but he only published it in 1655, when he was sixty-four years old.
13. *Jangapore,* “the chief city so called; it lieth upon the River *Kaul,* one of those five rivers which water Peniab.” (?) De Laët has ‘Jengapor or Jenupar,’ between Lahore and Agra. 14. *Jenba,* east of Peniab, Chamba. 15. *Dellee,* Dihlí. 16. *Bandó,* ‘it confineth Agra to the west.’ This is Bándhú, or Bándhúgarh, south-east of Agra. 17. *Mulva,* 18. *Chitor,* 19. *Gujarat,* 20. Chandí, Khándesh; 21. *Berar,* with the chief city *Shapore;*† 22. *Narwar,* 23. *Gwaliar,* 24. Agra; 25. *Sambal,* Sambhal, or Murádábád District. 26. “Bakar, the chief city called Bikaner, it lyeth on the west side of the River Ganges.” The whole remark seems to be erroneous. 27. *Nagracot,* Nagarkot or Kángrah. 28. *Síba,* “the chief city is called Hardware.” 29. *Kakares,* the principal cities are called *Dekalee* and *Púrholā.* Terry means the Gakk’har District, the chief cities of which were Dángálí and Phárwaláh; *vide* Kín translation, p. 621. Terry also remarks that the Caucasus (Hímálaya) divides Kakares from Tartaria, which accounts for its northern position on Blaev’s map. 30. *Gor,* “the chief city so called; it is full of mountains; the River Sersíly, a tributary unto Ganges, has its beginning in it.” *Vide* 32.

31. *Pítan,* “the chief city so called; the River *Candá* waters it, and falls into the Ganges in the confines thereof.” This is Paíthán, the form used by Abúlfszl for Paíthan, or Paíhánkoṭ. Terry evidently means the whole hill tract of the Sirmúr range, as far as the Alakndá. It is, however, possible that he meant the Markandá; but this river does not flow into the Ganges. The error in the position of Pítan is remarkable, as Terry, DeLaët, and Blaev give Temmery (a Dutch spelling for Dhameri, the old name of Núrpúr, near Paíhánkoṭ) between the Ráví and Nagarkoṭ (Kángrah).

32. *Kanduana,* “the chief city is called *Karakatenka;* the River Sersíly parts it from Pítan. This and Gor are the north-east bounds of this Monarchy.” There can be no doubt that Kanduana is Gondwánah (Central Provinces), of which the capital is Garha-Katanga (Jabalpúr); *vide* Kín translation, p. 367. If Gor is the north-east boundary of the empire, it is the Gaur of Silhat, mentioned above, or the Gáro Hills. Sersíly is a misprint for Sersíly, the Saraswati, which after the Jamuná is the principal (legendary)

* *Which signifies an Heart, and is seated in the heart of the Mogul’s territories.*

† Terry. This unfortunate etymology shows however that Terry knew some Persian, because he cleverly dispose of the final *yéd.* Similarly, he derives *‘Khúranu,* from خروش and *‘Sultán Khurrám* from كرم *karam,* liborality!

† Sháhpúr, built by Sultán Murád, Akbar’s son, six *kos* south of Bálápúr, now in ruins.

‡ I do not know whether the country near Haridwárd was ever called Šíbá. In the Kín, a parganah of the Bisat Jándhá ßílúd is called Šíbah.
tributary of the Ganges. The map follows the legend and makes the Saraswati flow into the Ganges near Helobass (Ilahbas, the old name of Ilahabad).* De Laët increases the confusion by calling the Sersily 'Perselis.' But the passage need no longer exercise commentators. Blaeu's map clearly shows how erroneously the early geographers arranged the provinces.

33. *Patna,* "the chief city so called; the River Ganges bounds it on the west; Sersily on the east; it is a very fertile Province."

34. *Jesual,* "the chief city is called Raiapore; it lies east of *Patna.*" Van den Broucke puts Jesual east of Morang; and Blaeu's map marks it as a country for elephants. It seems, therefore, that Raiapur in the Central Provinces is meant, the elephant country *par excellence,* though the name 'Jesual' is not clear to me.

35. *Mewat,* "the chief city is called Narmol; it is very mountainous." This is Mewat, south-west of Dihli, with Narnol. I am at a loss to understand how Mewat could have been placed so far away from Dihli; but Blaeu's map shows why Terry and De Laët mention it here. The error was not even detected by Van den Broucke, who places 'T Ryk van Mewat east of the Brahmaputtra, south of 'Cos Assam.'†

36. *Udea,* "the chief city called Jranal; it is the most remote part east of this empire." De Laët says: It is the furthest province of this empire to the eastward, is adjacent to the Maug kingdom, whose inhabitants are most ferocious barbarians." DeBarros and Blaeu have avoided this mistake; Van den Broucke, however, places 'T Ryk van Udeasse north of Bollua (Bhaluah), between Tiparah and the Brahmaputtra. But Orisâ and Jagannâthal are meant. The spelling Udea is clearly a transliteration of اوریسا، Udēsa, and DeLaët has overlooked the identity of 'Orisa' and 'Udea.'

37. *Bengala.*

It would take me too far from my subject, were I to enter on the identification of the places in western India on Blaeu's map. I hope to do so at a future period, or would rather leave the task to Mr. E. Lethbridge, who has lately published valuable extracts from De Laët's work in the Calcutta Review.

* According to the legend, the Saraswati, which is lost in the sand east of Bhatinda District, joins the Ganges below the ground at Ilahabad. Hence at Tribeni and other places in Bengal, wherever two rivers leave the Ganges, we find the names Saraswati and Jamuna repeated.

† The London edition of 1655 has 'Jesuat.' De Laët has "Jesual, whose metropolis is Raiapore or Ragapore, lies to the east of Patna, and north-west of Bengal."‡

‡ Assam is often called Koch Assam.
PART II.—HISTORICAL.

The Muhammadan period of the history of Bengal may be conveniently divided into five parts—

I. The 'Initial period,' or the reigns of the governors of Lak'hnauti appointed by the Dihli sovereigns, from the conquest of Bengal by Muhammad Bakhtyár Khilji, A. D. 1203 to 1338 A. D.

II. The period of the independent kings of Bengal, from 1338 to 1538.

III. The period of the kings of Sher Sháh's family and their Afghán successors, from 1538 to 1576.

IV. The Mughul period, from 1576 to 1740.

V. The Nawabi period, from the accession of 'Alí Virdí Khán, in 1740, to the transfer of Bengal to the E. I. Company.

In the following pages, I shall principally treat of the first and second periods.

I.

THE INITIAL PERIOD (1203 to 1338, A. D.)

The first period has been almost exhaustively described by Mr. E. Thomas in his 'Initial Coinage of Bengal,' published in the Journal for 1807, in which he details the results of his examination of selections made from 13,500 pieces of silver, accidentally found in Koch Bihár in August, 1803. I can, therefore, with regard to this period, merely give a few interesting inscriptions which have since turned up, and note a few coins—second gleanings from the Koch Bihár trouvaille—which are in the Society's cabinet.

Of the following inscriptions belonging to the Initial Period, one was received from General Cunningham, and the others from Mr. Broadley, who handed over to the Society in all twenty-two rubbings, which I have deciphered and translated. The original stones are either attached to old public buildings in the town of Bihár, or are preserved in the Museum of that place.*

No. 1. The Tughril Inscription of Bihár. [B. C.]

* Together with the rubbings, Mr. Broadley made over to the Society readings of several early Muhammadan coins of importance, and also a few notes on the Muhammadan buildings of the town of Bihár. The coins have since passed into the collection of Col. Guthrie, and have been published by Mr. E. Thomas in his 'Second Part of the Initial Coinage of Bengal' (about to be reproduced in this Journal). The "notes"
This building was ordered to be erected during the days of the reign of the Málkis i 'Alí, the great Khán, the exalted Kháqán, 'Ísáül haq waddín, the help of Islám and the Muslims, the helper of princes and kings, A b u l F a t h T u g h r í l, the Royal, may God perpetuate his reign! The slave, Mubárak Khán, the Treasurer,—may God grant acceptance!

In the month of Muharram, 640, [July, 1242, A.D.]

The inscription is a large slab of basalt, and is at present in the Bihär Museum. *It was found let into brick work on the north side of the great Dargāh, to protect the doorway from rain. A photozincograph of it was published by me in this Journal for 1871, Pt. I, Pl. vii.

It is of interest to remark that South Bihär was under the Lak'hnautí governors from Bakhtyáir Khílji's time.

Tughril in 631 (A. D. 1233-34) succeeded Saífuddín Aibák as governor of Lak'hnautí, in which office he continued till the 5th Zí Qa'dah 642 (or 4th April, 1245), on which day he was forced to cede his office to Qamaruddín Timúr Khan. Tughril was appointed to Audh; and Timúr Khán remained in Lak'hnautí till 29th Shawwál, 644, (or 9th March, 1247) on which day both he and Tughril died.*

The following are the governors of Bengal from Saífuddín Aibák to Bughrá Khán. The dates differ slightly from Mr. Thomas's list on p. 8 of his 'Chronics.'

Saífuddín Aibák. Dies at Lak'hnautí in 631. * * *

'Izzuddín Abúl Fath Tughril Tughán Khán, governor from 631 to 5th Zí Qa'dah, 642. * * *

He withdraws to Audh, and dies on the 29th Shawwál, 644.

Qamaruddín Timúr Khan, governor from 5th Zí Qa'dah, 642, to 29th Shawwál, 644, when he, too, dies. * * *

Ikhtiyárruddín Yúzbak Tughril Khán, proclaims himself king under the title of Súltán Mughílsuddín. Perishes in Kámrúp. * * *

No dates are given.

Jaláluddín Mas'úd, Malik Jáńí Khílji Khán, becomes governor on the 18th Zí Qa'dah, 656 (or 17th Nov., 1258). * * *

'Izzuddín Balbán, was governor in 657, in which year he was attacked by Tájjuddín Arsálan Khán Sanjár i Khwárazmí, who, however, was captured or killed by 'Izzuddín. * * *

are of little value, and are moreover incomplete, so that I can only give my readings and translations of the Bihár inscriptions. They are marked 'B. C.' (Bihár Collection.)

* * *

Táboqdi i Náprí, pp. 245, 246, where Tughril is called Tughril Tughán Khán. Hence the tárdkh on p. 246 is wrong, and for šin we have to read mim. 'Tughril' signifies a kind of falcon or hawk, and tughril shudán, like shunqàr shudán, means 'to die.' 'Shunqár' also is a kind of falcon.

† Hence Tájjuddín Arsálan Khán should not be put among the governors of Bengal.
Muhammad Arsalán Tatar Khán, son of Arsalán Khán Sanjar. He had been for some time governor, when the emperor Balban ascended the throne (664). *Barani*, p. 66. After a few years he was succeeded by Tughril, who proclaimed himself king under the name of Sultán Mughísuddín. His fate has been mentioned above. No dates are given.

Bughrá Khán, Náciruddín Mahmúd, second son of emperor Balban.

No. 2. *The Bárahárdi Inscription of Bihár*. [B. C.]

This inscription also belongs to the time of the early governors of Bengal; but unfortunately the first half with the name of the governor is wanting. Its date however, A. H. 663, shews that it belongs to the time of Muhammad Arsalán Tatar Khán, governor of Bengal in the end of the reign of Náciruddín Mahmúd of Dihlí. The inscription was found in the yard facing the shrine of Sháh Fazlullah, Bárahárdi Mahallah, Bihár.

*• may God (perpetuate) his rule and governorship, and may He cause his edifice to remain in the realm • by the erection of this blessed tomb in the months of the year • Sultan Sháh, (O God, illuminate his grave, and whiten his forehead, and make his grave a garden of the gardens of Paradise, but do not make it a pit of the pits of fire!). On Saturday evening, the 18th Jumáda I, 663. The architect is their slave, who is obliged by their rewards, Majd of Kábúl. [8th March, 1265.]*


A rubbing of this inscription was received from General Cunningham. Its date is, curious to say, the same as that of the Kai Káús inscription of Gangarámpúr, published by me in the Journal, for 1872, p. 103. Mr. Thomas has published coins of this king, bearing the dates 691, 693, 694, 695 (Chronicles, p. 140), and the cabinet of the As. Soc. of Bengal contains two clear specimens of 691, and 696 (Lakhnauti mint).

The inscription is—

The text has a dual.
This Jâmi' Mosque was built during the reign of the great Sultán, the owner of the necks of nations, the master of the princes of the Turks and the Persians, the lord of the crown and the signet, Rukn ud dún yá waddîn [Kā'ī Kā'ā] s Sháh, the king, son of a king who was the son of a king, the right hand of God's Viceregent, the helper of the Commander of the Faithful, and during the governorship of the great Khán, the exalted Kháju, Ikhtiyâr ul haq waddîn, the Khán of the Khâns of the East and of China, the second Alexander, Fírúz Aitîgin Sultân, (may God perpetuate his rule!) [by] the victorious, the invincible, the champion, Ziyâ and daulâh waddîn, UlUGH Khán, may God perpetuate his rule and increase his benefits! On the 1st day of Muharram, of the year 697. [19th October, 1297]*

* This inscription contains what Mr. Thomas calls an unusual reiteration of the words ibnu sultânin ibni sultân, which is perhaps more unusual on coins than on inscriptions. But the spirit of pride that breathes in the words is apparent, when we compare with it the legend of the coins struck in Tirhut by the rebel Bahâdur, given in Bâdâni II, p. 298.

In Raziyah's Bengal coinage (Thomas, Chronicles, p. 107), I read for ـمجرة which has no sense, ـمغد، wumildhutn, 'the helper,' the same as ـمجرة. 'Raziyah' stands for 'Raziyat unnísâ,' i. e. one who among women is looked upon with favour.

I also take this opportunity to give my reading of the Naqirud Din MahmuD Inscription, published by Mr. Thomas in his Chronicles, p. 129, an inscription which in style is similar to the above Kā'ī Kháu inscription. General Cunningham has favored the Society with a rubbing of it.

'This building was erected during the reign of the great Sultan, the owner of the necks of nations, Naqirud Dunyá waddín, the king of kings, who protects the people of the Faith, the heir of the kingdom of Solomon, the lord of the signet in the kingdom of the world, Abul Musaffar MahmuD Sháh, the son of the king (may God perpetuate his rule and kingdom!), by order of the learned and great Malik, A'zam Qutlugh Khán Bahâuhaq waddín, the Malik of the Muliks of the Eastern Provinces and China, BalbaN the Shamsi [slave of Shamsuddin Ititnish], during the period of his governorship, may his high qualities endure! On the 10th Rajah, 652.

From this it will be seen that A'zam Qutlugh Khán (Balban) does not call himself Malik ul 'Alum 'the Malik of the world,' but al-malik ul 'dîim, 'the learned Malik.'
The reading of the name 'Aitigin' or 'beautiful moon,' in this inscription was suggested by Mr. Redhouse, and I gladly correct my reading Itgin in the Kai Käús inscription, published by me in the Journal for 1872, p. 103, where the correct name of the builder is Zafar Khán Bahrám Aitigin, the Royal (sultán).*

The date of this inscription is the latest yet discovered of Kai Käús's reign.

Kai Käús seems to have been succeeded by his brother Shamsuddín Firúz Sháh (I). Mr. Thomas quotes coins of this king, dated 702, 715, 720, 722, and the cabinet of the Asiatic Society of Bengal has three specimens, struck at Lak'hnautí, with clear dates 700 and 715, and (slightly doubtful) 710.

Three inscriptions of Firúz Sháh have hitherto been found, of which one, dated 1st Muharram, 713, or 28th April, 1313, was published by me in this Journal, for 1870, Part I, p. 287.† The other two inscriptions are from Bihár, and are dated 709 and 715. They reveal that Firúz Sháh had a son Hátim Khán.‡ who in those two years, and probably in the interval, was governor of Bihár.

No. 5. The Firúz Sháh (I) Inscription of Bihár. [B.C.]

This (additional?) building was erected in the reign of the great Sultán Shamsuddún:wádín Abú Muẓaffár Firúz Sháh, the king, (may God perpetuate his kingdom and his rule!) and during the governorship of the just and liberal Khán, the champion of God, Hátím Khán, the son of the king, may God perpetuate his rule! The weak slave Muhammad Husain Tak'harori. During the months of the year 709. [A. D., 1309.]

A plate of this inscription was published in this Journal, for 1871, Part I, Pl. viii. The inscription itself is attached to a lofty gateway, which together with an arched hall, fast falling to decay, and a rootless mosque, forms the remains of what tradition calls Hátim Khán's palace. It stands on a gentle eminence, due east of the Bihár mountain.

* Or, we might at once translate, 'the Sultán,' for sultán, as abstract noun, occurs on numerous coins; vide Proceedings A. S. Bengal, for June, 1870, p. 162. The translation of the other portions of the inscription is here confirmed.
† Where in the third line for sultán read al'am al'akram.
‡ Besides the four sons mentioned by Mr. Thomas, Chronicles, p. 148.
This mosque was built in the reign of the great Sultan Shamsuddin Waddin Abul Muzaffar Firuz Shâh, the king, and during the governorship of the Khâqân of the age, known as Hâtim Kâhn, may God cause their shadows to last! The slave, who trusts in God and hopes for His mercy, the meanest of mankind, Bahram, son of Hájî, may God turn to him and may He pardon his parents!

On the first day of the month of Rajab of the year 715. [1st October, 1315.]

This inscription, a fine slab of basalt, leans against the wall of the Chhotâ Dargâh in Bihâr.

Two other sons of Firuz Shâh, Shihábuddin Bughdah Shâh and the well known Ghiyásuddin Bahádúr Shâh, struck coins as 'kings of Bengal' during the lifetime of their father. Of the former, Mr. Thomas says (Chronicles, p. 194)—"Neither history, incidental biography, nor numismatic remains avail to do more than prove the elevation, as they seem to indicate the brief and uneventful rule, of Shihábuddin Bughdah Shâh. No date or place of mintage is preserved." However, the cabinet of the Asiatic Society possesses two specimens,* one of the same kind as published by Mr. Thomas (Chronicles, Pl. VI, No. 4), and a new variety, containing the same legend, but with the letters, on the obverse, close together, and with a instead of the star on the reverse. The former fortunately contains a complete margin, with the clear legend—

ٍضرب هذه الغضة بلكهريني سنة ثمان عشر وسبعمائة

This silver coin was struck at Lakhnauti in the year 718.

Mr. Thomas looks upon the d in the name of this king as the Hindi j, which is so often interchanged with ñ re. This may be the case, inasmuch as Shiháb, according to Muhammadan custom, would assume the name of his grandfather, bughrâ;† but in India, people seem early to have substituted a dâl for the re; hence we find in the Ain the form bughâdi.§

Ghiyásuddin Bahádúr Shâh was the last of the Balbani kings of Bengal. " In A.H. 733, Muhammad ibn i Tughluq is found issuing his own coin in

* Evidently Bábu Bajendraâla Mitra's selections from the Koch Bihâr hoard.
† Which signifies a male 'Bactrian camel' (with two humps). The spellings given in dictionaries are بغور - بعور - بغر - بقار - بغار - بعودرا.
§ Vide my Ain translation, p. 148.
Bengal, and Bahádur, defeated and put to death, contributed an example to insurgent governors in his own skin, which was stuffed and paraded through the province and the empire."* And already the year before, we find that a palace had been built, or renovated, in Biháir for the Imperial Náïb, which tradition still calls the 'sukúnat,' or residency.

No. 7. The Sukúnat Inscription of Biháir. [B.C.]

This high and world-adorning gate, and this lofty, heaven-touching portico, were renewed in the reign of the Khalífah, the asylum of the world, whose court is the heaven, the Lord of the kings of the universe, the ruler of mankind who gives security and safety to the people of the Faith, the heir of the kingdom of Solomon, Abúl Muţáhid Muḥammad, son of Tughluq Sháh, the Sultán, (may his kingdom and rule be perpetuated!) On the first day of the blessed month of Ramazán, 732, A. H. [27th May, 1332].

From this time till the beginning of the 10th century, Southern Biháir as remarked above, remained detached from Bengal, and followed the fortunes of the empires of Díhlí and of Jaumprú.

Muḥammad Tughluq's governors of Lak'hnautí, Sátgáon, and Súnrárgáon did not long remain undisturbed, and the death of Bahrám Khán, governor of the last province, was the commencement of new revolutions, which led to the establishment of a line of independent kings.

II.

The Second Period, or the Period of the Independent Kings of Bengal (1338 to 1538, A.D.)

For this period I shall take the kings singly, and collect for each reign whatever new information I have been able to gather from the rubbings received from General Cunningham, Dr. J. Wise, and Mr. E. V. Westmacott, C. S., and from unpublished Bengal coins in the Society's cabinet.

I have also compared the corresponding chapter of the Riyádussalátí with the statements given in the Tabaqát i Akbarí and in FIRISHTAH.

The line of the independent kings commences with

* Thomas, Chronicles, p. 200.

He had been Silahdär, or armour-bearer, to Bahram Khán, the Dihli governor of Sumnargión, and on his master's death in 739 A. H., or 1338 A.D., proclaimed there his independence.

According to the Tabâjat i Akbari, Firishtah, and the Riyâz ussulâtîn, Mubarak Shâh was killed by 'Ali Mubarak in 741, after a reign of two years and some months.* But as his coins extend over a period of more than ten years, from 739 to 750, it looks as if the date given in the histories should be corrected to 741, ten years and some months.' Mr. Thomas is willing to antedate Mubarak Shâh's accession to 737; but the coins (Chronicles, p. 263, and Plate vi. fig. 7) do not satisfactorily prove this, because the reading مس in the absence of diacritical marks, is more likely نس, which the histories give, especially because the numerous coins hitherto found do not give the intervening year (738).

The name 'Mubarak Shâh' has been proved by coins, the histories only call him Sultan Fakhruddin or more familiarly still, Fakhrâ.† Ibn Batûtah also mentions him under the name of Fakhruddin, and says that he was an eminent man, kind to strangers and Qûfs.‡

Mubarak Shâh's son is mentioned below. His son-in-law Zafar Khán fled from Sumnargión over Tattah to Firúz Shâh in Dihli, who, at his request, invaded Bengal a second time in the beginning of Sikandar Shâh's reign.§

II. 'Ala'uddin Abul Muzaffar 'Ali Shah.

Regarding this king the Riyadhussulâtîn has the following:

'It is said that Malik 'Ali Mubarak, who as king is styled Sultan 'Ala'uddin, was a trusted servant of Malik Firúz [subsequently Firuz Shâh III. of Dihli], and Malik Firúz was brother's son to Sultan Ghâyásuddin Tughluq Shâh, and son of the paternal uncle of Muhammad Shâh. Muhammad Shâh, in the first year of his reign, made Malik Firúz his Naib-Barbak. Now at this time, Háji Ilyâs, the foster-brother of 'Ali Mubarak, did something wicked and fled from Dihli. Malik Firúz asked 'Ali Mubarak what had become of Háji Ilyâs. 'Ali Mubarak went in search of him; and when he found no trace of him, he told Malik Firúz that Háji Ilyâs had run away. Firúz scolded him and told him to leave his presence. 'Ali

* The Riyadh has five months. Stewart places his death in 743; but all histories have 741.
† Dowson, Elliot's History, III, p. 304.
‡ See Ibn Batûtah, p. 195.
§ These facts are only mentioned by Shams i Siraj, who moreover places Fakhruddin's defeat and death immediately after Firúz Shâh's first invasion of Bengal in 754. This is clearly a few years too late.
Mubarak now went to Bengal. On his way, one night, he had a dream and saw the revered saint Jalaluddin Tabrizi, who said to him, “I will give thee the kingdom of Bengal; but thou wilt have to build me a vault.” Ali Mubarak put the finger of acceptance on his eye, and asked where it was to be built. The saint replied, “In the town of Punduah at a place where thou wilt see thirty bricks one over another, and below them a fresh rose of a hundred petals.”

'When 'Ali Mubarak arrived in Bengal, he entered the service of Qadar Khan, [the Imperial governor of Lakhnauti] and received from him the command (bakhshigari) of the army. But when Fakhruddin revolted against Qadar Khan, 'Ali Mubarak killed his benefactor, and proclaimed himself king under the title of Sultan 'Alauddin. He then made war upon Fakhruddin, and slew him “as a punishment for having killed his benefactor.” Leaving thanahs in (the province of) Lakhnauti, 'Alauddin marched to subjugate other parts of Bengal. But from the time he had proclaimed himself king, the whirlpool of pleasure had made him forgetful of his promise to the Saint, when one night Jalaluddin again appeared to him and said, “O Sultan 'Alauddin, thou art now king of Bengal, but me thou hast forgotten.” The king next day at once searched for the bricks, and found them just as the saint had described. There he built the vault, the ruins of which exist to this day.

'Now about this time Haji Ilyas also arrived in Punduah. Sultan 'Alauddin put him into prison, but after some time, at the request of his mother who had been Sultan 'Alauddin’s nurse, he set him at liberty, and allowed him to come to court. Haji Ilyas, in a short time, found means to gain over the army, killed 'Alauddin with the help of the eunuch, and proclaimed himself king under the name of Shamsuddin Bhangrah.

'The reign of Sultan 'Alauddin lasted one year and five months.'

This extract is so far satisfactory, as it explains the relation between Firuz Shah, 'Ali Mubarak, and Haji Ilyas.

The evidence of coins, as in the case of the preceding king, gives 'Alauddin 'Ali Shah a longer reign than the histories. Mr. Thomas (Chronicles, p. 265) gives a coin of the year 742, and he adds that he has seen coins of 744, 745, 746. There is nothing strange in the name 'Ali Mubarak, which he thinks has arisen from “a strange jumble of Muhammadan writers, who endowed 'Ali Shah with the surname of his adversary Mubarak Shah;” for 'Ali Mubarak is as common a name as Mubarak 'Ali, and the histories say that this was 'Ali Shah’s name before accession.

From the fact that the coinage of Mubarak Shah is restricted to the Sunnagáon mint, and that of 'Ali Shah to Firuzabád (i.e. Punduah), we may conclude that the former held Eastern, and the latter Western Bengal.

But 'Ali Shah was vigorously opposed by Haji Ilyas, who struck coins
in Pañquah, 'Ali Shâh’s capital, in 740 and 744, and in uninterrupted succession from 746 (probably the correct year when 'Ali Shâh was overcome by him) to 758.

III. Ikhtiyâruddin Abul Muzaffar Gha’zi’ Shâh.

Fakhruddin Mubârak Shâh was succeeded in Eastern Bengal by Ikhtiyâruddin, who styles himself “son of the Sultan.” We may, therefore, accept Mr. Thomas’s hypothesis that he was the son of Mubârak Shâh. Coins are the only testimony on which the name of this king of Eastern Bengal has found a place in the list of kings. The figure of one of the coins given by Mr. Thomas, as also the specimen in the cabinet of the Bengal Asiatic Society, shew the year 753.*

IV. Shamsuddin Abul Muzaffar Ilyas Shâh.

The relation of this king to 'Alâuddin 'Ali Shâh and Firûz Shâh III. of Dihli has been mentioned above. Having in 746 become master of Western Bengal, he established himself, in 753, in Sunnârgâon (Thomas, p. 263), and thus founded a dynasty, which, with an interruption of about forty years in the beginning of the 9th century of the Hijrah, continued to rule over Bengal till 896 A.H.

Ilyâs Shâh’s successes in Eastern Bengal were followed by an attempt to extend the western boundaries of the kingdom, and according to the Riyâz he pushed as far as the Banâras district. In order to punish him, Firûz Shâh, in 754, after marching through Tirhut and Pûrniah, invaded Bengal and besieged Ekdâlah. The defeat of Ilyâs Shâh is almost humorously described by Ziyâ i Barani. But “the invasion only resulted in the confession of weakness, conveniently attributed to the periodical flooding of the country,” and Firûz Shâh withdrew,† appointing collectors, apparently

* Thomas, Chronicles, Pl. VI, fig. 9. The margin clearly gives ٨٥٣. A figure with ٨٤١ would be desirable, so that the reign of this king might be fixed from 751 to 753.

† It is said in the ßabaqî i Akbarî, under Ilyâs Shâh, that Firûz Shâh’s expedition lasted from the 10th Shawwal, 754, till 11th Rabî‘ I, 755. As the latter date corresponds to the 5th April 1353, it could only have been prospect of the rains, not the setting in of that season, that drove Firûz Shâh back to Dihli. The army, according to Barani, complained of mosquitoes in the vicinity of Pañquah.

The ‘Firûzpârîbâd,’ mentioned by Stewart and quoted by Mr. Thomas (p. 284, note 2), where Firûz Shâh pitched his camp, should be ‘Firûspâr.’ The Riyâz says—“At a place where now Firûzpâr lies (bajâ khâ khy alyam Firûzpâr dâ’dant, not Firûzpârîbâd bet), Firûz Shâh pitched his camp, and starting from that place on horseback laid siege to the fort of Pañquah. In the fort Sultan Shamsuddin had left his son, whilst he himself had retreated to Fort Ekdâlah, which is very strong.” The maps show several Firûzpâra round about Gaur; thus two are south of the fort of Gaur.
for the first time, in Tirhut, and was glad in subsequent years to exchange presents with Ilyâs Shâh.

As Hájî Ilyâs is the legendary founder of Hújípûr, opposite Paţna, we may assume that in northern Bihâr the Ghandak formed the frontier; in south Bihâr, however, the frontier could not have passed beyond Munger, because the inscriptions preserved in the town of Bihâr (vide below) show that in 732, 737, 753, 761, 792, and 799, the town of Bihâr was under Dihlî governors.

Just as Mubárak Shâh and 'Ali Shâh are called in the histories by their first name, so is Ilyâs Shâh also invariably called Sultân Shamsuddîn. The name 'Ilyâs Khaje,' which Stewart gives, is not to be found in historical works. Stewart also mentions 760 as the year in which Ilyâs died, but the histories only mention that his reign lasted sixteen years and some months. In 758, he had for the third time sent ambassadors with presents to Dihlî, and Firûz returned the compliment by sending him horses; but the Dihlî ambassadors on reaching Bihâr heard that Ilyâs had in the meantime died. The latest of Mr. Thomas's coins of Ilyâs Shâh also bear the year 758.

Ilyâs Shâh is nicknamed 'Bhangrah,' a corruption, it seems, of the Hindustâni bhângrá, 'a seller, or eater, of the drug bhâng (hemp).' Firish-tah says that he does not know the origin of the word; but Ziyâ i Barâni evidently knew more about it; for he says, rejoicing in his joke,—"And the well known Bengal Pâiks, who for years had borne the name of 'the Bengal Ancients' or 'the Dead,' had taken a quid from Ilyâs the Bhâng-eater, in order to shew that they were ready to sacrifice their lives for him; and standing in front of the train of that wild maniac, together with the mouldy-looking Bangálî Râjahs, they bravely threw about their arms and legs; but as soon as the battle commenced, they put from fear their fingers into their mouths, gave up standing to attention, threw away swords and arrows, rubbed their foreheads on the ground, and were consumed by the swords of the enemies." A graphic description, by the way, of the Bengal Military Police in 1353, A. D.

No inscriptions have hitherto turned up that mention Ilyâs Shâh; nor does the author of the Riyâz, who had a good personal knowledge of the ruins of Gaur and Pandvâlah, speak of any buildings erected by him. He only says—'It is said that Sultân Shamsuddîn made in Bengal a reservoir in imitation of Hauz i Shamsi at Dihlî.'

* Reinanud, however, quoted by Marsden (p. 566, note) mentions two Sunnârgâon coins of 754 and 760. The MS. of the Riyâz belonging to the Asiatic Society of Bengal mentions 758 as the year in which the last ambassadors left for Dihlî; Stewart has 759; and the Tabaqât and Firish-tah, who copies from it, have 'in the end of 759.' The earliest coin of Sikandar figured by Mr. Thomas (Journal, As. Soc. of Bengal, 1867, Part I, p. 63, and Pl. 11, No. 12) belongs to 761.
H. Blochmann—*Geography and History of Bengal.* [No. 8,]


V. Abul Muğa’hid Sikandar Sháh.

Ilyás Sháh was succeeded by his eldest son Sikandar Sháh. The beginning of his reign was marked by a second attempt* made by Firúz Sháh to annex Bengal; but as in the first, Ekdáláh held out, and Firúz returned to Dihli, and never again interfered in Bengal matters.

‘In 766,’ says the Riyáž,† ‘Sikandar commenced to build the Adínah [i.e. Friday] Mosque; but he had not finished it when he died, and the building remained half completed, and now-a-days parts of the edifice may be seen in the jungle near Pánduah, about a kos from it. I have seen it myself: it is, indeed, a fine mosque and must have cost a great deal of money. May Sikandar’s efforts be thankfully remembered!’

According to the same author, Sikandar Sháh died after a reign of nine years and some months—a statement also given in the *Tabaqát*—of wounds which he had received ‘on the field of Goálpárah,’ fighting with his favourite son Ghiyáš, whom the machinations of a jealous step-mother had driven into rebellion.‡

‘Sikandar was the contemporary of the revered saint ‘Alául Haq.’

Several inscriptions belonging to Sikandar’s reign have been found. One of the year 765, from Dínájpúr, was published by me in the Journal for 1872, p. 105. I remarked there on the beauty of its characters;§ but the inscriptions inside and outside the Adínah Mosque, rubbings of which the Society owes to General Cunningham and Mr. W. L. Heeley, are the finest that I have seen. The characters are beautiful, and the rubbings have created sensation wherever I have shewn them. The inscription inside is 13½ ft. long and 1½ ft. broad, but contains only verses from the Qurán [Sur. IX, 18, 19], on the top in Kufic and below in (what people call now-a-days in India)

* In 760, according to the *Tabaqát* and the *Riyáž,* Stewart has 761. Regarding Firúz Sháh’s desire to reinstate Zafar Khán, Mubarak Sháh’s son-in-law, in the government of Sunnárgón, the cause that led to the expedition, *vide* Dowson, Elliot’s *History of India,* III, 304, ff.

† Stewart has 763.

‡ Ghiyáš marched with a large army from Sunnárgón, and pitched his camp at Sunnárgarhi. Stewart has *Sunndrkgof.* From the other side, his father issued forth with a terror-inspiring army, and the next day, on the field of Goálpárah, both parties engaged in deadly strife. The whole story is only to be found in the *Riyáž.*

The Goálpárah meant here is, no doubt, the village quite close to Pánduah, S.W. of it. I have not identified Sunnárgarhi.

§ It was written by one Ghiyáš. General Cunningham is inclined to think that the Ghiyáš is Sikandar’s son.
Tughra characters. The stone outside measures 4 ft. 9 in. by 10 in., and its letters are just as beautiful.

No. 8. *The Sikandar Shah Inscription, Adinah Mosque, Hazrat Panthuah,
A. H. 770, (vide Pl. V, No. 3).*

This.......mosque was ordered to be built in the reign of the great king, the wisest, the justest, the most liberal of the kings of Arabia and Persia, who trusts in the assistance of the Merciful, Abul Mujahid Sikandar Sháh, the king, son of Ilyás Sháh, the king,—may his reign be perpetuated till the day of promise! He wrote it on the 6th Rajab of the year 770. [14th February, 1369.]

Neither inscriptions nor coins give Sikandar Sháh a full *julús* name; he only has a kunyah, Abul Mujahid. Perhaps it would be going too far in speculations, if I were to say that Ilyás naturally called his son Sikandar; but a Muhammadan, on hearing the name of Ilyás, will immediately think of the *áb i hadát*, 'the water of life'; and as Sikandar is the legendary successor of Ilyás (the Prophet Elias) in search of the precious commodity, the name of the father may have suggested that of the son.

As stated above, the histories assign Sikandar Sháh a reign of nine years and some months. Stewart says that he died in 769, a year obtained by adding nine years and a fraction to 760, which he assumes to have been the year in which Ilyás Sháh died. The above Panthuah inscription extends Sikandar's reign to the latter half of 770, and the coins figured by Mr. Thomas in his 'Initial Coinage' (J. A. S. B., 1867, Pl. II, Nos. 12, 14, and 13) give the dates 761, 782, and 783. But Mr. Thomas also states that among the large number of Sikandarsháhs that passed through his hands, he found coins of almost every year between 750 and 792, with the exception of the years 755, 762, 767, 768, 769, 774, 775, 777, and 778. It thus becomes clear that Sikandar Sháh struck coins as prince. Mr. Thomas also quotes A'zam Sháhi coins of 772, 775, 776, the years when Sikandar's coinage is most interrupted, and again from 790 to 799. Further, we have to remember that the poet Háfiz sent the well known ghazal

* I have elsewhere remarked on the numerous grammatical mistakes in Bengal Arabic Inscriptions. They consist chiefly in wrong articles, mistakes in gender, in oblique cases, and in wrong constructions of the Arabic numerals. In order not to disfigure the text, I shall no more indicate such errors by a (sic).
to Giyāsuddīn A'zam Shāh, 'king' of Bengal; and as Hāfīz died in 791 (975 C.E. being the date of his death), the ghazal must have been sent to Bengal during Sikandar Shāh's lifetime. The fact that A'zam Shāh's early coins (of A. H. 772) were struck in Mu'azzamābād (vide above), agrees with the statement of the Riyāz that he rebelled in Eastern Bengal, where he remained "nominally subordinate or covertly resistant to paternal authority."*

VI. Giyāsuddīn Abul Musaffar A'zam Shāh.

The only fact given in the Riyāz and omitted by Stewart is that "A'zam Shāh was treacherously murdered (ba-daghā kuṣhtah) by Rājah Kāns after a reign of seven years and some months," or, as I have seen in a "little book, after a reign of sixteen years, five months, and three days."

The coins of this king, as mentioned before, go to 799; the latest figured by Mr. Thomas (Initial Coinage of Bengal, Pl. II, No. 15) is of 795.† No inscription of this and the following two kings have been found.

* It is also curious that in the inscription of 777, published by me in this Journal for 1870, p. 292, no king is mentioned, as if it had been doubtful who the real king was.

In order to remove all doubts regarding a confusion of Tūsīwīn and Tūsūlīn in the reading of Sikandar's and A'zam Shāh's coins, a few clear drawings of Sikandar Shāh's struck between 783 and 792, and of A'zam Shāh's, struck in 772, 775, 776, would be required. A'zam Shāh's reign, according to the common statement, lasted 7 years, which we certainly get when we subtract 792 (the latest year cited by Mr. Thomas for Sikandar Shāh) from 799 (the latest year cited for A'zam Shāh); but if we take the second statement, given in the Riyāz, regarding the length of A'zam Shāh's reign, viz. 16 years, 5 months, and 3 days, and subtract it from 799, we get 783, the year of Mr. Thomas's latest figured coin.

† I. e., according to the wrong chronology of the Tabaqāt and the Riyāz, in 775.

‡ I may here suggest a few unimportant alterations in Mr. Thomas's readings of A'zam Shāh's coins ('Initial Coinage,' J. A. S. B., 1867, pp. 68 to 70). First, kūn (loc. cit., p. 68) is nothing but yamān. Lastly the reverse of coin No. 38 (loc. cit., p. 70), as I see from a specimen in the Society's Coin Cabinet, is إبَد إله دولته و خلد إله ملكه

May God render his power everlasting, and may God perpetuate his reign,—abbada al-lāhu, not the name 'Abdullāh,—which removes from the mint officials the charge of ignorance. It was only Akbar who, in his hatred of everything that was Arabic, recommended the substitution of Alif for 'Ain, and ین for ین, &c.

In the reverse of the Sikandar Shāhī (loc. cit., p. 64, No. 23), as I also see from a coin in the possession of the Society, there is a wrong Alif before لدی، and a و (waw) is omitted before Alīḏhira,—'Who renders assistance to the religion of God, and who is victorious over the enemies of God.' This cancels the footnote.
VII. Saifuddi'n Abul Muja'hid Hamzah Shâh, son of A'zam Shâh.

The histories give him the epithet of Sultan ussalâtîn, and praise him for his virtues. Firishtah says:—"And the Râjahs of the country did not draw their heads out of the yoke of obedience and practised no neglect and delay in paying taxes."

According to the Tabaqát, he reigned ten years. But the author of the Riyáz saw "in the little book," that the reign of this king was 3 years, 7 months, and 5 days, which would bring his reign to 802, or 803, A.H.

Marsden has published a coin of this king, without, however, giving the Royal name (Numism., Pl. XXXVII, No. DCCLIV). It follows in appearance the coins of Sikandar Shâh and A'zam Shâh; the margin contains 'Firuzábâd,' but no year. The specimen in the cabinet of the Asiatic Society is of very rude manufacture, and has most clumsy letters, especially on the reverse.


**Obverse**—الموبد بن بانکر الرحمن سيف الدين والدين إبراهيم شاه بن عطشان الإسلام

**Reverse**— سنة أربع

Assisted by the assistance of the Merciful, Saifuddunyâ waddín Abul Muja'hid Hamzah Sháh, son of A'zam Sháh, the king. The helper of Islam and the Muslims * * year * * 4.

VIII. Shamsuddi'n ? ?, son of Saifuddi'n Hamzah Shâh.

The Tabaqát says that this king followed the path of his father, and died after a quiet reign of three years and a few months. Firishtah states that as the king was young and deficient in intellect, an infidel of the name of Kâns, who was an Amir of the court, obtained great power and influence, and usurped the executive and the collection of taxes. The Riyáz has the following: "After enjoying himself for some time, he died, in 788, from an illness, or through the foul play of Rájah Kâns, who at that time was very powerful. And some writers have asserted that this Shamsuddin was no son of the Sultan ussalâtîn, but an adopted son (mutabannî), and that his name was Shiubahuddin. Anyhow, he reigned 3 years, 4 months, and 6 days. It is clear that Rájah Kâns, who was zamindâr of Bhatúriah, rebelled against him, killed him, and usurped the throne."

The Saints of Gaur and Hazrat Pandua.

Before proceeding in my account of the kings of Bengal, it may be convenient here to collect the information which we possess regarding the

* i. e., according to the erroneous chronology, he would have died in 785.
Muhammadan saints of Gaur and Pandua. Their names often occur in Bengal History, while their dargahs, as elsewhere, are the natural depositories of inscriptions.

The principal personages of saintly renown are Shaikh Jaláluddín Tabrızí, Shaikh Akhí Sirájuddín 'Usmán, Shaikh 'Aláulhaq, and Núr Qutb 'Alam.* All larger works on Muhammadan Saints contain biographical notices of them.

1. Shaikh Jaláluddín Tabrızí.

He was a pupil of Abú Sa'íd Tabrızí and of the renowned Shaikh Shiháb-uddín Suhrawardí. He accompanied the latter on his pilgrimages to Makkah, and used to carry on his head a small oven with the hot pots in which his master kept his food. Numerous miracles are ascribed to him. Among others, he converted, with one look, at Badaón a Hindú milkman to Islám. Though several times charged with immoral practices, he defeated his accusers. When he went to Bengal, he commenced to destroy idols; in fact, his vault occupies the site of an idol temple. He kept a lungarkhánah, where he housed and fed beggars and travellers. He died in 642 A. H., or A. D. 1244. The place where he died does not seem to be accurately known. The Mutawallís of the tomb near Gaur say that he died in Aurangábád (the old K'harkí), and that his shrine in Bengal† is a mere jawáb, or imitation-vault; but the Aín i Akbarí (IVth book) says that he was buried at Bandar Diú Mahall.‡ Vide below under Yúsuf Sháh.

2. Shaikh Akhí Sirájuddín 'Usmán.

Siráj came as a boy to Nizámuddín Auliá of Dihlí, who handed him over to Fakhruddín Zarrádí to teach. In course of time, he became very learned, and was told to go to Bengal, where he died in 758, A. H., or 1357, A. D. The Haft Iqlím says that Nizám called him 'the mirror of Hindústán,' and that he only received, when advanced in age, proper instruction from Fakhruddín. After Nizám's death, he went to Lak'hnautí, and all the king became his pupils.

For the inscriptions at his tomb, vide below under Husain Sháh.

* Besides these, the Riyáz mentions a Shaikh Rájá Bayábání (died in 754, when Firúz besieged Ilyás Sháh). Shaikh Hamíd of Nágor, one of Núr Qutb 'Alam's teachers, belongs to Nágor in Jodhpúr, not to Nágor in Bírbhmá, as Stewart says.

† As most Dargáhs in Bengal, Sháh Jaláí's tomb is rich. Its lands lie chiefly in Bardwán District, at Bohát, near Maimári, a station on the E. I. Railway. There is a Madrasah and a Saráí in Bohát.

The oven is still shown at the Gaur shrine, and 'till three generations back, it cooked rice without fuel.'

‡ I. e., either the Maldives, or Diú in Gujarát. Vide Dowson, IV, 96, note.

'Alá-ulhaq was the son of Shaikh As'ad of Lahore, and one of the spiritual successors of Shaikh Akhí Sirájuddín 'Usmán. According to the Ma'árij-ul-wiláyat, he was a true Quraishí Hásimí, and traced his descent from Khálid b. Waíd. He was at first exceedingly proud of his origin, wealth, and knowledge, so much so, that Shaikh Akhí complainingly told Nizámuddín Auliá that he was no match for 'Alá-ulhaq. But Nizám told him not to mind it, as 'Alá would in time become his (Akhí's) pupil. It seems that 'Alá in his pride called himself Ganj i Nabát,* and when Nizám heard this, he cursed him, and said, "May God strike him dumb!" The curse instantly took effect; nor was 'Alá-ulhaq's tongue loosed till he became the humble pupil of Shaikh Akhí. As Shaikh Akhí travelled a great deal on horseback, 'Alá-ulhaq accompanied him walking barefoot, and carrying his master's pots filled with hot food on his head, till he became quite bald. Nor did he feel concerned when Shaikh Akhí, with a view of humbling him, passed on his journey the houses of his brothers, who were all Amírs and rich men.

Once some travelling faqírs came to 'Alá-ulhaq's cell. One of them had a cat with him;† but whilst in 'Alá's house, the cat was lost. The owner asked the saint to 'make' him a new cat; but when 'Alá said that he did not know from what to make one, he replied, "What do I care from what you make it, make it out of the horn of a stag, if you like." 'Alá was annoyed and said, "You shall feel the horns." Thereupon another of the faqírs, in order to vex the saint, said, "Well, can I make a cat from my testicles?" and 'Alá replied, "There you shall feel it." When the faqírs had left the house, the former was killed by an ox, and the second got an attack of orchitis, of which he died.

'Alá-ulhaq spent large sums in feeding pupils, beggars, and wanderers. But the king of the land got envious, because the public treasury even could not have borne such a heavy expenditure, and he drove the saint to Sunnárgón. He stayed there for two years, and gave his servants orders to spend twice as much as before. And yet, he only possessed two gardens, the income from which was eight thousand silver tankahs per annum; but as he gave a beggar the land as a present, all money must have been supplied him from the unseen world.

* Faríduddín 'Aṭṭár, the great saint of Pák Pátan (Ajodhan) in the Panjáb has the title of Ganj i Shákar, 'store of sugar.' But shákar may be unrefined, whilst nabáti is applied to the best refined sugar. 'Alá-ulhaq, therefore, placed himself above Faríd.

† What the dog is to Europeans, is the cat to Indians. To kill or lose a cat is most unlucky.
Rajah name a the is mentioned called coins a over succession belongs to he dethroned titles of Bengali. He was Muhammadan. The usual phrase is usul fi lomb —— ^Ala-ulhaq died on the 1st Rajab, 800, or 20th March, 1398, and his tomb is at Hazrat Panjua.h.


He is the son and spiritual successor of 'Ala-ulhaq. In order early to practise the virtue of humility, he washed the clothes of beggars and wanderers, and kept the water constantly hot for ceremonial ablutions; nay, he even swept the cell of his father and cleaned the privies attached to the house. One day, whilst thus engaged, his pure body was polluted, and his father allowed him to proceed to other work, as woodcutting. He refused the invitation of his worldly brother A'zam Khan, who was the Vazir at the court of Muhammad Tughluq.*

Qub 'Alam died in 851, or A. D. 1447, and lies buried at Panjua.h. The words shams ul hiddyat, 'lamp of guidance,' are the tariikh of his death. He was succeeded by his sons Rufkatuddin and Shaikh Anwar.

IX. Rajah Ka'ns.

We saw above that Shamsuddin (II.)—a king whose existence and royal titles have not yet been verified by medallion or mural evidence—was dethroned by Rajah Kans. This Rajah, at the present stage of research, belongs to legends and traditions rather than to authenticated history, there being little else known of him besides the fact that through him the succession of kings of the house of Ilyas Shah, which had successfully ruled over Bengal for more than fifty years, was broken, and that his son became a Muhammadan.

The remark of the Riyaz regarding Shamsuddin and the probability that he did not belong to the old dynasty, but was an adopted son and was called Shihabuddin, receives a particular importance from the following coins of a new king, whom I shall now assign, for the first time, I believe, a place in the list of the kings of Bengal. Their manner of execution, which follows closely on that of the coins of preceding kings, and the mint towns mentioned proclaim them to be Bengal coins. The name of the new king is——

Shihabuddin Abul Muzaffar Bayazid Sha'h.

His coins do not mention the name of his father, and the absence of the usual phrase ibn ussultan, 'son of the king,' indicates that he was either a usurper, in which case 'Bayazid' might represent the Muhammadan name of Rajah Kans after conversion, or a puppet king, in whose name Rajah Kans reigned and coined in the 'Darul Islam' of Bengal.

If we take the first alternative, we have against it the clear statement of the historians that Kans remained a Hindu, and also the circumstance

* This is rather early, considering that 753 is Tughluq's last year.
that his son does not mention the name of his father on his coins, which he would scarcely have omitted, if Kâns had turned Muhammedan. And if we look upon this Bâyâzîd Shâh as a successful rival of Râjah Kâns, we have history and legends against us. Hence the theory of a puppet king—a benâmí transaction—is perhaps the least objectionable.

1. Vide Pl. VIII, No. 2. Silver. Weight, 163·94 grains. A.H. 812. Circular areas. (Asiatic Society of Bengal, one specimen.)

Obverse. —المؤيدبنایید الرحمن شهاب الدينیا و الدين ابر المظفر بازید شاه

ابلسلطان

Margin. — Cut away.

Reverse. — ناصر امبر المومنین غوث الإسلام و المسلمين خلد ملكه

Margin. — غرب هذه الأسکة... سنة 812

Assisted by the assistance of the Merciful, Shâhâbuddunyâ waddîn Abû Muzaffar Bâyâzîd Shâh, the king.

The helper of the Commander of the Faithful, the aid of Islam and the Muslims, may God perpetuate his reign! This coin was struck * * * * year 812.

2 Vide Pl. VIII, No. 3.* New variety. Silver. Weight, 165·76 grains. Féruzâlâd, A. H. 816. (Asiatic Society of Bengal, two specimens.) It is.

The obverse has sixteen convex scollops, and the reverse eight concave ones.

Obverse. — As in No. 1.

Margin. — Cut away.

Reverse. — ناصر امبر المومنین غوث الإسلام و المسلمين

Margin. — ابوبكر غرب (عمر) فيروز (عثمان) آبان سنة (علي) 816

In the Margin.—(Abû Bakr) struck at (Umar) Féruz.—(Usmân) âbâd in the year (‘Ali) 816.

Râjah Kâns has been identified by Mr. E. V. Westmacott† with Ganesh, Râjah of ‘Dyuvaj,’ or Dinâjpûr. The Riyâz, who appears to have compiled his chapter on this usurper from local traditions, calls him ‘Râjah of Bhâtûriah.’ Whether this name is an ancient one, I cannot say; it does not occur in the Kîn, nor have I seen it before the time of Rennell’s Atlas (1778), in which the name of Bhâtûriah is given to a large District east of Mâlîdah, bounded in the west by the Mahânândâ River and the Pûrma-

* In the figure of this coin, there is a wrong stroke between the A and I in the year.

† Vide Calcutta Review, No. CX, October, 1872. Col. Dalton suggests a comparison of the name ‘Kâns’ with ‘Kopâ,’ or ‘Koch,’ the same as Koch (Koch Bihar). Koch is often pronounced with a nasal twang, as if it were spelt Kofis.

It is also curious that a Parganah near Dinâjpûr (south-west of it) has the name of ‘Bajîtpûr,’ a well known Bangâli corruption of Bâyâzîdpûr, which at once reminds us of Bâyâzîd Shâh. We may attach some significance to this, as the name is evidently old; for the name of this very parganah occurs in the Kîn i Akbarî (my text edition, p. 403, in Sirkâr Pânjrah).
bhaba its tributary, in the south by the left bank of the Ganges, in the east by the Karataya, and in the north by Dinajpúr and G’horág’háṭ. Bhatúrìah, therefore, is the district to both sides of the Atrai River.

The Tabaqát Akbārī merely states the fact of Kāns’s usurpation, and assigns him a reign of seven years. Firishtah, who has been followed by Stewart, says that, “though no Muhammadan, he mixed with them and loved them, so much so that some Muhammadans testified to his conversion, and claimed for him a Muhammadan burial. After a vigorous reign of seven years, he went to the world of annihilation, and was succeeded by his son, who had the honor of being converted to Islam.”

The Riyāz represents the views of the opponents of the Rájah, and gives the following:

‘When Sultán Shamsuddín died, Rájah Káns, a Hindú zamīndár, seized the whole kingdom of Bengal, and sat proudly on the throne. Oppression and bloodshed followed; he tried to kill all Muhammadans, and had many learned men murdered. In fact, his object was to drive Islam from his kingdom. One day, people say, Shaikh Badr ul Islam, son of Shaikh Mu’inuddín ’Abbás, went to the wicked tyrant, but did not greet him. When the Rájah asked him why he had not saluted him, he replied, “Learned men are not supposed to greet infidels, especially an infidel tyrant, who like thee sheds the blood of Muhammadans.” The unclean heretic was silenced, he winced under the reply, and thought of nothing else but to kill the Shaikh. He, therefore, called him one day to a room, the door of which was very low and narrow. But the Shaikh saw through the plan, * and put his foot first over the threshold, and then entered without bending his head. This annoyed the Rájah so much, that he gave orders to take him to the path of his brethren. The Shaikh was at once executed. All the remaining learned men, on the same day, were put on board a ship and were drowned in the middle of the river.

‘The usurpation of this infidel and the slaughter of Muhammadans drove at last the Saint Núr Qutb ul ’Alám to despair, and he wrote a letter to Sultán Ibráhīm i Sharqí (of Jaunpúr), who at that time had extended his kingdom to the [Eastern] frontier of Bihár,† complaining of the injustice done to Islam and the Muslims, and asking the king to march against the infidel. Ibráhīm received the letter with due humility, and consulted with Qázi

* The Rájah evidently wished the Shaikh to come to him in a stooping position, which might be looked upon as a ‘salám’.

† The Jaunpúr kingdom was founded in 796, and Ibráhīm i Sharqí, the first titular Sultán, reigned from 804 to 844. The faulty chronology of the Tabaqát, Firishtah, and Stewart, makes Rájah Káns die in 794. The story of the Riyāz, therefore, agrees very well with the testimony of coins; but it is strange that the author of the Riyāz did not see the anachronism.
Shihábuddín Jaunpúri, the chief of the learned of the age, who was allowed at court to sit on a silver chair. The Qáží represented the worldly and religious advantages that would flow from a war with the infidel on the one hand, and from a visit to the great saint, on the other. The king, therefore, collected a large army, invaded Bengal, and pitched his camp at Saráí Fírúzpur. Rájah Káns now applied to Quṭb ul 'Alam, begged to be forgiven, and asked him to intercede on his behalf with the king of Jaunpúr. The saint replied that at the request of an infidel he could not bid a Muhammadan king stop; in fact, he had himself invited the enemy to come. The Rájah placed his head on the feet of the saint, and said, he was willing to perform anything he ordered him to do, whereupon Quṭb ul 'Alam told him that he would not interfere until he was converted to Islam. The Rájah placed the finger of acceptance upon his eye; but the wife of the infidel led him back to perdition, and he evaded conversion. But he took his boy, who was twelve years old and had the name of Jadú, to the saint and said, "I have got old and wish to renounce the world; make this boy a Muhammadan and give him the kingdom of Bengal." Quṭb ul 'Alam, thereupon, put some ḍán which he was chewing, into Jadú's* mouth, taught him the creed, and thus made him a Muhammadan, giving him the name of Jaláluddín. According to the Rájah's wish, he also sent a proclamation through the town, ordering the people to read the Friday prayer in the name of the new king. The blessed law of the prophet was thus carried out with new vigour. Quṭb ul 'Alam now went to king Ibráhím, and asked him to return. The king looked angrily at Qáží Shihábuddín, who said to Quṭb ul 'Alam, "At your request the king has come here, and now you come to him as ambassador to implore his mercy. What shall men think of this?" The saint replied, "When I called you, a tyrant oppressed the faithful; but now, in consequence of your approach, the new ruler has become a Muhammadan; fight with infidels, not with a king that belongs to the Faith." This silenced the Qáží; but as the king still looked angry, the Qáží had the boldness to enter into a scientific discussion with the saint. After many questions and answers, Quṭb said, "To look on the poor with contempt or entangle them in examinations, brings no man prosperity. Your miserable end is at hand." He then looked even at the Sulṭán with expressions of anger. Ibráhím now got vexed, and returned with a sorry heart to Jaunpúr. It is said that not long after, Sulṭán Ibráhím and Qáží Shihábuddín died.

When Rájah Káns heard that Sulṭán Ibráhím was dead, he deposed Jaláluddín, took again the reins of the government into his own hands, and ruled according to his false tenets. He made several hollow cows of gold, threw Jaláli into the mouth of one, and pulled him out behind; the gold

* As saints do with their pupils, or in order to break the boy's caste.

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was then distributed among the Brahmans. He hoped that the boy would thus return to his old faith. But as Jalal had been converted to Islam by a saint like Qutb ul 'Alam, he remained faithful to his new belief, and the talk of the infidels made no impression upon him.

' Rájah Káns now again commenced to persecute the Muhammadans. When the measure of his cruelties was full, Shaikh Anwar, son of Qutb ul 'Alam, said one day to his father, "It is a matter of regret that, with you as guardian saint, the Muhammadans have so much to suffer at the hand of this infidel." The saint was just at his devotions, and angry at the interruption, he exclaimed, "The misery will not cease till thy blood is shed." Anwar knew that whatever his father said, was sure to come true; he, therefore, replied that he was a willing martyr. The oppression of Rájah Káns reached the climax, when he imprisoned Shaikh Anwar and his brother's son Shaikh Záhid. But as he dared not kill them, he banished them to Sunnárgao, in the hope that they would confess where Qutb ul 'Alam had buried his money and that of his father. But even though they were sent to Sunnárgaon, and were much threatened, no money was found, because none had ever been buried, and Shaikh Anwar was ordered to be killed. Before his execution, he said that at such and such a place they would find a large pot. People dug and found a large vessel with only one gold coin in it. On being asked what had become of the other money, Anwar replied, "It seems to have been stolen." Anwar, no doubt, said so by inspiration from the unseen world.

'It is said that on the very day on which Shaikh Anwar died, Rájah Káns went from his palace to the infernal regions. But according to the statement of some, he was killed by his son Jalaluddin, who, though in prison, had won over the officers. The oppressive rule of this monster had lasted seven years.'

X. Jalaluddin Abul Muzaffar Muhammad Shah.

According to the histories, he is the son of Rájah Káns. His real name is given in the Riyáz as 'Jadu,' and by Firishtah as 'Jatmali' or 'Jaimali'—the MSS. differ. There is a place Jatmál pur, a little east of Dinajpúr, and we may assume the first name to be correct. As the coins of Báyazid Sháh go up to 816, and the coins of Muhammad Sháh commence with 818, the latter year, or 817, must be the beginning of his reign; and if he reigned for seventeen years, as stated in the histories, his reign may have lasted from 818 to 835, which agrees with the year on Marsden's coin.

* Stewart supposes that he was the eldest son of the Rájah by a Muhammadan concubine. According to the Tabaqát and Firishtah, he reigned seventeen years, and died in 812 A.H. Stewart says, eighteen years.
of his successor Ahmad Shah (836). General Cunningham tells me that the Bodleian Library at Oxford has a specimen of 831.

1. Vide Pl. VIII, No. 4, and Marsden, Numism., Pl. XXXVII, No. DCCLXV. Silver. Weight, 166.89 grains. Mint town ? A.H. 818. (As. Soc. Bengal, one specimen.)

Obverse area, bounded by sixteen convex scollops; reverse area, a four-leafed shamrock.

**Obverse.**—

နန်းစိုးငါးယောင်းများဖြင့် ဆရာစိုး

Margin, none.

**Reverse.**—

နန်းစိုးငါးယောင်းများဖြင့် ဆရာစိုး

Margin.—

A.H. 818.

Jalâlud-dunyâ wâddîn Abul Muzaffar Muhammad Shâh, the king. The helper of Islam and of the Muslims,—may his reign be perpetuated! This coin was struck in......in the year 818.

Marsden gives this coin as dated 823, but his figure does not show that year.

2. Vide Pl. VIII, No. 5. New variety. Silver. Weight, 165.695 grains. A.H. 818. (As. Soc. Bengal, one specimen.) Obverse area as in No. 1; reverse, eight concave scollops.

**Obverse.**—

နန်းစိုးငါးယောင်းများဖြင့် ဆရာစိုး

Margin, none.

**Reverse.**—

နန်းစိုးငါးယောင်းများဖြင့် ဆရာစိုး

Margin.—

A.H. 818.

The just king Jalâlud-dunyâ wâddîn Abul Muzaffar Muhammad Shâh, the helper of the Commander of the Faithful, the aid of Islam and the Muslims. (Abu Bakr) struck (Umar) in the year (Usman) eighteen (Ali) eight hundred [818, A.H.].

3. Vide Pl. VIII, No. 6. Silver. Weight, 155.725 grains. Sunnârgâon (?), A.H. 821. (As. Soc. Bengal, one specimen.) Obverse area, as in No. 1; reverse area, a square inscribed in a circle.

**Obverse and Reverse.**—

နန်းစိုးငါးယောင်းများဖြင့် ဆရာစိုး

Margin, A.H. 821.

During the time of Muhammad Shah, says the Riyaz, the town of Panduah became so flourishing, that it cannot be sufficiently described. The king also built a mosque, a reservoir, the Jalali Tank, and a Sarai in Gaur; in fact, Gaur also was again during his reign occupied. He reigned for seventeen years. In the year 812 [822], he made the Palace of Gaur his residence. A large dome with his tomb still exists in Panjuah, and the tombs of his wife and his son are at the side of his in the same vault.
XI. Shamsuddin Abul Muja'hid Ahmad Shah.

Marsden (Numismata, Pl. xxxvii, No. cccxxxvi) has published a silver coin of this king, whom the histories call the son of Muhammad Shah. The coin bears the clear date 836 A.H. (1432-33, A.D.), and differs from the preceding Bengal coins by having the Kalimah on one side.* The Tabaqit merely states that he reigned for sixteen† years, and died in 880 A.H., whilst Firishtah adds that he was a good and liberal king. The Riyáz gives him a different character. ‘As Ahmad Shah was of rough disposition, tyrannical, and blood thirsty, he shed the blood of innocent people, and tore open the bodies of pregnant women. When his cruelty had risen high, and great and small were in despair, Shádí Khán and Nácir Khán, two of his slaves, whom he had raised to the rank of Amirs, made a conspiracy and killed him. This took place in 880, after Ahmad Shah had reigned sixteen, or, as some say, eighteen, years.’

‘Shádi Khán now desired to get rid of Nácir Khán; but Nácir Khán outwitted him, killed him, and issued orders as king. The Amirs and Malik, however, refused to obey him, and murdered him, after seven days, or, as some say, after twelve hours.’

With Ahmad Shah ends the dynasty of Rájah Káns. Taking the year 817, the beginning of Muhammad Shah’s reign, as a well attested starting point, and assuming the duration of each reign as given in the histories to be correct, we would get—

<table>
<thead>
<tr>
<th>Duration of reign.</th>
<th>Ascertained dates.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rájah Káns</td>
<td>817 — 7, or 810 to 817. Coins of 812 and 816.</td>
</tr>
<tr>
<td>(Báyazid Sháh)</td>
<td></td>
</tr>
<tr>
<td>Muhammad Sháh, 817</td>
<td>817 + 17, or 817 to 834. Coins of 818, 821, 823, 831.</td>
</tr>
<tr>
<td>Ahmad Sháh, 834</td>
<td>834 + 16, or 834 to 850. Coin of 836.</td>
</tr>
</tbody>
</table>

Now above we saw that the last ascertained year for Hamzah Sháh’s reign is 804. If we then allow, on the testimony of all histories, above three years to Shamsuddin, son of Saifuddin, we would be brought to the year 808, the commencement of the usurpation of Rájah Káns, and the reckoning, according to the data which we at present possess, is on the whole satisfactory.

The length of Ahmad Sháh’s reign only is open to doubt; for if his reign be extended to 850, we are forced to assume that for the greater part of his rule he was vigorously and successfully opposed by Náciruddin Mahmúd, whose coinage, as will be seen from the following, goes back at least to 846 A.H.

* The reading of the obverse is—
السلطان الاعظم شمس الديناء والدين ابن ابي اشجاه أحمد شاه بن محمد شاه إلستان
† Stewart has eighteen.
Restoration of the Ilyā’s Shā’ī Dynasty.

XII. Naṣiruddīn Abul Musaffar Mahmûd Shāh (I).

The histories agree in describing him as a descendant of Ilyā’s Shāh. He seems to have been supported by the old party who were tired of Ahmad Shāh; old families are said to have gathered round him; and Gaur, the old capital, was rebuilt by him. The wars between Jaunpūr and Dihli, as Fīrishtah correctly observes, gave Bengal rest, and Mahmûd Shāh, according to the histories, reigned in peace for thirty-two years, or according to some “not more than twenty-seven years,” and died in A.H. 862.

In the histories, he is called by his first name Naṣir Shāh, instead of Mahmûd Shāh. Bengal history presents several examples of similar inversions, if the retention of the familiar name of the king can be called so.

The chronology of Mahmûd Shāh’s reign has been considerably cleared up by a coin in the possession of Col. H. Hyde, the President of our Society, and by the inscriptions received from General Cunningham and Dr. Wise. The dates now ascertained are 846; 861; 20th Shab‘ān, 863; 28th Zil Hajjah, 863. Again, the oldest inscription of Bārbak Shāh, discovered by Mr. E. V. Westmacott, is dated Ṣafar, 865. We are, therefore, certain that Mahmûd Shāh must have reigned at least till the beginning of 864. But if the second statement of the histories regarding the length of his reign (27 years) be correct, we would get the year 836 as the first year of his reign, the very year in which Marsden’s Ahmad Shāh was struck. This would make Mahmûd Shāh an opposition king for the whole length of Ahmad Shāh’s reign, which the histories say was not the case. We require, therefore, more evidence to fix the beginning of Mahmûd’s reign.


Obverse. — ِ
Reverse. —

He who is assisted by the assistance of God, the evidence of the Khalifah of God in this age, Naṣiruddunyâ waddīn Abul Muzaffar Mahmûd Shāh, the king. A.H. 846.

Mahmûd Shāh’s coins hitherto published are almost valueless. The cabinet of the Asiatic Society has only one specimen, without date or mint-
town, like No. 8 of Laidley's Plate of Bengal coins (Journal XV, for 1846, Pl. iv). Some have the Muhammadan creed on one side in (so called) Tughrá characters, and on the other side, the name of the king Náṣir-ud-dunyá woddin Abul Muzaffar Mahmúd Sháh. The margin of the specimen is unfortunately cut away. Mr. Laidley's No. 7 has the same obverse; the reverse is the same as on Hamzah Sháh's coins—*

* Náṣir-ud-dunyá woddin Abul Muzaffar Mahmúd Sháh

But the three inscriptions of this king are very valuable, viz., one from Sátgáoñ, dated A. H. 861, or 1457 A. D.; one from Dháká, dated 20th Sha'bán, 863, or 13th June, 1459;† and one from Gaur, discovered by General Cunningham, dated 28th Zil Hijjah, 863, or 26th October, 1459.

No. 9. The Mahmúd Sháh Inscription of Sátgáoñ (A. H. 861).‡

**I am doubtful whether Laidley's Nos. 11 and 12 belong to this king. The obverse of No. 11 consists of seven circles, four with 'Náṣir Sháh,' and three with 'assútán;' the reverse is illegible. It is unlikely that the king should have called himself Náṣir Sháh on some coins, when other coins and all inscriptions give his royal name 'Mahmúd Sháh.' Laidley's No. 12 is curious; it shows on the reverse the kalimáh in clumsy Kufic characters, and on the obverse five circles with 'Mahmúd Sháh assútán.' In the centre of the piece are three rings, thus—* . Three rings thus arranged are Timúr's arms; vide Vambéry's Bokhara, p. 205.

† Received from Dr. J. Wise. It was published in Journal, As. Soc. Bengal, 1872, Part I, p. 108.

‡ This inscription was first published by me in Journal, As. Soc. Bengal, for 1870, Part I, p. 293, where notes will be found on the locality. The name 'Mahmúd' is broken away, only the dál is left, which in 1870, when I copied the inscription from the stone, I mistook for a nám. General Cunningham's rubbing leaves no doubt that it is a dál. I therefore republish the inscription with this important correction.
1873. H. Blochmann—Geography and History of Bengal. 271

God Almighty says, 'Surely he builds the mosques of God who believes in God and the last day, and establishes the prayer, and offers the legal alms, and fears no one except God. It is they that perhaps belong to such as are guided. And how beautifully does He whose glory shines forth and whose benefits are general, say, 'Surely the mosques belong to God, do not call on any other besides Allah.' And the Prophet says,—may God's blessing rest upon him and upon his house and his companions!—He who builds a mosque for God, will have a house built for him by God in Paradise.'

* * * * by him who is assisted by the help of the Merciful, * * * * by proof and evidence, the help of Islam and the Muslims, Nāqiruddunyā waddīn Abūl Muzaffār [Māhūd Shāh], the king,—may God perpetuate his kingdom and his rule and elevate his condition! It was built by the great Khan, the exalted, the liberal, who has the title of Tarbiyat Khán—may God Almighty protect him from the evils of the end of time by His grace and the perfection of His mercy! In the year 861. [A.D. 1457.]

No. 10. The Mahmūd Shāh Inscription of Hazrat Panduah, (Pl. V, No. 4).

General Cunningham found this inscription at the Chhota Dargah in Panduah.

قَالَ الرَّحْمَٰنُ الرَّحِيمُ كَلِّ نَفْسٍ ذَاتِيَةَ الْمَوْتِ وَقَالَ اللَّهُ تَعَالَى إِنَّ جَاهِلْمَا
فَلا يَسْتَأْخِرِيْنَ سَاعَةً لَا يَسْتَقَدِّمُونَ وَقَالَ اللَّهُ تَعَالَى كَلِّ مِنْ عَيْبُهَا فَانِ
وَيَقُولُ رَبُّكَ ذَوِ الْجَالِلِ وَالْأَكْرَمِ وَالْأَلَّهُمُ الْعَالِمُ خَالِدٌ فِي الْيَوْمِ الْأَخِرِ وَالْمُسَلِّمِينَ
مَرْشِدُ الرَايِنِينَ وَالْمِلْسُلُوْدِينَ مِنْ دَارِ الْغُفَاءِ إِلَى دَارِ الْحَقَّ الْأَصْحَابِ وَالْمُشْرِفِينَ
مِنْ ذَٰلِكَ الْحُجَّةِ فِي يَوْمِ الْأَخِيَّانَ وَكَانَ ذَٰلِكَ مِنْ السَّنَةِ الْأَخِيَّةِ وَالْسَّنَٰنِ
وَثَمَانِيَةِ مِنْ عِنْدِ سَلَاتِ السَّلَاتِينَ حَامِيِّ بَلَدِ أَهِلِ اسْلَامٍ وَالْمُسْلِمِينَ
٦٣٦٥
نَافِرُ الدُّنْيَا وَالْأَلْدَانِ إِبِّي الْمُظْفَرُ مَحَمَّدُ شَابُّ سَلَاتِ مَائِهِ اللَّهَ بِالْأَلْمَانِ وَالْإِلْمَانِ
وَبَنَى هذَا الْرُّوْضَةُ خَانِ الْأَعْظَمِ لُفْتِيْفُ خَانِ سَلَتِهِ مِنْ الْبَيَاتِ وَالْآفَاتِ

God Almighty says, 'Every creature tasteth death' (Qor., III, 182). He also says, 'When their fate comes, they cannot delay it an hour, nor anticipate it' (Qor., X, 50). He also says, 'Everything on earth fadeth, but the face of Thy Lord remaineth full of glory and honor.'
Our revered master, the teacher of Imāms, the proof of the congregation, the
sun of the Faith, the testimony of Islām and of the Muslims, who bestowed advantages
upon the poor and the indigent, the guide of saints and of such as wish to be guided,
passed away from this transient world to the everlasting mansion, on the 28th Zil
Hijjah, a Monday, of the year 863, during the reign of the king of kings, the protector
of the countries of the Faithful, Nāciruddunyā waddin Abul Muzaffar
Mahmūd Shāh, the king,—may God keep him in safety and security! This tomb
was erected by the great Khān, Latif Khān,—may God protect him against evils and
misfortunes!

XIII. Ruknuddi'n Abul Muja'hid Barbak Sha'h.

The histories agree in calling him the son of Nācir Shāh, i. e., Mahmūd
Shāh, and in assigning him a reign of seventeen years. The Riyāţ says,
seventeen, or sixteen; and the latter statement is evidently nearer the
truth, as by the preceding inscription Bārbak cannot have commenced to
reign before 864.

To judge from the Tribeni inscription published by me in this Journal
for 1870, p. 290, it would appear that Bārbak as prince was governor of
south-western Bengal in 860; but the inscription styles him ' Malik,' not
'Sultan,' from which it is clear that he was no rebel.

The following inscription, which Mr. E. V. Westmacott found in
Dinajpur, is very valuable, as it proves that Bārbak was king in the very
beginning of 865.

No. 11. The Bārbak Shah Inscription of Dinajpur.

In the name of God the merciful and the clement! A victory from God and a
near success, and announce it to the Faithful (Qor. LXI, 13). God
is excellent as a protector, and He is the most merciful of the merciful (Qor. XII, 64).
The building of this mosque (took place) in the reign of the king, the son of a
king, Ḳuṅnudunyā waddīn ʿAbū Muḥādīd Bārbak Shāh, the king, son
of Māhmūd Shāh, the king,—may God continue his kingdom and rule!—by the
direction of the great Khān, the noble chief, the hero of the age and the period, Ulugh
Iqrār (?) Khān, commander and wāzīr, builder of this religious edifice, the said
mosque. And the repairer of the tomb (is) the great Khān and noble chief Ulugh
Naṭrat Khān, the jangār and shiqdar of the affairs of Jor and Bārūr and of
other Mahallahs. Dated, the 16th day of the month of Safar,—may God bring it to
a happy and successful end!—of the year 865. (1st December, 1460, A. D.)*

Note on a Bārbak Shāh Inscription from Dīnājpūr.—By E. Vesey
Westmacott, Esq., C. S.

'I send a rubbing of an inscription of the reign of Barbak Shah, A. H.
865. It states him to have been the son of Mahmood Shah, a point upon
which a bit of additional evidence is not without value. It is very clearly
cut on the usual black stone, which is commonly called basalt, but which is
more like a slate. In one place I found the surface flaking off, and so brittle,
that I was afraid to clear it of the whitewash, with which it was clogged, as
thoroughly as I should have liked. The slab is about twenty-two inches by
ten, and the inscription is in five lines.

'It is let into the eastern front of a little brick-built mosque adjoining
the grave of Chihil Ghazee, the *Peer, mentioned by Dr. Buchanan in his
report on Dinagepore, p. 29. The grave, surrounded by an iron railing, is
54 feet long, and is supposed to correspond to the stature of the saint. It
is on the north side of the path up to the mosque, some hundred yards to
the west of the Darjeeling road, four miles north of Dinagepore, and not far
from the Gopalgunge temples. The Mootawallee is a very ignorant fellow,
and I have found out nothing of the Peer beyond his name.

'The founder of the mosque was "Shikdar of the affairs of Baroor,"
and of another place. Baroor I take to be the parganah of that name,
now in Poorniah, outside the western border of Dinagepore.

'On each side of the inscription has been let into the wall a stud, or
circular piece, of the same stone, which have on the right side of each a
groove, as if for a clamp, which makes me think they were not originally
cut for their present position. They are about eight inches in diameter.
The centre of each bears in Tughra the muḥr i nubuwwat or 'seal of prophet-
ship,' surrounding this is an inscription of which I send rubbings, but
which neither the Moula wi nor I can decipher. In an outer ring, half an
inch lower, the northern stone bears the inscription—

* I take this opportunity to correct the wrong reading of a title in the Bārbak
Shāh Inscription published by me in this Journal, for 1870, Pt. I., p. 290, Inscr. VII.,
where for جامع إثر جهان بدار إثر جهان بدار dāmadd r i ghair i
mahal, I should have read جامع جهان بدار جهان بدار E. Vesey
This is the picture of the seal of prophetship which was between the two shoulders of Muhammad Mustafà—may God bless him!

As door steps to the mosque and to the enclosure surrounding the grave are pieces of hewn stone, similar pieces lying close by; they are more or less carved and appear to be parts of doorways. Such stones are common in all parts of the district, and are said by tradition to have been brought from Bannagar, near Debkot. They are similar to the remains of Gour and Porowwa [Panjua]. On the south side of the path is the female portion of a ling, of large size, a queer ornament for the premises of a Mahomedan saint.

The mosque is somewhat ruinous, the roots of plants are tearing it in pieces. I think that it is of greater antiquity than most in the district, from the strength of the brick arches, the workmanship of the dome, and the fact that the hewn stones which are built into the inner side of each archway, have been cut to fit their places, although bearing marks of clamps to show they have been taken from another building.

Three archways, twenty-eight inches wide and nearly six feet high, lead into a vestibule twelve feet by five and a half, at each end of which a similar archway opens to the north and south. Three more archways lead into a chamber, twelve feet square, surmounted by a dome, now cracked in several directions. In the west wall are three niches, and two small archways on the north and south lead into the open air. On the inner side of each of the ten archways, a little below the spiring of the arches, hewn stones, six or eight inches thick, are carried through the whole thickness of the wall which is three feet through. It is unusual in Dinagepore to find that the workmen have dressed the stone as they have here.

It is usual to build them in just as they are, often with most incongruous Hindoo carvings upon them.'

Regarding the "seal of prophetship," it is said in the Madrdrij-unnubuwat by 'Abdul Haq of Dihli, that the seal between the shoulders of the Prophet was a thing raised above the surrounding parts of his blessed body, resembling the body in colour, smoothness, and brightness. And it is stated in the Mustadrik that Wahb ibn Munabbih said that no prophet was sent on earth that had not the sign of prophetship on his right hand, except the Prophet, who had the sign between the shoulders. Shaikh Ibn Hajir in his commentary to the Mishkat says that the seal contained the words رَبَّاللَّهِ وَحَدُّو لا شَريِّكِ لَهُ تَرَجَّهُ حِيْثَ كَنتُ فَانِصِرْرَاللَّهَ وَرَحْمَةٌ لِّلْعَالَمِينَ, "and God is one, He has no associate; pay attention wherever thou art, for thou art victorious."
Some traditions say that the seal was of light, and others, that it vanished from the skin when the Prophet expired, so much so that people knew by its disappearance that the prophet was really dead. Several authorities compare the seal to the egg of a pigeon: some call it a red fleshknot, and others say that it was a wart covered with hair.

Marsden gives a Bárbak coin which clearly shews the year 873.* The cabinet of the Asiatic Society of Bengal contains the following:—


Obverse.—* * *

Reverse.—* *

Neither of these coins give Bárbak's full name.

XIV. Shamsuddi'n Abul Muzaffar Yu'suf Sháh, son of Bárbak Sháh.

Firishtah represents him as a learned man, who, after his accession charged the 'Ulama to see the law of the Prophet carried out. 'No one dared drink wine.'

The histories assign him a reign of seven years and six months, and say that he died in 887. If so, the end of his reign was marked by a successful rebellion of his uncle Fath Sháh; but it is just as likely that Yúsuf died early in 886.

Marsden has a coin of this king without year, and Laidley gives a new variety of 884.† General Cunningham's inscriptions give the following dates—

1. Panduah, 1st Muharram, 882, or 15th April, 1477.
2. Hazrat Panduah, 20th Rajab, 884, or 8th October, 1479.
3. Gaur, 10th Ramazán, 885, or 13th November, 1480.

No. 12. The Yúsuf Sháh Inscription of Panduah, Húglí District.‡ (Pl. VI, No. 1.) A. H. 882.

† Bábū Rájendralála Mitra has a specimen (like Laidley's) of 883 ख़जाना. The margin, similarly to Fath Sháh's coins, contains shamrocks separated by dots. Weight 168-65 grains.
God Almighty says—'Surely the mosques belong to God. Do not call on any one besides Allah. And he upon whom God's blessing rest, says, 'He who builds a mosque in the world, will have seventy castles built for him by God in the next world.' This mosque was built during the reign of the king of the age, who is assisted by the assistance of the Supreme Judge, the viceroy of God by proof and evidence, the king, the son of a king who was the son of a king, Shamsuddunya wa'ddin Abul Muzaffar Yussuf Sháh, the king, son of Bárbak Sháh, the king, son of Mahmúd Sháh, the king—may God perpetuate his kingdom and rule! The mosque was built by the Majlis ul Majlis, the great and liberal Majlis, the lord of the sword and the pen, the hero of the age and the period, Ulugh Majlis i A'zam—may God Almighty protect him in both worlds!

Dated Wednesday, 1st Muharram, 882. Let it end well!


The Prophet (may God's blessing rest upon him!) says, 'He who builds a mosque for God, shall have a castle built for him by God in Paradise.' This mosque was built in the reign of the just and liberal king Shamsuddunya wa'ddin Abul Muzaffar Yussuf Sháh, the king, son of Bárbak Sháh, the king, son of Mahmúd Sháh, the king,—may God perpetuate his kingdom and rule!—by the Majlis ul Majlis, the exalted Majlis,—may God whose dignity is exalted also exalt him in both worlds! And this took place on Friday, the 20th Rajab (may the dignity of the month increase!) of the year 884, according to the era of the flight of the Prophet, upon whom God's blessing rest!

The Prophet, &c. &c., [as before]. This mosque was built in the reign of the king, the son of a king who was the son of a king, Shamsuddunayá waddin Abul Muzaffar Yusuf Shâh, the king, son of Bârbak Shâh, the king, son of Mahmûd Shâh, the king. The mosque was built by the great Khán, the exalted Khâqân, [not legible.]

Dated, the 10th day of the blessed month of Ramazân, 885.

A rubbing of another Yusuf Shâhí Inscription has been received from Dr. J. Wise. Dr. Wise says—"The inscription is from one of the four mosques which surround the tomb of Shâh Jalâl at Silhât. It is a fine Tughrâ inscription, but unfortunately one-third of it has been built into the masonry, the slab forming the lintel of the door!"

The inscription is—

No. 15. The Yusuf Shâh Inscription of Silhât.

Abul Muzaffar Yusuf Shâh, son of Bârbak Shâh, the king, son of Mahmûd Shâh, the king—may God perpetuate his rule and kingdom! And the builder is the great and exalted Majlis, the wazîr (dastûr), who exerts himself in good deeds and pious acts, the Majlis i A’llâ—may God preserve him against the evils and **

To judge from Dr. Wise’s rubbing, the inscription, in point of beauty, ranges immediately after the Sikandar Shâh inscription No. 8, mentioned above, and it would be well, if the Sar i qaum, ‘the head of the clan,’ as the Mutawallí of the tomb is called, would take steps to have this beautiful inscription taken out of the masonry, and thus restore it to light and history.

Dr. Wise has also sent the following interesting note on Shâh Jalâl.
Note on Sháh Jalál, the patron saint of Silhat.—By Dr. J. Wise, Dhá'kk.

The following abridgment of the life and miraculous adventures of Sháh Jalál, the conqueror of Silhat in the 14th century, is taken from the Suhail-i-Yaman, written by Náciruddín, late Muncif of Silhat; his work was composed in the year 1859. It is an abstract of two earlier histories, one of which is called the "Risálah of Muhi-uddín Khádím;" the other, by an unknown author, is designated the "Rauzatus-Salátín."

According to the Muncif, Sháh Jalál Mujarrid Yamaní was the son of a distinguished saint, whose title of Shaikhush-Shuyúkh is still preserved. He belonged to the Quraish tribe. Sháh Jalál’s father was named Muhammad; his grandfather Muhammad Ibráhim. His mother was a Sayyidah. She died within three months of the birth of this her only son. His father died fighting in a jihad against the infidels.

The youth was adopted by his maternal uncle Sayyid Ahmad Kahir Suhrwárí, a Darwish of no mean accomplishments, who had studied under the renowned Sháh Jalál ud-dín Bukhári.

For thirty years Sháh Jalál is said to have lived in a cave without crossing the threshold. He was at last summoned from his seclusion by his uncle, owing to the following circumstance. One day seated in front of his house at Makkah, lost in contemplation, Sayyid Ahmad saw a doe big with young approach him. The doe related how a lion had appeared in the wood in which she lived, and was killing all her comrades. She finally requested him to come and drive away the brute. Sháh Jalál was called forth from his cave, and directed to go and turn out the lion. On the way he puzzled himself what was to be done when the lion was seen. Unexpectedly, however, he met the animal, and the lustre which shot from his eye was so dazzling, that the lion fled and was heard of no more.

On his return, Sayyid Ahmad was so pleased with his behaviour, that he gave him a handful of earth and told him to go forth and wander over the world, until he found earth of similar colour and smell. Where he did, he was there to make his abode.

Hindústán was then the land to which adventurers directed their steps, and Sháh Jalál followed their example. He passed by a city of Yaman, the king of which was informed that a great Darwish was near. He accordingly sent a cup of deadly poison instead of sharbat, to test his power. Sháh Jalál at once divined its nature, and informed the king’s messengers that the instant the draught was swallowed, the king would die. The poison was quaffed without injury to the saint, but, as foretold, the king died.
J. Jalal proceeded on his course, but four days afterwards he was overtaken by the Shahzadah, who had determined on leaving his kingdom and on following the saint in his wanderings.

After journeying for many days, they arrived at Dihli, where the celebrated Nizam-uddin Auliya then resided. When Shah Jalal entered the city, Nizam-uddin was sensible of the arrival of a saint. He, therefore, sent messengers to search for him and to invite him to come and eat with him. Shah Jalal accepted the invitation and gave the messengers a bottle filled with cotton, in the centre of which he placed a live coal. The receipt of this wonderful bottle satisfied Nizam-uddin that this was no common Darwish. He accordingly treated him with every honour, and on his departure he gave him a pair of black pigeons.

The narrative is now transferred to Silhat. In a Mahallah of that city, called Tol-takar, resided at this period Shaikh Burhan-uddin. How a Muhammadan got there, or what he was doing so far away from his own countrymen, puzzles Muhi-uddin, who thinks that this solitary believer must have belonged to some Hindú family, and that he could not have been a true Muhammadan. Burhan, the story goes, had made a vow, that if he was blessed with a son, he would sacrifice a cow. A son being born, he performed his vow; but as bad luck would have it, a kite carried off a portion of the flesh and dropped it in the house of a Brahman. The incensed Brahman went to Gaur Gobind, the king of Silhat, and complained. The king sent for Burhan and the child; and on the former confessing that he had killed a cow, the child was ordered to be put to death, and the right hand of the father cut off.

Burhan-uddin left Silhat and proceeded to the court of Gaur. The king on hearing of what had occurred, ordered his nephew (bhunja) Sultan Sikandar, to march at once towards the Brahmaputra and Sunnargaoon with an army.

When news reached Silhat that an army was approaching, Gaur Gobind, who was a powerful magician, assembled a host of devils and sent them against the invaders. In the battle that ensued, the Muhammadans were routed, and Sultan Sikandar with Burhan-uddin fled. The Prince wrote to his uncle, informing him of the defeat and of the difficulties met with in waging war against such foes. The monarch on receiving the news, gathered together the astrologers, and conjurers, and ordered them to prophesy what success would attend a new campaign. Their reply was encouraging, and Naqir-uddin Siapahsalar was directed to march with a force to the assistance of Sultan Sikandar. This re-inforcement, however, did not restore courage to the Muhammadan soldiery, and it was decided to consult with Shah Jalal, who with 360 Darwishes was waging war on his own account with the infidels. The Sultan and Naqiruddin proceeded to the camp of the saints,
where the Shah encouraged them by repeating a certain prayer, and promised to join their army and annihilate the hitherto victorious army of devils. Along with the Shah were Sayyid Muhammad Kabir, Sayyid Hajji Ahmad Sani, Shaikh Abul Muzaffar, Qazi Aminuddin Muhammad, Shahzada Sani, and others.

The advance of this army of saints was irresistible. The devils could not prevail against them, and Gaur Gobind, driven from one position to another, at last sought refuge in a seven-storied temple in Silhat, which had been built by magic. The invaders encompassed this temple, and Shah Jalal prayed all day long. His prayers were so effective, that each day one of the stories fell in, and, on the fourth day, Gaur Gobind yielded on the promise of being allowed to leave the country.

The terms agreed to, Gaur Gobind retired to the mountains (kohistan). While at his protracted prayers, Shah Jalal discovered that the earth on which he was kneeling was of the same colour and smell as that given him by the Makkah Darwish. He, therefore, determined on establishing his abode there. With him remained Shahzada Sani, Hajji Yousuf, and Hajji Khalil. The rest of the saints retired with the army.

The remainder of Shah Jalal's life was spent in devotion and in miraculous actions which still live in the traditions of the people. It is believed that Shah Jalal never looked on the face of woman. One day, however, standing on the bank of a stream, he saw one bathing. In his simplicity, he asked what strange creature it was. On being informed, he was enraged, and prayed that the water might rise and drown her. He had no sooner expressed this wish than the water rose and drowned her. Other less questionable actions are related regarding him. For instance, he caused the corpse of Naqir-uddin Sipahsalar, who died at Silhat, to disappear from a Mosque, while the friends were mourning over it. On another occasion he wished that a fountain like the holy Zamzam of Makkah might spring up near his abode, and immediately the fountain appeared.

Shah Jalal was translated (intiqal) the 20th of the "Kali Chand," A. H., 591, in the 62nd year of his age.

Dr. Wise also writes—"It is a curious fact that the Shah is invoked by the Silhat ganjah (hemp) smokers. I have got a Silhat lunatic, who every day before smoking his chillum of tobacco invokes the saint in the following manner:

Ho! Bisheshwar Lal,
Tin lak'h Pir Shah Jalal,
Ek bahr, dubara, Jagannath ji ka pyar,
Khone ka duh bhat, bajane ko dotara.
The chronology of the 'Life of Shâh Jalâl,' as Dr. Wise observes, is confused. His death is put down as having occurred in 591, A.H., and he said to have visited Nizámuddin Auliá, who died in 725, A. H. Again, according to the legends still preserved in Silhat, the district was wrested from Gaur Govind, the last king of Silhat, by king Shamsuddin in 1384 A. D., or 786 A. H., during the reign of Sikandar Shâh, whilst 'king Shamsuddin' can only refer to Shamsuddin Ilyâs Shâh, Sikandar's father.

Dr. Wise also draws attention to the statement made by Ibn Batútah who "from Sadkâwán [Châtgaon] travelled for the mountains of Kâmrû [Kâmrûp, western Asâm]. * * His object in visiting these mountains was to meet one of the saints, namely, Shaikh Jalâl uddîn of Tabriz."* Jalâl then gives him a garment for another saint 'Bûrân uddîn,' whom Ibn Batútah visits in Khânbalîk (Pekin). Ibn Batútah, as remarked above, was in Eastern Bengal, when Fakhruddin was king (739 to 750, A. H.). But here again the confusion of dates and names is very great. Jalâl uddîn of Tabriz died, as we saw above, in 642, and the Silhat Jalâl is represented as a man from Yaman.† Neither Jalâl nor Bûrânuddîn is mentioned in the biographical works of Muhammedan Saints.

XV. Sikandar Shâh II.

The Riyâz says that this king was the son of Yûsuf Shâh; the other histories say nothing regarding his relationship. Stewart calls him "a youth of the royal family," but afterwards calls Fath Shâh his "uncle." The Riyâz says that he was deposed on the same day on which he was raised to the throne; the Ain i Akbarí gives him half a day; my MS. of the Tabaqât, two and a half days; Firishtah mentions no time; and Stewart gives him two months.

XVI. Jalâluddîn Abul Muzaffar Fath Shâh, son of Mahmúd Shâh.

Fath Shâh was raised to the throne, as "Sikandar Shâh did not possess the necessary qualifications." The histories say that his reign lasted from 887 to 896, A. H., and yet, they only give him seven years and five months (Stewart, seven years and six months). The inscriptions and coins, however, given below show that he reigned in 886; and if the "seven years and five months" are correct, Fath Shâh could only have reigned till 892 or 893, which agrees with the fact that his successor Firuz Shâh II. issued coins in 893. Fath Shâh was murdered at the instigation of the Eunuch Bârbak.

Laidley has published two silver coins of this king, of which one seems to have been struck at Fathábâd in 892. The following is a new variety.‡

† Vide the Silhat Inscription of 1605, given below under Husain Shâh.
‡ The coin given by Marsden as a Fath Shâhi does not belong to this king.
1. Vide Pl. IX, No. 8. Silver. Weight, 158.65 grains. Fathábád, A. H. 886. (As. Soc. of Bengal, one specimen.) Circular areas. The margin consists of ornamental designs, resembling the niches in mosques and rosettes.

Obverse.—

Jaláluddunyá waddín Abú Muzaffár Fath Sháh Sultán, son of Mahmúd Sháh, the king—may God strengthen him with victory! Fathábád, 886.

The following five inscriptions of this king have been received by the Society—

1. Dháká, 1st Zil Qa’dah, 886, or 2nd January, 1482.
3. Bikrampúr, middle of Rajab, 888, or August, 1483.
4. Sunnárgón, Muharram, 889, or beginning of A. D. 1484.

No. 16. The Fath Sháh Inscription of Bandar, near Dháká.

A. H. 886. (Pl. VII, No. 1.)

The Society is indebted to Dr. J. Wise for this important inscription, regarding which he writes as follows—"The inscription was found on an old Masjid at Bandar, on the banks of a K’hál called Tribleni, opposite Khizarpur (Dháká). This K’hál was in former days the junction of the Brahmaputra, Lak’hya, and Ganges. At its opening on the left bank of the Lak’hya, a fort still stands, said to have been built by Mír Jumlah [vide Journal, As. Soc., Bengal, 1872, Pt. I, p. 96]. The place called Bandar is now a mile inland (vide Pl. IV), but during the height of the rains, the K’hál is navigable for native boats. The inscription is the most perfect as yet met with in this District."

قال الله تعالى ول أن المساجد لله فلا تدعوا مع الله أحداً هنالك المبكي ميلة الله عليه وسلم من بنى مسجد بنى الله له تصر في الجنة بنى هذا المسجد المبارك الملك المعظم باباً مالع في زمان السلطان ابن السلطان جلال الدنيا و الدين ابن المظفر فتح شاه السلطان ابن مظفر شاه السلطان خليد الله ملكه و سلطانه في تاريخ أول شهر ذي القعدة سنة ست و ثمانين و ثمانمائة من الهجرة النبوية (ال
God Almighty says, 'The mosques belong to God. Do not associate any one with God.' The Prophet, may God bless him!—says, 'He who builds a mosque, will have a castle built for him by God in Paradise.'

This auspicious mosque was built by the great Malik Bâbâ Sâlih in the reign of the king, Jalâluddunyâ waddîn Abul Muzaffâr Fath Shâh, son of Mahmûd Shâh, the king—may God perpetuate his kingdom and rule!—on the 1st Zil Qâ'dâh, 886, A. H. (2nd January, 1482, A. D.).

The builder of the mosque appears to have been a very pious man. Three miles west from Sunnârgon, Dr. J. Wise discovered a mosque built by the same man, and adjoining the mosque his tomb. The masjid is within half a mile of the mosque to which the preceding inscription belongs, and was built in 911, A.H. A portion of the date of the inscription is designedly, as it would appear, chipped off.

No. 17. The Bâbâ Sâlih Inscription of Sunnârgon.

قال الله تبارك و تعالى ان المسجد لله فلا تدعوا مع الله احداً بني هذا المسجد الامبراطور في زمن السلطان علاء الدين والد بن ابوب المظفر حسن شاه السلطان خلّد الله ملكه الملوك المعظم الكرم خادم النبي حاجي الامبراطور وزائر القدامئ حاجي بابا صالح د٦٦٦ دي * وتسعة من المجرة الغمانية

God Almighty says, &c. [as above]. This blessed mosque was built in the reign of Sultan 'Alâuddunyâ waddîn Abul Muzaffâr Husain Shâh, the king,—may God perpetuate his reign!—by the great and liberal Malik, the servant of the Prophet, who has made a pilgrimage to Makkah and Madinâh and has visited the two footprints of the Prophet, Hâjî Bâbâ Sâlih. Dated 9*1, A.H.

The wanting words are no doubt في سنة حادي عشر, which would be 911. A small slab let in the brick work of Bâbâ Sâlih's tomb contains the following date of his death.

No. 18. The Inscription on Bâbâ Sâlih's Tomb.

لا الله إلا هو ليجمعكم الى يوم القيامة لا يرتب فيهم و مثلى امدين

O God! There is no God but He. He will surely collect you towards the day of resurrection, and who is more truthful a speaker than God? [Qor., IV. 89.] * * the tomb of the pilgrim to Makkah and Madinâh, who has visited both footprints of the Prophet, the servant of the Prophet (upon whom be peace!), Hâjî Bâbâ Sâlih * * (almutawafâ, who died) on ... Baba' L, ... 2.
Thus it seems that he died in A. H. 912. Dr. Wise says—"No one here has heard of the name of this pious man. The neighbourhood of these mosques is very old. Qadam Rasūl (the 'Footprint of the Prophet'), a famous place of pilgrimage, on a mound some sixty feet high, is a little to the north-west. Gangakol Bandar is on the west, and across the Lak'āhya River is Khizrāpur with the ruins of what I believe was the residence of 'Isā Khān, mentioned in the Aīn i Akbarī."

A third mosque built by Bābā Sālih is in 'Azimnagar, District Dhākā.

No. 19. The Bābā Sālih’s Inscription of 'Azimnagar.

قال النبي صلى الله عليه وسلم عجلوا بالصلاة قبل الفروت و عجلوا بالذربة قبل الموت بنى هذا المسجد الشريف الملك المعظم الحكم
بابا صالح وقد تم بناء هذا المسجد في أول المحرم سنة 910

The Prophet—may God bless him!—says, 'Make quick the prayer before the end, and hasten the namāz before death. This blessed mosque was built by the exalted, liberal Malik, Bābā Sālih, and the building was completed on the first Muharram 910 [or 901,—the numbers are unclear].

No. 20. The Fath Shāh Inscription on Adam Shahid’s Mosque at Bikrampur (Dhākā District). A. H. 888.

General Cunningham and Dr. J. Wise have each sent rubbings of this inscription.

قال الله تعالى و أن المسجد لله فلا تدعوا مع الله إحدا قال النبي صلى الله عليه وسلم بنى مسجدًا في الدنيا بنى الله له مثله في الجنة بنى هذا المسجد الجامع الملك المعظم ملك كانور في زمن السلطان ابن السultan جلال الدين و الذي ابنه المظفر قُل شاه السultan ابن محمود شاه السلطان في تاريخ أوسط شهر رجب سنة ثمان و ثمانين

God Almighty says, &c., [as above]. This Jāmī’ Masjid was built by the great Malik, Malik Kāfūr, in the time of the king, the son of the king, Jalālūddīn wa dīn Abūl Muzaffār Fath Shāh, the king, son of Mahmūd Shāh, the king, in the middle of the month of Rājab, 888, A. H. (August, 1483, A. D.)

Dr. Wise writes as follows—

'The Masjid of Adam Shahid is in Bikrampur at a village called Qāzi Qaṣbah, within two miles of Ballālbāri, the residence of Ballāl Sen. Mr.
Taylor, in his "Topography of Dacca" states that Adam Shahid, or Babá Adam, was a Qázi, who ruled over Eastern Bengal. He gives no authority for this statement, and, at the present day, the residents of the village are ignorant of this fact. They relate that Babá Adam was a very powerful monarch, who came to this part of the country with an army during the reign of Ballál Sen. Having encamped his army near 'Abdullahpúr, a village about three miles to the N. E., he caused pieces of cow's flesh to be thrown within the walls of the Hindú prince's fortress. Ballál Sen was very irate, and sent messengers throughout the country to find out by whom the cow had been slaughtered. One of the messengers shortly returned and informed him that a foreign army was at hand, and that the leader was then praying within a few miles of the palace. Ballál Sen at once galloped to the spot, found Babá Adam still praying, and at one blow cut off his head.

Such is the story told by the Muhammadans of the present day, regardless of dates and well-authenticated facts.

The Masjid of Babá Adam has been a very beautiful structure, but it is now fast falling to pieces. Originally, there were six domes, but three have fallen in. The walls are ornamented with bricks beautifully cut in the form of flowers and of intricate patterns. The arches of the domes spring from two sandstone pillars, 20 inches in diameter, evidently of Hindú workmanship. These pillars are eight-sided at the base, but about four feet from the ground they become sixteen-sided. The mihrábs are nicely ornamented with varied patterns of flowers, and in the centre of each is the representation of a chain supporting an oblong frame, in which a flower is cut.

The style of this Masjid is very similar to that of the old Goálih Májíd at Súnnárgáon and to that of 'Tsá Khán's Masjid at Khízrpúr.*


General Cunningham has sent a rubbing of the following inscription—

 قال الله تعالى و أن المساجد لله فلا تدعو مع الله احدا • وقال الله • صلى الله عليه وسلم مي بنى المسجد بنى الله له سبعين قصرا في الجنة • بنى هذا المسجد في عهد السلطان الأعظم • المعظم جلال الدين

* Dr. Wise, in one of his letters addressed to the Society, makes the following remark on Sher Sháh's road from the Brahmaputra to the Indus.

"I see in the last volume of Elliot's 'History of India' that doubts are expressed of there ever having been a road made from Súnnárgáon to the Indus by Shér Sháh, as mentioned by Firáštah and others. In this district there are two very old bridges, which local tradition states were constructed by that monarch, and which lie exactly where such a road would have been. One is still used, the other has fallen in."
God Almighty says, &c., (as before). And the Prophet says, &c., (as before).

This mosque was built during the reign of the great and exalted king, Jalâl uddunyâ waddîn Abûl Musàfîr Fâth Shâh, the king, son of Muhammad Shâh, the king,—may God perpetuate his kingdom and rule! The builder of the mosque is Muqarrab uddaulah, Malik . . . . uddin, the Royal, keeper of the wardrobe outside the Palace, the commander and wazir of the territory of Mu'azzamábâd, also known as Mahmúdábâd, and commander of Thânah Lâwûd. This took place during Muharram, 889. (A.D. 1484.)

The geographical names occurring in this inscription have been discussed above.

THE HABSHI' KINGS.

The pretorian band of Abyssinians, which Bârbak Shâh had introduced into Bengal, became from the protectors of the dynasty the masters of the kingdom, and eunuchs were the actual rulers of the country. The very names of the actors during the interregnum between the end of the Ilyâs Shâh dynasty and the commencement of the house of Husain Shâh, proclaim them to have been Abyssinian eunuchs;* and what royalty at that time was in Bengal is well described by Abul Fazl, who says that, after the murder of Fath Shâh, low hirelings flourished;† and Firishtah sarcastically remarks that the people would only obey him who had killed a king and usurped the throne. Faria y Souza also says of the kings of that time:—

"They observe no rule of inheritance from father to son, but even slaves sometimes obtain it by killing their master, and whoever holds it three days they look upon as established by divine providence. Thus it fell out that in 40 years' space they had 13 kings successively."

* Names as Kâfûr (camphor), Qaranful (clove), Firûz and Firûzah (turquoise), Almás (diamond), Yâqút (cornelian), Habshî Khán, Indíl, Sîdî Badr, &c. Camphor was looked upon as an anti-aphrodisiac (vide my Ain translation, p. 385); hence the name was appropriate. The Fath Shâh inscription No. 20 mentions a Malik Kâfûr; and we are reminded of the Kâfûr Hazarînâf of 'Aláuddîn's reign.

† 'The kings of Bengal, in times past, were chosen of the Abassine or Æthiopian slaves, as the Soldans of Cairo were some time of the Circassian Mamaluks.' Purchas.
The Habšî kings are Sultán Sháhzâdah, Firúz Sháh, and Muzaffar Sháh. Mahmúd Shah II. appears to belong to the old dynasty.

\textbf{XVII. Sulta\'n Sha\'hzâdah.}

(Bárbašh, the Eunuch.)

The owner of this odd title reigned either two and a half months (Taβaqa\'t and Firishta\'h), or perhaps eight months (Firishta\'h), or according to a pamphlet which the author of the Riyáz possessed, six months. He was murdered by

\textbf{XVIII. Saifuddî\'n Abul Muzaffar Firu\'z Sha\'h (II.).}

(Malik Indfi Habshî.)

He had been a distinguished commander under Fath Sháh, and proved a good king. According to the histories, he died a natural death after a reign of three years, in 899, — a wrong date. The Riyáz says that a mosque, a tower, and a reservoir, in Gaur were built by him.

The coin published by Marsden as belonging to this king, has been shewn by Mr. Thomas to belong to Firúz Sháh Bahmani.

The following passage from Joâo de Barros refers to either this king or Husain Sháh:

‘One hundred years before the Portuguese visited Cha\'tgâon, a noble Arab arrived there from 'Adan (Aden), bringing with him 200 men. Seeing the state of the kingdom, he began to form ambitious projects of conquest. Dissimulating his intentions, he set himself up as a commercial agent, and on this pretext added to his followers a reinforcement of 300 Arabs, thus raising his total force to 500 men. Having succeeded through the influence of the Mandari\'je, who were the governors of the place, in procuring an introduction to the king of Bengal, he assisted that monarch in subduing the king of Orissa, his hereditary foe. For this service he was promoted to the command of the King's body-guard. Soon afterwards he killed the king, and himself ascended the throne. The capital was at this time at Gaur.'

The chronology of Firúz Sháh II.'s reign may be fixed with the help of the following, apparently unique, coin, the original of which is in the British Museum. Col. Guthrie kindly sent the Society a cast, from which the woodcut below has been made. The coin gives the year 893 (A. D., 1488). This year entirely agrees with the ascertained dates of Jalâluddîn Fath Sháh's reign, and with the earliest ascertained year of Muzaffar Sháh. Firúz Sháh II., therefore, reigned from 893 to 895, or 896. The former, 895, is perhaps preferable to 896, because both Mahmúd Sháh and Muzaffar Sháh reigned in 896.

Saifuddunyā waddín Abul Muzaffar Fīrúz Sháh, the king,—may God perpetuate his kingdom and rule! There is no God but Allah, Muhammad is the Prophet of God. Treasury issue of 893.

XIX. Naṣiruddín Abul Muja'hid Mahmu'd Sha'h (II).

He was raised to the throne on Fīrúz Sháh's death, though the government was in the hands of one Habší Khán. After a short time, Habší Khán, and immediately after, Mahmúd Sháh, were killed by Sidi Badr Diwánah, who proclaimed himself king.

Though the histories call Mahmúd the son of Fīrúz Sháh, there is little doubt that the statement of Hájí Muhammad Qandahári, preserved by Firishtah, is correct—"In the history by Hájí Muhammad Qandahári,* it is written that Sulţán Mahmúd was the son of Fath Sháh, and that Habší Khán was a cunuch of Bárbak Sháh, who by Fīrúz Sháh's orders had brought up Mahmúd. After Fīrúz Sháh's death, Mahmúd was placed on the throne; but when six months had passed, Habší Khán shewed inclination to make himself king, and Sidi Badr killed him." These facts agree well with the following circumstances: First, all histories say that Fath Sháh, at his death, left a son two years old, and his mother, at Sulţán Sháhzádah's death, declared herself willing to leave the throne to him, who had brought her husband's murderer to account. Secondly, according to Muhammadan custom, children often receive the names of the grandfather; hence Fath Sháh would call his son Naṣiruddín Mahmúd; but as the kunyah must be different, we have here 'Abul Muja'hid,' while the grandfather has 'Abul Muzaffar.'

General Cunningham found the following inscription of this king in Gaur; unfortunately, the date is illegible.

* The Lakhnau edition of Firishtah calls him 'Hájí Mahmúd.' His historical work is not known at the present day.
No. 22. *The Mahmūd Shāh (II) Inscription of Gaur.* (A. H. 896?)
(Pl. VII, No. 3.)

The Prophet (may God bless him!) says, 'He who builds, &c., [as before]. This mosque was built in the reign of the king of the time, (who is endowed) with justice and liberality, the help of Islām and the Muslims, Nāciruddunyā waddīn Ābul Muğāhid Mahmūd Shāh, the king—may God perpetuate his kingdom and rule!—by the great and exalted Khān Ulugh Majlis Khān......(illegible). Dated, 23rd Rabī'...

Marsden has published a silver coin of this king, which has likewise no date (*vide* Numism., Pl. XXXVI, No. DCCXXXIV); but, as Laidley correctly observes, he ascribes it wrongly to Mahmūd Shāh of Dihlī. The legend of the coin is—

**Reverse.**—

<table>
<thead>
<tr>
<th>مَلَكُ بِنَائِدٍ الرَّحْمَنٍ خَلَفَهُ اَلِّلَّهُ بِالْعَدَلِ وَالْإحسَانِ (؟)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>السَّلَطَانُ الْعَادِلِ نَاضِرًا لَّدِينِي وَاللَّدِينِ إِبْرَاهِيمُ ٱلسَّمِيدُ ۥصَحِيحُ ۖشَاهٌ</th>
</tr>
</thead>
</table>

The words *bi‘l-adl wal-ihsān* are not clear, they may also be as elsewhere suggested by me; but the former coincides with the phrase used in the inscription. I cannot see the word *فَتْحُمَايْنَ*, which Laidley gives.

According to the chronological remarks made by me regarding the reign of Firūz Shāh, we have to place Mahmūd Shāh's reign in 896, A. H.

**XX. Shamsuddīn Ābul-Nasr Muzaffār Shāh.**
(Sīdī Badr Diwānah.)

The reign of this king, who is represented to have been a blood-thirsty monster, is said in all histories to have lasted three years and five months; but his death at the hands of the next king cannot have taken place in 903, because his coins and inscriptions mention the years 896 and 898. He must, therefore, have been killed in 899, the first year in which Husain Shāh struck coins.

A Muzaffār Shāh inscription was published by me in the *Journal* for 1872, p. 107, from an imperfect rubbing. Since then Mr. W. M. Bourke
Mr. Bourke's rubbing shews that the word samánmiah is cut into the second bar, which separates the third line from the second. Below the last line there is another line cut into the lowest bar; but the letters are too small and partly broken to admit of a satisfactory reading. I can recognize the words 'Mullá Mubárak' and mîmîr, 'builder.'

Laidley has published a silver coin of this king, the legend of which is  

逆文. 

Year, illegible.

The Honorable E. C. Bayley is about to publish a gold Muzaffar Sháhí, which seems to be of 896, A. H.

Muzaffar Sháhí, according to the Riyáz, built a mosque in Gaur. General Cunningham has sent the Society a rubbing of another inscription from the Chhota Dargáh (Núr Quţb 'Alam's Dargáh) in Hazrat Pañquah. It is, in point of execution, a very fine inscription.


Vide Pl. VI, No. 2.
God Almighty says, 'Verily, the first house that was founded for men, is the one in Bakkah [Makkah], blessed, and a guidance to all beings. In it are clear signs: the place of Abraham, and who entered into it, was safe, and God enjoined men to visit it, if they are able to go there; but whosoever disbelieves, verily God is independent of all beings. [Qor. III. 96 to 92.]

In this Sufi building the tomb of the pole (qub) of poles was built, who was slain by the love of the All-Giver, the Shaikh of Shaikhs, Hazrat Nūr-Allāh Qūṭī ḥashalara', Sayyid Qūṭī 'Alām—may God sanctify his beloved secret, and may God illuminate his grave! This house was built in the reign of the just, liberal, learned king, the help of Islam and the Muslims, Shamsuddunya waddin Abūl-Nāqr Muzaffar Shāḥ, the king, may God perpetuate his kingdom and rule, and may He elevate his condition and dignity! This house was built during the khilafat* of the Shaikh ul-Islām, the Shaikh of Shaikhs, son of the Shaikh of Shaikhs, Shaikh Muhammad Ghans—may God Almighty ever protect him!

Dated, 17th Ramadaīn, 898. [2nd July, 1493.]

Nūr Qūṭī 'Alam was mentioned above among the Saints of Paṇḍuah.

The Husaini Dynasty.

On Muzaffar Shāh's death in 899, 'Alāud-dīn Husain Shāh, son of Sayyid Ashraf, usurped the throne. Of the reign of no king of Bengal—perhaps of all Upper India before the middle of the 10th century—do we possess so many inscriptions. Whilst the names of other Bengal kings scarcely ever occur in legends and remain even unrecognized in the geographical names of the country, the name of "Husain Shāh, the good," is still remembered from the frontiers of Orisā to the Brahmaputra.

I have treated of the chronology of the reigns of Husain Shāh and his successors in my article, "On a new king of Bengal, &c.," published in the Journal, for 1872, Pt. I, pp. 331 to 340, and according to that paper, we have—

* The reign, if I may say so, of a spiritual teacher.
1. 'Aláuddín Abul Muzaffar Husain Sháh, 899 to 927 (929?).
2. Náciruddín Abul Muzaffar Nuğrat Sháh, 927 (929?) to 939.
3. 'Aláuddín Abul Muzaffar Firúz Sháh (III.), 939.

I have now only to describe a few unpublished coins and to give several new inscriptions belonging to the reigns of these kings.

XXI. 'Ala'uddi'n Abul Muzaffar Husain Shah.

Marsden (Pl. XXXVIII, Nos. DCCLXXIX and DCCXCIII) has given two different Husain Sháhis, the former of Fathábíd, 899, A. H., and the latter of Husainábád, 914, A. H.* Laidley has two new types, one struck at Husainábád, 912, A. H., and the other (vide his plate, No. 21) resembling that of Marsden, but with a different legend. The cabinet of the Asiatic Society contains a few new varieties, with and without dates.


Obverse. السلطان العادل علی الدین و علی بن إبراهيم المظفر

Reverse. حسين شاه سلطان بن سيد اشرف الحسيني خاد ملكه وسلطانه 900

Col. Guthrie in a MS. list of Bengal Coins in the British Museum quotes Husain Sháhis struck at Jannatabad (Husainábád ?) in 918 and 919.

The inscriptions belonging to Husain Sháh's reign are most numerous; the date of the latest two is 925, A.H. Those of which the Society has received rubbings from General Cunningham are marked [G. C.].


2. Machain, Parganah Ballipúr, Dhákú, 22nd Jumáda I, 907, or 3rd December, 1501. Received from Dr. J. Wise.


4. Cheran, in Bihár, 909. Published, Proceedings 1870, p. 297.†

* Marsden reads the latter date 917. On the former coin, the king's first name is spelt علی الدین, instead of علی الدین, with an intermediate wáw. This wáw should not be read: it arises from a whimsical rule of a class of pedantic Kátibs who maintain that the vowel û after a long ă, as in 'Aláu, requires "a support."

The obverse of the latter coin, to which I alluded in the note to p. 301 of the Journal for 1870, Pt. I, is still a puzzle to me, though I have wasted much time in looking at the coin, patiently waiting for a happy guess. I now believe that the second line is الفايل السلطانة ulqáim bašalânatáh, the last word being written disconnected, as sulfaíuahu on the reverse. But the third line is unclear. The weight of the coin is 162·61 grains.

† For a Gaur Inscription of 909, vide Glasier, Report on Rangpore, 1873, p. 108.
5. Silhat, 911. From Dr. Wise.
6. Malda, 911. [G. C.]
8. Hazrat Panchak, 915. [G. C.]. The rubbing is unclear.
9 to 11. Gaur; two of 916, and one of 918. [G. C.]
12. Sunnargaoa, 2nd Rabit II., 919, or 7th June, 1513. [G. C.]

Published, Journal, 1872, p. 333.
15. Sunnargaoa, 15th Sha'bán, 925, or 12th August, 1519. [G. C.]

No. 25. The Husain Sháh Inscription of Machain. (A. H. 907.)

In the name of God, the merciful and the clement! He who ordered the erection of this blessed building, attached to the house of benfit (Silhat)—may God protect it against the ravages of time!—is the devotee, the high, the great, * * * Shaikh Jál, the hermit, of Kanyá—may God Almighty sanctify his dear secret! It was built during the reign of Sultan 'Ala'uddunyá waddin Abul Muzaffar Husain Sháh, the king, by the great Khán, the exulted Khánán, Kháliq Khán,
In this inscription Shaikh Jalāl, whose biography was given under Yūsuf Shah, is called Kanyāi, i.e. of Kanyā, which appears to be a place in Arabia.

He is said to have 'ordered' the 'erection of the building. This can only refer to an order given in a dream, as in the case of 'Allī Shāh and Jalāl Tabrizī.


The Prophet says, &c., &c. This Jāmi' mosque was built by the great and liberal king 'Alauddunyā waddīn Abūl Muzaffar Husain Shāh, the king, son of Sayyid Ashraf ul-Hussainī—may God perpetuate his kingdom and rule! In the year 911. (A. D. 1505).


The door of the tomb of the venerated Shaikh Akhi Sirajuddīn was built by the great and liberal king, 'Alauddunyā waddīn Abūl Muzaffar Husain Shāh, the king, son of Sayyid Ashraf ul-Hussainī—may God perpetuate his kingdom and rule! In the year 916. (A. D. 1510.)

Shaikh Akhi was mentioned above among the saints of Gaur.

No. 29. *Another Husain Shāh Inscription from Gaur*. A. H. 916.
The door of this tomb was built during the reign of the exalted and liberal king, 'Aláuddunyá waddin Abul Muzaffar Husain Şáh, son of Sayyid Ashraf ul-Husainí,—may God perpetuate his kingdom and rule, and elevate his condition and dignity, and may He render his benefits and evidence honorable! In the year 916. (A. D. 1510.)


This gate of the Fort was built during the reign of the exalted and liberal king 'Aláuddunyá waddin Abul Muzaffar Husain Şáh, the king, son of Sayyid Ashraf ul-Husainí—may God perpetuate his kingdom and his rule! In the year 918. (A. D. 1512.)

No. 31. The Husain Şáh Inscription of Sunnárgáon. A. H. 925.

This mosque was built by Mullá Hisabr Akbar Khán, on the 15th Sha'bán, 925. (12th August, 1619.)

XXII. Na'firuddi'n Abul Muzaffar Nusrat Sha'h.

Of the inscriptions belonging to the reign of this king, I have published three, viz.—

A few weeks ago I received a black basalt slab from the old mosque in Mangalkot, Bardwan District, with the following inscription—

No. 32. \textit{The Nuçrat Sháh Inscription from Mangalkot. A. H. 930.}

The Prophet says, He who builds, &c., (as before). This Jami' Mosque was built in the reign of the exalted king, who is the son of a king, Naçiruddunyá waddín Abul Muzaffar Nuçrat Sháh, the king, son of Husain Sháh, the king—may God perpetuate his kingdom and rule! Its builder is Khan Miyán Mua'zzam, son of Murád Haidar Khán—may his honor continue! In the year 930, A. H. (A. D 1524)

The following important inscription I owe to the kindness of J. R. Reid, Esq., C. S., A'zamgarh, N. W. Provinces, who sent me a rubbing. The slab was found on the right bank of the G'hágrá, near Sikandarpúr.

No. 33. \textit{The Nuçrat Sháh Inscription of Sikandarpúr, A'zamgarh.} A. H. 933.

There is no God, &c. He who builds a mosque, &c. The founder of the mosque, during the reign of the just king Naçiruddunyá waddín Abul Muzaffar Nuçrat Sháh, son of Husain Sháh, the king—may God place him among the number of his servants!—is the great Ulur [Ulugh], i. e. the great Khán……Khán, commander of the district of Kharfíd. On the 27th Rajab 933. (29th April, 1527.)
The inscription confirms the histories, according to which Nuṣrat Sháh extended his authority over the whole of Northern Bihár; and as Kharíd lies on the right bank of the G’hágrá, Nuṣrat Sháh must have temporarily held sway in the A’zamgár District.

The coinage of this king contains numerous varieties, among which there are several struck by him during the lifetime of his father. The latter coins are mostly of a rude type, and look debased; besides, they are restricted to the Sundarban mint town of Khalifatábád ( Bágherhát) and to Fathábád. They either indicate an extraordinary delegation of power or point to a successful rebellion.


Obverse.——السلطان بن السلطان ناصر الدین و الہیم اب椰 المطغر.
Reverse.——نصرت شاه السلطان بن حسين شاه السلطان الحسنی خلد مملکة خلیفه‌نار ۹۲۲.


Obverse.——السلطان بن السلطان ناصر الدین و الہیم اب椰 المطغر.
Reverse.——نصرت شاه السلطان بن حسين شاه السلطان خلد الہ مملکة وسلطانه ۹۲۷.


Obverse.—As in the preceding.
Reverse.——نصرت شاه السلطان ابن حسين شاه السلطان خلد مملکة [بد هرمز ۲] [1.

I am doubtful as to the correctness of the last words yad i Hurmuzd, 'by the hand (engraved by) Hurmuzd.' The characters, though smaller, are clear, and yet it is difficult to suggest anything else.

The years of the three Nuṣrat Sháhis published by Marsden and Laidley are not clear; they may be 924 (Marsden) and 927, or 934 and 927. The Cabinet of the As. Soc. of Bengal, besides the above, contains six different types, among which there is a silver coin struck at Nuṣratábád, 924 A. H., but it is not clear to what locality this new name was applied.

Nuṣrat Shah’s name as prince seems to have been Naṣīb Khán; at last this would explain why the histories call him Naṣīb Sháh.

He was succeeded by his son

XXIII. 'Ala’uddîn Abul Musaffar Fíru’s Sháh (III).

The Kalnah inscription (A. H. 939) of this king, which I published in the Journal, for 1872, Pt. I, p. 332, is of some importance, and I now give a plate of it (vide Pl. VII, No. 2). The name of this king is only
mentioned in the Riyáz, and though we do not know his source, his statements have, in several instances, been proved to be correct. In the MS. of his work in the As. Soc. of Bengal—the only copy I know of at present—this king is said to have reigned three years, which is impossible;* but Stewart found three months in the copy which he consulted.

The Society's cabinet possesses a specimen of this king's coinage, struck in 939, A. II., the same year as mentioned in the Kalnah inscription.


The Society possesses a coin of Mahmúd Sháh of the same type as the one published by Laidley. He refers the coin to 933; but the Society's specimen has clearly 943 A. II. The concentric circles contain the words badr i sháhi, or 'royal moon.'

General Cunningham lately sent me the tracing of a Mahmúd Sháhi round copper coin, which has the same inscription on both sides, viz. 

The phrase badr i sháhi seems to shew that the coin belongs to Mahmúd Sháh (111.) of Bengal, it would be desirable to have specimens with dates or mint towns.

Mahmúd Sháh is mentioned in De Barros' work, from which the following facts are taken. Nuno da Cunha, the Portuguese governor of Goa [\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\n
Firúz Sháh III. was murdered by his uncle

XXIV. Ghiya's-uddi'n Abul Muzaffar Mahmú'd Shá'h (III).

General Cunningham's Gaur Inscription of this king, dated 941, was published by me in the Journal, for 1872, Pt. I., p. 339.

Our Society possesses a coin of Mahmúd Sháh of the same type as the one published by Laidley. He refers the coin to 933; but the Society's specimen has clearly 943 A. II. The concentric circles contain the words badr i sháhi, or 'royal moon.'

General Cunningham lately sent me the tracing of a Mahmúd Sháhi round copper coin, which has the same inscription on both sides, viz.

General Cunningham lately sent me the tracing of a Mahmúd Sháhi round copper coin, which has the same inscription on both sides, viz. 


† This is, no doubt, the Alfa Husain of Baghdád, mentioned by me in J. A. S. B., 1872, Pt. I., p. 337.
and gave orders to seize De Mello in Chátgáon. The latter was shortly after treacherously captured with thirty of his men and was sent to Gaur,* where they were kept strictly confined, because Antony de Sylva Meneses had soon after taken reprisals and sacked Chátgáon. Now at that time Sher Khán and his brother 'Adil Khán had deserted from the Mughul to the king of Bengal. But Sher Khán wished to revenge the death of the youth whom Mahmúd had slain,—De Barros means Firúz Sháh III.—to procure the throne. Sher Khán, therefore, made war on Mahmúd, and the king asked his Portuguese prisoners to assist him in the defence of Gaur. At the same time Rabelo arrived with three ships sent by the Goa Governor, to demand the release of the captives, and Mahmúd after securing their cooperation sent them to Gorij [Garhí] near K’halgáon, where they valiantly, though in vain, opposed Sher Sháh. Mahmúd, pleased with their prowess, applied to Nuno da Cunha for further assistance; but when Perez de Sampayo came with nine vessels, he found Gaur in the hands of Sher Khán and heard that Mahmúd had been killed.

III.

I now conclude this essay with my readings and translations of the Bihár collection of rubbings from the time of Muhammad Tughluq to the year 1455 A. D.

The first inscription is taken from the vault of one Sayyid Ahmad Pír-Pahár, regarding whom nothing is at present known in Bihár; but it seems to refer to the building of a portico by a near relation of Muhammad Tughluq.


* The Portuguese describe Gaur as three leagues in length, well fortified, and with wide and straight streets, along which rows of trees were planted to shade the people, "which sometimes is in such numbers that some are trod to death."
1. I praise God a hundred times, and abundantly glorify Ahmad, the elect.
2. This heaven-touching portico was erected......
3. The world-adorning Muhammad, who breaks through the ranks, the shadow of God in every realm,
4. Abu Mújahíd, the Khalífah of high dignity,......
5. The builder of this desirable edifice is the slave Mubarak Mahmúd,
6. Of royal descent, the grandson of Sháh... ...
7. This dynasty, on account of its elevation, has obscured the memory of Subuktigin i Gházi.

When this...was erected, I said, it was 737, A. H. (A D., 1336-37.)

If the name in the sixth line were not broken away, we might fix the name of the builder with the help of p. 454 of Barani's history.

Nos. 35 to 37. The Malik Ibráhím Bayyú Inscriptions of Bihár.

The next three inscriptions belong to the Dargáh of Ibráhím Abú Bakr Malik Bayyú, who is par excellence the saint of Bihár. The shrine lies on the hill to the north-west of the town.

Malik Bayyú was first mentioned by Buchanan, who supposed him to be a purely mythological personage. Mr. T. W. Beale next published in his valuable Miftáh uttwáráikh (p. 90) the first of the following inscriptions. Col. E. T. Dalton also mentions him in his 'Ethnology of Bengal' (p. 211), and says that Jangrá, a Santál Itájah, destroyed himself and his family in the Fort of Chai Champá, Hazáribágh District, when he heard of Malik Bayyú's approach.

The 'Mujáwirs' or custodians, of the shrine claim to be descended from the Malik. According to traditions still preserved among them, Ibráhím Malik Bayyú was an inhabitant of Butnagar, and was sent by Muhammad Tughluq to chastise Háns Kumár, Rájah of Rohtásgárh. The Rájah frequently came to Bargión, the great Buddhist monastery, to worship. He oppressed the poor Muhammadans of the country. Now it happened that an old woman, a Sayyidah, killed a cow, in order to celebrate the nuptials of her grandson, when a kite snatched up one of the bones, and let it fall near the place where the Rájah worshipped. The Rájah was, of course, enraged, and put the Muhammadan bridegroom to death. At the advice of her friends, the old woman complained to Muhammad Tughluq. Being uncertain as to whom he should intrust with the command of an expedition against Háns Kumár, he consulted the astrologers. They told him, "This very night a storm will occur in the city, of such violence that all the lights will be extinguished. In whose house a lamp may be found burning, he is the man best fitted for the undertaking." Ibráhím Malik Bayyú was found reading the Qurán by lamp-light, and next morning he was appointed to command the expedition. He at once advanced to Bihár, and surprised Rájah Háns Kumár at the Súraj Pok'har, Bargáog. Although the Rájah
escaped to Rohtāsgarh, the number of the slain was so great, that Malik Bayyū returned with fifty sers weight of sacred threads. He now occupied himself in subduing the warlike tribes of the province, and unfortunately fell at the moment of victory, his enemy Rājā Hāns Kumār having been killed in the same battle. Malik Bayyū's body was brought to Bihār; and the Rājā's head and the sacred threads were buried at the foot of the hill, which still bears the name of Mūnd-mālā.

According to the inscriptions on Malik Bayyū's shrine, he died, apparently peacefully, on the 13th Zil Hijjah, 753, or 20th January, 1353, in the second year of Firūz Shāh's reign and about a year before his invasion of Bengal.

No. 35.

1. In the time of the reign of the world-taking Shāh (may the mulk i naurūz be in Bihār!).
2. The king of the world, Sultan Firūz, who was victorious over the kings of the Universe,
3. The angelic Malik Bayyū IBrahīm, who in his faith was as zealous as Abraham.
4. In the month of Zil Hijjah, on a Sunday, of the time, when thirteen (days) of the month had been in grief,
5. In the year 753 A. H., travelled on that day to Paradise.
6. O Lord, in Thy kindness, make the account of the last day light for him!

No. 36.

1. This Jāgīrdār of Bihār is the Malik, the sword of the dynasty, from the point of whose sword the sun turns his head.

* The poetry is bad enough, but metrical slips also occur. The metre is short hāsaj; and the t in 'budast' has been elided.
2. Like his namesake (Abraham), he broke idols, so that in the future world the title of 'Iconoclast' might be given him.

3. (He is) the warrior who breaks the ranks (of the enemies); when he arranged his ranks, Rustam fell into feverish restlessness, and Bahman lost his firmness.

4. Although the sun defeats the army of the planets, he makes at last for himself a screen of the mountains.*

5. On the day of the sun it was, on a Sunday, when, like a ruby in a stone, he (Malik Bayyú) went away from the world, in order to sleep.

6. When thirteen days had passed away from the exalted month of Zil Hijjah, and 753 years of the era.

No. 37.

درین گنبذ که هست ازروی معنی، بقهر از گنبد افلاک برتر
بخنستش شیر مرد، گنبدپشت خفیف شیر ایندرون بسی شیر
مدارملک ابراهیم - مبوکر کنیت از بهار قیصری، چوخدار
چنین لشکر که کشور کشانی نخیزد، دوم اندر هفت کشیر
کنون چون بردن افقر یاپرب زرای لطف محیتی برس و در
بیشک رحمت وکافور رافته کنی دیوار خاک را معبتر

1. In this dome, which in a spiritual sense has a higher value than the dome of heaven,

2. Sleeps a lion, from whose dread ... (unintelligible),

3. The pivot of the realm, Ibrahim Abú Bakr, who wielded his sword for truth like Haidar ('Ah).

4. Such a warfare, such a conquest of realms, will not take place a second time in the seven realms.

5. O God, as he has now fallen down at Thy door, open in mercy Thy door to him!

6. Perfume the walls of his grave with the mask of Thy mercy and the camphor—of Thy forgiveness!


The Chhohtá Dárgáh of Bihár is the shrine of Badruddin Badr i' Alam. This faqir came from Mirat'l, is said to have spent a long time at Chátgáon, and settled at last in Bihár, where he died in 844 A. H., or 1440 A. D., the táríkh of his death being بنیه حق پوست, 'he joined the glory of the Lord.' It is said that the famous Sharafuddin Munyári had invited him, but Badr delayed in Chátgáon, and only arrived in Bihár forty days after Sharafuddin's death.

The slab stands in the northern enclosure, and curious to say, has on the other side Inscription No. 6, given above. It thus contains the name

* The light of the sun is so strong that the planets are not visible; but even the sun sets and loses himself behind the mountains. So also Malik Bayyú.
of the Bengal Firúz Sháh on one side and that of the Dihlí Firúz Sháh on the other. We often find slabs with Hindú carvings on one side and Muhammadan inscriptions on the other; but I have not heard of a Muhammadan inscription having been treated so; for it is repugnant to the feelings of a Muslim to have God's name walled up. The slab is now considered an infallible cure for evil spirits of all sorts.

1. This auspicious building was renewed in the reign of the justice-fostering king.

2. The lord of the world, Firúz Sháh, through whom niches and pulpits [i.e., mosque] flourished,

3. Through the exertion and at the request of the special slave, (who is) the Reporter (borád) of the District, in the time of the just king,

4. An angelic man, a noble whose guarantee is sufficient, a wise man, renowned in the seven realms.

5. Seven Hundred years have passed away of the Era of the Hijrah, and sixty-one besides.

6. May the king on the throne of power remain for ever victorious and successful, as (indicated) by his name!

The following two inscriptions are of importance for the history of the Dihlí empire.


This inscription belongs to the ruined mosque in Kabír-uddinganj, the most northern Mahallah of the town of Bihár. The mosque has three cupolas, the centre one circular, the others octagonal. Two of its lofty minarets have fallen down.

Regarding the king, vide Mr. Thomas, 'Chronicles,' p. 306. The metre (long ramal) precludes the possibility of an error in the date.

1. In the time of the reign of Sháh Muhammad, the illustrious, this Masjid became generally used, (by) the grace of God, the Creator.

2. When Khwajah Ziyá, son of 'Alá, erected this edifice, it was 792 after the Hijrah. (A.D. 1390.)

This inscription belongs to the Khāngāh, or cell, of Ziyā ul Haq, governor of Bihār, who was mentioned in the preceding inscription. The slab was found in the cluster of religious buildings known in Bihār as the Chhotā Takyāh, 'the small cloister,' in which there is the tomb of Shāh Diwān 'Abdul Wahhāb, who is said to have died in 1096, A. H.

As the inscription mentions Mahmūd Shāh as the reigning king in 799, it follows that Nūrāt Shāh was not acknowledged as opposition king by Malik Sarwar of Jaunpūr, to whom Bihār then belonged. Vide 'Chronicles,' pp. 312 to 317.

1. During the reign of the king of the world, Mahmūd Shāh, Ziyā ul Haq, governor of the province, built this Khāngāh.
2. Seven hundred and ninety-nine years had passed since the Hijrah, when this asylum was completed. May it be the refuge of the weak! (A. D. 1397.)

Nos. 40 to 42. *The Mahmūd Shāh (of Jaunpūr) Inscriptions of Bihār.*

(A. H., 847 and 859.)

From the preceding inscriptions we see that Bihār, in the 8th century of the Hijrah, belonged to the Dihlī empire. With the establishment, immediately afterwards, of the Jaunpūr kingdom, it was separated from Dihlī. Bihār with Qanauj, Audh, Karāh, Dalamau, Sandelā, Bahrāich, and Jaunpūr, had since 796 been in the hands of Malik Sarwar Khwājāhsarā, who had the title of 'Sultān uṣhsharāq,' or 'king of the East.' He does not appear to have struck coins, and the fact that the preceding inscription does not mention his name, confirms the statement of the histories that he did not assume the ensigns of royalty. He was succeeded by his adopted son Malik Qaranful, whose elder brother Ibrāhīm ascended the throne of Jaunpūr in 804, under the title of Sultān Shamsuddin Abul Muzaffar Ibrāhīm Shāh. After a reign of forty years, he was succeeded by Nāṣiruddin Mahmūd Shāh (844 to 862), to whose reign the following three inscriptions belong.

The inscriptions do not mention Mahmūd's kunyah; the coins (Thomas, Chronicles, p. 322) do not even give his first name. But as Nāṣiruddin Mahmūd Shāh of Jaunpūr is the contemporary of, and has the same name

6 This word is generally derived from the Greek caryophyllum, a clove; but the Ghīyādshulaghāt derives it more correctly from the Hindi karn, 'ear,' and phāl, flower, because women and eunuchs often put a clove into the lobe of the ear. An earring, resembling the head of a clove, has also the same name. It is possible that Malik Qaranful, like Malik Sarwar, was a eunuch.
as Naṣiruddin Mahmúd Sháh (I) of Bengal, care is to be taken not to confound the two.*

The first of the following three inscriptions belonged to a mosque which stood opposite to the Chhotá Takyáh, on the opposite bank of the Adyánádi, in Bihár. The mosque has disappeared; only a large square stone platform is left, where the slab was found.

The second and third inscriptions belonged to the ruinous Pahárpúr Jámi’ Masjid.

No. 40.

In the name of God, the merciful and the clement. He upon whom be peace (the Prophet) says—"He who builds a mosque for God, for him will God build a house in Paradise.

1. By divine grace and for the sake of Muṣṭafá [the Prophet], the Jum’áh mosque was built in the reign of the faith-nourishing king.

2. Sháh Mámúd, son of Ibráhím the Just, a king who takes realms from kings, (and) gives beggars tribute.

3. The builder of this mosque is the great lawyer, who is pure in nature, thg beloved of the Prophet and of Murtáza (‘Álí),

4. The chief and the centre of the world, the perfect Sayyid, with whom realm and faith, religion and the royal house, take refuge.

5. (Who) ordered this building (to be erected), he the best in the Eastern (Jaunpur) kingdom, the Jágfrdár (muqta‘), the lord of this district, Naṣír ibn i Bahá.

6. This building in Bihár is stronger than the portico of Kísrá; it is a Ka’bah in grandeur, and in loftiness the edifice of sublimity.†

7. It was on the 1st Rajab, of the year 847 A. H., [25th October, 1443, A. D.] when with the assistance of God the first prayer was read (iqdmat shud) in this mosque.

* The Jaunpur Mahmúd Sháh coins generally have the word suldí, and allude to the investiture by some Khalíffah.

† The phrase استوار از طاق کسرى in line 6 is a Hindi construction for the Persian Comparative.
In the name of God, &c., (as above).

1. Blessed be God, in the time of Nāṣiruddunyá waddín Sháh Mahmúd, son of the righteous Sháh Ibráhím [of Juánpúr],

2. The hero of the world, the refuge of the kingdom, the noble chief, who through the mercy of the Lord of the Universe has found grace to do good,

3. Built this Jámí' Masjíd in such a way, that on earth the arch of its structure dwells together with the moon and the fish.*

4. Its pulpit and niche, from the excess of the loftiness of (their) dignity, have received such a lustre that even the Hāvīl Amín (the warden of Paradise) has approved of them.

5. And from the upper world, the call comes continually down (to earth), 'This is the garden of Eden, enter it (and live in it) for ever.'

6. Wednesday, the 27th of the month of fasting (Ramazán) of the year 859 is the date of its erection (11th September, 1155, A. D.).

7. Ahmad (the Prophet) sincerely (bu-jád) desires to protect this religious building for the sake of the pure spirit of Shaikh Sharaf ul Haq Waddín.†


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* I. e., the building is so high, that it touches the moon, and its foundation is so deep, that it touches the fish, upon which the earth is supposed to rest.

† The metre is as bad as the poetry. To get out the metre, we have to rend sharaf for sharaf—which is Hindústání, and have to scan haqqa waddín.
In the name of God, &c.

1. The Jāmi' Masjid, by the grace of God the Lord, and for the sake of Muṣṭafā, the Lord of power and dignity,

2. Was( erected) during the reign of a king, the fame of whose justice surrounds the west and the east, (extending) from the back of the fish to the moon.

3. Namely, the son of Shāh Ibrāhīm the Just, the exalted, the sun of Royalty, the king of the world, Māhu₂ Şah (two distichs illegible).

4. The glory of the holy temple (in Jerusalem), the honor of the Haram (the temple in Makkah) ...........

5. The slave Fazlullah wrote this on the 27th day of the Fast, A. H. 859 (10th September, 1455, A. D.)

I now bring this essay to a close. It has extended over more pages than I originally had intended. I hope in a short time to put together the collection of inscriptions belonging to the Paṭhān and Mughul periods, received by the Society from General Cunningham and Dr. J. Wise, to whose unwearied exertions Bengal History owes so much. In the meantime it would be well if other members also, and all such as take an interest in the subject, would send rubbings and coins to the Society; for in the absence of written histories it is only from mural and medallic remains that we can expect to gain a correct knowledge of the history of Bengal.
### Table of the Independent Muhammadan Kings of Bengal, from A. H. 739 to 944, or A. D. 1338 to 1538.

<table>
<thead>
<tr>
<th>No.</th>
<th>Name and Father</th>
<th>Duration of reign</th>
<th>Dates of reign</th>
<th>Ascertained Dates</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fakhruddin Abul Muzaffar Mubarak Sháh</td>
<td>2 years and some months</td>
<td>739 to 741</td>
<td>739, 741 to 750</td>
<td>739 to 750 Eastern Bengal.</td>
</tr>
<tr>
<td>2</td>
<td>Ikhtiyárudin Abul Muzaffar Gházi Sháh, (son)</td>
<td>not mentioned</td>
<td>753</td>
<td>none.</td>
<td>751 to 753 Do.</td>
</tr>
<tr>
<td>3</td>
<td>'Alá'uddin Abul Muzaffar 'Ali Sháh,</td>
<td>1 y. and 5 m.</td>
<td>none.</td>
<td>742, 744 to 746</td>
<td>740 to 746 Western Bengal.</td>
</tr>
<tr>
<td>A.</td>
<td>The House of Ilyás Sháh.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Shamsuddin Abul Muzaffar Ilyás Sháh,</td>
<td>16 y. and some m.</td>
<td>Western Bengal</td>
<td>740, 744, 746 to 758</td>
<td>740 to 759</td>
</tr>
<tr>
<td>5</td>
<td>Abul Mujáhid Sikandar Sháh, (son)</td>
<td>9 y. and some m.</td>
<td>As prince, 750 to 754; 759 to 761; 763 to 768; 770 to 773; 776; 779 to 783; 794 to 792</td>
<td>759 to 792</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Gháná'uddin Abul Muzaffar A'zam Sháh, (son)</td>
<td>7 y. and some m., or 16 y. 5 m. 3 d.</td>
<td>772; 775; 776; 790 to 792</td>
<td>792 to 799</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Seifuddin Abul Mujáhid Hamzah Sháh (son).</td>
<td>10 y., or 7 y., or 3 y. 7 m. 5 d.</td>
<td>to 785</td>
<td>804</td>
<td>800 to 804</td>
</tr>
<tr>
<td>8</td>
<td>Shamsuddin, (?) (son?)</td>
<td>3 y. and some m., or 3 y. 4 m. 6 d.</td>
<td>to 788</td>
<td>none.</td>
<td>804 to 808</td>
</tr>
</tbody>
</table>
### B. The House of Rājah Kāns.

<table>
<thead>
<tr>
<th>No.</th>
<th>Rājah Kāns</th>
<th>Years</th>
<th>Father</th>
<th>Years</th>
<th>Son</th>
<th>Years</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Shihāsbuddīn Abul Muzaffar Bāyazīd Shāh</td>
<td>7</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>808 to 817</td>
</tr>
<tr>
<td>10</td>
<td>Jalāluddīn Abul Muzaffar Muhammad Shāh (son)</td>
<td>17</td>
<td>to 812</td>
<td>812, 821, 831</td>
<td>none</td>
<td>817 to 834</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Shamsuddīn Abul Mujāhid Ahmad Shāh (son)</td>
<td>16 or 18</td>
<td>to 830</td>
<td>836</td>
<td>none</td>
<td>834 to 850</td>
<td></td>
</tr>
</tbody>
</table>

### C. The House of Rājd Shāh restored.

<table>
<thead>
<tr>
<th>No.</th>
<th>Nāciruddīn Abul Muzaffar Mahmūd Shāh (I)</th>
<th>Years</th>
<th>Father</th>
<th>Years</th>
<th>Son</th>
<th>Years</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>32 or 27</td>
<td>to 862</td>
<td>846</td>
<td>861; Sha'bān, 863; 28 Zīl Hijjah 863.</td>
<td>846 to 864</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Ruknuddīn Abul Mujāhid Bārbak Shāh (son)</td>
<td>17 or 16</td>
<td>to 879</td>
<td>873</td>
<td>860 (as prince)</td>
<td>864 to 879</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Shamsuddīn Abul Muzaffar Yūsuf Shāh (son)</td>
<td>7 y. 6 m.</td>
<td>to 887</td>
<td>883, 884</td>
<td>882, 884, 885</td>
<td>879 to 886</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Sikandar Shāh (II), (son?)</td>
<td>2½ days, or ½ day</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>886</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Jalāluddīn Abul Muzaffar Fath Shāh, (son of No. 12)</td>
<td>7 y. 5 m.</td>
<td>887 to 896</td>
<td>886</td>
<td>886, 887, 888, 889, beginning of 892</td>
<td>886 to 892</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Statements of the Histories.</td>
<td>Ascertain Dates</td>
<td>Probable duration of reign.</td>
<td>Remarks</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Duration of reign.</td>
<td>Dates.</td>
<td>by Coins.</td>
<td>by Inscriptions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Sultán Sháhzádah Bárbak, the Eunuch,</td>
<td>8 or 6 or 2½ m.</td>
<td>none.</td>
<td>none.</td>
<td>893</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Saifuddín Abul Muzaffar Firúz Sháh (II),</td>
<td>3 years.</td>
<td>to 899</td>
<td>893</td>
<td>893 to 895</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Náṣiruddín Abul Muḥáhid Muhámd Sháh (II), (son of No. 16?)</td>
<td>1 year.</td>
<td>none.</td>
<td>illegible.</td>
<td>23rd Rabí’ (?) 896</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Shamsuddín Abul-Naqár Muzaffar Sháh,</td>
<td>3 y. 5 m.</td>
<td>to 903</td>
<td>896</td>
<td>896 to 899</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. The House of Husain Sháh.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>'Aláuddín Abul Muzaffar Husain Sháh,</td>
<td>27 y., or 29 y., or 29 y. 5 m.</td>
<td>to 927</td>
<td>899, 900, 912, 914</td>
<td>903, 907, 908, 909, 911, 915, 916, 918, 919, 922, 925</td>
<td>899 to 927 *mentioned in Badóni as reigning in 901.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Náṣiruddín Abul Muzaffar Nuqár Sháh, (son)</td>
<td>13 y., or less, or 16 y.</td>
<td>to 939</td>
<td>922, 924, 927</td>
<td>929, 930, 933, 936, 937, 927 (929?)</td>
<td>to 939</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>'Aláuddín Abul Muzaffar Fírúz Sháh (III), (son)</td>
<td>3 months</td>
<td>none.</td>
<td>939</td>
<td>939</td>
<td>939</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Ghüyáuddín Abul Muzaffar Mahámd Sháh (III), (son of No. 21)—defeated by Sher Sháh,</td>
<td>none.</td>
<td>to 944, dies 945</td>
<td>943</td>
<td>941</td>
<td>940 to 944</td>
<td></td>
</tr>
</tbody>
</table>
No. 1. The Yusuf Shah Inscription, of Pandua (Hugli District), A. H. 689

No. 2. The Musaffar Shah Inscription, of Harat Pandua, A. H. 808
No. 1. The Fath Shah Inscription of Ulana, A. H. 885.

No. 2. The Firuz Shah (III.) Inscription of Khinah, A. H. 909.

No. 3. The Najrudden Mahmu'd Shah (II.) Inscription of Harat Fandush.
Note on two Muhammadan Coins.—By the Honorable E. C. Bayley, C. S. I.

I have the honor to bring to the notice of the Society two fine gold Muhammadan coins which I have lately seen. They are both as yet undescribed.

The first is a gold coin of Nāṣir-ud-dīn Khusrāu, the usurper who ascended the throne of Dihli after the assassination of Qutb-ud-dīn Mubārak in 720 A. H., and reigned a little more than four months.

The coin is in beautiful preservation and weighs about 100 grains.

It is of the same type as the silver coin, described as No. 155 of Thomas' 'Pathan Kings.' The marginal inscription is, however, complete and runs,

In the centre, too, of the reverse, the word preceding "فرحمن" reads clear as "نام" "Nāṣir al-rahmān." The drawing of the original of Mr. Thomas' coin as given in the plates (Pl. iii, fig. 73) seems as if the latter had been imperfect at this word. The legends are, therefore, probably the same, except as to the denomination of the coin given in the margin.

The gold coin which I have above described, is in the possession of Col. J. J. H. Gordon of the 29th Regiment Native Infantry, who procured it at Peshawar.

The other coin is also a Muhammadan coin, but belongs to a later date and another mint. It is a coin of the Bengal usurper Muzzafar Shāh, and
also greatly resembles the silver coin of that Monarch, figured by Marsden, (Pl. xxxv, fig. ccxcii) and attributed by him to Shams-uddin Altamsh.

Major Waterhouse has been good enough to photograph this interesting coin, and I enclose a copy of the photograph.

I give the legend as I read it in full, but there may be some doubt as to one word and as to the date, of which more presently.

**Obverse.**

Muhammadan profession of faith, or "Kalinah," with the date.

Margin—the names and titles of the four companions.

The first difficulty is as to the title "ابو الخضر." The legend in this line and that below it, is very much cramped at the end, and is with difficulty legible. I read this word therefore with some doubt, it is possibly meant for ى็บولفالخضرér

Unfortunately, the chief doubt of the reading centres in the date. The numerals are preceded by two scarcely legible groups of letters, which I take to represent في سنة, and these cover the numerals, which are very ill executed. Attached to the marginal scroll on the left may be seen a triangular mark. This may be either a part of the scroll itself, or it may be intended for the cipher ا or ١.

On the other hand, the extreme right-hand cipher, if examined by a glass, resolves itself clearly into two, and it may therefore either stand for ١ or ٠, or for ٦ and ٧, i.e., "0" and "1." The date may therefore be read as ٠٠١, or ٠٠٠, indifferently.

This is unfortunate, for the date of this king is uncertain. We know but little of him. The main facts which seem to be clear are, that he murdered his immediate predecessor Mahmúd Sháh, and at once ascended the throne. After some time a rebellion arose, headed by his eventual successor 'Alá-uddin Husain. It would appear, moreover, Muzaffar Sháh was before long driven into the fortified city of Gaur, and that he held his own within this refuge for a very considerable time, defeating all the attacks of his opponents. In the end, however, they triumphed; one account says by the treachery
of his courtiers, whom he had disgusted by his cruelty; another story is that emboldened by success he rashly hazarded a battle outside his fortification, and fell in the contest.

The popular dates assigned to this king vary very much, but it is specifically stated that his reign lasted three years and five months.

One set of dates, that most generally accepted, carries his reign as far down as 903, which would place his accession in either the beginning of 899 or end of 908, A. H.; but, as will be seen, this is probably too late.

The only one point on which there is no doubt is that he erected a building at Gaur in 898. This is testified by the inscription published in the Society's Journal, Vol. xiii, p. 291, by Mr. Blochmann from the Gaur impression furnished by General Cunningham.

Another piece of evidence, but a less conclusive one, is the coin published by Marsden, Pl. xxxviii, No. dccxcii, and which is dated in 899. It is attributed by Marsden to 'Alá-uddin Husain; but if correctly attributed, as is probable, it is, I think, indirect evidence, not that Muzaffar Sháh was then dead, but that he was still alive in possession of Gaur. For this coin of 'Alá-uddin is struck at Fathábad, a mint of which I believe no other specimens exist, whereas his later coins bear the mint mark usually of "Jamaatábad," the well known mint name of new Lakhnautí or Gaur. It is of course more than probable that 'Alá-uddin Husain, in the flush of victory and with his adversary penned up and beleaguered in a fortress, at once assumed, while himself in camp or at some obscure town, the regal style and struck coins, while Muzaffar Sháh might still have done the same inside his strong fortress.

The facts we have then are these: Muzaffar Sháh was reigning in 898. He was probably still reigning but penned up in Gaur at some period in 899. He reigned three years and five months.

All of these facts are consistent with the dates either of 896 or 901 A. H., but in either case this coin must mark one extreme limit of Muzaffar's Sháh's reign. My own feeling is rather to read the date as 901 A. H., resting mainly on the general assignment of a later date to him by native historians, and on the appearance of the date itself. I am bound to state, however, that such authorities as General Cunningham and Mr. Blochmann prefer to read 896.

This coin was found at Gaur some years ago, and is in the possession of E. Lowis, Esq., C. S.
Notes on Two Copper-plate Inscriptions of the Twelfth Century, A. D., recording Grants of Land by Govindachandra Deva of Kanauj.—By Ba’bu Rajendra Lal Mitra.

In April last, I received from Mr. E. T. Atkinson of Allahabad two copper plates bearing Sanskrit inscriptions, together with a transcript in modern Devanāgari and an English translation of one of them. Mr. Atkinson informed me that the plates "had been found in the village of Basáli, about two miles north-east of the tahsili town of Bidhuná, in the Etáwah District. The village is in a small kherá or mound into which a Thákur cultivator was digging for bricks to build a house. He came on the remains of a pakká house, in the wall of the dálán of which were two recesses (ták), and in each of these recesses was a plate."

No. 1, the smaller of the two plates, measures 16 inches, with an average breadth of 10½ inches. It has a clasp rivetted on the middle of its upper edge to which is attached a chain of two rings of unequal thickness, holding a heavy bell-shaped copper seal. The legends on the seal are a figure of Garuḍa, the vehicle of Viṣṇu, and a conch shell, a rude imitation of the famous pánchajanya conch or war trumpet of that divinity, with the name of S’rí Govindachandra Deva in the middle. The seal is peculiar to the last line of the Kanauj kings, and implies that those who adopted it were the especial followers of the Viṣṇuva faith.

The writing on the plate extends to twenty-two lines, the last beginning at about the middle of the lower edge. The character is the well-known Kuṭila, deeply cut, and in an excellent state of preservation.

The record was first sent to Pañḍit Bāpudeva S’ástri, who had it deciphered and translated by one of the papdits of the Sanskrit College of Benares. The transcript prepared by the pañḍit is generally correct, and is annexed below with a few slight alterations; but the translation, being loose and periphrastic, has been replaced by another.

The subject of the inscription is the grant, to an astrologer named Aṁeka, of a village named Vásábbhi, in the canton of Jiávani, in the Etáwah district. The donor is Rájá Govindachandra Deva of Kanauj, and the date of the gift, Sunday, the 5th of the waxing moon in the month of Pausha, Samvat 1161, corresponding with the end of December in the year 1103 of the Christian era. The boundary of the village is given in full, and Mr. Aikman, who communicated the plate to Mr. Atkinson, identifies the place with the modern kherá village of Basáli where the record was found. He says, "The only name like Jiávani in Pargannah Bidhuná is Jiva Sirsání, about ten miles south-east of Bidhuná, which has a large kherá. The name
Bándhama still exists as the name of a village about 2½ miles east of Basáhi. Pusání may be identified with Pusaoli, two miles south of Basáhi. For Várvavalá the local pândits give Belgur, two miles southwest; for Bántára, two miles west of Basáhi. Sávalhada is apparently the modern Sabhad, 2½ miles N. N. W. of Basáhi. All these are kherá villages with which the whole north-east of the Bídhnú Parganah appears to be studded. Tradition has it that Sahad in the Pháphúnd Parganah, which is now but a kherá, was the site of the elephant stables of the rulers of Kanaúj, and, though there is now no vestige of a wall, the villagers still point out the sites of the gates, as the Dihlí Darwázah &c."

The attesting witnesses to the gift were the high priest, the accountant general, and the warden of the palace, the conveyancer being a man of the name of Vijaya Dasa, son of Pándit Kuke.

No. 2 measures eighteen inches by eleven and a half. It originally had one or more rings and a seal attached to its top; but they are now lost. Its corners are broken, and the inscription, which extends to twenty-four lines, has been very much defaced by rust, making it quite illegible in some places. Owing to this the pândit, who deciphered the first plate, could not make anything of the record. Careful clearing and an impression taken under a copper plate printing press, have, however, enabled me to read a good part of it, and filling up such portions as are irretrievably lost of the preamble, which is the same as in a record published in the twenty-seventh volume of this Journal, and the concluding imprecatory and commendatory verses from several land grants already published, I have succeeded in restoring the record with the exception of a few proper names of places which are not of any material importance. The portions taken from other records have been enclosed in brackets in the subjoined transcript.

The subject of the patent is the gift of two villages by Govindachandra to a Thákur of the name of Devápála S'armá, son of Thákur Udyi, and grandson of Thákur Yogi, of the Káyapá clan. The title of the donee and his ancestors appears in its ancient form of Thakkura. The date of the gift is the third of the wane in the month of Phálguna, Samvat 1174, or just thirteen years after the first grant. The dates are given, in both cases, both in letters and figures, and so there is no doubt whatever about the accuracy of my reading.

The preamble of the first grant opens with a reference to a dynasty of which one Gáhaḍávála was the founder, and Karlla the last prince. One of the descendants, some unknown generations removed from Gáhaḍávála, was Mahiála, and after some generations Bhoja, who does not appear to have been the immediate predecessor of Karlla. Of these several names, that of Bhoja is the most important. As a sovereign of Kanaúj, he must be one of the two Bhojas of the Sáran plate noticed by me in my paper "on a Land
Grant of Mahendrapāla Deva of Kanauj,* probably the last who was the same with the "Lord Paramount" named in the Gwāliār inscription translated by me and included in my paper on the "Vestiges of the Kings of Gwalior,"† and noticed also in my essay on the "Bhoja Itájá of Dhár and his Homonyms."‡ The date of the last Bhoja of Kanauj was 885, A. D.,§ and that of the Bhoja of Gwāliār 875, A. D.,‖ showing an interval of only ten years which may reasonably be supposed to have been included in a single reign. This identification would make the dynasty of Gahadavāla to be the same with that of Devsākṣi, which, according to my calculation, commenced in the year 779, A. D.*

When Karla, the last prince of the dynasty, died, cannot be ascertained; but it must have been at about the third quarter of the eleventh century. The inscription notices a revolution immediately after his death; perhaps he was destroyed by a rising of his own people, who expelled his descendants from Kanauj and made over the kingdom to Chandradeva, or at least helped him to take it.

The dynasty of the last named prince was founded by Yasovigraha, whose name occurs in a large number of inscriptions; his date, however, is nowhere satisfactorily settled.** His son Mahichandra was the father of Chandradeva. No inscription of either of these has yet been met with. Of Madanapálā, the son and successor of Chandradeva, an inscription has been published, bearing date the 3rd of the waxing moon in the month of Māgha, Samvat 1154 = 1097 A. D.†† According to the inscription under notice he was the reigning sovereign in 1103, A. D., when his son Govindachandra, as heir apparent, gave away the village of Básaṭi.

The second inscription describes the dynasty of Yasovigraha, but makes no mention of the line of kings which preceded it. According to it Govinda-chandra was reigning sovereign or Mahārāja on the 3rd of the wane in the month of Phālguna, in the Samvat era 1174 = A. D. 1117. So he must have succeeded his father between 1103 and 1117 A. D. On the 6th of the wane in the month of Māgha, Samvat 1182 = A. D. 1125, he gave away a village in the canton of Haladoya,‡‡ and his reign may be assumed to have

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* Ante XXXIII, p. 321.
† Ante XXXI, p. 391.
‡ Ante XXXII, p. 91.
§ Ante XXXI, p. 409.
‖ Ante XXXIII, p. 96.
¶ Ante XXXII, p. 409.
** A summary of all the Yasovigras noticed in inscriptions will be found in a footnote to a paper entitled "Of two Edicts bestowing land recorded on plates of copper." Ante XXVII, p. 217.
†† Ante XXVII, p. 218.
‡‡ Ante XXVII, p. 247.
extended to the close of the third decade of the twelfth century, and probably to a much later period. His son and successor was Vijayachandra. He is said to have died in 1168 A. D.,* leaving the kingdom of Kanauj to his son Jaychandra, the last king, from whom the country passed to the Muhammadans. There are several copper plate patents extant of this sovereign. Six of them found by Captain Fell at Benares, and now in the Library of the Asiatic Society, bear dates as follow:—

Nos. 1008-3 and 6, Samvat 1233 A. D. 1175.
No. 1008-4, Samvat 1234 = A. D. 1176.
Nos. 1008-5, 7 and 8, Samvat 1236 = A. D. 1178.

His overthrow by the Muhammadans took place in A. D. 1193, which gives a period of about twenty-six years for his reign.

As the history of these sovereigns has been discussed at length by Colebrooke, Wilson, and others, and I have at present neither the time nor the inclination to write a monograph, I shall close these brief notes with a few remarks on the nature of the gift and on the various kinds of rights, taxes, and cesses which they bestowed on the donees.

The gifts, as a rule, are absolute, and to last, in the metaphorical language generally used are such occasions, "as long as the sun and moon will endure." Their resumption is also prohibited with dire imprecautions. But nowhere is any mention made of the right of actual possession of the donor. The first impression produced on reading a copper-plate grant is that the proprietary right of the donor is conveyed to the donee, but looking to the fact that almost invariably there is a clause in the deed which says "the inhabitants and local officers, should render to the donee all rents, taxes," &c., or other words to that effect, the conclusion becomes evident that the right conveyed is, like that of the zamindars, limited to rents, &c., and does not extend to actual possession, which is taken for granted will rest with the tiller of the soil, except of course in the cases of unoccupied land, forests, mines, wastes, &c., which are frequently separately mentioned. This peculiarity in the land tenures of India was first pointed out by Colonel Sykes, and it shows the existence of zamindari rights of middle men apart and distinct from the occupancy rights of the cultivators. It shows also that the right of possession did not rest with the king. He was entitled to demand revenue or kara, and cesses, but not to dispossess the occupant at will and pleasure. However extraordinary this may appear to persons who associate the idea of Indian sovereignty with every thing that is arbitrary and autocratic, it is a fact which is in perfect keeping with the laws of the land.

* Ante XXVII, p. 218.
According to the *Tattvakaumudi*, there were formerly four classes of tax-gatherers intermediate between the actual occupant on the one side and the king on the other; these were the Grámádhyaksha, the Kauṭumbika, the Visháyádhyaksha, and the Saḥádhyaksha, and the revenue passed successively through their separate hands before it reached the king. Whether these persons were paid officers, or owners in some sense or other, I cannot ascertain, but in the *Viváda Chintámani* a rule is quoted which says, "A gift of land made by the king by taking it from its proprietor through anger or avarice, or under a pretext, (i. e. not lawfully resumed) is illegal."†

There are laws quoted in it of the rights of squatters and lease-holders, apart from those of permanently fixed cultivators, who held the position of the ryots of the present day.‡ This becomes the more apparent from the nature of the right of the king in land as defined by Śrīkrisna Tarkālankāra in his commentary on the Dáyabhága of Jimutaváhana. "When the owner of one kingdom," says he, "buys a country or the like from the owner of another, the right acquired in his purchase is that of realising revenue, which the seller had, and not anything similar to the right acquired in land by inheritance, which is also connected with land, and which is not of the same nature with the former, and cannot be produced by its transfer, the discordance being in their natures."§ Accordingly, we find in one of the Sanchi inscriptions a vassal of Chandra Gupta purchasing from one of his own subjects a piece of land, at the legal rate, for 12,500 dinárs for a Buddhist temple.||

The rights conveyed by the patents also indicate this very clearly. The first right named in the records under notice is called bhága or "a share" of the produce. It is, I believe, the same with the bhágajota of the present day, in which an owner allows the cultivation of his land by a farmer on the understanding of receiving a share (bhága) of the produce, the cost and labour of cultivation being borne by the latter. The share varies from four to ten-sixteenths, according to the nature of the soil and other circumstances; but it is ordinarily fixed at half the produce, which in the case of paddy is sometimes meant to include the straw, and sometimes to omit it. Owners of land are occasionally required to supply seed grain; but

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* यसो वि काराकाशः कोटिविवेकः हारेकर विपाध्यायः प्रम्पति, विष्याकाशः समाधायः, स भेज्यते रूतिः।
† Prasannakummar Tagore's Translation, p. 121.
‡ Ibid., pp. 130-31.
§ तत रत राज्याराजिकारिः स्वा धारा भयापनिः तीने राजानाराजीः
विशेषतत्वं वाजानिः कर्पसप्तापिसिस्वंत्वं सत्य सं भापते, स सु रुपसिसिस्वं
श्यारंभिनिलम्बायर्यांशं स भूमिः। तथा विशेषचरितं तात्रिवः ताद्वैः
स्वामर्मसम्बर्त्वम् एवंत राजानाराजायाः
• Bharatachandrá Siromani's edition of the Dáyabhága, p. 18.
|| Ante Vol. VI, p. 455.
this is not common. At the time of Govindachandra, the share was, I believe, a tenth, as I find in the inscription No. 1 the word bhāga-
kūṭaka-dāśa, which means the share (bhāga) for a plough-share (Kūṭaka) to
be dāśa "ten," the "ten" meaning either ten hundredths or one tenth. The
ordinary practice of calculating by fractions of the rupee or sixteenths
has, I imagine, not been adopted here, as the very next word bandha viṁśati
twenty or a twentieth for mortgages, would in that case mean twentysix-
teenths, which would be absurd. One-twentieth or twenty-hundredths—
most probably the former was the rate of cess for mortgages. But what-
ever the rate the right was clearly limited to rent, and did not extend to
actual possession.

The second right of the zemindar is named Bhoga, literally meaning
enjoyment, but most probably intended to imply usufruct, as in the current
terms Bhogabandhabh, Bhogalabh, Bhogadhikâr, Bhogasvanad, &c., a mort-
gage is meant in which the article pledged is permitted to be used in lieu
of interest. It might mean the actual possession and enjoyment of the
land, but that cannot be the object intended by the conveyancer, for in
that case he would not have described it as "payable," and enjoined the
inhabitants or ryots to "render it." The condition of payment, or rendering,
implies that the land was left in the possession of the ryots, and the donee
was still to have some enjoyment of it. This could be effected by al-
lowing the landlord to have the right of using it when the land was left
fallow, either as field for grazing his cattle, or taking the grass from the
field after the cultivator's crop had been removed from it. A right of
this description is enjoyed in the North-Western Provinces to this day; and
a case once came up in appeal to the High Court of Calcutta from Behar in
which the zemindar claimed the right of taking grass from the field of his
ryot, after the ryot had removed his crop. This is indicated in a passage in
the Vivāda Chintamani where it is stated that "the produce of seeds thrown
from one field into another by a storm or a deluge, is enjoyed by the
proprietor of the field,"* i. e., the produce resulting without the interven-
tion of the ryot is due to the zemindar, even during the currency of a lease,
unless otherwise provided for in the lease.

The next is Kara, i. e., rent proper or revenue, in which a fixed amount,
whether payable in money or kind, has to be rendered for the use of land
irrespective of the actual produce at any given time. The standard for
fixing the rate was doubtless the produce, but when the rate was once fixed,
the produce was no longer taken into consideration.

The next is Pravani kara, or a toll on quadrivals, i. e., a toll at tu-n-
pikes, it being very unlikely that a traveller was called upon to pay a toll
at every cross road. The translator of the Delhi College copper-plate

* Prasannakumār Tagore's edition, p. 131.
fancies that from the mention of this tax, "it may possibly be inferrible that the impoverishment of the imperial coffers had recently given rise to a new species of fiscal exaction;" but the impoverishment is altogether imaginary; there is nothing to show that Govindachandra's reign was financially a bad one, and needed any extraordinary fiscal measures for relief. On the contrary, Govindachandra and his two successors, who exercised supremacy for nearly the whole of the twelfth century, and possessed the finest and richest portion of India, including the Gangetic doab, a good portion of Oudh down to Benares, and an undefinable portion of the tract of country to the south of the Ganges and Jumna from Tikkari to Gwalior, were rich and prosperous, the most distinguished sovereigns of their times, lavish in bestowing entire villages, not unoften two, three, or more at a time, in free gift to Brahmins, it is extremely improbable that they laboured under pecuniary difficulties. Were the difficulty to be admitted as a fact, still the question would remain, how could the bestowal of the right to raise such a tax relieve the tightness of the imperial exchequer? To make it really beneficial, the donor should have reserved the right for himself, and not given it away to a subject.

These four forms of taxation are mentioned in the second plate, and the grant appears to be limited to the enjoyment of these, which the tenants were to contribute. In the first grant the gift is absolute, including the power of administering justice, the punishment being limited by the nature of the offence, sudrisāpārātha danda. But even here the tenants are not altogether lost sight of, nor their rights annulled, for it ordains that the share (bhāga) for each plough, kūtaka, should be ten or a tenth (das'a : bhāga- kūtaka-das'a).

The right of the donee in mortgage is fixed at one-twentieth or five per cent., which is somewhat more than the stamp tax of the present day. He is authorised also to raise a tax for beggars—a poor rate—which is to be equal to a prastha, or four kuduvas, which is equal to "forty-eight double handfuls;" but whether that was required to be contributed by every tenant, or for every biggha of land cultivated, I cannot ascertain. The tax is named agu-prastha. A similar rate of tax is also fixed for the administration of justice aksa-patāla-prastha. For the watch and ward of the village, a similar rate is likewise fixed. It is called pratikāra-prastha or a chaukidāri tax, and in some villages of Bengal, it is still current, though the measure of corn given is different. Royalties are also fixed for mines (ākara), collection of fragrant grass, meaning evidently the wild Benā grass or Khaskhas (turushka-danda); wild tree-cotton (ākara); reeds for mat-making (kaṭa); and trade in precious metals and jewels, collectively called hiranya or gold. In the translation of the Inscription published in the twenty-seventh volume of this Journal (p. 249), the word turushka-danda has been rendered into

* Ante XXVII, p. 248.
"Mahommedan amerce,ments," the translator suggesting that it implies that "the encroachment of the northern invaders were gaining head, and that their dominion was becoming to be recognised;" but I cannot accept this version as correct. It assumes the presence in Etawah of such a Moslem population as would be worth taxing; and that is far from being probable. The word turushka doubtless means a Turk or a Moslem, and it is undeniable that the incursions of Mahmúd Ghaznavi did leave some of his followers scattered in different parts of India, but they did not make up such a population in villages as to make judicial fines imposed on them of any material value. At any rate such fines do not by any means indicate Moslem sovereignty in India, nor does their imposition by Bráhmans under the orders of a Hindu king in the year 1103 imply its extension. It may be added, that the right of administering justice carries with it that of fining, and the donee who got the right, enjoyed the fines from Hindu and foreign offenders alike, and a special mention of "Mahommedan amerce,ments" was not at all needed. But the most important argument against the theory appears to me to be the position which the word turushka danḍa occupies in the text. It is preceded by ākara, "mine," and followed by dhara, "tree cotton," and kata "mat reed," and one naturally expects it to be the name of some article of produce; and this is supplied by the old meaning of turushka "an aromatic substance," added to danḍa, "a stick," an aromatic reed. In the western parts of the Burdwan district, where the khas-khas is common, a royalty is to this day charged by zamindars for permission to cut it.

Transcript of Inscription No. I.
Translation of No. 1.

Om! Salutation to the glorious Vásudeva.

1. I adore Dāmodara, the first among the Gods, the three folds of skin on whose belly are said to be the three worlds in his lap.

2. In the dynasty of Gánadhāvāla was born the victorious king, comparable to Nala and Nabhāga, the son of the auspicious Mahiśāla.

3. When king Bhoja had become an object of sight to the charming wives of the gods, (i.e. died); when the career of king Śrí Karli had come to a close, when there was a revolution, then Chandradova became king. On gaining him, who was like the lord of heaven, for her husband, earth was gratified. He was a protector of the universe.

4. Having brought under subjugation all irrepressible and inimical kings, the sovereign established his reproachless metropolis at Kānyakubja.
5. Of him was born the renowned of earth, Madanapala—a lion to the inimical elephant Ilapatı, (king of Ill), who engaged himself in frequent warfare, and made the trunks of his decapitated enemies dance (in the battle field).

6. Of him was born the celebrated prince Govindachandra, whose lotus-like feet were adored by hosts of mortal sovereigns—a prince of refulgent might, the ornament of mankind, and the disturber of the enjoyment of his enemies.

On Sunday, the 5th of the waxing moon, in the month of Pausha, of the Samvat year one thousand one hundred and sixty one, Samvat 1163, Pausha, 5th Sud, Sunday.† Having this day bathed here at Asatika, the sin-destroying Yamuná,—having offered libations of water to the tutelary deities, sages, (rishis) men, animals and manes,—having worshipped the sun, the sovereign and glorious lord of all, S’va, and the asylum of the universe Vásudeva,—having duly made offerings to the fire (the prince) thus addresses all the respectable inhabitants of the village of Vassabhi, in the district or circle (Pattana) of Jiyávaní. This village with all its fields, and orchards of Madhuka and mangoees, together with the sky over it and the region below it, as also the power of administering justice, the right to a tenth for every ploughshare, to a twentieth on mortgages, to royalties or shares (prastha) of corn, for beggars, justice, watch and ward, mines, aromatic reeds and gold, along with all other,—the village having on its East the village of Bandhamauñi; on its West the village of Vedabha; on its South the village of Pusáni; and on its North, the village of Savahada, thus bounded on four sides—for the increase of virtue and good name of my parents and myself, and knowing life to be as impermanent as a bubble on water and the value of wealth to lie in charity and enjoyment, has been granted as a sáșana for the period of the sun and the moon to the astrologer Bráhmmana, Ahneca, son of Kulye, and grandson of Meine, of the Bahvrich Sákáhí (branch) of the Gautama clan (gotra), having Gautama, Avitatha, Angiras’s for his threefold Travana, by Govindachandra Deva, son of the Maharája, on the winter solstitial conjunction (of the month of Pausha and Mágha) with water hold in his hand, and purified by Kus’a grass.

1. With folded hands this is my prayer to all future sovereigns of my and other dynasties, that they should never take any tribute from this village—not even a blade of durba grass. Those who wish to do their duty should, obedient to the mandates of sages, preserve intact my gift, (as long as) the wind blows and the sun continues to shine.

2. This earth has been enjoyed by many kings, including Sagara and others. To whomsoever belongs the earth for the time being, he enjoys the fruit (of such gifts).

3. Whoever robs earth, whether given by himself or others, becoming a maggot, sinks with his parents into ordure.

4. Both he who accepts land and he who grants it, are equally meritorious, and they dwell eternally in heaven.

5. The alienator of land-grants cannot expiate his crime even by (dedicating to

* The word prabandha means both continuous action and a treatise. The latter would imply that the king composed some treatises on tactics, but the second clause would be more in keeping with the former meaning which has been adopted in the text.

† The repetition is due to the circumstance of the date being given first in words and then in figures.

‡ Probably the name of a ghat or a village on the Yamuná.
public use) a thousand tanks, by (performing) a hundred Vajapaya rites, and by giving away in charity ten million heads of cattle.

This was written by Vijnayadasya, son of the Pandit Sri Kuke, with the consent (or in the presence?) of the family priest Sri Jaguka, the chief accountant (Mohattaka)* Sri Brâhmâna, and the wards† (Pratihâra) Sri Gautami.

Transcript of Inscription No. II.

1. (तस्मि) सष्ट्यापात्रविद्यापदाताः कस्त्यापात्रविद्याम्। तस्मि। (सकलाः सुतिन्तकाकं) सकलाः सुतिन्तकाकं। सकलाः सुतिन्तकाकं।

2. महात्मां (सष्ट्यापात्रविद्यां) सदलं। तस्मि। (सष्ट्यापात्रविद्यां) सदलं। तस्मि। (सष्ट्यापात्रविद्यां) सदलं। तस्मि।

3. यज्ञरीति श्रीपाण्डिका। यज्ञरीति श्रीपाण्डिका। यज्ञरीति श्रीपाण्डिका। यज्ञरीति श्रीपाण्डिका।

4. यज्ञरीति श्रीचाचाराध्यात्म्यम्। यज्ञरीति श्रीचाचाराध्यात्म्यम्। यज्ञरीति श्रीचाचाराध्यात्म्यम्। यज्ञरीति श्रीचाचाराध्यात्म्यम्।

5. (सष्ट्यापात्रविद्यापदाताः) सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः।

6. (सष्ट्यापात्रविद्यापदाताः) सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः।

7. (सष्ट्यापात्रविद्यापदाताः) सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः।

8. (सष्ट्यापात्रविद्यापदाताः) सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः।

9. (सष्ट्यापात्रविद्यापदाताः) सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः।

10. (सष्ट्यापात्रविद्यापदाताः) सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः। सष्ट्यापात्रविद्यापदाताः।

*I take this word to be the ancient form of the Uriya Môhinti and the Bengali Máyiti, an officer whose duty is to keep accounts.*
1873.]
Rajendralal Mitra — Two Copper Plate Inscriptions.

11. 

12. [Text continues in the same format as the previous entries.]
Translation.

1. Let this be auspicious. May that agitation at the commencement of his dalliance with S'iri, when her hands rolled about on the neck and shoulders of eager and lustful Yākunṭha, be to your prosperity!

2. When the line of protectors of the earth, born of the race of the ungenial-rayed orb (the sun), had departed to heaven, there lived one of the name of Yasovigrahā, the munificent, who, in the plenitude of his effulgence, was like the sun himself.

3. His son was Mahichandra, whose glory, resembling the light of the moon, was spread wide by him beyond the sea.

4. Unto him was born a son, the king Śrí Chandrudva, the lover of polity, the discomfter of hosts of enemies, the dispeller of the gloom of impotent, heroic warriors, by whose glorious majesty was repressed the revolts of the subjects of the unrivalled great kingdom, of auspicious Gādhipura, which was earned by the valour of his arms.

5. Repairing, as a protector, to Kāśi, Kuska, Uttara Kos'ala, Indrasthāna, and other places of pilgrimage, he marked the earth by the performance of a hundred tulā rites, in course of which he repeatedly gave to the twice-born his own weight in gold.

6. His son was Madanapāla: that crest-jewel of the lords of the earth flourishes as the moon of his race. By the waters, which sparkled in jars at his coronation, the earth was washed clean of all the sinful dust of this iron age.

7. When he went forth to conquer, on the earth sinking under the over-powering weight of the foot-falls of his maddened and careering elephants, high as lofty mountains, the serpent Sēsha, crushed as it were by it, and having its crest-jewel fractured and thrust down into its bleeding mouth, for a time hid its face in its folds.

8. From him descended the king Govindachandra, even as the moon issued forth from the ocean. His long arms, extending like creepers, tied and checked all elephant-like upstart kingdoms, and he was the source of thick fluid-nectar-sprinkling eloquence.

9. His numerous elephants could nowhere in the three quarters find worthy tuskers that could fight with them, and so they repaired to the quarter of the wielder

* Ancient name of Kanauj

† The ceremony is a very costly one, but it is not uncommon. Within the last ten years it has been several times celebrated in Calcutta, and in course of it not only gold, but silver, rice, paddy, sesamum seed and other articles were weighed against the donor, and presented to Brahmans. The Dānakunḍa of Homādri, now in course of publication in the Bibliotheca Indica, contains a full description of the details of this rite.

‡ It is commonly believed that certain species of serpents bear very bright jewels on their heads; Sēsha, the king of serpents on whose head rests the earth, according to Paurānic cosmogony, has the largest jewel.

§ If the word gavaya be taken in its ordinary acceptation of kine, the meaning of the phrase would be "the source (whence men obtained) kine which gave thick, sweet milk."
The same Govindachandra Deva, whose feet are profoundly adored by hosts of sovereigns, the highly revered,† the great king over great kings,‡ the supreme lord,§ the devout worshipper of S'iva,|| the sovereign of the three classes of kings, viz. As'vapati, Gajapati and Narapati,¶ master (Văchnapati) of all knowledge and logic, successor of the highly revered the great king over great kings, the chief lord, the devout worshipper of S'iva, S'ri Madanapāla Deva, who was the successor of the highly revered, the great king over great kings, the supreme lord, the devout worshipper of S'iva, S'ri Chandra Deva, the sovereign who, by his arms, carved the happy kingdom of Kānyakubja, reigns supreme.

He commands, acquaints and enjoins the inhabitants of (?) and those who have come thereto from other places, as also kings, queens, heirs-apparent, ministers, priests, warders, (pritihāra) generals, treasurers (bhūdājārikas) justiciaries (akshapatosikas) physicians, astrologers, guardians of female apartments (or dwellers of the zenāna), envoys, and owners of elephants, horses, towns, mines, commons, and herds of cattle: Be this known unto you, that after bathing in water consecrated by mantras, after offering according to law water to mantras, gods, sages, mortals, elements and manes, after paying due adoration to the fiery light (sun) whose rays are potent in dispelling dense darkness, after worshipping the crescent-crested (S'iva), after performing puja to Vāsudeva, the preserver of the three regions, after offering oblations of frumenty and clarified butter to the partaker of butter (fire), for the promotion of virtue and fame of myself and of my mother and father, I have, by this patent, with water held in my hand and consecrated with Kusa grass, for the period of the duration of the sun and moon, bestowed on the third of the wane, in the month of Phālguna, in the year of Samvat one thousand one hundred and seventy-four, (in figures) Samvat 1174 Phal., the two above written villages, together with their soil and waters, their iron and salt mines, their fisheries, pits and salt fields, their orchards of mango and madhīnaka trees, their gardens, tops, grass fields and pasturages, including everything above and below,

* Name of the mate of Airāvata.
† Paramadhatūrāka. In Sanskrit dramas bhūippāka means a king, but in ordinary language a revered personage is generally implied.
‡ Mahārājadhīraja equivalent to the Arabic sultān us-salātīna. The term may be split into two—Mahārāja and adhīraja "great king, and paramount sovereign."
§ Parama = supreme and ēśvara = lord or god. The epithet has been loosely rendered into Emperor in the translation of the Delhi College plate (xxvii p. 219).
|| Parama-Mahāēśvara. In the Benares inscription of Col. Stacy, it is placed in opposition to parama vaishnava, some of the princes named being parama mahēśvara, others parama vaishnava. The long a after ā shows that the word is a derivative and refers to Mahāēśvara or S'iva. A sectorial meaning may be objected to on the ground of the seal having the Vaishnava emblems of Garuda and conch-shell, indicating that Govinda was a Vaishnava. But the expression of equal respect for both S'iva and Vishnu is not uncommon.
¶ Evidently intended for some tributary kings. The Rājās of Orissa used to call themselves Gajapatis; those of Talingānā and Karnāṭa bore the special title of Narapati, and some of the Burmese monarchs were Aśvapatis; but it is not at all likely that any of these bore allegiance to the kings of Kanauj. Vide ante xxvii, p. 24.
with their four abuttals well defined, and within their boundaries, on the Brāhmaṇa Thakkura, Devapāla S'armá, son of Thakkura Udai; and grandson of Thakkura Yogi, of the Kāśyapa clan (gotra) and Kāśyapāśara-naidhu sopt (puvam). Knowing this you should comply with his orders, and render unto him all dues, shares, rents, tributes, quadrivial tolls, &c., whatever have to be given.

On this subject are the following sl'okas:

1. (The same as the 4th sl'oka of the first grant.)
2. A conch shell, a throne, an umbrella, choice horses, and excellent elephants, Purandara, are the royal insignia, which constitute the reward of giving away land.
3. Rāmachandra repeatedly intreats all present and future lords of earth (to bear in mind) that this bridge of virtue (the granting of lands) is common to all sovereigns, and should be preserved by you at all times.
4. (Is the same as the 2nd of the first grant.)
5. He who robs a gold piece (suvarna), a cow, or a finger's breadth of land, dwells in hell until the dissolution of the universe.
6. (The same as the 5th of the first grant.)
7. The same as the 3rd of the first grant.
8. The donor of land dwells in heaven for the space of sixty thousand years; the resumer, and the abettor thereof, are doomed to abide in hell for a like period.
9. The resumers of lands dedicated to Gods and Brāhmaṇas, become dwellers in arid wastes devoid of water, and dry hollows in trees, and are born as black serpents.
10. All the gifts of former kings are productive of virtue, wealth, and fame,—how an he, who claims the name of goodness, resume them which are to them but as emblems of vomited food?
11. Sovereignty is like unto clouds impelled by wind, (i.e. inconstant), worldly pleasures are sweet only for the moment, the life of man is but a drop of water at the point of a blade of grass; virtue verily is the only great friend for translation to a future world.

By the Kayastha Thakkura S'rī—
A Metrical Version of the opening Stanzas of the Prithiraj Râsau, with a
critical commentary.—By F. S. Growse, M. A., B. C. S.

"Manuscripts are in general grossly incorrect; and a familiarity with the metre
will frequently assist the reader in restoring the text where it has been corrupted."

Colebrook, on Sanskrit and Prakrit Poetry.

The following version of the opening Stanzas of Chand's great poem
does not lay claim to any poetical merit. It simply professes to be a close
and accurate reproduction of the original, so far as the difficulties of the
text allow, in readable and intelligible English. Occasionally the exigencies
of rhyme and metre have necessitated some slight expansion or curtailment;
and in a few passages the exact turn of expression has been deliberately aban-
doned, either because there was a doubt about the reading, and therefore a little
vagueness was preferable to what might turn out to be mistaken accuracy,
or because a rigid adherence to Hindi style would have had a forced and unnatu-
ral effect, and to that extent have misrepresented the original. But
throughout, the translation is line for line, not unfrequently word for word;
the connection of ideas, not always easy to trace, has been carefully studied
and faithfully preserved; and not a word materially affecting the sense has
anywhere been either omitted or inserted.

These, it must be admitted, are rather the merits which should charac-
terize a prose translation; and as a literal rendering of these very same
stanzas has already appeared in the last volume of the Society's Journal, the
present version might be hastily condemned as a mere work of super-
croation. The rendering to which I refer is therefore appended in a running
foot-note; the words to which exception is taken as being (in my opinion)
specially incorrect being printed in italics; and the text is inserted above,
in order that the correspondence, or otherwise, of the one with the other
may be rapidly apprehended. For other reasons it was desirable that such a
comparison should be made; though it may be added that the present
metrical version would never have been attempted but for the opening
sentence of the preface to the prose translation, which fathers upon me a
retractation which I am not conscious of having made.

In my reprint of the text I have for the sake of the metre corrected the
copyist's errors of spelling in many places where without such correction the
lines could not possibly be scanned. It is incredible that Chand himself was
guilty of these false quantities, since in one of the verses which I translate,
it will be seen that he specially prides himself upon his accurate knowledge
and observance of the laws of prosody. The alterations, which affect the
sense, are very few in number, and are all fully explained and defended in
my running commentary.
I. Bowing low before my master, I the queen of speech entreat,
   And the world-supporting serpent and great Vishnu's holy feet.
   Then the perfect, sin-consuming god of gods that awful power,
   Life of man and life of nature, I the poet Chand adore.

   Thus after due mention of his Guru, the poet addresses his invocation to Sarasvati, Sesh-nag, Vishnu, and Mahádeva, the first of these four divinities being clearly indicated by her title of Váni. Half of the second line is difficult, but if translated literally, would I believe stand thus, "The supporter of the weight of creation, that is, of the world," meaning Seshnag. It can scarcely be doubted that *síshtham* is a corruption of *srishtam*, 'created,' not of *sreshtham*, 'the best' or 'highest;' for the substitution of *i* for *ri* is quite according to rule, as in *siála*, 'a jackal' for *srigála*, but I know no instance of the substitution of *i* for *re* or *r* for *th*. In the third line, the words *tama-guna* is indicate Mahádeva, who is lord not 'of vice and of virtue,' but of the quality (*gun*) of darkness (*tama*). In *siddhi-srayam* the first part of the compound may mean 'success,' or may allude to the eight Siddhis, Rasollása, Tripti, Sánya, Tulyatá, Visoká, &c., the constituents of perfection; and adopting the latter view I translate by 'perfect.' In the fourth line, I have corrected the unmeaning word *Chandana-mayam* by the simple process of division into *Chanda namayam*, 'I Chand reverence.' In the first half of the line, *achara* should probably be read for *chara*; for certainly the intention is to represent the god as the life both of sentient and insentient creation.

II. 

I. The prose translation:

   "First reverently bowing, bowing, the poet adores the feet of the Guru. Taking refuge at the feet of the highest, the adorer of support, the husband of the princely Lachhi; who stands the lord of vice and of virtue, consuming the wicked, the lord of heaven, blessing with success; who is an *sandal-wood* to the life of living beings moving on the earth, lord of all, bestower of blessings."

II. The prose translation:

   "First the very auspicious *root* is to be celebrated. Irrigated with the water of the truth of tradition, religion like a fair tree with one trunk sprang up, with three six branches rejoicing the three worlds. Leaves of various colours, leaves like mouths there wore. Colour of flowers and weight of fruit it had, speech unfailing, princely, rejoicing with fragrance the sight and touch, *dean* tree of hope to the parrot-like poet."
1873.]

F. S. Growse—A Metrical Version of the Prithiraj Rasau. 331

I. From the seed of Revelation,
Watered by Law divine,
Sprang with thrice six spreading branches
Faith, a straight and goodly pine,
Each leaf a lettered sign.
Rich in fruit of lovely colour
And honied flowers of song,
Sweet to taste, to see and handle,
For the poets, parrot throng.

In the first line I have divided the unknown word Sruta viya into Sruti viya; Sruti being the highest Revelation as distinct from Smriti, mentioned in the next line, divine Law or Tradition. Viya, if allowed to stand, is of course ‘seed,’ but it might be better to read boya, ‘to be sown,’ the difference between the two words in Nāgārī writing being almost imperceptible. The fifth line is probably corrupt; but baran certainly means not ‘colour,’ but ‘letters of the alphabet,’ which, according to the Mimāmsa Philosophy are supposed to be eternal and immutable. In line 7 amit is not the familiar Persian word meaning ‘a noble,’ but is for amrit, ‘nectar.’ In the last line the word ās is a little doubtful, but āsan unquestionably means simply ‘eating.’

III. तृतीयाः

प्रथम बीय संज्ञेय प्रसाद | नित्यम सुप्रसार वेद धर ||
विग्नय साधु संहार तिष्ठ ||
सत्य संधार द्रोह धर ||
जोय सर्व जोय निरुद्धार ||
कृत्यां चुकु परवत ||
सर्व सु कृत सदान ||
अष्ट चुकु परवत ||

III. The prose translation:

“First having indeed proclaimed a blessing, having honoured the sacred writings, whose beginning is the Veda, whose three-fold branches in all four directions are possessed of colour and leaves like letters. Religion, having sprouted out through the bark, flowered fair in all four directions: its fruit, virtuous deeds springing out immortal, dwelling amidst mortals; firm as counsel of kings, or as the earth; the wind shakes it not, giving to life the flavour of nectar, the kali-yug affixes no stain to it, containing truth, wisdom, and perpetual freshness.”
III. The Vedic Scriptures, God’s best gift,
First claim respect profound,
With three-fold branches spreading wide,
Each leaf a lettered sound;
Its bark religion, whence the bud
Of virtue forced its birth,
Ripening to fruit of noble deeds,
Heaven’s bliss midst men on earth.
Who tastes, unshaken by the blast,
Firm as king’s counsel, stays,
Aye growing to more perfect good,
Unsoiled by these foul days.

I have headed these stanzas ‘Chhappai,’ that being a more correct designation of them than ‘Kabitt.’ In the first line the word praman is precisely identical in meaning with nigam in the following line; both are synonyms of the Veda. A strictly literal translation would be “first having taken the blessed scriptures, reverence them, the divine oracles, the original Veda.” It will be noticed that the poet keeps hovering round the same idea, which he repeats in three different metres. Line four here corresponds precisely with line five of the Vathua, and as there baran must be translated ‘A letter of the alphabet.’ In the last line occurs the word āphati, which I translate ‘growing,’ taking it to be formed from the root ridh. A Mathurā Pandit explained it by sambandh, ‘connection;’ in which sense chiefly as a business term, for dealings with an arthiya, or ‘broker,’ the word is still very common.

IV. The prose translation:

“Taking possession of the earth like a garden-plot; irrigating it with the fulness of the Veda as with water; placing in it good seed, upsprung the shoot of knowledge, combining branches of three qualities, with leaves of many names, red as earth. It flowered with good deeds and good thoughts, complete deliverance, union of substances. The twice-born of pure mind have experienced its flavour of perfect wisdom, a banyan tree of delight, spreading abroad virtues; the branches of this excellent tree in the three worlds, unconquered, victorious, diffusing virtues.”
IV. The world, a pleasant garden-plot,
   Watered with Vedic lore,
From good seed cast into its midst
   The plant of wisdom bore.
Three great boughs spread, and the earth grew glad
   At the leaves' new melody,
While flowers of virtue swelled to fruit
   Of immortality.
The bird-like sage quaffed the sweet juice
   Of this exquisite marvellous tree,
With its single stem and its far-spreading boughs
   Full of glory and victory.

In the first quatrain, the only word of any difficulty is bhugati, which I take to be equivalent to bhog. In the second occurs the phrase ratt chhiti. Here ratt is simply the past participle of the verb rang, meaning not 'red,' nor even 'coloured,' but in its secondary sense 'affected by love,' like the more common mohit, 'charmed.' The two words are parenthetical, and the most literal translation of them possible is 'earth is charmed.' The three boughs, to which such frequent reference is made, can scarcely be taken to mean the three qualities sattva, rajas, and tamas, but indicate rather that the influence of religion extends over the three worlds of earth, heaven, and hell.

In line seven, I have altered susan, apparently a mere misprint, to suman, not 'good thoughts,' but 'a flower.' In the ninth line, duja might mean 'twice-born,' but it seems a more appropriate carrying out of the allegory to take it in its other well-known sense of 'a bird.'
15. who ordereth all things well, 
Whose name is told ways manifold, though one, unchangeable. 
Next be adored the Sovereign Lord, the god of quick and dead, 
Who by strong spells set fast the world on the great serpent's head.

5. the four Vedas' holy texts is Hari's glory shewn, 
A witness to eternal truth, where only sin was known. 
Be Vyāsa third, from whom was heard the tale of the Great War, Where Krishna, first of charioteers, drove Arjuna's sounding car. Fourth, Sukadev, who at the feet of king Parikshit stood, 
10. And wrought salvation for the whole of Kuru's lordly brood. 
Sri Harsha, fifth, pre-eminent in arts of poesy, Who on king Nala's neck let fall the wreath of victory. Sixth Kālidās, in eloquence beyond all rivals great, Whose voice the heavenly Queen of Speech vouchsafed to modulate.

15. Upon whose lips great Kāli's self thought it no shame to dwell, The while he framed in deathless verse King Bhoja's Chronicle.

V. The prose translation:
First be the well-born Bhajangi taken, whose name this one is spoken in many ways. Second be taken the god, the lord of life, who placed the universe by powerful spells on Śeshnāg. In the four Vedas by the Brahmans the glory of Hari is spoken, of whose virtue this unvarnished world is witness. Third the Bhārati Vyāsa spake the Bhārath, who bore witness to the more than human charioteer. Fourth Sukadeva at the feet of Parikshit, who extolled all the kings of the race of Kuru. Fifth . . . . who placed a six fold necklace on the neck of king Nala. Sixth Kālidāsa, fair of speech, fair of wit, whose speech is that of a poet, a master-poet, fair-speaking, was made the pure fragrance of the mouth of Kali, who firmly bound the dyke of three-fold enjoyment. Seventh, Danda-Māli's charming poem, the wave of whose wit is as the stream of Ganges. Jayadeva, eighth, poet, king of poets, who only made the song of Govinda. Take all those poets as thy spiritual guide, poet Chand, whose body is as a sacrifice inspired by Devi. The poets who have uttered praises and excellent speech, of whom poet Chand has spoken highly.
Be seventh in place the jocund grace of Danda-Máli's theme,
Sweeping along, full, deep and strong, like Ganga's mighty stream.
Eighth Jayadeva, bard of bards, most worthy that high name,

20. Whose sole delight to tell aright the great god Gobind's fame.
Thus each great name of elder fame I the bard Chand invoke;
For as the present god inspired, those loving servants spoke.
In humble phrase I dare to praise the deeds of one and all,

24. Who can but gather up the crumbs that from their table fall.

If this passage is genuine, and there seems no reason to doubt the
fact, it is of some value in the history of Sanskrit literature as tending to
determine the date of the two poets Srí Harsha and Jayadeva. Dr. Bühler
assigns the former to the middle of the twelfth century, relying chiefly on
the authority of Rájá Sekhara, a Jain writer of about the year 1350 A. D.
This view, which is by no means in accordance with ordinary Hindu tradi-
tion, has been ably combated in the pages of the Indian Antiquary, and
must now be considered as finally refuted. For though Chand may not
have been a very profound critic of Sanskrit style, and may have been as
regardless of chronological precision as most of his countrymen, still it is
impossible that he should have committed the blunder of referring to remote
antiquity a writer, who—according to Dr. Bühler's hypothesis—would
have been all but, if not quite, his contemporary. Similarly in Jayadeva's
case, the desire of European scholars to prune down the exaggerated
figures, in which Hindus are prone to indulge, has led to error in the op-
posite direction. Professor Wilson concludes him to have been a disciple of
the great religious reformer Rámánand, who flourished in the thirteenth or
fourteenth century. This connection, so far as I can ascertain, is not war-
ranted by any text in the Bhakta Málá, the recognized authority for the
lives of the Vaishnava saints, and is totally disproved by the fact now brought
to light that Jayadeva is mentioned by name by Chand, who wrote some
hundred years before the time of Rámánand even.

The metre Bhujanga prayáṭ is a series of rhyming couplets, each line
comprising four of the foot called in Sanskrit prosody Ta-gaś, i. e. one short
followed by two long syllables. In the twenty-four lines, as originally
printed, there are as many as eighteen false quantities; but the defect in
every instance is obviously the result of mere carelessness on the part of the
transcriber, and has been rectified by some one of the three simple and rec-
ognized prosodical expedients, viz., the introduction of an anusvára, the
reduplication of a consonant, or the change of the quantity of a vowel.
In the first line, the word Bhujangi contains an allusion to the name of the

* I have stated the argument at greater length in two letters on the subject
which have appeared in the Indian Antiquary.
metre, which it is quite impossible to preserve in a translation, but primarily it denotes the serpent God Sesh-nág; bhujanga being a common name for a serpent. Sudháři, like every other word with the same termination, has not a passive but an active signification, and means 'the good arranger;' as mantra-dhari means 'a layer down of counsel,' and rás-dhari 'a composer of dances.' It will be observed that the poet is giving a brief catalogue of all the great authors of earlier date, and places at their head the god Seshnág, the first artificer or rv ответь of the universe. He then passes on to the Vedas, which he represents as directly inspired by Vishnu, and thence to the Mahá-bhrat of Vyása, the Sri-Bhágavat of of Suka-deva, and so on, in each case either mentioning by name or describing the author's principal work and eulogizing his genius. Thus in the fifth line we are forbidden by the context from taking the obscure word bambahm to represent the 'Brahmans' as the authors of the Veda, which has already been distinctly ascribed to Vishnu himself. I would rather consider it as a corruption of babhr, a title of that god, and couple it with the word Hari which immediately follows it.

In line eight, utta would seem to be an abbreviation for uttam, 'the best;' while Páratthu is simply the Hindi form of the Sanskrit Párfha, meaning 'the son of Prithá,' a very familiar name of Arjun, the great hero of the Mahá-bhrat. In lines nine and ten, the reference is to the Sri Bhágavat, which was recited by Sukadeva to king Parikshit when at the point of death, as the best means for procuring the 'salvation' (uddhára) of his soul.

In the following couplet, I have corrected the unmeaning word shaddha to suddha. The allusion is to Sri Harsha's famous poem, the Naishadha, which narrates in twenty books the adventures of the hero Nala, king of Nishadha, and concludes with the description of the Svayam-vara, where Damayanti in token that she had selected him for her husband 'dropped upon his neck the wreath of flowers.'

Lines thirteen to sixteen are eulogistic of the great poet Kálidásá, to whom Chand ascribes, not with perfect accuracy, the composition of the Bhoja-prabandha, a work in mixed verse and prose.* A literal translation of line fourteen would be "whose voice Sarayati made a charming voice," vág being not 'speech' but the 'queen of speech;' and váni not 'a poet' but 'voice.' In line fifteen, vásam is not 'fragrance,' but 'an abode;' and in line sixteen the words setu bandhayav mean simply 'composed,' having been selected with alliterative allusion to the prabandha which forms part of the title of the work under mention. It may be noted upon lines seventeen and eighteen, that Danda-máli's great work, the Dasa-Ku-

* The prose frame-work is known to have been composed by Balláía Misra, but many of the poetical extracts may with great probability be ascribed to Kálidásá.
mara-Charita, has still less claim than the Bhoja-prabandha to be considered a poem; since unlike most Sanskrit literature it is entirely in prose. The style, however, is sufficiently elaborate to make it ordinarily included among the Kāvyas.

In line twenty, an alteration required by the metre is equally essential for the sense: kitti, with the last syllable long, being when so spelt the past participle of the word karna, 'to make,' must be corrected to kitti, with the last syllable short, a corruption of kirti, 'fame.' Gāyam also should be translated as the verb 'sung,' rather than as equivalent to gīta, 'a song.'

In the twenty-second line, habbi cannot possibly be taken as a derivative from the root ĥu, 'to sacrifice'; it is far more natural to connect it with hāva, 'love and dalliance.' In the last line, I take uchishti as a substitute for uchchhista, corresponding to the Hindi jhuthā, 'the fragments of a feast.'

VI. सेविः

VI. Hearing Chand rate his art so low,
    His lovely consort cries:
    O pure and all unblemished bard,
    Skilled in rare harmonies.

Here uchisht must of course be taken, as at the end of the last stanza, to denote something utterly low and vile. In the third line tan pavitra is rather 'pure of body' than 'purifier of the body,' and pāvan, with precisely the same meaning, is added simply for the sake of emphasis.

VII. चवीं

VI. The prose translation:

"The speech in verse of Chand, excellent, hearing him utter, his wife says, Purifier of the body, O poet, uttering excellent speech."

VII. The prose translation:

"Saith the wife to her husband: Purifier of offspring, great poet, uttering spells and charms, like an oblation offered to Devi, horo of spells, very terrible, giving pleasure to kings by thy poetry: the childish sports one by one of the gods having extolled in thy poems, having uttered unchecked speech, from which to me comes wisdom, that word which is the visible form of Brahman, why should not the best of poets speak it?"
VII. Nay, good my Lord, thus quoth his spouse,
Great bard, unblemished elf,
Whose prayers and spells have power to win
The love of Heaven itself,
Hierophant’ of mystic lore,
Charm of the courtly throng,
Like to a child in untaught play
Lisping divinest song;
In faith pronounce one holy name
(For faith and love make wise),
’Tis Brahma’s self; no dregs of eld
Deem then thy melodies.

There can be no question as to the meaning which the first line is intended to convey, but it seems impossible grammatically to extract that meaning from it, if the word sama be retained. I have altered it to mamy. In the second line also, I have made a change by substituting tant for tan; it now corresponds precisely with the third line of the preceding doha; and a repetition of the kind, after a change of metre, is a very favorite artifice with Hindi poets. The erroneous reading of tant is due to its occurring at the commencement of the very next line, where it caught the copyist’s eye. In the third quatrain, I have introduced two emendations; first by combining ko and vid into one word kovid, ‘wise;’ and secondly, by joining kabiya with the following negative, and so converting it into the plural form kabiyan. The words habbiya and uchisht have already been commented upon.

VIII. To his wife saith the bard Chand, muttering soft and low, that true word of Brahm, purifier of all others, itself pure, that word which has no form, stroke, letter, or colour, unshaken, unfathomable, boundless, purifier of all things in the three worlds, that word of Brahma let me expound, the glory of the Gurus, pleasing to Sarasvati, if in the arrangement of my phrases I should succeed, it will be pleasing to thee, O lotus-faced one.”
F. S. Growse—*A Metrical Version of the Prithiraj Bdsau.*

With reverence to his dearest spouse
Quoth Chand in accents mild:
That holy name of God most high,
Pure, infinite, undefiled,
Beyond the compass of all shape,
Form, stroke, or lettered sign,
Fathomless, indivisible,
That no sphere can confine,
Hymned I that name, by my lord's help
And Sarasvati's grace,
Jeers still would mock my faultering style,
O Queen of the lotus face.

In the first line, I have allowed the word *sam* to stand, thinking it possible that it might be intended to represent the Sanskrit *swa*. The combination *barbandi* would seem to be a misprint; though it is impossible to say, as it is omitted altogether from the prose translation; obviously it consists of two distinct words *bar* 'excellent' and *bandi* 'reverencing.'

In line seven, *akal* is not 'unshaken,' but 'without parts,' that is 'indivisible.' The next line literally translated would be 'that can find no limit in the three worlds;' प्र न स य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य य

IX.

O reverent and most pure-souled bard,
Versed in all rhythmic law,

IX. The prose translation:

"Thou art the poet, the excellent bard, gazing on the heavens with unclouded intellect, skilful in the arrangement of metres, having made the song of the peacock-youth. The wave of thy wit is like Gangá, uttering speech immortal, soft, good men hearing it are rejoiced, it subdues like a spell of might. The incarnation king Prithiraj the lord, who maintained the happiness of his kingdom, hero, chief of heroes, and all his paladins, of them speak a good word."
Who lisped in numbers as a babe,
   Numbers that knew no flaw,
Like Ganga's stream, on pours thy song
   In rich mellifluous flood,
A spell of might that all confess,
   But most the wise and good;
The incarnate god, who rules the world,
   King Prithiraj the Great,
Of lordly chieftains lordlier lord,
   Be it thine to celebrate.

The word *nāg* which occurs in the second line, is one that bears many meanings, but the context shews that in this passage it must be interpreted in its technical sense of 'the art of prosody.' A literal rendering of the next two lines would be 'whose verses are without any faults who in childhood made poems.' I fail to discover any possible allusion to the Kumāra-sambhava. In the sixth line *amīya kal* are 'sweet strains,' without any reference to 'immortality.'

X. Unto his fair and stately dame

  Quoth Chand in loving wise:
   Dear charmer, clinging vine of love,
     Foretaste of Paradise,
   With girlish eyes of witching glance,
     My queen, my soul's delight,
   Noting all faults but knowing none,
     Heaven's rich-dowered favourite;
   List while I tell in faltering tones
     How infinite a throng,

X. The prose translation:

  "To her of the elephant gait, Chand singing a pleasant rhyme said, Ravisher of the soul, tendril of enjoyment, possessing the fragrance of the ocean of the gods, thou of the glancing eye, in the flower of thy youth, beloved of my soul, giver of bliss, wife, free from all evil qualities, thou who hast obtained the fruit of the worship of Gauri; as many poems as there have been from first to last, consider how endless a string there is of them, the description of this matter is in many books, thus 'having taken in the best counsel.'"
Of diverse talents, diverse theme,
Are the great lords of song.

In this passage the only line of any difficulty is the seventh, which I translate 'faultless, observant of faults;' omitting the first word garu, which may either represent garv, 'pride,' or be a mis-reading for guru. A literal rendering of the last quatrain would be 'from first to last what poems there have been, their endless (varieties of) style and theme I tell. Countless are the books: now gather from my poor wit this attempt to describe them.'

XI. ब्रह्म पवित्र।

First I adore the one primeval Lord,
Who breathed the unutterable, eternal word;
Who out of formless chaos formed the earth,
And all creation, as he willed, had birth.
Through the three spheres his three-fold glory sped.
Fiends, gods and men—earth, heaven and hell o'erspread.
Then the supreme, in Brahma's form revealed,
By the four Vedas heaven's closed gate unscaled.
How sing the great creator, uncreate,
Passionless, formless, aye unchanged in state:

And so on for the remainder of a long paragraph; which, as it contains nothing of special difficulty, has already been adequately translated, and therefore need not be repeated. It does not advance very far in the promised poetical catalogue, for after extolling the divine author of the

XI. The prose translation:

"First reverencing my first of gods, who uttered the imperishable word Om, who made the formed out of the formless, the will of his mind blossomed and bore fruit, the sheen of the three qualities, inhabiting the three worlds, shining on gods in heaven, men on earth, serpents in hell. Then in the poem of Brahma leaving the Brahma-egg, the lord, the essence of truth, said the four Vedas, the creator uttered them unwritten, without qualities, having neither form nor line."
Vedas, it just mentions by name the Purānas, the Rámâyana and the five Mahá-kávyas; when the poet is stopped by his wife, who desires to have the Purānas enumerated more in detail. In the seventh line, I prefer the alternative reading Brāhma uchāri to Brāhmānda chāri, which the editor has adopted; and I translate 'then spake Brahma, the visible form of Brahm,' which appears to me a very simple and intelligible form of expression.

Before concluding this article, it may be interesting to adduce a specimen of a genuine native commentary on Chand: accordingly, I append a paraphrase of the first four lines of invocation, written by Pandit Mákhan Misr, a Sárasvat Brálman, resident in Mathurá, who has the largest library of Sanskrit MSS., and is one of the best-read scholars in that city of Sanskritists.

The above is a good illustration of the extreme difficulty which really learned Hindus, whether they come from the east or the west of India, find at the present day in understanding their own vernacular in its earliest form. Their suggestions as to the train of ideas, traditional usage, &c., are often valuable; but their etymological explanation of particular words is frequently of the wildest and always requires confirmation. Hence the English editor of Chand must in the main depend on his own resources and stand or fall by himself.
The Initial Coinage of Bengal under the early Muhammadan Conquerors.

Part II.—By E. Thomas, F. R. S.

(Continued from Journal, Vol. XXXVI, 1867, p. 73.)

The discovery of an undisturbed hoard of no less than 13,500 coins in Koch Bihār, inhumed some five centuries since, recently claimed attention both from the number and importance of its representative specimens, which so effectively illustrated the history of the kingdom of Bengal for a consecutive period of some 107 years.* The earliest date thus accorded towards the purely Initial Coinage of the country under its newly-installed Muslim administrators did not reach higher than the reign of the Empress Raziyah, A.H. 634-637 (A.D. 1236-1239), or more than 34 years after the first entry of the adventurous Khilji and Turki troops into the recognized Hindū capital of the lower Ganges.† A still more recent discovery of a comparatively poor man’s cache, in the fort of Bihār,‡ elucidates an earlier chapter of the local annals: and though the contents of the earthen vessel in this case are limited in number to a total of 37 pieces, and restricted in their dates to a term of 13 years, they, in some respects, compete advantageously with the previously-recovered unexampled store, in the value of their contributions to the obscure records of the Gangetic Delta, and in priority of date bring us more than 20 years nearer to the first occupation of Bengal by Muhammad Bakhtyār Khilji in 600 A.H. As in the larger and almost regal treasure trove of Koch Bihār, the specimens in the present instance prove to be essentially of home or indigenous fabric. With the exception of a single northern piece of the supreme Sulṭan of India, they are one and all the produce of the mints of Bengal proper, and mark with singular fidelity the varied incidents of the alternate rise and fall of the provincial governors during the unsettled relations existing between suzerain and vassal from A.H. 614 to 627, when Altamsh came into real and effectual possession of the south-eastern portion of his Empire.


† The name of Nudden, नवदृष्टि, Naundwopa, the “new island” (converted into नवदृष्टि by the Muslims), would seem to imply a southerly movement, in concert with the silt of the Ganges, of the seat of Government down to the comparatively modern occupation of this site, on the abandonment of the successive traditional capitals of earlier dynasties.

‡ I have no information as to the exact circumstances of the discovery of this small hoard, beyond the general intimation that it was secured by Mr. A. M. Broadley, in or near the Fort of Bihār. The coins have now become the property of Colonel Guthrie, who had already contributed the materials for my earlier notice of the Initial Coinage of Bengal.
One of the most instructive facts disclosed by these few pieces is, that the rich and comparatively undisturbed territory of Bengal felt the want of a supply of silver money long before a similar demand arose in the harassed provinces of the North-West. The southern coins date, as far as can be seen, some nine years prior to Altmahs earliest effort at a silver coinage in his northern dominions; and even Raziyah's silver money of deferred date bears every token of exclusive manufacture in the subordinate Lak'hauní mint.

I have already quoted the testimony of Mirbáj i Siráj, to the effect, that on the first conquest of Bengal by the Muslims, they found no metallic or other circulating media of exchange except that supplied by cowries;* even the compromise of the mixed silver and copper jítals of the various Hindu dynasties of the central Itájpút tribes was unknown in the sea-board marts of the south.

The chronicles of the proximate kingdom of Orísá, whose boundaries touched, if they did not often trench, upon the ancient kingdom of Gaur,† explain how so infinitesimal and largely distributed a currency was able to supply the wants of so rich and essentially commercial a population. It would appear, from the official records preserved in the Temple at Puri, that although there was no silver money in use, gold in convenient weights, if not in the form of absolute coin,‡ was freely interchangeable with the more bulky heaps of cowries. In these same official palm-leaf documents we find the powerful king of Orísá, Anam Bláin Deo (A.D. 1174-1201), describing the geographical limits of his kingdom, specifying, with close exactitude, its now proved superficial area (39,107 square miles); and adding that, as the revenues of his predecessors of the Kesári line had amounted, with a more limited extent of territory, to 15,00,000 marks of gold, so his own added boundaries had raised the State income to 35,00,000 marks. Mr. Stirling (our most trusted revenue authority), relying upon still-extant local

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* J.R.A.S. (n. s.) II, p. 148. See also Hamilton's Hindustan, i. 40.

† Mr. Stirling says, under the Ganja Varsha line, for a period of nearly four centuries (from A.D. 1132), the boundaries of the raj of Orísá may be stated as follows: . . . . "North, a line drawn from the Tribeni, or Triveni, Ghat above Húglí, through Búbhúpár, to the frontier of Patkúm : East, the river Húglí and the sea." As. Res. xv. 164. Hunter i. 280. "To the north of the mouth of the Saraswati lies the broad and high Tribeni Ghat, a magnificent flight of steps, said to have been built by Mákund Deo, the last Gajpati of Orísá." Blochmann, As. Soc. Bengal, 1870, p. 282.

‡ On the above occasion, likewise, a new coin and seal were struck by the Rájá's orders, with the titles which are used to this day by the Khurádá Rájáas, who claim to represent the majesty of this once powerful race. They run thus: Víra Srí Gajpati, Gaurí-vara, etc. "The illustrious Hero, the Gajpati (Lord of Elephants), sovereign of Gaúra (Bengal), Supreme Monarch over the rulers of the tribes of Utkalá, Karnátá, and the nine fort," etc. Stirling, As. Res. xv., p. 272.
tradition, defined the *marh* at 5 *māshas*’ weight;* while Dr. Hunter, under
later and more vague native inspiration, pronounces it to be ½ of a karishā,
which measure may be assumed to represent the local pronunciation of the
old widely-spread karsha of Manu, corresponding with the normal weight
of the gold *suvarna*, i. e. 80 *ratis*.† Taking the *rati* at 1·75 grains, this
will make Mr. Stirling’s return amount to 43·75 grains (5 × 5 = 25;
25 × 1·75 = 43·75) per *marh*; whereas Dr. Hunter’s estimate, under the
same figures, would only produce 35 grains (140 ÷ 4 = 35); but, as he
assumes the modern karishā to be equal to “one *Tolāh* or one Rupee” of
our modern system,—the amount of which however he does not further
define‡,—and taking the 180 grain total as the test,§ the result is not far
removed from Mr. Stirling’s earlier estimate under the old régime;—
producing, in effect, a return of 45 grains for the *marh* (180 ÷ 4 = 45).
But, singular to say, if we revert to the more ancient standard of the

* Asiatic Researches, xv., 271. Mr. Stirling, however, seemed to imagine that the
sum named for the total revenues, as tested by this estimate, was too high; but later
investigations fully support the reasonable measure of the king’s boast.
‡ “Orissa,” a continuation of the “Annals of Rural Bengal,” (London, Smith and
Elder, 1872) i., pp. 316, 317. Dr. Hunter, like myself, has endeavoured to make his
antiquarian researches instructive in their application to the defects of our own government
in India, consequent upon the too frequent disregard of the superior local knowledge and
hereditary instincts of the races we are appointed to rule over.

After enumerating the ascertained totals of the revenue of the province at various
periods, the author goes on to say, “From time immemorial Orissa, like some other parts
of India, has used a local currency of *cowries*. *When the province passed into our hands
in 1803, the public accounts were kept and the revenue was paid in these little shells.*
We “however stipulated that the landholders should henceforth pay their land-tax in
silver, and fixed the rate of exchange at 5120 *cowries* to the rupee.” (In 1804, the official
exchange was 5120, and the practical rate of exchange from 6160 to 7880.) ....
“Had our first administrators contented themselves with taking payment in silver at the
current rate of the cowrie exchange, the Orissa land-tax would now have been double what
it is at present. But had they resolved to collect it at a grain valuation, according to
Akbar’s wise policy, it would now be more than double; for the prices of food have rather
more than doubled since 1804. The system of paying the land-tax by a grain valuation
appears to me to be the best means of giving stability to the Indian revenues.”—Orissa,
ii., 172. Dr. Hunter had not seen my notice of “The Revenues of the Mughal Empire
(Tribner, 1872) when this was written. I had equally appreciated the equity and
suitableness of the system of estimate by agricultural produce, which had come down to
Akbar’s time from the earliest dawn of the civilization of the nation at large; but I had
to condemn Akbar for introducing a new element in the shape of a settlement to be paid
in silver, on the average of the prices of previous years—an assessment he hoped, in
defiance of the proverbial uncertainty of Indian seasons, to make immutable; furnishing,
in effect, the leading idea we so unwisely followed in that deplorable measure, Lord
Cornwallis’s “Permanent Settlement of Bengal.”

sataraktika, or 100-rati* weight,—a metric division which was reproduced and reaffirmed in the authorized tankah of the Pāhān dynasty, and to which we have to allow a theoretical weight of 175 grains.—Dr. Hunter's \( \frac{1}{2} \) tolūh will come out, to the exact second place of decimals, of the 43·75 (175 \( \div \) 4 = 43·75), obtained from Mr. Stirling's data.

The determination of the true weight of the rati has done much both to facilitate and give authority to the comparison of the ultimately divergent standards of the ethnic kingdoms of India. Having discovered the guiding unit, all other calculations become simple, and present singularly convincing results, notwithstanding that the basis of all these estimates rests upon so erratic a test as the growth of the seed of the Gunjá creeper (*Abrus precatorius*), under the varied incidents of soil and climate. Nevertheless, this small compact grain, checked in early times by other products of nature, is seen to have had the remarkable faculty of securing a uniform average throughout the entire continent of India, which only came to be disturbed when monarchs, like Sher Sháh and Akbar, in their vanity, raised the weight of the coinage without any reference to the number of ratis inherited from Hindú sources as the given standard, officially recognized in the old, but altogether disregarded and left undefined in the reformed Muhammadan mintages.

I may as well take this opportunity of disposing of the other technical questions bearing upon the general subject; and, without recapitulating the investigations elsewhere given at large, I may state generally, that I understand the rati to have been 1·75 grains, the 100 rati piece—reproduced in the ordinary Dihli tankah—175 grains. The Rájpút jital, composed of mixed silver and copper, preserved in the early Dihli currencies of the Muslims, is \( \frac{1}{4} \) in value of the 1·75 grain silver coin; but the number of jitals in any given composite piece was dependent upon the proportional amount of the silver added to the ruling copper basis. The kāni, like the jital is \( \frac{1}{4} \) of the tankah; but the kāni is found to be the practical as well as the theoretical divisor, applicable alike to land and other measures, preserving its more special identity in the southern peninsula. Both terms have now been found in conjunction on a single piece of metropolitan fabric, where the jital is authoritatively declared to be of the value of one kāni.† In more advanced days under the Pāhāns, immense quantities of pieces were coined to meet the current exchange.


answering to \( \frac{4}{5} \) or \( \frac{1}{5} \) of the tankah; and under Muhammad Tughluq, amid other useful breaks in the too-uniform descending scale of the small change, a new division was introduced in the form of a \( \frac{4}{5} \) or six-kanti piece, which subsequently became better known as the black tankah.*

It would appear that the normal or conventional rate of exchange of the precious metals mechanically accepted in India from the earliest times was as silver to gold 8:1; copper to silver 64:1. Of course these rates were constantly liable to fluctuation.† Indeed, we can trace the effect of the influx of the gold of the Dak’hin, after its conquest, in the fall of that metal, evidenced by the obvious readjustment of the weights of the gold and silver coinage at the Imperial seat of Government. But the copper rate must have had a very extended lease of immutability, as this ratio of 64:1 was maintained from the most primitive ages up to the time of Sikandar Lodé (a.d. 1488-1517).

As regards the application of these data to the examples specially under review, it would seem that the Bengal silver coinage was, from the first, deficient in weight in reference to the corresponding issues of the Dihlí mint; but the Dihlí silver coins were avowedly designed to fall in with the concurrent gold pieces of identical weight, and of full standard in metal; whereas we must suppose that the Lak’hnautí silver pieces, in introducing a new element, were graduated to exchange in even sums against the extant gold currency of Bengal and Orísá. Now the gold mark weighed, as we have seen, 43-75 grains, which, with gold as 1 to 8 of silver, would require 350 grains of the latter metal as its equivalent, or two 175 grain tankahs, reconciling alike the fours of the Hindu ideal, with the fires and tens of Muslim predilection; but as there is reason to believe that the local gold was not refined up to a high state of purity, this defective standard may readily account for the corresponding reduction of a few grains on the full total of the silver pieces, equally as it may have justified the acceptance of a lower touch in the silver itself.

Later in point of time, under Bahádur Sháh (710-730 A.H.), the progressive fall in the value of gold is more definitively marked by the diminution of the weight of the silver piece to the uniform standard of 166 grains,‡ in contrast to the 169 grains which are preserved in some of the primary issues have described (Nos. 6, 7).

* Pathán Chronicles, coin No. 207, p. 252. See also pp. 218, 219. I was mistaken in my first impression that the Bengal tankahs themselves might have a claim to this obnoxious designation. J.R.A.S., II, 160.

† In Akbar’s time, even; the progressive alteration in the value of gold, since so much accelerated, had only reached the proportion of 9:4:1. Chronicles, p. 424. J.R.A.S., II, p. 68.

‡ Pathán Chronicles, p. 285. In my previous article in this Journal, I was led by
The central figure in the historical tableau, illustrated by these introductory coinages, stands prominently to the front in the person of Ghiyás-ud-dîn 'Iwaz—an outline of whose career I now append.

Ghiyás-ud-dîn 'Iwaz bin Al-Husain.

Husâm-ud-dîn 'Iwaz Khilîjî, a native of Ghor in Afghanîstân, on joining Muhammad Bakhtyâr Khilîjî in Bengal, was entrusted by that commander with the charge of the district of Gangautri. He was afterwards promoted to the important military division of Dekoî,† by Qutb-ud-dîn Aibak's representative commissioner in the South-east, and with his aid eventually defeated Muhammad Sherân and the other confederated Khilîjî chiefs.‡ On Ibn Baţâîlâh's indiscriminate use of the terms "Dirhams and Dinârs," in their local application in Bengal, to suppose that his definition of coin exchanges referred to the relative values of gold and silver, and that it so far supported my estimate of 1 : 8 (J.R.A.S., II., p. 61, note 1). I now find that towards the close of Muhammad bin Tughluq's reign, the exchange had come for the moment to be 1 : 10 (Chronicles, p. 227), in lieu of the ordinary 1 : 8. The entire difficulty of the obscure passage in the Journal of the African Voyager has, however, been set at rest by the more comprehensive tables of values furnished by the Egyptian traveller Shaikh Mubârâk Asbâlî (Notices et Extraitis, iii., 51), which show that the dinar of silver (i.e. the tankâb) was equal to 8 dirhams (kashlt-kâns). See also Elliot's Historians, iii., pp. 577, 582.

J.R.A.S. (n.s.), II., p. 157. The new and unworn pieces in the Koch Bihar trouvaille averaged 160 grains; and the earlier issues, of 188, 189 grains, found with them, had generally been reduced in weight to correspond with the later official standard.

† Variant, كنکور[سی], Text, p. 158, and MSS. I have preserved Stewart's version of the name in my text, but the site of Gangautri has not been identified. There is a town called (gurgûrî (21° 23'; 86° 55') on the line of country between Bihar and Nâgor, but it is not known to have been a place of any mark. There is also a celebrated fort of high antiquity on the same line of communication, named Gâdor (21° 53'; 86° 55'), which may have served as an outpost of the Bihar head quarters.

‡ Dekoî (lat. 25° 18'; long. 88° 31'), the chief place in Ganganâpûr (district of Dînâjûr), is now known by the name of Damdâmâ. Hamilton states that "it received its present appellation from its having been a military station during the early Muhammadan Government" (p. 50). Muhammad Bakhtyâr, after his first success against the King of Bengal at Nâdiyâ (that 23° 25'; long. 88° 22'), contented himself with destroying that town, and withdrew his troops nearer to his base of communications, to a position about 90 miles to the northward, somewhere about the site of the future Lakhînautî, Dekoî again being some 50 miles N.N.E.

Mînhâj i Sirâj, in describing Lakhînautî, at a later date (641 A.H.), mentions that the province lay on both sides of the Ganges, but that the city of Lakhînautî proper was situated on the western bank. The author adds, that an embankment or causeway (ل) extended for a distance of ten days' journey through the capital from Dekoî to Nâgor in Bîrbhûm, (lat. 23° 56'; long. 87° 22')—Stewart's Bengal, p. 57. Persian text of Tâhâjût-i Nâqîrî, pp. 161, 162, 243. Afûn-i-Akbarî, ii. 14. Elliot's Historians, ii., p. 318, iii., p. 112. Rennell's Map, p. 55. Wilford, As. Res. i., p. 72.

§ The subjoined curious notice of the distribution of the boundaries of the kingdom of
the definite appointment of 'Ali Mardán Khilji to the kingdom of Bengal by Qutb-ud-din Aibak, he paid his devoirs to the new Viceroy by meeting him on the Kúsi, and accompanied him to Deokot, where he was formally installed in power. When Qutb-ud-din died at Láhor, in 607 A.H., 'Ali Mardán assumed independence under the title of 'Alá-ud-din; but after a reign of about two years, he was slain by the Khilji nobles, and Husám-ud-din was thereupon elected in his stead (608 A.H.). History is silent as to when he first arrogated kingly state, and merely records Shams-ud-din Altamsh's expedition against him in 622 A.H., with the object of enforcing his allegiance to the Imperial crown, when, after some doubtful successes, peace was established on the surrender of 38 elephants, the payment of 80 lakhs [of tankahs?], and the distinct recognition of Altamsh's suzerainty in the public prayers, with the superscription of his titles on the local coinage. The Emperor, on his return towards Dílú, made over the government of Bihár to 'Alá-ud-din Jáń, who, however, was not long left undisturbed; for the Southern potentate speedily re-annexed that section of his former

Bengal shortly before the Muhammadan conquest has been preserved in Hamilton's 'Hindustan.' The compiler does not give his specific authority.

"During the Adisur dynasty, the following are said to have been the ancient geographical divisions of Bengal. Gaur was the capital, forming the centre division, and surrounded by five great provinces.

"1. Barindra, bounded by the Mahamanda on the west; by the Padma, or great branch of the Ganges, on the south; by the Kortoya on the east; and by adjacent governments on the north.

"2. Bangar, or the territory east from the Kortoya towards the Bráhmaputra. The capital of Bengal, both before and afterwards, having long been near Dacca in the province of Bangar, the name is said to have been communicated to the whole.

"3. Bagri, or the Delta, called also Dwípa, or the island, bounded on the one side by the Padma, or great branch of the Ganges; on another by the sea; and on the third by the Hugli river, or Bhagirathi.

"4. Rarhi, bounded by the Hugli and the Padma on the north and east, and by adjacent kingdoms on the west and south.

"5. Maihilla, bounded by the Mahamanda and Gaur on the east; the Hugli or Bhagirathi on the south; and by adjacent countries on the north and west." 

"Bollal Sen, the successor of Adisur, is said to have resided partly at Gaur, but chiefly at Bikrumpur, eight miles south-east of Dacca." Bollal Sen was succeeded by Lakshmana Sen, who was defeated by Muhammad Bakhtyár. The author continues, "it is possible that the Raja only retired to his remote capital, Bikrumpur, near Dháká, where there still resides a family possessing considerable estates, who pretend to be his descendants. We also find that Somerguson, in the vicinity of Bikrumpur, continued to be a place of refuge to the Gaur malcontents, and was not finally subdued until long after the overthrow of Raja Lakshmana."—Hamilton's Hindustan (1820) i., p. 114.

ورد جن اور [میوصف شیران] مهتر امروای خلثی پریده هیگنای اروا
Text, p. 158

Stewart's Bengal, p. 51. Elliot's Historians, ii., p. 315.
dominions,—an aggression which was met, in A.H. 624, by the advance of Nācir-ud-din Mahmūd, the eldest son of Altamsh, in force, who, in the absence of Ghiyās-ud-dīn 'Īwaz on distant enterprises, succeeded in obtaining possession of the new seat of government. In the subsequent engagement, the Bengal army was defeated, and Ghiyās-ud-dīn killed, after a reign estimated by the local annalist at 12 years.*

This is all the information we are able to gather from the incidental biographical notices furnished by our sole authority, Minhāj i Sirāj, that most intelligent employé of the rulers of Dīhlī, and welcome visitor at the Court of Lak'hnautī in A.H. 611, where he saw and appreciated the material undertakings of this self-made king, whose memory he lauds enthusiastically. A tribute Altamsh had virtually anticipated, when he was at last permitted to behold the glories of his adversaries' capital, in 627 A.H., and then conceded the tardy justice of decreeing, that in virtue of his good works, Ghiyās-ud-dīn 'Īwaz should, in his grave, be endowed with that coveted title of Sulfān, which had been denied to him while living.†

We have now to examine how far the recently discovered coins will fill in this defective historical outline.

COINS STRUCK IN THE NAME OF ALTAMSH, in Bengal.


Pl. x. fig. 1. A.H. 614.

OVERSE.

Device.

Horseman at the charge.

Reverse.

Margin—

Morality.

Isnād and the dinār

Histories of the Empire of the past

Jamāl, Office of the Trainer, etc., etc.

* Allowing 'Ali Marbān from 607—8 to 609—10, this leaves an interval up to 613 during which Husām-ud-dīn 'Īwaz was content to remain head of the Khiljī oligarchy and local governor.

† Ṭabaqāt-i Nācirī, Text, p. 163. Mr. Blochmann has an interesting paper, in the September number of the Indian Antiquary (p. 259), on Muhammadan Titles. Among other questions discussed is the derivation and early application of the title of Sulṭān. The author remarks that "the first clear case of Sulfān having been used as a title belongs to the time of Rukn-ud-dāulah, deputy over Fārs, under the Khiljī Al Muṭṭ bilālah," A.H. 338, or A.D. 940. MM. Oppert et Ménant were under the impression that they had discovered the title so early as the time of Sargun, who, in his grand inscription at Khorsābād, is said to speak of Subaco as "Sulṭān, or Sulṭān d’Egypte."—Journal Asiatique, 1863, p. 9, and text, p. 3. Commentary, 1864, p. 10. Some doubt has, however, since been thrown upon this identification, as the designation reads optionally, if not preferably, ینی. Schrāder, Cuneiform and Old Testament Studies (1872), p. 157.
The date of A.H. 614, this earliest numismatic record contributed by the Bengal mints, is further remarkable as the epoch of Altamsh's final assertion of supremacy on the defeat of his last powerful competitor in Hindústán, Nácir-ud-dín Qubáchah, after he had already disposed of his other prominent rival, Táj-ud-dín Iduz, in 612 A.H. The issue of these provincial coins, at this conjuncture, would seem to attest the first voluntary recognition of Altamsh by Husám-ud-dín 'Iwaz, who was at this time in undisturbed possession of Bengal and its dependencies. The adoption of the Cavalier device on the obverse may have been suggested by the conventional acceptance of that design on the money of the native princes of the North-west, whose hereditary types were copied by Muhammad bin Sám, and retained for a long period by Altamsh himself. In the new mintage, however, the Rájput horseman with his spear is superseded by the Türkí Cavalier with the historical mace, and the general outline of the coarse Northern steed may perchance have been heightened to record a triumph, or to carry a menace to the subjected Bangális,† who had left their king to escape ignominiously, and virtually surrendered their capital to the eighteen troopers of Muhammad Bakhtyár's advance guard.

Among other peculiarities of these coins is the tenor of their legends, which differ from the ordinarily adopted Imperial intitulations of the Sultan, who is here designated as ʿabd-Alláh, the slave or freedman of Qubá-ud-dín Aibak, —a term which may have concealed a latent taunt to one who was now supreme in the chance virtue of his arms, or may otherwise indicate the independent Khilji method of discriminating the followers of Qubá-ud-dín

* Mahmúd of Ghažní's favourite weapon. Tradition affirms that it was preserved in all honour by the guardians of his tomb at Ghažní. (Atkinson, Expedition into Afgánistán, p. 222). So much credence was attached to this ancient legend, that we find Lord Ellenborough in 1842 instructing his generals in sober earnestness, to "bring away from the tomb of Mahmúd of Ghažní his club which hangs over it." Muhammad Bakhtyár himself had also won glory by the use of his mace in his gladiatorial encounter, single-handed, with an elephant, who was compelled to retreat before the first blow of his powerful arm.

† The name of Aśvapáti, "Lords of Horses," was subsequently applied specifically in Orísá to the Muhammadan conquerors. Mr. Hunter remarks, "The Telugu Palm Leaf MSS. state that between (Saka 805) A.D. 972 and A.D. 1563, three great powers successively arose. During this period, the Gajapáti, 'Lords of Elephants,' ruled in Orísá and the north of Madras; the Narapáti, 'Lords of Men,' held the country to the southwards. The Lords of Horses were the Musulmán, who, with their all-devouring Pathán cavalry, overthrew the two former."—Orísá, ii., p. 8. Stirling, Asiatic Researches, xv., p. 254. Kín-i-Akbar, Gladwin's translation, i., p. 310. Abul Fazl, in describing the game of cards, affected by his royal master, speaks of "Ashkeput, the king of the horses. He is painted on horseback, like the king of Delhi, with the Chutter, the Alum, and other ensigns of royalty; and Gajput, the king of the elephants, is mounted on an elephant, like the king of Orísá."
as opposed to the Mu'izzī faction of the nobles of Hindūstān, who had already tried conclusions with each other, to the disadvantage of the latter.


Obverse.

Horseman at the charge.

Reverse.

 Margin—

لا لله بالاريخ سنة

عشر وستمائة

المومئین

This unique gold coin of the period, put forth under Muslim auspices, is of more than usual value in confirming the locality of the mint of its counterparts in silver, which are deficient in any geographical record; indeed, none of the Bengal coins, which form the bulk of the trouvaille to which the present notice is devoted, bear any indication of the site of which they were struck. Found, however, in company with so many clearly local pieces, there would have been little hesitation in assigning them to the southern division of the new Muhammadan empire; but the distinct announcement of the place of issue of the gold piece is of importance, not only in fixing definitively the then head-quarters, but in presenting us with the name of Gaur,† regarding the use of which, at this epoch, there was

∗ For a figure of the coin, vide Chronicles of the Pathán Kings, p. 78.
† Qilij Arsalán, the Saljuq of Anatolia (A.H. 656), uses this title of برهان إمبراطور مومئین (Phan, p. 156). The three sons of Ká Khurán (A.H. 647) employ the term in the plural برهانین.

‡ I need have no hesitation in admitting that on the first examination of this piece, as an isolated specimen of a hitherto unknown mintage, I was disposed, in the absence of any dot either above or below the line of writing, to adopt the alternative reading of كور, instead of كور, while confessing a preference for the latter transcription, on account of the need of the preposition ب (Chronicles of the Pathán Kings, p. 79); but, at the time, I was unprepared to expect that Altamash's sway had extended to the lower provinces, which were avowedly in independent charge of the Khilji successors of Muhammad Bakhtyšir. This difficulty is now curiously explained by the concurrent silver pieces, and the supposition that the local chieftain found it expedient to profess allegiance, nominal or real, to the preponderating influence of the master of Hindūstān. In like manner, the recently discovered silver coins have supplied a clue to the more satisfactory decipherment of the marginal legend, and the explanation of other minor imperfections in the definition of the exotic characters of the gold coin, which it is useless to follow in detail.
some controversy.* Advantage has been taken in this, to the native comprehension, more elaborately-finished piece, to insert in the vacant spaces on the field, above and below the main device, the words, "struck at Gaur," and although the requisite dot below the š in has escaped definition, there need be little doubt as to the purport of the entry, which it was not thought necessary to reproduce on the less-esteemed silver money, whose status with the mint officials, as equally with the public at large, ranged at a lower level.

The date of 616 A.H. on this coin, supported and in a measure explained as it is by the marginal legend on No. 3, proves that the professed allegiance of the local ruler of Bengal to the head of the followers of Islam at Dihli, was no momentary demonstration, but a sustained confession of vassalage extending over one complete year, and portions of the previous and succeeding twelve months.

The topographical record on No. 2 would further seem to show that Husam-ud-din had not as yet transferred his capital to the new site of Lak'hanauti, to the west of the river, whose designation first appears in a definite form on the coins of the Empress Raziyah, in A.H. 635.†


Obverse. Reverse.

pl. x., fig. 2. A.H. 616.

Horseman at charge.

 Margin—

لا إله إلا الله محمد رسول الله

 بتاريخ سنة ست عشر وستمئة

No. 3a. Variety. Weight, 102 grs. Pl. x., fig. 3. Date illegible. The Persian legend on the obverse is given in very imperfectly defined characters, and offers the peculiarity of the insertion of the Hindi letters श, for Shâh, above the name of the king, thereby indicating that both die-engravers and the local public were naturally better versed in the old alphabet than in the newly-imported letters of the conquerors.


COINS OF GHIYÁ’S-UD-DÍN ‘IWÁZ.

No. 4. Silver. Size, 7½. Weight, 161 grs. (full weight.)

Pl. x., fig. 4. A.H. 616. (7 specimens.)

Obverse.

السلاطين
المعظم نياح الدنیا
والدين إلى الفغش
وعوض بن الحمید بن عمار

Reverse.

الله ومحمد
رسول الله
ضرب هذه السکة في

Margin—

شهر سنه ست عشرو ستیادیه

Coin No. 4 teaches us that in the same year 616 A.H., in the early part of which Husám-ud-dín ’Iwáz had confessed allegiance to Altamsh, he seemingly grew weary of such pretences, and openly declared himself Sultán in his own right, assuming the regal title of Ghiyás-ud-dín, and the quasi-hierarchical function implied in the designation of Náṣir Amír Al Múmnín, “Defender of the Commander of the Faithful.” Whether this overt assertion of independence was suggested by his own growing power, or was due to the imagined weakness of the suzerain, is not clear; but there can be no question as to his success in the extension and consolidation of his dominions, or to his vigorous administration of a country, fertile in the extreme, and endowed with such singular commercial advantages of sea and river intercourse.

At this particular juncture, Altamsh does not seem to have been pressed by any important home disturbances, but there were dark clouds on the N. W. frontier. The all-powerful ’Alá-ud-dín Muhammad Khárazmí, whose outpost extended over so large a portion of Asia, had been coining money in the inconvenient proximity of Ghazná throughout the years 613, 614-616, A.H.; * and no one could foretell when he might follow the ordinary precedent and advance into Hindústán. As fate determined, however, it was left to his son Jalál-ud-dín to swim the Indus, at the risk of his life, as a fugitive before the hosts of Chingiz Khán, in 618 A.H.

The mention of Chingiz Khán suggests to me the desirability of repeating a correction, I have already recorded elsewhere, of a singular delusion, shared alike by native copyists and English commentators, regarding one of the supposed incidents of the sufficiently diversified career of this scourge of the world, to the effect that his unkempt savages had penetrated down to the impossible limit of the lower Ganges. The whole series of mistakes, Asiatic or European, may now be traced back to a simple clerical error in the transcription from a chance leading copy of the ordinarily rare work of Minháj i Siráj—where the name of Chingiz Khán جنگیر خان has been substituted for the more obvious designation of the ancient town of Jáñnagar جانگکر.

* J.R.A.S. ix., 381; xvii., 202; Chronicles of Pathán Kings, p. 86.
Modern authors, examining a single passage, might well have felt reserve in reconstructing at hazard a primary version; but the editors of the Calcutta official printed text have gone so far towards perpetuating the enigma they were unable to unravel, as to add to the difficulties of solution by making Chingtiz Khán fight (so far on his way to Lak'hnauti) the memorable battle of Perwán [30° 9' N., 69° 16' E.] on the conveniently converging site of Badáoon (p. 348), which was situated on one of the favourite main lines of transit to the south, east of the Ganges. This conglomeration is, however, the less excusable, as Stewart, in his History of Bengal, had already pointed out Firishtah's palpable mistake to the same effect; and the editors themselves unconsciously admit the preferable variant of 'باجنکر' inserted in the foot-note, p. 190. Dr. Hunter, I see, in his new work on Orissa (ii. 4), incautiously follows Stewart's first impressions, in the notion that the "vanity" of Muhammadan historians had intentionally "converted the attack of the humble Orissians into an invasion of Tartars" (Stewart, p. 62).* I myself prefer the more obvious and direct explanation above given, which perhaps reflects more upon our defective criticism than upon Muslim vanity.†

* Mr. Stirling, in his most exhaustive Memoir on Orissa, published in the Asiatic Researches in 1822, observes:—"Major Stewart, in his History of Bengal, places an invasion of Orissa by the Mussalmans of Bengal during this reign, that is A.D. 1243. The Chronicles of the country contain no mention of such an event. I have not Major Stewart's authorities at hand to refer to, but strongly suspect that he has been led into an error by mistaking some word resembling Jajipur, for Jajipur in Orissa. He expresses himself thus: 'In the year 614 (A.D. 1243), the Raja of Jagipur (Orissa) having given some cause of offence, Toghan Khan marched to Ketasun, on the frontier of Jagipur, where he found the army of the Raja had thrown up intrenchments to oppose him'. . . . Now, in the first place, Jajipur was never a separate principality, as here described; and there is no such place in Orissa as Ketasun. Firishtah is altogether silent on this subject in his history of Bengal, but in his general history he ascribes the siege of Gour, in the very year in question, to a party of Mogul Tartars who had invaded Bengal by way of Chitta, Thibet, etc. Dow's mistake of a similar nature is scarcely worth noticing. He makes Sultan Balin pursue the rebel Toghril into Jajnagar (A.D. 1279), which he calls Orissa, whereas it is evident from the mention of Sumargoon as lying on the road, that Jajnagar is some place beyond the Ganges."—Stirling, As. Res. xv., p. 274.

† Cf. Elphinstone (new edit. by Professor Cowell), p. 377. Elliot, Muhammadan Historians ii., pp. 264, 344, Dr. Lee's Ibn Batútah, Oriental Tr. Fund, p. 97. Firishtah...
No. 5. Silver. Size, 8s. Weight, 105 grs. A.H. 617. (2 specimens.)

**Obverse.**

السلطان
العظم غياث الدين
و الذين الموتى من
السليمان نامير
المؤمنين ***

**Reverse.**

لا إله إلا
الله محمد رسول
لله Margin—
التبغ السبع عشر سنابه


**Obverse.**

السلطان العظم
غياث الدين و الذين
الغافل من بن السليمان
نامير الموتى المؤمنين و
لا إله إلا الله Margin—
شهر سبعة عشر عشر سنابه
و الذين

**Reverse.**

لا إله إلا
الله محمد رسول الله
الناصر لدين الله
نامير المؤمنين
Margin—
التبغ السبع عشر سنابه

No. 6a. Variety. One example gives the altered marginal reading of

ضرب هذه المسك في ربيع الآخر سنة سبع ستينية


The tenor of the legends of the consecutive issues of A.H. 617 disclose an increasing confidence in his own power on the part of Ghîyâs-ud-dîn 'Iwâs, in the addition made to his previous titles, and in the assumption of the superlative Al A'zam, "the highest," as the prefix to the Al Sultân in place of the heretofore modest adjectival of Al Mu'a'azzam, "the great."* Bombay Persian Text, i., p. 122. Badâoni, Calcutta Persian Text, p. 88. Tâbaqât i Nâṣîrî, Calcutta Persian Text, pp. 157, 163, 190, 243, 245.

* Altamsh himself seems to have been indifferent to this distinction, but its importance is shown in the early coinage of Muhammad bin Sâm, who invariably reserves the superlative prefix for his reigning brother, while he limits his own claims to the virtually comparative Al Mu'a'azzam. And further to mark these gradations, he prominently adopts the higher title after his brother's death. Chronicles of Pathân Kings, pp. 12, 13, 14. Ariana Antiques, pl. xx., figs. 29, 35.
Here, for the first time in this series, we meet with the official or regnant designation of the Khalifah of Baghdad, who has hitherto been referred to by the mere generic title of "Commander of the Faithful."

It would appear from this innovation, as if Ghiyás-ud-din had already, indirectly, put himself in communication with the Pontifical Court at Bagdad, with a view to obtaining recognition as a sovereign prince in the Muslim hierarchy,—a further indication of which may possibly be detected in the exceptional insertion of the month in addition to the ordinary year of issue on the margin of No. 6a; a specification which will be found more fully developed in the succeeding mintage, where it admits of an explanation which is not so obvious or conclusive in this instance.

No. 7. Silver. Size, 9. Weight, 169 grs. Pl. x., fig. 5.* Dated 20th of Rabi' ul ákhir, A.H. 620. (7 specimens.)

**Obverse.**

لا إله إلا الله محمد رسول الله

言えば السلاطين في الدنیا

و الحسن أبو المظهر على פיاء

امیر المومنین خلیف الله سلکه

**Reverse.**

نی القاری العشیرین

من شهر ربيع الآخر سنة

عشیرین و سنتیہ

No. 7a. Variety. Weight, 165 grs. Coin of the same date and similar character, which transfers the complete name of عرش الدنیا و الحسن Abu الفتح عور فی الدنیا قسم امیر المومنین ملکان السلاطین في الدنیا into the third line; the dubious prefix to the second line معزز الدنیا و الحسن reads more as يده, while the suggested بندeler, above given, appears as من شهر ربيع الآخر سنة.

If the preceding coins had left any doubt as to Ghiyás-ud-din's designs in regard to the assumption of sovereign power, the tenor of the legends on Nos. 7 and 7a, would conclusively set that question at rest. Here, not content with the recently-arrogated title of السلطان الأعظم, we find him calling himself "Sultan of Sultans," by direct appointment of the

* See also Marsden, No. DCCCLVII, p. 564. There are two coins of this type in his collection in the British Museum. Marsden remarks, "The date of this coin, the earliest of those belonging to the princes who governed Bengal in the name of the Kings of Delhi, but who took all opportunities of rendering themselves independent, is expressed distinctly in words. . . . . The titles and patronymics of the Sultan by whom it was struck are for the most part illegible; not so much from obliteration, as from the original imperfect formation of the characters."
Khalifah,* associated with which is the entry of a specific date, with the still more unusual definition of the day of the month, which is preserved constant and unvaried throughout the entire issue. More remarkable still is the abnormal departure from the conventional form of coin legends, in the omission of the preliminary “Al Sultán,” and the abrupt introduction of the regnal title of the once probational Husám-ud-din, under his more ambitious designation of Ghiyás-ud-din. In short, the entire drift of the altered superscription points to an intentional reproduction of some formal phraseology, such as would be eminently consistent with an official transcript of the revered precept emanating from Baghkdád.

I should infer from these coincidences that a formal diploma had by this time been conceded by the Supreme Pontiff, admitting the newly-erected kingdom Bengal within the boundaries of Islám, and confirming the reigning monarch in possession, with added titles and dignities. The date so prominently repeated may either be that upon which the patent was originally sealed, or more probably it points to the auspicious moment of the reception of the ambassadors, who conveyed the formal document and paraphernalia of investment, at the Court of Lak‘hnautí. This assignment in no way disturbs my previous attribution of the inaugural piece of Altamsh,† marking his attainment of the like honours in A.H. 626. The very concession to the Bengal potentate possibly led his once suzerain to seek a parallel sanctification of his own rights, which he had previously been content to hold by the sword: and the difficulty of communication with Baghkdád over alien kingdoms and disturbed frontiers would account for a delay of the emissaries on the one part and the other, which would not affect the open ocean passage between the mouths of the Ganges and the sea-port of Baghrah.

* The term عمل يدي is of frequent occurrence on the early Muslim coinages, and is usually associated with the name of the officer—whatever his condition—responsible for the mint issues, as عمل يدي احمد, which is translated by Fradn as “manibus” (i.e. curá et operá) Ahmadis or “curante,”—a definition accepted in later days on the Continent as “par les mains de, par les soins de, etc. In the present instance it would seem to imply a more or less direct intervention by the Commander of the Faithful himself in favour of his nominee.

† Initial Coinage of Bengal, J.R.A.S. ii., n.s., p. 154, No. 1, note; Chronicles of the Pathán Kings, p. 46. Of course, this exceptional issue will now have to cede priority of date both to the Bengal coins of A.H. 614, etc., and likewise to the northern piece of Altamsh, No. 8, which must be taken as anterior to No. 10.

**Obverse.**

السلطان
البحمدين
الله الناصر لدين
الله أمير المومنين

**Reverse.**

لا إله إلا الله
محمدرسل
الله الناصر لدين
الله أمير المومنين

 Margin —

**Bengal Coins of Altamsh Subsequent to the Re-assertion of his Imperial Sway.**


**Obverse.**

السلطان
البحمدين
الله الناصر لدين
الله أمير المومنين

**Reverse.**

As in Nos. 6 and 7,—coins of Ghiyás-ud-din, with the name of the Khalifah Al Nâṣir-li-dîn Ilâh. Margin—

 هذ أضرب ففي شهر سنةشما

 Margin —

Altamsh does not seem to have found it convenient to proceed against his contumacious vassal, who was now ready to meet him on almost equal terms, till A.H. 622, when the coinage immediately attests one part of the compact under which peace was secured, in the exclusive use of the name

* Chronicles of the Pathan Kings, p. 15. Pl. i., fîgs. 4—8.

† This word as designating the coin is unusual; but we have the term دارالضرب for the Mint, and the ordinary prefix to the name of the Pathan monarchs. The letters on the Bengal coins look more like الفرب, which, however, does not seem to make sense. Frehns long ago suggested that the word ضرب ought to be received as a substantive, especially in those cases where the preposition پ did not follow it, in the given sentence, as a prefix to the name of the mint city.
of the Emperor of Hindústán on the money of Bengal.* That the issue represented by No. 9, proceeded from the local mints, is evident alike from the style and fabric of the pieces, their defective metal, and the uncouth forms of the letters of the legends.


**Obverse.**

السلاَّطِنُ العَظِيمُ
شَمَسُ الدُّنْيَا وَ الْأَرْضِ
ابِرَالمَفْتَرِ السَّلَامُ
السلاَّطِنُ نَسْرُ عِمْرَاءٍ
المُوَمِّنِينَ

**Reverse.**

لا إِلهَ إِلَّا اللهُ
رسُولُ اللَّهُ
الظَّاهِرُ بِأَمْرِهِ
إِمْرِ المُوَمِّنِينَ
ضَربَ هَذَا ۶۰۰ شَهْرٍ سَنَةً اِبْرَعَ
وَعَشَرِينَ وَ سَتَّ مَائَةٍ —Margin—

Al Záhir bi-amrillah, the Khalifah whose name is inscribed on this coin, succeeded his father on the 2nd of Shawwál, A.H. 622, and died on the 14th Rajab, A.H. 623 (July 11, 1226, A.D.). Bar Hebraeus, Abulfaraj, p. 302.


Square area, within double lines, following the pattern of some of the examples of Muhammad Ghori's coins.

السلاَّطِنُ العَظِيمُ
شَمَسُ الدُّنْيَا وَ الْأَرْضِ
ابِرَالمَفْتَرِ السَّلَامُ
السلاَّطِنُ نَسْرُ عِمْرَاءٍ
المُوَمِّنِينَ

**Reverse.**

Legend in the area as in the last coin, with the name of the Khalifah Al Záhir.

ضرَبَ ۶۰۰ سَنَةً اِبْرَعَ
وَعَشَرِينَ وَ سَتَّ مَائَةٍ

The words *إِمْرِ المُوَمِّنِينَ* are inserted in the interstices between the square area and the circular marginal line, as in the Dihlí coins of Bahárám Sháh.†

Calcutta text, pp. 163, 171.

† Chronicles of the Pathán Kings, p. 118.
It might be supposed to be an open question as to whether Ghiyās-ud-dīn ʿIwāz or Nāẓīr-ud-dīn Ṣalāḥ-ud-dīn—his eldest son of Altamsh and viceregent in Bengal—presided over the mints which put forth the coins classed under Nos. 10 and 11. As regards the latter, at present unique piece, there can be little doubt, from its assimilation to the ordinary Dihli models, that it formed a portion of the revised and improved coinage of the south after Mahmūd's defeat of Ghiyās-ud-dīn in 624 A.H. In like manner, the introduction of the term ُلأ on No. 10, as a prefix to the title of Sulṭān Altamsh, points to a feeling of filial reverence, which is altogether wanting even in Ghiyās-ud-dīn's repentant manifesto in the legend of No. 9. Mahmūd's appointment to the government of Andh dates from A.H. 623,* and the tenor of one of the narratives of Minhāj i Sirāj would imply that he proceeded southwards with but little delay; so that all coins bearing the date of 624, with the name of Altamsh, might preferentially be assigned to his interposition, more especially as Ghiyās-ud-dīn at, and prior to this, period had placed himself in a renewed attitude of insurrection.

**Coin of Nāẓīr-ud-dīn Mahmūd Shāh, as Viceregent in Bengal.**

The administration of the Bengal mints under the official auspices of Nāẓīr-ud-dīn Mahmūd, as developed in the issues Nos. 10, 11, leads up to and confirms with more full effect an identification I have hitherto been obliged to advocate in a less confident tone—that is, the attribution of the piece, figured in my 'Chronicles of the Pathān Kings,' p. 81, to the eldest son of Altamsh, at some period towards the close of his brief career. With these newly-discovered evidences of his overt intervention in the local currencies, the transition to a subdued and possibly paternally-sanctioned numismatic proclamation, in his own name, would be easy, more especially if that advance was made simultaneously with the effusive reception at Dihli of the reigning Khalifah's earliest recognition of Altamsh's supremacy, coupled with the desirability of making this Imperial triumph manifest in those southern latitudes, where other dynastic names had already claimed a prior sanctification.†

* Persian text, 180.

† Minhāj i Sirāj, after completing his account of Nāẓīr-ud-dīn's conquest of Ghiyās-ud-dīn ʿIwāz, and the transmission of the spoils to the Sulṭān at Dihli, continues—

وجون تشرف عليه مر قرون عيان به جدل بل انتزاع لنكستي لفستان ملك ناصر الدين عليه الرحمه بهدال جنرال تشرف و أكرام شرف غشت و فخر الدين را إز ملوك و اکابر مملكت منند نظريه بور كه وريث مملكت شمسى او باشد. فاما تا بعد از یکسال و نمک و ۰ بهره احق خلاة پیروست. ۱۸۱

(See also Elliot's Historians, ii., pp. 326, 329.) The Khalifah's emissary arrived at Dihli on the 22nd of Rahf-ul-Awwal, (3rd month of) A.H. 626, p. 179, and news of the death of Nāẓīr-ud-dīn Mahmūd reached the capital in the 5th month of the same year, p. 174.
Such an authorized augmentation of the Prince’s state is rendered the more probable, as Altamsh in a measure shared with his favourite son the honours and dignities conferred by the Khalifah, and simultaneously extended to him the right to use an umbrella with the tint of Imperial red.* Nācir-ud-din Mahmūd, the contemporary biographer remarks, was from that time looked upon as the recognized successor to the throne of Hindūstān. Equally, after Mahmūd’s premature death, his father still so held him in honour that his body was brought to Dihli, and enshrined under one of the choicest domes that Eastern Saracenic art could achieve, which to this day, amid its now broken marbles, stands as a monument of the virtues of this prince, and preserves in its decaying walls the remains of the first royal tomb of the slave kings erected near the capital,† on the shattered entrance arch of which we can still trace the devotional prayer of the father for the soul of his son, whose mundane glories he briefly epitomizes as “King of Kings of the East,” implying, in the conventional terms of the day, all India beyond the Ghānī.

And still further to secure a contemporary memento of his lost heir, Altamsh conferred the same name and title upon a younger son, who, in his

* The founder of the Ghaznavī dynasty, the Great Sabuktigin, assumed regal state under the shadow of a red umbrella. Altamsh’s ensigns are described as black for the right wing, and red for the left wing. Mu’izz-ud-din Muhammad bin Śām’s standards bore the same colours, but the discrimination is made that the black pertained to the Ghōris, and the red to the Türks, p. 17. Ghīyās-ud-dīn Muhammad bin Ṣām used black and red for the two wings respectively, p. 83.

† Inscription on the Tomb of Sultan Gha’zi [Naṣir-ud-dīn Mahmūd] at Dihli, dated A.H. 629.

This Tomb, which is known at the Maqbarah of Sultān Ghāzī, stands amid the ruins of the village of Mallikpur Koyi, about three miles due west of the celebrated Qutb Minar. Kār-ūs-Sanā’īd, Dihli, 1854, pp. 23, 30 (Nos. 12, 18. Facsimile), and 60 (modern transcript revised). See also Journal Asiaticque, M. G. de Tassy’s translation of the Urdu text; also Journal Archaeological Society of Delhi, p. 57, and Hand-book for Delhi, 1863, p. 85.

† Rukn-ud-dīn Firūz Shāh, another son of Altamsh, who for a brief period held the throne of Dihli, found a final resting-place on the chosen site of Mallikpūr; and his brother in deferred succession, entitled Mu’izz-ud-dīn Bahādūr Shāh, followed him into the Tomb of the Kings in the same locality.—Kār-ūs-Sanā’īd, pp. 25, 26. Elliot’s Historians, iii, 382. Chronicles of Pathān Kings, p. 290.
turn, was destined to occupy the throne of Dihli for twenty years, and the
name of Nācir-ud-din Mahmūd was perpetuated anew in the next generation
under another dynasty, as the designation of Balban’s heir, who carried it
back to Bengal, where he was permitted to found a new family of southern
kings, who for half a century succeeded in maintaining a fitful sovereignty,
seldom disturbed by the more powerful Sultāns of Hindūstān.


Obverse.
السلطان الاعظم
ناصرالدین و الاین
یبوعظفر صمدود
شاه بن سلطان

Reverse.
في عهد الإمام
المستنصر بالله امیر
المومنین

Al Mustanṣir billah was inaugurated on the 14th of Rajab, 623 A.H. =
1226 A.D., the same day that his father Al-Zāhir died. Bar Hebræus,
p. 303.

I quote in illustration of my previous remarks, the legends on the
special issue of Altamsh on the occasion of the receipt of his diploma of
investiture in A.H. 626.

Weight of the B. M. Coin, 16¼ grains.

Obverse—لا إله إلا الله محمد رسول الله

Reverse—As above, in No. 12, with similarly formed characters.*

It may be noted that on a like occasion of the reception of the Egyptian
Khālīfah’s diploma at Dihli in 744 A.H., Muhammad bin Tughluq adopted a
similar method of exhibiting his respect by introducing the pontiff’s name
on the coinage to the exclusion of his own.

The identification of the individual, who styles himself Daulat Shāh
with many high-sounding prefixes, on the subjoined coin, demanded a certain
amount of patient patch-work, which I have relegated to the note below.†

* Chronicles of the Pathān Kings, p. 46.
† در ماه جمادی الأولى سنة ست و عشریں و ستیہ و خورہوں ملک سید ناصر
الدین صہید بیک جلی عربک لنکوئی عصیان آور، و سلطان
شمس الدین طال براه شکری استمر سری اور گردی ناولثی بیک دو و ی، و در شوریہ سنہ
سبع و عشریں و ستیہ ایک طالی را بدست آور و ستیہ لنکوئی بیک علیہ الدین
جانی داد علیہ الربیہ و درور رحمہ و مہین مال بغضہ جلال دہلی پاکام کلدیا،

Text, p. 143
Suffice it to say that Daulat Shâh bin Maudûd is the person who is spoken of elsewhere as Ikhtiyâr-ud-dîn Balkâ Khilji, and who appears in history on the single occasion of his possessing himself of the kingdom of Bengal on the death of Nâqir-ud-dîn Mahmûd, and his subsequent suppression and capture on the advance of Altamsh’s forces in the selfsame year, 627 A.H., he was unwise enough to record on his unauthorized coinage.


**Obverse.**

سلطن سعيد شمس الدين جون بديار لکنوئی رقیع بعد از فوت ملک اخترالدین

Calcutta Text, p. 193

In the printed text, under the first Court Circular list of the Shams ud-din Sulîn, we find the following entry; and in the second document, purporting to be a variant of that official return, we read

ملك إختيار الدین بکا (pp. 177 and 178), which latter version is greatly improved by the Oriental Lord Chamberlain’s list preserved in a MS. in the B. M. (Addit. No. 26,189), which associates more directly the title with the name, and identifies the individual as King Balkâ.

* The word Balkâ has exercised the commentators. It may be found, however, in the early Ghaznavi name of Balkâ-tâgin. بلکا means a "camel colt," and is "handsome."
APPENDIX

TO THE

Journal of the Asiatic Society of Bengal,

Vol. XLII,

Part I., for 1873.

CONTAINING

VOCABULARIES OF NĀGA HILL TRIBES,

by Capt. J. Butler and S. E. Peal, Esq.
A Rough Comparative Vocabulary of some of the Dialects spoken in the "Nágá Hills," District.—Compiled by
Captain John Butler, Officiating Political Agent.

The plan I have adopted for designating the long sound of all vowels has been by placing an accent immediately
over the vowel; thus á is pronounced like the Italian a, or like the English long a as pronounced in such words
as "mast," "father," "ask," &c.

ó like the English a in "fate," or e in "prey," "convey," &c.

í in the English e in "fate," or English ee as in "peep," or i as it is pronounced in such words
as "fatigue," "marine," &c.

ó as the o in "notice"; and finally
ú similarly to the English long o as in "move," "prove," &c., or oo as in "school," "tool," "fool," &c.

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<td>Yaonghûngâha</td>
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John Butler - Vocabulary of tribes of the Ngîg Hilla.
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John Butler—Vocabulary of tribes of the Ngúl Hills.
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John Butler—Vocabulary of tribes of the Nadg Hills. [Appendix.]
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John Butler — Vocabulary of tribes of the Ndjé Hills.
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John Butler—Vocabulary of tribes of the Ngid Hills.
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1873 .]

— Vocabulary of

John Butler

tribes

of the Ndgd Hills

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XXV


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<td>English</td>
<td>pro.</td>
</tr>
<tr>
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</tr>
<tr>
<td>We</td>
<td>pro.</td>
<td>Alm</td>
<td>pro.</td>
<td>Népénpén</td>
<td>pro.</td>
<td>Hekoh</td>
<td>pro.</td>
</tr>
<tr>
<td>West</td>
<td>n.</td>
<td>Posim</td>
<td>pro.</td>
<td>Málam</td>
<td>N.</td>
<td>Náki-kélét-á</td>
<td>pro.</td>
</tr>
<tr>
<td>Why</td>
<td>ad.</td>
<td>Keloi, Kyo</td>
<td>pro.</td>
<td>Pilúma</td>
<td>pro.</td>
<td>Koináhim</td>
<td>pro.</td>
</tr>
<tr>
<td>Widow</td>
<td>n.</td>
<td>Bángri</td>
<td>pro.</td>
<td>Páníju</td>
<td>pro.</td>
<td>Thélúng</td>
<td>pro.</td>
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<tr>
<td>Wife</td>
<td>pro.</td>
<td>Tirotá, Ghoíni</td>
<td>pro.</td>
<td>Hépeo</td>
<td>pro.</td>
<td>Págong</td>
<td>pro.</td>
</tr>
<tr>
<td>Wind</td>
<td>n.</td>
<td>Botah</td>
<td>pro.</td>
<td>Pár</td>
<td>pro.</td>
<td>Kaji</td>
<td>pro.</td>
</tr>
<tr>
<td>Wind-pipe</td>
<td>n.</td>
<td>Tetu</td>
<td>pro.</td>
<td>Mailam, Dílam</td>
<td>pro.</td>
<td>Timon</td>
<td>pro.</td>
</tr>
<tr>
<td>With, prep.</td>
<td>Logot</td>
<td>pro.</td>
<td>Long</td>
<td>pro.</td>
<td>Monkhát</td>
<td>pro.</td>
<td>Mezaro</td>
</tr>
<tr>
<td>Woman, n.</td>
<td>Tiri, Máiki,</td>
<td>pro.</td>
<td>Arloso, Núpi</td>
<td>pro.</td>
<td>Thénúma,</td>
<td>pro.</td>
<td>Nú, Dainu,</td>
</tr>
<tr>
<td>Wood</td>
<td>n.</td>
<td>Kríhi, Kháth</td>
<td>pro.</td>
<td>Théngpi</td>
<td>pro.</td>
<td>Si, Shén</td>
<td>pro.</td>
</tr>
<tr>
<td>Year, n.</td>
<td>Bosor</td>
<td>pro.</td>
<td>Nángpén, Nángho,</td>
<td>pro.</td>
<td>Aké-et, [hi],</td>
<td>pro.</td>
<td>Lóí, Unháng,</td>
</tr>
<tr>
<td>Yellow, a.</td>
<td>Halodhivá,</td>
<td>pro.</td>
<td>Aké-et, [hi],</td>
<td>pro.</td>
<td>Ángtobang,</td>
<td>pro.</td>
<td>Luo, Ud, Jé</td>
</tr>
<tr>
<td>Yes, ad.</td>
<td>Hoi, Erà,</td>
<td>pro.</td>
<td>Kébi,</td>
<td>pro.</td>
<td>Kélang, La,</td>
<td>pro.</td>
<td>Ndí, Ndí, Ndí,</td>
</tr>
<tr>
<td>Yesterday, n.</td>
<td>Káli, Joá-káli,</td>
<td>pro.</td>
<td>Méia,</td>
<td>pro.</td>
<td>Túmi,</td>
<td>pro.</td>
<td>Nu, Na,</td>
</tr>
<tr>
<td>You, pro.</td>
<td>Toi, Túmi,</td>
<td>pro.</td>
<td>Níni,</td>
<td>pro.</td>
<td>Né,</td>
<td>pro.</td>
<td>Náng,</td>
</tr>
</tbody>
</table>
Vocabulary of the Banpard Nágás.—By S. E. Peal, Esq., Sibsigar, Asám.

(Continued from Journal, A. S. Bengal, Part I, for 1872, p. 29.)

In the following vocabulary a represents the a in bar; à stands for au as in naught; ai, as in aisle; au, as in loud; e, as ei in eight; ê, as in hen; i, as in hill; i, as ee in heel; ó, as the o in not; o, as in note; u, as in full, and ú as oo in fool.

<table>
<thead>
<tr>
<th>English</th>
<th>Naga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood,</td>
<td>adzt.</td>
</tr>
<tr>
<td>Blossom,</td>
<td>púa.</td>
</tr>
<tr>
<td>Blue,</td>
<td>nak che.</td>
</tr>
<tr>
<td>Boar,</td>
<td>vák la, mai la.</td>
</tr>
<tr>
<td>Boil,</td>
<td>tá.</td>
</tr>
<tr>
<td>Bone,</td>
<td>rzán, orzán.</td>
</tr>
<tr>
<td>Bone,</td>
<td>hórá, rá.</td>
</tr>
<tr>
<td>Bough,</td>
<td>panchak.</td>
</tr>
<tr>
<td>Bow,</td>
<td>yántó.</td>
</tr>
<tr>
<td>Box,</td>
<td>shwák.</td>
</tr>
<tr>
<td>Boy,</td>
<td>nausá, man sá.</td>
</tr>
<tr>
<td>Bracelet,</td>
<td>kapsan.</td>
</tr>
<tr>
<td>Branch, (tree),</td>
<td>pan kàng.</td>
</tr>
<tr>
<td>Brandy,</td>
<td>zú.</td>
</tr>
<tr>
<td>Bread,</td>
<td>án.</td>
</tr>
<tr>
<td>Breakfast,</td>
<td>kan sá há.</td>
</tr>
<tr>
<td>Breeze,</td>
<td>vin.</td>
</tr>
<tr>
<td>Brick,</td>
<td>{sky wind makes.</td>
</tr>
<tr>
<td>Bridge,</td>
<td>há (lit. earth).</td>
</tr>
<tr>
<td>Brimstone,</td>
<td>shai.</td>
</tr>
<tr>
<td>Bring,</td>
<td>hing.</td>
</tr>
<tr>
<td>Broad,</td>
<td>pau he, pau hai.</td>
</tr>
<tr>
<td>Broken,</td>
<td>kau.</td>
</tr>
<tr>
<td>Brook,</td>
<td>pak.</td>
</tr>
<tr>
<td>Broom,</td>
<td>shwa sa.</td>
</tr>
<tr>
<td>Brother,</td>
<td>hájá.</td>
</tr>
<tr>
<td>Brow,</td>
<td>átai.</td>
</tr>
<tr>
<td>Buffalo,</td>
<td>kong ra.</td>
</tr>
<tr>
<td>&quot;wild,</td>
<td>lú.</td>
</tr>
<tr>
<td>Bug,</td>
<td>lúi hing.</td>
</tr>
<tr>
<td>Bull,</td>
<td>ve kóf.</td>
</tr>
<tr>
<td>To Burn,</td>
<td>mai hú, hapang.</td>
</tr>
<tr>
<td>Burial,</td>
<td>van súng le.</td>
</tr>
<tr>
<td>Bush,</td>
<td>rúk tús.</td>
</tr>
<tr>
<td>Butterfly,</td>
<td>pau ká.</td>
</tr>
<tr>
<td>Cable,</td>
<td>pí twák.</td>
</tr>
<tr>
<td>Cake,</td>
<td>ré.</td>
</tr>
<tr>
<td>Calamus,</td>
<td>mai hú sá.</td>
</tr>
<tr>
<td>Calf,</td>
<td>shá.</td>
</tr>
<tr>
<td>Camphor,</td>
<td>re.</td>
</tr>
<tr>
<td>Cane,</td>
<td>re.</td>
</tr>
<tr>
<td>Cannon,</td>
<td>mai hú sá.</td>
</tr>
<tr>
<td>Canoe,</td>
<td>shá.</td>
</tr>
<tr>
<td>Cap,</td>
<td>re.</td>
</tr>
<tr>
<td>Carcass,</td>
<td>ján tús.</td>
</tr>
<tr>
<td>Cascade,</td>
<td>kwá sá.</td>
</tr>
<tr>
<td>Cat,</td>
<td>kohom.</td>
</tr>
<tr>
<td>Caterpillar,</td>
<td>zí le (lit. dead is).</td>
</tr>
<tr>
<td>Cave,</td>
<td>ti chóng le.</td>
</tr>
<tr>
<td>Centipede,</td>
<td>(water great is).</td>
</tr>
<tr>
<td>Charcoal,</td>
<td>míá.</td>
</tr>
<tr>
<td>Cheap,</td>
<td>tchóng.</td>
</tr>
<tr>
<td>Cheek, n.</td>
<td>ha kon.</td>
</tr>
<tr>
<td>Chest,</td>
<td>pú soi.</td>
</tr>
<tr>
<td>Chicken,</td>
<td>mák.</td>
</tr>
<tr>
<td>Chief,</td>
<td>ná.</td>
</tr>
<tr>
<td>Chillie, n.</td>
<td>navém, bomzróng.</td>
</tr>
<tr>
<td>Chin,</td>
<td>khá tók.</td>
</tr>
<tr>
<td>Chunga (Bamboo tube),</td>
<td>a sa (lit. young</td>
</tr>
<tr>
<td>Chrysalis,</td>
<td>vang hum, vang sá.</td>
</tr>
<tr>
<td>Claw,</td>
<td>hing bú.</td>
</tr>
<tr>
<td>Clay,</td>
<td>ká rá.</td>
</tr>
<tr>
<td>Cloud,</td>
<td>tún.</td>
</tr>
<tr>
<td>Coal,</td>
<td>chóng púa.</td>
</tr>
<tr>
<td>Cock,</td>
<td>chakin.</td>
</tr>
<tr>
<td>Cold,</td>
<td>há.</td>
</tr>
<tr>
<td>Come,</td>
<td>ní.</td>
</tr>
<tr>
<td>Cord,</td>
<td>rang shai.</td>
</tr>
<tr>
<td>Corn,</td>
<td>ha nak.</td>
</tr>
<tr>
<td>Cost,</td>
<td>á páng.</td>
</tr>
<tr>
<td>Cotton,</td>
<td>dang.</td>
</tr>
<tr>
<td>Cough,</td>
<td>pau há, pau he.</td>
</tr>
<tr>
<td>Countenance,</td>
<td>rú.</td>
</tr>
<tr>
<td>Cow,</td>
<td>tzá.</td>
</tr>
<tr>
<td>Crab,</td>
<td>láhf.</td>
</tr>
<tr>
<td>Crack,</td>
<td>pai.</td>
</tr>
<tr>
<td>Crag,</td>
<td>áhái le.</td>
</tr>
<tr>
<td>Creeper,</td>
<td>tún.</td>
</tr>
<tr>
<td>Cricket,</td>
<td>mai hú.</td>
</tr>
<tr>
<td>Crocodile,</td>
<td>shán.</td>
</tr>
<tr>
<td>Crook,</td>
<td>há húng.</td>
</tr>
<tr>
<td>Crossbow,</td>
<td>rú ká.</td>
</tr>
<tr>
<td>Crow,</td>
<td>do mo.</td>
</tr>
<tr>
<td>Cucumber,</td>
<td>kún ki.</td>
</tr>
<tr>
<td>Cushion,</td>
<td>kún.</td>
</tr>
<tr>
<td>Cut, v.</td>
<td>háp.</td>
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<tr>
<td>Cymbal,</td>
<td>áká.</td>
</tr>
<tr>
<td>Dagger,</td>
<td>mai kú.</td>
</tr>
<tr>
<td>Damp,</td>
<td>kang tai.</td>
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<tr>
<td>Dance,</td>
<td>hut ko, hat ko.</td>
</tr>
<tr>
<td>Dancing,</td>
<td>sú.</td>
</tr>
<tr>
<td>Dark,</td>
<td>bit sa.</td>
</tr>
<tr>
<td>Darkness,</td>
<td>shún.</td>
</tr>
<tr>
<td>Dart,</td>
<td>ázai.</td>
</tr>
<tr>
<td>Daughter,</td>
<td>ázai le.</td>
</tr>
<tr>
<td>Dawn,</td>
<td>nük, nak.</td>
</tr>
</tbody>
</table>
| | {range nük le.}
| | (sky black makes.)
| | ná hi. |
| | á phe. |
| | shom shák. |
Day, tung tá.
Dead, zi, jí.
Deaf, na ba.
Dearth, no le.
Death, zi.
Debt, tá.
Deep, zú.
Deer, mai, lit. flesh.
Deity, há ràng.
Deluge, ti cliong le.
Demon, ti chóng le.

Dense, lún pú. harang mun me.
Depart, pau há.
Descend, jú dú.
Dew, rang phúm.
Diarrhoea, mong chai le.
Die, zí, zí le
Dig, há tá le.
Dike, shwá tá há.
Dinner, po sá há.
Dish, kap kú.
Distant, ántái le, atài le.
Ditch, shwa kún.
Don't, támúk.
Dog, hí.
Done, mú (mui le).
Door, kái hák.
Dore, á shú.
Drake, a pák pong.
Drink, ling.
Drown, zí le.
Drum, sám.
Dry, rán.
Duck, a pák nú.
Ear, ná.
Early, rang ai le.
Earth, há.
Earthen-ware, páke.
Earthquake, shí le, mítí.
Eat, sa le.
Eclipse, rang phú.
Edge, chung h na.

Eel, nga (kan
Egg, à ti.
Elastic, lá le.
Elbow, chuk lo.
Elephant, losk.
Equal, tam vai.
Erect, à jóng.

Escape, pau le.
Evening, hang shang.
Ever, pang vai.
Exact, hút zíng.
Expanse, man kam.
Extinguish, a mut le.
Eye, mi.
Fall, tún.
False, dat le.
Family, man pai.
Famine, horiém.
Fate, ná le.
Fever, rang zęp.
Father, átai.
Fig, ápá.
Feast, mí tú le.
Feather, á koi.
Fence, jávát.
Finish, tak shoi.
Fire, kak.
Firewood, hí.
Fish, púk ják.
Flat, nyèk kan.
Fin, chákí.
Fit, múi.
Finish, van (vun).
Fire, há.
Firewood, rang.
Fish, van hong (fire stone).
Fowl, ti chong le.

Flour, án, á.
Flower, púa, mai pua.
Flute, toá pí t.
Fly, hát.
Foot, chiá.
Footstep, chiá ting mán.
Forest, pau.
Foul, á.
Frog, lúk.
Fruit, pan ják.
Fuel, há.
Fur, múi.
Gale, rang tai.
Gander, á chong.
Gate, ká hák.
Giant, mí chóng.
Girl, shí kū.
Gnat, mún kau.
Go, pau lá, pau há.
Goat, hä ràng, sién.
God, mai mai le.
Goose, á chóng.
Grain, tzá.
Granary, púng.
Grass, hing.
Grasshopper, do mo.
Great, chóng.
Grief, on.
Gum, tā.
Gun, ján túá.
Gunpowder, kat.
Hail, jún, kā, ko.
Half, hat (hut le).
Hand, chak, chák.
Handle, chang ko.
Hare, tiák.
Hatchet, cháng.
Head, klúng.
Heavy, lí le.
Heel, chídún.
Hen, á nú.
High, tang lí.
Hill, hápiá.
Hinder, pai kí.
Hip, ke rong.
Hoe, hā.
Hog, vák lá.
Honey, ná ti (bee-water).
Hornbill, árzá.
Hornet, lim.
Horse, mán.
Hot, kám.
House, ham (humm).
Hunger, 

\{ 
\text{stomach nothing is} 
\} 
\text{rang chái.}
Hurricane, 
 \{ 
\text{rang phúm.} 
\} 
hasam pa.
Husband, 
\{ 
\text{tcha tehú, tú pá.} 
\} 
Hut, pam.
Instep, 
\{ 
\text{nam sing.} 
\} 
Iron, chi tok.
Jackall, ján.

\{ 
\text{mai nák.} 
\} 
Ivy, loák vá.
Jack, hian.
Javelin, pá.
Jaw, kā.
Joint, tsá vát.
Jump, pat.
Jungle, patu.
Kid, roan sá.
King, vang ham.
Kitten, miế sá.
Knee, chi kū.
Knife, bit sá.
Knuckle, lùng kā.
Ladder, chakí.
Lake, chi ting.
Lance, núánú ji.
Large, chi áp ai le.
Lazy, chong, chong le.
Leaf, húrūk.
Lead, jántāng.
Leche, pan chák, lit. tree-hand.
Leg, vát.
Cthá.
Leopard, tsánák, chánák.
Lift, pai pau le.
Lightning, rang dung le.
hát, hāát, pelo?
kak.
Lone, là le.
Loose, nai li.
Lost, mà li.
Lost, ní á lúng.
Mad, hātāng.
Bo le.
Man, mí.
Many, tai hú le.
Mat, dam.
Meat, mài.
Medicine, hing.
Mire, hótán.
Mist, tzam ti.
Mole, hátām.
Molasses, rang phúm.
Monkey, tcha tehú, tú pá.
Month, nam sing.
Moon, mai nák.
Moro, á chang.
Mother, lēnū.
Mouth, á tá.
Mud, á nū.

\{ 
\text{tún.} 
\} 
Mud, hā tam.
<table>
<thead>
<tr>
<th>English</th>
<th>Banpará Nágás</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nail</td>
<td>tik</td>
</tr>
<tr>
<td>Narrow</td>
<td>súng</td>
</tr>
<tr>
<td>Navel</td>
<td>dinkú</td>
</tr>
<tr>
<td>Neck</td>
<td>mat koi</td>
</tr>
<tr>
<td>Needle</td>
<td>á zap</td>
</tr>
<tr>
<td>Nest</td>
<td>haz án</td>
</tr>
<tr>
<td>New</td>
<td>rang nak</td>
</tr>
<tr>
<td>Night</td>
<td>sky black</td>
</tr>
<tr>
<td>No</td>
<td>man tai le</td>
</tr>
<tr>
<td>North</td>
<td>ngá</td>
</tr>
<tr>
<td>Nose</td>
<td>nákúng</td>
</tr>
<tr>
<td>Not</td>
<td>man</td>
</tr>
<tr>
<td>Old</td>
<td>haz áng</td>
</tr>
<tr>
<td>Otter</td>
<td>rá rom</td>
</tr>
<tr>
<td>Path</td>
<td>lam</td>
</tr>
<tr>
<td>Perpendicular</td>
<td>á jóng</td>
</tr>
<tr>
<td>Pig</td>
<td>vák</td>
</tr>
<tr>
<td>Pigeon</td>
<td>yâ</td>
</tr>
<tr>
<td>Plantain</td>
<td>nga</td>
</tr>
<tr>
<td>Point</td>
<td>júng</td>
</tr>
<tr>
<td>Pond</td>
<td>ti kút</td>
</tr>
<tr>
<td>Porcupine</td>
<td>á zi</td>
</tr>
<tr>
<td>Porpoise</td>
<td>te tít</td>
</tr>
<tr>
<td>Pull</td>
<td>lin pau he</td>
</tr>
<tr>
<td>Quail</td>
<td>a mük</td>
</tr>
<tr>
<td>Quick</td>
<td>kí kf</td>
</tr>
<tr>
<td>Rain</td>
<td>rang vat</td>
</tr>
<tr>
<td>To Rain</td>
<td>rang vat le</td>
</tr>
<tr>
<td>Rat</td>
<td>jú, zú</td>
</tr>
<tr>
<td>Raven</td>
<td>á lá</td>
</tr>
<tr>
<td>Raw</td>
<td>áráng</td>
</tr>
<tr>
<td>Red</td>
<td>khi</td>
</tr>
<tr>
<td>Rhinoceros</td>
<td>mai nú</td>
</tr>
<tr>
<td>Rice, as grain, husked</td>
<td>tsáz.</td>
</tr>
<tr>
<td>&quot;boiled,&quot;</td>
<td>vóng.</td>
</tr>
<tr>
<td>Ripe</td>
<td>sa</td>
</tr>
<tr>
<td>River</td>
<td>jím</td>
</tr>
<tr>
<td>&quot;small,&quot;</td>
<td>shwa ko</td>
</tr>
<tr>
<td>Road, large, small</td>
<td>shwa nú.</td>
</tr>
<tr>
<td>Rock</td>
<td>lum, lum twa.</td>
</tr>
<tr>
<td>Roof</td>
<td>lum nú.</td>
</tr>
<tr>
<td>&quot;small,&quot;</td>
<td>lòng.</td>
</tr>
<tr>
<td>Root</td>
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<td>Rust</td>
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<tr>
<td>Sago, &quot;large,&quot;</td>
<td>yán, ján.</td>
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<tr>
<td>Salt</td>
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<td>Sambor deer</td>
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<td>Same</td>
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<td>à ná</td>
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<tr>
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<td>Star</td>
<td>zú</td>
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<tr>
<td>Stay</td>
<td>ú rút</td>
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<tr>
<td>Steal</td>
<td>litzú</td>
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<tr>
<td>Stone</td>
<td>támúk</td>
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<tr>
<td>Stop</td>
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<tr>
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<tr>
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<tr>
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<td>rang chai le</td>
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<tr>
<td>Stream</td>
<td>jang mai</td>
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<td>Sunshine</td>
<td>tásā.</td>
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<tr>
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<td>ti kút</td>
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<td>tat</td>
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<td>rang dúng</td>
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<td>tchanú, chánú</td>
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<tr>
<td></td>
<td>chuk le</td>
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<td></td>
<td>há hing</td>
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</table>
This is mainly Banpará Nagá. Contiguous tribes often have so many words in common as to be able to converse; while in other cases the differences are so great, that the dialects are mutually unintelligible.

The letter r at end of a word seems rare, so far I have not met a single case, and I am inclined to think it is never used, inasmuch as all Assamese words used by them that so end, have the final r turned into t, as khar (gunpowder) to khat, kapor (cloth) into kaput, &c.
The letter s also seems to follow the same rule. In saying mas (fish), they say mat, and got for gos (tree).

Some words are very widely used as ‘rang,’ which applies to most atmospheric phenomena, and may even be traced in their word for ‘god’ and ‘devil’. Nágá ideas of Divine persons being very limited, the same word that stands for ‘devil’ also serves for ‘god.’ Indeed their god at best is a local and generally malignant sprite, who can be propitiated by small presents of eatables.

The word ‘mai’ is very generally used as prefix to names of animals. The word good seems derived from this source, and it is equally suggestive to note that the word for sweet, tí, means also water.

Generally speaking, Banpará Nágá is as monosyllabic as it can be, and in speech is cut up short and jerky, especially when they are excited.
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Indéx.
The first part of this investigation concluded with the following question:

What general condition must be fulfilled in the construction of any differential galvanometer in order to make a simultaneous maximum possible with respect to an alteration of external resistance in either of the differential branches?

To answer this question, it will be necessary to remember, that the condition of a simultaneous maximum sensitiveness at or near balance was expressed by 3 equations, namely,

\[
\frac{(w-g)(w'+g') + f(w + w' + g' - g)}{p (g - w) g'} = \frac{\frac{2 (g + w + f)}{2 \sqrt{g g'} - p (g + w)}}{2 \sqrt{g g'} - p (g + w)} \quad \ldots \quad \text{II}
\]

\[
\frac{(w-g')(w + g) + f(w + w' + g - g')}{p (g - w') g'} = \frac{\frac{2 (g' + w' + f)}{2 \sqrt{g g'} - p (g + w')}}{2 \sqrt{g g'} - p (g + w')} \quad \ldots \quad \text{II'}
\]

and

\[
g' + w' - p \frac{\sqrt{g'}}{\sqrt{g}} (g + w) = 0 \quad \ldots \quad \text{I}
\]

\(g\) and \(g'\) being the resistances of the two differential coils, \(w\) and \(w'\) the two resistances at which balance actually arrives, \(f\) the total resistance in the battery branch, and \(p\) an absolute number expressing what was termed the

* Read before the Asiatic Society of Bengal, 6th March, 1872.
"mechanical arrangement" of the differential galvanometer under consideration.

By these three equations, which are independent of each other, \(g, g'\) and \(p\) can be expressed in terms of \(w, w'\) and \(f\).

By equation I we have at or very near balance:

\[
p = \frac{g' + w'}{g + w} \frac{\sqrt{g}}{\sqrt{g'}},
\]

which value substituted in equations II and II' gives:

\[
(w - g) (w' + g') + f (w + w' + g' - g) = 2 (g + w + f) (g' - w') (g + w)
\]

II

and

\[
(w' - g') (w + g) + f (w + w' + g' - g') = 2 (g' + w' + f) (g - w) (g' + w')
\]

II'

and from these two equations \(g\) and \(g'\) may be developed.

This is best done by subtracting equation II from equation II' when after reduction we get:

\[
(w'g - wg') (w'g + wg' + gg' + w0') = -f (g + g' + w + w') (w'g - wg')
\]

III

Now it must be remembered, that with respect to our physical problem, \(f, w, w', g\) and \(g'\) represent nothing else, but electrical resistances, and that they have, therefore, to be taken in any formula as quantities of the same sign (say positive).

Consequently the above equation III would contain a mathematical impossibility (a positive quantity equal to a negative quantity), whenever the common factor \(w'g - wg'\) is different from zero.

In other words equation III can only be fulfilled if we always have:

\[
w'g - wg' = 0
\]

IV

This simple relation between the resistances at which balance arrives and the resistances of the two differential coils, expresses not only the necessary and sufficient condition under which a simultaneous maximum sensitiveness can exist, but it also affords an easy means of getting at once those special values of \(g, g'\) and \(p\), which only solve the physical problem.

Substituting the value of either \(g\) or \(g'\), as given by equation IV in equations II and II' and developing \(g\) and \(g'\) we have:

* \[g = -\frac{1}{2} \left( w + f \frac{(w + w')}{2w'} \right) + \frac{1}{2} \sqrt{w^2 + \frac{w}{w'} (w + w') f + \frac{(w + w')^2}{16w'^2} f^2.a.} \]

* \[g' = -\frac{1}{2} \left( w' + f \frac{(w + w)}{2w} \right) + \frac{1}{2} \sqrt{w'^2 + \frac{w'}{w} (w + w') f + \frac{(w + w')^2}{16w^2} f^2.b.} \]

the negative signs of the square roots having been omitted since they would

* See note at end.
obviously make $g$ and $g'$ negative, values which cannot solve the physical question.—

Further, if we introduce the ratio

$$
\frac{g'}{g} = \frac{w'}{w},
$$

given by equation IV, into equation I, and develope $p$ we get:

$$
p^2 = \frac{w'}{w}
$$

This latter expression shows the very simple relation which must exist between the mechanical arrangement of any differential galvanometer and the two resistances at which balance is arrived at, in order to make a simultaneous maximum sensitiveness possible.

Thus if the ratio of the two resistances at which balance arrives is fixed, the mechanical arrangement $p$ cannot be chosen arbitrarily, but must be identical with this ratio. This is in fact the answer to the question put at the beginning of this paper.

However, the meaning of this result will be made even still clearer if we revert to equation I, by which we have

$$
p \frac{\sqrt{g'}}{\sqrt{g}} = \frac{g' + w'}{g + w} = C
$$

expressing the ratio between the total resistances in the two differential branches, when balance is established, and which ratio is generally known under the name Constant of the Differential Galvanometer.

Substituting in the above expression I the value of $\frac{g'}{g} = \frac{w'}{w}$ from equation IV we get at once

$$
\frac{w'}{w} = C \quad \text{.................................................. d.}
$$

and as a second answer to the question put at the beginning of this paper we have therefore:

*A simultaneous maximum sensitiveness with respect to an alteration of external resistance in either branch of any differential galvanometer can be obtained only, if the constant of the differential galvanometer is equal to the ratio of the two resistances at which balance arrives, and this clearly necessitates that, the resistances of the respective coils to which $w$ and $w'$ belong should stand in the same ratio.*

The general problem may now be considered as solved by the following four general expressions:

$$
\begin{align*}
g &= \frac{-1}{2} \left( w + \frac{w + w'}{2w'} \right) + \frac{1}{2} \sqrt{w^2 + \frac{w}{w'} (w + w')} + \frac{(w + w')^2}{10w^2} \ldots a. \\
g' &= \frac{w'}{w} g \quad \text{.................................................. b.}
\end{align*}
$$
Additional remarks.

In the foregoing it has not been shown that the values $g$ and $g'$, expressed by equations $a$ and $b$, must necessarily correspond to a maximum sensitiveness of the differential galvanometer, because it was clear \( \textit{à priori} \), that the function by which the deflection is expressed is of such a nature that no minimum with respect to $g$ and $g'$ is possible. However, to complete the solution mathematically, the following is a very short proof that the values of $g$ and $g'$ really do correspond to a maximum sensitiveness of the differential galvanometer under consideration.

Reverting to one of the expressions for the deflection $\alpha^0$ which any differential galvanometer gives before balance is arrived at, we had:

$$\alpha^0 \propto K \frac{\sqrt{g}}{N} \Delta$$

and as the increase of deflection at or near balance is identical with the deflection itself, and further as the law which binds the resistance of the differential coils to the other resistances in the circuit, in order to have a maximum sensitiveness, is of practical interest only when the needle is at, or very nearly at, balance, we can solve the question at once by making $\alpha^0$ a maximum with respect to $g$ and $g'$, if we only suppose $\Delta$ constant and small enough, and as $K$ is known to be independent of $g$ and $g'$, the deflection $\alpha^0$ will be a maximum if $\frac{\sqrt{g}}{N}$ is a maximum for any constant $\Delta$ (zero included).

Further we know that $g' = Cg$ which value for $g'$ in $N$ substituted will make the latter a function of $g$ only and consequently $\frac{\sqrt{g}}{N}$ also. We have therefore to deal with a single maximum or minimum, and according to well-known rules we have:

$$\frac{da}{dg} = \frac{N - 2g \frac{dN}{dg}}{2\sqrt{g} N^2} = \frac{U}{V}$$

and

$$\frac{d^2a}{dg^2} = \frac{V \frac{dU}{dg} - U \frac{dV}{dg}}{V^2}$$
but
\[
\frac{da}{dg} = 0 \quad \text{it follows that} \quad U = 0
\]
\[
\therefore \quad \frac{d^2a}{dg^2} = 1 \cdot \frac{dU}{V}
\]

Now
\[
\frac{dU}{dg} = -(\frac{dN}{dg} + 2g \frac{d^2N}{dg^2})
\]
but \(\frac{dN}{dg}\) as well as \(\frac{d^2N}{dg^2}\) being invariably positive, it follows that \(\frac{dU}{dg}\) is invariably negative, and as further \(V\) is always positive it follows finally that \(\frac{d^2a}{dg^2}\) is always negative, or the value of \(g\) obtained by equation \(\frac{da}{dg} = 0\) corresponds to a maximum sensitiveness of the differential galvanometer.

In a similar way it can be shown that the value of \(g'\) obtained by equation \(\frac{da}{dg} = 0\) corresponds also to a maximum sensitiveness of the differential galvanometer.

This is in fact a second and far more simple solution of the problem. However, it is by no means as general, nor does it adhere as closely to the spirit of analysis as the first more complicated solution.

Effect of Shunts.—It is clear that the introduction of shunts cannot alter the general results as given in equations \(a, b, c,\) and \(d,\) as long as the shunts are used merely for the purpose of carrying off a fixed quantity of current without in themselves having any direct magnetic action on the needle.

However, to avoid misunderstanding, it is well to remember that in the case of shunts being used, the values to be given to \(w\) and \(w'\) in the above equations are not those at which balance actually arrives, but those at which balance would arrive if no shunts were used, i.e., the resistance at which balance is established when using shunts must be multiplied by the multiplying power of their respective shunts, before they are to be substituted in the equations \(a, b, c\) and \(d.\)

Mechanical arrangement designed by \(p.\)—The condition which must be fulfilled in the construction of any differential galvanometer to make a simultaneous maximum sensitiveness possible was expressed by

\[
p = \frac{\omega'}{\omega} \quad \text{..................................................} \quad c.
\]

while \(p = \frac{m' n'}{m \cdot n}\) and it will be now instructive to enquire what special physical meaning equation \(c\) has.
By \( m \) was understood the magnetic effect of an average convolution (i. e. one of average size and mean distance from the magnet acted upon, when the latter is parallel with the plane of the convolutions) in the differential coil of resistance \( g \), when a current of unit strength passes through it. Similarly \( m' \) was the magnetic effect of an average convolution in the other differential coil of resistance \( g' \).

Further \( n \) and \( n' \) were quantities expressed by
\[ U = n \sqrt{g} \]
and
\[ U' = n' \sqrt{g'} \]

\( U \) and \( U' \) being the number of convolutions in the two coils \( g \) and \( g' \) respectively.

Now we will call \( A \) half the cross section of the coil \( g \) (cut through the coil normal to the direction of the convolutions) and which section, as the wire is to be supposed uniformly coiled, must be uniform throughout.

Thus we have generally
\[ \frac{A}{c(g + \delta)} = U \]

wherever the normal cut through the coil is taken.

\( c \) is a constant indicating the manner of coiling, either by dividing the cross-section \( A \) into squares, hexagons or in any other way, but always supposing that however the coiling of the wire may have been done, it has been done uniformly throughout the coil. (This supposition is quite sufficiently nearly fulfilled in practice because the coiling should always be executed with the greatest possible care, and further the wire can be supposed practically of equal thickness throughout the coil).

\( g \) is the metallic section of the wire, and \( \delta \) the non-metallic section due to the necessary insulating covering of the wire.

Further we have
\[ g = U \frac{b}{q\lambda} \]
where \( b \) is the length of an average convolution and \( \lambda \) the absolute conductivity of the wire material supposed to be a constant for the coil.

Now, for brevity's sake, we will suppose that \( \delta \), the cross-section of the insulating covering, can be neglected against \( g \) the metallic cross-section of the wire.

Consequently we have
\[ \frac{A}{c^2} = U \text{ (approximately)} \]

and
\[ \therefore \quad g = U \frac{b}{q\lambda} \]

\[ \therefore \quad U = \sqrt{\frac{A\lambda}{bc}} \cdot \sqrt{g} \]
or
\[ n = \sqrt{\frac{A\lambda}{b\sigma}} \]
similarly
\[ n' = \sqrt{\frac{A'\lambda'}{b'\sigma'}} \]
\[ \frac{n'}{n} = \sqrt{\frac{A\lambda}{b\sigma}} \frac{b\sigma'}{A'\lambda'} \]

But using wire of the same conductivity in both the differential coils, which should be as high as is possible to procure it, and further supposing the manner of coiling to be identical in both coils, we have
\[ \lambda = \lambda' \]
\[ \sigma = \sigma' \]
\[ \therefore \frac{n'}{n} = \sqrt{\frac{A'}{A}} \frac{b}{b'} \]

Further we know that if the shape and dimensions of each coil are given, and in addition also their distance from the magnet acted upon, it will be always possible to calculate \( m \) and \( m' \), though it may often present mathematical difficulties, especially if the forms of the two coils differ from each other and are also not circular. This latter condition is generally necessitated in order to obtain the greatest absolute magnetic action of each coil in as small a space as possible.

However it is clear that we may assume generally that the two coils have each an average convolution of identical shape and of the same length, placed at an equal distance from the magnet acted upon, and that therefore the magnetic action of each coil is dependent on the number of convolutions only.

In this case we have evidently
\[ m = m' \]
\[ b = b' \]
\[ n' = \sqrt{\frac{A'}{A}} \]
and as \( p = \frac{n'}{n} \cdot \frac{m'}{m} \)

we have finally
\[ \frac{A'}{A} = \frac{w'}{w} \]

Equation e shows at once that under the supposed conditions, i.e., when the average convolutions in each coil are of equal size and shape, the wire used in either coil is of the same absolute conductivity, and that the thickness of the insulating material can be neglected against the diameter of the wire:
The wire used for filling each coil must be invariably of the same diameter, otherwise a maximum sensitiveness is impossible.

How the above simple law expressed by equation e would be altered, when the given suppositions were not fulfilled, must be found by further calculation, but as the latter is intricate and a more general result is not required in practice, I shall dispense at present with this labour.

Special Differential Galvanometers.—Here shall be given the special expressions to which the general equations a, b, c and d, are reduced when certain conditions are presupposed.

1st case.—When w and w', the two resistances at which balance is arrived at are so large that f, the resistance of the testing battery can be neglected against either of them without perceptible error. Substituting therefore f = 0 in equations a, and b, we get:

\[ g = \frac{w}{3} \] .............................. a.
\[ g' = \frac{w'}{3} \] .............................. b.

and the other two remain as they are namely:
\[ p^2 = \frac{w'}{w} \] .............................. c.
\[ C = \frac{w'}{w} \] .............................. d.

2nd case.—When the battery resistance f cannot be neglected against either w or w', but when the two resistances at which balance is arrived at are invariably equal.

Thus substituting in the general equation
\[ w = w' = w \]
we get
\[ g = g' = g = - \frac{w + f}{3} + \sqrt{\frac{1}{4} w^3 + 8 f w + f^2} \] .............................. a, b.
\[ p^2 = 1 \] .............................. c.
\[ C = 1 \] .............................. d.

3rd case.—When the conditions given under 1 and 2 are both fulfilled or
\[ w = w' = w \]
and
\[ f = 0 \]
then we have
\[ g = g' = g = \frac{w}{3} \] .............................. a, b.
\[ p^2 = 1 \] .............................. c.
\[ C = 1 \] .............................. d.

The very same result which was obtained by direct reasoning at the beginning of this paper.
Applications.—Though the problem in its generality has now been entirely solved, it will not perhaps be considered irrelevant to add here some applications.

For our purpose differential galvanometers may be conveniently divided into two classes, \( \text{viz.} \), those in which the resistances to be measured vary within narrow limits, and those where these limits are extremely wide.

To the first class belong the differential galvanometers which are used for indicating temperature by the variation of the resistance of a metallic wire, exposed to the temperature to be measured. As for instance, C. W. Siemen's Resistance Thermometer for measuring comparatively low temperatures, or his Electric Pyrometer for measuring the high temperature in furnaces.

It is clear that for such instruments the law of maximum sensitiveness should best be fulfilled for the average resistance to be measured, which average resistance under given circumstances is always known.

To the second class belong those differential galvanometers which are used for testing Telegraph lines, at present the most important application of these instruments. In this case each differential coil should consist of separate coils connected with a commutator in such a manner that it is convenient to alter the resistance of each coil according to circumstances, \( \text{i. e.,} \), connecting all the separate coils in each differential coil parallel, when the resistances to be measured are comparatively low, and all the separate coils consecutively, if the resistances to be measured are high, \&c., \&c., fulfilling in each case the law of maximum sensitiveness for certain resistances, which are to be determined under different circumstances differently, but always bearing in mind that it is more desirable to fulfil the law of maximum sensitiveness for high resistances, when the testing current in itself is obviously weak, than for the low resistances.

An example will shew this clearer. Say for instance a differential galvanometer has to be constructed for measuring resistances between 1 and 10,000. A Siemen's comparison box of the usual kind \( \left( \frac{1}{10,000} \right) \) being at disposal, it will be convenient and practical to decide that the two differential coils should be of equal magnetic momentum, from which it follows that \( C \) as well as \( p \) must be unity, or in other words that the two coils must be of equal size, shape and distance from the needle, and must also have equal resistances, \( \text{i. e.,} \), must be filled with copper wire of the same diameter. The resistance of each coil is then found by

\[
g = - \frac{w + f}{3} + \frac{1}{2} \sqrt{\frac{1}{4} w^2 + 8/fw + f^2}
\]

where \( f \) is the resistance of the battery and \( w \) a certain value between
and 10,000, the two limits of measurement. The question now remains to determine \( \omega \).

It is clear that the law of maximum sensitiveness has not to be fulfilled for either limit, because they represent only one of the 10,000 different resistances which have to be measured, but it is also clear that to fulfil the law for the average of the two given limits would be equally wrong, inasmuch as the maximum sensitiveness is far more required towards the highest than the lowest limit. We may assume, therefore, that it is desirable to fulfil the law for the average of the average and the highest limit, which gives

\[
\omega = 7500
\]

given against which the resistance of the battery may always be neglected.

Consequently we have

\[
g = \frac{\omega}{3} = 2500
\]

for each coil.

Now if the coil be small, and consequently the wire to be used for filling it is thin, the value \( g = 2500 \) wants a correction to make allowance for the thickness of the insulating material, by which \( g \) becomes somewhat smaller.*

Before concluding I may remark that the question of the best resistance of the coil, when the resistance to be measured varies between two fixed or variable limits, can be solved mathematically by the application of the Variation Calculus.

* These expressions for \( g \) and \( g' \) must be corrected, if the thickness of the insulating covering of the wire cannot be neglected against its diameter. The formula by which this correction can be made was given by mo in the Philosophical Magazine, January, 1866, namely

\[
\text{corrected } g = c g \left(1 - 4 \sqrt{\frac{m^2}{g^2}} \right)
\]

where \( g \) is the resistance to be corrected and expressed in Siemen's Units,

\[
\text{and } m = \delta \sqrt{\frac{c x \lambda}{AB}}
\]

\( \delta \) is radial thickness of the insulating covering expressed in millimetres,

\( c \) is a co-efficient expressing the arrangement adopted for filling the available space uniformly with wire. Namely, if we suppose that the cross section of the coil, by filling it up with wire, is divided into squares we have \( c = 4 \), if in hexagons \( c = 3.4 \), &c., &c.

\( \lambda \) is absolute conductivity of the wire material (\( \Pi g = 1 \) at freezing point).

\( A \) is half the section of the coil in question when cut normal to the direction of the convolutions, and always expressed in square millimetres.

\( B \) is length of an average convolution in the coil, and expressed in metres.
On the land-shells of Penang Island, with descriptions of the
animals and anatomical notes; part second,* Helicacea,—
by Dr. F. Stoliczka.

[Read and received 7th August, 1872.]

(With plates I to III.)

In this group of pulmoniferous land-shells I shall notice twenty
three species, belonging to the Zonitidae, Helicidae, Bulimidae, Clausiliidae, Philomyidae, Pupidae, Streptaxidae, Veronicaellidae and Vaginulidae. The majority of the species are new, except a few previously described from the neighbouring country, and on one or two of such commonly distributed species, as are Stenogyra gracilis or Ennea bicolor.

Nearly all the species had been collected with the animals living, and I have spared no pains in order to make the detailed anatomical account as complete, as it appears desirable for a correct generic determination.

I scarcely need to mention, that on the whole the fauna is characteristically Malayan, the same fauna which extends from the Philippine islands through Burma and Arakan into the warm valleys of Sikkim. In the plains of Bengal it mixes with the Indian fauna proper.

I cannot help repeating the urgent request to my conchological friends in India, that they may favour me with live specimens of the species of shells occurring in their neighbourhood. In the Helicacea especially, the anatomical characters are indispensable for a correct generic determination, and without this it will not be possible to obtain a natural arrangement of our terrestrial Mollusca.

Fam. Zonitidae.

Rhysotat Cymatium, (Benson). Pl. i, figs. 1-3 and pl. ii, figs. 13-15.


Penang specimens, which slightly differ in the height of the spire, (see figs. 1-3, pl. i,) agree in almost every point of structure with the type shell, described by Pfeiffer from Lancavi, a small island situated a few miles north of Penang. The increase of the volutions is in both exactly the same, the upper side of the whorls is marked with fine oblique rugosities, the lower is spirally striated; in fresh specimens the former is silky brown, the lower olivaceous brown, the inside of the aperture is in full grown specimens cover-

† Albers, Heliceen, edit. E. v. Martens, p. 54.
ed with a kind of a nacreous callose layer. The only noticeable difference consists in the narrowness of the umbilicus, its width being in all the Penang specimens, which I obtained, about one twelfth of the diameter of the shell, while in Benson's type it is only one seventh of the same diameter.

The species is found all over Penang hill from elevations of about 300 to 2500 feet, and both on the ground as well as on trees, but chiefly on the latter; it is, however, not common, and adult shells are indeed extreme rarities.

The closely allied Rh. densa, (Adams),* only differs by a slightly smaller number of whorls, the last being much wider. Rh. Chevalieri, (Souleyet), differs in the same character, though it has the umbilicus of exactly the same size as the Penang variety of cymatium.

The animal is stout and rather short, its total length being less than twice the diameter of the shell; the posterior part of the body is the shorter one, and above rather sharply ridged; it ends with a large gland and a projecting horn above it. The whole body is uniform more or less dark brown, laterally strongly warty and obliquely grooved; the pedal row is very distinctly margined on both sides with an impressed line, and the margin of the foot below it is broad, smooth, marked with alternately brown and pale oblique stripes, so as to give the appearance of a variegated fringe. The eye peduncles and tentacles are of usual proportionate length, dark brown or even blackish, the latter with pale tips. On the whole, the general colour of the specimens varies a great deal; the young are mostly pale brown with an olivaceous tinge, while in old ones the neck, including the head and pedicles, become almost black.

The mantle is somewhat paler than the body, its edge moderately thickened. There are two small linguiform shell-lobes present, a right one, just below the inner or posterior angle of the aperture of the shell, thus playing on the inner lip, and producing its moderately distinct nacreous and callose structure. The other lobe lies below the outer periphery of the shell on the basal side; it projects from the outer end of a rather elongated very narrow fringe, which is separated from the edge of the mantle itself. The right neck-lobe is entire, thick, rounded, somewhat freely projecting at the lower or umbilical end. The left neck lobe is divided in two portions, the upper elongately rounded, the lower much narrower, with the upper end somewhat pointedly extended. The edge of the mantle which secretes the umbilical margin of the peristome is internally considerably thickened, (comp. pl. ii, fig. 13).

I have not been able to see satisfactorily the exact structure of the genital system, but, as far as it could be examined, it appears almost entirely to agree with that of Rhysota semiglobosa, figured by Semper. There certainly are no appendages present—neither on the penis, nor on the seminal duct or uterus.

The jaw is smooth, semilunar, with a round projection in the middle of the concave edge; it is about 2.5 m.m. broad.

The radula is comparatively of very great length. In a middle-sized specimen it measured 7 m.m. in length and 3 m.m. in breadth, although one of the ends was not quite perfect. I counted 106 transverse rows and about 141 teeth in each row. The centre tooth has a comparatively short point without any lateral denticles, and is somewhat smaller than the adjoining laterals. The first of these has a long, laterally bent, rather blunt projection; the following very gradually decrease in size and the middle cusp becomes gradually more pointed and curved, while the basal plate decreases. With about the fiftieth tooth the end begins to become bicuspid, and on about the hundredth tooth on either side, the two cusps are sharpest and best developed.

Semper (Reisen im Archipel der Philipp., Vol. III, p. 68) says that Rhysota does not possess any developed shell lobes of the mantle. In the present species their existence is undeniable, and still all the other characters of the animal and shell point towards the greatest relation of R. cymatium to other typical species of the genus, which scarcely would have any meaning, if it were restricted in the sense given to it by Semper. I very much doubt, that all the species with polished lower surface of the shell, referred by Semper to Rhysota, have no shell-lobes. How then do they produce the smoothness of the shell? I generally found shell-lobes essential for that purpose. But supposing some of the species really had no shell-lobes, this would be no sufficient reason for excluding any other species which possess them from Rhysota; for in Xesta we have a similar mixture of forms with and without shell-lobes.

Thus the only anatomical difference, which remains to be considered as distinguishing Rhysota from Xesta, is the simple form of the genital organs in the former. How far this character is really reliable for generic distinctions, is a point by no means easily settled, as I had already occasion to notice when speaking of the anatomy of the two species of Sitala (Conulema, olim) (Journ. A. S. B., Vol. xl, Pt. ii, 1871, p. 236 &c.), S. altegia and S. infula.

When we compare the characters relating to the presence or absence or form of the mantle lobes, we meet with a perfect similarity between Rhysota and Rotula. The distinction between the two merely rests in the presence of an amatorial gland in the latter genus, while the shells only differ in the upper side of Rhysota being irregularly corrugated, and in Rotula reticulately striated, or transversely costulated.

In speaking of the shell of Rhysota, Albers gives the peculiarly rugose upper surface as one of the most important characters of the genus.
Rotula* biijuga, n. sp., Pl. i, figs. 4-7 and pl. ii, figs. 16-18.

R. deprese conexoida et suborbiculata, vel late conica, angustissime umbilicata, tenui, cornae, pallido succinea; anfractibus 5'-6' ad 6'-7', suturâ simplici, supra rare filiforme marginata, junctis, lente accrescentibus, in superficie superiore convexiusculis, costulis transversis obliquis, confertis, striis spiralibus confertissimis ac plus minusve distinctis intersectis, crispatulis seu subgranulosis, ornatis; ultimo ad peripheriam acuta carinato, ad basin modice inflato, nitido, sublevigato, striis incrementi radiantiis atque alteris spiralibus sub-obsoletis notato, medio cancaviusculo; apertura angulatim semilunari, paulum obliqua, labro tenuissimo vix distinguendo, labro ad marginem tenui, neque expanso, neque incrassato, ad insertionem umbilicalem brevissime reflexo instructa.

Dimensiooxes varietatum frequentium:

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<tr>
<td>a. 14'-5</td>
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<td>b. 16'-2</td>
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<td>c. 17'-4</td>
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<td>9'-2 &quot;</td>
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<td>d. 17'-4</td>
<td>16'-0</td>
<td>10'-9</td>
<td>7'-0</td>
<td>9'-0 &quot;</td>
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Diam. maj. specimenis maximis 18.8 m.m.

It will be seen from the above measurements, which are taken from the four figured specimens, that the height of the shell is very variable, but the increase of the whorls is very nearly quite constant. The upper convexity of the whorls also slightly varies; the sides of the spire are generally nearly straight, more rarely conspicuously convex; occasionally the peripheral keel is somewhat projecting above the suture. The ornamentation is characteristic that of Rotula, reticulately sculptured above, nearly smooth below. The transverse ribs on the upper surface are traversed by fine spiral lines, which generally only produce a slight undulation in the direction of the ribs, sometimes, however, a fine granulation is formed. As regards form, the present species very closely resembles the Burmese R. anceps, (Gould), and also the South Indian R. Shiplayi, the first has, however, the upper costulation very fine and no spiral striae, while the latter has both much stronger developed, producing a granular surface, and the shell is also more solid. The third very closely allied species is R. indica, differing principally by a greater width of the last whorl, and also by a stronger sculpture.

* Comp. Journ. A. S. B., 1871, Vol. xii, pt. ii, p. 291. The name Rotula has also been applied in the Actinozooa, but if our zoological classification should make such rapid progress, as it has done lately, it will, I think, in no long time be almost impossible to find new names for the generic groups, and we shall be forced to modify the existing rules at least so far that the same name may become reapplicable in at least the five or six principal divisions of the animal kingdom. A further relaxation of the rule would scarcely prove beneficial and would hardly be necessary.
The animal of the Penang species, when fully extended, equals in length about twice the longer diameter of the shell; back roundly flattened above, foot posteriorly obtusely ridged, terminating with a large gland which is superseded by a small horn; pedal row very distinct and the edge of foot below obliquely striated. The general colour of the body is pale or livid grey, with a general reddish tinge when full grown. A pale yellow (in young), or more or less distinctly cinoher red (in adults), stripe extends along the centre of the back and the superior ridge of the foot, the former is bounded on each side by a broad black stripe, originating at the base of each peduncle and continuing to the mantle, and below this stripe there is again a yellowish or red line. The posterior red band is only edged with black. The sides of the foot, both anteriorly and posteriorly, are more or less distinctly variegated with impure black and tinged with red; front of head between the two pedicles and tentacles with a black spot; pedicles and tentacles generally greyish, the latter with a reddish tinge, and with pale, rather large, globular tips, the former with a black ring at the base where the longitudinal black bands begin.

The mantle is moderately thickened. The right shell lobe is entirely obsolete, or only indicated by a very slight extension of the edge, a short distance below the upper angle of the aperture of the shell. Sole of foot divided by a longitudinal groove. The right neck lobe is large and extends as a moderately broad fringe to near the retractor muscle where it terminates with a free end. The left neck lobe is smaller with a linguiform free outer end. The left outer edge of the mantle is externally also entire, like the right one, but about the middle of the basal portion it has internally a distinct lobe, about 2 m.m. in length, which in its situation strictly speaking lies between the shell and the neck lobe; but as it becomes reflected with its edge over the shell, it has to be regarded as the representant of the left shell lobe. The lower portion of the left neck lobe is only a thickened swelling, extending as a narrow inner rim of the edge of the mantle to near the umbilicus. Both the right and left neck lobe have a large black spot, in continuation of the lateral black bands of the back.

The general anatomy does not differ in any essential point from that of R. anceps, as briefly noticed by me in Journ. A. S. B., Vol. xi, pt. II, 1871, p. 233, pl. xvii, fig. 1.

The jaw is semilunar, perfectly smooth, with obtusely rounded corners, and a slight rounded projection in the centre of the concave edge; it is about 1.5 m.m. broad.

The length of the radula is about 4.5, and its breadth above 1.5 m.m.; it is composed of about 105 transverse, nearly straight rows of teeth, there being about 121 teeth in each row. The form of the teeth again very closely resembles that of Rot. anceps, (loc. cit.). All the points extend beyond the upper edge of the basal plate; the central is somewhat widened below
the terminal point, contracted in the middle, but it has no distinct denticles at the sides. The laterals gradually become more and more turned, and curved, with a small inner and scarcely a trace of an outer denticle; up to the 20th they very gradually diminish in size, then a very slight break follows, the 21st being somewhat sensibly smaller and first distinctly bicuspid at the tip, while at the same time the size of the basal plate has much diminished, until in the last teeth it almost entirely becomes obsolete; the two terminal cusps on the other hand become gradually more and more equal.

The genital organs have a distinct amatorial gland, possessing near its origin a large globose appendage, internally composed of an elliptical largely cellular mass, in which the cells are concentrically arranged with their longer diameter perpendicular to the walls of the ellipse. The posterior part of the gland is filled with a finely granular substance,—probably calcareous particles. The vas deferens has only one slight enlargement about the middle of its length; it consisted in a simple thickening of the walls, but I could not trace any calcareous particles in it. Towards the end, where the penis is lodged, the tube is widest and somewhat curved, but there are no other appendages, or calcareous sacs accompanied with a flagellum, present, such as have been observed in many other species of Rotula.

Sitala* carinifera, n. sp. Pl. i, fig. 8.
Testa globose conoidea, cornea, apice obtusula, angustissime perforata; anfractibus quinque, gradatim accrescentibus, convexae angulatis, sutura simplici junctis, transversim minutissime striolatis, superis infra medium carinis filiformibus duobus ornatis, ultimo ad peripheriam tricarinato, basi planate convexiusculo, leavigato; apertura semilunari, verticali, non descendente, labro extus tenuissimo, in regione columellari paululum reflexiusculo.

Diam. maj. 2-2, minor 2; alt. testae 2. m. m.

Hab.—'Penang hill,' in foliis Coffea arabicae, specimen unicum.

The animal of this species is exactly like that of S. infula, figured in pl. xviii, in J. A. S. B., Vol. xi, Pl. ii, for 1871; it has a generally pale brownish grey colour; but having obtained a single specimen, I did not like to sacrifice the shell, in order to notice the internal structure; for when examining these little species one is by no means sure, that he will obtain from a single specimen an insight into the whole anatomy.

The present species is closely allied to the Nilgheri Helix tricarinata. Blf., which is also a Sitala, and differs by a more depressed and broadly conical shape, and by having a much wider umbilicus.

* H. Adams proposed this name for Helix infula, Bens., as type (P. Z. S. for 1865, p. 408). I had unfortunately overlooked this reference, when I proposed for Benson's attelia (and infula and a few others) the name Conulema, which must now be regarded as identical with sitala (J. A. S. B., xi, pt. 11, p. 236.)
MACROCHLAMYS* STEPHOIDES, N. SP. PL. I, FIG. 9, AND PL. II, FIGS. 19-20.

M. orbiculata, spira depressa convexuscula, basi medio concaviuscula, angustissimae perforata, tenui, succineo cornea, unicolor, circa umbilicem albescente; anfractibus sex, lentissimae accrescentibus, sutura lineari junctis, infra suturam angustissimae adpressis, nitidis, fere politis, striis incrementi transversis minutissimis, nonnunquam fere omnino obsoletis, notatis, supra convexiusculis; ultimo ad peripheriam fere uniforme convexo; apertura subsemilunari, vix obliqua, labio per-tenui, labro simplici, ad basin paulum sinuose producto, ad insertionem umbilicalem anguste atque broviter reflexo. Diam. maj. 11:6, d. min. 10:7, alt. 7; alt. apert. cum perist. 4:8, ejusdem lat. 5:6 m.m.

The nearest ally of this species, as regards general character and size, is the Andamanese Macroch. stephus,† (Benson), differing from the present species by a somewhat more depressed form and by having the sides of the spire nearly straight or slightly concave, but not convex. Macroch. hyalina,‡ Martens, is also very closely allied, it is a larger shell and with a more rapid increase of the involutions, the difference between the smaller and larger diameters being 2:5 m.m. In Burma and Sikkim several other allied forms occur, such as M. hypoleuca, patane, petanus, &c., but they are all smaller and more depressed shells.

The species is rare; I found a single live specimen and half a dozen of old shells at the base of Penang hill, about 300 feet.

The animal is long and very slender, blackish grey above and on the pedicles, paler at the sides of the foot, which has a long and thin horn above the tail gland. Both shell and neck lobes are well developed, the right ones larger than the respective left ones. The two shell lobes are linguiform, and the right one, when fully expanded, covers almost half of the upper surface of the shell. The lower portion of the left neck-lobe is merely represented by a slightly thickened rim, extending from the place of insertion of the left shell-lobe to near the umbilicus.

The jaw is one mill. broad, with a central rounded tooth in the concave edge and with the corners somewhat bent outwardly; a form which is also met with in several other species of Macrochlamys.

The radula has not been seen perfect, but it does not appear to have been more than four mill. long, and there appear to have been at least 101 teeth in each transverse row; all with very sharp points; the central with

† The figure of this species in Conch. Ind., pl. 62, is taken from a young or imperfect specimen, in which the peculiarly depressed form is not so well discernable as in an adult shell. Fig. 6 on the same plate is incorrect, because it does not show the sinuosely produced median basal portion of the peristome.
‡ Preuss. Expud. nach Ost Asien, II, p. 241, pl. 12, fig. 5.
a distinct denticle on either side, and the last laterals with two small unequal cusps; all have the basal plate obtusely narrowed outwardly.

The genital organs are very similar to those of *M. indicus*, Benson, but much more slender; the amatorial gland is very thin (in a young specimen), there is a small cæcal appendage on the vas deferens, and a flagellum at the base of the penis, just before a swelling filled with calcareous particles.

**Microcystis** palmicola, n. sp. Pl. i. fig. 10.

*M*. testa late conica, tenui, cornea, angustissime umbilicata; anfractibus quinque, gradatim accrescentibus, convexiusculis, sutura simplici junctis, supra splendore albide sericino, transversim oblique, minutissime atque confertissime, striolatis, ultimo ad peripheriam acute angulato; basi convexiuscula, olivaceo nitita; apertura subsemilunari, extus angulata, obliqua; labro tenui, simplici, ad basin recedente, ad umbilicum reflexo; labio tenuissimo, vix distinguendo. Specimens maximi diam. maj. 2·8, d. minor 2·6, alt. 2·2, diam. apert. 1·7, ejusd. alt. 0·95 m.m.

*Hab.*—Penang, sub corticem *Cocos nucifera*, haud frequens.

The shell is distinguished from allied species by its comparatively sharply angular last whorl, slightly inflated base and by the peculiar silky and very finely striated upper surface.

The animal when fully extended equals in length about four diameters of the shell; it is rather dark brownish grey, darkest on the tentacles and on the rostrum; posterior gland superseded by a small horn.

**Helicarion** permolle, n. sp. Pl. i, fig. 11 and pl. ii, figs. 21-29.

*H*. testa depressa inflatoque conoidea, tenuissima, fere membranacea, translucente, pallide lutescente, vix perforata, spira ultimo anfractu multo breviore; anfractibus 4·5, rapidé accrescentibus, ad suturam simplicem adpressis, nitidis, convexiusculis, ultimo inflato, ad peripheriam rotundato, transversim lente arcuateque striatulo, ad basin striis spiralibus sub-obsoletis notato; apertura lunari, valde obliqua, labio albo-lutescente, minutissime punctulato, labio tenuissimo, simplici, ad basin valde recedente, ad marginem interiorem umbilici breviter reflexiunculo. Diam. maj. 8·4, d. min. 7·4, alt. 6·3; alt. apert. cum perist. 4, ejusd. lat. 4·3 m.m.

The rather strongly elevated spire, and the membranaceous and transparent structure of the shell, separate this species from the numerous allied forms of the Philippines. The species is rare; I only obtained about half a dozen specimens on low bushes or between old vegetable matter on the ground, about 500 feet above the sea, on Penang hill.


† Semper, Reisen Archip. der Philippinen, vol. iii, p. 20.
The animal is slender and very long; when fresh the extended foot is three times the longer diameter of the shell, which is then entirely covered by the mantle; but in captivity the shell lobes shrink very rapidly, being reduced to narrow linguiform appendages. Middle of back and of the hind foot whitish or very pale brownish, with a slight pinkish tinge; a broad blackish band runs from each pedicle along the sides of the whole back, and also on the sides of the posterior part of the foot, as far as the terminal gland, which is superseded by a very distinct pointed horn; the dark colour extends down to the pedal row, while a large black spot about the middle of the foot—on each side reaches down to the sole; pedicles long, grey; tentacles short and almost white; mantle blackish with small whitish dots. All the four mantle lobes are well developed, the left shell and neck lobes are proportionately somewhat larger than the corresponding right ones, and each of the former has a deep but narrow incision in its lower portion.

The jaw is about one mill. broad, quadrant shaped, smooth, without any projection in the centre of the concave edge, like in most other species of the genus.

The radula is moderately broad and nearly 2·5 m.m. long; there are 95 transverse rows and about 121 teeth in each row, all remarkably small and from the tenth tooth they somewhat rapidly decrease in size towards the edges. The centre tooth has two distinct denticles on either side and a third much smaller one nearer to the base; the principal cusp is pointed. On the subsequent teeth the inner denticles disappear first, and gradually altogether, then the lower outer, while the upper outer remains, until at last it equals the principal cusp, so that the outermost teeth become almost regularly, though shortly, bicuspid.

The general anatomy does not offer any peculiarity requiring special notice. The nervous and digestive apparatus agrees with that of other _Zonitidae_, except perhaps that the liver is enormously largely developed. The female portion of the genital system has a long sub-pedunculate receptaculum seminis, branching off at its origin. The vas deferens is very short, passing into a rather widened tube, again somewhat contracted near the base of the penis, which is attached by a special strong muscle. The end of the penis widens very rapidly for a short distance before it joins the hermaphrodite opening. I have not observed, in two specimens examined, any cecal or calciferous appendages.
F. Stoliczka—*Land-shells of Penang Island.* [No. 1,  

**Genus.** TROCHOMORPHA, Albers.  


The type of this genus is Helix trochiformis, Fér., which is characterised by a moderately solid, sub-discoid or depressedly conical shell; the whorls being flattened above, the last carinate at the periphery, the aperture rhombiiform or narrowly semilunar with simple sharp edges, but the columellar lips occasionally internally somewhat thickened and slightly reflexed.  

I do not know whether the animal of this typical species had been examined, but I have observed those of about a dozen different species, which evidently belong to the same type, and I find that all of them possess a very fine glandular slit at the upper end of the foot, the pedal row being in all also distinct; they have, therefore, to be referred to the Zonitidae, as already noticed in my paper on the Moulmain shells in Jour. A. S. B., vol. xl, pt. II, 1871, p. 225.  

Judging from a somewhat more intimate examination of the animals of a few species, the following characters have to be added to those derived from the peculiar shape of the shell.  

Animal moderately slender, with the posterior part of the foot shorter than the anterior, the former terminating above with a small glandular slit; pedal row distinct; mantle with elongated narrow neck lobes, but with the shell lobes entirely wanting, left neck lobe sometimes divided or insinuated in the middle; jaw smooth; genital organs without amatorial gland, or any other appendages; seminal receptacle and seminal duct very long.  

The Trochomorphæ live on the ground generally in decaying vegetable matter, under or on old wood. Three species have been found on Penang.  

Albers, while noticing several typical species, such as _T. planorbis_, Less., under his genus _Discus_, referred to _Trochomorpha_ a most varied mixture of shells: for instance; _anceps_, Gould, _serrula_, Bens. etc. which belong to _Rotula_; _Barrackpoorensis_, Pfr., is a _Kaliella_; _eacuminifera_ and _inula_, Bens. are _Sitala_ (= _Conulena_, olim); _H. capitium_, Bens., does not belong to the present family, but to the next, the true _Helicidae_, etc.  

E. v. Martens (l. cit. pp. 246 and 247) adopted two groups in the genus _Trochomorpha_; the one, for which he proposes the name _Nigritella_, includes the obtusely conoid and more solid shells, sometimes with a somewhat obtuse periphery; these are true _Trochomorpha_, of the type of _H. trochiformis_, or of _Troch. Ternatana_, Guillou; the name _Nigritella_ is, therefore, entirely superfluous. The second group is classed by Martens as _Videna_, Adams; it includes the more planorboid and sharply keeled species of the type of _H. planorbis_, Less. For this same group, (type _H. castra_, Benson,) W. T. Blanford proposed the subgeneric name _Sivella._
Judging from the similarity of the shells of these two groups and from what we know of the animal of *T. Ternatana*, observed by Martens, I very much doubt that any necessity exists for subdividing the genus *Trochomorpha*.

*Trochomorpha castra*, (Benson). Pl. i, figs. 14-16 and pl. ii, figs. 7-9.


The shell is subject to a very considerable amount of variation as regards the elevation of the spire. Young specimens are sometimes almost planorbicular, and in some adults the total height of the shell is scarcely more than one-third of the larger diameter, while in others it somewhat exceeds one half of the same dimension. The width of the umbilicus varies from 0:2 to 0:3 of the diameter of the shell. The base is always distinctly spirally striated, but on the upper side the oblique transverse striae of growth prevail. The usual colour is pale horny, sometimes brown with a pale band below the suture.

The species is very rare on Penang hill, but it is common in Pegu, Arakan, Assam, Sikkim, and within the last few years it became abundant in the botanic garden near Calcutta, having been most likely introduced from Darjeeling. One of the largest Sikkim specimens in my collection measures: larger diam. 13, smaller diam. 12, height of shell 7, same of aperture 3, width of same 5:4 m.m.

The animal changes from dark leaden to blackish grey, being always paler at the sides of the foot, generally tinged with brownish below the pedal row; tentacles and pedicles mostly somewhat darker than the body; neck distinctly warty; sole dark grey, entire, without any distinct furrows; tail gland represented by a fine slit about one mill. long. The total length of the foot generally equals one and a half diameters of the shell, the caudal portion being always shorter than the anterior one. The mantle is blackish and in its extent above the large pulmonary cavity variegated with pale spots.

The jaw is smooth, very thin, almost semicircular, with broad oblique ends and a small, in younger specimens sometimes almost obsolete, projection in the centre of the concave edge; its width is about one half millimetre.

The radula is narrow, about two mill. long, or slightly longer, composed of about 85 transverse straight rows, there being about 101 teeth in each of them. All have very sharp, long and pointed cusps, the central with a small denticle on either side near the tip; on the outer ones, as they turn laterally and gradually decrease in size, the inner denticle disappears, while the outer increases, until on the last 15 or 20 teeth, preceding the 3 or 4 terminal ones, it equals the principal cusp. The last few teeth are short, broad, and their outer cusp becomes almost entirely obsolete, the teeth presenting merely an oblique sharp edge.

The female portion of the genital organs has a globular swelling near its origin at the hermaphrodite opening, and the receptaculum seminis
branches off above this gland, it is fully one inch long, somewhat thickened in the middle. The penis is attached by a short muscle, about 4 m.m. long and moderately thickened.

**Trochomorpha Cantoriana**, *(Benson)*. Pl. i, fig. 13.


Five specimens which I found on Penang hill (at about 2000 feet elevation) exactly correspond with Benson’s description, which was taken from a solitary specimen obtained by Dr. Cantor on the small island Sung-Sung near Penang. The illustration given on plate i will dispense with a repetition of the description quoted above. The apex is smooth, slightly swollen, and there are scarcely more than five whorls in specimens of 10 m.m.

The animal is blackish grey with a very narrow, pale dorsal stripe, quite similar to that of *T. castra*, but by some accident no specimen was preserved in spirit, so I cannot give any further details of its structure; it is, however, certainly a *Trochomorpha*. The specimens were found under a log of old wood.

**Trochomorpha Timorensis**, Martens. Pl. i, fig. 17, and pl. ii, figs. 10-12.


Penang specimens, of which I obtained sixteen, entirely agree in form and structure with the shell described by E. von Martens, with the single exception that the last whorl is not descending near the aperture, but there is an inclination to it, as its terminal portion in adult specimens is slightly more bent downwards than the preceding part (comp. figs. 17a and 17b). This character is, however, certainly a variable one; it does also occasionally occur in adult specimens of *T. castra* and *T. planorbis*. The differences noticed by E. v. Martens regarding the greater number of whorls, and the larger umbilicus, with less rapidly descending sides, in *Timorensis*, when compared with *planorbis*, are well marked in Penang examples.

The species is found sparingly on or under old wood all over Penang hill; *T. planorbis* was not met with there, but it is a very abundant shell at the Nicobars.

The animal is uniform blackish, mantle more intense black; pedal row distinct and the edge of the foot below it nearly quite smooth; neck and sides covered with small warts; tail gland represented by a very fine slit, scarcely more than half a millimetre long.

The jaw and radula are quite similar to those of *T. castra*. The former is about three quarters mill. broad, with somewhat curved out ends and a broadly rounded central projection in the concave edge. The teeth are very slender, and the lateral denticles are very close to the tip on the centre tooth. The outer denticle descends a little lower down on the laterals, but it
always appears to remain smaller than on the corresponding teeth of *T. castra*; the outermost laterals were not observed, they must be very thin.

The genital organs are distinguished by a very great length of the seminal receptacle and of the seminal duct; the former is one and a half to nearly two inches long; it is somewhat widened near its origin but further on almost throughout equally thin.

**Fam. Vitriinidae.**

**VITRINA NUCLEATA, n. sp.** Pl. i, fig. 12 and pl. ii, figs. 4-6.

Vit. testa depresse ovata, tumidula, tenui, pallide cornea, translucente; anfractibus 3:75, nucleo 1:5 anf. composito, late conico, inflato, innervato, duobus anf. sequentibus ad suturam adpressis, subcanaliculatis, rapide accrescentibus, nitidis, transversim stris incrementi minutissimis notatis; apertura ampla, per-obliqua, labio undique tenuissimo, ad basin valde recesscente, margine supero convexiusculo. Diam. maj. 9, diam. minor 7, alt. 5:3, alt. aperturae 4:8, ejusdem latitudo 6:1 m.m.

A characteristically distinct species, by having the nucleus composed of one and a half whorls, conically tumid, while the next whorl is at its beginning only very narrowly exposed, or almost entirely covered. The outer lip is very thin, almost membranaceous, and simple throughout.

*V. nucleata* is one of the rarest Penang shells. I found three live specimens on the Penang hill in dense forest on old wood, about 1000 feet above the sea, and two more old shells at the base of the hill.

The animal is entirely black, only slightly paler at the front sides of the foot; it is very long and slender, its total length being about four times that of the longer diameter of the shell; the anterior part is the much shorter one, the posterior tapers into a point, and the whole is warty and grooved. The mantle, however, is nearly smooth. In quite fresh specimens the two shell lobes entirely cover the shell, but generally the left lobe covers a little more than one fourth of the last whorl extending from the margin of the mouth, while the right lobe also covers one-fourth of it beginning at the angle of the mouth, but at the same time also envelopes the whole spire. The neck lobes are also well developed, rounded, with simple edges, the left is much larger and longer than the right one. The sole of foot is pale brown, divided by two grooves in nearly three equal parts, of which the median is smooth and the lateral transversely sulcate. Pedal row well marked by a thin groove above and along the entire base of foot.

The jaw is semilunar, radiately finely striated, with a blunt projection in the centre of the concave edge; the outer or convex portion is smooth; it measures about 0:75 m.m. in breadth.

The radula is about two mill. long and half a mill. broad; there are 110 transverse, almost quite straight rows, but only 61 teeth in each of them.
All have very sharply pointed cusps, the central has two small lateral denticles on either side; on the outer ones these denticles almost entirely disappear.

The genital organs are distinguished by a great length of the uterus, at the end of which lies a large albuminous (ag.) and hermaphrodite gland (hg.). The seminal receptacle (rs.) is a long, pedunculated, spacious bag which includes a peculiarly twisted, horny organ, provided on the concave side with short crispate appendage. It is the same problematic organ which I described in Sesara infrendens, Gld., and Macrochlamys [Durgella] honesta, Gld., (Comp. J. A. S. B. XL, Pt. II, p. 242 and 250, pl. xvi, fig. 5 and 6, and pl. xvii, fig. 13). Whether this structure represents the amatorial organ and whether that which we call a seminal receptacle really possesses the function which we attribute to it, appears to be as yet an open question. In the present species I found the terminal end of the so-called seminal receptacle filled with a milky substance, which under a high power exhibited a quite irregular flaky appearance.

In other respects the present species does not offer any anatomical peculiarities. The esophagus is comparatively thin, long, cylindrical. The kidney, situated near the end of the rectum, is very large, of a broadly triangular shape; the liver enormously developed.

Some years passed the Vitrinae had been classed as a subfamily of the Helicidae; more recently they had been by various authors treated with the Zonitidae, in the Oxygnathe group of Helicacea. I think the older classification is preferable, as entered by Binney and Bland in their Land and Fresh-water shells of N. America. But I would prefer to give them, together with Helicolimax, Hyulina and their allies, a position intermediate between the two families. They combine indeed several of the characters of both. Although they do not possess a terminal mucous gland on the end of the foot (as all Zonitidae do), they have a more or less distinct pedal row, and the sole appears to be often divided by longitudinal grooves. The jaw is entirely or partially finely transversely striated, not quite smooth, as usually in Zonitidae, and not ribbed, as in true Helicidae. However, the teeth, particularly the outermost laterals, have more the pointed character of the former than of the next family.

**Fam. Helicidae.**

**Trachia** *Penangensis*, n. sp. Pl. iii, figs. 1 and 18-20.

T. suborbiculata, alta, spira breviter elevata, obtusa, modice sed profunde umbilicate, tenui, fere cornea, cuticula luteo-fusca dense et breviter pilosa induita, unicolor; anfractibus 4-5, convexis, sutura profunde subcanaliculata junctis, ultimo ad peripheriam uniforme convexo, ad aperturam paulo descen-

dente, ad marginem umbilici obtuse angulato; apertura semilunari, labi, tenui, labro expanso atque reflexo, ad insertionem umbilicalem paululum dilatato, ad basin indistincte subangulato, pallide violaceo tincto. Diam. maj. 16, diam. min. 14'5, lat. apertura cum perist. 8'8, ejusd. alt. 8'2 m. m.

As regards the thin, almost horny, fulvous, thickly and finely setose structure of the shell, this species is probably most closely allied to T. crinacea, Pfr., but it differs from it, as well as from two other very similar forms, T. quieta, Reeve, and T. eustoma, Pfr., by its conspicuously more elevated spire. Other species of similar type, like T. brevistata, Pfr., from Siam, T. Helferi, Bens., from the Andamans, and four or five others described by Pfeiffer and E. v. Martens have nearly all a more depressed form and mostly sub-angular last whorl, although their spire is somewhat elevated.

The animal is dark chocolate brown, with a very narrow pale dorsal and caudal stripe, the body is laterally somewhat more blackish in front, and tinged brownish behind; the posterior end of the foot is the shorter one, as in Trochomorpha, although not to the same extent.

The jaw is quadrant shaped, with about six strong ribs, and one or two less distinct ones on either side; it is 1'3 m.m. broad.

The radula is about 2'5 m.m. long, and 1. m.m. broad; there are 95 transverse rows, and 91 teeth in each of them, decreasing in size the more they approach the edges. The centre tooth is slightly smaller than the first laterals. All have a large basal plate, which is on the centre tooth slightly emarginate in the middle of the upper edge; this emargination increases in depth on the laterals, the inner branch remaining smaller, until on the last ones the upper edge becomes represented by two obtuse branches. The hook is on all teeth comparatively small, broad, with a moderately sharp point. On about the tenth tooth a small denticle appears to shew on the outer edge near the tip, becoming more distinct on the following teeth. After the eighteenth lateral, the teeth become somewhat more rapidly shorter, but increase in width until the last are wider than long, or high, and on these the basal plate has almost entirely become obsolete.

The genital organs are more than an inch long. The female portion has a long seminal receptacle, strongly thickened and muscular for some distance from its origin, then passing into a long thin tube and terminating with a moderately enlarged bubble, attached by very thin muscular fibres to the albuminous gland which is situated at the end of the uterus. The vas deferens takes its origin near the upper end of the uterus; it is attached by numerous thin threads at the hermaphrodite opening, and after a short distance enlarges into a muscular tube. At the beginning of this enlargement is a short pointed flagellum (f), and at the

* Evidently very much like that of Campylaea.
other end, where the penis begins, is a retractor muscle. The penis itself has near its base a cœcal appendage; its terminal portion, before it joins the hermaphrodite opening, is very thin.

A comparison of the genital organs with those of Trachia delibrata, represented in J. A. S. B., vol. XL, Pt. II, 1871, pl. xvi, fig. 1, will shew, that the only essential difference consists in the presence of the small cœcal appendage on the penis in T. Penangensis. The jaw has fewer and less strong ribs, than that of the former species, but the teeth themselves are extremely similar.

Taking all these anatomical characters together with those of the shell, as noticed in my paper cited above, I think we can consider Trachia as a fairly established genus of the Helicidae.

**Helix [Fruticicola] similaris, Féé.** Pl. ii, figs. 1-3.


On Penang this species is mostly found in the coco-palm plantations up to a height of about 200 feet, never in the interior of large forests and at great elevations. The shells are of the usual small size (larger diam. between 12 and 13 m.m.), with or without a brown peripheral band. The striae of growth are generally fine, but in some specimens they accumulate to strong ribs which give the shell a very peculiar costate appearance.

I also obtained the species from Malacca, near Singapore, Hongkong, Chusan, Maccao, Canton, &c., northwards it extends through Tenaserim into Burma, where it is associated with a great number of closely allied species, some of which may prove to be mere varieties of it. I may mention *H. bolus, H. sculpturrita, H. Zoroaster,* &c.

In Bengal itself the species is not known, but in Central India it is represented by *H. propingua,* and on the Andamans by *H. hemipta.* Judging from the great number of closely allied species in the Indo-Malayan region, there is certainly the greatest probability that the original habitat of *H. similaris* falls within the Indo-Malayan Archipelago, and that it has been introduced into Mauritius, China and South America.

The animal is rather slender, all over strongly warty, brownish fleshy white, or pale brown, the pedal row is very slightly indicated by a fine groove; the pedicles and tentacles are greyish white, mantle dull milky white with a slight vermilion tinge. When the animal is quite fresh the total length of the foot is equal to from two and a half to three longer diameters of the shell.

The jaw is semilunar, about 1 m.m. broad, with three strong central ribs, followed by a somewhat broader one on either side, while the next is only indicated by a faint dark line.
The radula is when compared with the size of the animal large, about 2·3 m.m. long, and somewhat more than one m.m. broad; it is composed of about 90 transverse rows, with 67 teeth in each of them. The central is much smaller than the adjoining laterals, with a long arched cusp. The laterals somewhat rapidly decrease in size after the 14th; on the outermost the basal plate gradually disappears, while the breadth of the teeth exceeds their length.

The genital organs are more complicated than in *Trachia*. The female portion has at its origin a rather short, thick muscular coecal appendage, which most probably represents the amatorial gland; it is widened near its origin and at its rounded end. The seminal receptacle is a round bag, attached to a long thin peduncle of about the same length as the uterus. The seminal duct is moderately long, but the penis comparatively thick and attached by a strong muscle.

**Fam. Bulimidae.**

*BULIMUS.*—Subg. *Amphidromus.*

The only two species which I found among the coco-palms were *Bulimus atricallosus*, Gould, and *B. interruptus*, var. *citrinus*; the uniform coloured greenish yellow variety. The former is the more common species.

Besides these two, the ubiquitous *Stenogyra gracilis* is by no means rare at the roots of palm trees.

**Fam. Clausiliidae.**

*CLASUSILIA* (PHEIDUSA) *PENANGENSIS*, n. sp. Pl. ii, figs. 4-6 and 15-17.

C. testa fusiformi, plus minusue atenuata, medio ad anfractum penultimum latissima, non rimata, solidula, castanea, apice submammillata, albescente, anfractibus 9·5 ad 10·5, convexis, sutura simplici junctis, transversim confortissime striolatis, penultimo sensim attenuato; apertura ovata, intus castanea, peristomate modice expanso, undique libero, albescente, plica supera crassa, ad marginem aperturae continua, columellari immersa, tenui, valde oblique intrante; plicis palatalibus six, prima longissimima, unam illam a margine suturali distante, ceteris multo brevioribus, subaequalibus, modice curvatis atque fere aequalistantibus.

Var. brevis, exquisite fusiformis, vide fig. 6 et 6a; long. 24, lat. 6·2, apert. cum perist. 6 longa, 4·5 m.m. lata.

Var. elongate fusiformis, vide fig. 5; long. 26·3, lat. 6·2, apert. 6·9 longa, 4·7 m.m. lata; in hoc specimine apertura exceptionaliter longa est, in speciminius alteris, forma simulibus, longitudo aperturæ 6·2 ad 6·4 observanda.
Var. exilis, attenuate fusiformis, vide fig. 4 et 4a; long. 27, lat. 6, long. apert. 6'3, lat. 4'6 m.m.

Hab.—Penang hill, frequens.

This is an extremely variable species as regards the shorter or longer fusiform shape of the shell, and also as regards the size of the aperture, but both these variations are very commonly observed in other species of the genus, and particularly in the allied Malayan species Cl. Gouldiana, Pfr., insignis, Gould.* and Sumatrana, Martens.† All three have a similarly variable shape, and finely striated, moderately convex, whorls, but in the two former the aperture is much shorter of a squarish shape, and in the last it is conspicuously longer; E. v. Martens gives its length at 8 m. m. in a specimen, the total length of which is from 23'5 to 31'5 m. m. In this last species, which also comes nearest to the Penang shell, the whorls appear to be slightly less convex and there are only five palatal plates present.

The animal is uniform grey covered with small pale brown warts, darker on the back, paler on the pedicles, which have very small, black eyes; tentacles very short.


The genital organs are distinguished by a very great length of both the uterus and the penis, both of which are much twisted. The only appendage is that of the seminal receptacle, which is comparatively small and narrow, situated at the end of a long peduncle.

The jaw is very short, about 0'5 m. m. broad, apparently smooth; only very faint radiating and concentric lines are to be observed in certain lights.

The radula is about 2 m.m. long and 0'5 m.m. broad; it consists of about 125 rows, with 61 teeth in each row. All are provided with a strongly curved cusp; after about the fifteen tooth, they rather rapidly decrease in length. Towards the end of each row they become multi-serrated, while the basal plate almost entirely disappears. The last teeth are very short, but broad, almost linear and entire.


Cl. testa fusiforme turrita, apice sensim attenuata, subrimata, tenui, pallide cornea; anfractibus 10 ad 11, lente convexiusculis, sutura simplici junctis, ad suturam filiforme marginatis atque infra marginem paulum contractis, transversim oblique dense costellatis, antepenultimo vix latiore quam penultimo, ultimo versus aperturam paululum contracto; apertura ovate subtrigona, postice, (aut supera), subangulata, peristomate expanso, undique libero, plica

* J. A. S. B., xli, pt. ii, pp. 203, 204, 208, pl. ix.
† Ost-Asiat. Exped., 1867, p. 379, pl. 22, fig. 17.
supera tenui, hand usque ad marginem peristomatis interni extensa, intus in fauce rapide evanescente, columnarii approximata, fortiori, valde obliqua; plicis palatalibus circiter decem, supera longissima, sup. margine distante, duas vel tribus sequentibus multo brevioribus, castis brevissimis, omnibus inter se irregulariter dispositis. Long. 21-2, lat. 4-8; long. apert. cum perist. paulo imperfecto 4-8, lat. 3-6 m.m.; specim. secundi apert. cum perist. perfecto 5-3 longa et 4 m.m. lata.

Hab.—Penang hill, cum precedente, sed rarissima.

This species is very closely allied to Ol. Javana, Pfr., but the latter has the whorls, particularly the middle ones, somewhat higher, the transverse costulation is a little finer, and more crowded, the palatal plaits are fewer, two according to Küster, three to four according to E. v. Martens; it also appears to have the two labial plaits stronger. I do not know any other species with which the Penang shell can be compared. It appears to be extremely rare; out of three specimens found only one has the aperture with the margins perfectly well developed.

**Fam. Philomyidæ**


**Genus. Philomyces.**

1820. Rafinesque. Comp. 'Complete writings,' by Binney and Tryon, 1864, p. 64.


*Philomyces* apud H. and A. Adams, Chenu, E. v. Martens &c.

It must be admitted that the original characteristic of the genus by Rafinesque is a very unsatisfactory one, but that is the case with many other old definitions. When Rafinesque wrote that *Philomyces* has no visible mantle, everybody* could, I think, fancy that the mantle must extend over

* Binney writes in 1841 (Boston Journ. iv, p. 174) of his *Philomyces dorsalis* corpora ......clypeo nullo,' and on p. 171 of *Tebenophorus carolinensis* 'clypeo late et elongato, dorsum integrum vestitum,' and still both species have the mantle covering the entire upper surface of the body, and both are *Philomyces* (or *Pallifera* of Morse).
the whole body, if the animal can at all be closely compared with Limax, or else it could not be a Mollusc at all. This was indeed well understood by Férussac, who in the next year referred to Philomyces, besides the four insufficiently described species of Rafinesque, Limax carolinensis of Bosc, well known from description and figure, (copied in Hist. nat. des Moll., pl. 6, fig. 3). And as Rafinesque's species had not been rediscovered and his descriptions not made more complete, Ph. carolinensis remained to be considered as the type of the genus, though I do not think that there can be much doubt on the point, that Férussac had correctly interpreted Rafinesque's meaning. In any case there was no sufficient ground for introducing the name Tehenophorus for the same species.

Keferstein (loc. cit.) has shewn by the anatomical examination of the three typical species, Philomyces carolinensis, (see Tehenophorus), Meghimatium striatum and Incillaria bilineata, that all three genera have to be united into one. The general anatomy and dentition &c., agree in all, the only traceable distinction of Phil. carolinensis consists in the presence of a small amatorial organ, situated at the entrance of the seminal receptacle. The presence or absence of this organ, or even of that of a special amatorial gland (see ante, p. 13), is rightly considered by Keferstein as insufficient for a generic separation of the American from the Indian species. I had repeatedly opportunity of satisfying myself of this by the observation, that the development of that organ does not only appear to depend upon the age of the animal, but often even upon the season or peculiarities of the conditions, under which the animal lives. As far as our materials enable us to judge, we can, I think, look upon Philomyces as a well established genus. For the present it has to be regarded as the sole representative of the family. The finely radiately striated (in Ph. dorsalis coarsely ribbed) jaw in part resembles that of the Vitrinide, but the dentition has decidedly more the character of true Heliide.

I have to notice one new species found on Penang.

Philomyces pictus, n. sp. Pl. III, figs. 9-14.
Ph. corpore tenuiter cylindraceo, plus minusve (35 ad 46 m.m.) extenso, antice rotundate subtruncato, postice acuminato, livido, copiose mucoso, suprâ pallio levigato, lateraliter atque in parte postica nonnullum subgranulosum tecto, fascis tribus longitudinalibus atratis, reticulationibus ejsdem coloris junctis, picto, faciâ centrali latissimâ, duabus alteris tenuioribus ad latus dorsi sitis et a margine inferiore distantibus; orificio pulmonari antice ad latus dextrum in incisione pallii sito, circiter 5 ad 7 m.m. a terminazione antica distante; pedunculis oculiferis circ. 5 m.m. longis, tentaculis brevissimis, ambobus pallidissimis; pede infra transversim plicatello, livido.
During life the length and comparative thickness of the animal changes very rapidly, as may be noticed from a comparison of the two sketches taken from life and one from a specimen preserved in spirit. The animal is covered by a thick layer of mucous secretion, it is very active, and readily burrows in light decomposing vegetable substance. The three black longitudinal bands are connected by a similarly coloured net work which continues, interspersed with, or dissolved into, little dots, to the lower edge of the mantle. The three distinctly marked bands distinguish the present species from the Javaen *Ph. reticulatus*, according to Ferussac's figures 2* and 3 on pl. 8 E., p. 96*, Moll. terr. et fluv. vol. ii. The peduncles are about 5 m.m. long, provided with distinctly developed globules on which the small black eyes are situated; the tentacles are very short, and when the animal moves about scarcely noticeable; both are very pale coloured.

The anatomy of the species almost perfectly agrees with that given by Keferstein of *Ph. striatus* and *bilineatus*. The internal pulmonary cavity extends to about one anterior fourth of the length of the body, and in the fresh animal is always well marked by the mantle above it being somewhat inflated. On this inflated portion, the mantle is smooth, on the other parts generally slightly rugose.

The genital organs (comp. fig. 13) have no special amatorial gland. The seminal receptacle is a globular pedunculated bag, situated a short distance from the hermaphrodite opening. In two specimens which I examined, I noticed the development of a strongly fibrous bundle of muscles at the entrance of the receptacle, where it branches off from the oviduct, but there was no special amatorial organ present.

The jaw is semilunar, strongly curved, thin, radiately striated; when laid flat about one mill. broad.

The radula is 2·8 m.m. long, only about 0·5 broad; there are about 170 rows; and 87 teeth in each row: the central tooth with a symmetrical simple curved cusp, the laterals with a more oblique but simple cusp, both it and the basal plate gradually decrease in height until the last teeth become almost linear and form a confluent row.

None of the other organs require any special notice.

I found three specimens of this species among old decaying vegetable matter on the ground at the northern base of Penang hill, about one hundred feet above the sea.

* E. v. Martens (Preuss. Exp. nach Ost-Asien, Landschnecken, p. 182) refers to this figure as a synonym of Hassolit's *Paracella reticulata*, which he quotes as *Parmarion reticulatus*. I do not know Hassolit's original figure, but surely the one given by Ferussac does not represent a *Paracella* or a *Parmarion*.
Fam. Pupidae.

This family is represented in India and Burma by Hypselostoma, Boy- sia and various subgenera of Pupa, all of small size. Among the Pupa found in Burma and the adjacent countries, inhabited by a large number of Malayan forms, the majority are referable to Albers’ subgenus Scopelophila, the type of which is Pupa Kokeiili, Rossm. The shells are small, subconic or subcylindrical, composed of 4 to 8 whorls, with a moderately thin, semiconic or corneous texture, covered by a brown cuticle; the last whorl is rimate at the base, always somewhat rapidly turned to the front, generally slightly ascending at the aperture, which is internally instructed with teeth on the whole peristome; commonly there is a bifid tooth on the inner lip, it is larger than any of the others. Some of the species appear to differ from Pupilla merely by the peculiar turn of the last whorl towards the front, thus shewing a strong affinity to Hypselostoma. The Indian species of Scopelophila, as far as I observed them, have the pedicles well developed and the tentacles short.

A second small group of Pupa, which is found in India, Burma and the country southward, is characterised by a subconic or ovate shape, composed of three to five whorls, of a thin corneous texture, covered with a transversely striated cuticle; the last whorl is not ascending, the aperture generally edentulous; the columellar lip is externally near its attachment somewhat expanded, mostly covering the umbilical region, while internally at the base it is twisted and occasionally provided with a small tooth. I propose for this subgeneric group the name

Pupisoma,

and regard as the type of it the Moulmein P. lignicola, described in J. A. S. B., vol. xl, pt. ii, p. 171, pl. vii, fig. 3. The animals have very short pedicles and barely a trace of tentacles. They generally live on wood.

Pupa [Scopelophila] Palmira, n. sp. Pl. II. fig. 3.

P. testa ovate cylindracea, rimata, sordide albida, cornea, apice obtusiuscula; anfractibus quinque, convexis, gradatim accrescentibus, sutura simplici junctis, sublævigatis, fere politis, lineis nonnullis incrementi transversi obliquis, exiliissimis notata; apertura fere verticali, subquadragulari, intus quinque-dentata, albida; labro undique expansiusculo atque paulum incrasato, extus infra suturam sinuoso, intus profunde bidentato, (dente supero minori), ad basin dente unico minuto et ad medium collumellae altero fortiori instructo; labio tenui, adnato, extra medium prope angulum posteriorum aperturae dente lamelliforme bipartito munito.

Long. testæ 2·15, latit. 1·, long. apert. 0·8, lat. 0·6 m.m.
Hab.—Penang et in Provincia Wellesley dicta, sub corticem Cocos nucifera; testa rarissima.

This is of exactly the same type as the Arrakanese P. filosa, described at p. 333 of the Journal for last year, but it is larger, more cylindrical and has one tooth more in the aperture. From P. Avanica it differs by less closely wound whorls and by the interal dentition of the aperture.

It appears to be a very rare species. I found one specimen under the bark of a cocoa-nut tree on Penang, and two others on the opposite coast in the Wellesley Provincie.

Pupa [Pupisoma] orcella, n. sp. Pl. II, fig. 2.

P. testa subglobose conoidea, apice obtusa, angustissime perforata, tenui, cornea; anfractibus 3-5, valde convexis, sutura simplici junctis, transverse filose striolatis; apertura subrotundata, paululum obliqua, edentula; margine externo tenuissimo vix repandiusculo, columellari albescente, vix torto, supra reflexo, umbilicum fere omnino obtegente.

Alt. testae 1-7, diam. 1-25, alt. aperture 0-6 m.m.

Hab.—Penang, sub corticem Cocos nucifera, haud frequens.

The animal is grey with dusky pedicles, but no perceptible trace of tentacles. The species differs from P. lignicola (L. cit.) by a shorter and broader form, more convex whorls, and by a very slightly expanded and thin outer lip. In fresh specimens some of the transverse striae of the cuticle are rather stronger than others, but they very soon wear off.

Fam. Streptaxidae.

This family is represented by the single species Ennea bicolor, occurring with Stenogyra gracilis, though not very commonly. (Comp. J. A. S. B., 1871, vol. xi, pt. ii, p. 169).

Fam. Veronicellidae and Vaginulidae.

I have collected two species, which are by authors usually referred to the genus Vaginulus, and with which Blainville’s Veronicella is considered as identical.

The one species is the same as Vaginulus Birmanicus, briefly described by Theobald in Journ. A. S. B., vol. xxxiii, for 1864. It is found about Calcutta, extending throughout Bengal up to the base of the Sikkim hills, through Arrakan, Tenasserim to Penang. A specimen obtained at Singapore does not appear to differ; E. v. Martens’ V. Hasseltii, (Preuss. Exp. Ost-Asien, Landschnecken, 1867, p. 176, pl. 5, figs. 2 and 4) from Sumatra, Borneo, &c., also appears to be the same, and it seems to me very probable that it is the true Onchidium molle of Hasselt.
A second species is very closely allied to *Vaginulus Tourannensis*, Eydoux and Souleyet, (Voyage de la Bonite, pl. 28, figs. 4 to 7), found by Mr. Gaudichaud at Touranne in Cochin China.

A close examination of various eastern species of what authors usually call *Vaginulus* or *Veronicella* appears to me to indicate, that a great confusion has been brought about into the definition of these terms. First of all, we have to return to the typical species of those two generic terms, leaving all subsequent researches regarding other species out of the question.

Blainville's description of his *Veronicella leiavis* in 1817 was incorrect as regards the existence of a rudiment of a shell. The mistake was, at least partially, corrected by Blainville in Dict. d. Sc. Nat. vol. 57, p. 348,* and Keferstein, after discussing the opinions about this genus, in Zeitsch. Wiss. Zool., xv, 1864, defined† *Veronicella* as it ought, I think, to be accepted.

The animals have the sexes distinct in one individuum, the male organ under the right peduncle, the female about the middle of the lower right side of the mantle; tentacles bilobed; the anal and respiratory orifices are at the posterior end; the jaw and teeth of the radula resemble those of the *Helicidae*. Thus the general anatomical structure of *Veronicella* agrees in some respects with *Onchidium* (comp. Stoliczka in J. A. S. B., xxxviii, pt. ii, 1869, p. 88, pl. xiv), but in this genus the female genital opening lies with the two others at, or close to, the posterior end; the teeth are peculiarly hook-shaped, and there is no jaw present. As one of the characteristic figures of a *Veronicella* I may mention *Vag. Solea*, d'Orb., (Voyage dans l' Am. merid., Moll. pl. 21) from Buenos Ayres, or *Vag. Luzonicus*, Eydoux and Souleyet, in Voyage de la Bonite, Zoologie, vol. II, p. 495, pl. 28, figs. 1—3. Thus our species will have provisionally to stand as

*Veronicella Birmanica*, (Theob.).

It is found all over the island, up to the top of Penang hill, but is not common, and the specimens are mostly small, about 1 or 1-5 inches. The median dorsal pale stripe generally becomes distinct only in older specimens, and the lower side of the mantle is uniform livid; in very young specimens the pale stripe is absent, and the mantle marked below with dark dots.

The name *Vaginulus* was introduced by Ferussac in 1821. Judging from the description of the genus, in part at least, from the arrangement of the species and from the anatomical account given by Blainville, it is, I

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* In this article, Blainville strangely makes a great mistake in considering *Vaginulus, Veronicella* and *Onchidium* as identical.

think, clear, that Férussac considered the first described species, *V. Taunayi* as the type of the genus, (Comp. Moll. terr. and fluv., II, pp. 96 p, 96g, and explic. des pl. No. 13, pl. 8 c). Férussac's characteristic of the genus places the pulmonary opening at a distance of two-fifths of the length of the body from the anterior end, and on the lower right side of the mantle; the female sexual opening is said to be on the same side, about the middle; the position of the anus is not mentioned. Blainville's account of the anatomy is not clear and partly contradictory to Férussac's statement. Some of the figures appear to leave no doubt that the position of the female sexual organ is the same as that indicated by Férussac, in others (fig. I and III,) its situation is too much backward. The anus appears to be situated according to figure I near the sexual opening, but again it is said to terminate with the anus at the posterior upper end of the foot. In the figures II and III (l. cit.), which give an insight into the whole anatomy of the animal, the true termination of the intestines is nowhere given. All this is very unsatisfactory.

Eydoux and Souleyet in their figure of *Vaginulus Tourannensis* also record a small opening at the posterior lower right end of the mantle. I can scarcely believe that this is correct; it is probably only a fault of the artist who thought that an opening must exist there, because it is clearly seen in the other species on the same plate, *Vag. Luzonicus*, which is a *Veronicella*.

My reason for doubting the correctness of Eydoux and Souleyet's figure is the very careful examination of the Penang species, which, as already mentioned, is closely allied to *V. Tourannensis*, if not really identical with it.

The Penang species has the following generic characters, as compared with those of *Veronicella*.

The sexes are distinct, the male opening is under the right peduncle, the female sexual opening lies, together with the anus and the pulmonary orifice, at the lower right side of the mantle, about two-fifths of the length of the body distant from the front. The sexual opening is nearest to the edge of the foot, then comes the anal and then the respiratory one; they are only separated by thin laminae from each other. There is no jaw present, the manducatory organ consisting of a simple muscular tube, much as in *Streptaxis* or *Testacella*; the radula is short, composed of simple pointed teeth, which are absolutely identical with those of the two last mentioned genera. There is no opening whatsoever at the posterior end of the foot or mantle; the pointed end of the intestinal organs is only attached by a bundle of muscles to the terminal inner surface of the mantle.

On p. 96r of Férussac's Moll. terr. and fluv., Blainville says that the upper
border of the mouth is provided with a dental comb ('peigne dentaire'), and further on, that the buccal cavity is supplied on its inner upper surface with very small sharp points ('très petites pointes acérées'). The latter statement evidently refers to sharp pointed teeth of the radula, but does the former mean to indicate the presence of a jaw, such as exists in Veronicella? This is a question of great importance; for if the presence of a jaw can be proved, it would certainly not support the generic identification of our Penang Vaginulus with Vag. Taunaysii.

There are also a few peculiarities in the other anatomical structure, but on the whole this latter well agrees with that given by Blainville of Vag. Taunaysii, with the exception of one or two organs which he evidently misinterpreted.

My doubts against a generic identity of V. Taunaysii with Veronicella, as formerly defined, appear to me to be supported also by external differences in the shape of the body. In V. Taunaysii, as well as in the Penang species and in V. Tourannensis, the body is slender and high, so to say nearly cylindrical, the globules on the tentacles are well developed, the appendages of the latter large, the posterior end of the foot is pointed and somewhat projecting beyond the termination of the mantle. In Veronicella, on the contrary, the body is more depressed and of a generally more ovate shape, the lower appendage on the tentacles is smaller than the tentacle itself, the end of the foot is more rounded and not, as a rule at least, projecting beyond the termination of the mantle.

E. v. Martens, when speaking of V. Taunaysii (Preuss. Exp. nach Ost-Asien, Landschnecken, p. 6), says that the slight lateral expansion of the mantle and the higher body distinguish it from all other species collected in India, and this opinion is, I think, strongly in favour of my presumed distinction between Veronicella and Vaginulus; for it also exactly applies to the Penang species.

Finally, I must draw the attention to the remarkable external similarity in the form of the body of Vaginulus porulosus, Fér. (Moll. ter. et fluv. II, p. 96', pl. 8 E, fig. 5) with that of Testacella. The former species is recorded after a drawing communicated to Férussac by van Hasselt, and is no doubt from Java or one of the adjoining islands. I think it represents a true Vaginulus, and not a Veronicella.

I have placed the above discussion before my malacological friends, because I consider a satisfactory solution of the points in question of considerable importance. The information is not easily obtainable, as the necessary materials are very much scattered about. If my suppositions prove correct, the so called Agnatha group, and especially the Testacellidae or Steptaxidae, will appear before us in a quite different light, when compared with the other
groups. They will shew that certain characters remain constant under different physical conditions, while others change, and that the change takes place according to certain principles, affecting similar or the same organs. Extended observations of this kind must give us the key to a correct systematic arrangement.

Our special question cannot be solved, unless Blainville's and Férussac's somewhat contradictory accounts of the structure and anatomy of Vaginulus Taunaysii had been satisfactorily settled. I hope to have myself an early opportunity of examining one of these animals, and until such a time I will postpone the detailed description of the Penang species, (and of another new one from Sikkim), together with their anatomy, which requires a careful comparison with that of Vaginulus and Onchidium, of each of which I will have to describe several interesting new forms.

Explanation of plates.

Plate I.

Figs. 1—3. Rhysota Cymatium, (Benson), p. 11; a young, an adolescent and an adult shell.

" 4—7. Rotula bijuga, n. sp., p. 14; four full grown specimens, variable in the height of the spiro.

" 8. Sitala carinifera, n. sp., p. 16; 8, natural size; 8a, 8b, 8c, enlarged views.


" 10. Microcystis palmicola, n. sp., p. 18; 10, natural size; 10a, 10b, 10c, three views enlarged.

" 11. Helicarion permolle, n. sp., p. 18; 11, twice the natural size; 11a, 11b, 11c, 11d, views in natural size.

" 12. Vitrina nucleata, n. sp., p. 23; 12, front view in twice the natural size; 12a, 12b, 12c, three views in natural size.


" 14—16. castra, (Benson), p. 21; 14, 14a, 14b, three views in natural size; 15, side view of a specimen from Calcutta; 16 and 16a, top and lower views of a Darjiling specimen.

" 17. Timorensis, Mart., p. 22; four views in natural size.

Plate II.


" 4—6. Vitrina nucleata, Stol., p. 23; 4a, represents the side view of the problematic umatorial organ enclosed in the bursa seminalis.


" 10—12. Timorensis, Mart.; p. 22.

" 13—15. Rhysota cymatium, (Bens.) p. 11.


All the figures are enlarged; the measurements in natural size are given in the text referred to.
Plate III.


" 2. *Pupa* [*Pupisoma*] *orcella*, n. sp., p. 33; 2, natural size, 2a, 2b, enlarged.


" 4—6. *Clausilia* [*Phadasa*] *Penangensis*, n. sp., p. 27; 4, 4a, attenuated var.; 5, elongately fusiform var.; 6, 6a, fusiform variety; all figures in natural size.

" 7—9. *Clausilia* [*Phadasa*] *filicostata*, n. sp., p. 28; views of two different specimens in natural size.

" 9—14. *Philomicus pictus*, n. sp., p. 30; 9, 9a, 9b, three views taken from a specimen in spirit; 10 and 11, two views of the same specimen in different states of expansion, taken from life; all these figures are in natural size, but the other figures, representing the genital organs, the jaw and teeth, are enlarged.

" 15—17. *Clausilia Penangensis*, vide p. 27.


Explanation of the letters used on pl. II and III.

ho = hermaphrodite opening.

ut = uterus.

al = albuminous gland.

vd = vas deferens.

ag = amatorial gland.

p = penis.

m = retractile muscle.

rs = receptaculum seminis.

po = pulmonary opening.

an = inner, or posterior, angle of mouth.

pn = peripherical angle.

u = umbilicus.

rs = right shell-lobe.

rn = " neck lobe.

ls = left shell lobe.

ln = left neck lobe.

The small letters below the teeth refer to the distance of each tooth from the respective central tooth in each series.
ON *Nephropsis Stewarti*, a new genus and species of macrurous crustaceans, dredged in deep water off the eastern coast of the Andaman Islands,—by Jas. Wood-Mason.

(Read 7th August, 1872; received 16th January, 1873.)

[With plate IV.]

In April of last year, I was deputed by the Trustees of the Indian Museum, with the sanction of the Government of India, to proceed to the Andaman Islands for the purpose of making a collection illustrative of the marine fauna of that part of the sea of Bengal in which those islands are situated. I reached Port Blair about the 6th of April, and immediately put myself in communication with the Chief Commissioner, who at once placed at my disposal a well-manned boat and a small steam-launch, with which I dredged for nearly two months with much success from low-water line down to near 50 fathoms. Towards the end of my stay, General Stewart knowing my intense desire to try my fortune in deeper water, placed at my disposal for one day the S. S. "Undaunted" which had been recently armed and put into commission for service as a guard ship. The time allowed was short, but sufficiently long to enable me to bring away samples of the life supported by the sea-bed at, and beyond, the 100 fathoms' line, and to ascertain that the sea-bed was uniformly covered with a thick deposit of fine olive-coloured mud derived from the waste of the coral-reefs and of the sandstone and serpentine rocks of the islands.* This mud was not very productive, yielding only a few annelids, but was crowded with dead shells of Pteropods and Dentalium and with fragments of a large Brachiopod.

It was in the last cast of the dredge that I had the good fortune to capture the interesting addition to the crustacean fauna of these seas, described in the following pages. It is closely allied to *Nephrops Norvegicus* of northern European seas, so closely allied, indeed, that were it not for the absence of the squamiform appendage of the antenna, I should be under the necessity of placing it in the same genus as a second species. The absence of this appendage, however, leaves me no choice but to establish a new genus for its reception.

* The following rough analysis by Mr. Tween, the chemist of the Geological Survey of India, will show the proportion of insoluble matter:

<table>
<thead>
<tr>
<th>Soluble in H Cl mostly Ca O Co₂</th>
<th>42-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insoluble clay and sand</td>
<td>57-2</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100-0</strong></td>
</tr>
</tbody>
</table>
The discovery in these warm seas of a very near, of the nearest ally in fact, of so characteristic a cold-water species, remarkable though it is, will not appear so surprising when I mention the fact that my crustacean lived and burrowed in the mud of the sea-bed at a depth of nearly 300 fathoms in a temperature not certainly exceeding 50° Fahr.

One of the chief points of interest attaching to this new form lies in the loss of its organs of vision by disuse, as in Calocaris MacAndrew, Bell, in Cambarus pellucidus—a member of the same family as that to which Nephropsis belongs—and in the other crustaceans and animals inhabiting the caves of Carniola and Kentucky. I not only agree with Mr. Darwin* in attributing the loss of the eyes to disuse, but I also regard the great length and delicacy of the antennæ, and the great development of the auditory organs as modifications effected by natural selection in compensation for blindness.†

Nephropsis, gen. nov.

Diag. Antennal scale absent.

Nephropsis Stewarti, sp. nov. Pl. IV.

Body covered with fine rounded tubercles and with a short but dense pubescence. The carapace is sub-ovoid, armed on each side, just externally to the base of the rostrum, and behind the anterior margin, with an acute forwardly directed spine; a similar spine springs from each side of the anterior margin itself at about the level of the upper surface of the antennal peduncle; the basis of each of these two spines is confluent with a conspicuous convexity to be seen just behind it; immediately in front of each of these convexities lies a smooth, slightly excavated surface bounded in front by a curvilinear row of tubercles. The cervical suture, dividing the carapace into an anterior or cephalostegal, and into a posterior or omostegal portion, is broad and deeply impressed mesially and laterally, until it reaches the level

† Since these remarks appeared in the abstract of my paper (Proc. Asiatic Soc. Ben. viii, 1872, p. 151) Dr. Hagen's Monograph of N. American Astacidae has reached Calcutta, and from it I give the following extract, on account of its obvious applicability to the species here described, merely remarking that the perusal of it led me to note also the stoutness of the rostrum and the great development of the cephalostegal spines in Nephropsis as compared with the slenderness of the one and the minuteness of the others in Nephropsis: "But it seems to be a somewhat well recognized law in nature (Rathke, Metamorph. Retrograd., p. 135) that if any part is atrophied, or stopped in development, the nearest parts slow an abnormal increase of development. This is apparently the case in C. pellucidus; the eyes are atrophied, and the rostrum, the fore border of the cephalothorax, the antennal lamina, the basal joint of the inner antennæ, and the epistoma are altered or largely developed." Op. Cit. 34.
of the anterior margin of the epistoma when it bends boldly upwards and backwards upon itself passing into the well-defined semicircular depression that bounds the lateral convexities described above. The cardiac region is broader than long, very convex transversely and bounded on each side by a densely-tuberculated elevation which running backwards, downwards, and forwards along the line of the granulated rim of the branchiostogite, and finally bending upwards almost opposite the origin of the second pair of abdominal appendages, passes again into the swollen anterior boundary of the omostegite; the ovoidal area thus limited off is more sparsely beset with tubercles and presents a marked depression on its anterior half.

The rostrum carries on each side a most acute spine directed upwards and forwards, and curved slightly inwards; and above presents two roughly granulated ridges coalescent towards the tip but divergent at the base; beyond the spines it is canaliculate on each side, above and below, and each lateral ridge is fringed with long hairs; below it is carinated and coarsely granulated at the base. A faint linear impression, continuous with the groove between the ridges on the rostrum, passes along the middle line of the carapace almost to its posterior border; situated in this line, and marking the anterior limit of the convex gastric region, lies an almost erect spiniform tubercle.

**Antennae and antennules.**—The peduncles of these appendages lie as in *Nephrops Norvegicus* in the same horizontal line, and their inner margins are ciliate. The basal joint, or coxocerite, of the former is extremely short, and wants the apical spine in *Nephrops*, but the perforated conical process on its inferior surface is remarkably salient; the second is devoid both of the prominent spine into which, in *Nephrops*, its distal and external angle is produced, and of the squamiform appendage or scale seen in all the other recognized genera of *Astacidae*, and developed to such an extraordinary degree in Carideous Crustacea; one or two small folds or impressions between, or upon, the second and fourth joints being all that remains of the antennal scale, and of the rudimentary joint that in *Nephrops* corresponds to the moveable spine of *Astacus*.

* The antennal scale in *Astacidae* escaped the notice of Guérin who founded his genus on its supposed absence.

† There appears to be no doubt but that the antennal scale is the representa-
tive of the outer of the two appendages borne upon the protopodite at an early stage of embryonic life, and, if the moveable spine in *Astacus* and its undoubted homologue in the antennae of *Nephrops* represent the inner of these appendages, then must the three distal joints of the peduncle with the flagellum be looked upon, as Dr. Fritz Müller looks upon them, as a new formation (Neubildung) and no longer as being in serial homology with the five distal joints of the other appendages, e. g., of an ambulatory leg, which represent the endopodite, the exopodite being completely aborted or represented at most, as Rolleston remarks, by the annular constriction on
The flagella of the antennæ are remarkably long and of excessive fineness at their extremities.

The basal joint of the antennules has its upper surface greatly inflated, owing to the remarkable development of the auditory organs to which, in most Podophthalmatous Crustacea at any rate,* this joint gives lodgment; and the almost globular appearance of the joint as seen from the side contrasts strongly with the flatness of its upper surface in *Nephrops* or *Astacus*. Of the two remaining joints of the antennulary peduncle, the first is short and cylindrical, being less than half the length of the last which in *Nephrops* is short and equal to that which precedes it. The peduncle terminates in the usual manner in a double flagellum, the outer branch of which is conspicuously stouter than its filamentous and cylindrical fellow, perceptibly compressed, and thickly fringed below with short hairs along its distal third.

The *epistoma* is much the same as in *Nephrops*, save that its posterior edge is straight and presents two small tubercles which give it the appearance of being slightly roundly-emarginate in the middle.

The *external maxillipeds* and the parts of the mouth in front of them are identical in structure with those of *Nephrops*.

The *eyes* are completely rudimentary, neither pigment nor corneal membrane being developed; the peduncles indeed are present, but even these are short, subcylindrical, mere aborted structures, concealed entirely from view by the stout base of the overhanging rostrum; in spirit they have become perfectly blanched like the rest of the appendages, but in life the delicate rose-pink coloration of the animal extended itself to their very tips. The peduncles are far less conspicuous from the side view than represented in the plate.

The first pair of *abdominal appendages*, those which bear the great *chela*, are unfortunately absent, the specimen having lost its claws a considerable period previous to its capture, as the presence of uncalcified reproduced rudiments of these appendages indicates; the other legs are smooth and slender; the second and third pairs are didactyle; of these the former has both its upper and lower margins, from the base of the carpopodite to the extremity of the claws, fringed with long hairs; the latter, much the slenderer as well as the longer of the two, has its propodite greatly elongated, and its claws only are ciliated. The fourth pair, the longest of all and ciliated only on the outer face of the dactylopodite, and the fifth, about as long as the second pair, are monodactyle.

The *ischiopodite*. For the facts relating to the transformation of the embryonic exopodite into the antennal scale of the Prawn pari passu with the budding out of the flagellum and the abortion of the endopodite, vide Fritz Müller's admirable essay on the development of the crustacea entitled "Für Darwin," p 41, fig. 31.

* The caudal ear of *Mysis* forms an exception to this.
The last abdominal somite is immovably united to that which precedes it as in \textit{Nephrops} and the common Lobster;* and the sternum is linear as in the \textit{Astacidae} generally.

\textit{Post-abdomen}.—The post-abdomen is gradually attenuated to the extremity of the telson. The appendages of its first somite are as completely rudimentary as they are in the female of \textit{Nephrops Norvegicus};† those which follow are long and slender, their foliaceous branches being very narrow, produced to a sharp point, and fringed with excessively long cilia. All the terga are covered with minute rounded tubercles, and present at their anterior ends, just behind the tergal facets, a broad smooth transverse groove with its hinder margin convex backwards.

The pleuron of the first somite is precisely similar to that of \textit{Nephrops Norvegicus}, but those of the remaining somites are even more acutely triangular than in that species, and have their margins denticulate and furnished with a fringe of long cilia. In all the somites, with the single exception of the first, the tergal and pleural regions are most sharply defined as such, the former not curving continuously with the latter but terminating abruptly at the level of the ventral chords in a line convex outwards; so that, if a somite were detached, deprived of its ventral chord and flattened out on the table with its dorsal surface uppermost, the imaginary continuation from pleuron to pleuron of the plane in which these pleura laid, would pass below that of the surface of the tergum.

The \textit{"swimmeret"} constituted as in all other \textit{Macrurous Crustacea} by the highly modified and backwardly placed appendages of the last postabdominal somite and by the \textit{"telson,"} differs in no particular of more than specific value from that of \textit{Nephrops}; the mesial element, or \textit{telson}, is longer in proportion to its breadth, its greatest breadth, being a transverse line separating its anterior from its middle third, and not at the base as in \textit{Nephrops}, is slightly more truncate posteriorly, and the oblique rounded elevations, that gradually narrow as they pass backwards into the spines at its postero-

* On characters furnished by the claws alone Dana artificially divides the recognized genera of \textit{Astacidae} into two groups, typified respectively by \textit{Astacus} and \textit{Nephrops}; the first of these is further subdivided according to the number of the branches and the mobility or immobility of the last abdominal somite. But no mention is made of the fact that this is firmly fixed in \textit{Nephrops} too. If \textit{Paranephrops}, a genus including only freshwater forms, should turn out to have a mobile last abdominal somite, then we shall have this curious fact presented to us, viz., that all those members of the family \textit{Astacidae} which live in freshwater or are terrestrial (\textit{En-}

† The ventral plates of the 2nd, 3rd and 4th postabdominal somites in the males of \textit{Nephrops Norvegicus} have an erect spine in the middle line, but the females exhibit no trace of such.
lateral angles, are stronger than in *Nephrops*. The outer plate of the lateral elements of the swimmeret is moveably articulated at its posterior third as in the rest of the *Astacidae*, but the sutural line is curved and the posterior margin of the proximal and larger division exhibits hardly a trace of the overlapping denticulations seen in other *Astacidae*. Length from tip of rostrum to the posterior margin of telson, .... 98 mm. Length of carapace in middle line, ............... 42 mm. " " postabdomen,.......................... 56 mm. therefore the postabdomen : carapace (rostrum incl.) : : 1¾ : 1 exactly. and the length of body: that of postabdomen : : 1½ : 1 "

The only specimen (a female) obtained was dredged in from 260 to 300 fathoms about 25 miles off Ross Island on the eastern coast of the Andamans. That the specimen was really brought up from this great depth is certain from the unmistakeable signs of crushing from contact with the lip of the dredge, from its position in the dredge bag and from its firmly adherent greenish coating which appears to indicate that like Calocaris Mac-Andrewae it was a burrower.

In conclusion I have to thank Captain Beresford, the commander of the vessel, for his skilful management of the sounding-line and for the zeal displayed by him in carrying out my wishes during our too short cruise.

I have much pleasure in connecting with this extremely interesting species the name of Major General Donald M. Stewart, C. B., Chief-Commissioner of the Andaman and Nicobar Islands, to whose ever ready help the success of my trip was so largely due.

Explanation of Plate IV.

Fig. 1. *Nephropsis Stewarti*, ♀, nat. size.
Fig. 2. Upper view of carapace of the same.
Fig. 3. Swimmeret of *N. Stewarti*.
Fig. 4. " " *Nephrops Norvegicus*.
Fig. 5. Inferior view of antennary region of *N. Stewarti*.
Fig. 6. " " " " " *N. Norvegicus*.
Fig. 7. Sternal region of *N. Stewarti*.
Fig. 8. " " " " *N. Norvegicus*.
ON NEW OR LITTLE KNOWN SPECIES OF PHASMIDAE. PART I,—Genus Bacillus,—by James Wood-Mason of Queen’s College, Oxford.

(Read 7th August, 1872; received February 9th, 1873).

With plates V, VI and VII.

The difficulties that have hitherto defied all attempts at anything like a philosophical and natural classification of this interesting and truly remarkable family of Orthopterous Insects, although in a great measure due to the extraordinary extent to which protective modification has involved all parts of the body throughout the group, must be in part, at any rate, ascribed to our ignorance in so many cases of the opposite sexes of the species; and the discovery that Acanthodorus lacertinus, Westw. is the female of Lonchodes luteoviridis of the same author, renders it extremely probable that these latter difficulties will be found to be further complicated by other cases of the same nature. As instances of the value of a knowledge of the opposite sexes in the limitation of genera, I need only adduce the fact that the capture of Acanthodorus bicoronatus, West., and Acanthodorus semiarmatus, Westw., *in copulâ* with their respective males will necessitate the removal of those species, together with their allies, to the genus Lonchodes. Thus at the very outset of my researches, I am enabled, by the inestimable advantage of a residence in the great distributional area or metropolis of the family, to withdraw from a genus some of the most *bizarre* of its extremely heterogeneous contents. Since the publication in 1839 of Professor Westwood’s classical Monograph of the family, a large number of new or imperfectly known species has been described or remarked upon by various authors,* but chiefly by

Coquerol, Ann. Soc. Entom. Fr. 1861, p. 495, pl. 9, fig. 1; Bull. Soc. Ent. Fr. 1866, pp. xxiii-xxiv.
Philippi, Stettin Ent. Zeit. 1865, p. 64.
Lucas, Ann. Soc. Ent. Fr. 4me Série, t. ix, Bulletin, p. xxv.
Gerstaecker, Archiv für Naturgesch. xxxv, p. 211.
Bates,* de Saussure† and Kaup‡ whom I mention by name on account of the extent and of the extreme value of their contributions. These numerous additions will be enumerated under the genera to which they belong.

Genus 1.—Bacillus, Latr.

Eleven new species have been referred to this genus since the appearance of Professor Westwood’s monograph; of those one, viz., B. patellifer, Bates, is nearly certainly identical with B. ? Artemis, Westw., and two others, viz. B. gramineus and aspericollis, Bates, are most probably, as indeed the author of those species himself suspects, the opposite sexes of one species. The necessary deductions being made, eight remain, which, added together with those described below to the thirty-eight recognized by Westwood, bring up the total of known species of Bacillus to fifty-five.

Bacillus fuscolineatus, n. sp. Pl. V. Fig. 7.

♂ Extremely slender, filiform, cylindrical. Antennae of the length of the metathorax, 17-jointed; first joint depressed but not expanded, carinate above, with sub-parallel margins, the inner one of which is raised; second joint nearly twice as long as broad, sub-depressed; the rest filiform. Head scarcely narrowed from the eyes; a brown streak passes from the eye along

† Rev. et Mag. do Zool. 1859.
Ann. de la Soc. Ent. de Fr. iv, Sér.
Neno Phasmidn.


Dartying!!!

Bacillus Scytale, Bates, ♀, l. c., p. 328, pl. xlv, fig. 9. Hab. Ceylon.

Bacillus leprosus, Gerst, ♀, Arch. für Naturgesch xxxv, p. 211. Hab. Zanzibar.


Bacillus Geisovii, ♂, Kaup, loc. cit.,
each side of the body as far as the commencement of the fourth abdominal segment where it becomes somewhat interrupted; the interval between this line and the margins of the dorsal arcs of the body is silvery white; below, the insect is of an uniform light yellowish green; above, between the brown lateral lines, darker green; the meso- and meta-notum are indistinctly carinate down the middle, and under a moderately powerful lens appear to be marked with delicate wavy transverse stria; the striation becomes less distinct on the abdominal segments. The abdomen is slightly expanded at the junction of its 4th and 5th segments from which latter it sensibly decreases in width to the apex of the seventh, whence it widens to a trifling extent; seventh segment equal to about 1½ times the 8th, exactly twice as long as the 9th which is obtusely rounded at the extremity and above presents a median and two lateral less distinct ridges; these latter curve inwards at their apical ends, enclosing a shield-shaped area. Posterior margin of the terminal ventral segment slightly emarginate.

Legs simple, of excessive tenuity; anterior very slightly longer than the posterior pair; intermediate shorter by the length of their own tibia than the former. Ceri long, obtuse, protruded beyond the apex of the abdomen, slightly forcipated and grooved at the sides.

Total length 22 lines; head 1½, prothorax 1, mesothorax 4½, metathorax 3½, abdomen 9½ + 2½ = 11½; antennae 3½.

Hab. Murree, Panjab. One specimen collected by Dr. W. Waagen.

**Bacillus hispidulus, n. sp. Pl. VII. Figs. 2-3.**

♂ Filiform, slender, sordid, with a dark-green median dorsal streak, extending from the apex of the mesothorax to the extremity of the abdomen. Head sub-ovate, with the sides slightly convergent posteriorly, antennae 16-jointed, joints very distinct; first joint depressed but not expanded; second twice as long as broad, cylindrical, its proximal end the broader. Mesothorax hardly narrower in front than behind. Meso- and meta-notum with a raised median line and a few minute tubercles on their lateral margins. Abdomen cylindrical and filiform to the apex of the 6th segment, whence it suddenly expands to the junction of the 7th and 8th, whence it narrows to its truncate extremity which appears to be constricted between the 8th and 9th segments; six basal segments slightly expanded at their articular ends; 9th segment strongly carinate; the cerci curved and projecting at its posterolateral angles.

Legs long, slender, and simple; first joint of anterior tarsi greatly elongated; rather more than twice as long as the remaining joints taken together.

Total length 24½ lines, antennae 4, head 1½, proth. 1, mesoth. 5½, metath. 4½, abd. 10½ + 2½ = 12½ lines.
♀ Much more robust, with a well-defined median raised dorsal line along the whole length of the body, antennae absolutely shorter than those of the male, but with the basal joint strongly carinate and more expanded. The mesothorax is visibly attenuated in front from the commencement of its apical third, meso- and meta-notum with a few minute warts along their lateral margins; meso- and meta-sternum with a few similar warts scattered over their surface.

The abdomen is sub-fusiform, depressed to the apex of the 6th segment, and has a distinct ridge, which can also be detected on the thorax, running internally and parallel to the lateral margins of all its dorsal segments except the last; its five posterior segments have another ridge on each side midway between their sides and the median ridge. The posterior margin of the sixth ventral is produced in the middle into a sharp spine with a broad base. The seventh segment is nearly as long as the two last together; these are subequal. The last is subtruncate at its extremity beyond which projects a small triangular axygos-plate carinated above. Cerci, in form of a tall four-sided pyramid with its angles rounded, project at the postero-lateral angles of last segment.

Operculum spatulate in outline and flat below, with a broadly rounded extremity, not extending beyond the middle of the last segment.

First joint of tarsus in anterior legs as in the male. The body is covered with very short setæ in both sexes.

Total length, 3½ lines; ant. 3½, head 2½, proth. 1½, mesoth. 7½, metath. 5½, abd. 15½ + 2½ = 17½ lines.

Hab.—South Andaman. Three males and three females, of which two were taken in copula.

I have received from Dr. Stoliczka, who obtained it from the Arakan coast, an insect differing from the male insect above described only in its greater length, in the absence of tubercles on the thorax, and in having two more joints to the antennæ; the measurements are as follows:

Total length 32 lines: ant. 6, head 1½, proth. 1½, mesoth. 7½, metath. 6, abd. 13 + 2½ = 15½ lines.

Bacillus oxytene, n. sp. Pl. V. Fig. 3.

♀ Excessively long and slender. Head unarmed, narrow, almost cylindrical, being but slightly broader in front than posteriorly, notched behind in middle. Antennæ 28-jointed, as long as the terminal segment of the abdomen; first joint depressed, carinated above and expanded, second longer than broad, also depressed. Mesothorax much longer than the metathorax, sparsely granulated above and below, slightly expanded at the insertion of the legs, otherwise of perfectly uniform width; meta-thorax with only a few scattered granules above and below; meso- and meta-notum with a dark raised mesial line. Abdomen long, perfectly smooth, very gradually and
regularly attenuated from its base to its almost indescribably acute, deeply-cleft, slightly recurved, and strongly compressed extremity. The seventh segment is hardly twice as long as the 8th, which is about a fifth of the length of the last; this has a perceptible upward curvature and is cleft nearly to the insertion of the minute conical cerci. The operculum is subdepressed, acutely pointed at the extremity, carinated below and reaches the commencement of the middle third of the last segment, where the cerci are inserted.

Legs long, but rather stout as compared with the body, triquetrous; the fore femora are serrated for more than two-thirds of the length of the straight portion, intermediate femora with two or three triangular spines close together above near the base; posterior ones with one or two. Tibias with a well defined but not very salient foliaceous carina below; four posterior ones with minute spinules on all their crests. The right middle leg is a reproduced limb, having but four joints to the tarsus and a single spine on the femur.

Total length of the body 4 in. 9 lines; antennae 4½; head 2½; proth. 2; mesoth. 11½; metath. 8½; abdomen 23½ + 10 = 33½ lines.


_Hab._—Pegu Yomah, collected by Mr. S. Kurz, the botanist at the Calcutta Botanic Garden, during his recent botanical tour through Burma and the Tenasserim Provinces.

In the form of the terminal segments of the body, this species approaches _B. Regulus_, Westw. 2 (Cat. p. 8, Pl. XXII).

_Bacillus levigatus_, Pl. V. Fig. 4.

♀ Very slender and cylindrical and smooth. The head is armed with two minute blunt crest spines between the eyes, and is slightly narrowed behind; its posterior margin with 3 or 4 notches. Antennae exactly half the length of the mesothorax; first joint depressed and somewhat expanded, feebly carinate above, its outer margin more convex than the inner; second joint fully as broad as long, depressed.

Abdomen extremely long and slender, tapering very gradually to the apex of the seventh segment; whence it very slightly expands to the basal half of the last which suddenly narrows to its extremity; this is divided by a short cleft into rounded tips. 7th dorsal segment equal to 8th, half as long as the last which is carinate above. Cerci pointed. Operculum narrow depressed, obtusely pointed, reaching the end of basal third of last segment.

Legs simple; anterior pair tolerably long; anterior femora serrated for three-fourth of the length of upper crest. The first joint of anterior tarsi is twice the length of its homologue in the intermediate legs, which is rather shorter than that of the posterior legs.
Total length of body 2 in. 10 lin, ant. 3¼, head 1⅛, proth. 1½, mesoth. 6⅛, metath. 5, abd. 15½ + 3½ = 19½ lines.

Hab.—Samagooting, Naga Hills, Assam. One immature specimen collected by Capt. in Butler. This species is closely allied to B. Westwoodii.

Bacillus Westwoodii, n. sp. Pl. VI. Fig. 3.

♀ Elongate, slender, sub-cylindrical, convex. Head narrowed from the eyes to the base, with its sides slightly convex, armed between the eyes with two forwardly and slightly outwardly directed spines; and with its posterior margin faintly notched in the middle and on each side. Antennae more than half as long as the mesothorax, from 21 to 26-jointed; first joint carinated above and depressed but not expanded; second joint nearly as broad as long; the rest filiform with the exception of the last which is thickened at the tip. Mesothorax slightly narrowed in front and, with the metathorax, somewhat expanded at the insertion of the legs. The abdomen is narrowed from the base to the apex of the first segment, expands again to the apex of the second, maintains pretty much an uniform width for the next two or three segments and finally gradually tapers to a point. The seventh dorsal segment is twice the length of the eighth, but hardly exceeds the last. This is cleft and slightly compressed at the extremity. The operculum is somewhat boat-shaped, below strongly carinate for its posterior half, and comes into such close and complete opposition with the margins of the terminal dorsal segments, with which it is coincident, as to conceal from view the genital parts, permitting only the tips of the cerci to emerge. Legs triquetrous, their edges beset with short cilia; straight portion of upper edge of fore femora serrated nearly to the apical end; the intermediate and hind femora have a triangular spine below at the apex; all the tibiae have a foliaceous carina arising near the base and gradually subsiding towards the apex; the posterior ones have sometimes a triangular foliaceous spine near the base above; the intermediate ones sometimes one, two or none. Tarsi triquetrous; first joint of the anterior pair as long as the others taken together; in the other legs it is not nearly as long as the united lengths of the remaining joints.

Total length of the body 4 in. 8 lines, antennæ 6½, head 2¾, proth. 2, mesoth. 11, metath. 8, abdomen 27½ + 5½ = 33.

Abdomen: rest of body :: 1:40:12: 1.

In the specimen described, the intermediate legs when stretched straight backwards, reach to the commencement of the posterior third of the fourth abdominal segment, the posterior legs to the cerci anales; in other specimens the intermediate legs extend rather beyond the fourth segment, and the posterior ones beyond the extremity of the abdomen.

Hab.—Nine adult and three immature females were captured by my
private collector during the months of August, September and October last in the neighbourhood of Port Blair on South Andaman. An immature insect collected by Mr. Homfray at Camorta, Nicobar Islands, differs so slightly from larvae, beyond doubt belonging to the present species, that I hesitate to give it another name.

**Bacillus** (Baculum) Artemis, Westwood. Pl. VI. Figs. 1-2.

_Bacillus? Artemis, q_, Westwood, Cat. of Orthopterous Insects in the British Mus., 1859, Pt. I, Phasmidae, p. 10, pl. xxvi, fig. 9, 9a.


Numerous specimens of an insect remarkably abundant in the moist, deep valleys of Sikkim, in Cachar, in the Bhutan Doars and at-Samagooting in the Naga Hills, agree in every respect both with Bates’ description of _B. patellifer_ and with _Bacillus? Artemis_ described and figured by Prof. Westwood from a dried and mutilated example now in the Hopeian collection at Oxford. The comparison of dried specimens in my possession with Westwood’s figures shows that the compression of the three terminal segments is mainly, and that the depression and enlargement posteriorly of the sixth dorsal are entirely effects of drying. Bates omits to mention that the terminal dorsal segment is grooved above in the middle line, and that the emargination in its posterior border is occupied by a small carinated azygos plate with a rounded hinder margin; the state of preservation of Prof. Westwood’s specimen may probably account for his omission to mention not only these points but even the emargination itself. The following are the dimensions of a specimen from the Naga Hills figured on plate vi.

Total length 4 in. 5 lines, ant. 7 lines (25-jointed), head 2½, proth. 2, mesoth. 10½, metath. 8, abd. 2 in. 0½ line + 6 = 2 in. 6½.

A variety found in all the districts mentioned above with the exception of the Bhutan Doars is figured side–by–side with the typical form on the same plate as showing the value of the armature of the legs unsupported by other characters in making a species; almost every gradation from the extremely acaathophyllous and spinose condition of the legs there depicted to their almost completely unarmed condition in fig. 1 being to be met with.

Fig. 2 a, 2 b, 2 c may represent the same parts of fig. 1.

**Bacillus** (Baculum) insignis, n. sp. Pl. V. Figs. 1-2.

♀ Extremely robust, greatly elongated, subcylindrical, convex. Head remarkably stout, conspicuously narrowed from the eyes to the base, the sides being almost straight, armed between the eyes with two stout-based, acuminate, forwardly-directed and incurved spines or horns, notched posteriorly in the middle. Antennae 25-jointed; basal joint depressed, expanded, and carinated above. Mesothorax gradually attenuated from the
base forwards; metathorax of uniform width; both are marked above with a fine raised median line which is continued on to three or four of the basal segments of the abdomen.

The abdomen is attenuated from the base of its third segment to the extremity. The three terminal segments are compressed; the first of these is twice as long as the second; the second $1\frac{1}{2}$ times as long as the last which is grooved above in the middle line and has its posterior margin divided into two rounded lobes by a narrow fissure filled by the median carina of a small azygos plate; the upper contour of this last segment meets that of the preceding at a very obtuse angle. The operculum extends about one line beyond the abdomen; its posterior half is greatly compressed, so much so at its sub-truncate extremity that its opposite inner faces are in complete contact. Cereci minute, conical, their tips alone projecting slightly between the posterior and middle thirds of the last abdominal segment.

Legs stout, triquertrous; upper and lower crests of fore femora inconspicuously serrate towards the base; the intermediate femora are curved, their upper margin forming the convex curvature, and below at the base present two conspicuous divergent foliaceous expansions with rounded free margins, one springing from each crest and a conical spine at the apex; the posterior femora are but feebly curved and exhibit but a faint indication of these foliaceous lobes, and have also a spine at the apex below; all four posterior femora appear to be regularly tricarinate above, owing to the very close approximation of their two upper crests. The intermediate tibiae have a large foliaceous lobe like a tooth of a saw near the base above, which is much reduced or even absent in the posterior pair; all the tibiae have a sharp, well-developed foliaceous carina, on their basal third below, which in the fore tibiae traverses the whole length of the joint. The first tarsal joint in the fore-legs is hardly as long as the other joints taken together; in the other legs it is not nearly as long.

The intermediate legs if stretched backwards would reach only just beyond the apex of the third, the posterior ones to the apex of the sixth abdominal segment.

Total length of body 7 in. 2\frac{7}{10} lines; antennæ 8\frac{1}{4}; head 3\frac{1}{4}; proth. 2\frac{1}{4}; mesoth. 16\frac{1}{2}; metath. 14; abd. 40 + 9\frac{1}{2} + operc. 1 = 50\frac{1}{2}.


Hab.—Samagooting, Naga hills, Assam, (Captain Butler); Sikkim (Mr. Mandelli); and the valleys around Cherra Punji in the Khasi hills (Lieut. Bourne).

Bacillus (Baculum) Penthesilea, n. sp. Pl. V. Fig. 5.

♀ Elongate, stout, cylindrical, smooth, with a faint raised median line extending from the anterior extremity of the mesothorax nearly to tip of
the abdomen. Head not so stout as in the preceding species, armed between
the eyes with two minute conical spinules or tubercles, its posterior margin
presents 3 notches giving it the appearance of being bi-tuberculate,
narrowed from the eyes to the base. Antennæ very slender, as long as the
three terminal abdominal segmentstaken together, 30-jointed; first joint some-
what expanded; second minute, hardly longer than broad, followed by 28
filiform joints gradually increasing in length to the apical one. Mesothorax
uniform in width except at the insertion of the legs where it is expanded.
Metathorax broader than the mesothorax and expanded at each end.

Abdomen very long, attenuated from the base of the 5th segment; the
three segments anterior to this are uniform in width and broadest of all,
broaden even than the basal segment which is just perceptibly concave at
the sides; the 6th ventral has a rounded punctate callosity posteriorly;
the ante-penultimate segment is as long as the two last taken together; the
last is grooved above in the middle line, has its posterior angles pointed and
rather deflexed than projecting outwards and its hinder margin sub-
angularly emarginate, the emargination being filled by an azygos plate
which is carinate, has its free margin straight and projecting beyond the
acutely angular tips of the segment, and its postero-lateral angles rounded.
Cerci tolerably salient, obtuse. Operculum subcompressed and carinate for
nearly its posterior half, rounded but not compressed at the tip which barely
reaches as far as the bottom of the emargination in the last segment.

Legs slender; anterior pair triquetrous; the two other pairs subtriquet-
rours, their upper crests being not nearly so closely approximated as in the
preceding species. The intermediate legs, stretched straight backwards so
as to be parallel with the long axis of the body, reach to the middle of the 4th,
the posterior ones to that of the 7th segment. The anterior femora are
denticulate to beyond the middle of their upper and lower crests; the four
posterior pairs are devoid of spines or foliaceous lobes except at their apical
ends below where there is a short denticulate elevation, all the tibiae have a
lamellar carina arising and attaining its greatest development near the prox-
imal end; and the distal halves of the four posterior ones are acutely spinulose
on all edges. The first joint of the tarsus of the fore-legs is fully as long as,
of the intermediate legs shorter than, of the posterior legs almost as long,
as, the remaining joints together; but the first tarsal joint of 1st legs is
longer and slenderer than those of the 2nd and 3rd pairs.

Colour green with the prosternum, bases of all the legs, the stigmata,
the spines on the head and the interval between them, and the apex of the
abdomen blackish-brown.

Total length, 6 in. 10\frac{3}{4} lines; antennæ, 9 lin.; head, 3\frac{1}{2}; proth. 2\frac{1}{2};
mesoth. 15\frac{1}{2}; metath. 13\frac{1}{2}; abdomen 3 in. 3 lin. + 9 lin. = 4 in.; ant. legs:
femur 23 lin. + tibia 22 + tarsus \(\frac{1}{4}\) = 4 in. 3\frac{1}{4} lin.; inter. legs: f. 17\frac{1}{4} + tib.
J. Wood-Mason—Species of Phasmidae.  

16 + t. 4½ = 3 in. 2½ lin.; post. legs: f. 20 + tib. 18 + tar. 5 = 3 in. 7 lines.


Hab.—A single specimen was collected in the neighbourhood of Baxa, Bhután Doár, by Dr. Cameron.

**Bacillus (Baculum) fucillatus, n. sp. Pl. V. Fig. 6.**

♀ Elongate, cylindrical, smooth. Head unarmed, narrowed from the eyes to the base, with three notches on its posterior margin. Antennae long and fine, as long as the metanotum proper, or as the two basal segments of the abdomen together, 24-jointed; first joint depressed, not greatly expanded, strongly carinate above; second longer than broad, sub-cylindrical; rest filiform. Meso- and meta-notum with a most delicate median line in relief; the former is of uniform width throughout, the latter very slightly expanded posteriorly at the origin of the legs. Abdomen shorter in proportion to the rest of the body than in the two preceding species, cylindrical to the apex of its fifth segment; whence it becomes slightly compressed and attenuated to its furcate extremity. A small azygos plate carinated above and with its posterior margin rounded, fills the bottom of the interval between the arms of the fork, which conceal its sides from view from above. The operculum is boat-shaped; its extremity which is rounded and slightly spread out horizontally, attains the level of the bottom of the fork only.

The legs closely resemble those of *B. Penthesilea*, but the four posterior femora have some widely-placed spinules on both their inferior crests; the intermediate ones reach to the end of the basal third of the 5th, the posterior extend slight beyond the terminal abdominal segment.

Total length 5 in. 1½ lin.: antennae 8; head 3; proth. 2½; mesoth. 12½; metath. 10; abd. 27½ + 6½ = 33½; ant. legs, 3 in. 7 lin.; inter. legs 2 in. 6 lin.; post. legs 2 in. 11 lin. Colour uniform green.


Hab.—Baxa, Bhután Doár, collected by Dr. Cameron.

This species is at once distinguished from the two preceding, as indeed these are from one another, by the difference in the structure of the terminal dorsal segment; by the form of the operculum, by the relative length of the abdomen to that of the body, and by the absence of spines from the head.

In the four preceding species to which M. de Saussure's subgeneric term *Baculum* may be provisionally applied, the last dorsal segment of the abdomen is mesially grooved above; the line of structural weakness thus produced, may possibly subserve the purpose of giving greater expansibility to the segment during copulation and oviposition. This peculiarity of structure is present also in *Bacillus (Baculum) Ou- niculus*, Westwood, in *B. (B.) Hyphereon*, Westwood, and in *B. (B.)
scytale, Bates, if one may judge from the published figures of those species. With regard to the last mentioned, it should be noted that Mr. Bates, although he states its affinities to be with the first, at the same time refers it to a totally distinct subgeneric group, *vis.*, to *Ramus*, de Sauss., in which the abdomen is fusiform and acuminate at the extremity. It is also to be remarked that the species to which *B. scytale* is said to be so nearly related by Bates has turned out not to be a *Bacillus* at all, but a *Lonchodes* very closely allied indeed to *L. pseudoporus*, Westw., if not identical with that species. *Ramus* is, however, still retained by M. de Saussure for a group of the *Bacilli*, under which *B. humilis*, Westw., *B. carinulatus*, Sauss., &c., have been arranged.

**Bacillus scabriuscus**, n. sp. Pl. VII. Fig. 1.

Very robust. The integument is wrinkled and studded with granulations and small tubercles. Head thick, coarsely granulated, very little narrowed behind, armed between the eyes with two conical spines, projecting outwards and slightly backwards and with their bases united by a transverse elevation, bi-tuberculate posteriorly. Antennae as long as the metathorax, 18-jointed, ciliated; the first is depressed and expanded, and strongly carinated; the second joint is about half the length of the first, twice as long as broad and depressed; the rest are slenderer than it and filiform. Prothorax narrower in front, with its anterior margin hallowed for the reception of the head, covered with coarse granules. Meso- and meta-notum irregularly wrinkled longitudinally and covered with small tubercles or coarse granules, marked with a raised median line; the former gradually widens from the apex to the insertion of the intermediate legs; the latter is broader and of uniform width, and a distinct suture divides it into an anterior posterior division (the true 1st abdominal segment = segment mediare). Below, the granulations and wrinkles are finer. The abdomen is cylindrical to the fifth or sixth segment, whence it becomes suddenly contracted and compressed, but expands again slightly at the apex which is furcate; the bottom of the fork is occupied by a small carinated azygos plate. The upper contour of the three terminal dorsal segments is extremely convex and the posterior margin of the first two of them is produced into a small process. The operculum is lanceolate in outline as seen from below, its posterior half is carinate and its apex barely reaches the level of the minute cerci.

Legs long; anterior pair triquetrous, the rest prismatic; anterior femora serrated to the middle of the upper crest; the intermediate ones, are armed with three conspicuous dentate foliaceous lobes above and with three small spines on the other crest, one opposite to each of the foliaceous lobes; the posterior femora have some small spines on each of their upper crests. The
intermediate tibiae have each two small foliaceous lobes above at the proximal end and immediately opposite to these, below, a single spine; at their distal ends all their edges are spinuloso; the posterior tibiae have two minute spines above at the proximal end and their distal ends are similarly spinuloso. All the legs are shortly-ciliate, especially at the extremities.

Total length 4 in. $1\frac{1}{2}$ lines; antennae $7\frac{1}{2}$; head $3\frac{1}{2}$; proth. $2\frac{1}{2}$; mesoth. $10\frac{1}{2}$; metath. $7\frac{1}{2}$; abdomen $18\frac{1}{2} + 7 = 25\frac{1}{2}$ lines.

Hab.—Naga Hills, Assam. A single specimen was collected by Captain Butler.

**Explanation of Plates.**

Plate V.

Fig. 1. *Bacillus (Buculum) insignis*, ♀, nat. size. 1a, the head seen sideways; 1b, the extremity of the abdomen seen sideways.

Fig. 2. Upper view of terminal abdominal segment of *B. insignis*, ♀, enlarged.

Fig. 3. *B. oxytenes*, ♀, nat. size; 2a, extremity of the abdomen from the side.

Fig. 4. *Bacillus lavigatus*, ♀, nat. size; 4a, b, c, represent same parts as in the previous figures.

Fig. 5. Upper view of terminal abdominal segment of *B. Penthesilea* ♀, enlarged; 5a, side-view of three terminal segments, nat. size.

Fig. 6. *B. fuscicollis*, ♀, terminal segment of the abdomen from above, enlarged; 6a, the three terminal segments nat. size seen sideways.

Fig. 7. *B. fuscolinatus*, ♂, nat. size; 7a, the three terminal segments of the body seen from above; 7b, the same seen from the side.

Plate VI.

Fig. 1. *Bacillus Artemis*, Westw. ♀, nat. size.

Fig. 2. *Bacillus Artemis*, Westwood ♀, var. nat. size; 2a, the three terminal segments seen from the side; 2b, the terminal segment, × 2 from above, 2c, the extremity of the abdomen from below, 2d, basal joint of antennae magnified.

Fig. 3. *B. Westwoodii*; ♀, nat. size; 3a, side view of three terminal segments of abdomen; 3b, the same from below.

Plate VII.

Fig. 1. *Bacillus scabriusculus*, ♀; nat. size; 1a, the three terminal segments of the abdomen from the side.

Fig. 2. *Bacillus hispidulus*, ♂, nat. size; 2a, the terminal segments of the abdomen seen sideways; 2b, the same seen from above; 2c, the same from beneath.

Fig. 3. *Bacillus hispidulus*, ♀, nat. size; 3a, 3b, 3c, represent same parts as in fig. 2.
ON AN UNDESCRIBED SPECIES OF LOPHOPIANES, by W. E. Brooks, C. E.,

[Received 11th February, 1873; read 5th March, 1873.]

LOPHOPIANES HUMEI, n. sp.

Description. Head and crest, neck, chin and throat, bluish black; the black of the throat extends about 0.6 of an inch from base of lower mandible; cheeks and ear coverts, and sides of the neck beyond ear coverts, form a patch of pure white; there is also a large patch of pure white on the back of the neck; on the sides of the neck below the white patch the black extends about ¼ of an inch lower down than it does on the centre of the breast; back and wing coverts dark bluish grey, becoming paler and more ash coloured on the upper tail coverts; lesser and greater wing coverts tipped with bright white; wings and tail dusky, the feathers having paler edges; wing lining, axillaries and breast a clear ochre passing to a dusky yellow grey on the flanks, lower abdomen, and under tail coverts. This fulvous lower surface is characteristic of the species. Bill black; legs and feet dusky.

Total length judging from the skins, will be about 4 inches.

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This species strikingly resembles in colouration the plate of Parus Britannicus, Sharpe and Dresser, in their fine work on the Birds of Europe; except that it is almost devoid of the greenish tint of the upper parts shewn in the plate, and our species is not a typical Parus, but a crested Lophophanes. It is also rather like Hodgson’s drawing of Parus oenoidius; but that species is not shewn to be crested, neither has it any white spots on the wings.

I picked this species out of a collection of Sikkim birds, sent by Mr. Mandelli to Mr. Ball. The discoverer allows me to describe it, and I have, therefore, great pleasure in naming it after my friend Mr. Hume, as I cannot remember any species named after the most laborious of our present Indian Ornithologists.
Fig 18, 20 Truchia Penangensis, p 24
- 3. Pupa oreissa, p 33
- 5 - palmaris, p 32

4-6, 15-17 Clausidia Penangensis, p 27.
7-8 Clausidia filicostata, p 28
3-16 Philomycus pictus, p 30

For further explanation see p. 38
Fig 1-2 B. Artemisia, p 31. Fig 3 B. Westwoodia, p 50.

For further explanation see p 3c.
Fig. 1. B. scabriusculus, p. 35. Figs. 2-3. B. hastilulus, p. 47.
For further explanation, see p. 54.
NEW BURMESE PLANTS.  PART II,—by S. Kurz, Esq.

[Received 15th Feb., read 5th March, 1873.]

[With plates VIII, IX, X.]

TERNSTROEMIACEÆ.

106. ANNESLEA MONTICOLA, nov. sp.

Arbor 80-90 pedalis v. in regionibus altioribus pumila, glaberrima; folia c. 3 (arboris juvenilis usque ad 7) poll. longa, ovato-oblonga, raro lanceolata, basi rotundata v. obtusa et subdecurrentia, breve lateque petiolata, acuminata v. acuta, integra v. obsolete crenata, crassissime coriacea, nervis vix visibilibus, subtus (in sicco) atropunctata; flores majusculi, basi bibracteolati, pedicellis 2, sub fructu usque 3 poll. longis crassis albis ramulos terminantibus; calyx coriaceus, albus; corolla rosea. Martaban.—A. crassipedi arete affinis, pedunculis et foliis acutis distinguitur.

107. SAURAUJA ARMATA, nov. sp.

Arbor 25-30 pedalis, novellis squamis adpressis firmis subosseis acutissimis vestita; folia 9-10 pollicaria, lato-ovata ad obovato-oblonga, acuta, basi obtusa, brevissime petiolata (petiolis crassis squamatis), spinescenti serrata, chartacea, glabra, sed subtus secus costam nervosque squamis subosseis adpressis adpersa; flores 1½ poll. fere in diametro, in pedunculis brevissimis crassis dense squamatis solitarii, vulgo supra foliorum delaeorum cicatricibus fasciculati; sepala tomento squamis rigidis adpresso intermixto obducta; ovarium unacum parte unita stylorum 5 dense villosum.—Martaban.

Fruticulus partibus omnibus fulvo-tomentellis; folia oblonga ad oblongo-lanceolata, brevissime petiolata, basi obtusa v. rotundata ibidemque 3-nervia, 2-2½ poll. longa, in eademque stirpe obtusa v. acuta et vulgo mucronata, chartacea, integra, supra pilis brevibus stellatis adspersa, subtus fulvescenti stellato-tomentella; flores parvi, breve pedicellati; cymæ fulvo-tomentella, brevissimæ, axillares, paucifloræ, graciles; calyx circ. 2 lin. longus, stellato-tomentellus et subfurfuraceus; petala sublongiora; staminum columna glabra; capsule oblongæ, breves, circ. 7-8 lin. longæ, dense villosomuricateæ, carpellis inter se acuto coherentibus obtusis v. subobtusis.—*Martaban, Tenasserim*. *H. lanceolata*, DC. ( = H. virgata, Wall.) affinis.


Arbor, novellis dense tomentosis; folia elliptica v. lato-oblonga, utplurinum subobliqua, arboris junioris palmato-5-7-loba, breviisculæ petiolata, profunde et saepius inaequali-cordata, verosimiliter nunquam peltata, breve acuminata v. apiculata, supra glabra, subtus canescens, alvi, breve crasseque pedicellati, 3-v. 2-ni axillares et subeymosi; bracteolæ oblongo-lanceolatae, tomentosæ, integrae; calyx 2-3 poll. longus, sepala crassissime coriacea, linearia, ferrugineo-tomentosa, extus striata, intus fulvo-stellato pubescentia; stylus glaber; ovarium fulvescenti-tomentosum; capsule 5-angulares, oblongæ.—*Tenasserim, Andamans*.

**TILIACEÆ.**


Arbor magna, novellis tomentellis; folia cordato-rotundata, lata, circ. 6-7 poll. longa et lata, basi palmato-7-9-nervia, petiolata, petiolis 4-5 poll. longis dense puberulis v. tomentellis, obtusiuscula v. acuta, obsoleta repanda et in lobos 2-3 breves obtusos producta, chartacea, adulta supra (nervis pubescentibus exceptis) glabra, subtus dense puberula v. subtomentosa; flores c. 4-5 lin. in diametro, albi, paniculas laxas fulvo-tomentosas terminales formantes; pedicelli longi, tomentosi; calyx extus dense tomentosus, profunde 2-3-fidus, in alabastro subglobosus; petala obovato-lanceolata, calycæ longioræ; staminæ numerosissima et conferta; stylus simplex, glaber; ovrium villosum; capsule unacum alis oblique oblongis nervosis c. 2-2½ poll. in diametro, tomentellæ, siccæ, brunneæ; semina globosa.—*Pegu, Martaban*. 


Frutex novelliis scabro-puberulis; folia oblonga v. ovato-lanceolata, basi inequali-rotundata, brevissime petiolata, 5-7 poll. longa, acuminata, duplicato-serrato-dentata, chartacea, utrinque (praesertim subtus) scabro-puberula, 3-nervia, cum nervo adjecto ad latus latius; stipulae petiolis fulvo-tomentosis longiores, subulate, strictae, scabro-puberulae; flores parvi; pedicelli tomentosi, breves; cymae multiflorae brevissime pedunculatae 2-3-nae axillares; sepalae circ. 2 lin. longa, fulvo-puberulae; petala lineari-lanceolata, 1 lin. longa, longitudine foveolae ovalis viloso-ciliatae incrassata, dorso linea hirsuta notata; stamina in floribus masculis 16; ovarium hirsutum; drupa...—*Pegu*.


Frutex scabro-stellato-hirtellus; folia rotundata v. lato-obovato-oblonga, basi vulgo cordata, petiolis longiusculis gracilibus scabris, acuta v. breve acuminata v. obtusa, apicem versus sepius in lobos 2 v. unicum obtusum v. truncatum raro acutum producta, distantor dentata, basi vulgo 7-nervia, membranacea, supra stellato-scaberrima, subtus plus minus pilis stellatis puberula et mox scabrescentia; flores parvi, pedicelli gracilibus brevibus
tomentellis, in cymulas pedunculatas dispositi et paniculam terminalem laxam canescenti-puberulam efficiences; sepala lineam circiter longa, extus canescenti-tomentella; petala obovato-oblonga, obtusa, sepalis subaequalonga, basi foveola minuta incassata villosa-ciliata aucta; capsula 7-9 lin. in diametro, stellato-puberula, scabra, sicca, mature in carpidia 3-4 indehiscentia monosperma bialata separantes.—Ava, Martaban.

122. Evodia viticinia, Wall. Cat. 1219.
Frutex ? glaber, ramulis lineis 4 acuto prominentibus notatis; folia 3-v. uni-foliolata in eodem v. diversis ramulis, opposita, glabra, petiolis ½—⅔ poll. leviter alatis; foliola 2-3¼ poll. longa, lanceolata v. obovato-lanceolata, basi attenuata et subsessilia, membranacea, breve acuminata, subtus pallida; paniculae contractae et parve, puberula, petiolis v. multo breviores v. subaequilateral; flores parvi, brevissime pedicellati; petala 4, lineari-oblonga, obtusa, subcoriacea; carpella....—Tenasserim.

Fruticulus gracilis, simplex v. parce ramosus, decidueus, inermis, glaberrimus; folia impari-pinnata, rachide anguste alata; foliola 5-7-juga cum impari, alterna, subsessilia, oblongo-lanceolata ad lanceolata, oblique acuminata, crenata, glabra, 1-1¼ poll. longa, pellucido-punctata; flores pentamerosi, parvi, albi, e ramulis novellis axillaribus brevibus orientes et cymam brevem glabram breve pedunculatam v. subsessilem efformantes; calycis lobi trigono-oblongi, acuta, ⅓ lin. longi; petala 3 lin. longa, acutiuscula; stamina 10, alternatim breviora, filamenta basi intus parce puberula; ovarium obovatum, compressusculum, leve, toro brevi crasso insidens, 2-locularis, loculis ovulo solitario pendulo; stylus curvus, stigmatate incrassato; torus post praeflorationem productus; baccæ....—Pegu.

SIMARUBEÆ.

124. Brucea mollis, Wall. MS.
Fruticulus simplex v. subsimplex, 2-3 pedalis, novellis puberulis v. pubescentibus; folia imparipinnata, petiolus rachisque teres puberuli, glabrescentes; foliola 4-6-juga cum impari, ovato-oblonga v. ovato-lanceolata, longiuscula petiolulata, acuminata, integerrima, membranacea, supra sparse, subtus densius, pubescentia v. prætor nervos pubescentes glabra, 2-3 poll. longa; flores minuti, graciliter pedicellati, racemos puberulos v. pubescentes simplices graciles folio multo breviores axillares formantes; drupæ solitariae v. binæ, rarius ternæ, ovatae, pisi majoris magnitudine v. majores.—Martaban. Brucea genus magis ad Tapiriam inter Anacardiaceas spectat.
1873. S. Kurz—New Burmese Plants. 65

MELIACEÆ.

125. Chickrasia velutina, (Swietenia velutina et S. villosa, Wall. Cat.).

Species mihi bona, a Ch. tabulari distinguitur novellis, foliis etc. molliter pubescentibus, foliolis numerosioribus supra velutinis subitus molliter pubescentibus; paniculæ ferrugineo-tomentosis; floribus majoribus; pedalis obovato-oblongis 5-6 lin. longis; calyce dense fulvo-tomentoso; capsulis abris, sublævibus.—Pegu, etc.

CELASTRINEÆ.

126. Microtropis longifolia, Wall. Cat. 4339 (pro parte).

Frutex? glaber; folia oblongo-lanceolata v. oblonga, petiolis crassis 4-5 lin. longis, breve acuminata, basi acuta, 6-7 poll. longa, integra, coriacea, utrinque (præsertim supra) rugulosa, opaca; flores breves cymosi; pedunculus 4-6 lin. longus; capsulae obovatae; testa seminis rubra.—Tenasserim. G. latifolia, Gais., in Hb. Kew assimilis, nervatione autem diversa.

AMPELIDEÆ.

127. Leea compactiflora, nov. sp.

Arbuscula L. sambucinæ valde affinis, sed foliola angustiora, argute serrato-dentata, longe acuminata; inflorescentia petiolo multo brevior, ferrugineo-tomentosa; flores viridiusculi, sessiles, bracteis latis brevibus ovatis acutis subscariosi circumdati et in glomerulos compactos congesti; fructus non adsunt.—Martaban.


Frutex simplex, clatus, glaberrimus; folia largissima, supra-decomposita, petiolus compressiusculus lævis; foliola vulgo magna, 6-8 poll. longa, petiolulis ½ (terminali usque ad 2) poll. longa, oblonga ad oblongo-lanceolata, breve et abrupte acuminata, basi acuta, grosse crenato-serratis, pedicellis brevissimis robustis v. subsessiles, in cymam amplam diffusam 2-3-chotomice ramosam glaberrimam axillarem v. subterminalam petiolorum longitudine v. longiorem dispositis; bracteæ brevissimæ ante anthesin caducissimæ; calycis lobi breves, rotundati v. subaeutis, glabri; petala reflexa, linearum circiter longa; lobi tubi staminum triangulari-lanceolati, acuminati, apicis integro reflexi; baccae depresso-globose, 4-6 spermatæ; semina obtuse carinata, lateribus tuberculatocostatis.—Tenasserim.

129. Leea lati, Wall. Cat. 6631.

Frutex humilis, 2-3 pedalis, glaber; folia bipinnata, petiolis teretibus; foliola petiolulis 1-2 lin. longis, oblongo-ad ovato-lanceolata, 5-8 poll. longa,
basi rotundata subinequalia, acuminata, crenato-serrata, membranacea, glabra siccando magis minusve rubescens; flores parvi, rubri, pedicellis brevisibus tomentosis, cymes compositas breves sessiles v. pedunculatas compactiussulcas v. raro diffusas axillares efficientes; bracteae bracteoleaque ante anthesin caduæ; calycis lobi triangulares, acuti, glabri; petala lineam fer longa; tubi staminei lobi emarginati; baccæ desunt.—Burma, Andamans.


Herba perennis, caulibus crassis terciiusculis, glabra; folia inferiora decomposita, superiora impari-pinnata, summa sep tus ternata, petioli, petiolulis rachique anguste membranaceo-4-alatis; foliola vulgo 3-juga cum impari, elliptico-oblonga ad oblongo-lanceolata, terminali longius petiolulato sep tus ovato-oblongo, brevissime petiolulata v. subsessilia, 6-8 poll. longa, acuta, argute serrata, glabra, nervis parallelis venisque transversis subitus valde prominentibus; cymes vulgo a basi ramosæ v. pedunculatae, trichotomo-ramosæ, pedunculis et ramificationibus purpurascensibus compresso-angulatis glabras; bracteæ, bracteoleaque ante anthesin decidue; flores parvi, coccinei, pedicellis brevibus crassis glabris suffulti; calyx 5-dentatus, coccineus, lobis acutis; petala coccinea, lineam circiter longa; tubus stamineus cerino-albus, lobis emarginatis; filamenta subpurpurascensia; baccæ depresso-globose, pisi magnitudinis, vulgo 6-spermæ, aurantiaceæ.—Ava.

N. B.—Vitis Wallichii, Kurz in hocce diario 1872, p. 302 (Leea cordata, Wall. Cat. 6819) ad V. Linnæi formas probabiliter recognoscenda, a quibus autem cymis axillaribus (nee oppositifoliis) differre videtur.

ANACARDIACEÆ.

131. Mangifera caloneura, nov. sp.

Arbor medioceis, glabra; folia oblonga ad oblongo-lanceolata, 3-5 pollicaria, petiolo basi valde incrassato 1-½ poll. suffulta, obtuse acuminata, coriacea, glabra, utrinque elegantissime minute et prominenter reticulata, costæ crassa lata presertim supra prominentes et subplanæ percussa, nervis lateribus vix curvis 18-20, tenuibus; flores parvi, sesiles v. subsexiles paniculam terminalem tomentosam amplam formantes; calyx pubescens; petala lanceolata, acuta, reflexa, lineam circiter longa, ciliolata, alba, medio linea citrina percussa; stamen 1, anthera atropurpurea; discus 5-lobus, lavis; drupæ ovi gallinacei magnitudine subreniformi-ovoideæ, laves, obtusæ, aurantiaceæ v. luteæ, acido-dulces, subteretes.—Pegu, Martaban. M. Indiciæ affinis, reticulatione elegantissima statim recognoscenda.

N. B.—Bouea Brandisiana, Kurz in Journ. As. Soc. 1871, p. 50, ad B. Burmanicam, Griff. in hocce diario, 1854, p. 634, referenda.
LEGUMINOSÆ.

132. Millettia monticola, nov. sp.

Frutex alte scandens, deciduus, novellis parce ferrugineo-pubescentibus glabrescentibus, ramis verrucosis; folia novella (adulta non visa) impari-pinnata; foliola 4-3-juga cum impari, petiolulata, oblonga, breve acuminata, subtus secus nervos adpressae fulvo-pubescentia; flores azurei, parviusculi, pedicello 1-2 lin. longo ferrugineo-tomentoso suffulti, fasciulati; in racemos simplices solitarios ferrugineo-tomentellos 4-7 pollicares supra foliorum delapsorum cicatricibus orientes dispositi; calyx parce ferrugineo-tomentosus, 2-2½ lin. longus, longior quam latus, obsolete et lato-dentatus, denticulo anteriore paullo producto; corolla glabra, vexillum ½ poll. longum, emarginatum; ovarium laxe; legumina desunt.—Martaban. M. pachycarpe, Bth., arcte affinis.

133. Millettia leioynna, nov. sp.

Frutex deciduus alte scandens novellis ferrugineo-tomentosis; ramis teretibus minute lenticellatis; folia novella (adulta desunt) ferrugineo-tomentosa, impari-pinnata; foliola 4-6-juga cum impari; flores majusculi, violacei, vexillo in fundo luteo, pedicellis 2-3 lin. longis nutantibus velutinis suffulti, racemos 4-5 pollicares fulvo-pubescentos et ramulis abbreviatis lateralis ortos formantes et saepius in paniculam amplam lateralem collecti; calyx latior quam longus, 2-2½ lin. longus, fulvo velutinus, obsolete dentatus, dente anteriore paullo producto; corolla glabra, vexillum ½ poll. longum, emarginatum; ovarium laxe; legumina juniora linearia, laxe, subulato-acuminata.—Martaban. M. extensa, Bth., affinis.

134. Millettia glaucescens, nov. sp.

Arbor magna, decidua, glabra vel saepius novellis parce pubescentibus; folia impari-pinnata, ½-1 ped. longa, glabra, v. rachi et petiolulis parce puberulis; folia elliptica ad obovato-oblonga et oblongo-lanceolata, vulgo 3-4-raro 2-juga cum impari, obtusiusculae et subabrupte acuminata v. apiculata, petiolulis 2-3 lin. longis gracilibus glabrescentibus, integra, 3-4 poll. longa, membranacea, glabra v. subtus secus costam subpubescentia, subtus glaucescens; flores parviusculi, cyanei, pedicellis capillaris puberulis v. subglabris 3-4 lin. longis, in racemos graciles glabros v. puberulos solitarios v. secus ramulos novellos aphylllos aggregatos dispositi; calyx lator quam longus, parce pubescens, 1-1½ lin. longus, obsolete lato-dentatus; corolla glabra; vexillum obsolete emarginatum, ½ poll. fere longum; ovarium adpressae sericeum; legumen oblongum, basi attenuatum, lignosum, incurvato-acutum, planum, suturis in alas angustissimas dilatatias undeque quasi subquadrangulari-alatum, glabrum, lenticellis rimosis sparse obtectum, 3-4 poll. longum, 2-3 lin. crassum, 1-3-spermum.—Pegu, Martaban.
135. **Millettia pubinervis**, nov. sp.

*Arbuscula 20-25 pedalis, novillis puberulis; folia impari-pinnata, c. ½ ped. longa, rachi puberula; foliola elliptico-ad obovato-oblonga, petiolulis gracilibus 1-2 lin. longis puberulis, longiuscula et obtusiuscula acuminata, 2-3 poll. longa, tenuior chartacea, integra, subtus glauca et secus costam pubescentia; Flores parviusculi, luride lutescenti albi, pedicellis capillarisbus pubescentibus, solitarii v. fasciculati, racemos solitarios oppositifolios graciles luto-colo-pubescentes 2-3 poll. longos formantes; calyx rubicundus, latior quam longus, circ. 1-1¼ lin. longus, parco pubescent, obsolete sinuato-dentatus; corolla glabra; vexillum plus quam ½ poll. longus; ovarium ad presse pubescens; legumen deest.—*Martaban.*

136. **Millettia leucantha**, nov. sp.

*Arbor mediocris, novillis sericeo-pubescentibus glabrescentibus; folia impari-pinnata, ½-¾ ped. longa,juniora subtus sparse pubescentia, mox glabrescentia; stipelle subulatae, rigide, diutius persistentes; foliola ovata ad elliptica, ut plurimum 3-juga cum impari, longius petiolulato, breve et subabrupte acuminata, petiolulis c. 2 lin. longis puberulis glabrescentibus, 3-4 poll. longa, rigide chartacea, adulta glaberrima, integra, subtus sepius pallida; Flores fasciculati majusculi, candidi, pedicellis 2-3 lin. longis cinereo-velutinis; racemi solitarii, cinerascente pubescentes, erectiusculi, 2-4 poll. longi, in ramulis lateralis terminales v. laterales; calyx canescenti-velutinus, c. 2½ lin. longus, dentibus 3 inferioribus distinctis, acutiusculis, 2 superioribus connatis lato-ovatis; corolla glabra; vexillum ¾ poll. fere longum, integrum; ovarium ad presse sericeum; legumen lignosum, oblongum ad obovato-oblongum, acutum, glabrum, lenticillato-scabrum, 1½-3 poll. longum, marginibus uti in *Pongamia* obtusis, 1-3 spermum; semina plana, brunnea.—*Prome, Pegu.*

137. **Millettia ovalifolia**, (Pongamia ovalifolia, WA. Prod. I. 262; Wight Jc. t. 328.)

*Arbor mediocris, glabra; folia impari-pinnata, ½-¾ ped. longa, glabra; foliola ovata ad elliptica et elliptico-ovata, petiolulis 1-2 lin. longis gracilibus, 3 (sec. WA. etiam 4-)juga cum impari, breve acuminata, apiculata v. obtusiuscula, ½-1 poll. longa, chartacea, integra, subtus subglaucescentia, subtiller reticulata; Flores solitarii v. subfasciculati cyanei, parviusculi, pedicellis capillarisbus 2-3 lin. longis; racemi graciles, glabri, 2-3 poll. longi, solitarii v. plures e ramulis novellis orti; calyx glaber, purpurascens, latior quam longus, c. 1 lin. longus, obsolete dentatus v. subtruncatus; corolla glabra, vexillum c. ¼ poll. longum; ovarium parce ad presse pubescens; legumen lineari-oblongum, basin versus attenuatum, incurvato-acutum, planiusculum suturis obtusi, sublignosum, glabrum, pallidum, sparse verrucoso-lenticillatum, 2-3 poll. longum, ad medium 2-8-spermum.—*Prome.*
138. **Milletia Brandisiana**, nov. sp.

Arbor mediocris, gemmis cupreo v. fulvo-pubescentibus, cæterum glabra; folia impari-pinnata, ¼-1 ped. longa, glabra; stipellae subulatae, diutius persistentes; foliola 7-10-juga cum impari, oblongo-lanceolata, petiolulis lin. longis puberulis, obtuse acuminata, 1¼-2½ poll. longa, integra, juniora membranacea et subtus parce minuteque puberula, demum rigide sed tenuiter coriacea, glaberrima, subtus glanscentia; flores cyanei, majusculi, pedicellis crustissulis 2-3 lin. longis glabris suffulti, fasciculati, racemos 4-8 poll. longos glabros securamulos novelllos distributos formantes; calyx purpureus, glaber, c. 2 lin. longus, tomentoso-fimbriatus, dentibus conspicuis, anteriore magis producto, posterioribus brevibus lateque connatis; corolla sericeo-pubescenti; vexillum ½ poll. fere longum; ovarium adpressae pubescens; legumen obovato-oblongum ad oblongum et oblongo-lanceolatum, basi plus minusve attenuatum, rigide coriaceum, valde planum, subabrupte incurvato-acuminatum, 2-3 poll. longum, suturis hand incrassatis, brunnescens, laeve, 1-3-spermum.—*Pegu*. *M. pulchra* (= *Mundulea pulchra*, Bth.) affinis.

139. **Milletia tetrapetala**, nov. sp.

Arbor mediocris, novelllos mollaris pubescentibus; folia impari-pinnata, ¼-3 ped. longa, juniora mollaris tomentella; foliola 3-(raro 2-1) juga cum impari, obovata ad elliptico-obovata, petiolulis crassis 1-2 lin. longis tomentosis, apice rotundata, submarginata v. rarius apiculata, integra, novella membranacea et utrinque canescenti-tomentella, demum rigide chartacea et supra glabrescentia; flores fasciculati parviusculi, pallide lilacini, pedicellis 2-3 lin. longis dense pubescentibus; racemi 3-½ poll. longi, fulvo-v. gilvescenti-tomentosi securamulos foliatos novelllos siti v. apicibus oppositifoliis; calyx latior quam longus, ½ lin. longus, tomentosus, obsolet sinuato-dentatus v. subtruncatus; corolla glabra; vexillum c. ½ poll. longum; ovarium adpressae pubescens; legumen subcuneato-oblongum, basi sterili attenuatum, lignosum, incurvato-acutum, 3-4 poll. longum, pallidum, laeve, marginibus in alas irregulares lignosas supius undulatas angustas dilatatam et quasi tetrapetala, 1-2 spermum.—*Ara, Prome*.

140. **Erythrina holosericea**, nov. sp.

Arbor aculeato-armata, novellis furfuraceo-puberulis; folia iis *E. lithospermae* conformia, 8-foliolata, petiolo 3-4 poll. longo, glabra: foliola plus minusve ovata, petiolulis 2-3 lin. longis, acuminata, 3-5 poll. longa, integra, chartacea v. membranacea, glabra; flores magni, cocci neis? alis carinaque purpureis, subessiles, 2-3-ni fasciculati, in racemo fulvo farinaceo-tomentoso collecti; calyx resupinus, brevi-spathaceus brunneo-villosus, intus fulvescenti-sericiceus; vexillum 1½ poll. fere longum, obovato-cuneatum, obtusum, minute-velutinum; alas falcato-oblongae, obtuse, c. ½ poll. longae; carina

141. Dalbergia cana, Gräh. in Wall. Cat. 5859.

Arbor magna, novellis pubescentibus glabrescentibus; folia impari-pin-
nata; juniora parce pubescentia, max glabrescentia, 1-2 ped. longa; foliola
7-9-juga, alterna, petiolulis 1-1½ lin. longis glabrescentibus, oblonga ad
ovato-v. linearis-oblonga, specius subinequalia, breve et subabrupte acuminata,
2-2½ poll. longa, integra, chartacea, adulta glabra v. subtus subpu-
berula; flores parvi, luride purpurei, pedicellis capillariis puberulis 2 lin.
longis suffulti, paniculam laxam puberulam breve pedunculatam axillarem v.
sub-lateralem formantes; calyx atropurpureus, glaber v. subglaber, c. 2 lin.
longus, dentibus obtusis; corolla glabra, 3 lin. fere longa, petalis longe un-
guiculatis; stamina 10, diadelpha; ovarium pilosum; legumen linearis-oblon-
gum, planum, 3-1-spermum, obtusum, basi in stipitem brevem constrictum
3-4 poll. longum, fulvo-velutinum, circa semina indistincte venosum.—Pegu
Martaban, Tenasserim.

142. Dalbergia glomeriflora, nov. sp.

Arbor mediocris, decidua, novellis fulvescenti-tomentosis; folia juveni-
lia tomentosa glabrescentia, impari-pinnata; folia 3-4-juga, alterna, ovata ad
elliptica et obovata, petiolulis parce pubescentibus 1-2 lin. longis, acuta, 2-2½
poll. longa, integra, tenuiter coriacea, supra glabra, subtus parco pueru-
la; flores parvi, albi, pedicellis brevissimis, v. subsessiles, in paniculas sub-
capitatas ramulos novellos villosos terminantes conglomerati; calyx c. 1½
lin. longus, glaber, dentibus obtusis; corolla glabra, calyx paululo longior,
petalis brevissime unguiculatis; stamina 10, diadelpha; ovarium glabrum;
legumen desideratur.—Prome.

Arillaria, gen. nov.

Calyx amplus, dentibus 2 superioribus paullo majoribus. Vexillum sub-
orbiculare, als carinaque subconformes, securiformi-falcata; petala omnia
breve unguiculata et libera. Stamina 10, libera, inaequalia, omnia fertilia;
anthorae versatiles. Ovarium brevi et crasse stipitatum, 2-ovulatum;
stylus filiformis, revolutus, stigmatate laterali. Legumen oblongum, teres,
carnosus-coriaceum, utrinque dohiscens. Semina 2 v. abortu utplurimum
solitarium, magna, oblonga, nigra, arillo carnosos miniato complete involutum.
Cotyledones crasse, radicula centrifugalis.—Arbor foliis impari-pinnatis, folio-
lis oppositis stipellatis. Flores majusculi, albi, racmosi, in paniculas termi-
nales collecti. Genus juxta Ormosiam ponendum, arillo insigne, unde nomen.
Chênelobii species ambæ a cl. Miquelio confectæ ad Ormosiam coarcta-
tam, Jack, reducendæ.

143. A. ROBUSTA, (Sophora robusta, Roxb., Hort. Beng. 31; Wight Je. t. 245; Ormosia floribunda, Wall. Cat. 5387.)

Arbor mediocris sempervirens, novellis fulvo-velutino-tomentosis; folia
impari-pinnata, 1-½ ped. longa, rachi fulvescenti-pubescenta; stipella
persistentes, c. 2 lin. longæ, lineari-subulate, pubescentes; foliola 4-5-juga,
oblonga, petiolulis crassis 2 lin. longis pubescentibus, acuta v. apiculata, 3-½
poll. longa, integra, tenuiter coriacea, adulta supra glabra, subtus fulvescente-
puberula; flores majusculi, luride albi, pedicellis brevibus crassis tomentosi-
suffulti, racemosi, in paniculam terminalem robustam ferrugineo-v. fulvo-
tomentosam collecti; bracteæ persistentes, lineares, tomentose, 2-3 lin. lon-
gæ; calyx amplus, 3 lin. fere longus, dense tomentosus; corolla glabra, c.
3 lin. longa; ovarium villosum; legumen oblongum v. elliptico-oblongum,
basi in stipitem brevem pubescentem crassum contractum, acutum, carnoso-
coriaceum, luteum v. gilvum, parcella pubescenta v. subglabra, solitary,
semen magnum, oblongum, aterrimum, oblongum, arillo miniato dein sanguineo carnoso completo involutum.—Pegu, Tenasserim.

144. Pterolobium MACROPTERUM, nov. sp. (P. lacerans, Miq. Fl. Ind.
Bat. I. 106, non R. Br.)

Frutex magnus scandens, aculeis brevibus armatus, novellis parce pubes-
centibus; folia ½-½ ped. longa, abrupto bipinnata, pinnis 7-8 v. pluribus
rachibus aculeatis puberulis; foliola 7-9- v. pluri-juga, subsessilia, inaequali-
oblunga v. elliptico-oblonga, ½-½ poll. longa, apice rotundata v. retusa,
membranacea, glabra, subtus pallida; flores albi, parvi, breviter pedicellati,
racemos axillares solitarii (glabros ?) efficientes; legumina samaroidæa, basi
seminifera plus quam ½ poll. longa, elliptico-oblonga, ala sesquipollicari,
polliaem fere lata, semi-oblonga, apice rotundata, sutura interiori recta, nec
arcuata.—Pegu, Martaban, Tenasserim.

Species Indicae 3 mihi nota, nempe, P. microphyllum, Miq. (Hb. Maingay
No. 535) racemis in paniculas terminales amplus dispositis, et P. lacerans,
R. Br. (Wight Icon. t. 106), cum specie nova supra descripta racemis
axillaris solitariis conjunctum, leguminibus autem valde discrepans.

145. Cassia renigera, Wall. Cat. 5307; Bth. in Linn. Trans. XXVII. 518.

Arbor mediocris, novellis molliter pubescentibus; folia abrupte bipinnata,
½-1 ped. longa, molliter pubescentia; stipulae magne, lunato-reniformes,
deciduæ; foliola 8-20-juga, petiolulis brevissimis, v. subsessilia, elliptico-ob-
longa ad oblonga, obtusa v. retusa cum mucrone minuto, ½-1½ poll. longa,
membranacea, molli-pubescentia; flores speciosi, purpurei, pedicellis 1-1½ pollicariibus pubescentibus, in racemos solitarios v. geminatos supra foliorum delapsorum cicatricibus ortos pubescentes brevissimos dense bracteatos collecti; bracteae cordato-ovatae, longe acuminatae, pubescentes; calyx breve denseque pubescens; petala oblonga, pollicem fere longa, obtusiuscula; ovarium filamentaque glabra; filamenta longiores medio incrassata; legumen cylindricum, 1-2 ped. longum, indehiscens, glabrum.—Av. Prome.

146. Bauhinia rosea, nov. sp.
Frutex scandens, novellis fulvo-puberulis; folia cordato-rotundata, usque ad ½ partem biloba, lobis rotundatis cum aristâ brevi in eorum sinu auctis, petiolo 1½-2 pollicari pubule, 3-5 poll. longa et lata, integra, chartacea, juniora supra fugaci-pubera mox glabra, subtus fulvescenti pubera; flores parviusculi, rosei, pedicellis 1½-2 poll. longis gracilibus adpresse puberulis, racemum terminalem bracteatum corymbiformem fulvo-pubescentem formantes; bracteae linearis-lanceolatae, acuminatae, c. 4 lin. longae; calyx adpresse fulvo-puberulus, tubo brevi, lobis in alabastro tereti-ovoideis, dein liberis et reflexis 4 lin. longis linearis-lanceolatis; petala longe unguiculata, obovato-linearis, undulata, utrinque parce adpresse pubescentia, c. ½ poll. longa; ovarium cum stylo crasso brevi (ovario breviore) fulvo-villosum; legumen deest.—Martaban. (Dr. Brandis.) A B. Vahlii inter alia differt stylo et floribus minoribus.

147. Bauhinia ornata, nov. sp.
Frutex alte scandens cirrhiferus, novellis ferrugineo-pubescentibus; folia cordato-ovata ad cordato-rotundata, petiolo 1½-3 poll. longo in juventute ferrugineo-pubescente suffulta, usque ad ½ v. ½ partem biloba, lobis obtusiusculis v. obtusiusculae acuminatis et in sinu aristatis, 4-7 poll. longa et lata, integra, chartacea, juniora subtus parce adpresse ferrugineo-pubescentia, mox glabrescentia, palmatim 11-15-nerviis; flores parvi, albi, pedicellis gracilibus 1-1½ pollicariibus, ferrugineo-pubescentibus, apice pedunculi longioris v. brevioris glabrescentis in racemum corymbiformem multiflorum bracteatum fulvo-pubescentem lateralem v. terminalem congregati; bracteae lineari-lanceolatae, pubescentes, c. 2 lin. longae; calyx in alabastro pyriformis, adpresse pubescens, lobis ovatis c. 3 lin. longis reflexis; petala obovato-oblonga, extus parce pubescentia, subundulata, c. 4 lin. longa; ovarium fulvo-villosum, stylo longo gracilique glabro; legumen non repertum.—Pegu.

148. Bauhinia involucellata, nov. sp.
Frutex scandens, novellis parce puberulis; folia cordato-ovata, petiolo glabro 1½-2 poll. longo, usque ad ½ partem biloba, lobis obtusiusculae acuminatis in sinu aristatis, 3-4 poll. longa, integra, tenuiter chartacea, glabra, palmatim 9-11-nervia; flores majusculi, pallide rosei, pedicellis 2-2½ polli-
caribus puberulis glabrescentibus infra apice bibracteolatis suffultii, racemum longiorum v. breviorum laxum terminalem puberulum glabrescentem formantem; bracteae minutae, indistinctae; bracteolas sub calyce elliptico-oblongae, obtusisculae, ½ poll. longae, intus velutinae, quasi involucrum bifoliatum formantem; calyx velutinus, tubo sulcato-tubulari, c. 3 lin. longus v. longior, lobis in alabastro oblongo-ovato lanceolatis acuminatis ½ poll. longis dein liberis et reflexis; petala 1½ poll. fere longa, lamina ovato-oblonga, obtusa, unguis longitudine; ovarium laxe, stylo longiusculo sed crasso; stamina fertilia 8; legumen desideratur.—Martaban (Dr. Brandis).

149. Bauhinia monandra, non. sp.
Frutex ? novellis puberulis; folia parva, rotundato-ovalia, basi truncata, petioló ½-poll. brevibus pubescentibus, usque ad ½ partem biloba, lobis rotundatis in sinu aristatis, 1-1½ poll. longa, integra, chartacea, supra glabra, subţus presértim secus nervos breve pubescentia, palmatim 11-nervia; flores majusculi, albi? petala inferiori maculato, pedicellis 1-1½ poll. longis dense puberulis, racemos brevibus terminalibus pubescentes formantem; bracteae parvae, subulatae; calyx extus tomentellus, in alabastro fusiformis, spatheceus; petala obovato-cuneata, c. 1½ poll. longa, glabra, undulata, stamen perfectum unicum tantum, cetera omnia rudimentaria; ovarium stipitatum fulvo-villosum, surtus levibus, stylo gracili ovarii ipsius duplo longiore terminatum; legumen deest.—Burma, Martaban f (Dr. Brandis). Ex affinitate B. tomentosa, cum B. brachycarpa, Wall., ultro comparanda.

150. Apfellia retusa, nov. sp.
Arbusculus glaberrima; folia abrupte pinnata, rachi brevissima glabra; foliola uni- v. bijuga, plus minusve ovalia, sub-obliqua, brevissime petiolulata, 1½-2 poll. longa, integra, chartacea, emarginata, glabra; flores parviusculi, albi pedicellis c. 4 lin. longis glabris, racemos brevibus simplices glabros in ramulis terminalibus efficiens; bracteolas sub calyce 2 parvae, cono-cymbiformes, persistentes; calyx glabri, tubo c. 4-lin. longo, lobis obovato-oblongis æqui-longis; legumen 3-4 poll. longum, 1½ poll. latum tenue coriaceum, oblongum, secus margines incrassatos subcurvum, glabrum.
—Andamans.

151. Parkia leiophylla, nov. sp.
Arbor vasta, 80-120 pedalis, novellis pubescentibus; folia abrupte bipinnata, 1-2 pedalis, pinnis c. 20 v. pluribus suboppositis, rachibus breve fulvo-pubescentibus; foliola c. 30-40, sessilia, opposita, lineari-oblongae, subfalcata, basi oblique auriculata, ½ poll. longa, c. 2 lin. lata, oblique acuta, tenuiter coriacea, glaberrima, unicoloria cum nervo solitario basilari laterali, penninervia; flores parvi, flavescentes, in receptaculo irregulari-globoso basi
in stipitem pollicem fere longo contracto sessiles et capitulum densiflorum clavatum longe-pedunculatum formantes; pedunculi 1-1½ pedales, glabri, racemosi, terminales; calyx 4 lin. fere longus, tubo glabro, lobis rotundatis extus dense fulvo-tomentosis; legumen 1-1½ ped. longum, lineare, in stipitem ½-¾ pedalem attenuatum, apice rotundatum, glabrum et subvernicosum, nigrum, inter semina numerosa torosum.—Pegu.

152. **Parkia insignis**, nov. sp.

Arbor vasta, 80-100-pedalis, novellis fulvo-pubescentibus; folia abrupte bipinnata, 1-2-pedales, pinnis c. 8 suboppositis, rachibus fulvo-v. ferrugineo-tomentosis; foliola 20-25 juga, subopposita, subfalcata, oblonga, cum basi inaequali sub-auriculata sessilia, apice rotundata, 1 poll. longa, ¼ poll. lata, integra, coriacea supra nervis exceptis glabra, subtus pubescentia, penninervia, nervis arcuatim anastomozantibus; flores parvi, lutei in receptaculo clavato-orniculi basi in stipitem pollicarem attenuato sessiles et capitulum clavato-pyrrificum longe pedunculatum efformantes; pedunculi pedales, plures ex apice ramorum oriente; calyx c. 4 lin. longus, tubo glabro v. subglabro, lobis obovato-cuneatis adpresso fulvo-pubescentibus; leguminà non vidi.—Martaban.

153. **Albizia** (*Pithecolobium*) **glomeriflora**, nov. sp.

Frutex 2-5-pedalis, novellis puberulis, ramosis subangularibus v. teretibus; folia abrupte bipinnata, pinnis unijugis, petiolus 1-1½ poll. puberulus, rachibus vix angularibus præsertim junioribus puberulis; foliola 3-raro 2-juga, petiolis brevissimis puberulis, oblique oblongo-lanceolata ad subrhomboideolanceolata breve mucronato-acuminata, 1-2 poll. longa, tenuiter et rigidé coriacea, adulta glabra v. subglabra, v. secus costam puberula, subtus glaucescentia et secus nervos pubescentia; flores parvi, viridescénti-albi, sessiles, in capitula pisi magnitudinis pedunculis gracilibus v. 1-1½ poll. puberulis instructa congregate et in racemos graciles puberulos axillares dein sepius paniculam terminalem foliatam simulantes dispositi; calyx vix ¼ poll. longus, pubescens; corolla usque ad calycis limbum lobata, extus pubescens, c. 1½ poll. longa; leguminà non adsunt.—Martaban.

**Rubiaceæ.**

154. **Paederia calycina**, nov. sp.

Herba volubilis, novellis puberulis; folia cordato-ovata ad cordato-lanceolata, petiolo 1-1½ poll. puberula suffulta, basi sinuato-cordata, acuminata, 2-3 poll. puberula, integra, membranacea, utrinque præsertim subtus parce hispídula; flores ... superiores pedicellati, lateralis sessilibus v. subsessilibus, in cymas dichotomias secundas parvas parce hirsutas digesti, et paniculas thyrsoideas brachiatus hirsutulas axillares et terminales efformantes;
calyx indistincte puberulus, tubo c. $\frac{1}{2}$ lin. longo v. longiore, lobis fere duplo longioribus, lanceolatis, subfoliaceis; corolla ...; capsule ovoidæ, c. 4 lin. longæ, compressæ, brunnes et lucides, calycis limbo conspicuo coronatæ; semina capsulis conformia, alâ nigrescenti c. $\frac{1}{3}$ lin. latâ circumdata.—Tenasserim (Wall. Cat. 6247 E).

Rubiacearum genera 44 in regno Burmanico occurrentia mihi cognita sunt, quorum conspectum hic addo:


§ Ovarium 2-loculare.

* Corolla valvata. Albumen vulgo carnosum (Psychotriaæ).


* Ovula et semina in loculis numerosa, imbricato-pendula.


* * Οvula et semina in loculis solitaria, erecta.


* * Capsulae baccatae, a basi dehiscentes.


* * * Capsulae siccae, loculicide- v. septicide in coccis 2-∞-v. raro monospermos dehiscentes.

O. Capsulae in coccis 2-∞-spermos dehiscentes. Corollæ et calycis lobi dentibus interjectis carrentes.


OO. Capsulae 2-4-loculares, loculis 1-ovulatis. Calycis et corollæ lobi in sinubus denticulati.
32. **Cephalanthus, L.** Flores 4-meri, bracteolis lineari-clavatis circumdati. Frutices v. arbuscula.

    OOO. Capsulae 2-loculares, rimis longitudinalibus dehiscentes. Scandentes.

33. **Uncaria, Schreb.** Flores sessiles v. pedicellati, bracteolis destituti.

    § 3. **Eucinchoconæ.** Flores paniculati v. corymbosi, haud capitati. Capsulae 2-loculares, septicide in valvas 2 v. apice 4-valvatim dehiscentes.

    * Capsulae in valvas 2 lignosae septicide dehiscentes.

34. **Hymenodyction, Wall.** Arbores; inflorescentia foliis floribus discoloribus gaudentes.

    * * Capsulae apice 4-valvatim dehiscentes.

35. **Hymenopogon, Wall.** Frutices epiphytici; inflorescentia foliis floribus discoloribus gaudentis.

Subtrib. 2. **Spermacoeæ.** Ovari loculi 2-4, loculis 1-v. pluri-ovulatis. Capsulae vario modo dehiscentes v. in cocos 2-4 separantes, raro indehiscentes. Semina nunquam alata v. appendiculata, numerosa v. solitaria.

    § 1. **Hedyotidæ.** Ovula et semina in loculis pluria v. numerosa, lateraliter affixa.

    O Stipulae connatae v. libere, haud vaginantes v. setaceo-fimbriatae. (Rondeletiæ).


36. **Wendlandia, Bartl.** Corolla tubulosa, tortuosa. Capsulae apice bivalvatim dehiscentes. Arbores v. frutices. (Hic Greenia, WA.)


    * * Stigma capitatum. Corolla valvata. Antherarum loculi in appendicem stereum setaceum prolongati.


    OO Stipulae petiolis adnatae et basi vaginantes, setaceo-ciliatae. (Euhedyotidæ.)

40. **Dentella, Forst.** Flores 5-meri, petala 2- v. 3-dentata. Capsulae vix dehiscentes.
41. *Hedyytis*, *L.* Flores 4-meri; petala integra. Capsulae loculicidae v. septice dehiscentes, v. in coccis 2 v. 4 pleiospermos separantes.


44. *Paderia*, *L.* Corolla valvata. Folia opposita v. 3-4-na verticillata. Volubiles.

**COMBRETACEÆ.**

155. *Terminalia tomentella*, nov. sp.

Arbor magna, novellis adpressae cupreo-pubescentibus; folia 5-8 poll. longa, petiolo 8-12 lin. longo apice biglanduloso suffulta, basi inaequali decurrentia, ovata ad ovato-oblonga, acuta v. subacuta, coriacea, integra, junio-
ra subtus dense, adulta parce cupre-o-pubescentia v. omnino glabrescentia; flores parvi, sessiles, spicati, paniculam parvam ferrugineo-v. fulvo-tomentellam componentes; bracteolae subulatae, floribus longiores, deciduum; calycis lobi triangulares, acuti, extus glabri, intus unacum glandulis hypogynis albo-lanuginosi; tubus ovatus, teres, glaberrimus; drupae poll. vix longae, ovatae, obsolete 5-gonae v. teretes, lutescentes, leves.—Pegu, Martaban, Tenasserim. T. Chebula, Retz., quam maxime affinis, calycis tubo lavoissimo, indumento copiosio et fructibus minoribus distat.

**BEGONIACEÆ.**

156. **Begonia nivea**, Parish MS.

Herbula succulenta radice tuberosa?, subglabra; folia radicaria 1 v. 2, obovato-oblonga, apice irregulariter truncato-angulata, basi in petiolum brevissimum crassum glabrum consticta, dentata et parce setuloso-ciliata, palmatim 5-nervia, 2-3 poll. longa, membranae, supra setulis brevibus adspersa, subtus glabra; scapus radicalis, glaberrimus, folio duplo longior, apice hibracteato, flores 2 v. 3 majusculos candidos gerens; bractee 2 ovales v. ovali-oblongae, acutae, foliaceae, c. 2-3-lin. longæ; flores feminæ pedicellis brevioribus, masculi longioribus 1-1½ poll. longis glabris, instructi; sepala et petala obovato-oblonga ad lato-ovalia, c. 5 lin. longa, in femineis aliquanto breviora; stamina monadelpha; antheræ obovato-oblongæ, obtusæ; styli 2, basi v. ad medium fere connati, uno 3-alto 2-bifido et glandulis stigmaticis stipitatis dense obducti; capsulae immaturae glabræ, oblongo-ovatae, inæquali-3-alatae, alis triangularibus et acute productis, medio majore.—Tenasserim (Revd. Parish).

157. **Begonia subperfoliata**, Parish MS.

Herbula erecta, succulenta, radice tuberosa? scapigera; folia radicaria solitaria, petiole 1½ usque ad 3½ poll. longo subvelutino suffulta, ovata ad obvato-oblonga, vix inaequalia, basi rotundata leviter peltata, obtusiuncule acuminata, grossè renato-dentata, 2-3 poll. longa, membranae, utrinque pulcherrime concavo-punctata (in vivo probabiliter papilloso-holosericæa), subtus utplurimum subpurpurascens; scapus radicalis v. subradicalis, glaber, folio brevire, dichotomo-cymosus, pauciflorus; bractee virides, elliptico-lanceolatae, acuta, c. lin. longæ, papillosæ; flores parvi, rosci, pedicellis capillaris glabræ; sepala ovalia, obtusa, 2-3 lin. longa, extus conspicue venosa; stamina monadelpha; antheræ breves, obvatoæ; styli 3, alte connati, 2-fidi; capsulae c. 3 lin. longæ, obvatoæ, glabræ, 3-loculares, 3-alatae, alis capsulâ ipsâ latioribus semi-obcordatis; placentæ 2-fide.—Tenasserim (Revd. Parish).

158. **Begonia velutina**, Parish MS.

Herbula simplex, scapifera, unifoliata, radice parva tuberosa; folium petiolu 1-3 poll. longo nonnunquam parce pubescente suffultum, cordato-ova-
Begonia species Burmanice sequenti modo distinguiri possunt:

Subg. I. Casparea. DC. Capsulae carnosae et bacciformes, secus angulos v. alas crasse latas deliscentes.

Herba robusta glabriuscule ramosa; styli 4; capsula 4-loculares et 4-angularares, angulis in appendices cornutos productis.

B. Roxburghii.

Subg. II. Begonia, DC. Capsula siccæ, lineæ semicirculari secus lateres alarum v. angulorum deliscentes.

* Styli 2, bitidi v. vario modo dilatati v. ramosi; capsula 2-loculares; placentæ bifidæ.

† Stamina libera. Capsulae inaequali-3-alatae, alis 2 anterioribus sæpius ad costam membranaceam reductis.

Herba robusta, ramosa, molliter paleaceo-pilosa; folia longipetiolata, lobata, B. laciniata.

Ut prior, sed gracillor et glaberrima; capsula glabra, ... B. megaepta.

Herba robusta subsimplex, molliter paleaceo-pilosa; folia longipetiolata, non lobata; capsula paleaceo-pilosa, B. barbata.*

† † Stamina monadelpha. Maris perianthium 5-lobatum, femineum 5-6-lobatum; capsula inaequali-3-alatae.

|| Folia et inflorescentia radicalis, illa in petiolum 2-3 lin. longum contracta, ciliata, supra hispida; flores poll. fere in diametro, candidi, ... B. nivea.

|| Inflorescentia axillaris v. e basi folii orta, v. prolifica e gemma axillari.

O Non prolifica. Folia alterna v. verticillata, raro numero ad solitarium reducta. Flores parvi, albi.

Glabra; folia alterna, petioli 1-2 lin. longi, ... B. procridi/folia.

Glabra; folia verticillata, longius petiolata, ... B. verticillata.

Caules petiolique pubescentes; inflorescentia glabra; folia alterna, longepetiolata, supra sparse hirtula, ... B. Martabanica.

* Planta Burmanica, floribus roseis gaudens, ab Assamica paullo different capsulis majoribus crassioribus magis pilosis.
OO. Prolifica, folio solitario radicali v. foliis paucis alternatis. Flores parvi, albi.

Magis minusve stellato-volutina; inflorescentia glabra; folia alterna v. raro solitaria, .................................................. B. sinuata.

Glabra; folium solitarium, pedunculis 2 v. pluribus ex ipsius basi ortis, .............................................................. B. prolifera.

Caules &c., et inflorescentia conspicue bracteata, paleaceo-pilosa, seuius pilis glandulosis internistis, .............................................. B. paleacea.

† † † Stamina monadelphia; perianthium utriusque sexus 2-sepalum, apetalum.

Herba tenerrima; folia alterna, supra minute et sparse pilosa; flores parvi, ............................................................... B. flaccidissima.

* * Styli 3, liberi v. connati; capsule 3-loculares et 3-alatae.

† Placentae integrae.

Glabra; inflorescentia radicalis v. subradicalis; folia radicalia profunde lobata; perianthium 2-sepalum, apetalum, ....................... B. Brandisiana.

† † Placentae bifidae.

O Herbae caulescentes foliis caulinis alternatis.

Partes omnes et inflorescentia glabra; capsule 3 lin. longae, alis apice truncatis; stamina monadelpha, ........................................ B. parvaliflora.

Folia supra sparse setulosa et utida, eeteris precedenti assimilis, at capsule ½ poll. longae; stamina libera, antherae mucronulatae; styli liberi, ............................................................... B. modestiflora.

Ut precedens, sed folia opaca et pilosiora; stamina monadelpha, antherae connectivo truncato lato terminatae; styli ad medium connati, B. scutata.

Folia minute et sparse pilosula; inflorescentia glandulosopuberula; stamina monadelpha, capsule alo semisagittato basi in lobos obtusos productae, ..................................................... B. surculigera.

OO. Herbae seapigera, foliis et inflorescentis radicalibus et vulgo solitariis.

Folia longissimae petiolata, basi peltata, papilloso-punctata et glabra, ............................................................... B. subperfoliata.

Folia longissimae petiolata, cordata, nec peltata, supra papillosa et minute pilosula; stamina libera, ..................................................... B. velutina.

ERICACEAE.


Frutex epiphyticus, 2-3 pedalis, glaber; folia obovato-lanceolata ad sub-cuncato-lanceolata, petiolo brevissimo crassissimo, v. subcissilia, basi attenuata rotundata v. obtusa, 2-3½ poll. longa, obtusiuscula v. breviter acuminata, coriacea, integra v. apicem versus obsolete et remote serrata, glabra, nervis
secus marginem anastomozantibus; flores speciosi, coccinei v. miniati, tubulosi, \( \frac{3}{4} \) ad 1\( \frac{1}{2} \) poll. longi, pedicellis subpollicaribus, glanduloso-hirsutis suffultis, umbellam v. potius racemum abbreviatum pauciflorum axillarem formantes v. solitarii v. fasciulati; calyx 5-dentatus, glanduloso-hirsutus, dentibus lanceolatis acutis lin. circiter longis; corolla glabra, 5-gona, lobis linearis lanceolatis obtusis; filamenta 2 lin. fere longa; antherae c. 3 lin. longae, granulato-tuberculatae, in tubos rigidos plus quam poll. longos productae; stigma parvum, truncatum v. sub-5-lobo-peltatum; baccae glanduloso-hirsutae, pedunculi apice subcyathiformi-incrassato insidentes, calycis limbo coronatae.

Var. a. genuinum, corolla \( \frac{3}{4} \) poll. tantum longa; flores in racemos umbelliformes brevipedunculatos dispositi. (Thibaudia obliqua, Griff., Icon. Dicot. t. 515).

Var. b. elegans, corolla precedentis sed flores solitarii v. 2-3-ni fasciulati axillares; folia vulgo latiora.—Pegu.

? Var. y. grandiflorum, corolla duplo longior, flores in racemos umbelliformes breve pedunculatos v. sessiles collecti, rarius solitarii.—Martaban, Tenasserim.

N. B.—V. verticillatum, Wight, Ic. t. 1181. ad V. setigerum (Agapetes setigera, Don) pertinet.

160. Vaccinium variegatum (Agapetes variegata, Don, Gen. Syst. III. 862; Ceratostemma variegatum, Roxb. Fl. Ind. II. 413; Griff. Icon. Dicot. t. 502; Thibaudia variegata, Royle, Ill. Him. Pl. t. 79, f. 1.).

Frutex epiphyticus, 2-3 pedalis, glaber; folia lanceolata ad obovato-lanceolata, acuta v. breviter acuminata, petiolis brevissimis crasis, v. sub-sessilia, basi acuta v. obtusa, 2-3 poll. longa, coriacea, apicem versus obsolete repando-serrata, glabra, nervis secus marginem anastomozantibus; flores coccinei, pedicellis gracilibus glabris sursum cyathiformi-incrassatis suffultis, in racemos umbelliformes axillares v. supra foliorum delapsorum cicatrieculis ortos pedunculatos glabros dispositi, v. rarius fasciulati v. solitarii; corolla glabra, poll. fere longa, tubulosa, lobis obtusiusculis; calyx glaber, 5-fidus, lobis oblongis lanceolatis c. 2 lin. longis acutis sepius obsolete costatis et penninervis; antherae granulato-tuberculatae, filamentis brevissimis suffultae, in tubos \( \frac{3}{4} \)-3 poll. longos productae; stigma truncatum; baccae glabrae, rubrae, calycis limbo coronatae.

Variet: a. macranthum (Ceratostemma variegatum, Roxb. et Wight; Thibaudia macrantha, Hook., Bot. Mag. t. 4566.) flores c. 2 poll. longi v. longiores, variegati.—Tenasserim.

Var. b. parvisflora (Thibaudia variegata, Royle) flores dimidio minores, miniati v. coccinei.—Martaban.
161. Vaccinium miniatum (Ceratostema miniatum, Griff. Icon. Dicot. t. 504.)

Frutex epiphyticus glaber; folia oblongo-lanceolata ad oblonga, acuta v. acuminata, petiolis brevissimis crassis, v. subsessilia, basi subinaequali rotundata, 4-5 poll. longa, acuta v. acuminata, repando-serrulata, coriacea, glabra, subitus nervis numerosis et prominentibus, secus margines evanescentibus, laxe et prominenter reticulata; flores coccinei, racemos breves umbelliformes glabros axillares v. laterales efficientes, raro pauci et fasciculati; calyx glaber; corolla glabra, 5-gona, c. 3/4 poll. longa, lobis brevibus linearibus acutis; filamenta brevissima, antheræ tubo inclusæ, granulato-tuberculatae, tubis strictis nudis paullululo breviore; baccae desunt.—Ava ? (Griff.)

162. Vaccinium campanulatum, nov. sp.

Frutex epiphyticus, glaber, ramulis subangulatis; folia obovato-oblonga ad lanceolata, obtusa v. obtusiuscula acuminata cum mucrone, petiolis brevissimis crassis v. subsessilia, 2-3 poll. longa, basi acuta v. obtusa, integra v. subintegra, marginibus recurvis, coriacea, glabra, nervis tenuibus secus marginem liberis, laxe reticulata; flores coccinei, saepe variiegati, pedicellis gracilibus glabris suffuti, in racemum gracilem sed brevem glabrum sepius e ramis ortum dispositi; calyx glaber, limbo cyathiforme arguto sinuato-5-dentato; corolla glabra, c. 3/4 poll. longa, v. paullo longior, 5-angularis, campanulata, lobis longis lanceolatis acuminatis reflexis; filamenta brevissima; antheræ granulato-tuberculatae, loculis in tubos strictos anthera ipsa sublongiores dorso basi refracto-setosos terminatis.—Martaban.

163. Vaccinium macrostemon, nov. sp.

Frutex epiphyticus, 2-4 pedalis, glaber; folia cum basi crassa rotundata v. obtusa subsessilia, obovato-lanceolata ad lanceolata, acuminata, 3-5 poll. longa, marginibus integris recurva, coriacea, glabra, nervis tenuibus marginem versus liberis, tenuiter et laxe reticulata; flores coccinei, pedicellis gracilibus glabris in racemos magnis minusve elongatios glabros subulato-bracteatis solitariis v. genuinatim supra foliorum delapsorum axillis ortos dispositi; calyx glaber, limbo cyathiformi, lobis longe subulatis; corolla c. 1-3/4 poll. longa, glabra, subcurvo-tubulosa, lobis linearis-lanceolatis reflexis; filamenta glabra, gracilia, c. 3/4 poll. longa v. longiora; antheræ breviusculæ, connatae, laxe, loculis in tubos strictos anthera longiores productis; baccae fusiforme-ovoideae, apice angustatae et calycis limbo cyathiformi coronatae.—Martaban.

164. Vaccinium pumilum, nov. sp.

Frutex ramosissimus, parvus, epiphyticus, novellis pubescentibus; folia oblonga ad lanceolato-oblonga, petiolo brevissimo puberulo, basi acuta, obtusi-scula, crenulata, crasse coriacea, c. poll. longa v. breviora, subitus (in vivo albidi) pallida, nervis obsoletis; flores parvi, pedicellis brevissimis/pub-
rulis, in racemos (2 v. 1) terminales pubescentes bracteatos digesti; bracteae deciduae, albae, membranacea, foliaceae, ovatae, puberula et ciliatae; calyx pubescens, dentibus oblongo-lanceolatis, acutis, ciliatis; corolla c. 2 lin. longa, oblongo-urecolata, lobis brevissimis reflexis, 5-gona, extus glabra, intus inprimis ad faucem dense villosa, rosea; filamento brevia, filiformia, apice pilosa et barbata; antherae glabrae, loculis in tubum brevem lanceolatum subulatum basi bisectosum desinentibus; baccae parvae, purpureae, glabrae, calycis limbo coronae.—Martaban.

165 Vaccinium exaristatum, nov. sp.
Frutex magnus, sepius in arbusculam exsescens, novellis pubescentibus; folia oblongo-lanceolata ad oblongo-ovata, petiolis puberulis brevibus suffulta, basi acuta v. obtusiuncula, 1½-2½ poll. longa, acuta v. breve acuminata, subtus dum juvenilia parve pubescentia, glabrescentia, chartacea, serrulata, penninervia et inconspicue reticulata; flores albi, pedicellis 1-1½ lin. longis puberulis, racemum secundum gracilem puberulum axillarem formantes; bracteae coccineae, deciduæ; calyx puberulus v. subglaber, lobis triangulari-acutis, corolla 2-2½ lin. longa, glabra, urecolata, lobis reflexis brevibus; filamenta pilosa, basi dilatata; antheræ tubis brevibus et setis destitutæ terminantes; baccae globosæ, glabrae, rubrae, calycis limbo coronae.—Martaban.

Var. a. semipubescens, calyx glaber v. subglaber.
Var. b. pubescens, calyx pubescentem.

PRIMULACEÆ.

166. Lysimachia linearifolia, Griff., MS. in Hb. Griff. 3532.

MYRSINEACEÆ.

167. Ardisia Helferiana, nov. sp.
Frutex ? ferrugineo-tomentosus; folia obovato-oblonga ad oblonga, petiolis 3-4 lin. longis crassis dense ferrugineo-pubescentibus, breve acuminata, integra v. obsolete repando-dentata, 3-5 poll. longa, membranacea, utrinque ferrugineo-pubescentia, nervis lateralibus tenuibus et curvis; flores parvisculi, pedicellis ½-1 poll. fere longis ferrugineo-piliis sustenti, racemum umbelliformem ferrugineo-pubescentem pedunculo nudo 3-4 pollicari gracili
axillari suffulto formantes; calyx ferrugineo-pilosus, lobis oblongo-lanceolatis, acutis, lineam circiter longis; corolla glabra, lobis c. 2½ lin. longis, oblongis, acutis; drupae desunt.—Tenasserim (Helf. 3589).

168. Ardisia serrulata, nov. sp.
Frutex? novellis tomento minuto ferrugineo obtectis; folia lanceolata v. elliptico-lanceolata, basi in petiolum 5-8 lin. longum attenuata, breve acuminata v. acuta, repando-serrulata, basin versus integra, 4-6 poll. longa, tenuia et membranacea, glabra, parce punctata, nervis crebris approximatis, subparallelis-divergentibus et inconspicuis; flores parvi, pedicellis gracilibus inaequali-longis ferrugineo-puberulis suffulti, densissucole thyrsoido racemosi et paniculam terminalen v. ex axillis foliorum superiorum ortam amplam ferrugineo-puberulam bracteatam formantes; bracteae foliaceae, linearilanceolatae, 3-6 lin. longae, subtus ferrugineo-lepidoseae; bracteoleae minores, lineares; calyx ferrugineo-puberulus, lobis linearibus acutis c. 1 lin. longis; corolla subrotata, lobis ovatis acutis c. 2 lin. longis; drupae desunt.—Ava? (Griff. 3562). Inter A. nerifolium et A. floribundam, Wall., intermedia.

169. Ardisia rigidæ, nov. sp.
Frutex? novellis probabiliter indistincte ferrugineo-lepidotis; folia oblongo-lanceolata, in petiolum 4-6 lin. longum crassum attenuata, breve et obtusiuscucole acuminata, pergamaeae, integra, 6-9 poll. longa, glabra, punctata, nervis subut promientibus et subparallelis; flores...parvi, pedicellis ½-¾ lin. longis crassi minuto ferrugineo-puberulam nutantibus suffulti, paniculam terminalen compositam rigidam robustam ferrugineo-puberulam efficientes; calyx minuto et indistincte puberulus, lobis ovatis acutiusculis, vix ½ lin. longis, ciliolatis; corolla...; drupae immature globosae, glabrae.—Tenasserim or Andamans. (Helf. 3563).

170. M.esa muscosa, nov. sp.
Frutex ramis teretibus laevibus nitidisque, ramulis...; folia oblonga ad obovato-oblonga, basi acuta v. acuminata, petiolis ½-1 poll. longis validis parce puberulis, breve acuminata, grosse sinuato-dentata, pergamaeae, 5-7 poll. longa, glabra, co-ta subutus parce puberula, nervis secus margines in denticula callosa obtusa excurrentibus; flores minuti, 5-meri, pedicellis brevissimia pubescentibus suffulti, breve racemosi, in paniculam axillarem quasi muscosam petiolis 2-3-pl. longiorum ferrugineo-pubescentem disgesti; bracteæ lin. circiter longae, pedicellis longiores, ferrugineo-hirsutulæ, lineari-acuminatae; bracteole?; calyx ferrugineo-hirsutus, lin. fere longus, lobis ovato-lanceolatis acutis; corolla tubulosæ-campanulata, glabra, calyeae duplo longior, lobis brevibus rotundatis; ovarium sub-inferior; stylus calyeis lobos longitudine haud attingens.—Burma (Griff. 3556). Ex affinitate M. mollissi.
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**SAPOTACEÆ.**


Arbor medioeisis, novellis dense adpressae ferrugineo-pubescentibus; folia elliptica v. elliptico-oblonga, petioliis 4-5 lin. longis cupreo-puberulis glabrascentibus, breve acuminata, integra, marginibus recurvulis, 4-7 poll. longa, chartacea, minute ferrugineo- v. cupreo-sericea glabrascentia, supra niti-da, nervis lateralis prominentibus validis, transverse tenui-venosa; flores nondum reperti; fructus pruni magnitudinis, pedunculo nutante, longo, subglabro axillari sustenti, elliptico-ovati, apiculati, dense ferrugineo-puberuli, 1-2-spermi, basi calyce persistenti 6-partito lobis ovatis sus- tenuatis; semina semi-oblonga, 1½ poll. fere longa, lucida, brunnea.—*Andamans.*

**EBENACEÆ.**

172. *GUNISANTHUS MOLLIS*, nov. sp.

Arbuscula ramis novellisque brunneo-pubescentibus; folia petiolo brevissimo (c. 1 lin.) suffulta, anguste oblonga v. oblongo-lanceolata et saepius basin obtusam versus subangustata, obtusiusculce acuminata, 3-½ poll. longa, chartacea, supra secus costam et subtus omnino molliter pubescentia; flores ochracei, extus dense pubescentes, pedicellis 4-6 lin. longis pilosis suffulti, racemos breviusculos pilosis efficiences; calyces lobi lineari-lanceolati, c. 3 lin. longi, tubo multo breviores; corolla lobi tubo calycino paullulo longiores, feminei fructusque adhuc ignoti. *Diospyros mollis*, Kurz MS. olim.—*Martaban.*

173. *DIOSYDROS SAPOTOIDES*, nov. sp.

Arbor medioeisis, novellis parce ferrugineo-pubescentibus max glabrascentibus; folia elliptico-oblonga ad elliptica, basi obtusa, petiolo vix semi-policari glabrascente crasso suffulta, 6-8 poll. longa, breve et obtusiusculce acuminata, integra, coriacea, reticulatione laxissima subtili et immersa percura; flores hermaphrodito-feminei 4-meri, flavescenti albi, iis *D. supotæ* assimiles, subsessiles, glandulati, pedunculo crassissimo axillari brevissimo; calyx extus ferrugineo-pubescentis, lobi ovato-lanceolati marginibus reflexi et basi auriculato-complicati, 3 lin. fere longi, acuminati; corolla tubus urceolatus, calyce sub-duplo longior, extus ferrugineo-pubescentis, lobis obovatis tubi fere longitudinis; stamina c. 12, tubo basi inserta, glabra, inæqualia; andhere ovato-lanceolatae, acuminatae; filamenta filiformia, glabra; ovarium ovatum, glaberrimum, stylo moderate longo 4-fido; flores masculi fructusque desunt.—*Pegu.*—*D. undulata* arcte affinis, sed ovario glaberrimo discrepat.
174. **Symplocos pedicellata**, nov. sp.

Arbor mediocris subgracilis, novillis sparse adpresse sericeis; folia elliptico-lanceolata ad lanceolata, in petiolum 4—5 lin. longum gracilem glabrum attenuata, subcaudato-acuminata, obsolete crenato-serrulata, 4-5 poll. longa, tenuiter pergamacea, glabra, opaca, nervis et reticulatione laxa subtilibus; Flores ignoti; racemi graciles compositi paniculam depauperatam subsessilem minute adpresse pubescentem axillarem v. supra foliorum delapsorum cicatricibus ortam efficientes; bracteae case; bracteola ½ lin. vix longae, minuta, ovato-acuta, glabra, decidua; pedicelli vulgo 2 lin. longi, minute adpresse pubescentes; baccae immature ovoidae, 3-4 lin. longae, laeves, teretes, calyx limbo coronatae, putamen pergamaceum monospermum includentes; calyx lobi sub fructu lato-ovati, obtusi, c. ½ lin. longi, glabri. *Martaban.—S. lucida*, Wall., affinis, pedicellis distinguitur.

175. **Symplocos leiostachya**, nov. sp.

Arbor v. frutex subglaber; folia elliptico-lanceolata ad lanceolata, petiolis 3-4 lin. longis sparse hirtis suffulta, acuminata, crenato-serrulata, 2-4 poll. longa, subchartacea, supra lucida, subitus secus costam validam nervosque parce adpresse pubescentia, nervatione tenui et inconspicua percursa; flores parvi, pedicellis gracilibus 1-1½ lin. longis glabris suffulti, racemos numerosos graciles simplices glabros ex apice ramorum orientes efficientes; bracteae pedicelli basi insertae, lin. circiter longe, lanceolata, acuta, glaberrima; bracteola sub calycе 2, bracteis subconformes sed minutas; calyx laevis, lobis ovatis obtusi, c. 3 lin. longis; corolla rotata, lobis ovato-oblongis, obtusis, c. 1½ lin. longis; stamina numerosa, inequalia, basi tubo brevissimo inserta; baccae nondum vidi.—*Tenasserim* (Helf-3656).

176. **Symplocos leucantha**, nov. sp.

Arbuscula glabra; folia oblongo ad elliptico-lanceolata, basi sub-inaequa- lia, petiolo 2-3 lin. longo inserta, breve et obtusiuscula acuminata, 3-4 poll. longa, crenulato-dentata, chartacea, glabra; flores albi, fragrantës, pedicellis brevissimis vix ½ lin. longis crassis canescenti-tomentosis suffulti; racemi breves, tomentosi, axillares, bracteis nonnullis ovatis extus pubescentibus caducis sustentati; calyx glaberrimus v. ejus lobi ovati obtusi extus pubescentes, ciliolati, c. 2 lin. longi; petala obovato-oblonga, calyx lobis duplo longiora; stamina glabra, inaequalia, 5-adelpha, phalangibus basi loborum insertis; ovarium stylisque longus parce pubescent; drupa non viva.—*Pegu*. Ex affinitate *S. crataegioidis*, Don.

**APOCYNÆ.**

177. **Tabernàmontana ophiirrhizoides**, nov. sp.

Frutex 2-4 ped. altus, glaber; folia obovato-oblonga ad lato-lanceolata in petiolum brevissimum (2-3 lin.) attenuata v. foliorum nonnulla subsessi-
lia, breve acuminata, 3-5-poll. longa, integra, membranacea, glabra, subitus pallida; flores pedicellis 1-1½ lin. longis suffulti, cymas 3, v. raro 2, v. pluræ breve pedunculatas, v. nonnumquam subsessiles, glabras paucifloras in ramulorum superiorum furationibus sitas efferentias; calyx glaber, brevissimus, 5-fidus, segmentis lineam vix longis, lanceolatis, acutis; corollæ tubus subcrassus, c. 4 lin. longus, apice inflatus, lobis tubo vix dimidio brevioribus; folliculi...—Martaban. T. rostratae, Wall., affinis videtur, a qua inter alia corolla duplo breviore differt.

178. Tabernemontana membranifolia, nov. sp.
Frutex 3-4 pedalis, glaber; folia lanceolata ad lato-lanceolata, in petiolum 3-5 lin. longum attenuata, 3-5 poll. longa, longe et graciliter acuminata, integra, membranacea, glabra, subconcolora; flores albi, pedicellis gracilibus 4-6 lin. longis glabris inserti; cyma vulgo binae, breve pedunculatae, dichotomia-ramosa, glabra, laxæ, corymbiformes in ramulorum superiorum furationibus sita; bractea et calyx nonnull. et decidæ; calyx minutus, lobis lineari-subulatis, lineam vix longum; corolla tubus gracilis 1 poll. longus, infra medio circa antheras leviter inflatus, lobi lineari-lanceolati, acuminati, tubo dimidio circiter breviores; folliculi desunt.—Martaban. T. subcapitatae, Wall., affinis, sed calyce jam distincta.

BIGNONIACEÆ.

179. Spathodea velutina, nov. sp.
Arbor, novillis fulvo-puberulis; folia impari-pinnata, 1-1½ ped. longa, petiolo glabro striato basin versus 1-2 foliolis diminutis stipuliformibus munita; foliola 4-juga cum impari longe petiolato, basi inaequalia, sessilia v. subessilia, oblongo-lanceolata, acuminata, 4-6 poll. longa, serrulata, membranacea, glaberrima; inflorescentia deest; calyx spathaceus, recurvato-acuminatus, extus fulvescenti-velutinus, c. 1½ poll. longus; corolla c. 3 poll. caris, campanulato-infundibuliformis, glabra, tubo pollicari constricto, filamenta glabra, tubo supra constrictione inserta; capsula deest.—Ava, Pegu (Dr. Brandis).

180. Heterophragma sulfurea, nov. sp.
Arbor medioëris decidua, novillis tomento fugaceo canescenti-villoso obductis; folia impari-pinnata, 2-3 ped. longa, rachi petioloque fugaciter floccosotomentosus; foliola 4-juga cum impari longe petiolato, elliptica et ovato-elliptica ad ovalia, juniora obtusiuscule apiculata v. obtusiuscula et obsolete serrata, basi rotundata v. obtusa, sessilia v. brevissime petiolulata, 4-6 poll. longa v. longiora, chartacea, parce puberula, supra mox glabrescentia; flores sulfurei, conspicui, pedicellis canescenti-v. flavescenti-tomentosis 3-4 lin. longis suffulti, paniculas breves terminales dense tomentosas efficiences; calyx ½-3 poll. longus v. brevior, campanulatus, usque ad medium fissus,
distincte 8- v. 2-lobatus v. dentatus, extus cinerascenti-tomentosus, intus glaber; corolla infundibuliformis, glaberrima, tubo pollicari v. longiori, lobi patentes tubo plus quam duplo longiores, undulato-crispati; capsulae usque 2 pedales, iis Spathodeae stipulatae assimiles, elongato-linear-oblongae, compressa, dense fumoso-tomentosa, septo brevi et valde reducto, medio sepi instar dilatato; semina elongato-membranaceo-alata, c. 2 poll. longa.—Prome, Pegu.

181. Spathodea ignea, Kurz, in Journ. As. Soc. Beng. vol. XL, p. 77 descripta, potius generis novi typum præbet, calyce tantum usque ad medium fissum circumscisse decidual spathaceo, filamentis usque ad medium corollae adnatis, antherarum luculis parallelis, nec non foliis decompositis a Spathodea distinguire potest et sub nomine Mayodendri (in honorem viri nobilissimi M. y. o, præregis infausti Indio orientalis, dictum) in narratione mea officiali de sylvis Burmanicis fuisse descripsit et iconibus illustravi.

182. Stereospermum Neuranthum, nov. sp.
 Arbor mediocris, novellis mollloribus pubescentibus; folia impar-pinnata, juniora præsertim subtus pubescentia, 1-1½ ped. longa; foliola 3 v. 2-juga cum impari longe petiolo, basi subinaequali acuta v. obtusa, petiolo crasso 1-2 lin. longo sūfulta, obtusiuscula v. obtusiisucule apiculata, 2-4, nonunquam usque ad 5-6, poll. longa, integra, rigide chartacea, juniora subtus canescenti-tomentosa denuo magis minusve scabrescentia, supra scabrescentia glabrescentia et subrugulosa; flores conspiciui, pallide lilacini v. cyanescenti-albi, atropurpureo-vulno, pedicellis 4-7 lin. longis pubescentibus apicem versus bibracteolatis, in paniculam brevissumam subcymiformem pubescen-
tem terminalis dispositi; calyx c. 4 lin. longus, pubescens, breviter 4-lobus; corolla campanulato-inafundibuliformis, suberula, puberula, lobis leviter undu-
lato-crispati; capsula elongato-lineares, cylindrico-4-gone, glabrae, 1-1½ ped. longae; semina et septum uti in S. chelonioid.—Pegu.

ACANTHACEÆ.  

183. Ruellia flaccida, nov. sp.
 Herba debilis, pilosa, ramosa et suberecta, 1½-2 pedalis, caulibus longe et patenter pilosis; folia ovata, basi contracta et in petiolum gracilem pilosum ½-3 poll. longum attenuata, obtusa, 1½-2 poll. longa, membranacea, obsolete crenato-dentata, præsertim supra parce pilosa; flores parviisculi, pallide cœrulei, inter bracteas foliacea obovato-oblongas obtusas v. emarginatas pilosas fríbriatæ vañgo solitarii et sessiles; calyx 3 lin. fere longus, lobis lineariibus, ciliatis et pilosis; corolla c. 6 lin. longa, tubuloso-infundibuliformis, glabra, tubo breviusculo, lobis brevibus rotundatis; stamina 4, filamenta longe pilosa; stylum simplex, 6 lin. fere longus, glaber; ovarium glabrum.—Pegu.
184. Ruellia macrosiphon, nov. sp. (R. sp. T. And. in Linn. Proc. IX. 461 in nota).

Herba perennis? subsimplex, 2-3 pollicaris, caulibus hirsutis, novellis pilis albis crisps sublanuginosis; folia lineari-lanceolata v. linearia, c. 2 poll. longa, acuminata, in petiolum brevissimum attenuata, integra, membranacea, ciliata, utrinque præsertim secus nervos hirsutula; flores magni, solitarii, sessiles, bracteis 2 foliaceis pedunculum brevem axillarem terminantibus insidentes; bracteæ lineari-lanceolatae, calyce pluris longiores, structura et indumento folii similis; calycis segmenta lineari-subulata, c. 2½ poll. longa, minute puberula; corolla tubulosos-infundibuliformis, c. 2 poll. longa, extus parce pilosula, lobis magnis rotundatis, tubo pollicari gracili in corollæ partem efflatam sensim ampliato; stylus longissimus, parce hirsutus; stamina 4, subaequilonga, inclusa; filamenta gracilia, parce hirsuta.—Prome? (Col. Eyre). R. suffruticosæ, Roxb., arcto affinis.

185. Strobilanthes (Hemigraphis) Burmanica, nov. sp.

Herba decumbens ramosissima pilis albis patentibus cum glanduliferis intermixtis vestita, cauli ramisque 4-gonis; folia ovata ad ovato-lanceolata, basi in petiolum ¼-2 poll. longum pilosum angustata, obtusiiscula, 1½-2 poll. longa, membranacea, crono-dentata, utrinque parce pilosa; flores pallide cyanci, passim solitarii et axillares, frequentius automat in spicas longiores v. breviores foliaceo-bracteatas pilosas pedunculatas axillares et terminales digesti; bracteæ ovato-lanceolatae, obtusiisculac, integra, parce pilosa et longo ciliata, inferiores usque ad 7 lin. longae; bracteole nullo; calyx pilosus, segmentis linearibus 4 lin. longis; corolla rugata, 6 lin. circiter longa, glabra, or pubescens, sensim in tubum attenuata, lobis obtusis rotundatis; anthora 2-locularis, pallide violacea; filamenta crassa, piloso-barbata; stylus inaequali-2-fidus; capsule 4 lin. longa, compresso-4-gona, obovato-linéares, acuta, glabra, a basi fere 8-sperme; semina plus quam ½ lin. in diametro, anguste marginata.—Ava, Prome, Pegu. S. (Hemigraphis) Pavala, quacum cl. T. Anderson confudit, affinis.

186. Strobilanthes (Hemigraphis) glandulosa (Hemigraphis glandulosa, T. And. MS. in Kurz, And. Rep. App. B. 13.)

Herba ramosa, glandulosum-puberula; folia lanceolata v. oblongo-lanceolata, obtusiisculæ acuminata, in petiolum glandulosum brevem attenuata, 2-2½ poll. longa (superiora minora) repando-dentata, præsertim subitus secus costam glandulosum-puberula, supra glabrescentia; flores parvisculi, pulchre lutei, in axillis bractearum foliacearum vulgo solitarii, spicas 1 v. 2 axillares et terminales interruptas longe-pedunculatas foliaceo-bracteatas efferentantes; bractœ folii caulinis similis sed multo minores, obtusa, superioris sensim minores; bracteolæ calyce breviores, obovato-oblongae, viscosa-hirsute; calycis segmenta lineari-spatulata, obtusa, glandulosum-hirta, c. 2½.
lin. longa; corolla e. 3. lin. longa, campanulato-infundibuliformis, tubo brevi extus puberulo intus lavi, lobis rotundatis; stylus et filamenata glabra; capsule clavata, compressiuscula-4-gomne, calycis longitudine v. paullo longiores, apiculatae, glanduloso-puberulae, abortu vulgo 2-3-spermæ.—Andamans. Ex affinitate S. (Hemigraphis) Griffithiana.

187. Strobilanties Neesi, nov. sp.
Frutex Magnus, 10-12 pedalis, ramulis puberulis glabrescentibus; folia lanceolata ad oblongo-lanceolata, breve acuminata, in petiolum 1½-1¾ poll. longum attenuata, obsolet repan-do-dentata, 5-7 et sepium usque ad 10 poll. longa, membranacea, utrinque pilis minutis adpressis adpersa, subitus secus costam puberula; flores majusculi, in spicas densas bracteatas sessiles denuo elongatæ laxas interruptas axillares et terminales dispositi; bracteæ inferioris v. potius folia floralia foliaceæ, valde caduæ, c. ¾ poll. longæ v. longiores, setis brunnæcis ciliatae, apicem versus fissæ et serratae; bracteæ versus oblongo-lineares, calyce breviores, apicem versus vulgo parce serrato, acuminatiissime, glandulosopilosæ; bracteæ 2, calycis longitudine, linear-lanceolata, acuminatae, basi attenuatae, glandulosohirsutæ; calycis segmenta c. 6 lin. longa, v. longiora, linaria, canescens, ciliata, acumen versus sepium glandulosohirsuta; corolla 1½-1¾ poll. longa, purpurea, extus glabra, intus fauce secus plicam duplicata pubescens, tubo longo et gracili; stamina 2 (?); filamenta glabra, filiformia, alte adnata; stylus hirsutus; capsula lineari-clavata, calyce paullo longiores, glabrae, acuminæ parce hirtule, 4-spermæ; semina sericea.—Martaban. S. fimbriata, N. E., maxime affinis, sed indumento glanduloso nigrescente, corolla et filamentis glabris differt.

188. Strobilanties fætidissima, nov. sp.
Herba ramosa, caulibus divaricatis subteretibus, plus minusve dense fulvo-pilosæ; folia ovata, basi in petiolum longum gracilem fulvescenti-pilosum attenuata, acuminata, membranacea, 3-5 poll. longa, serrato-dentata, utrinque albidæ v. ochraceo-hirsutæ; flores cyanei, conspicui, spicam laxissimum brevem albido-pubescentem pedunculo brevi axillari dense fulvescenti-hirsutæ suffultam v. subessisilem efformantæ; bracteæ obovato-cuneatae, c. 8 lin. longæ, obtuse, herbaceæ, glandulosohirsutæ; bracteæ bractois conformes sed angustiores et subbreviores; calyx bractearum longitudine, adpressa glandulosopuberulus, segmentis profunde lobulatis; corolla 1½ poll. fere longa, glabra; filamenta glabra; stylus hirsutus; capsule c. 8 lin. longæ, glaberrimæ; semina fere 2 lin. in diametro, adpressa villosa.—Martaban. S. rufescenti affinis.

189. Strobilanties pterocaulis, nov. sp.
Herba annua, robusta, crecta, ramosa, sparse hirsuta, caulibus crassissimis quadrangulari-alatis, alis herbaceis dense simbratis; folia 8-12 poll.
longa, obovato-oblonga, basi angustato-cuneata ciliata in petiolum crassum brevissimum (2-3 lin.) decurrentia, breve acuminata, crenato-dentata, membranacea, utrinque plus minusve hirsuta; flores parvi, flavescentes, spicas breves dense bracteatas glandulosas 3-4-nas in paniculam axillarem dispositi; pedunculi et ramificationes acute 4-angulati, anguste alati, et dense hirsuto-ciliati; bracteae obovato-cuneatae, obtusae, 3-4 lin. longae, glandulosofimbriatae et apice pilis hyalinis articulatis glanduloso-hirsuta; bracteolae 2, calycis longitudinal, obovato-linearia, apice glanduloso-hirsutae; calyx segmenta linearia, obtusiuscula, 3 lin. fere longa, hyalino-chartacea, apice parce glanduloso-hirsuta; corolla omnes case; capsule calyx longitudinalae v. paululo longiores, lineari-oblongae, 4-angulares, apice hirsutae, 4-spermae.—Pegu. St. imbricatae, NE., affinis.

190. STROBILANTHES KARENSIUM, nov. sp.
Herba perennis, ramosa, magis minusve albo-hirsuta; folia caulina inferior brevissime petiolata, superio ria subsessilia, ovata, brevissimo acuminata, membranacea, crenata, utrinque hirsuta, 2-3 poll. longa v. longiora; spica breves, densiusculae, infra basi foliolis nonnullis floralibus subsessilibus hirsutissimis sustentae; pedunculo stricto hispido terminali v. axillari suspello; bracteae lineares, e. 4 lin. longae, obtusiusculae, dense glandulosopubescentes; bracteole lineari-subulatae, glandulosopubescentes; calyx subscariosus, bracteolarum longitudinalae, segmentis lato-linearibus albido-marginatis sursum pubescentibus; corolla cyanae, pollicem fere longa, glabra; filamenta secus partem adnatae hirsuta; capsule bracteolarum longitudinalae, dorsi pubescentes.—Martaban. Habitu S. acrocephali, characteribus essentialibus autem S. glomeratae proxima.

191. S. SUBFLACCIDA, nov. sp.
Herba gracilis, glabra, caulibus obsolete 4-gonis sulcatis; folia lanceolata ad oblongo-lanceolata, acuminata, basi in petiolum ½ poll. longum attenuata, repando-dentata, flaccida, membranacea, 5-6 poll. longa, supra glabra subtus pilis minutis adpressis albidis adspersa; spica dense et minute adpressae hirsutae; bracteae lato-obovato-oblongae ad oblongae v. obovato-lanceolatae, obtusissimae v. emarginatae, minute puberulae, enerviae, (purpureae?) coloratae, e. 2 lin. longae; bracteole paullo breviores, minus obovatae, 1-nerviae, minute adpressae pubescentes; calyx bilabiatus, labio superiore glabro usque ad ½, partem trilobo, lobis obtusis obsolete ciliatis, labio inferiori fere usque ad basin bifido, lobis linearibus obtusis, 1-nerviis extus minute pubescentibus; capsule 2-2½ lin. longae, calycem non superantos, clavatio-oblongae, glabra.—Tenasserim. (Helf. 6114).

192. STROBILANTHES DASYSPERMA, nov. sp.
Herba erecta, ramosa, subglabra, 3-4 pedalis; folia inferiora magna, 6-8 poll. longa, oblongo-lanceolata ad lanceolata, basi cuneata in petiolum bre-
viusculum decurrentia, acuminata, serrato-dentata, membranacea, ciliata et supra pilis raris brevibus adspersa, subitus glabra et subglaucescentia; superiora caulina multo minora et basi magis rotundata; v. cordata, ovata, haud decurrentia, breve petiolata v. summa sessilia; flores cyanei, in capitula parva glanduloso-puberula podunculata congesti, paniculam spuriam terminalem glanduloso-puberulam efformantes; bracteae parvae, oblongae, acutae, glandulosae; calyx glandulosus, segmentis linearibus 3 lin. fere longis; corolla glabra, infundibuliformis, poll. fere longa; filamenta et stylus sparse pilosi; capsulae calycis longitundine, obovato-4-gono, glandulosopubescentes, 4-spermi, seminibus stupioso-villosulis.— _Pegu._ Habitum S. Barhaavioidis, T. And., assimilis, floribus capitatis &c., autem in vicinitatem S. pentatemonooidis, T. And., referenda.

193. _Barleria stenophylla_, nov. sp.

_Herba perennis, inermis, 1-1½ pedalis, subglabra, ramis erectis gracilibus, omnibus partibus plus minusve nitentibus; folia anguste linearia, 3-4 poll. longa, c. 2 lin. lata, spinoscenti-acuta, subsessilia, coriacea, integra, supra adpressa hirsutula et sublucida; flores magni, sessiles, fasciculati, bracteati axillares et terminales; bracteae lucide, rigide, ovato-lanceolatae, pungenti acuminatae, spinoscenti-ciliatae, extus secus costam adpressa hirsutae; sepalae exteriora oblonga, apicem 2-fida, rigide ciliata, poll. fere longa, glabra; interiora brevissima, lineari-lanceolata, adpressa pubescentia; corolla circ. 2-pollicaris, puberula, cyanea?; tubo gracili sesquipollicari, lobis 8 lin. longis, rhomboideo-oblongis apiculatis crenatis; capsulae desunt.— _Avá_ (Dr. J. Anderson).

194. _Neuracanthus grandiflorus_, nov. sp.

_Herba divaricata v. suborecta, subrigida, ramis retrorse-hirsutis v. lineis 2 v. 4 retrorse villosis notatis; folia parva, 1½-2 poll. longa, vulgo obovata v. oblonga, obtusiuscula v. breve acuminata, basi in petiolum brevissimum latum attenuata v. superiora subsessilia, obsolete dentata, membranacea, glabra; florae majusculae, pallide v. intume cyanei, spicas elongatas densas v. laxas subtetragonas hirsutae rigide-bracteatas ex foliorum axillis v. e rhizomate protrusas efficientes; bracteae ovato-lanceolatae, rigide, 5-nerviae, pubescentes et hirsutae, acuminatae, pungentes; calyx bilabiatus, pubescens, secus segmenta linearia parce pilosus, prominenter 5-costatus; corolla ½ poll. longa, rugata, lobis obtusis; capsula tetragono-lanceolata, acuminatae, glabrae, 3 lin. longæ, 4-spermae; semina serico-splendentia.— _Prome._

195. _Neuracanthus subuninervis_, nov. sp.

_Herba erecta, probabiliter 1-2 ped. alta; folia adulta &c., ignota; Flores albi, parvi, in spicas laxiusculae-bracteatas subtetragonas glandulosas et parce pilosae et rhizomate protrusas digesti; bracteae lanceolatae, pungenti-acuminatae, rigide membranaceous, e. 3 lin. longae, concavæ, medio prominenter
costatae, costis autem 4 lateralisbus obsolitis, glanduloso-puberulis, secus nervos pilosi; bracteola bractearum longitudine, falcato-lineares, sub-3-nerviae, acuminatae, glanduloso-puberulis et piloso-ciliatae; calyx profunde, fere usque ad basin, 5-fidus, nervis evanidis, glanduloso-puberulis et piloso-ciliatis, lobo superiore majore e. 4 lin. longo, lineari, acuto, lobis lateralisbus paullo brevioribus, subulatis, 2 inferioribus basi tantum connatis et angustioribus; corolla alba, intus prosertim ad labellum brunnneo-maculata, extus puberula, 4 lin. fere longa, tubo 2 lin. longo; labium superius emarginatum, marginibus reflexum, inferioribus 3-lobum, lobis oblongis rotundatis mediano sub-brevisori; antherarum loculi compressi, barbate, obliquo; filamenta brevissima, fauci inserta; reliqua ignota.—Prome.

196. **LEPIDAGATHIS STROBILINA**, T. And. MS.

*Herba* 1-2-pedalis, glabra. caulibus teretibus elevato-4-lineatis; folia lanceolata, basi cuneata in petiolo decurrentia, acuminata, membranacea, integra, 7-8 poll. longa, glabra et nitentia; capitula florum laxa, terminalia, majora; bracteae c. poll. longae, oblongo-lanceolatae, acuminatae, tenuiter chartaceae purpureo-lilacino-tinctae, 1-nerviae et reticulatae, glanduloso-puberules; bracteoleae bracteis conformes, angustiores; calyx magnus; corolla magna, purpureo-lilacina, poll. fere longa, infundibuliformis, tubo brevi; capsule desunt.—Martaban. (Rev. Parish).

197. **JUSTICIA DASTCARPA**, nov. sp.

*Herba* ramosa, 1½-3 pedalis, subglabra, caulibus spotius lineis 4 hirtulis notatis; folia ovata, passim subobliqua, in petiolo gracili longo decurrentia, 3-5 poll. longa, breve acuminata, integra, membranacea; pilis minutis adpressis scabra; flores parvi, candidi, spicas breves laxae bracteis solitariis axillares v. plures terminales efformantes; bracteae ovato ad ovato-orbicularres, brevissime acuminatae, 3-4 lin. longae, membranacea, virides, sparse ciliatae; bracteola calyce paullo longiores, lineari-lanceolatae, puberulae; calyx 1½ lin. longus, puberulus, lobis lineari-lanceolatis acuminatis; corolla 3½-4 poll. longa, labio superiore oblongo obtuso, inferiore 3-lobo; antherae albae; capsule fere 4 lin. longae, clavata, dense puberulae, 4-spermae; semina verruculosos-aspera.—Martaban. *J. Atkinsoniana*, T. And., affinis, sed floribus longe distat.

198. **JUSTICIA CALONEURA**, nov. sp.

*Herba* perennis, erecta, glabra, 2-3 pedalis; folia elliptico-oblonga ad lanceolata, acuta v. acuminata, basi cuneata et secus petiolum totum foliaceo decurrentia, 6-8 poll. longa, integra v. subintegra, membranacea, glabra v. subitus secus nervos laterales numerosos approximatos fugaciter adpressae puberulae; spica glabra, terminales, pedunculis brevissimis v. sessiles; bracteae decussatis oppositis, sub-orbiculares, acuta v. apiculata, ciliatae, c. ½ poll. longae, virides et nervosae; bracteolae lineari-lanceolatae, acuminatae; calyceis
segmenta linearia, minute pubescentia; corolla ½ poll. longa, extus puberula, intus secus filamentorum bases adnatas villosa, straminea, labio inferiori 3-lobo obscure-striato, labio superiore paullo longiore, concavo, 2-denticulato; capsule desunt.—Martaban. Precedenti affinis.

199. Justicia flava, nov. sp.

Herba 2-3 pedalis, erecta, ramosa, subglabra, ramis (præsertim superiores) 6-5-gonis, parce hirsutulis; folia ovata ad ovato-lanceolata, basi angustata et in petiolum longiorem v. breviorem indistincte hirsutum deciduum, acuminata, 4-6 poll. longa, integra, membranacea, siecando nigrescentia, utrinque pilis raribus brevibus adspersa; flores lutescentes, pedicellis brevissimis, in racemos brevæ cymaformes paucifloros glabros axillares petioli cirriter longitudinis dispositi; bracteæ et bracteolæ remotae, lineares, parvæ, glabrae; calyx glaber, c. 1½ lin. longus, lobis lineari-lanceolatis, acuminatis; corolla c. 3½-4 lin. longa extus secus venas pubera, tubo brevi, labio superiore concavo, inferiore 3-lobo, faucem versus rugato, lobis rotundatis; filamenta glabra; anthera inferior calcarata; capsula elata, tumida, acuta, glabrae ½ poll. fere longe, 4-spermae; semina minute rugulosa.—Martaban.

200. Dicliptera speciosa, nov. sp.

Herba annua, erecta, ramosa, 1-3 pedalis, pilosa, caulibus sub-teretibus lineis 4 elevatis notatis plus minusve glabrescentibus; folia ovata ad ovato-oblonga et lanceolata, in petiolum pilosum v. substupposo-ciliatum 1-2 poll. longum decurrentia, breve acuminata, 5-7 poll. longa, integra, membranacea, utrinque pilis crisptatis adspersa; flores albi, raro pallide cyanæ, in cymis brachiatas longius v. brevius pedunculatas glandulosopubescentes v. pilosas congregati et paniculam magis minusve compositam efficiens; bracteæ obovato-lineares, obtusa (v. in var. ß acuta), c. 3-1½ lin. longæ; bracteolæ dimidia breviores, lineari-subulatae; calyx bracteolis vix brevior, minute puberulus, segmentis subæqualibus, lineari-subulatis et minute ciliatis; corolla 7-8 lin. longa, resupinata, tubo 2½ lin. fere longo, labio superiori lineari-lanceolato, obtuso, lobo mediano brevi reflexo, labio inferiore 3-lobo, eymbiformi-complicato, lobis 2 lateralibus horizontaliter patentibus rotundatis; antherea superpositæ, albae; capsula lato obovato-cuneata, glandulosopuberula, c. 4 lin. longe, 4-spermae; semina verruculis minutis flavescentiisbus aspera.—Peyu.

Var. a. genuina, bracteæ obtusa, glandulosopuberula; caules glabrescentes; corolla alba, labio inferiore coccino-punctato; pedunculi glandulosopuberuli, breviores (forma umbrosa).

Var. ß. pilosa, caules, inflorescentia &c., patentæ-pilosa; bracteæ lineares acutæ, pedunculi vulgo longiores; corolla praecedentis, raro pallide cyanæ, intus atropurpureum-maculata, (forma arida, an species?)
Acanthacearum genera in regno Burmanico adhuc observata secundum systema Neesianum paulisper mutatum sic distinquenda:


* Corolla in labellum magnum expansa, lobis superioribus omnino suppressis v. rudimentariis, tubus brevissimus v. nullus.


** Corollae tubus longus, limbus 5-lobus usque ad tubum fissus.


Trib. 2. RUELLIEAE. *Calyx magis minusve irregularis, saepius bilabiatus.* Corolla infundibuliformis, hypocraterimorpha v. raro ringens. Stamina 4 v. 2; anthereae 2-loculares, loculis parallelis, rarissime obliquis (nec autem superpositis). Capsulae bases sterilli attenuatæ v. a basi seminferæ. Semina compressa, retinaculis uncatis sustenta.

* Barleriae Calyx 3-partitus, sepalis decussatis, 2 exteriroibus saepius majoribus. Capsulae a basi seminferæ.

5. *Barleria,* L. Corolla infundibuliformis. Stamina 4, raro 5, quorum 2 v. 3 saepius sterilia et rudimentaria; antherearum loculi paralleli.

** Neuracanthae. Calyx 5-fidus, irregularis, v. bilabiatus, v. segmento superiori tantum maximo. Corolla bilabiata

O Calyx bilabiatus. Capsulae dissepimenta non secedentia. Spicae rigidae v. scariosae, vulgo 4-stichae.

6. Neuracanthus, N. E. Stamina 4; antherarum loculi obliqui. An potius cum genere sequenti conjungendum?

7. Lepidagathis, Willd. Stamina 4; antherarum loculi paralleli.

OO Calycis segmentum superior maximum et bracteiforme. Capsulae dissepimenta in lamellas 2 seminifera secedentia.


9. Ruellia, L.

10. Hemigraphis, N. E. Genera inter se valde affinia postea a me accuratius cruenda.


O Spicae v. paniculae nudeae, i. e. bracteis minutis, persistentibus.


13. Eranthemum, L. Flores 2-5-morphae, fertiles minuti, clausi v. appertii; steriles speciosi, hypocraterimorphi, limbo subregulari tuboque longissimo.

OO Spicae foliaco-bracteateae, bracteis nonnunquam deciduis.


O Corollæ tubus longus, gracilis, limbi lobos longitudine superans.

   Antherarum loculi haud calcarati.
   OOO Corollæ ringentis tubus brevis.


   OOO Corolla bilabiata, tubo gracili longitudine loborum v. breviore.


22. *Cystacanthus, T. And.* Characteres præcedentis, sed stamina fertilia 2, cum 2 rudimentariis.

   OOO Corolla ringens. Stamina 2. Capsula planiuscula, sursum sepius latiores.
   Antheræ basi sepius barbatæ v. villosæ. Racemi v. paniculæ nudæ.


** Antherae nudae.


O Stamina 2.


OO Stamina 4.


**VERBENACEÆ.**

201. *Vitex canescens*, nov. sp.

Arbuscula 25—35 pedalis, partibus omnibus junioribus canescenti v. Gilvescenti-pubescentibus; folia digitatim 3—5—foliolata, petiolo 1—2—pollicari tomentello suffulta; foliola sæpius breve (inter medio multo longius) petiolulata, ovata v. ovato-lanceolata, ad elliptica et elliptico-lanceolata, acuminata v. acuta, basi attenuata, integra, v. raro crenato-serrata, membranacea, juniora utrinque dense canescenti-pubescentia, supra denuo scabrescenti-puberula; flores albi, parvi, pedicellis gracilibus 1—2 lin. longis tomentellis suffulti, glomerati, paniculas circaeae v. Gilvescenti-tomentellas compositas v. simplices terminales et supra foliorum delapsorum ortas efficiences; calyx canescenti-pubescentis, lin. circiter longus, 5-dentatus; corolla calyce duplo longior, extus tomentosa; drupae obovoides, læves, pisi magnitudinis, calyce magis minusve explanet insidentes.—Prome. V. Negundo, L., affinis, differt inprimis floribus graciliter pedicellatis.

**LAURINEÆ.**


Frutex glaber, gemmis velutinis; folia ovato ad ovato-oblonga, 2 1/2—4 poll. longa, basi rotundata subdecurrentia, petiolo crasso lato 2—5 lin. longo, glabra, rigide coriacea, obtusa et passim rotundata, marginibus recurvis, subtus glauca, nervis, simul cum reticulatione copiosa, prominentibus;
flores...; paniculœ folio longiores, glabrae, longe-pedunculæ; pedicelli sub fructu brevissimi (1—1½ lin. longi) et incrassati uti in Phœbe; perianthium minute adpressæ pubescens, segmentis patentibus oblongis obtusis; fructus globosi, glabri, pisi magnitudinis.—Martaban (Dr. Brandis).

203. Tetranthera (Cycicotaphne) calophylla, nov. sp.

Arbuscula, novillis fulvescenti-tomentellis; folia ovato-oblonga ad lanceolata, basi acuta v. acuminata, longius v. brevius acuminata, petiolo ¼—1 poll. longo magis minusve tomentoso suffulta, rigide membranacea, 3½—7 poll. longa, supra lutescenti-viridim et (costa immaesa excepta) glabra, sub-tus pallida, tomentella, penninervia, prominenter reticulata; flores in umbellam parvam bracteatum congesti; umbelœ pedunculo 2½—3½ lin. longo tomentello solitario axillari suffultæ v. secus ramulum novellum axillarem fulvo-tomentosum quasi racemiformem disgestæ, raro in racemum versus brevem corymbiformem pedunculo fulvescenti-puberulo suffultum efformantes; involuceri foliola concavo-rotunda, puberula; perianthium extus pubescens; filamenta glabra; antheræ 4-locellatæ; bacca oblongo-ovata, ¼ poll. fere longa, lœvas, carnosa, cupulæ majusculæ truncata extus minuto pubescenti in pedicellum brevem crassum attenuatâ suffultæ.—Martaban, Tenasserim. Species quodam folia et inflorescentia variabilis, Cycicot. Wightiæ, N. E., arcte affinis ejusve probabiliter varietas insignis ?

204. Tetranthera (Cycicotaphne) nuculanæa, nov. sp.

Frutex ramulis teretibus tomentosis; folia obovato-oblonga ad oblongo-lanceolata, petiolis 4—5 lin. longis pallide-tomentosis suffulta, basi acuta, 5—6 poll. longa, obtusiusculæ apiculata, crasse chartacea, supra glabra, sub-tus glauca et plus minusve dense puberula, reticulatione inter nervos laterales crassiusculos tenui sed conspicua; flores..., apparenter umbellas sub-sessiles axillares formantes; pedunculus in speciminius fructigeris crassissimis vix 3 lin. longus; fructus pallide straminei, oblongi, c. 6—7 lin. longi, lœves, cupula integra magna carnosa suffulti.—Tenasserim. (Rovd. Parish).

205. Tetranthera (Cycicotaphne) albicans, nov. sp.

Arbuscula, novillis minute puberulis; folia oblongo-lanceolata ad lanceolata, basi attenuata, petiolo 5—8 lin. longo gracili subglabro suffulta, breve acuminata, chartacea v. tenuiter coriacea, 6—10 poll. longa, glabra, sub-tus albida, reticulatione inter nervos tenues prominentes tenui sed conspicua; umbellæ involucrate, velutino-tomentose, pedunculo gracili c. 4 lin. longo canescenti-tomentoso suffulti, in racemum abbreviatum v. subssesilem velutino-tomentosum axillarem v. vulgo supra foliorum delapsorum cicutricibus orientem dispositi; involucri phylla canescenti-velutina; fructus...; cupula
magna, carnosa, undulato-lobata, in pedicellum crassum attenuata.—Pegu.
Ex affinitate T. Panamojæ, N. E.

206. LITSJEA LEIOPHYLLA, nov. sp.
Arbor inflorescentiis exceptis glaberrima; folia lanceolata v. oblongo-lanceolata, 5—6½ poll. longa, basi subinaequali acuminata, petiolo gracili 1—1½ poll. pollicari glabro suffulta, obtuse acuminata, tenuiter coriacea, glaberrima, supra lucida, subitus vix glaucescensia, supra basi triplinervia at pen-
ninervia, obsoletissime reticulata; flores fulvo-villosi, pedicellis brevibus tomentosis suffulti, racemos axillares petiolo brevioribus abbreviatis fulvo-
villosos simplices formantes; filamenta glabra; baccæ desunt. Tenasserim v. Andamans. (Helf. 4330).

207. DAPHNIDIIHUM ARGENTOEUM, nov. sp.
Arbor parva, novellis argenteo-sericeis; folia lanceolata v. lato-lanceo-
lata, utrinque acuminata, petiolo 3—5 lin. longo argenteo-pubescente gla-
brescente suffulta, 3½—6½ poll. longa, crasse chartacea, supra glabra, subtus adpresse argenteo-sericca, penninervia, utrinque laxe reticulata; flores vire-
scenti-lutei, pedicellis brevissimis tomentosis, in racemum brevem tomen-
tosum basi bracteis concavis pubescentibus involucratum disgesti; perian-
thium 6-fidum, extus adpresse pubescens; antheræ 2-locularæ; filamenta subglabra.—Pegu, Martaban.—Species insignis, foliorum structura et habi-
tu Beilschmiediae genus in mentem revocat.

PROTEACEÆ.

208. HELICIA PYRHIHOBOTYA, nov. sp.
Arbor ? , novellis ferrugineo-villosis; folia obovato-lanceolata, breve acuminata, versus basin obtusam attenuata, c. pedem longa, petiolis crassis 2—5 lin. longis suffulta, chartacea, grosse serrata, adulta glabra v. subtus secus costam sparse ferrugineo-pubescentia; flores 1—1½ poll. longi, gemi-
nati, pedicellis crassis 1½ lin. longis ferrugineo-villosis suffulti, racemos c. pedem longos robustos dense ferrugino-villosos axillares efficaces; squa-
mulio hypogynio ...; ovarium stylisque leves. Martaban, (Dr. Brandis).

PODOSTEMACEÆ.

209. HYDROBRYUM LICHENOIDES, nov. sp.
Plantulæ minutæ gregariæ; rhizoma latum membranaceum, lobatum, ter-
ro v. saxis adpressum, viride, vix ½ lin. latum, 2—3 lin. longum; folia perpauca tantum pedicellorum basi sita, squameiformia; pedicelli filiformes, ½ lin. longi; capsulœ globosœ, c. ½ lin. in diametro, lato-8-costato.—Mar-
taban. (Revd. Parish).
URTICACEÆ.

210. Elatostema membranifolium, nov. sp.
Suffrutex erectus, ramosissimus, E. lineolati habitu, glaberrimus, ramulis 4-quotris, lavissimis; folia alterna, subinæqualia, cum basi inæquali sessilia, 1\(\frac{1}{2}\)–2\(\frac{1}{2}\) poll. longa, acuminatissima (acumine obtuso et integro), tenuiter membranaceæ, grosse et obtusiusculæ crenato-serrata, utrinque laevia et striis destituta, basi irregulari-triplinervia, nervis tenuibus sed conspicuis, per nervos laterales strictis rectangulares cum costa anastomozantibus; stipulœ minutœ, subulato-lineares; flores minuti, sessiles, capitula (nondum evoluta) parva sessillia in foliorum axillis v. iisdem opposita formantes; perianthium glabrum.—Tenasserim, (Dr. Brandis)—E. lineolato, Wight, arcte affine, absentia striolarum autem tute distinguendum.

211. Elatostema bulbiferum, nov. sp.
Herba monoica v. dioica, erecta, \(\frac{1}{2}\)–1 pedalis, succulentæ, simplex v. sub-ramosa, glabra, caulibus teretibus ad internodia bulbiferis; folia opposita, dimorpha, quorum evoluta obliqua, ovata v. ovato-lanceolata, petiolis vix lin. longis suffulta, superiora cum basi inæquali subsessilia, 2\(\frac{1}{2}\)–3\(\frac{3}{4}\) poll. longa, grosse serrata, herbacea, breve acuminata, glabra, supra striis albis adnatis objecta, basi tripliunervia, passim nervis nonnullis adjectis; folia stipuliformia, lanceolata ad ovato-lanceolata, magis variabilia, \(\frac{1}{2}\)–\(\frac{3}{4}\) poll. longa, acuta v. obtusa, integra v. serraturis nonnullis, inferiora vulgo majora; stipulae minutæ, subulate; flores minuti, pedicellati, cymosi; cymi feminæ densiores et pedunculis gracilibus brevioribus suffultii; masculi laxi, pedunculo 1–2 pollicari suffulti et tuberibus globulosis crassis axillaribus v. in ramulorum furtionibus sitis subvillosis orti; perianthium glabrum.—Tenasserim, Arracan.

212. Elatostema gibbosum, (Procris gibbosa, Wall., Cat. 7273).
Herba procumbens, repens, glabrescens, caulibus ascendibus e. semipelidalibus florigeris; folio alterna, obovato-oblongo ad trapezoido-oblonga, subobliqua, cum basi obliquo-cordata subsessilia, obtusa v. subobtusa, 2–3 poll. longa, herbacea, grosse rotundato-crenata, supra pilis brevibus albis transverse adnatis adpersa, subutus secus nervos parce pubescentia, basi 3–5—plinervia; stipulae conspicue, membranaceæ, brunneo, usque ad 3 lin. longæ, lanceolatae, acuminatae, persistentes, etiam ea foliorum abortivorum evolutæ; flores masculi majusculi, c. 1 lin. in diametro, subsessiles, in cymam parvam pedunculo 1\(\frac{1}{2}\)–2 poll. longo pubescente axillari suffultam collecti; perianthium glabrum.—Martaban, Tenasserim.—In vicinitate E. cornuti ponendum; an potius generi Pellionia adscribendum?

Frutex humilis, ramulis angularibus ochraceo-pubescentibus; folia elongato-obovata ad cuneato-elliptica, petiolo crasso \( \frac{1}{2} \) pedicellato, pubescente glabrescente suffulta, basi angustata acuta v. rotundata, 8 poll. —1\( \frac{1}{2} \) ped. longa, abrupte acuminata, tenui coriacea, integra, supra levia, subitus scabra; stipula setacea, pubescentes; flores monoeci, in receptaculis capituliformibus involucratis eetus velutinis pedunculatis congregati; pedunculi velutini solitarii, axillares; involucrum sub 4 —6 partitum; syncarpia dimorpha, involucri bracteis reflexis velutinis.—*Tenasserim*.

**214. Ficus affinis**, Wall., Cat. 4524. Arbor mediocris, glabra; stipula breves, et parvæ, ovato-lanceolata, glabra; folia elliptica ad ovato-oblonga, basi obtusa v. rotundata, obtusiunculæ et subabrupte acuminata, 3 —4 poll. longa, chartacea, integra v. subundulata, glabra, basi nonnunquam obscura, nervis lateralis numerosis et subparallelis secus marginem anastomozantibus, utrinque crebre reticulata; receptacula piperis grani magnitudine v. paullo majora, globosa; flavescentia, pustulis obsolētis aurantiacis adspersa, glabra, basi 3-bracteata, pedunculo brevissimo \( \frac{1}{2} \) —1 lin. suffulta, vulgo geminata in foliorum axillis v. supra foliorum delapsorum cicatricibus; bracteae persistentes, minute, lato-triangulares.— *Pegu*, *Tenasserim*, *Andamans*.—Prope *F. rhododendrifolium*, Miq., inserenda.

**215. Ficus geniculata**, nov. sp. Arbor magnis epiphytica, ramulis robustis cicatrisatis novellis pubescentibus; stipula lato-ovata, acuta, glabra v. canoscentes; folia elliptica, elliptico-ovata v. elliptico-oblonga, petiolo 3 —4 poll. cicatricis apice geniculato inserata, basi obtusa v. acuta, breve et abrupte acuminata v. apiculata, integra, rigide coriacea, utrinque lucida, basi breve 3-nervia, nervis lateralis subparallelis et magis approximatis superioribus subobsoletis, reticulatione elegante magis minusve obsolēta raro conspicua percurrent; receptacula globosa, pisi minigi v. piperis grani magnitudine, flava, albo-pustulata, glabra, 3 —4 bracteata, sessilia v. subsessilia, in foliorum axillis v. supra eorum cicatricibus geminata; bracteae persistentes, lato-rotundatae, brevissimæ, globosæ.— *Pegu*, *Martaban*, *Tenasserim*.—Ex affinitate *F. infectoria*, Willd.

**216. Ficus insignis**, nov. sp. Arbor mediocris, ramulis crassis cicatrisatis tomentellis; stipula lato-ovata tomentosa; folia iis *F. geniculata* subconsimilia, elliptica ad ovato-oblonga, petiolo 2 —3 poll. longo acuto geniculato suffulta, basi rotundata v. obtusa, 5 —7 poll. longa, obtuse apiculata, integra v. subundulata, glabra, rigide coriacea, supra lucida, nervis lateralis subparallelis et moderate approximatis, secus marginem arcuato anastomozantibus, subimpressis, reticulatione elegante vix prominent, receptacula cerasi minimi magnitudine,
globosa v. subglobosa, cinerascenti albida, roseo-punctata, dense tomentoso-villosa, basi bracteata, pedunculo crasso brevissimo tomentoso suffulta, in foliorum axillis v. supra corum cicatricibus vulgo geminata; bracteae persistentes, lato-ovatæ, scariosæ, brunneo, glabrae.—Prore. Præcedentii affine.

217. Ficus caloneura, nov. sp.
Arbor glabra; folia iis F. Rumphii consimilia, cordato-ovata, sensim obtusiisucule-acuminata, basi cordata, petiolo 3—4 poll. longo apice genculato bi-glanduloso suffulta, 4—5 poll. longa, 2½—3¼ poll. lata, grosse et remote repando-dentata, teniiter coriacea, glabra, utrinque opaca, supra hauud punctata, nervis lateralso unacum nervis basilaribus omnibus divergentibus et subarcuatis pallidis crassi secus marginem anastomosantibus, nervatione transversali elegante sed tenuiuscula; receptacula desunt.—Burma, sine loco natali, (Dr. Brandis).—Ex affinitate F. Rumphii, Bl.

218. Ficus pomifera, nov. sp.
Frutex scandens, glaber; folia obovata v. sub-rhomboidoe-ovobata, petiolis 3—4 lin. longis scabridis, basi subcuneata, 1—2½ poll. longa, obtusa v. subemarginata, glabra, coriacea, marginibus subrecurvis, nervis utrinque 4—5 lateralibus paullo prominentibus, in acolis reticulationis obsoléta lacunosocum-punctata; receptacula pomiformia v. oblongo-elliptica, c. 1—1½ poll. crassa, subumbonata, in stipitem brevisimum (c. ½ lin.) crassum constricta, levia, miniatu-aureantiaca, pedunculo crasso 1—2 lin. longo puberulo suffulta, vulgo solitaria e foliorum axillis v. supra corum cicatricibus; bracteae ad pedunculi apicem 3, persistentes, trianguli-ovatæ, subglabrae. Variat. a. pomiformis, receptacula pomiformia,—Tenasserim, (Falconer); ß. oviformis, receptacula elliptico-oblonga ad ovoidea,—Sumatra.

219. Ficus pyrrocarpa, nov. sp. (F. tuberculata, Wall., Cat. 1539, non Roxb. et aliorum).
Frutex humilis, 1—3 pedalis, ramulis adpressæ brunneo-setosis; stipulae lineari-lanceolatæ, acuminatæ, glabriusculæ v. dorso pubescentes; folia obverse lanceolata ad subcuneato-lanceolata, basi cunea v. acuta, petiolo lineas perpaucas usque ad ½ poll. longo adpressæ pubescente glabrescente suffulta, breve et obtusiisculæ acuminatæ, integra, crasso membranacea, supra glabra v. pilis minutis inconspicuis adpressa, subutus securis nervos sparse adpressæ hirsuta et glabrescentia, nervis arcuatis, reticulatione laxa; receptacula depresso-pyriformia, cerasi magnitudinis, purpurascenti-viridia, costata, squamis nonnullis vario dispositis adpressa, presertim dum juvenilia pilis rigidis adpressis v. subpatentibus brunneis v. rusis obtecta, pedunculis ½—1¼ poll. caribus pubescentibus crassi suffulta, solitaria e trunco subterraneo orta v.
secus sureulos aphyllos subterraneos errumpentia; bractea ad apicem pedunculi 3, ovatae, breves.—*Pegu, Martaban.*—Ex affinitate *F. ischnopoda*, etc.

219. *Ficus anastomozans*, Wall., Cat. 4513.

Frutex repens, humilis, magis minusve sebaco-pubescentis; stipulae minuta, scabra; folia oblongo-lanceolata ad lanceolata, basi acuta v. obtusa, petiolo 2—6 lin. longo sebaco-pubescente suffulta, magis minusve obtusiuscula acuminata, 2—4 poll. longa, grosse et irregulariter sinuato-dentata, dentibus rotundatis v. obtusis, membranacea, supra sebro-pubescentia, nonnumquam subglabrescentia, nervis numerosis rectangulare-divergentibus et anastomozantibus; receptacula ovoidea, piperis grani magnitudinis, umbonata, basi non v. vix constrieta, sebro-puberula, pedunculo vix ½ lin. longo et pubescente suffulta, solitaria c foliorum axillis v. supra corum axillis v. supra eorum cicatricis errumpentia; bracteae minuta.—*Tenasserim.*

220. *Ficus leptidosa*, Wall., Cat. 4541.

Arbor mediocris, novillis parce pubescentibus; stipulae lineari-lanceolatae, acuminatissima, glabra v. subglabra; folia obovata ad elliptica, petioli 1—2 poll. longis parce pubescentibus glabrescentibus suffulta, basi obtusa. breve acuminata, 5—6 poll. longa, crasso membranacea, supra glabra v. pilis nonnullis brevis adpressa, subtus parce et breve pubescentia, subpenninervia; receptacula turbinato-globosa, umbonata, pubescentia, aurantia-ovimata, cerasi magnitudinis, pedunculo 3—5 lin. longo crasso pubescente sustenta, vulgo genuinatim e foliorum axillis v. supra eorum cicatricis errumpentia; bracteo ad apicem pedunculi, ovata, acuta, glabra, c. lin. longa.—*Pegu.*—*F. chrysocarpa*, Rwdt., affinis, errore quoddam cl. Miquel in Annalis suis me lanne speciem eum *F. diversifolia* identicam declarasse putavit.

**AMENTACEÆ.**

221. *Quercus etumophila*, nov. sp.

Arbor 20—30 pedalis, glaberrima; folia ovato-oblonga v. oblonga, nonnumquam inaequalia, basi in petiolum gracilem 5—8 lin. longum glabrum attenuata, breve et obtusiuscula acuminata, 3—4 poll. longa, coriacea, apicem versus leviter obtusiusculae serrata, glabra, concoloria, nervis tenuibus et reticulatione densa subobsoletis; pedunculus fructiger usque ad 2 poll. longus, apparenter glaber, 1 v. 2 fructus gerrens; glans ovoidea, 9—10 lin. fera longa, lavis, exsorta; cupula 7—8 lin. in diametro, concava, crasse coriacea, brunnea, glabra, subvernicosa, junior squamis triangularibus acutis adpressis subdistinctis dein in zonis concentricas angustas inaequalis et irregularis confluentibus oblecta v. rugato-rugosa.—*Martaban.*
222. QUERCUS BRANDISIANA, nov. sp.

Arbor parva v. mediocri, ramulis canescenti, v. ochraceo-pubescentibus; folia oblonga ad obovato-oblonga, basi semip jn inaequali acuta v. obtusa, 4—5 poll. longa, petiolo 5—8 lin. longo gracili glabro suffulta, brevem et obtusiusculae acuminata, obtusiusculae repando-serrata, utrinque subopaca, tenuiter coriacea, supra rugata et glabra, subtus glauca et fuggaci-puberula, nervis supra impressis strictis subtus prominentibus sed tenuibus, cum nervatione transversa conspicua; pedunculus fructiger c. 1, rare usque 2 ½ poll., longus, fructus paucus tantum gerens, ochracecenti-tomentosis; glandes juniores depressae adpressae puberulae, magis minusve inclusae, dein exsertae, ovoideae, glabrae; cupula canescenti-volutina, concava, c. ¾ poll. in diametro, e zonis circ. 5—6 concentricis lamellatis erosio formata.—Martaban.—In sect. Cyclobulani inserenda.

CHLORANTHACEÆ.

223. CHLORANTHUS INSIGNIS, nov. sp.

Suffrutex 1½—2 pedalis, glaber, in secco sublutescens; folia petiolis 1—2 lin. longis suffulta, linearia, basi acuminata v. acuta, sensim et longissime acuminata, 3½—4½ poll. longa; subcoriacea, integræ, glabra, nervis lato-ribus tenuissimis, vix reticulata; spicæ axillares, fructiferae 1—2 poll. longae, simplices, glabrae; bracteae minutæ, crassæ; fructus casi.—Martaban.

SCITAMINEÆ.

HEMIORCHIS nov. sp.

Flores præcoce, spicati, sessiles. Calyx tubulosus, sursum ampliatus, 3-fidus. Perianthii tubus calyce brevior filiformis; phylla 3 exteriora equallia, interiora subaequilonga, basi utrinque corniculata apice 2—3 denticulata; labellum lato-oblongum, concavum, apiculatum. Filamentum phyllis fere duplo brevius, apice incurvum, connectivam supra anthera utrinque mutica vix productum. Ovarium 1-loculare, placentis 3 parietalibus; stylus filiformis; stigma paulum incrassatum, oblique truncatum. Capsula 1-locularis, subplicato-10-sulcata, 3-valvis; semina conica, basi albo-arillata.—Herbe perennis Gastrochilo habitu et characteribus essentialesibus affines; scapis radicales pallidi squamati is Gedoris haud absinfiles.

224. II. BURMANICA, nov. sp. Tab. VIII.

Rhizoma album, crassum, repens, hypogroum, nudum; folia post anthesin crumputia is Gastrochili similína, lato-oblonga, brevissime acuminata, basi inaequali-rotundata in petiolum brevem decurrentia, glabra; vagine stricto, glabra; scapi radicales, solitarii, dense tomentelli, a basi usque ad medium bracteis amplis pallidis remotis v. convertis 1—1½ poll. longis oblongis et subacutis vestiti; flores spicati, sessiles, mediores; calyx puberulus, albus,
3-fidus, lobis æqualibus acutis; perianthii phylla exteriora 3 fere semipollinaria, virescenti-albida, oblongo-linearia, apiculata v. 2—3 lobulata, marginibus magis minusve recurva, superriori latiore; interiora 2 obovato-oblonga, pallide rubella, apice obsolete 2—3 fere semipollis; perianthii pbylla exteriore a 3 fere semipollis, viroscenti-albida, oblongo-linearia, apiculata v. 2—3 lobulata, marginibus magis minusve recurva, superiori latiore, basis versus pallidius, intus secum carinam sanguineum carinatum, carina in apiculum 3-angularem acutum excurrente; antheræ cerino-luteæ, filamenta c. 1 lin. longa, incurva; capsulæ ovales, puberulæ, calyce emacrescente coronate, c. 3 poll. longa; semina basi arillo albo suffulta.—Pegu, Martaban, Tenasserim.

MELANTHACEÆ.

STEMONIA GRIFFITHIANA, nov. sp. Tab. X.

Herba erecta, perennis, glabra, rhizomate crasso hypogeo; folia hysteranthia, ovata, c. 3—5 poll. longa, breve acuminata, petiolo 3—5 poll. longo suffulta, chartacea, glabra, parallelinervia, eleganter transverse venosa, sericanter-uitentia; flores virescenti v. sordide puberuli, pedicellis strictiusculis poll. circiter longis suffulti, in turionibus erectis, in turionibus aphyllis scapiformibus dein foliatis 3—6 poll. longis corymoso-racemosi; bracteae linear-lanceolatae acuminatae, c. 3—4 lin. longa; perigonium 4-pollinum, phylla poll. longa, v. paullo longiora, linear-lanceolata, acuta; stamina 4, filamenta lata, purpurea; antheræ aureae, cuspidatae; ovarium 1-loculare, ovulis 6, linear-oblongis ex apice pendulis capsule compresso-ovatis, semipollis, bivalves, 3—4 spermis; semina sulcatcarinata, linear-oblonga, subapiculata, basi arillo brevi albo aucta.—Ava, Martaban, Pegu.

AROIDEÆ.

HAPALINE, Schott.


1. H. BENTHAMIANA, Schott. Tab. IX.

Herba c. semipedalis, radice tuberosa, basi albo-vaginata; folia 3—4 poll. longa, petiolo æquilongo suffulta, oblonga, basi profunde sinuocordata, lobis basilaribus complicatis et obtusiæculo prolongatis, glabra, breve acuminata, nervis anastomozantibus; flores 1—3 ni e rhizomate pro-
Trusi, scapo 5—6 polli, longo gracili suffulti; spatha nivea, lineari-lanceolata ad lanceolata, c. $1\frac{1}{2}$ poll. longa, reflexa, reticulata; spadix spatheae fere longitudinis, ejus pars mascula exserta strictiuscula lineari-subulata, alba.—Martaban.

**Tabularum Explanatio.**

Tab. VIII. *Hemiorchis Burmanica.*—Fig. A, planta florens, magn. nat.; fig. B, folium cum cauli vaginato, magn. nat.; fig. 1, perigonii phyllum exterioris; fig. 2, phyllum exterior superius; fig. 3, perigonii phyllum interior laterale; fig. 4, labelum cum carina, a latere visum; fig. 5, anthera a latere visa; fig. 6, eadem a fronte; fig. 7, capsula, magn. nat.; fig. 8, semen, arillo remoto.

Tab. IX. *Hapaline Benthamiana.*—Fig. A, planta, magn. nat.; fig. 1, spadix; fig. 2, ovarium; fig. 3, sectio verticalis fructus, semen immaturum exhibens; fig. 4, squama staminalis antheras gerens, a latere interiore visa.

Tab. X. *Stemona Griffithiana.*—Fig. A, planta florens; fig. B, caulis foliati pars superior; fig. C, racemus fructiger; fig. 1, perigonii phyllea 2 cum stamine; fig. 2, semen cum arillo, latere visum; fig. 3, capsula aperta, semina exhibens; figurae omnes magn. nat.


Page 311. lin. 6. infra pro apicibus lege apices.

Pag. 312. lin. 10. supra pro pomi majoris magnitudine lege pomi minoris magnitudine, brunnco-velutinae.
Notes on Some Species of Malayan Amphibia and Reptilia,—

by Dr. F. Stoliczka.

(Received 15th Feb. 1872; read 5th March, 1872.)

[With plate XI.]

It is nearly three years ago that I had the pleasure of submitting to the Society a few notes on Indo-Malayan Reptiles and Amphibians, chiefly collected by myself along the Burmese and Tenasserim coasts, about Penang and on the Nicobar and Andaman islands. When visiting Penang in 1869, I received information of a tolerably extensive* collection of Reptiles, brought together by a zealous Jesuit during a residence of about twenty years on the island. The specimens were collected either on Penang itself or on the opposite coast of the Wellesley Province. A very large number had been captured alive, and coloured drawings, taken from most of the live specimens, had been prepared. The colouring appeared to me to have been faithfully copied, and this it was which particularly excited my interest in the collection, because in many cases the colours of Reptiles fade most rapidly, as soon as the specimens are placed in spirit; in others the colouring changes immediately after death, and again some alter even during life their colour, as soon as they become conscious of their captivity. In any case the coloured sketches from life seemed to me valuable and I, therefore, resolved to buy the collection.

As soon as the formal matters were arranged, the collection of the specimens was transmitted to me, the drawings, however, were afterwards not considered to form an essential part of it, and were handed over to some one else, according to a wish of the deceased gentleman under whose supervision they were executed. After a brief correspondence it did not appear to me much use treating further about the subject. My interest in the collection has, on that account naturally enough, partly diminished, and having had other more pressing work to attend to, the specimens were for more than two years left unnoticed. More recently my friend Mr. Stahlknecht of Singapore visited Sumatra, and made for me a very nice little collection of Reptiles, most of which were in a beautiful state of preservation. This circumstance induced me to look over my old acquaintances, and to prepare a critical list of all of them. In the old collection I only found two new species, a Rana and a Simotes, a specimen of the latter had very recently been also obtained by Mr. J. Wood-Mason’s collector at Jahore, situated at the extreme south end of the Malayan Peninsula, north of Singapore island. Mr. Stahlknecht’s collection yielded a new Calamaria.

* This refers to the number of specimens, but not to that of species, as I subsequently discovered.
Thus, although I cannot say, that I came into possession of a great number of new forms, there are among those, which I shall place on record, a few rare and very interesting species, some of which were previously known only from single specimens, and these often were not very perfect. I may mention for instance Draco quinquefasciatus, Podophis chalcides, Ophites subcinctus and albofuscus, Ablades flaviceps, Oxycalamus longiceps, &c.

I shall first enumerate all the species, and attach an (*) asterisk to those, about which I shall have to say a few words.

The collection was made, as I said, to a large extent on Penang itself or in the Wellesley Province, and judging from the examination of it, I have found no reason to doubt in any way this statement. A great many of the same species had been collected by myself in that part of the country on a former occasion, others were known to occur there from the very elaborate and extensive researches of Dr. Cantor; others again had been recorded from Malacca, Singapore, Sumatra or Java, all countries which belong to the same zoological province, and which have a large number of species common. I have not met with a single instance which would lead me to suspect, that any mixture of other distant localities had taken place. Thus the present list in connection with that of Drs. Cantor, Gray and Günther, and my own published in 1870, may be considered as fairly completing the number of Reptiles and Amphibians, inhabiting Penang and the neighbouring Wellesley Province. Mr. Stahlknecht's specimens are from the neighbourhood of Dilli on Sumatra. In the general list I shall briefly note the localities as Penang and Sumatra.

BATRACHIA.†

1. Rana tigrina, var. pantherina, Fitz. apud Steindachner. (Novara Amphibiens).—Penang.
2. * fusca, Blyth.—Penang.
3. * lymnocharis, Boie (== gracilis, Wiegm.); typical.—Penang.
4. * lymnocharis, var. pulla, Stol.—Penang.
5. * plicatella, n. sp.—Penang.
6. Polypedates maculatus.—Penang.
7. * quadrilineatus.—Penang and Sumatra.

† If no special reference to literature is given, it is understood that the species is described in Dr. Günther's Reptiles of Brit. India, or in my former paper on Malayan Reptiles in Journal A. S. B, vol. xxxix, pt. II.
10. **Bufo asper.**—*Penang.*
   Largest specimen, body 5½ inch. long.

11. **Epicrion glutinosum.**—*Penang.*

### Sauria.

12. **Euprepes carinatus,** Schneid., = *rufescens.*—*Penang* and *Sumatra.*
   All have a rufescent bronzey tinge and dorso-lateral pale bands.

13.* **E. olivaceus.**—*Penang* and *Sumatra.*

   Exactly the same as in Bengal.

15. **Podophis chalcides.**—*Sumatra.*

16.* **Gymnodauctylus ([?] Cyrtodactylus) pulchellus.**—*Penang.*

17. **Cyrtodactylus affinis.**—*Penang.*

18. **Peripia mutilata,** Wiegm., = *Peronii,* D. and B., teste Peters et Günther.—*Penang* and *Sumatra.*

19. **Hemidactylus frenatus.**—*Sumatra.*

20. **Nycteridium platyurus,** Schneid. = *Schneideri.*—*Penang* and *Sumatra,* very common.
   *All have less dark coloration than Himalayan or Khasi hill specimens, but are in other respects not distinguishable, Comp. J. A. S. B. xl, pt. II, p. 103.*

21. **Gecko guttatus.**—*Penang.*

22. " **stentor.**—*Penang.*

23. **Ptychozoon homalocephalum.**—*Penang* and *Sumatra.*

24. **Bronchocela cristatella,** Kuhl.—*Sumatra,* very common.
   All have 36 to 42 small equal scales in a lateral row.

25. **Draco volans,** Linn.—*Penang* and *Sumatra,* very common.

26.* " **quinquefasciatus.**—*Penang.*

27.* " **fimbriatus.**—*Penang.*

28. **Hydrosaurus salvator.**—*Penang* and *Sumatra.*
   The light spots and bands are in young and in old males [at least] bright yellow, not white. The species is also very common on all the Nicobar and Andaman islands.

29. **Crocodilus porosus.†**—*Penang.*

† The similarity of form and colour of the young of this species with equally large specimens of *C. Pondichorius*, Günther, is very striking. My collector recently brought several young specimens (12-14 inches) of the latter species from Arrakan, and when compared with equally large specimens of *porosus*, the former all have the snout, and also the tail, conspicuously shorter; all have only six rows of shields on the back, but there is an additional one on either external edge broken up into single shields. In *porosus* the outer row of shields on either side is complete, or continuous, and on the whole the dorsal shields appear to be smaller. In every other respect the young of both species are identical. I have not seen an adult of *Pondichorius*, but it ought to be looked for in Arrakan. Both have a small shield on either anterior side of the
Ophidia.

30. Typhlops nigroalbus.—Penang.
31. " braminus.—Penang.
32. Cylindrophis rufus.—Penang.
33. * Calamaria Stahlknecht, n. sp.—Sumatra.
34. * Oxycalamus longiceps.—Penang.
35. * Simotes bicatenatus.—Sumatra and Penang.
36. * cruentatus, Theob.—Penang.
37. * catenifer, n. sp.—Penang and Jaore.
38. * Cyclophis tricolor.—Sumatra.
40. Compsosoma (Elaphis) melanurum.—Penang.
41. " radiatum.—Penang.
42. Ptyas korros.—Penang.
43. " hexagonotus, (Cant.).—Penang.
44. Tropidonotus quincunciatus.—Penang.
45. " trianguligerus, Schleg.—Penang.
46. " vittatus.—Penang. ( Günther’s Colub. Snakes).
47. * Gonyosoma oxycephalum.—Penang.
49. " pictus.—Penang and Sumatra.
50. Tragops prasinus.—Penang and Sumatra.
51. Dipnas cynodon.—Penang.
52. " Drapiezii.—Sumatra. (Comp. Schlegel’s Abbildungen).
53. " dendrophila.—Penang.
54. Ohrysopelea ornata.—Penang and Sumatra.
55. " rubescens.—Penang and Sumatra.

neck, it being a rudiment, or rather probably the beginning, of the anterior nuchal plates.

Besides C. Pondicherianus, my collector brought among others the following species which I do not think had been previously recorded from Arrukun.

Callula pulchra.
Diplopelma carnaticum and D. Berdmorei.
Polypedates maculatus and P. quadrilineatus.
Hylarana erythrea and H. Tyleri. Both quite distinct species.
Riopa lineolata.
Tachydromus sexlineatus.
Hemidactylus (Doryura) Berdmorei.
Hinulia maculata. Also common on all the Andaman and Nicobar islands.
Lyctodon aulicus, (black variety).
1873.

F. Stoliczka—*Malayan Reptilia and Amphibia.*

56. *Psammodynastes pulverulentus.*—Penang.
57. " *pictus.*—Sumatra.
59.* Ophites subcinctus.*—Sumatra.
60.* " albofuscus.*—Sumatra.
61. *Bungarus fasciatus.*—Penang.
62. *Adeniophis* (Callophis) intestinalis.—Penang.
      " bivirgatus.—Penang and Sumatra.
63. *Xenopeltis unicolor.*—Sumatra.
64. *Python reticulatus.*—Penang.
65. *Hysirhina enhydris.*—Penang.
   All specimens have an almost continuous dark line along the middle of the lower side.
66. *Hysirhina plumbea.* (Very variable).—Penang.
67.* " [Pera] alternans.*—Sumatra.
68. *Fordonia unicolor.*—Sumatra.
   (The young are brownish olive with numerous dark dots).
69. *Cerberus rhynchops.*—Penang.
70. *Homalopsis bucata.*—Penang.
71. *Hipistes hydrinus.*—Penang.
72. *Hydrophis robustus.*—Sumatra.
73.* Trimeresurus Wagleri.*—Penang and Sumatra.
74. " erythrurus.*—Penang.

**Rana fusca.**


Rufus brown above, with a pale longitudinal dorsal streak, broad in front, narrow towards the posterior end; limbs above somewhat indistinctly variegated and banded with darker brown, posterior side of femora with closer and darker variegations. Lower side uniform whitish, except a few dark spots on the lower lip, but the front-end of the lower lip has a conspicuous white spot, as stated by Blyth.

The nostrils are much nearer the snout than the eye; the tympanum is smaller than the eye, but quite distinct in a nearly full grown specimen; skin above and at the sides of the belly with few scattered slightly enlarged tubercles; lower side perfectly smooth. The first and second fingers are slightly shorter than the third and fourth respectively; the second is shortest. The metatarsus has a single, inner, marginal, elongated tubercle. The first and fifth toes are fringed externally, but the tarsus has no fold. The toes are entirely webbed and their tips very distinctly swollen.

The length of the body equals the distance from the vent to half the length of the tarsus.

* See Peters in Monatsb. Berlin Akad., 1871, p. 579.
F. Stoliczka—Malayan Reptilia and Amphibia. [No. 2,

**Rana lymnocharis, var. pulla.**


Since the publication of my notes on this variety I have received two other specimens from Penang. The form of the body, the teeth, the structure and general coloration exactly agree with typical *lymnocharis*, except that in one of the specimens the four dark bands on the upper side of the femora are well marked and somewhat narrower than in the other, in which the coloration is typical. In both, the lower lip is spotted and the chin variegated with dusky. Neither of the specimens has a dorsal pale streak.

One of them measures, body 1·35 inch., which is only one tenth less than the distance between the vent and the metatarsal tubercle, the total of the hind-limb being 2 inch., while in a specimen of typical (half-webbed) *lymnocharis* of which the body is also only 1·35 inch., the distance between vent and metatarsal tubercle is 1·15 inch, but the total hind-limb is 2·2 inch. Thus in *lymnocharis* var. *pulla* the metatarsal bones are longer and the fourth toe on the contrary much shorter than in typical *lymnocharis*. In the former also, as previously noticed, the toes are nearly fully webbed, the web reaching to very near the tip of the third and fifth toes, but only to the base of the penultimate joint of the fourth toe.

The other specimen has the length of the body 1·3 inches, which is equal to the distance between the vent and the heel, and the total hind-limb is 2·17; thus very nearly equal to that of *lymnocharis*, only differing from it by the fuller webbing, the web reaching fully to the middle of the penultimate joint of the fourth toe. In this specimen also the tips of the toes are all remarkably swollen. All other characters are exactly as in typical *lymnocharis*.

These variations appear to me to indicate that they are progressive or undergoing certain changes according to the requirements of the animal, and that we are, therefore, not entitled to give them a specific value, unless they become permanent. I look upon this longer-limbed, shorter-toed and fuller-webbed hill form of *lymnocharis* as a small (*pulla*) local variety, possessing certain peculiarities, in exactly the same manner as the Andaman and Nicobar variety of the same species. (Comp. l. c. p. 142 et seq., and Proc. A. S. B. for June 1872, p. 102).

**Rana plicatella, n. sp. Pl. XI. Fig. 1.**

Body moderately stout with longish hind-limbs and swollen tips to the toes.

Head large, snout obtuse, with the canthi rostales rounded; nostrils lateral, oval, somewhat directed upwards, nearer to the tip of the snout than to the eye; eye large, prominent, its longer diameter is slightly more than
the distance between it and the nostril, but it is equal to the width of the upper side between the eyes. Tympanum naked, as large as the eye.

Head smooth above, hinder half of the eyelids tuberculated; body above with about eight longitudinal somewhat interrupted folds, with numerous small tubercles between them; limbs also smooth above, with the exception of the posterior halves of the tibiae, which are tubercular; chin in front with a few scattered, minute tubercles, a few others exist on the side of the belly, and the hinder part of the sacral region is densely studded with small plicat- ed tubercles; the remainder of the under side is smooth.

The length of the body is very nearly equal to the distance between the vent and the middle of the tarsus; the fore limb is equal to the distance from the tympanum to the groin. The first finger is scarcely shorter than the third, the second and fourth are subequal. There is a slight fold on the inner lower edge of the tarsus, and one along the outer edge of the fifth toe. The tarsus has a single, inner, elongated, marginal tubercle. The toes are about three-quarter webbed, the web reaching on the fourth toe to scarcely beyond the base of the third-ultimate joint; on all the other toes it extends to the last joint, but it is deeply emarginate between all of them. The tips of all the toes are much swollen; the length of the fourth measured from the base of the tarsus is slightly less than half the length of the body.

Lower jaw with two fang-like projections directed inward. Tongue elongate, much broader towards the tip than at the base, terminating with two moderately sized projections. Vomerine teeth in two short oblique converging series. Sacral diapophyses not dilated.

Above, greenish brown, with a dark band from the nostril through the eye, continuing behind it; limbs with numerous transverse dark bands; they are somewhat ill-defined on the upper arm, on the lower arm there are three or four very short ones, six on the femur, five somewhat more distant ones on each tibia, three on the tarsus, one on metatarsus and a few more on the outer-side of the toes. The hinder sides of the femora are densely and rather minutely variegated with dark brown; a horse-shoe shaped yellow mark, open below, round the anus; folds on the tarsus and outer toe also yellowish; lips indistinctly variegated with pale and dusky; lower side uniform white, except on the tibiae, and on the feet, which are speckled with dark.

The only species which in some respects resembles the present form is Rana porosissima, Steindachner, from Angola (Novara Amphibiens, p. 18, pl. I, figs. 9-13), but it differs in the coloration of the limbs, in the smaller size of the tympanum, smaller vomerine ridges of teeth, in having the apophyses on the lower jaw scarcely enlarged, the tips of the toes not swollen &c.
F. Stoliczka—*Malayan Reptilia and Amphibia.*  

**Euprepes olivaceus.**

The young (body 1 to 1.5 and tail 1.5 to 2 inches) are very differently coloured from the old. The snout and headshields are olivaceous, the posterior edges of all the shields being blackish; the whole body and limbs are blackish brown, with numerous rather close, transverse, greenish white or yellow stripes; tail and the entire lower side yellowish white, or quite yellow. In the adolescent and some old ones the pale transverse bands exist as remnants in the shape of transverse series of spots, but most adults become entirely olivaceous, with only the edges of the eyelids bright yellow.

**Gymnodactylus pulchellus.**

In the descriptions of this species it is usually stated that there are six dark, white edged bands across the body, but properly speaking the sixth band is situated on the base of the tail. Further, it is stated that a fold of the skin exists along the side of the body. This is in reality not the case, at least not in live specimens, but the shield-like scales of the lower side are separated from the granular upper surface by a row of conspicuously enlarged granular scales; this row becomes strongly prominent in spirit specimens, and gives the appearance of a fold.

As regards the position of the femoral pores the species is intermediate between *Cyrtodactylus* and *Gymnodactylus,* the pores lying first in a longitudinal fold and then extending flatly on the femora. This instance shews that *Cyrtodactylus,* (as likewise the present species), should be looked upon merely as a section of *Gymnodactylus.*

**Draco quinquefasciatus.**

A single male specimen measures: head and body 3.5 inch, tail imperfect, apparently about 5 inches. The hind limb is contained 1.33 times in the distance between it and the fore limb, the latter being somewhat shorter than the former. There are no enlarged tubercles on the head, but only a number of interspersed, slightly larger white scales at the sides of the neck, and a broad band of closer set ones across the occiput. The scales on the anterior part of the back are obsolesly keeled, on the posterior part they are perfectly smooth. On the wings scales are present along all the ribs, and in numerous longitudinal series on the basal half of the alar skin, while further on their number greatly diminishes, except again at the outer margin.

The specimen has only a very slight indication of a crest on the neck; the gular sack is very long and lanceolate, a dark band running at its posterior base across the lower neck. Chin dark spotted, like the body; tail also spotted at its base, but further on with brown bands. In all other respects the specimen agrees with Gray’s characteristic description.
Draco fimbriatus.


A specimen from Penang exactly agrees with the one figured by Gray and Hardwicke in Illust. of Indian Zoology as *D. abbreviatus* from Singapore. The scales of the back are very small and almost quite smooth, with a series of larger ones on either side at the base of each wing. Günther (Rept. Brit. India, p. 123) says that no orbital or rather post-orbital, spine exists. This is a mistake, at least as far as male specimens are concerned. In these there are two very distinct post-orbital spines; they are well shown in Gray and Hardwicke's figure. Dumeril and Bibron's minute description of the headshields from Javanese specimens also appears exactly to correspond with the structure of Singapore and Penang specimens.

General colour bronze brown; head, not including the nape, a zigzag undulating slightly variegated band across the neck, another across the shoulders, a third between the hind limbs, and a fourth, though less distinct one, across the middle of the body, pale bluish, a bluish black spot between the eyes; on the body are four irregular marks, each composed of a few blackish lines, and each enclosing along the middle of the back a somewhat elongated diamond-shaped figure.

Limbs with cross dark stripes, and bluish edges to all the front and hind sides. Wings above blackish with radiating bluish lines, below pale with a few scattered black spots. Tail banded with bronze and pale bluish. Chin variegated with dark; gular pouch tinged with blue and red, dusky at the base. Body below uniform yellowish white, with scattered bluish dusky spots, mostly conspicuous along the sides.

*Calamaria Stahlknechti*, n. sp. Pl. XI. Fig. 2.

Body long, cylindrical, snout somewhat narrowly obtuse; total length 13.5 inches, of which the tail is 1.2 inch; rostral reaching to the upper surface of the head; frontals anteriorly narrower than posteriorly, laterally bent down, and in contact with first and second labials, the nasal being very small; occipital six-sided, with the anterior angle shorter and more obtuse than the posterior one, it is smaller than one occipital; each of the latter has an obtuse angle in front and behind, and both form an inwardly directed angle along the suture on either end; one pre- and one post-ocular; five upper labials, the third and fourth touch the orbit, the fifth is largest, in contact with the post-ocular and occipital; it is followed by a moderately sized shield which has quite the appearance of a sixth labial, and indeed the gape partially extends below this quasi-sixth labial; above this last extends a long temporal. Mental shield small; five lower labials; the first pair is the smallest, separated from each other, the fifth the largest. The first pair of chin-shields is largest, each being in contact with three labials and having a very
obtuse angle behind; the shields of the second pair are only about half the size of the first, entirely separated from each other by two scale-like shields following each other, and by two other somewhat larger shields from the first very large ventral. Scales smooth, in thirteen rows; ventrals 163, anal entire, subcaudals 22, the last single occupying the shortly pointed end of the tail.

Uniform iridescent brownish black above, the two outer series of scales on either side mostly white; upper labials spotted with yellow, the fifth labial being almost entirely yellow. Lower side, beginning a short distance from the throat, with two or sometimes three ventral shields alternately yellowish white and black, the black colour encroaching laterally upwards upon the yellowish white lateral bands, and being longitudinally connected along the edges of the ventrals and subcaudals; the latter have besides an interrupted blackish line along the middle, and the pale colour is tinged with vermilion. Possibly the red colour extended over the whole of the light coloration during the life of the snake.

The only specimen examined was sent to me with several other species by my friend Mr. Stahlknecht of Singapore; he collected the same near Dilli on Sumatra.

In general aspect the species resembles C. Linnee, but differs essentially in several points of its structure. It also does not agree with any of the species more recently described by Bleeker and Edeling, or figured by Ján.

**Oxycalamus longiceps.**

A single specimen of this rare snake was in the Penang collection; it measures seven inches of which the tail is one.

The following may be added to Cantor's and Günther's descriptions:

The rostral shield is of moderate size, reaching with its angle to the upper surface of the head; anterior frontals small, each about one-third the size of a posterior; the suture separating the two anterior frontals is only two-fifths of the length of the suture between the posterior frontals; vertical six sided, the sides touching the supraciliaries being parallel to each other; one supraciliary not quite as wide as half the width of the vertical; occipitals nearly double the length of the vertical, reaching down on either side to the postocular; nasal in a single shield.

Vent. 137, anal entire, subcaudals 29.

Uniform iridescent black above and below, many of the ventrals and subcaudals with paler posterior edges; a pale yellowish spot on the fifth upper labial and a second one on each side of the throat.

**Simotes bicatenatus.**

In several specimens, the dark dorsal band is divided by a pale reddish
line. A young specimen has only one praecocular, and only the upper smaller temporal is in contact with the postoculars.

**Simotes Cruentatus.**


This species agrees in general aspect and coloration with S. bieatenatus, but it has only seventeen rows of scales. One specimen in the collection has a small portion of a labial detached, forming a second (lower) praecocular; it has very few dark blotches on the anterior ventrals; only two black spots on the tail, one at the root, the other near the tip.

**Simotes Catenifer,** n. sp. Pl. XI. Fig. 3.

The body is short, stout, moderately compressed, the head large, conspicuously truncate in front.

Rostral shield well reaching to the upper surface of the head; anterior frontals considerably smaller than the posterior ones, both bent down at the sides; superciliaries narrower anteriorly than posteriorly; vertical large, six-sided, with a very obtuse angle in front, somewhat converging sides, and with nearly a right angle behind; one occipital is about the same size as the vertical, each reaches down to the superior postocular and is rather broadly truncate behind. Nostril between an anterior large and a posterior somewhat smaller shield; loreal squarish; two praecoculars, the upper is long, while the lower has the appearance of being only a small detached portion of the fourth labial; two postoculars; temporals 1 + 2 + pl., the last is somewhat irregular and scale-like, the first obliquely in contact with both postoculars. Eight, rarely nine, upper labials, the fourth and fifth under the orbit, sometimes a small portion of the fourth is detached, touching the orbit as a separate shield. Mental shield small; nine lower labials, those of the first pair form a suture; anterior pair of chin-shields largest, each in contact with four labials; second pair much smaller, and separated by other two somewhat smaller pairs following each other from the first ventral. Scales smooth, in nineteen rows; ventrals 178 to 205, distinctly angular at the sides; anal entire, moderately enlarged; subcaudals bifid, in 57 pairs.

The general coloration of the upper side is sandy brownish; head with the usual dark brown markings; the first band crosses the eyes and reaches forward to the rostral; the second ascends across the angles of the mouth to the outer median edge of the occipitals; the third is thick, arrow-shaped, anteriorly prolonged to between the eyes. Body with twelve or thirteen dark cross bands, each composed of four confluent spots, the two dorsal ones being larger and darker; tail with four or five cross bands. Between each two of these bands the scales, following alternately each other, are partially blackish, forming three undulating cross lines in each interspace. The sides
along the ventrals are checkered with blackish brown; lower labials with their hinder edges blackish. Lower side dusky yellowish, tinged with red which passes into vermilion on the posterior half; every second or third ventral has a quadrangular black spot at each of the outer edges, the interposed edges being white, and the spots are somewhat more distant on the ventrals than on the caudals.

The total length (in two specimens) is 9 1/2 inch., the tail being 1 7/5. I have received one specimen from Penang and Mr. Wood-Mason lately obtained a second one from Jahore, North of Singapore.

This is the fourth species of a small group of *Simotes*, all of which are closely allied to each other and all belong to the Malay or Chinese fauna: they agree in their small size, short and stout body, in the form of the head-shields and in coloration. *S. Cochinchinensis*, Günther, has twenty-one rows of scales round the body. *S. brevicauda*, Steindachner, (Novara Rept. p. 61, pl. iii, figs. 13—14) has, like *catenifer*, nineteen rows of scales, but the occipitals and oculars are in the former somewhat differently shaped, the markings on the head are also somewhat different, and there are no lateral spots on the ventrals; in every other respect both species almost perfectly agree, as far as I can judge from the figure and description, and if I had not obtained two perfectly like specimens of *catenifer* from different localities, I would have hardly ventured to separate them as distinct. The fourth species is Ján’s *S. ancoralis*, which has the black spots on the edges of the ventrals, but only seventeen rows of scales round the body and only one pra-ocular.

**Cyclophis tricolor.**

Schlegel, Phys. Serp. II, p. 187, pl. vii, figs. 16—18; idem, Dum. and Bibr.; Günther; Ján, Oph. Livr. 31, pl. vi, fig. 2.

One specimen measures 18 1/2 inches, of which the tail is 7 inch. Scales smooth, in fifteen rows, vent. 144, anal bifid, subcaudals 129. Greyish, or rather olivaceous, brown above, yellowish white below, a black streak from the nasal through the eye to the side of the neck, rapidly disappearing on the anterior part of the body. Each six-sided scale, above, has the anterior lateral margins pale, producing longitudinal zigzag pale lines; upper labials yellow; along the edges of the ventrals and sub-caudals runs an indistinct dusky line, and another interrupted one along the middle of the ventrals, these lines begin to appear a short distance from the neck, which is below and at the sides uniform yellowish.

The fine zigzag pale lines of the upper side are indicated in Ján’s figure. Both in structure and coloration the Sumatra specimen agrees with Schlegel’s figure and description, except that the head is a little more slender. This specimen had a large spider in the stomach. Schlegel’s snake was
from Java and the species has, I think, not yet been recorded from anywhere else.

Ablabes flaviceps, (var.), Günther.

Ann. and Mag. Nat. Hist. vol. XVIII, 1866, p. 26, pl. vi, fig. B.

One specimen agrees well with Günther's description and figure of this snake, but it has nine upper labials, the second being replaced by two, so that the 4th, 5th and 6th labials enter the orbit. The hinder chin-shields are almost in immediate contact with the first well marked ventral. Total length 16·7 inch., of which the tail is 5·5 inch., being somewhat obtuse at the end; scales in 17 rows, one pre- and one or two post-oculars, 150 ventrals, anal bifid, 70 subcaudals.

Head yellow, somewhat tinged with brown in front, a straight black streak through the eye and a white one along the upper labials. The general colour of the upper side is brown, powdered with grey; a light blue band begins on each side of the neck, continuing on each side of the back, the colour gradually turning to grey, but both bands remain tolerably distinct to the tip of the tail. On the front part of the body each is marked with square black spots along the inner edge, further on the spots become smaller, alternate in position on the two sides, but are somewhat removed from the internal margins towards the middle line. Below, yellowish, all the ventrals, (except those on the neck), with narrow blackish hind edges about the middle of the body, almost meeting in the centre, but further on the black becomes more confined to the outer margins, and on the subcaudals it forms a serrated black band on either side, as in Ablabes melanocerpalus, to which the present species bears a very strong resemblance. Dr. Günther mentions in his specimen only the presence of a black spot on either side of the ventrals.

Gonyosoma oxycephalum.

A very large specimen, measuring about five feet, has the scales round the body in 27 series; it is sea-green, the tail strongly tinged with rubescence brown, the sutures of the scales being blackish; the dark streak on the side of the head is very indistinct; upper labials whitish green.

Dendrophis caudolineatus.

Dr. Günther when noticing my paper on Penang Reptiles in the Zool. Record for 1870, says that I described his D. caudolineolatus (from Ceylon), as D. caudolineatus of Gray. I should have hardly expected such a brief dismissal of the consideration of all other points connected with the identification of this species. Dr. Günther appears to have noticed merely my statement regarding the thirteen rows of scales round the body, and to this one charac-
ter he seems to have sacrificed everything else. Now the Penang species, of
which I lately also received four beautifully preserved specimens from Suma-
tra, has only thirteen rows of scales. Cantor's description of the snake is
admirable, and he gives also thirteen rows of scales. Dumeril and Bibron,
when describing their \( D. \) octolineatus, also speak of only thirteen rows, and
Ján (Ophid. Livr. 31, pl. II,) gives the same number of scales when figuring
the species under Dum. and Bibron's name.

Thus the question to be determined is, whether Gray's type has thirteen
or fifteen rows of scales round the body? If fifteen rows are present, we
have to see whether we are entitled to regard this number as a normal or
abnormal one in that particular specimen, that is, whether other speci-
mens from the same locality have 13 or 15 rows of scales; for as far as other
points of structure and coloration go, the Penang and Sumatra species is
absolutely identical with Gray's \( D. \) caudolineatus. I have no Bornean specimens
for comparison, so I can add nothing more towards the solution of the
question.

The Ceylonese \( D. \) caudolineolatus, as far I can judge from the descrip-
tion and figure of it, differs in the structure of the pre-ocular, in the upper
labials, and so very essentially in coloration, that I could not have thought
of identifying the Penang \( D. \) caudolineatus with it.

**Ophites subcinctus.**

One specimen measures eighteen inches, of which the tail is 3\( \frac{2}{5} \) inch.
The general colour of the upper surface is black, slightly duller at the sides,
dull olivaceous blackish below; front head above blackish brown; seventeen
broad white rings round the body, the first on the neck, and four on the
tail; the white of the rings is considerably more distinct on the anterior
than on the posterior part of the body. The eight median rows of scales on
the back are keeled; eight upper labials, regular on both sides.

**Ophites albofuscus.**

A remarkably slender snake, measuring 18\( \frac{7}{10} \) inch. It has seventeen rows of scales, all strongly keeled, the keels
on the back being finely crenulated. The general structure exactly agrees
with Günther's account of the species. The specimen has 241 ventrals, anal
bifid, and 178 subcaudals, the last shield is single, very long and cylindrical.

The general colour is dark brown above, olivaceous white below; hind
head and collar on neck very slightly olivaceous white tinged with yellow;
body with twenty-six transverse white cross bands, some are imperfect, the
intermediate brown bands of ground colour being first thrice, afterwards
only twice as broad as the white ones. Tail with about twenty-six
transverse white bands, several of them succeeding each other being often
confluent along the middle line, and all are about equally broad as the brown bands separating them; towards the tip of the tail the light coloration prevails and almost entirely suppresses the dark one.

Mr. Stahlknecht obtained only a single specimen near Dilli on Sumatra-Dumeril and Bibron also described a specimen from Sumatra; another one is reported by Dr. Günther as having been brought from Malabar, but as it was bought from a dealer, the locality is not considered reliable.

**Hipsirhina [Ferania] alternans, Reuss.**


*Homalopsis decussata*, Schlegel.—*Hipsirhina alternans* apud Ján, Ophid., Livr. 30 pl. vi, figs. 1 and 2.

One specimen measures: total length 8:25 inches, the tail being one inch. It has two anterior frontals, the first scarcely half as large as the posterior, vertical six-sided, much smaller than one occipital; one loreal, one pro-ocular, two post-oculars; seven upper labials, the fourth under the orbit; the two first lower labials are in contact; two pairs of chin-shields, the first forms a suture, the shields of the second pair are much smaller, diverging and with their upper pointed ends lying between the first chin-shields and the labials. There are twenty-six rows of scales immediately behind the head, twenty-two round the neck, below interrupted by the second ventral, and nineteen round the middle of the body, ventrals 157, anal bifid, subcaudals thirty-four, the first five entire, the last conical.

General colour brown; head, above, anteriorly with a few pale spots; back with narrow pale (yellowish) cross bands: the first passes over the hind-edges of the occipitals and is laterally bipartite, the next four are simple and complete, the following after these mostly interrupted along the centre, and after the middle of the body the bands become reduced to indistinct lateral spots. The sides of the body are marked with a series of pale yellow cross-bars, more than one scale broad, and are separated by equally broad bands of the general brown coloration; the lateral pale bands more or less encroach upon the ventrals, but the general colour of these latter is pale brown. Chin and upper labials spotted with yellow.

This coloration slightly differs in minor details from that given by Ján, but it agrees with it in all essential points.

The larger size of the occipitals as compared with the vertical, the smaller number of upper labials and of the scales round the middle of the body, and the coloration readily distinguish the present species from *F. Sieboldi.*

* Günther, in Ann. and Mag. N. H., 1866, xviii, p. 28 and in Zool. Rec. for 1868 says, that Ján figured *F. Sieboldi* as *Hipsirhina Bocouti* (Iconograph. Livr. 28, pl. v, fig. 2). Ján’s *H. Bocouti* has apparently only 23 or 25 rows of scales round the body,
Trimeresurus Wagleri.

Fresh specimens are black above, with numerous spots on top of head, the superciliary edges, both lips, numerous narrow cross bands and the whole of the lower side bright golden yellow with a greenish reflection during life; the stripe from the nostril to below the eye, continuing above the angle of the mouth, one stripe on each side along the margins of the labials, and all the other light spots on the back, but particularly at the sides, are sea-green, more or less tinged with yellow.

Notes on the Indian Species of Thelyphonus,

by Dr. F. Stoliczka.

(Received 23rd February, 1873, read 5th March, 1873.)

[With plate XII.]

Towards the end of last year, a monograph of the genus Thelyphonus appeared in the September number of the Annals and Magazine of Natural History. The author of the paper, Mr. A. G. Butler, seems to have sifted well the materials of the national collection in the British Museum, but whether he has succeeded in his determinations of known, described and figured, species, is a question on which I may be permitted to say a few words. I will not unnecessarily transgress the field of my observations, and will chiefly confine my remarks to the Indian representatives of the genus.

I had for some little time devoted attention to these Arachnoids, and it has been my intention to publish a detailed monograph of the Indian Thelyphoni, together with an account of their anatomy,* notes on their habits, propagation, development, etc., all points about which our present knowledge is as yet very imperfect. Unfortunately, I have just at the present neither the time nor the materials which would justify me to treat satisfactorily with this subject, and I must leave it, therefore, for a subsequent communication. One of the chief objects of the accompanying notes is to draw the attention to certain discrepancies, or perhaps insufficiencies, in Mr. Butler’s determinations of a few of the Indian Thelyphoni.

The coloration is somewhat similar to that of F. alternans, the occipitals are much longer than the vertical, and there is only one anterior frontal, this, however, is also said to exist in an old specimen of Sieboldi from Siam. Still I am not certain that Günther’s suggested identity of the two snakes will be confirmed.

Ján does not acknowledge the distinctness of Ferania from Hipsirhina, and if F. Sieboldi has occasionally only one anterior frontal, the principal reason for keeping the two genera as distinct no doubt loses its validity.

* As compared with that of the Scorpions.
Lucas' account of the external anatomy of *Thelyphonus* is the only reliable one which we as yet possess. Short as it is, it clearly points out the great relation of the genus to *Phrynus*, and its essential difference from the scorpions.

As regards general distribution, I may say, that on the whole, particularly when compared with scorpions, the *Thelyphonii* are rare. I have only observed two life species, *T. scabrinus* and *T. (conf.) angustus*. Both were found at the foot of the Sikkim hills in damp places under the bark of old trees. They are crepuscular or nocturnal animals. When disturbed during the day, they try rapidly to escape, slightly raising themselves on their feet, holding up the cheliceres ready for defence, and erecting their caudal seta. Thus they progress very fast and soon disappear in any crevice or hole to which they find easiest access. In the evening they progress very quietly, moving their antennular first pair of feet in advance. When disturbed they stretch out these feet in a curve, and close their cheliceres over the mouth as a kind of protection, lying at the same time quite flat and motionless. I saw *T. scabrinus* issuing a peculiar fluid from two internal piloric appendages on each side of the anus, but the fluid did not have any offensive odour.

Mr. Peal of Sibsagur (Assam), who is an able observer and is always ready to give assistance on any subject connected with natural history, writes to me also that the *Thelyphonii* are generally found underneath the bark of decayed wood in groups, rarely singly. When first uncovered they (generally) lie perdu and try to pass as some smudge or fungus; lying close and flat, the legs gathered well together and the cheliceres folded in and closed in front of the mouth. On being disturbed they generally start up, throw out and up their cheliceres, gaping wide, erect the tail and invert it so as to feel if possible any object above them; sometimes they throw it quite over between the cheliceres. The first pair of feet, he says, seems to act more as feelers than as organs of progression. These animals seem to move either very slowly or very fast. In raising any fragment offered, they hold it aloft and stand well upon their legs, at least for a time.

Mr. Butler proposed to group the *Thelyphonii* in three sections, according to the number of denticles on the upper antero-interior edge of the second joint of the cheliceres. This is apparently a character of great importance, but like all others it is not without variation. I found that the relative proportions of the joints, particularly of the second, third and fourth, are almost more constant than the denticles alluded to. The form of the large spine on the fourth joint, and in fact the total length and ornamentation of the surface of the cheliceres, and the proportionate length of the feet are at least equally important in distinguishing the species.
The next useful character lies in the form of the anterior part of the thorax, whether it is depressed or rounded, and whether the anterior and lateral eyes are connected by a ridge or not. Next in importance is the form of the first abdominal shield. The length of the tarsi on the first pair of feet is also tolerably constant, and so is the form of the mandibles, but these, as a rule, are difficult to examine.

All other characters relating to the form of the body have a comparatively limited value; the single parts are very uniformly constructed in the different species, and are at the same time very much liable to variation. Thus the width of the abdomen is very variable, (most likely according to the different sexes), and so is the length of the abdominal seta, as regards number and size of the separate joints, etc.

Turning now to the sections, distinguished by Mr. Butler, there are some discrepancies to be noticed in the species referred to them by the author. In the first section, with five denticles on the second joint of the chelicere, we find among others:

* T. Brasilianus. * I count in Koch's original figure of the species at least seven, almost equal, denticles on the antero-interior edge. Their number, it is true, is not mentioned in the description, but if Koch's figure has been found to be incorrect, the correction should have been noticed. I am not aware that anybody has pointed out an inaccuracy in Koch's figure.

Guerin's * T. caudatus* (in his edition of the Régne animale) is identified with * T. Antillanus* of Koch. This is, I think, hardly admissible. Guerin's figure represents a species with comparatively shorter limbs and with the third joint of the cheliceres smooth on the upper surface and much longer, than a comparison of Koch's figure of * T. Antillanus* can bear out. The only reason for the identification of the two figures is, I think, Guerin's note that * T. caudatus* is from the Antilles, but whether that particular specimen was from the Antilles is another question.

The identification of * T. Assamensis* with * T. rufimanus* of Lucas is entirely inadmissible, as I shall point out in detail further on (see p. 134).

* T. proscorpio* of Latreille is an altogether doubtful species, and even should Koch's definition of the presumed same species be adopted, there is no sufficient reason for considering it as identical with * T. caudatus* of Lucas. I shall refer to this question again in the description of * T. scabrinus* (see p. 133).

* T. Linganus.* Koch's original figure gives six denticles on the second joint of the cheliceres, but does not refer to that number in the text. Is the figure incorrect in that respect?

Koch's * T. rufipes* is clearly not the same species as the one originally described by Lucas under the same name. The cheliceres and the limbs are in proportion to the body much longer in the former than in the latter; and, besides that, Koch's species has a slight central keel on the upper side of the
abdominal segments, and on the lower side the first segment is centrally grooved; neither of these characters are mentioned by Lucas, though when describing the respective parts he could hardly have overlooked these prominent characters. I consider Koch's *rusipes* as the same which he describes under the name of *proscorpio*; for the differences which he notices as distinguishing the two are decidedly of no specific value.

In the second group with two denticles on the second joint of the cheliceres, Butler describes *T. formosus*. My specimen of evidently the same species has six denticles of which, however, only two are well marked.

In the third division, including species with six well developed denticles, one is referred to under the old name of *T. caudatus*. I shall attempt to trace the history of this name when speaking of *T. indicus*, (n. sp.), which is possibly the same species as the one referred to by Butler from Madras and Bengal under the name of *T. caudatus*.

In addition to the three sections, I have one species, *T. Beddomei*, from the Anamallies, with seven denticles on the upper edge of the second joint. Among the very large number of specimens of *T. scabrinus*, (n. sp.), I found instances in which the second left joint has occasionally six denticles, while the right one had constantly only five. This clearly shews that the sections solely based upon the character, selected by Mr. Butler, can have only a very limited use.

Thus far I have commented upon Mr. Butler's determinations, but it must be understood that in the above instances my observations are mainly based upon descriptions and figures; for I have no other but Indian specimens for comparison. If those descriptions and figures were found to be incorrect, or not reliable, the mistakes had first to be pointed out and corrected, before a determination, based upon them, was admitted or rejected.

Finally, before entering upon the specific details, I must briefly allude to the geographical distribution of the genus. This distribution extends from South America and the West Indies northwards to Mexico, in a westerly direction through the ocean of little islands to the Philippines, touching North Australia, and stretching North as far as Corea, China and through the Malay Peninsula to Burma and India, where we meet with most of the species in the provinces of Assam and Sikkim, more rarely in Bengal and in South India, including Ceylon, all countries which have a marked admixture of Malayan types. No species is known to occur westward of the country alluded to, not even in Eastern Africa, as far as we know at present. This distribution resembles in so many respects that of the *Passalidæ*, that I shall again return to its discussion at an early opportunity.
The species which I have to notice from India, are:

1. *T. scabrinus*, n. sp.—Cachar, Khasi hills, Assam, Sikkim.
3. *T.* (conf.) *angustus*, Lucas.—Sikkim, Martaban (Moulmein), and Penang.
5. *T. indicus*, n. sp.—South India, W. Bengal, and Jahore, North of Singapore.

I will make my descriptions as complete as possible, and will not only give figures of single parts of the body, but also of the perfect specimens, in order to facilitate the determination by identification and not by guess. Figures of single parts are undoubtedly very useful, but they are not sufficient; they do not convey an exact idea of the relative proportions of all the parts of the body, and without paying due regard to these, a really reliable determination of *Thelyphonius* is in my opinion impossible.

1. **Thelyphonius scabrinus**, n. sp. Pl. XII. Fig. 1.

The whole upper surface granular; length† of the five terminal joints of the cheliceres equalling the length of the first eight abdominal segments; the length of last pair of feet equals exactly, or very nearly, the total length of the cephalothorax and abdomen; second joint of the cheliceres with five spines, third with a spine on the upper and lower inner edge, and equal in length to the fourth joint; a sharp upper ridge connecting the central and lateral eyes; first lower segment of abdomen of moderate size, depressed, with a broadly convex posterior edge.

**Hab.**—Sikkim, Assam, Garo-, Khasi- and Cachar- hills.

The cephalothorax is slightly convex, with the anterior ocular portion somewhat higher, but on the whole depressed and flattened, roundly obtuse in front. The two anterior blackish eyes are separated by a moderately levated smooth tubercle; from its anterior edge proceeds a sharp ridge curving outward, and running along the upper edge to the three lateral eyes, which are pale yellow. The ocular portion is more densely and somewhat more coarsely granular than the thoracic one; the former has a longitudinal central groove,‡ and parallel to it an indistinct elevation on either side, placed nearer

* I know that few would take the trouble of reading them on account of their length, but everybody, who has attempted to determine Arachnoids, will know that a description, unless fully detailed, is worthless for an accurate determination.

† This length is of course measured as far as the joints can be opened without disconnecting the articulation; it is not the aggregate length of the separate joints.

‡ I shall speak of this as the cephalic groove, and of the one on the posterior half of the cephalothorax as the thoracic groove and the lateral thoracic depressions.
to the margins; the latter has also a longitudinal groove which is most depressed in the centre; anteriorly from the central depression proceed two lateral grooves to the postocular depressions, and from the centre itself two on either side towards the margin. The sternum is triangular, obtuse in front.

The abdomen is moderately depressed, very elongately ovate, across the middle about one-twelfth of an inch broader than the thorax; granular above, with the posterior segmental edges crenulated; the muscular points* are round and well marked on the second to eighth segment, the three last segments are mostly smooth, the last joint being roundly compressed towards the upper end, with a small vertical and elliptical gland on either side. Below, the first nine segments are finely scrobiculately punctated at the sides, and smooth along the centre; the first joint is largest, equalling in length the three last ones, with the central portion of the posterior edge somewhat convexly produced; the second joint is barely curved at the edge and the third, like the succeeding, quite straight. The muscular impressions are elongate and well marked on the fourth to seventh joints, but a little less distinct and more approximate on the first and second joints. The caudal seta very nearly equals in length the whole of the body, it is always peculiarly attenuated towards the end, and all the joints are more or less hairy. The length of the joints and their number is very variable; the first is as usually the longest, the succeeding either gradually decrease in length, or some of them situated near the middle are longer than the rest.

The cheliceres may be regarded as of proportionate size to the body. The two first joints have each a strong spine in front, provided with a sharp joint and a small denticle on the inner side. The second joint has the upper side depressed, anteriorly moderately produced, with three small denticles on the inner edge, and two larger ones on the anterior one; the outermost larger denticle is somewhat more distant from its preceding one, than any of the others from among each other, but all are directed forward and inward; the inner concave side of this joint is coarsely granular, and the lower anterior corner has two denticles, of which the terminal one is the larger. The third joint on the upper side is equal in length to the second, and laterally along the middle to the fourth; it always has a small denticle on the inner anterior corner, and a larger one in front of the middle of the lower edge. The anterior process of the fourth joint equals in length the fifth joint, it is depressed, smoothish, with a rapidly contracted sharp point and serrated edges, the posterior serration being slightly coarser

* These points or depressions are very often called stigmatic points, but they have nothing in common with the stigmata, which lie under the edge of the first lower abdominal segment, and are not externally visible; the depressions are merely places of the inner attachment of the muscular bundles which connect the upper chitinous integument with the lower one.
and beginning with two somewhat larger denticles at the base of the process; this fourth joint also has a minute denticle on the lower anterior corner. The fifth joint is invariably conspicuously shorter and thinner than the fourth, anteriorly with a strong depressed, sharply pointed process which is somewhat more coarsely serrated posteriorly than anteriorly; the lower anterior corner of this joint has two denticles, the anterior of which is somewhat stronger than the corresponding denticle of the preceding joint. The sixth joint, or movable claw, is somewhat longer than the process of the fifth, slightly inwardly curved, sharply pointed, above and below with a finely serrated edge, internally on the concave side with a smooth ridge, and two equally smooth ones are externally on the convex side.

The first pair of feet are thin; the terminal eight tarsal joints are shorter than the preceding metatarsal one. The coxal and femoral joints of the three other pair of feet are thick, depressed, very densely and finely granular.

**Colours.** Full grown specimens are above brown, slightly darker on the cephalic portion of the thorax and on the cheliceres, except near their ends; all the feet from their tibial joints to the end are red, and each joint of the three posterior pairs has near its terminal upper edge a black dot; the last joint of the maxilla, the ocular tubercle and the claws are black. On the lower side the cheliceres, the prosternum, the abdomen are more or less dark brown, the coxae of the feet and the sternum are yellowish brown and the feet reddish brown.

The following are the dimensions of a specimen of very nearly the same size as the one figured by Koch as *T. proscorpio*.

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length of cephalothorax and abdomen</td>
<td>37 mm</td>
</tr>
<tr>
<td>Length of cephalothorax</td>
<td></td>
</tr>
<tr>
<td>&quot; abdomen, including the three terminal joints</td>
<td>13.6 &quot;</td>
</tr>
<tr>
<td>&quot; cheliceres, measured above, without basal joint</td>
<td>23. &quot;</td>
</tr>
<tr>
<td>&quot; first pair of feet, excluding the basal or coxal joint</td>
<td>17.5 &quot;</td>
</tr>
<tr>
<td>&quot; second ditto</td>
<td>44. &quot;</td>
</tr>
<tr>
<td>&quot; third ditto</td>
<td>25. &quot;</td>
</tr>
<tr>
<td>&quot; fourth ditto</td>
<td>26.5 &quot;</td>
</tr>
<tr>
<td>&quot; abdominal seta, ditto</td>
<td>36. &quot;</td>
</tr>
</tbody>
</table>

In young specimens (with a total length of about 20 mm.) the abdomen is often slightly longer in proportion to the length of the cheliceres, but there is not the least difference in structure. The body and cheliceres are olivaceous brown, the process of the fourth joint, the whole of the fifth and sixth joints of the cheliceres red; coxal and femoral joints of all feet olivaceous, the remaining joints and the seta yellowish red. On the lower side, the basal joint of cheliceres is pale brown with the spinal processes red, the three following olivaceous brown, the two terminal red; prosternum...
olive brown, coxae and sternum yellowish brown, abdomen pale brown, feet of
the same colour as on the upper side.

The species grows to a large size: the largest specimen from Sikkim
has the total length of cephalothorax and abdomen 50 mm.

In Sikkim the species is found from 1000 to about 4000 feet in damp
places under wood, more rarely under stones. It is the most common of all
the Indian Thelyphonii. I have examined about forty specimens of all sizes
from 20 to 50 mm., and all exactly agree in structure.

It seems very improbable (judging from the localities recorded by Mr.
Butler) that there should be no specimens of this species in the British
Museum, but I am not certain whether Mr. Butler refers to it under T.
rufimanus or proscorpio. He must have thought it not worth while reading
my description and comparing my figure of T. Assamensis, or else he could
not have referred it to the present species.

The original name T. proscorpio of Lattreille (Gen. Crust. et Insect.,
1806, p. 130) was, strictly speaking, proposed for Linne's Phalangium
caudatum. In spite of the numerous references to figures in various old
books, it is entirely impossible to trace the species which Latreille had in view.
The name would have had to be entirely ignored, but for its timely rescue by
Koch who figures a Javanese species under Latreille's name, giving the
from mere figures, we are, I think, justified to regard the species,
delineated by Koch, as different from Lucas' Th. caudatus (to which I
shall refer further on). Koch's proscorpio would appear to have the joints of
the cheliceres shorter and thicker, the fifth much stronger than the fourth,
(while the reverse is observed in Lucas' figure), the centre of the anterior
upper abdominal joints keeled, the first, lower abdominal joint very large
and with a longitudinal groove. I hardly think that Lucas could have over-
looked the last character, when describing the first lower abdominal joint;
and besides that in his species he particularly refers to a separate small
spine preceding the great spinal process on the fourth joint of the cheliceres;
it is indicated in his figure, but not a trace of it is to be seen in Koch's
figure. For these reasons, it seems to me clear that we have to consider
Latreille's re-established Th. proscorpio as distinct from Linne's re-esta-
blished T. caudatus.

Butler also doubtfully refers Lucas' T. angustus to his compound mix-
ture of Th. proscorpio, but with still less reason, as I shall presently shew.

2. Thelyphonus Assamensis, Stol. Pl. XII. Fig. 2.
The whole upper surface granular; the length of the five terminal joints
of the cheliceres fully equals the first nine abdominal segments; the last foot is
longer than the cephalothorax and abdomen together; second joint of cheliceres with five subequal spines, four being on the inner, one somewhat more distant on the upper anterior edge; third joint with a single strong spine on the lower median edge, it is longer and slenderer than the fourth joint, whose anterior process is long, subcylindrical, smooth posteriorly, denticulate on the antero-interior edge; a sharp denticulate ridge connects the central with each group of lateral eyes; first lower abdominal segment depressed, particularly in the middle, with the posterior edge convexly produced.

Hab.—Assam and Sikkim. The species is much rarer than the previous. It will be seen from this abbreviated characteristic that the species is very closely allied to the previous, but after having examined several specimens of each, exactly agreeing with each other, I think they must be looked upon as two distinct species. I have already given a detailed description of the present one.

In size and coloration it almost exactly agrees with T. scabrinus, but is slightly more depressed, the cheliceres are somewhat more slender and longer. The spines on the second joint are subequal, four on the inner edge, and one distant one on the upper edge; the form of the third joint and the process on the fourth differ essentially, as may be readily seen by a comparison of the enlarged figures of the respective cheliceres. The feet are also proportionately longer than in T. scabrinus; the eight tarsal joints on the first pair equal in length their preceding metatarsus. Internally along each group of lateral eyes are two imperfect ridges of granules somewhat parallel to the central cephalic groove.

As regards general form and proportional size of the joints of the cheliceres T. Assamensis is also closely allied to T. caudatus, as emended by Lucas, but the denticles on the second joint are very different.

Butler (loc. cit. p. 202) considers T. Assamensis as the adult of T. rufimanus of Lucas. If such identifications were admitted, we might better give up the idea of distinguishing at all species of Thelyphoni; a superficial comparison of the respective figures will shew that the cheliceres and limbs of T. Assamensis are proportionally very much longer, than could possibly be attributed to a change in age. Lucas particularly refers to the shortness of the cheliceres* in his description of T. rufimanus, their third joint is said to have no spines whatever; the first lower abdominal segment is stated to be very large. Besides that it appears to me, judging from the figure, that there is in Lucas’ species no sharp ridge between the central eyes.

3. Thelyphonus (conf.) angustus, Lucas. Pl. XII. Fig. 3. 

T. angustus, Lucas, Guerin’s Mag. do Zool. for 1835, pl. 10, fig. 3. 

Cephalothorax and abdomen long and slender, finely granular above; cheliceres in young almost entirely smooth, in old specimens with the exception of

* They are much shorter than the abdomen.
the second joint mostly smooth, the length of the five terminal joints is about equal to that of the first six abdominal segments, which is slightly more than the length of the cephalothorax; the length of one of the last feet, or that of the caudal seta, is considerably less than that of the cephalothorax and abdomen together; cephalic portion of thorax at the sides between the central and lateral eyes rounded; second joint of cheliceres with five denticles, of which the two uppermost are subequal and larger than the three others; third joint not longer than the fourth, with a denticle on both the upper and lower inner edges; first lower abdominal segment depressed, with the posterior central edge somewhat narrowly produced.

**Hab.**—Penang, Moulmein, and Pankabari (Sikkim).

I have six specimens for examination, two from each locality; they all agree in the above characters, and appear to me to be referable to Lucas's species.

The slenderness of the body and the shortness of the cheliceres are very striking distinctions as compared with the two preceding species. The cephalothorax is only about half the total length of the abdomen, with the anterior end somewhat narrowly rounded, convex above, the cephalic portion being more distinctly, though still very finely, granular than the thoracic one; the median ocular tubercle is low, rounded, smooth; the central eyes small, black; the sides between them and the lateral amber-coloured eyes rounded, with a slight longitudinal elevation above the latter. The cephalic groove is distinct, beginning a short distance behind the ocular tubercle. The central thoracic impression is rather large, with a very fine groove passing through it; lateral impressions rather indistinct. Prosternum on the face obtusely keeled with a short anterior broad point; sternum ovately subtriangular, smooth, anteriorly subtruncated.

The first nine abdominal shields are on the upper side very finely granulated, with slightly raised lateral and posterior edges. The muscular rounded pits are well marked from the second to the eight segment. The lateral kin is densely and very finely punctated and scrobiculatc. The first segment has the middle of the posterior edge narrowly produced, and its length laterally is equal to that of the two succeeding ones, all three are broadly laterally punctated, smooth in the middle, while the other segments are mostly smooth, with only a few fine scattered dots.

The caudal seta is always shorter than the total body; it is distinctly hairy in young specimens, but the hairs easily wear off in adults.

The cheliceres are almost quite smooth in young specimens, while in adults the second joint is on the upper side densely punctated, the other joints are very sparingly covered with hair, these becoming, however, more numerous towards the tips. The first joint is flattened, with two anterior diverging processes, each terminated by a short spine, which has the appearance as if it had
been set into the abbreviated end of the process. The remaining five joints are in form, relative size and denticulations, exactly like those of \( Th. \) scabrinus on a small scale, with the single exception that, as already observed, they are mostly smooth. The eight tarsi of the first attenuated pair of feet are considerably shorter than the preceding metatarsus. The remaining feet have the femoral joints depressed and finely granular above.

Colour of adult, above, blackish brown, somewhat less pure on the abdomen and with the three terminal joints of the cheliceres reddish brown, coxal and femoral joints of all feet olivaceous brown, remaining joints bright red; lower side entirely reddish brown, only the second and third joints of the cheliceres, the points or denticles of all the other joints, the prosternum, the femora, the external margins of the abdominal segments, including nearly the whole of the four terminal ones, are blackish; the shades of brown, however, slightly differ: the last joint of the cheliceres being rather bright red, the first pair of feet reddish brown, the coxae and sternum yellowish brown and the abdomen chesnut brown; the seta is reddish brown.

Younger specimens have all the upper dark brown as well as the lower reddish coloration paler, but the ends of the cheliceres are bright red and the feet and caudal seta yellowish red. In the four specimens from Sikkim and Penang the femoral joints of the first pair of feet are dark, in the two specimens from Moulmein the whole of these feet are reddish brown.

The largest specimen from Sikkim measures:—

<table>
<thead>
<tr>
<th>Total length (excluding the seta),</th>
<th>31 m.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of five terminal joints of cheliceres,</td>
<td>11 &quot; &quot;</td>
</tr>
<tr>
<td>&quot; cephalothorax,</td>
<td>10 &quot; &quot;</td>
</tr>
<tr>
<td>&quot; abdomen,</td>
<td>20 &quot; &quot;</td>
</tr>
<tr>
<td>&quot; first pair of feet (excluding the coxa),</td>
<td>26 &quot; &quot;</td>
</tr>
<tr>
<td>&quot; second,</td>
<td>16.5 &quot; &quot;</td>
</tr>
<tr>
<td>&quot; third,</td>
<td>17.5 &quot; &quot;</td>
</tr>
<tr>
<td>&quot; fourth,</td>
<td>25.5 &quot; &quot;</td>
</tr>
<tr>
<td>&quot; caudal seta,</td>
<td>26.5 &quot; &quot;</td>
</tr>
</tbody>
</table>

A comparison of my figures and description of the present species with those of Lucas (loc. cit.) will show, that the form of the body, the proportions of the different joints and the coloration agree as closely as could be expected, so much so that I can scarcely doubt the identity of the two. There is only one point in Lucas' description which, although in itself apparently of no very great importance, is contradictory to what can be observed in my specimens. Lucas says that the third joint of the cheliceres is smooth on the upper inner edge, and provided with a spine only on the lower edge, while in all my specimens there is a distinct though very small spine on the upper edge and a somewhat larger one on the lower. As Lucas' type is in the Paris Museum, it will be comparatively easy to settle this point by a re-examination of the specimen.
4. **Thelyphonus formosus**, Butler. Pl. XII. Fig. 4.

Ann. and Mag. nat. hist. 1872, vol. x, p. 203, pl. xiii, fig. 4.

Upper side of body finely granular, of cheliceres nearly smooth, length of the five terminal joints of cheliceres very nearly equaling that of the first nine abdominal segments; second joint of cheliceres on the upper anterior edge with six very small denticles, of which only the two middle ones are pointed, fourth and fifth joints more swollen than the two preceding ones; edge between the central and lateral eyes swollen, rounded, not carinated; length of one of the last feet almost exactly equals the cephalothorax and the abdomen; first lower abdominal segment very large, with the median posterior edge produced, but still truncated, and depressed.

Hub.—Moulmein, (in the Martaban province).

The cephalothorax is comparatively small, its length being only slightly more than half that of the abdomen; it is convex, anteriorly somewhat narrowly rounded, with the cephalic portion behind the ocular tubercle transversely rugose, further on rugosely granular, the granulation being considerably stronger than on the thoracic portion. Ocular tubercle and central eyes small, black. Cephalic groove with slightly raised margins. Edges beginning a short distance behind the central eyes and extending to the laterals broadly rounded and swollen. Median and lateral thoracic grooves and impressions narrow, but distinct and shining smooth. Prosternum narrow, subcarinate; the sternum rather elongately trigonal, anteriorly obtusely rounded, with the sides posteriorly sloping.

The first nine upper abdominal segments very finely granular, with crenulated posterior margins; the muscular rounded pits are distinct on the first eight segments, the three last narrow segments are smooth. Sides punctured, and with small scattered elongated tubercles, of which a median row slightly exceeds the others in size. On the lower side the two first segments are strongly rugose at the sides, the others only punctated, the median portions being smooth, except on the narrow second and third segments on which the punctuation extend almost to the centre. The first segment is largest, with the posterior part centrally produced, but with the edge truncate. The first pair of feet is entirely smooth, the second and third have the femoral joints, and the last all the joints, scrobiculately punctated, the punctuation extending even to the hinder sides of the coxae.

The cheliceres are sparsely hairy, except on the inner sides and near the tip. Each first joint has anteriorly a strong sharply pointed process. The second joint has on the upper margin six denticles, four being on the inner edge,—the two lower obtuse, the two upper pointed and longer,—the fifth and sixth are on the anterior edge, both very small and indistinct, the last is distant from the rest; the anterior half of the joint is transversely rugose; the lower anterior edge has two subequal very small denticles. The third
joint is slender, slightly longer than the second, with numerous sharp granules on the upper rounded inner edge, and one strong spine in the middle of the lower edge. The fourth joint is not longer but considerably thicker than the third, with a long, inner, rather equally slender, smooth, anterior process, with its termination shortly bifid and internally provided with a compressed tubercle. The fifth joint is equal in length to the preceding, but again more inflated, with a short and broad anterior process, sharply serrated on both edges. The sixth joint is moderately curved, externally grooved and with the upper and lower edges finely serrated, and internally pilose.

The length of the eight tarsi of the first pair of feet is less than that of the metatarsus. The femora of the other feet are moderately thickened and depressed.

Colours. Above,—chelicerae and cephalic thorax brilliantly shining blackish brown, remainder of cephalothorax and abdomen dull blackish; maxillæ with the exception of their tips and all feet bright reddish chestnut; caudal seta somewhat deeper red; sides of abdomen fulvous brown. Below,—chelicerae on the first joint dark brown, remaining joint blackish brown, sternum, coxae and feet reddish chestnut, abdomen darker chestnut.

I have some years ago collected this species near Moulmein, wherefrom Butler's type was received. If the second joint of the chelicerae of the type specimen has no indication of any other but two denticles, the occurrence must be looked upon as an accidental variation. The form of the body and of the chelicerae is so characteristic, that the species cannot be easily mistaken with any other. The following are the dimensions of an apparently full grown specimen:

Total length of cephalothorax and abdomen, ........................................ 26 m. m.
Length of the first terminal five joints of chelicerae, ........................................ 13.5 " "
" " cephalothorax, .................................................................................. 9. " "
" " abdomen, ........................................................................................ 16.5 " "
" " first pair of legs (without coxae), ...................................................... 28.5 " "
" " second, ............................................................................................. 15.5 " "
" " third, .................................................................................................. 16.5 " "
" " fourth, ............................................................................................... 24.5 " "
" " caudal seta, ........................................................................................ 19. " "

5. Thelyphonus indicus, n. sp. Pl. XII. Fig. 5.

An Thel. cautatus auctorum!

Upper side very finely granular; the first nine abdominal segments, centrally, with a partial, very fine carina; chelicerae mostly smooth, except on the second and third joints which are densely punctated; the length of the five terminal joints of the chelicerae equals that of the first seven or seven and a half abdominal segments; the length of one of the last pair of feet is very nearly equal to that of the cephalothorax and abdomen taken together;
a short sharp edge in front of the lateral eyes, not continuing to the central eyes; second joint of cheliceres with six small, subequal denticles, third not longer than the fourth, with a little spine above and below; first lower abdominal segment very large, convex, centrally grooved.

_Hab._—South India, Western Bengal, and the Malay Peninsula.

The cephalothorax is rather obtusely rounded, with the perpendicular front side perfectly smooth; the ocular tubercle is also smooth and very high, the circumference round each black central eye being depressed. From the ocular tubercle passes in a curve a rounded edge below the central eye, and after a short distance from this one joins a thin, but sharp and finely serrated, ridge which continues to the lateral eyes; the latter are pale amber yellow. The upper side of the cephalic thorax is flattened, indistinctly granularly rugose, with a rather small central groove. The thoracic portion is very finely granular and most minutely punctated, with the central depressions distinct, but the lateral ones ill-defined. The abdomen is one sixth broader than the thorax, very finely granular, with a fine central carina, scarcely traceable on the fourth and fifth segments; all have a posterior submarginal row of very minute granules; the last three narrow segments are smooth. The first segment on the lower side is very large, smooth, centrally grooved, with the posterior edge somewhat produced and broadly truncate. All the other segments are finely rugose; the second and third being very narrow.

All the joints of the chelicerees are internally distinctly pilose. The first joint is sparingly punctated; on the median anterior part it is transversely rugose, terminating with a sigmoid, pointed process. The second joint has an anterior rounded shovel-like edge provided with six subequal denticles, of which the two outermost are more distant from the other four than these among themselves; on the lower edge there are two unequal denticles. The third joint is short, with a small denticle at the inner upper end and a larger one on the middle of the lower inner edge. Both the second and third joints are densely punctated above and outwardly, and granular below; the following are mostly smooth. The fourth joint is slightly thicker than the third, with a long, pointed, anteriorly and posteriorly serrated process; it has no spine on the lower side. The fifth joint is again somewhat more inflated with a short, broad, depressed process, sharply serrated on both sides; on the front margin of the lower side there is a minute denticle. The sixth joint is slender, considerably longer than the process opposite to it; the upper and lower inner edges are, as usually, finely serrated, and near the tip there is on the upper edge a conspicuously enlarged tubercle.

The tarsi on one of the first pair of feet are shorter than the preceding metatarsus. The femoral joints of the other feet are compressed, granular
above, smooth below; the last foot is very little shorter than the whole body, and the caudal seta fully equals in length the latter, it is multi-articulate and densely pilose.

Upper side of cephalothorax and abdomen dull brownish black; cheliceræ shining deep chestnut, feet and seta bright chestnut. Lower side,—cheliceræ same as above, feet, sternum and first abdominal shield bright chestnut, rest of abdomen deeper chestnut.

Total length of cephalothorax and abdomen, ........................................... 35.5 m. m.
Length of the five last joints of cheliceræ, ........................................... 17.3 " "
" cephalothorax, ........................................... 12.1 " "
" abdomen, ........................................... 22. " "
" first pair of feet (with coxa), ........................................... 38 " "
" second, ........................................... 22. " "
" third, ........................................... 24. " "
" fourth, ........................................... 33. " "
" caudal seta, ........................................... 36. " "

The preceding description and the figures refer to a South Indian specimen which I had received from Major Beddome.

Another specimen was collected by Mr. Ball near Sirjúja in Western Bengal. It agrees with the former in every particular, except that the denticles on the second joint of cheliceræ are somewhat stronger, and that the fourth and fifth joints are not so much inflated, both being only slightly thicker than the third.

Several other specimens were obtained by Mr. Wood-Mason’s collector at Jahore, at the extreme south end of the Malay Peninsula. These also agree in every point of structure, the proportions of the body, &c., with the type form, but the first, second, third and fourth joints of the cheliceræ are more densely punctated, while the tumidity of the fifth is intermediate between the South Indian and the Bengal specimen. The six denticles on the second joint of the cheliceræ are well developed, and the process on the fourth is a shade broader than in either of the two Indian specimens.

Judging from the references to the two localities Madras and Bengal, it would seem probable that the present species had been alluded to by Mr. Butler under the name *Th. caudatus*, though the remark referring to the broad body and depressed abdomen would rather apply to the next species.

But here the question arises what is *Thelyphonus caudatus* = *Phalangium caudatum* of Linnæus? Mr. Butler (loc. cit.) gives among others as the reference of *T. caudatus* Linnaeus's Syst., and Fabricius' Ent. Syst. If anybody will look through these references, he will, I think, find very little satisfaction in the definition of *T. caudatus*.

As habitat of the species, Mr. Butler gives Ceylon, Madras, Bengal and Tenasserim, and says that it is a broad, well marked form, having
six teeth on the second joint of cheliceres and a very depressed* abdomen, and that it has been confounded with two, if not three, other species! Now I confess after having carefully looked over the references alluded to and Mr. Butler's notice, I have not succeeded in tracing Linné's *T. caudatus*, nor will, I think, anybody else do so; and if the species has been confounded by older writers, as no doubt it was, Mr. Butler has only added his share to that confusion.

Let us see whether and how far we might be justified to adopt the name *T. caudatus*.

Linné named a species in ‘Syst. naturae 619, n. 2’ *Phalangium caudatum*, which he characterises as ‘chelis ramosis, ano setifero.’ In Museum Lud. Reg., 1764, p. 426, the celebrated author describes the same species in detail and gives ‘habitat in Java,’ quoting at the same time Seba's figures 7 and 8 on pl. 70 of his Thesaurus. To determine anything according to Seba's figures is an altogether hopeless case, but we know that Linné's description of *Ph. caudatum* was drawn up after a Javanese specimen, and we must, therefore, look to Java for Linné's *Ph. caudatum*. When we see through our literature we find, I think, only two descriptions and figures, which can bear out any comparison with Linné's type, and these are Lucas' *Th. caudatus* ex Java, and Koch's *Th. proscorpio* ex India orientali et Java.

In reading carefully over Linné's description, I think, the passages *ferrugineum*.... *chela*.... *articulis 5 constructae*.... *β* (i.e. *articulus tertius*) subrotundus, inermis,... *γ* (i.e. *art. quartus*) subrotundus.... are decidedly more in favour of Lucas' than of Koch's figure. If we, therefore, wish to retain Linné's name we can reasonably, I believe, only adopt it in the form in which it had been introduced into science by Lucas in his Monograph of the genus in Guerin's Mag. de Zoologie for 1835. Any other meaning, which we force upon Linné's name, is more arbitrary than this, still I do not wish to leave altogether the references of previous authors to this name without notice.

I have already (p. 133) stated the reasons, which appear to me to indicate that Koch's reinstated *Th. proscorpio* of Lattreille is distinct from Lucas' *Th. caudatus* of Linné.

Fabricius copied Linné. In Syst. entomologie, 1775, p. 441, he only added ‘habitat in India orientali,’ and I do not think it improbable, that several specimens of *Thelyphonii* had been sent by the French and German Missionaries from South India to European Museums.

Pallas' two figures most probably refer to *Th. scabrinus*. He also had Indian specimens.

Lattreille, both in his Hist. nat. des Crust., p. 130, pl. lx, fig. 4, and in his Gen. Crust., p. 130, evidently confounded various species from differ-

* Linné says: abdomen ovato-oblongum, supra et subtus gibbum.
ent parts of the world under one name. He does not give any descriptions.

The figure in Guerin’s Régne animale would, if correct, represent a species distinct from Th. Antillanus, Koch, as already (p. 128) observed.

Douges and M. Edwards’ figure in their edition of the Régne animale most likely represents Koch’s T. proscorpio.

I do not think it would be profitable to go further with this review, even if I had all the old books at hand. I have looked over many of these historical figures and descriptions, and if anybody wishes to study the history of the genus, he might do the same, but if he wishes to determine his species, he will find it much more profitable, to ignore every reference written prior to 1835, the date of Lucas’ Monograph of the genus.

6. Thelyphonus Beddomei, n. sp. Pl. XII. Fig. 6.

Upper side of body granular, of cheliceres sparingly punctated; length of the five terminal joints of cheliceres equal to the first eight abdominal segments, these have on the upper side a median thin ridge; second joint of cheliceres with seven denticles on the upper edge; third joint on upper side shorter than the fourth, above and below with a spine; the length of one of the last limbs very nearly equals the total length of the body; a very fine short ridge in front of the lateral eyes; first lower abdominal segment enlarged, along the middle indistinctly grooved, with the posterior edge centrally much produced and rounded.

Hab.—Annamally mountains, South India.

The cephalothorax is much higher anteriorly than posteriorly, rounded in front, with the ocular tubercle prominent, smooth, its posterior portion being separated by a fine incomplete transverse groove from the intra-ocular one; central eyes of moderate size, dull yellowish; lateral eyes amber colored, with a short, very thin and finely serrated ridge in front of them, disappearing already at the middle of the distance between the lateral and central eyes. Cephalic thorax granularly rugose, shining; thoracic portion conspicuously broader, more finely granular, dull. Cephalic groove deep, median thoracic and postocular pits and lateral groove well developed, smoothish, shining. Sternum elongately semi-elliptical. Abdomen rather broadly ovate and depressed, above granular, with very slightly raised posterior and lateral margins, the first eight segments with a central longitudinal fine ridge. Sides granularly scaly. Lower surface almost smooth, with spare fine pits; first segment much larger than any of the others, depressed-ly convex, longitudinally indistinctly grooved, and with the central posterior edge considerably and rather narrowly and roundly produced.

First joint of cheliceres with the usual anterior process, provided with a rapidly attenuated sharp point. Second joint on the upper edge with seven denticles, of which the outermost is the smallest and the median on
the inner anterior corner the largest; below with two subequal denticles. Third joint with a distinct denticle on the upper and a slightly larger one on the lower side, the latter is accompanied by a minute sharp granule. These two joints are above and below rather densely punctated. The fourth joint is more swollen and larger than the third, with a depressed, anteriorly and posteriorly sharply serrated process, and a little spine on the median anterior lower edge. Fifth joint somewhat thinner than the previous, with a quite similar process than on the preceding joint, but slightly shorter, and also with a denticle on the lower side. Sixth joint, or movable claw, long, with the upper and lower inner edges serrated.

Tarsi of first pair of feet slightly shorter than the preceding metatarsus. All other feet with compressed, and on the upper side finely granular, femoral joints. Caudal seta slender, with rather elongated, hairy joints; its length equals that of the whole body.

Body including the seta, above, dark brown, on the cheliceres and on the cephalic portion of the thorax shining blackish brown; feet chesnut; lower side, deepest brown on the cheliceres and on the posterior end of the abdomen, dark brown on the first joint of cheliceres and on the anterior part of the abdomen, and lighter brown on the coxae of the feet and on the sternum.

Total length, .............................. .............................. 40.5 m. m.

Length of the five terminal joints of cheliceres, .............................. 19

   cephalothorax, .............................. 14.5
   abdomen, .............................. 25.
   first pair of feet, .............................. 42.5
   second, .............................. 23.2
   third, .............................. 25.5
   fourth, .............................. 28.
   caudal seta, .............................. 39.5

The number and distribution of the denticles on the second joint of the cheliceres, the broad abdomen, the form of the first lower abdominal segment, and the slightly longer limbs distinguish the present species from the previous.

Explanation of plate XII.

Fig. 1. Thelyph. scabrius, n. sp., p. 130; 1a, right chelicere, enlarged twice the nat. size; 1b, four anterior lower abdominal segments.

Fig. 2. Thelyph. Assamensis, Stol., p. 133, right chelicere, enlarged twice the nat. size; 2a, four anterior lower abdominal segments.

Fig. 3. Thelyph. (conf.) angustus, Lucas, p. 134; 3a, left chelicere enlarged three times the nat. size; 3b, four anterior lower abdominal segments, enlarged twice the nat. size.

Fig. 4. Thelyph. formosus, Butler, p. 137; 4a, right chelicere, and 4b, first four lower abdominal segments, both enlarged twice the nat. size.

Fig. 5. Thelyph. indicus, n. sp., p. 138; 5a, right chelicere, in twice the nat. size; 5b, four first lower abdominal segments.

Fig. 6. Thelyph. Beddomei, n. sp., p. 142; 6a, left chelicere, in twice the natural size; 6b, four first lower abdominal segments.
Note on the genus Gymnops, W. Blanf., (Lacertidae),—
by W. T. Blanford, F. G. S., C. M. Z. S.

[Received 12th April, 1873.]

In the Journal of the Asiatic Society of Bengal for 1870, Vol. xxxix, Pt. II, p. 357, I proposed to distinguish a new and peculiar form of Ophiops from Chhattisgarh by the subgeneric title of Gymnops. The species to which I applied the name of Ophiops (Gymnops) microlepis, differs from the typical forms of Ophiops found in India and Western Asia in its more elongate proportions, longer tail, single postnasal and minute dorsal scales.

Dr. Stoliczka has since obtained the same species in other parts of India and especially in Kachh (J. A. S. B. 1872, Vol. xli, Pt. II, p. 90 and Proc. A. S. B. 1872, p. 71), and he has adopted the name Gymnops as a generic term, founding the distinction from Ophiops mainly on the difference in the character of the dorsal scales, which are much smaller and more granular than in true Ophiops, although they are distinctly keeled and imbricate. Quite recently Proc. A. S. B., July 1872, p. 126, Dr. Stoliczka has described a second species Gymnops meizolepis from Kalabagh on the Indus. This has somewhat larger scales than G. microlepis, but it possesses the same elongate form, the tail from the anus being more than twice the length of the body, and it again presents the peculiarity of a single postnasal instead of two or three as in Ophiops.

But the name Gymnops, whether considered as generic or subgeneric, cannot be retained for this type of naked-eyed lizards, as it has been twice employed in ornithology, having first been applied by Spix to a South American genus of Raptorees, for which, however, an earlier generic title viz., Daptrius existed, secondly by Cuvier to a Malayan genus of Sturnidae, allied to Euabes.

Under these circumstances I propose to change the name of the Indian lacertian genus, above specified, to Chondrophiops in reference to its somewhat granular scales.
ON AQUILA BIFASCIATA AND AQUILA ORIENTALIS,—
by W. E. Brooks, C. E., Assensole.

[Received 8th April, 1873.]

I have long had in my possession two specimens of Aquila orientalis, Cab., one sent me by Dr. Bree and labelled by Mr. Gurney, and the other from Mr. Dresser. The latter is a Sarepta specimen from the Volga region, and the former, from the Dobrudseha.

On returning the Dobrudseha example, which Dr. Bree had submitted to Mr. Gurney, the latter sent the following memorandum.

"The eagle which I have ticketed 'Aquila orientalis, Cab.,' is identical with that so often sent in collections from Sarepta near the mouth of the Volga, and is in fact the only species of Eagle which I have seen from that locality. I have hitherto been in the habit of calling this eagle 'Aquila clanga of Pallas,' but as Pallas does not appear, by the description of his Aquila clanga in the Zoog. Ross. As., Vol. I, p. 351, to distinguish between this eagle and the smaller spotted eagle A. navia, and as his measurements, which are given in old French feet, inches, and lines, (for a scale of which see Finsch and Hartlaub's Vögel Ostafr.) agree better with A. navia than with the present species, it will perhaps be best to adopt for the present species the name of Ag. orientalis, proposed by Cabanis in the Journal für Orn. 1854, p. 369, (note), which though not very well chosen is the next in order of priority and the earliest that can with certainty be applied to this eagle exclusively. The specimen now sent appears by its measurements to be a female, and is in adult plumage; the immature birds of this species being spotted in precisely the same manner as those of Aquila navia which is well shewn in Yarrell's figure of the 'Spotted Eagle.'"

I quote this memorandum by Mr. Gurney to shew upon what good authority one of my specimens is named Aquila orientalis, and the other, sent me by Mr. Dresser labelled A. clanga, Sarepta, closely resembles it.

Mr. Gurney's statement, that the immature is spotted like Aquila navia, is, as far as I can see at present, a mistake; for we have the bird in India (A. bifasciata) and it never in any way resembles A. navia.

I have, from the first, been struck by the great similarity of these two specimens to our Indian Aquila bifasciata, Gray and Hardwick; but had not till the other day obtained Indian specimens according in every respect, to a feather, with the European examples of A. orientalis, above referred to.

Now I have, and the accordance is so beautifully perfect, that there is no
alternative, but to come to the conclusion that *A. orientalis* is identical in every respect with *A. bifasciata.*

I have now, therefore, three European killed examples of *A. bifasciata*; the third being that sent me by Capt. Elwes, and referred to in "Stray Feathers," Vol. I, p. 291. The two first are in nearly mature plumage, and the third is quite mature; and is the finest specimen of the bird I have seen.

The two sent as "*A. orientalis*" have only slight indications of the nuchal patch; otherwise I should have recognized them at the first glance as *A. bifasciata*, as was the case with Capt. Elwes’s Bosphorus bird. This term has, I believe, priority over *A. orientalis*, Cabanis, and if so will be retained for this eagle.

The application of Pallas’s term "*A. clanga*" to the same species by some European writers is, I believe, an error, if I read the original description correctly. It appears to refer to our Indian spotted eagle which we accept as *Aq. naevia*, and which I believe to be the true *naevia*. Klein, whose work is dated 1750, is the author of the term *Aquila clanga*, and Pallas quotes and adopts this synonym in preference to the older term *Aquila naevia*, Schwenckfield. This term Pallas also quotes under the head of *Aquila clanga*, but as a synonym. Schwenckfield’s work is dated 1603.

In a letter received the other day from my friend Mr. Anderson, he records the occurrence of a lineated *A. Mogilnik* at Aden, which was stunned by flying against the telegraph wires there.

I may as well mention here that the Indian Imperial Eagle, to which I applied Hodgson’s term of *A. crassipes*, is identical with the East European bird, *A. Mogilnik*, better known as *A. imperialis*, but the former is the prior term.

I compared our bird with an adult Turkish specimen sent me by Dr. Bree. Mr. Gurney also came to the same conclusion, after comparing the adult Indian birds, I had sent home, with European examples.

The West European Imperial Eagle is, however, quite distinct and is now known as *A. Adalbertii*, Brehm. This is the species said to have no lineated stage, and having, when adult, an excess of white on the scapulars and ridge of wing.

* [Mr. V. Hall and I had the pleasure of comparing the two specimens of *A. orientalis*, referred to by Mr. Brooks, with a series of Indian *A. bifasciata*. They undoubtedly appear to be perfectly identical, both in structure and coloration. If the determination of those two specimens as *A. orientalis* is correct, (and upon such good authority, as Mr. Gurney, it ought to be), there can be no doubt that the two species must be considered as identical. *P. Stolicska.*]
I sent a fine series of our Indian *Aquila hastata* to the Norwich Museum. Mr. Anderson also sent one example in mature plumage.

Besides these we sent others to ornithological friends. I hear from Messrs. Gurney and Dresser, that the adult plumage of this species is not to be distinguished from that of the small Pomeranian spotted Eagle which they term the true *Aquila navia*.

They assert, however, that though the adults are alike, the immature birds differ.

This is a point for further investigation, but the perfect accordance of the adults leads me to expect the same in the immature birds. The connection between the immature and the adult is the first point to be established; and this can only be done by the field naturalist.

One of my ornithological friends informs me that the immature of *A. orientalis* (which we have shewn is *A. bifasciata*), has spotted plumage like that of *A. navia*; another friend informs me he has received the immature bird, and it "is strangely like *A. bifasciata*!" Now the latter eagle is *not spotted*, and the "doctors," who are both men of repute, "differ."

These points will all be cleared up it is to be hoped before long; and we shall perhaps have the natural history of the Eagles as clear and as correct as that of the common Rook, with little or nothing else to be learned. At present the Eagles appear to be in a state of dire confusion, which the English naturalists are daily making worse.*

* Since the foregoing was written, Capt. G. F. L. Marshall, who is much interested in this subject, came and examined the series used. He fully concurred in the identification of *A. orientalis* with *A. bifasciata*, and was even more positive than I was that the Danzic killed *Aquila hastata* was indeed that species. It will be remembered, it was sent to me labelled "*A. navia.*" My English Ornithological friends with whom I communicated are incredulous regarding my identifications, and I, therefore, refer to my friend's corroboration. If all fails to convince them I shall have the series exhibited at a meeting of the Zool. Society.
1. Th. scabrinus, p. 130
2. Th. Assamanis, p. 133
3. Th. (con) angustus, p. 134
4. Th. formosus, p. 137
5. Th. undius, p. 138
6. Th. Beldomei, p. 162

See explanation on p. 169.
A Contribution towards a Monograph of the Indian Passalidae,—
by Dr. F. Stoliczka.
[Received 27th April, read 7th May, 1873.]

Some years ago, when I visited my veteran friend Dr. J. J. Kaup in Darmstadt, I found him, quite unexpectedly, busily engaged with Passalidae. He urged me most strongly to collect Indian specimens, which I did; but the collection progressed so very slowly,—in spite of the very numerous applications which I made for assistance,—that Kaup's Monograph of the family appeared early in 1871 without my little contribution in the way of Indian materials.

When I saw that the geographical distribution of the Passalidae is so very peculiar and interesting for the study of our Indian fauna, I resolved to continue my researches, and to publish as far as possible a revised Monograph of all the Indian species, with such little additions to the anatomy and development, as might be obtainable. Of these points I shall, however, not speak on this occasion; they will be fully treated in my Monograph, which will be accompanied with all the necessary illustrations. I will merely mention that in India we meet with Passalidae in those districts only which have a Malayan fauna. No species is as yet known from the Himalayas west of Nipal, or from any part of Central India or the Panjáb.

The object of the few following lines is chiefly to give a list of the Indian species with authenticated localities, together with diagnoses of the new species which had lately come under my observation. I am sorry that I cannot complete more fully the task which I undertook, but in the middle of pre-
parations for an expedition to Central Asia I am not allowed to do more, than to shew those who assisted me that their materials had been duly appreciated. My old friend Dr. C. Felder, the Lord-Mayor of Vienna, has sent me the whole of his collection of Passalide for examination, and Dr. L. Redtenbacher, the Director of the Vienna Museum, sent me a great number of eastern species. These are rare instances of liberality and true interest in the work. My thanks are further due to Messrs. W. S. Atkinson and J. Wood-Mason, Messrs. Peal (Assam) and Mandelli (Darjeeling), Major H. H. Godwin-Austen, Major Beddone, Mr. Stahlknecht of Singapore, Mr. Theobald, Rev. Baker, Dr. Cameron, the late Dr. Walter Abbey and the late Capt. Mitchell of Madras. The original collection in our Museum contained only five of the commonest species.

In recording the species I will follow Kaup's last Monograph on the subject. Whatever opinion various naturalists may have regarding the mode of classification which that distinguished author has adopted, I do not think that they will find much fault with the limitation and characteristics of the genera* and species. Undoubtedly that Monograph is the most complete and the most remarkable paper which the philosophical school of naturalists has in late years produced. I am now not prepared to say anything for or against it, but I will do so in my Monograph, when I hope to have examined a larger number of Passalide, than I had been able to do up to the present. Such mental productions† must not be disposed of with prejudice, they are entitled to receive a fair trial and a full share of all opinions pro and con, before we side one way or the other. Nobody will, after careful perusal, deny the fact, that Kaup's classificatory arrangement has in many respects very considerable advantages; it is easy and practical, but time and research must shew whether it can be adopted or not. Whenever I shall have any scruples against generic definitions, or against the quinquennial divisions, I shall state my reasons without any reference to the validity of the whole system.

Before proceeding to the details I have only to mention that I shall include in the present list all the species known to occur in the East Indies, viz., India proper (Vorder-Indien), with Eastern Bengal, Burma, and the Malayan Peninsula as far south as Singapore (Hinter-Indien).

Sub-fam. Aulacocylinae.

1. Aulacocyclus Parryi, Kaup.

I received numerous specimens from Malacca.

* Even in the very limited sense in which the author defines them.
† For a short exposition of the principles of the system, and a brief discussion thereon, see Proc. of the Society for May, 1873.
2. Ceracupes Austeni, n. sp.
This species possesses all the characteristics of the genus, as given by Kaup. Total length 22 m.m., width of head 4-8, of prothorax 6-6, of wings at the shoulders 6-8, length of elytra 12-3 m.m.

In general structure it is very like C. fronticornis, but the clypeus-horn is obtusely rounded at the end, not emarginated, the upper concave edge is punctated, longer and narrower than in that species. The processes on the jaws are posteriorly flattened and rugosely striated, anteriorly convex and smooth. The lateral scar of the prothorax forms a punctated S. Scutellum smooth, waist at the sides densely punctated.

The furrows of the wings are coarsely punctated, without any perceptible hair. The metasternum is convex, generally smooth, only along lateral margins finely punctated. The median tibiae have externally two spines, the posterior ones only an indication of a small point.

Hab.—Naga hills, North Eastern districts of Bengal. Major H. H. Godwin-Austen found a couple of specimens at an elevation of 6000 feet.

I have never received C. fronticornis from any of these districts. It must come from the Chinese portion of eastern Tibet, for western Tibet has no forests.

3. Comacupes cylindraceus, Perty.

Hab. Johore, at the southern end of the Malay Peninsula. One specimen measures: total length 26-4 m.m., width of clypeus 5-5, (Kaup gives 7 m.m.) width of prothorax 8, (Kaup gives 9), length of elytra 14-9 m.m., (Kaup gives 254, which is clearly a mistake for 15-5 m.m.).

Kaup's specimens from Malacca appear to have had a much broader clypeus and prothorax, but the two Johore specimens which I examined agree with the description of the species in every other detail.

4. Comacupes Masoni, n. sp.
Total length 30.5 m.m., width of clypeus 6-4, of prothorax, or shoulders, 9-1, length of elytra 16.75 m.m.

Resembles C. basalis, but is much more slender; upper lip with the front surface sloping, but scarcely indented at the edge; densely hairy. Clypeus densely punctated and shortly hairy, except in front of the horn, which is large, compressed, strongly projecting in front and very slightly elevated, with an obtuse end sharpened from below; its posterior end is almost vertical without a free point, the upper ridge is obtusely rounded, except for a short distance along the middle which is concave and rugose. Prothorax with the lateral scar small, smooth, with a little dot in front of it, as in C. cylindraceus, but in the present species the marginal furrow is in front near the corner almost angularly bent in. The furrows on the wings are slightly more coarsely punctated, than in the last species.
Scutellum and the waist at the sides and the whole of the lower side densely punctated and shortly hairy. Lower lip densely and coarsely punctated and hairy, with barely an indication of a central carina. The last four abdominal segments almost quite smooth. Middle and hind tibiae each with a strong spine.

Hab.—Johore, obtained by Mr. J. Wood-Mason.

Kaup quotes *C. cavicornis* from Malacca and Penang. I have not seen it, but there is a specimen of a *Comacupes* in Dr. Felder's collection, evidently belonging to a new species.* Its locality is given as Bras., which clearly means Brasilia, there is, however, no such form described from America, the specimen came much more likely somewhere from the Philippines.

Malacca. I have as yet obtained only a single specimen.

Johore, north of Singapore.


**Sub-fam. ERIOCNEMINÆ.**
**First group. SOLENOCYCLE.**

8. **Pleurararius brachyphyllus**, n. sp.
Total length 43, width of clypeus 9.8, of prothorax 12.5, length of elytra 14.2; total length varying from 41 to 44 m.m.

* Comacupes Felder, n. sp. Total length 22.5, width of clypeus 5, width of prothorax 6.6, of shoulders 6.8, length of elytra 13.2 m.m. Upper lip in front and laterally deeply concave, as in Aulac. teres. Jaws with the upper of the three front teeth very small. Clypeus smooth, with a fine groove along the anterior straight margin. Horn situated far behind, as in basalis, rising almost vertically, slightly inclined forward, behind with a convex, smooth, simple and rounded edge; anteriorly below the point it is first vertically truncated, then concave, falling with a broad surface to the large forehead. Ocular ridge sharply angular in the middle, terminating with a small sharp point in the anterior corner of the clypeus.

Prothorax with a median groove, deepest about the centre, and a punctated, complete marginal furrow, only slightly bent in anteriorly; lateral scars small, sub-semilunar, deep, finely punctated. Wings in the furrows indistinctly punctated, not hairy. Scutellum smooth, waist at the sides finely punctated, below entirely smooth as is also the case with the motasternum and the abdominal segments. Tongue with a central carina and with the lower halves of the sides somewhat concave and roundly dilated. Lower lip smoothish in the middle, with a central impressed projection in the front edge; its lateral branches densely punctated. Tibiae of the front feet very broad, each with six denticles; middle and hinder tibiae stout, each with a sharp spine.
Jaws bidentate at the end; upper lip truncated in front, covered with red stiff hairs. Antennae long, with only three short terminal lobes. Clypeus uneven, but not punctated; the central horn is flatly convex, smooth, transversely very elongately subtriangular, anteriorly with a small projection, ending in a small free point, from which diverge in a slight curve the frontal ridges, terminating with distinct tubercles near the front edge. This frontal edge has a sharp process above each of the two lateral margins of the upper lip, the left appears to be occasionally a little larger than the right one, recalling a similar structure in Basilianus. The two frontal tubercles are connected by a low ridge and the margin between them is deeply concave. Supraocular ridges with a sharp point above each eye, flattened in front, and externally at each corner terminating with a small spine.

Prothorax moderately convex, with a distinct central groove, but not extending anteriorly to the margin; marginal furrow narrow, finely punctated; lateral scar forming a shortly elongated and smooth impression.

Scutellum at base finely punctated and hairy, along each side of the centre finely strigated. Waist laterally densely punctated, below smooth, somewhat transversely rugose, but without any special scar.

Elytra with the shoulders somewhat swollen and projecting, smooth; all the furrows distinctly punctated.

Tongue long, with a median and two marginal ridges, strongly contracted in the lower half. Lower lip with its branches entirely punctated and hairy, slightly depressed in the middle.

Metasternum laterally densely punctated, but the posterior sloping corners are smooth, which is also the case with all the abdominal segments.

Prothorax at the lateral lower sides, and the median femora, covered with dense, long, rufous-brown hair; anterior femora, sides of metasternum and hinder tibia a little less hairy.

Hab.—Nilgheries and Malabar. I received originally two specimens of this species from the Madras Museum, but since then several others have been sent to me by Major Beddome and Rev. Baker.

Kaup describes a single species, P. pilipes, from Sumatra. The generic characteristics have to be slightly altered, but in all essential points the South Indian species agrees with Pleurarius.

9. Semicyclus Redtenbacheri, n. sp.

Total length 25·4, width of clypeus 5·2, of prothorax 7·3, of shoulders 7·1, length of elytra 14·3 m.m.

Jaws rather short, each with three denticles; antennae moderately elongated, the three terminal lappets well developed and equal; upper lip squarish, hairy, very slightly concave at the front edge.

Clypeus rugose, punctated on the forehead, front edge very slightly emarginate in the centre, and with a small projection above the edges of the
upper lip. The horn originates in a slightly convex smooth tubercle, and extends freely and almost horizontally to near the front edge, its base is posteriorly and at the sides surrounded by a slight furrow, and from the point where the horn becomes free originates on either side a low, indistinct ridge, which makes a curve anteriorly and terminates in a small tubercle some distance short of the marginal projections. Supraocular ridges undulating, each with a sharp point above the eye and another at the anterior corner of the clypeus.

Prothorax convex, with a central groove; marginal furrow incomplete, punctated, terminating anteriorly, some distance from the central line, with an elongately ovate scar. Lateral scar large, slightly impressed, composed of a number of irregularly arranged, coarse pits; a few dots exist near the anterior corner.

Scutellum very finely punctated at the base; waist laterally densely punctated, below nearly smooth.

Elytra rather depressed above, but comparatively high; all the furrows coarsely pitted; each shoulder with a tuft of brown hair, which also extends a little posteriorly along the margin.

Tongue with three ridges, minutely punctated, tridentate at the front edge which is slightly narrower than the base. Lower lip transversely rather elongated, smooth, convex, with a rounded scar at each end; the lateral branches densely punctated. Metasternum on the posterior sloping corners coarsely punctated. Abdominal segments with an oblique furrow on either side, but in other respects nearly smooth.

Hab.—Ceylon. The only specimen examined is in the Vienna Museum; it was obtained by the late Mr. Zelebor during the Novara expedition.

The species almost perfectly agrees with the characteristic of the genus as given by Kaup.

Second group. Leptaulaceae.

Out of the five genera distinguished by Kaup only one is represented in India, namely Leptaulax. It seems to be a little too closely allied to Ciceronius, and still more so to Didimus. From the last it is stated to differ by the single denticle in the centre of the front edge of the clypeus, while Didimus has two; but I have in a few instances also observed two denticles in both Lept. bicolor and dentatus. Of course we may say, what is in Didimus the rule, is an exception in Leptaulax, still it looks rather a little arbitrary to define genera in such cases. However, as I have not a single one of the species of Didimus, described by Kaup, for comparison, I do not wish to propose any changes in the genera, as characterized by him. Looking at Leptaulax in Kaup’s sense, it seems to me somewhat doubtful that the number five will suffice to include all the different forms which must belong to the genus. The following details, taken with those of Kaup, may speak for themselves.

The typical small form was obtained from Sikkim, Bútán, Assám, Ténnasserim (at Mergui) and from Johore. In the Vienna collections it is represented from nearly all the Philippine islands.

The larger form, or *L. Timorensis*, is also very abundant in Sikkim (between 500 and 1000 feet), Bútán, Assám, Naga hills, Pegu (near Ton-ghú), and on the Andaman islands. It grows up to 37 m.m. I had very large numbers of both forms for comparison, and came to the conclusion that no definite characters exist by which the two species could be separated. I have all intermediate sizes from 21 to 37 m.m.

11. **Leptaulax bicolor**, Fabr.

Very common in Sikkim and through the whole of the Malayan Peninsula, as well as on the Andaman and Nicobar islands, in Malabar and in Ceylon. From the last locality two specimens exist in the Vienna Museum collection under the name of *Nietneri*, M. C.

A peculiar small variety, possessing cross bars in the lateral furrows of the elytra, instead of simple dots, occurs at Johore.

12. **Leptaulax planus**, Illig.

This is, I think, a good species, the smallest of all our eastern Passalidae. It is very much more depressed, than either of the previous species, and in proportions and relative size of the prothorax and of the elytra it more closely resembles *dentatus* than *bicolor*, of which it is stated to be a synonym. Specimens from Java, Johore, and Malacca, whence I have lately obtained large numbers, measure between 13 and 14 m.m., but a somewhat larger variety occurs in Burma and on the Andaman islands. Specimens from these last localities measure 18 m.m., they are in almost every other respect identical with typical *planus*.

Of the third group, the Eriocneminae, no species as yet occurred within our limits. I received *Vellejus Moluccanus* from Amboina, *Eriocnemis monticulosus* from Sumatra, and gigantic specimens of *Erioc. tridens* from Java, but none from Siam or Malacca, which localities are also given by Kaup. The last species will have, therefore, to be included in our list.

**Fourth group. Macrolinæ.**

Malacca; apparently rare.

Johore; a single specimen from Mr. J. Wood Mason.

* In Dr. Felder's collection I find a Malacca specimen named *paxilus*?
Dr. Redtenbacher (Coleopteren, Reise Oest. Fregatte Novara, 1867, p. 49) gives *Mastachilus politus* from Madras. There is a specimen of that species in the Vienna Museum collection, marked *Ind. or.*, and is most likely the one referred to by Redtenbacher. I very much doubt, however, that it is Indian. It was probably received from the Madras Museum, or from a collector, during the stay of the Novara at Madras. My reason for doubting the correctness of the Indian locality is based upon an observation which I made. I asked the Curator, the late Capt. Mitchell, for the loan of any specimens of *Passali*, he might have in the Madras Museum. I was promptly responded to, and shortly after received four specimens of *Passali*. Two proved to belong to a new species *Pleurarius brachyphyllus*, and the two others were *Solenocylus exaratus* (known from Madagascar) and *Mastachilus polyphyllus* (from Australia).† After detailed inquiry Capt. Mitchell informed me, that the two first specimens (distinguished by numbers attached to them) were truly Indian, from the Nilgherries, but that the localities of the two others were unknown. They had been received from some old European collection. It seems to me very probable that something similar happened with the specimen of *M. politus*, obtained by the Novara at Madras.

Kaup describes *Macrolinus Waterhousei* and *Episphenus Moorei* from Ceylon. I have not seen either of these.

**Fifth group. Aceraiæ.**

Of the five genera, *Laches, Gonates, Aceraius, Cetejus*, and *Basilianus*, only the third and fifth have as yet been found in India; they are common and numerous, and the specific number of five will, I am sure, run short for what is in this case really required for specific determination, unless the genera are somewhat differently defined and grouped.

Of the other genera I have examined a few interesting species. Among these is one which Kaup would probably call the first, *moderately convex*, species of *Laches*, and the largest species of *Cetejus*; both answer exactly the characters of the respective genera. I add descriptions of the two new species‡ in a foot note.

* Originally described by Burmeister from Van Diemen’s Land.
† The Vienna Museum possesses two specimens of *polyphyllus* from China.
‡ *Laches gracilis*, n. sp. Total length 26, width of head 5-5, of prothorax 7-0, of shoulders 7-6, length of elytra 15 m.m. Whole body moderately convex.

Upper lip almost quite straight in front; left jaw barely longer than the right one. The three first lobes of the antennæ short, the fourth slightly shorter than the fifth. Clypeus on its posterior half rugosely punctated; the short horn rises from the anterior central edge of a transversely elongated, smooth protuberance; from it proceed under a narrow angle the frontal carinae, each terminating in an elongated smooth tubercle, or rather short ridge, connected by a very fine carina. The marginal tubercles of the clypeus are pointed, depressed, placed nearer to each other than the width of the
A specimen of Gonates naviculator from the Moluccas, in Dr. Felder's collection, has the middle frontal carina very distinct, while two others of upper lip, they are unequal, the left being slightly larger than the right one; they are not in any way connected with the frontal tubercles, but a smooth concave field proceeds from each of these to the respective ocular ridge. The latter is angular or subtubercular above each eye, and anteriorly formed by a thin carina, terminating on the angle of the clypeus with a little spine.

Prothorax somewhat broader posteriorly than anteriorly, with a very distinct central groove; marginal furrow very narrow, with a minute punctuation; lateral scars vertical, subovate, punctated; a group of distinct dots also exists above each anterior corner.

Scutellum smooth, waist laterally punct gated. All the furrows of the elytra coarsely punctated, without a trace of any kind of hair.

Tongue tricarinate, the middle carina the strongest; laterally slightly concave. Lower lip convex, smooth, with a transversely elongated, small, marginal, smooth scutellum between it and the tongue; branches coarsely punctated. Waist, below, with a small oblique, ovato scar on either side. Metasternum on the posterior part sparsely, on the sloping corners densely punctated. Abdominal rings each with a linear, punctated scar on either side. Prothorax, below, as well as the middle and hind tibiae, sparsely covered with yellowish rufescent hair.

Hab.—Batchian island; a single specimen in the Vienna Museum.

Cetejus australiensis, n. sp.

Total length 33, width of head 7, of prothorax 9·9, of shoulders 9·6, length of elytra 19·2 m.m. Whole body rather depressed.

Left jaw slightly longer than the right one. Upper lip deeply emarginate, the right half being slightly shorter and a little more rounded than the left one, as in G. naviculator. Antennae with six lappets, the two first being very short, the third a little shorter than the three terminal ones, which are subequal and rather slender. Clypeus entirely rugose; the horn is elongated, with a triangular tubercle on each of its basal halves. The frontal ridges issue from the horn under a moderately obtuse angle, (as in Lept. dentatus), and terminate with distinct points, connected by a very fine carina, from which the margin of the clypeus descends almost vertically. Both marginal tubercles are pointed, similarly formed, but the left one is conspicuously larger than the right. Each frontal tubercle is connected by a short carina with its corresponding marginal one, and besides also with its corresponding small tubercle in the middle of the supra-ocular ridge, each of which is truncated in front.

Prothorax slightly broader posteriorly than anteriorly, with a fine but almost complete central groove; sides entirely punctated, lateral scar small and rounded; marginal furrow very narrow.

Scutellum smooth, with a central basal groove; waist laterally punctated. The four central furrows of the elytra on the upper side indistinctly, the remainder distinctly, punctated, those at the sides at least twice as broad as the ridges separating them and with distinct transverse bacilli. This structure very strongly reminds one of Basilianus cancrus, which is also the largest species of its genus.

Tongue tricarinate, laterally concave. Lower lip convex and smooth, with a small elongately semi-elliptical scutellum between it and the tongue; a small but distinct scar on each side of the lower lip, its branches rather larger, rounded at the ends and somewhat inwardly curved, entirely but not very densely punctated. Prosternal
the same species in the Vienna Museum collection from Amboina (marked Doleschali, M. C.) have merely a trace of the middle frontal carina, and the prothorax is comparatively smaller.

_Gonates Germarii_ was received by Mr. W. S. Atkinson from Java.

Kaup describes _Laches Comptonii_ from Ceylon. I have not seen it.

15. **Aceratus grandis**, Burm.

This is a very common species in Sikkim, Assam, the Naga and Cachar hills. Indian specimens exactly agree in structure with the large Javanese type form, but their usual size is only 40 m.m., and I never saw one exceeding 45 m.m. In Javanese specimens generally only the ninth and tenth rib of each wing are punctated and hairy near the shoulder, while Indian specimens have, as a rule, the whole of the seventh and ninth rib punctated; it is very rarely that the pits entirely disappear on the seventh.


An extremely variable species, both in general size, as well as in the shape of the two marginal processes of the clypeus; the left one being sometimes sharply pointed at the end, or scarcely bipartite, as in Percheron’s _pilifer_. The seventh and ninth ribs of the elytra are as a rule entirely punctated, very rarely is the seventh smooth. The smaller forms, between 30 and 38 m.m., are, I think, mostly males, they have the furrows of the wings perceptibly punctated; the larger specimens, about and above 40 m.m., appear to be mostly females, the furrows of their elytra are almost devoid of punctations.

The species occurs in Sikkim, Assam, Cachar, but is much rarer than _A. grandis_. I also obtained it on Penang hill, and from Johore; in the Vienna collections are specimens from China, Luzon, and Manilla.

Redtenbacher’s _Passalus Nicobaricus_ from Sambelong (Great Nicobar) is also undoubtedly this species, and neither a _Macrobinus_ nor a _Basilianus._

The next genus, _Basilianus_, is the most numerous in species. I possess specimens of the four species described by Kaup, and three others which I must regard as new. This is as yet almost the only instance in which I have been obliged to transgress Kaup’s limit of five species. I took considerable pains to ascertain whether these species could possibly belong to any of the other genera of _Eriocnema_, but they do not answer to the characteristic of any

process between the anterior coxis grooved. Waist, below, smooth, with an elongated scar on either side. Metasternum smooth; on the sloping corners rugosely punctated. Sides of abdominal segments and the posterior part of the last segment mostly finely punctated. No hairs are seen on the elytra; the middle tibias are moderately hairy, the hind ones somewhat less so.

_Habitat_- Australia; a single specimen in Dr. O. Felder’s collection.
other genus than *Basilianus*. They differ from *Aceraius* by the absence of hair at the sides of the elytra, and from the other genera of the *Aceraiæ* in the shape of the lower lip and the want of a scutellum between it and the tongue; the same character holds good in a comparison with *Mastachilus*, and the unequal lappets on each of the antennæ readily separate them from the other *Macrolinae*. The seven species may, however, be divided into two sections, as follows:

a. With the marginal processes of the clypeus very asymetrical,—*Nilgheriensis, inaequalis, Cantoris, Indicus*.

b. With the marginal processes of the clypeus very slightly or scarcely asymetrical,—*can crus, Andamanensis, Sikkimensis*.

17. **Basilianus Nilgheriensis**, Guér.
The usual size of Malabar specimens is only 28 m.m.; it does not appear to be a common species.

18. **Basilianus inaequalis**, Burm.
Common at Malacca. Kaup gives it from Singapore and Penang. The largest specimen which I have examined is nearly 30 m.m., and the smallest 24·7 m.m., the length of the elytra being 13·7, width of head 5·5, of prothorax 6·9, the proportionate size of this last being often remarkably small.

The usual size of Sikkim and Assam specimens is 33 to 35 m.m. Kaup gives it also from Malacca and Cambodja.

20. **Basilianus indicus**, n. sp.
Total length from 33 to 40 m.m., one specimen is 37·6, width of its head 9, of prothorax posteriorly 12, of shoulders 11·5, length of elytra 21·5 m.m.

Left jaw slightly straighter and longer than the right one. Upper lip widely and rather deeply emarginate in front. Antennæ, with the three terminal lappets longest and subequal, the second and third about half the length of the fourth, and the first is very short, sometimes scarcely traceable. Clypeus rather large, mostly smooth, or sparsely punctated, with the supra-ocular ridges anteriorly truncated with an inward slope, the inner edge of the slope being sometimes very indistinct, while the outer one is sharp, and projects at the corners, somewhat as in *Aceraius grandis*. The horn rises out of a transverse long tubercle, it is subpyramidal, the posterior slope being gradual, the anterior vertical; the frontal carinae are very fine, forming together a wide semicircle, each terminating in a blunt tubercle, and from each proceeds a very fine carina to the respective marginal process of the clypeus; the left process is the longer, depressed, inwardly bent, obtuse at the end; the right one is thick, short, obtusely pointed.
The prothorax is moderately convex, as in *Cantoris*; it is conspicuously wider posteriorly than anteriorly, with a central groove which is almost as complete, as it is usually to be found in American forms and in these only; marginal furrow anteriorly somewhat widened, bent in and punctated; lateral scar small, rounded, generally with a few pits; the sides of the prothorax are either quite smooth (in the larger specimens), or punctated in front of the scar and at the anterior corner (in the smaller specimens). Whether this is a distinction of sex I cannot say.

Scutellum centrally very minutely strigated; waist laterally densely punctated. Shoulders slightly thickened, only anteriorly with few very short and thin hairs. Furrows of the elytra, above, slightly, laterally distinctly punctated; without hair.

Tongue tricarinate. Lower lip in the middle somewhat convex, mostly smooth or punctated, anteriorly sometimes slightly indented; its branches densely punctated. no scars exist on it. Waist, below, smooth, with elongated diverging, dull scars. Metasternum smooth, its posterior sloping corners rugosely punctated, its sides entirely hairy. Abdominal segments laterally with linear scars.

Prothorax posteriorly, below, covered with brown hair; middle tibia very densely, posterior ones less hairy.

**Hab.**—Nilgheries and Malabar. I received several specimens from Major Beddome, Rev. Baker, and Surgeon Major F. Day.


The largest specimen in my collection is 45 m.m. It has as yet only been obtained in Nipāl, Sikkim, Bútán, and Assám.

22. *Basilianus Andamanensis*, n. sp.

Total length 32 to 38 m.m.; one measures 35·6, width of its head 8, of prothorax 10, of shoulders 10·2, length of elytra 21 m.m.

Jaws almost equal. Upper lip straight in front or obliquely truncated, the left rounded corner being often a little more projecting. Lappets of the antennae generally graduated, the first very short, the succeeding to the fifth gradually longer. Clypeus entirely punctated and covered with short hair; supra-ocular ridges low, distinctly truncated in front and with the carina round the concave space well developed. The horn consists of an elongated ridge, with a small tubercle on either side; it is slightly elevated at the anterior end and with an almost vertical slope. The frontal carinae are rather short, terminating with elongated distinct points, connected by another carina, from which the margin of the clypeus is almost vertical. The marginal processes of the clypeus are far distant, situated above the edges of the upper lip; they are short, pointed, in some specimens apparently almost equal, in others the left one is distinctly larger. They exactly resemble those
of cancrus, and each also has on its lower side a small tubercle. From both
the marginal processes and the frontal tubercles generally proceed a few
irregular low ridges to the middle of each supra-ocular ridge.

Prothorax moderately convex, smooth, generally with a very faint
indication of a central groove; lateral scar rounded and, like the entire
lateral margins, very finely punctated; sometimes there are one or two
dots at the anterior corner.

Scutellum smooth, convex, sometimes with a minute punctation along
the lateral edges. Shoulders well prominent, and each with a group of
short brown hair, considerably more developed than in Cantoris. Furrows
of the elytra finely punctated; all the ridges smooth.

Tongue tricarinate. Lower lip large, mostly smooth, without any
scars; its branches densely punctated. Prosternal carina sharp, long.
Waist with elongated diverging scars, sometimes with a short, central,
basal groove. Metasternum smooth, its hinder corners sparsely and very
finely punctated; sides densely punctated and hairy. Abdominal segments
smooth, with linear oblique scars. Middle and hind tibiae rather thinly
hairy; lower sides of prothorax more distinctly so; last abdominal segment
at the end provided with conspicuously elongated brown hair.

Hab.—Andamans near Port Blair; Camorta and Katchal islands of
the Nicobar group; common. I found one specimen in the Vienna collection,
together with Mastachilus politus, labelled ‘Madras,’ ‘Novara.’ It was
most likely obtained from some officer who had been at the Andamans, or
from the Museum.

23. Basilianus Sikkimensis, n. sp.
Total length 33, width of head 7·1, of prothorax or of shoulders 10,
length of elytra 19 m.m.

This species resembles B. Cantoris in size and general character of
form and convexity of the body. The jaws are subequal; the upper
lip obliquely truncated, almost quite straight, with obtuse corners. The
three first lappets of the antennae much shorter than the three terminal
ones, the two sets being among themselves almost equal. Clypeus entirely
punctated and very similar to that of B. Andamanensis, but the horn is a
little shorter, the frontal carinae include a slightly smaller semilunar space,
and the frontal processes of the clypeus are almost shorter, both pointed,
nearly quite equal in size, and each is on the outer side accompanied by a
short longitudinal carina, which, however, does not extend to the supra-ocular
ridge.

Prothorax moderately convex, with a very faint trace of a median
groove; lateral scar rather large, pitted all round, the dots or pits being
almost continuous to the anterior corner and here again rather dense;
along the lateral margins densely and very finely punctated.
Scutellum smooth. Shoulders moderately developed, on the anterior slope finely punctated and shortly hairy. Furrows of the elytra above distinctly punctated, laterally broader and with transverse bacilli, the seventh and eighth furrow are broadest.

Tongue rather narrow, punctated, thinly tricarinate, laterally concave. Lower lip convex, with sparse punctation, its branches densely punctated. Waist, below, with diverging elongated, dull scars. Metasternum smooth, its hinder corners coarsely punctated, and the narrow sloping sides along the elytra very finely punctated and hairy.

Abdominal segments with elongated, finely punctated lateral scars, broadest on the first few segments, linear on the penultimate and obsolete on the last. Lower side of prothorax the middle and hind tibiae with short and rather thinly distributed hairs.

Hab.—Sikkim. I obtained a single specimen at about 1500 feet, some two miles east of Pankabari.

The species is intermediate between cancrus and Andamanensis; with the latter it agrees in the shape and structure of the head, with the former in the transverse costulation of the lateral furrows of the elytra, but in cancrus this costulation is still stronger.

Note on some Andamanese and Nicobarese Reptiles, with the Description of Three New Species of Lizards,—by Dr. F. Stoliczka.

[Received and read 7th May, 1873.]

I have given a list of the Reptiles and Amphibians, known from these islands, in a former paper,—Journal A. S. B., Vol. xxxix, pt. II, 1870, pp. 136-138 etc.; having, however, lately had an opportunity of visiting all the Nicobar islands (excluding Little Nicobar and Pulo Milu), and the Andamans, including the Cocos and Preparis, I am in a position to add a little information about some of the species. Our visit* was chiefly from an ornithological point of view, and as it fell already in the hot season (March), the time was very unfavorable for collecting reptiles, at least on the northern group of islands, which at this season are much drier than the southern Nicobars.

We found the following species generally distributed over nearly all the islands which we visited:—Tropidonotus quincunctiatus, Lycodon aulicus, Dendrophis pictus,† Cerberus rhynchops and Trimeresurus Cantorius. Spec-

* In company with Mr. A. O. Hume, C. B., Messrs. Ball and Wood-Mason.
† In the July number of the Berlin Monatsbericht (for 1872, p. 583), just received, I observe that Dr. Peters describes a Dendrophis terricus, with 13 rows of scales; it is very closely allied to Dendrophis caudolineatus, (compare ante p. 123), but differs in coloration.
ecimens of *D. pictus* from the Nicobars generally are as soberly coloured as the continental form, while those from the Andamanis are very much brighter, but the typical form again occurs on the Cocos.* The rare *Trimeresurus porphyraceus* was found to be common on the Preparis island; it grows to nearly four feet. Of lizards the most common were *Euprepes carinatus*, *Hinulia maculata*, *Cyrtodactylus rubidus*, *Tiaris suberistata* and *Hydrosaurus salvator*. Of Batrachians *Bufo melanostictus* is very common.

*Euprepes macrotis*, described by Steindacher, was observed in Galtiea Bay on Great Nicobar (Sambelangi).

The large Andaman form of *Euprepes carinatus*† is not specifically distinct from the common type. I met with similarly large specimens (up to 20 inches) on the Coco islands. Most of those which I obtained there have thirty rows of scales round the body, and each scale has seven keels, the three median ones being strong and distant from each other, the two laterals on either side short, thin and sometimes scarcely traceable. Some specimens have the anterior frontal in contact with the rostral as well as with the vertical, a short process of the anterior frontal separating the two posterior. The specimens were apparently in breeding dress. The whole sides of the head, neck and belly were vermilion or bright cinnabar red, the anterior extremities and the back were also strongly tinged with red. The entire sides of the body and of the tail and the extremities had numerous large, irregular white and black spots intermixed, giving the lizard quite a different appearance from the ordinary type. The white spots were most numerous along the edges of the back, but there is no marked white band present.

**Phelsuma Andamanense**, Blyth.


The following is a complete description of this remarkable lizard.

Body rather stout, moderately depressed, tail tapering, narrow at the base, with transverse contractions at distances. Snout almost conically elongated, rostral broader than high, just reaching the upper surface of the head; nostrils lateral, in the hinder edge of an enlarged, somewhat swollen shield, followed by a slightly smaller one; on the upper side the two nasals are separated by two (rarely by three) shields. Head, body and limbs, above and at the sides, covered with equal granular scales, or rather shields,

* It is perhaps due to their moro isolated situation that the Cocos and neighbouring islands, (Preparis, Narkondam, Barren island), have several Nicobar forms which on the Andamanis are apparently wanting. We found *Carpophaga bicolor* common, *Calanus Nicobaricus* is said to have occurred on the Cocos, and *Megapodius* is found on Tablo island. Among shells I got numerous *Helicinae*, exactly like *H. Dunkeri*, *Bulinus Nicobaricus*, var., *Cyclorhaphus*, like *C. nicobaricus*, &c.

becoming on the tail more depressed, scale-like, and intermixed with a few larger ones. Eye of moderate size, with an almost round pupil; it is surrounded with small granules. Ear-opening ovately rounded, equal to about one third of the longer diameter of the eye. Eight to ten low upper labials. Lower rostral large, somewhat produced and contracted behind. Nine to ten lower labials, the first two are largest, not in contact, the succeeding gradually decrease in size. None of the chinshields are particularly enlarged, and they vary in arrangement in different specimens. The scales of the belly are roundly hexagonal, across the middle in twenty-one to twenty-three longitudinal, alternating series.

The adult male has thirty-one femoral pores, in an uninterrupted series, angularly ascending in the centre. The female has a similar row of enlarged but not perforated shields. Preanal shields not enlarged. A small slit exists on either side in the postanal margin. On the tail the subcaudals become a short distance from the anus enlarged, single, only occasionally broken up into smaller shields. The inner toes on both the fore- and hind-limbs are very short, almost rudimentary; the fourth toe is longest, and all have their front edges rounded.

The general colour in males is grass- or bluish-green, subject to very great changes during the life of the lizard; head and neck with yellowish orange spots and stripes, among which one from behind the eye, one or two across the occiput, and one along the middle of the neck are most conspicuous. The anterior part of the body is on the upper side marked with small, oval, orange spots, on the posterior part these spots are somewhat larger, encircled with yellow, and sometimes partly confluent. All these orange spots often assume during life a strong reddish tint. Tail generally uniform bluish green. The lower side is uniform yellow or yellowish white.

The females are more soberly coloured, particularly when not full grown, in which case the orange spots are much less distinct, and sometimes almost obsolete.

The lower sides of the toes, especially towards their terminations, are silvery grey.

The usual size of full grown males is five inches, head and body being two; specimens of six inches are great rarities. The females are generally somewhat smaller than the males.

The species is not uncommon about Port Blair. I found a few on old trunks of trees (between epiphytes) on Mt. Harriet. They generally hide themselves under the bark of trees, but also often feed on the ground. Mr. Wood-Mason about a year ago brought a large number of specimens from the vicinity of Port Blair. I have not seen specimens from any of the other islands.
Gymnодactylus Wickst, n. sp.

A small species, resembling in general character some of those described by Jerdon and Beddome from South India. The body is moderately slender and depressed, covered with very small, keeled tubercles which have the appearance of pointed granules; on the back there are numerous larger, but similarly formed, tubercles interspersed, and on the side of the belly these larger tubercles become distinctly spinulose; tail verticillate, with similar spinules, exactly as in Hemidactylus frenatus. On the snout the sharp granules are, as usually, somewhat larger than on the top of the head, but none are enlarged above the labials. The rostral reaches to the upper side of the snout, and is followed by two small shields, separated by a still smaller pentagonal azygos, the upper angle of which fits into a posterior emargination of the rostral. The nostril is lateral and directed somewhat backwards; it lies immediately behind the rostral, and is followed by two slightly enlarged and diverging shields, the anterior angles of which nearly touch the rostral, thus almost entirely isolating the nasal opening from the first labial and the shield behind the rostral. No particularly enlarged scales round the eye. Seven upper and lower labials, the first are in each case the longest, the succeeding gradually decrease in size, the last are very small; all are very low. Ear opening forms an oval, oblique slit, its distance from the eye is slightly less than that from the eye to the end of snout. Lower rostral large, obtusely pointed behind, followed on each side by a slightly enlarged shield, separated by smaller ones; there are no particularly enlarged chin-shields. The scales on the throat and anterior breast are finely keeled; those on the belly hexagonal and across the middle in about nineteen longitudinal series. Prae-or post-ansals not enlarged. Sub-caudals along the middle line very little larger than the other shields covering the lower side. Reproduced portions of the tail are uniformly scaly, without enlarged tubercles.

The male has four pra-anal pores, situated between the femora in a shallow transverse depression, and quite separate from these are four or five femoral pores placed at the hinder lower edge of the femur, somewhat nearer to the hip than to the knce. Toes long and slender; basal portion with three or four transverse, squarish plates, the last the largest; terminal phalanges very much narrower.

Colour. Above, powdered brownish grey and white, a series of whitish, almost continuous spots along the middle of the back, extending on to the tail. There are six or seven of these spots from the nape to the base of the tail, and each of them is edged anteriorly and laterally with black, sometimes the lateral black edges develope into elongated spots and are most distinct. On the tail the white spots are less distinctly developed, but the transverse black margins well marked. The sides of the body, of the tail
and the upper side of the limbs is thinly checkered with black; the enlarged spinules and tubercles are all pure white. There is a dark streak between the snout and the eye, posteriorly there are three dark lines, one going to the occiput, the second to the ear, the third to the angle of the mouth; and generally there are one or two more below the eye, giving the side of the head quite an ornamental appearance. Labials spotted with white. Chin and throat powdered with brownish dusky, remainder of lower side uniform pale, more or less distinctly tinged with fleshy; in males more markedly so than in females. In the very young lizard (about one inch long) the lateral black spots along the back, and the median black line behind the eye are most distinctly marked, in other respects it does not differ from the adult.

Hab.—Preparis Island. I obtained five specimens, two apparently adult males and two females, and one young; all were found on the ground between old decaying vegetable matter. One of the largest specimens with perfect tail, measures: head and body 1'13, tail 1'37 = 2'5 inches. The length of the hind limb equals the distance from the shoulder to the groin.

I have great pleasure in connecting with this very interesting new species the name of the able Commander of the "Scotia," Capt. G. W. Wicks, who piloted us most skilfully through the labyrinth of small and large islands.

**MOCOA MACROTYMSPANUM, n. sp.**

Body moderately slender, head flattened above, muzzle rather attenuated and prolonged. Anterior frontal in contact with the rostral, separating the two elongated nasals, and posteriorly just touching the vertical, which is rather shortly, obtusely angular in front, and gradually attenuated behind. Four enlarged supraoculars, preceded and followed by a smaller shield. The two anterior occipitals (? accidentally) united, the median one roundly angular in front, attenuated and contracted behind, the two laterals narrow, in contact with each other behind the median shield. Four pairs of scales behind the occipitals enlarged, occupying the whole width of the neck. Seven upper labials, the fifth under the orbit, six narrow lower labials. First chin-shield single, the second is a pair in contact, third separated by a small shield, fourth pair somewhat smaller. Lower eyelid with a transparent disk. Ear opening very large, rounded, with a perfectly smooth edge all round, the tympanum being distinctly visible. Body in the middle surrounded by twenty-two longitudinal series of smooth scales, six series being on the back; they are slightly larger than those at the sides. About fifty-two scales along the edge of the lower side, counted between the fore and hind limbs. A pair of moderately enlarged pre-anal shields. Median row of sub-caudals slightly enlarged. Limbs proportionately developed, with the toes very slender.
Head above brown, paler on the muzzle; three longitudinal white bands along the body,—one along the middle, originating between the eyes, and two along the sides, beginning on the supraciliary edges;—they are separated, above, by two somewhat broader brown bands, each being lighter coloured along the centre, and bounded at the sides by a similar brown band which is, however, darkest along the centre. The median dorsal white band becomes obsolete at the root of the tail, the two lateral ones continue on it, and unite when approaching the tip. Labials and sides of head brownish, spotted with white. Lower portion of the sides and the entire lower surface livid carneous, most distinctly so, and tinged with bright orange, on the lower belly and on the tail, which is also on the upper side carneous, with a few white dots at the side of the base, and irregularly marked with pale brown on the lower surface. Limbs, above, with very close longitudinal brown lines, toes all distinctly powdered with pure white.

Total length four inches, the head and body being 1.8, the length of the fore limb is equal to the distance between the shoulder and the angle of the mouth, or one-third of the distance between the axil and the groin; the length of the hind limb is one-half of the same distance.

Hab.—South Andaman. The single specimen was obtained on a sandy beach in Macpherson's Straits.

**Tiaris Humei, n. sp.**

A larger species than *T. subcristata*, and like this one with the crest interrupted above the shoulders, but the crest itself is very much more developed. The nuchal part is considerably higher than the dorsal one, on its convex edge it is composed of 13-15 lobes; the dorsal portion continues on to the tail, disappearing after about one-fourth of its length. None of the scales are at the lateral bases of the crest particularly enlarged. All scales on the body are distinctly and sharply keeled.

Head shelving and concave above; snout with a few enlarged scales along the centre; supraciliary edge sharp, its posterior end is separated by a short groove from a small tubercle following it. Two groups of enlarged conical scales on the upper side of the occiput; several (3-4) enlarged scales on the side of the head above the tympanum which is hardened near the centre, and about as large as the eye. Below the tympanum no scales are enlarged. Eight or nine upper labials and seven or eight lower labials; the scales adjoining the former are enlarged, and there is also a conspicuous row of slightly enlarged scales below the eye. A row of enlarged scales is separated from the lower labials by one of small scales. Scales on the side of the neck and body very small, arranged in somewhat irregular transverse series, with scattered larger ones intermixed; on the tail they gradually increase in size, but within a short distance of its base still have some.
larger ones intermixed. On the limbs the scales are much larger, two or three on the upper side of the femora particularly so. Gular pouch and fold covered with small scales, which become larger on the lower belly than on its sides. The two rows of sub-caudals are slightly larger and more pointed than the shields on the upper side of the tail.

General coloration greenish olive, on the top of the head brownish; sides of the entire body more or less distinctly and rather densely reticulated and spotted with black and yellow; sides of head and neck and the gular sac tinged with purplish blue, labials spotted with blue. Chin mostly yellow; belly whitish, without spots. Tail brownish above, paler below, irregularly and indistinctly spotted with dusky.

Total length of one specimen 16 inches, of which head and body are 4 4 and the tail 11 6 inch. The fore limb when laid backwards extends beyond the groin, or almost to the praeanal edge, and the hind limb when laid forwards fully reaches the anterior edge of the eye.

The above noticed characters readily separate the Nicobar species from T. dilophus, or T. tuberculatus, lately (P. Z. S. 1872, p. 533, pl. xxxviii) described by Dr. Günther from the East Indian Archipelago.

I obtained only two specimens (male and female) on the Nicobar island Tillingchang, but the species did not seem to be rare.

_Dibamus nicobaricus_, (Fitz.).

_Rhinophidion nicobaricum_, Fitz., Steindachner, Novara Rept. p. 52 and _Typhloscincus nicobaricus_, ibidem, p. 94.

I have two specimens for examination, one a male* and the other a female (known from dissection).

The male is six inches of which the tail is 0 9 inch; there are 24 longitudinal rows of scales round the body, and 48 transverse rows along the tail. The two extremities are on either side somewhat in front of the anus, towards which they converge; they are depressed, each lying in an oblique cavity, the intermediate space of the sacral region being flat, triangular and pointed above the anus. Each extremity is fully as long as the whole head,† it is covered on the upper side by three longitudinal rows of scales, narrowing towards the end which is occupied by a large, flat, nail-like scale.

The body of the female is somewhat stouter; it measures 5 5 inches, of which the tail is only 0 5 inch. The body is again surrounded by 24 longitudinal and the tail by 34 transverse rows of scales. On each side in front of the anus is an enlarged scale, separated by three small scales from the anal edge, and just in the place where the extremity in the male originates;

* This is in the Indian Museum and I am indebted to Dr. Anderson for the opportunity of examining it.

† In _D. Nova- Guinea_ the extremity is only as long as the head is broad.
this large scale covers a small opening, in which internally a rather strong muscle terminates; the muscle is most probably emissible and retractile at the will of the animal.

All other characters are common to both sexes. The upper labial is separated from the rostral by a distinct groove. The shields are dark brown, almost blackish, with paler edges; paler below. The shields on the head are yellowish and there are occasionally yellowish spots on the chin and throat, or on the lower side of the tail.

As compared with *Typhloscincus Martensii*, Peters, the snout of the Nicobar species is narrower, the head posteriorly broader, the eyes, although covered by skin, distinctly traceable, all points to which Steindachner drew attention when comparing the two, but the shields of the head, the number of scales round the body and on the tail are in both species quite the same. There is in *T. Martensii* also an enlarged scale above the anal edge, but it is nearer to it than in the Nicobar species. Still, if it were not for Peters' distinct statement, that out of three specimens of *T. Martensii* two are males, and one, a female, both without any trace of extremities, I should have considered the specific distinction of the *D. Nicobaricus* from *T. Martensii* somewhat doubtful. The coincidence is certainly remarkable.

*Dibamus* was characterized by Duméril and Bibron (Erpet. gen. v. p. 833) from two New-Guinean specimens, sent to them by Prof. Schlegel. Both specimens were apparently males, but Schlegel* says that these only possess a pair of posterior extremities, the females having none. And this is strictly in accordance with the observation made on the two Nicobar specimens.

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*Descriptions of two new species of Indian Landshells,*

by Dr. F. Stoliczka.

[Received 7th May, 1873.]

The following descriptions have been drawn up with the view of supplementing the figures of them which are to be given by Mr. Theobald in the 'Conchologia Indica.' The first species is from the Shan-states, and was collected, several years ago, by Mr. Fodden; and the second was given to me by Mr. Foote who obtained it in the cotton soil district near Bolgaom, when on his geological tour.

* Comp. Berlin Akad. Monatsberichte for 1864, p. 271.*
F. Stoliczka—Two new species of Indian Landshells. [No. 3,

**Plectopylis Shanensis, n. sp.**

Pl. testa planorbulari, pallide fusca, apice minutissime exserto, pallido; anfractibus 6\textsuperscript{3}, angustis, sutura indistincte marginata junctis, primis 2\textsuperscript{3} ad tribus minute rugulosis, ceteris transversim oblique striatis atque concentricis obsolete striolatis, ultimo ad peripheriam subrotundato, infra paululum angustiore, ad aperturam modice deflexo; umbilico spatio, anfractus omnes suturā distincte marginātā separatos exhibentes; apertura angulum circiter 55° attinentem cum axi formam, peristomato undique expansiuscolo atque incrassato, margaritaceo lutescente, circumdata, ad utramque terminationem labii subangulati profunde incisa; labio plicis tribus distinctis instructo, plica mediana crassissima, ea atque infera multo tenuiore usque ad peristoma extensī, tertia interposita à margine remoto evanescente, sed usque ad laminam internam verticalem, circiter tertiam partem unius circuitus a margine aperturali distantem, extensa; ultimo anfractus intus supra laminam verticalem ante plicis sex crassiusculis, postice plicis decem brevioribus atque tenuioribus instructo.

Diam. maj. 21-5, min. 17, alt. 6-5; diam. aut. apertūrae 7-5 m.m.

Dimensiones speciminis secundi minoris sunt: 18-5, 15, 5-8, 6-6 m.m.

Hab.—Provincia Burnmani 'Shan-states' dictam.

This *Plectopylis* is readily distinguished from its allies by the presence of three labial plicae, the strongest being in the middle and extending, like the lower thin one, to the edge of the lip, while the intermediate one disappears before it reaches the aperture, but it is the only one which extends to the internal almost vertical lamina. This last is superseded anteriorly by six stronger and posteriorly by ten thinner and shorter folds, but there is no corresponding lamina present on the inner side of the last whorl.

In external shape and character of voluition the species is almost identical with *P. repercussa*, except that in this latter all the whorls are transversely striated on the upper side, and the last at the aperture a little more deflected, the umbilicus also appears to be a little wider, and not only the plicae at the mouth but also the internal laminae are totally different in *repercussa*; in this one there are two internal laminae on the inner lip one behind the other, and one on the outer lip projecting in the space bounded by the two others.

**Trachia Footei, n. sp.**

Trach. testa albida, orbiculata, supra deplanata, infra inflata, versus medium angustata, perspective modice umbilicala, undique dense granulifera; anfractibus 4 ad 4-5, gradatim accrescentibus, primis duobus aut tribus convexiusculis, transversim striatis, ceteris magis deplanatis, transversim costulis inæqualibus et obliquis ornatis, ultimo ad peripheriam valde carinato, costulis in carina evanescentibus, ad aperturam valde descendente atque fere...
omnino defexo; basi circa umbilicum rotundate subangulata, similariter costulata, costulie usque ad priripheriam extensie; apertura fere horizon-
taliter deflexa, transversim rotundate elliptica, margine dilatato fere undique libero, ad angulum umbilici angustissime adnato, circumdata. Diam. maj. 13\textperiodcentered3, d. min. 11\textperiodcentered2, altitude totius testae 6; altitude apert. cum peristomate
5\textperiodcentered5, ejusdem latitude 6\textperiodcentered8 m.m.

Hab.—Belgaom, India occidentali.

The present species has to be placed in close proximity to \textit{T. crassicostata}, and is as closely allied to it as this is to \textit{T. fallaciosa}. It differs very markedly from \textit{crassicostata} by its more distinctly orbicular and depressed planorbid shape, by a well marked, smoother and thinner, peripherical keel on the last whorl, by a more inflated and towards the middle more contracted base, it being angular round the umbilicus, and by a considerably more deflected aperture.

In a former paper* I expressed a doubt about \textit{H. fallaciosa}, \textit{ruginosa},
and \textit{nilghirica} belonging to the genus \textit{Trachia}, as originally proposed by Albers. I observe, however, in well preserved specimens, that all of them possess the peculiar granular structure which is so characteristic of \textit{Trachia}. \textit{T. crassicostata} and \textit{Footei} must now be added to the list of these closely allied Western Indian species.

\textbf{ON RHOPALORHYNCHUS KRÖYERI, A NEW GENUS AND SPECIES OF PYCNOGO-NIDA,—by JAMES WOOD-MASON, of Queen's College, Oxford.}  
[Received and read May 7th, 1873.]

(With plate XIII.)

Much difference of opinion has prevailed with regard to the systematic position of the \textit{Pycnogonida}, as to whether they should be classed with the Crustacea or with the Arachnida. By one set of naturalists, including Johnston, Milne-Edwards, Quatrefages, Kröyer, and Dana, they have been placed with the Crustacea; by another—including Latreille, Erichson, Ger-
staecker and Huxley who separates them, as well as the Tardigrada and Pentastomida, from the typical Arachnida (Spiders, Mites and Ticks) as an aberrant order,—with the Arachnida. Dr. Anton Dohnn† who has recently studied the embryology of these animals finds that they are in no way related to the Arachnida, that they resemble the Crustacea in having a naupliiform first developmental stage, but that from this point the course of development ceases to exhibit anything in common with that of the Crustacea; under these circumstances I have thought it better to call the cheli-

† Jenaische Zeitschrift, 1869.
cora, palps, and accessory legs (= mandibles, and 1st and 2nd pairs of maxillae of Kröyer) of those who range the Pycnogonida with the Arachnida, the first, second and third pairs of cephalic appendages respectively, thus avoiding the use of terms implying affinities and homologies that may not in reality exist.

**Rhopalorhynchus**, *gen. nov. Wood-Mason.


**Rhopalorhynchus Kröyeri, n. sp.**

Body linear, smooth. The rostrum is almost as long as the rest of the body, moveably articulated to the middle of the anterior end of the oculigercous somite, slender and filiform nearly to its middle whence it expands and finally narrows to its obtuse extremity; when examined in profile, the convex upper contour of the expanded portion is seen to carry two minute forwardly-directed spines, the one behind the other in the middle line. The mouth is situated at the extremity of the rostrum and has the form of a triradiate slit, the three slits being so disposed that a circle described from the point in which they meet so as to pass through their free extremities would be by them divided into three equal sectors. The ocular tubercle is erect, occupies the posterior half of the segment on which it is placed, and has the form of a short cylinder surmounted by a minute cone, the eyes being situated partly on the cylinder and partly on the cone at points corresponding, as usual, to the extremities of the arms of a St. Andrew’s cross. A very distinct crescentic suture, bounding the base of the ocular tubercle posteriorly and curving forwards and outwards so that, if produced far enough, it would pass

*ρωταλος, olava; ρηχος, rostrum.*
out just in front of the first pair of legs, divides the oculigerous from the first thoracic somite.

The cephalic appendages of the first pair are absent. Those of the second pair are about 1½ times as long as the rostrum with which they lie in the same horizontal line, being articulated one on each side of it to the anterior end of the oculigerous somite, are filiform, excessively slender, and composed of nine joints. The first joint is subglobular, being nearly as broad as long, much broader than any of the succeeding joints; the second greatly elongated and slightly expanded at the apex; the third is very short and slightly curved; the fourth is greatly elongated, but not so much so as the second; the fifth is shorter than either of the four equal terminal joints which, together with the fifth and the distal half of the fourth, are fringed with short and very delicate cilia. Those of the third pair are also extremely slender, are articulated, a little posteriorly and internally to the second pair, to minute processes springing from the ventral arc of the oculigerous somite and meeting in the middle line. They are composed of ten joints, of which the first is minute, the two next equal and cylindrical, the third greatly elongated and just perceptibly expanded at the apical end; the fourth short, scarcely longer than the second of the two basal joints, and curved; the fifth is likewise greatly elongated, but more expanded at the apex and longer than the third; the four terminal joints are short, slightly decreased in length from the first to the last which comes suddenly to a subacute incurved point forming a sort of claw, are curved, fringed on their inner and concave margins with cilia and minute spinules, and capable of being coiled tightly together so as to form a prehensile organ.

Both pairs of appendages are elbowed at a short joint, intercalated between two long ones, viz., the second pair between the 2nd and 4th, the third between the 3rd and 5th joints.

In many other species the terminal joints of the third pair of cephalic appendages (pædes accessorii) will probably be found to be similarly modified as a prehensile organ; an examination of O. F. Müller's faithful figures of Nymphon grossipes, Fabr. in the Zoologica Danica would, in fact, alone suffice to show the existence of such a modification in that species, even if Kröyer† had not described it in his diagnoses of the genera Nymphon and Zetes, without, however, offering any interpretation of the structure.

The oculigerous somite has its anterior margin straight, and is but faintly constricted in front of the eye-tubercle.

The first thoracic somite, if its distinctness from the oculigerous somite be admitted, is very short. Of the remaining somites, the second and third are subequal, the former being if anything the longer; are as perfectly cylindrical,

and nearly as long as, but slightly stouter than, the filiform proximal moiety of the rostrum; and are suddenly expanded at their articular ends, each somite presenting the appearance of a cylinder with a greatly truncated cone affixed by its truncated surface to each end. The fourth and last somite is scarce half the length of those that precede it, and is similarly expanded at its anterior end only. From the sides of the expansions at the posterior extremity of the 2nd and 3rd spring two somewhat inflated outwardly-directed, obconic processes which might, at first sight, be mistaken for the first of the basal joints of the legs from their close similarity to these, but which are in reality one with the somite from which they arise: precisely similar processes carry the legs both of the first and of the last somite in which, however, they diverge like the arms of the letter Y. Wedged in between the roots of these processes of the last somite and the posterior boundary of its ventral arc, lies a minute, obtusely-conical tubercle with a large circular (anal) aperture at its extremity. This is the abdomen, a very evident, though rudimentary, structure in most Pycnogonida and even biarticulate in one species (in Zetes hispidus, Kroyer), but here so reduced in size as to be quite invisible from above, and only demonstrable with difficulty from below whence it appears, in ordinary positions, under the microscope as a convex, ovoidal or heart-shaped plate. It, moreover, looks downwards and slightly backwards, instead of upwards and backwards or directly backwards as it usually does.

The legs are long, slender, simple, equal in length, rather more than twice as long as the body including the rostrum, and are composed of eight joints, terminated by a weak, slightly curved claw. Their three basal joints are as broad as long, equal, and almost globular; the fourth is club-shaped at the distal end; the fifth is all but as long as the fourth and, with the remaining joints, perfectly filiform; the sixth is shorter and about twice the length of the two last together; these are subequal.

Length of the body including the rostrum, ..................... 13 mm.
" " legs, .................................................. 26 mm.
" " 2nd pair of cephalic appendages, .................. 10 mm.
" " 3rd " " " " 12 mm.

From the linear from of the body and the slenderness of the legs, I conclude that my specimen is a male, a conclusion by no means invalidated by the presence of the third pair of cephalic appendages, which, being apparently invariably developed in both sexes throughout several genera, (Nymphon, etc.) consequently possesses no value in the determination of questions of sex.

Hab.—Dredged by the writer at Port Blair, Andaman Islands, in 25 fathoms of water, at which depth the bottom was clothed with a dense
tangle of delicate, filamentous algae so closely resembling the animal in point of colour and form, that the latter was with difficulty distinguishable.

In conclusion, I dedicate the first species of *Pycnogonida* hitherto discovered in these seas to the memory of the illustrious Danish naturalist whose name is so indissolubly connected with the history both of the *Pycnogonida* and of the lower Crustacea.

**Explanation of Plate XIII.**

Fig. 1. *Rhopalorhynchus Kröyeri*, nat. size.
Fig. 2. The same greatly enlarged.
Fig. 3. A cephalic appendage of the second pair, greatly enlarged.
Fig. 4. " " " third " " "
Fig. 5. Rostrum seen from the side ............ " "

\[ a = \text{mouth.} \]

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*Algae* collected by Mr. S. Kurz in Arracan and British Burma, determined and systematically arranged by Dr. G. Zeller, High Councillor of Finance in Stuttgart.

(Communicated by Mr. Kurz.)

[Received 3rd May; read 4th June, 1873.]

**DIATOMACEÆ.†**

*1. Podosira Kurzi, Z., n. sp.*

Stipiti brevi cylindrico adnata; cellulis sphaericis, v. oblongis et diametro paulo longioribus; 1/175 ad 1/150 lin. crassis; 2 et pluribus isthmo brevi concatenatis, levibus, valvulis ad commissuram margines nodulis binis minutis instructis. Arracan, Akyab, in rupibus marinis submersis (3280, 3283.)

**CHIROCOCCACEÆ.**

*2. Chirococcus minor, Ng. (Protococcus minor, Kg.).*

Pegu, Elephant-point, in rhizophoretis ad corticem *Sonneratia apetala*. (3277.)

* The arrangement is according to Rabenhorst's *Flora Europea Algarum*, that of the sea weeds according to Kützing's *Species Algarum*. The numbers within brackets refer to Mr. Kurz's collections. Those species marked by an asterisk are new additions to Burmese phycology (see a paper on Burmese Algae by the late Dr. G. von Martens, Journ. A. S. B., Vol. XL., 1872, p. 461 sq.)

† The diatoms from Burmah (about 60 or more species) are not yet distributed; Dr. L. Rabenhorst of Drosdon has, however, been kind enough to undertake the determination of them. (S. Kurz.)
*3. Chroococcus Indicus, Z., n. sp.
Strato gelatinoso, tenui, pallide fusco; cellulis singulis solitariis, oblongis v. globosis, 1/700—1/300 lin. crassis, virescentibus; tegumento hyalino, vix conspicuo, cytioidermate achromatico, cytioplasmate granuloso. In stagno silvatico ditionis Prome (3151).

*4. Chroococcus granulosus, Z., n. sp.
Strato gelatinoso, granulosus, aurantiacos; cellulis 4-12 et pluribus in familias circiter 1/100 lin. crassas associatis, 1/500—1/300 lin. crassis, v. singulis ad 1/160 lin. crassis, globosis v. angulosis; tegumentum teneraimo, hyalino; cytioidermate hyalino, in cellulis junioribus vix conspicuo, in adultioribus crassiusculo; cytioplasmate aureo-fusco, rarius viridi. Pegu, in vali alluviali fluminis Irrawaddi versus Thabyægon, in rivulo exsiccato (3223).

*5. Aphanocephala albida, Z., n. sp.
Thallo tenui, membranaceo, amorpho, sordido albido; cellulis globosis, 1/700—1/600 lin. crassis, nunc solitariis, nunc seriatis aut acervatis; tegumentis diffusentibus; cytioplasmate homogeneo, pallide aeruginoso. Arracan, Akyab, in stagnis salcis putrescentibus fluitans (3284).

*6. Synechococcus fuscus, Z., n. sp.
Cellulis singulis, interdum duabus v. tribus longitudinaliter seriatis ellipticis, utraque fine rotundatis, 1/100 lin. longis, 1/250 lin. crassis; cytioplasmate fusco v. lutescente, homogeneo.* Pegu, in montibus Yomah dictis secus rivulum Thit-Kouk (Pazwoondoung) in limo arenoso (3238).

**LEPTOTHRICHEÆ.**

*7. Leptothrix ochracea, Kg.
Pegu, in variis locis præsertim in montibus Yoma frequentissime e fissuris rupium humiderum protrudens et massas 1—1½ poll. crassas ochraceas formans. In collectione haec prostant stationes: Kadeng-choung ad Natmadhee (3232/a); Thayet-choung inter Kya-Eng (Eng = laculus) et Phounggyee, (3277); Wha-choung (choung = rivulus, fluvius, etc.) in stagno sylvatico (3237/a); Mui-how in montibus (Yomae meridionalis) in fonte (3240).

*8. Hypheothrix eruginea, Rabenh. (Leptothrix, Kg.).
Pegu, Phounggyee, ad ripas laculi in limo (3186/a) var. subtorulosa, Z. articulis ad genicula interdum parum contractis. Pegu, Kenbatee-choung in fonte ad vicum (3131).

*9. Hypheothrix calcicola, Ag. b. muralis (Leptothrix muralis, Kg.)
Pegu, Henzadah, ad muros edis cujusdam vetustæ lateritiae. (3187).
*10. Hypheothrix subtilissima, Rabenh. (Leptothrix, Kg.).
Pegu, in muris humidis muscosis cisternæ in vico Tharawa, in vicinitate oppidi Henzadah (3214/a, 3228/a, 3223/b).

*11. Hypheothrix viridula, Z., n. sp.
Strato tenui, membranaceo, obscure ærugineo-viridi; filis parum curvatis, dense intricatis, ad 1/750 lin. crassis, apicem versus attenuatis, ærugineis, obsolete articulatis, interdum torulosis; articulis diametro parum v. ad duplum longioribus; vaginis delicatissimis, arctis. Pegu, in palude prope Wanet, in limo et in plantis aquaticis. (3238).

OSCILLARIIÆ.

*12. Oscillaria Antilarum, Kg.
Arracan, Akyab, in stagnis subsalsis. (3216).


*14. Oscillaria brevis, Kg.
Pegu, Kadeng-choung ad Natmadhee. (3134).

*15. Oscillaria chalybea Mert., var. Indica, Z.
Strato obscure chalybeo, filis tantummodo 1/100—1/375 lin. crassis. Pegu, in locis humidis limosis viae inter Kyauzoo et Wachoung (3185).

Pegu, Elephant-point, in aquis dulcis (3275).

*17. Oscillaria sancta, Kg.
Pegu, Tharawa, non procul ab Henzada, in muris humidis cisternæ (3214/a, 3223).

*18. Oscillaria violacea, Wallr. (O. fenestralis, Kg.)
Rangoon in limo aquæ dulcis. (3208).

*19. Oscillaria viridula, Z., n. sp.
Strato membranaceo, viridi-ærugineo, longe radiante; filis læte ærugineis, rectis, 1/500—1/450 lin. crassis, apice ad dimidium attenuatis et leviter curvatis, subtillissime granulatis; articulis obsolete, diametro duplo brevioribus. (O. Neapolitanae proxima). Rangoon, in limo aquæ dulcis (3206).

*20. Phormidium arenarium, Rabenh. (Ph. thinoderma, Kg).
Arracan, Akyab in limo aquæ subsalsæ (3220, 3286/a).

*21. Phormidium inundatum, Kg.
Pegu, Tharawa, prope Henzadah, in muris cisternæ (3223/b).
*22. Cithonoblastus Lyngbyei, Kg.
Arracan, Akyab, in rupibus marinis inundatis (3285).

*23. Cithonoblastus Burmanicus, Z., n. sp.
Filis 1/1500 lin. crassis, ærugineis v. lutescentibus, indistincte articulatis, parum flexuosis, apice attenuatis, in fasciculí pallide fuscos, 1/300 lin. crassos, flexuosos, contortis; vaginis ad 1/100 lin. crassis, pellucidis, fibrillosis, margine undulatis. Pegu, Tharawa prope Henzadah, in muris cisternae (3214b).

*24. Cithonoblastus Kurzii, Z., n. sp.

*25. Lyngbya Pallida, Z., n. sp.
Pallide viridis, adnata, filís 2-4 pollicaribus, cespitosis, flexuosis, luteis v. virescentibus, cum vagina lævi, achromatica, 1/60 lin., sine vagina 1/70 lin. crassís; articulis diámetro 3-5plo brevioribus, subtilíssimo granulátis. Pegu in montibus Yomah, Wathabwot-choung in saxis arenosis submersis (3175).  

*26. Hydrocoleum Meneghiniawum, Kg.
Pegu, Elephant-point; in rhizophoretis, ad radices et arborum truncos submersos. (3263).

*27. Hydrocoleum striatum, Z., n. sp.
Ribulare, semipollicare, ærugineo-nigrum; vaginis 1/90 lin. crassís, transversim striátis, striis in 1/100 lin. 9; filís inclusis plerumque ternís, leviter contortís, 1/180 lin. crassís, dense granulátis, continuís, vel obsolete articulátis; diámetro múltro brevioribus. Pegu, in rivulo vadoso prope San-  

*28. Sirocoleum Indicum, Z., n. sp.
Cespito parvulo, vix semiunciali, viridi; vaginis a basi 1/60 lin. crassa ad 1/250 lin. attenuátis, achromaticís; filís initio pulchre ærugineís, apicé obtusi, obsolete articulátis, articulis diámetro æqualíbus, 1/750 lin. crassís, deinde pallidioribus et divisione longitudinali et transversali in gonidia 1/1500 lin. crassá, seriata, diámetro 2-4plo longiora, collapsis. (Sirocoleo
*29. **Symploca Kurziana**, Z., n. sp.


*30. **Symploca lutescens**, Z., n. sp.


**NOSTOCHEÆ.**


Prome, in montibus Yomæ, inter muscos secus declivia rivuli Whaydho (3178).

*32. **Nostoc granulare**, Rabenh. (*Hormosiphon*, Kg.).

Pegu, Elephant-point, in aquis dulcis stagnantibus (3291).


*34. **Nostoc rivulare**, Kg.

Pegu in montibus Yomæ, Koon-choung ad saxa arenosa humida (3176).

*35. **Nostoc heterothrix**, Z., n. sp.

Strato irregulariter expanso, olivaceo-viridi; filis leviter flexuosis, inæqualibus; alteris ærugineis, articulis globosis, 1/600—1/450 lin. crassis, cytiodermate vix conspicuous hyalino; alteris fuscis, cytiodermate evidentis, colorato, articulis globosis v. ellipticis, ad 1/175 lin. crassis; cellulis perdurantibus ellipticis, ceteris paulo majoribus. (Forsan *Hormosiphon heterothrix*, Kg.? Pegu, in valli Pazwoondeung, in rivulo Bala-choung (3196); secus declivia limosa fluminis Irrawaddi ad Khyoung-gyee (3163).

*36. **Nostoc Kurzianum**, Z., n. sp.

Terrestre, thallo fusco-atro, irregulariter expanso, membranaceo; filis densis, param curvatis, fulvis; articulis 1/600—1/500 lin. crassis, sphæricis,

arctis, virescentibus; peridermate tenui, hyalino; cellulis perdurantibus globosis, ad 1/400 lin. crassis. Pegu, in montibus Yomœ centralis, Whathabwot-choung ad declivia limosa (4138).

*38. Nostoc limosum, Z., n. sp.

*39. Nostoc saxatile, Z., n. sp.
Subglobosum, vetustate intus cavum, magnitudine cerasi, olivaceo-fuscum, aggregatum; peridermate fuscecente, filis non vaginatis, flexuosis; articulis ellipticis, pallide ærugineis, subtiliter granulatis, 1/600—1/500 lin. crassis; cellulis perdurantibus globosis, ad 1/375 lin. crassis. Pegu, in montibus Yomœ centralis, Kayeng-mathay-choung in saxis arenosis humidis (3180).

Spermosiæe.

*40. Anabæna bullosa, Kg.
Pegu, in valli fluminis Sittang, in laculo prope Otweng, Tounghoo (3150); Pegu, in planitie fluvii Pazwoondoung, Bala-choung in limo (3211/6).

*41. Anabæna flos-aquæ, Kg.
Pegu, in fluvio Lhein inter Beendau-Hseat et Theong-choung (3159).

*42. Anabæna stagnalis, Kg.
Pegu, in fluvio Lhein prope Beendau-Eng (3161/0); Khyoung-gyee ad ripas fluminis Irrawaddi (3164).

*43. Anabæna subtilissima, Kg.
Rangoon, in limo canalium æstuarium (3205).

*44. Anabæna Indica, Z., n. sp.
Strato tenui, expanso, obscure viridi, deinde fusco; filis rectiusculis, densis, subvaginatis, ærugineis, denique fuscis, apicem versus attenuatis; articulis tenuioribus 1/650 ad 1/600 lin. crassis, sphæricis, sæpe geminatis; crus-sioribus (sporangiis) ad 1/350 lin. crassis, sphæricis, v. ellipticis; cytioplasmate dilute ærugineo, granuloso. Arracan, Akyab, in limo aquæ subsalæ (3213, 3218); Pegu, in montibus Yomœ, Yaitho-choung, in arena humida rivuli frequens (3234).
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*45. CYLINDROSPERMUM HUMICOLA, Kg.
Pegu; in limo ripario fluminis Irrawaddi ad Khyoung-gyee (3165).

*46. CYLINDROSPERMUM MACROSPORIUM, Kg.
Pegu, Kadeng-choung ad Natmadhee, natans (8230).

RIVULARIEÆ.

*47. GLOIOTRICHIA KURZIANA, Z., n. sp.
Thallo globoso, lineam crasso, obscure olivaceo; filis serugineis, brevibus, subulatis; articulis sape confluentibus, inferioribus ad 1/300 lin. crassis, diametro duplo brevioribus, superioribus eam aequantibus; vaginis ad 1/150 lin. crassis, achromaticis, sporis serugineis v. lutescentibus, ovatis, basi ventricosis, ad 1/180 lin. crassis, diametro 2-4plo longioribus, dense granulatis; cellulis perdurantibus sphaericis, 1/250 lin. crassis.—Arracan, Akyab in plantis aqae dulcis (3212).

*48. RIVULARIA PEGUANA, Z., n. sp.
Thallo gelatinoso, indefine expanso, olivaceo, molli, hyalino; filis inclusis serugineis, basi 1/300 superne 1/500 lin. crassis, apice plus minusve acuminatis, laxe intricatis, flexuosis, nunc distincte articulatis, articulis v. moniliformibus, diametro aequalibus v. duplo longioribus; nunc—præsertim in parte superiore,—continuis; cellulis basilaribus globosis, 1/300—1/175 lin. crassis, denique in sporangia fusca permutatis.—Pegu, Kadeng-choung ad Natmadhee in truncis aqae dulcis (3228).

MASTIGOTHRICHEÆ.

*49. MASTIGOBRIX SERUGINEA, Kg.
Pegu, Yenay Eng, in planitie alluviali fluminis Irrawaddi, ramis emortuis insidens (3132).

*50. SCHIZOSIPHON PARIEI TINUS, Naeg.
Arracan, Akyab in parietibus Phari vetustis (3215).

SCYTONEMACEÆ.

*51. SCYTONEMA AUREUM, Menegh.
Pegu, in variis locis frequentes, ad rupe et corticola.—Elephant-point (3276); inter Rangoon et San-yaw-wa (3352); in montibus Yomæ centralis, Kayeng-mathay-choung, ad saxa arenosa (3173).

*52. SCYTONEMA CINEREUM, Menegh.
Pegu, in templis pagoda dictis vetustis fere undique; Kya Eng in templo vetusto (3199).

var. b. JULIANUM, Rabenh. (Drilosiphon Julianus, Kg.). Pegu, in montibus Yomæ centralis, Yaw-gna-choung ad saxa arenosa (3236).
*53. Scytonema gracile, Kg.
Pegu, in planitie fl. Irrawaddi, Palay Kweng in cisternae muris (3224).

*54. Scytonema tomentosum, Kg.
Supra Rangoon, corticola (3466).

*55. Scytonema peguanum, Martens.
Pegu, in valle Sittang (3139); Phoung-gyee (3118), in truncis arborum frequents.

*56. Scytonema varium, Kg.
Pegu, in montibus Yome, in valle Choung-menah (Khaboung) (3152); Wachoung (Pazwoondoung) (3241/0).

*57. Scytonema vieillardi, Mart.
Arracan, Akyab, in stagnis exsiccatis subsaisis (3287).

*58. Scytonema fulvum, Z., n. sp.
Strato obscure olivaceo; filis curvatis, 1/180—1/120 lin. cum vagina crassis, fulvis; pseudoramulis sparsis, divaricatis, conformibus; apicibus attenuatis, clausis, et alatis hyalinis; filis internis vix conspicuis, pallide virescentibus; articulis obsoletis; vaginis laevibus, arctis, aureo-fulvis.—Pegu, Rangoon in foliis calami (3467); Yoma in cortice arborum (3146).

*59. Scytonema fuscm, Z., n. sp.
Strato pannoso, fusco-rubescente; filis 2-3 lin. altis, subsimplicibus, gracilibus, elongatis, basi 1/180—1/120 lin. cum vagina, superne 1/200 lin. cum vagina, 1/300—1/250 lin. sine vagina crassis; vaginis levibus, saturatis fuscis, apicem versus pallidioribus; filis inclusis pallide virescentibus, obsoletis articulis, granulatis, articulis diametro equalibus.—Pegu, in terra nuda et ad declivia argillosa, Sanye-wa prope Rangoon in oryzetis (3201); in montibus Yome in valle fluvii Choung-menah (3153); Wachoung, in via cava (3187).

*60. Scytonema Kurzianum, Z., n. sp.
Strato olivaceo; cespitulis vix lineam altis, compactis; filis 1/300 lin. cum vagina 1/450 lin. sine vagina crassis, subsimplicibus, basi coalescentibus, curvatis, internis articulatis, viros-lutescentibus; articulis sepe obsoletis, diametro equalibus; vaginis achromaticis v. lutescentibus; cellulis perdurantibus globosis.—Pegu, Yoma, in cortice arborum (3141/a).

*61. Scytonema murale, Z., n. sp.
Strato compacto, spongioso, lineam crasso, sordide olivaceo, v. nigresco; filis intricatis, flexuosis, parco ramosis; pseudoramulis conformibus, brevibus, cum vagina 1/300—1/200 lin. crassis, luteis, apice cinereis, inter-
dum rosolis; filis internis 1/350—1/300 lin. crassis, pallide viridibus, apice hyalinis, distincte articulatis; articulis diametro squalibus, v. duplo brevioribus; vaginis subachrosis, arctis; cellulis perduantibus globosis.—Rangoon ad muros hospitii circuit-house dicti (3207, 3209).

*62. SCYTONEMA OLIVACEUM, Z., n. sp.

Strato cespitoso, 2-3 lin. alto, olivaceo; filis leviter flexuosis, rigidis, cum vagina 1/150—1/115 lin. crassis; internis 1/180 lin. crassis, cinereis, distincte articulatis; articulis lamellosis, v. granulosis et linea transversali dimidiatis, diametro parum, hinc inde 2·plo brevioribus; pseudoramulis, divaricatis, ssepe geminis, non tenuioribus; vaginis fuscis, laevibus. Pegu, in montibus Yome centralis, Zamayee-choung, in fissuris humidis rupium arenosarum (3235).

*63. SCYTONEMA PARVULUM, Z., n. sp.

Strato tenui, tomentoso, fuscescente; filis brevibus, subsimplicibus, attenuatis, basi 1/375 lin. superne 1/500 lin. cum vagina vix 1/700 lin. sine vagina crassis, a basi distincte articulatis; articulis diametro squalibus, vel longioribus, superne confluentibus; vaginis fuscis, filis internis viridibus. Pegu, in saxis arenosis montium Yomæ australis (3156).

*64. SCYTONEMA (SYMPHYOSIPHON) RHIZOPHORE, Z., n. sp.

Cespitulis obscure olivaceis (in siccatis cinereo-nigriscentibus), spongioso-hirtis, semilineam crassis; filis fasciculatis, flexuosis, fuscis, parce pseudoramosis, cum vagina 1/300—1/225 lin. crassis, apicem versus attenuatibus, internis pallide aegugineis; articulis diametro squalibus, vel ad tripulum brevioribus, ssepe obsoletis; vaginis arctis, basi et apice brevi, acuminato, hyalinis; cellulis perduantibus oblongis. Pegu, Elephant-point, in rhizophoretis ad cortices arborum diversarum, imprinis Sonneratia apetala (3267).

*65. SCYTONEMA SUBCLAVATUM, Z., n. sp.

Calcicola; strato obscure olivaceo, filis fuscis, ssepe basi connatis, partim (junioribus ?) sursum inerassatis, 1/30—1/20 lin. longis, simplicibus, curvatis, ad 1/180 lin. crassis; partim elongatis, ramello uno alterove instructis, 1/300 lin. cum vagina crassis; filis internis virescentibus, nunc obsolete, nunc distincte articulatis; articulis diametro squalibus; vaginis arctis. (Forsan status Scytonematis muralis). Pegu, in domo vetusta lateritia oppidi Henzadah (3167, 3168, 3169).

*66. SCYTONEMA VIOLASCENS, Z., n. sp.

Cespite erecto, 3-4 lin. alto, pallide violaceo; filis basi 1/150—1/100 lin. cum vagina 1/130—1/110 lin. sine vagina crassis, fasciculatis, parce ramosis; pseudoramulis interdum binis, adpressis, vel intricatis, elongatis, gracilibus, flagelliformibus, variegatis, violaceis, aeryugineis et fusco-luteis, ad 1/250 lin.
attenuatis, apice pallidoribus vel hyalinis; articulis diametro ad duplo breviaribus, saepe confluentibus; vaginis arctis, hirtis, hyalinis v. lutescentibus. Pegu, Yoma in valle Choungmenah (Khaboung) ad declivia argillosa (3154).

*67. POLYTOBTHRIS BINTATA, Z., n. sp.

SIROSIPHONIACEÆ.

*68. SIROSIPHON PARASITICUS, Z., n. sp.
Strato cespitoso, fusco; filis virescensibus, 1/200 lin. cum vagina 1/300 sine vagina crassa, curvatis, parce ramosis; ramis ascendentibus, homogeneis; articulis saepe obsoletis, vel confluentibus, duplici serie ordinatis, granulosis, diametro brevioribus; vaginis arctis, luteis v. hyalinis. Pegu, Yoma, Choungmenah, in sylvis sempervirentibus ad folia arborum et fruticum (3292).

PALMELLACEÆ.

*69. PLEUROCOCUS VULGARES, Menegh. (Protococcus, Kg.).
Rangoon, ad parietes hospitii circuit house dicti (3210).

DESMIDIEÆ.*

*70. CLEOSTERIUM STRIOLATUM, Ehrenb.
Pegu, Kya Eng, inter plantas submersas aquaticas.

*71. PLEUROTENIUM RACULUM, De Bary (Docidium, Bréb.).
Pegu, in palude prope Wanet, natans (3238/a).

*72. PLEUROTENIUM TRABEULA, Nag. (Docidium Ehrenberghii, Bréb.).
Pegu, Eng-ga-na prope Phounggyee (3242).

*73. EUASTRUM ANSATUM, Ralfs.
Pegu, Eng-ga-na (3242).

*74. EUASTRUM AMPULLACEUM, Ralfs.
Pegu, Kya Eng.

* These are only stray Desmids found by DD. Zeller and Rabenhorst amongst the Algæ. My collection of Burmese Desmids is in the hands of Mr. W. Archer of Dublin. (S. Kurz.)
*74. RHYNCHONEMA KURZII, Z., n. sp.
Articulis sterilibus fine replicatis, diametro (1/120—1/100 lin.) 6-8 plio
longioribus, sporiferis tumidis; sporis fuscis, ellipticis, diametro (1/40 lin.)
2-2 1/2 plio longioribus; fasciis spiralibus 2 laxis, torulosus, anfractibus 2.
Pegu, Eng-ga-na (3242).

*75. SPIROGYRA ADNATA, Kg.
Pegu, Pazwoondoung, Balachoung (3247).

*76. SPIROGYRA CRASSA, Kg.
In lacu prope Rangoon (3251).

*77. SPIROGYRA DECIMINA, Kg.
Prome, Toung-naweng-choung (3155); Myoma, in rupibus fluminis
Irrawaddi (3170); Pegu, Kenbatee in fonte scaturiente (3165/a); Pazwoon-
doung-choung ad Kyauzoo (3184). Alga vulgatissima Burmæ, præsertim
in planitiebus alluvialibus.

Forma crassior, filis sterilibus ad 1/38 lin. crassis. Pegu, in montibus
Yomæ centralis, Wathabwot-choung, in fluvio frequens (3174).

*78. SPIROGYRA IRREGULARIS, Naeg.
Pegu, Yomah centralis, Wopyoo-choung (Khayengmathay-chg.) versus
Ghalee Tay natans (3177); Rangoon in canalibus estuariis subsalsis (3204).

*79. SPIROGYRA JUGALIS, Kg.
Pegu, Kya Eng (3198).

*80. SPIROGYRA LONGATA, Kg.
Prome, Khyee Thay in flumine Irrawaddi (3137); Arracan, Akyab
(3211).

*81. SPIROGYRA MAJUSCULA, Kg.
Pegu, in palude quadam prope Thounggyee (3244).

*82. SPIROGYRA NITIDA, Kg.
Pegu, in palude inter Theanchoung et Oakkan (3161/a); Prome, Khyee-
thay in flumine Irrawaddi (3137); Arracan, Akyab, in aqua dulci (3219).

*83. SPIROGYRA QUININA, Kg.
Arracan, Akyab in aqua subsalsa (3289).
var. β. inæqualis, Naeg. Pegu, Beeling Kadeng-choung ad Kway ma-
kheing (3232).

*84. SPIROGYRA TROPICA, Kg.
Arracan, Akyab, in aqua subsalsa (3289).
*85. Zygnema stellinum, Ag.
Pegu, Tonkyan in vicinitate rivuli Bala-choung (3289).

*86. Zygnema Vaucherii, Ag.
Pegu, Kya Eng (3194).

*87. Zygnema amplum, Z., n. sp.

*88. Mesocarpus intricatus, Hass.
Pegu, in palude inter Tean-choung et Oakkan (3161).

*89. Mesocarpus scalaris, Hass.
Pegu, Eng-ga-na (3242); Yoma australis, infra pagum Karensium Mui-hau dictum in rivulo (3256).

*90. Staurospermum fragile, Z., n. sp.
Filis luteolis, intricatis, fragilibus; cellulis diametro (1/140—1/100 lin.) 5-10plo longioribus, ad genicula contractis; zygosporis quadrangularibus, 1/100—1/80 lin. crassis; sporodermate levi. Pegu, Rangooin in lacu (3252); Kadeng-choung ad Natmadhee (3223). In provincia Pegu, præcipue secus fl. Irrawaddi, vulgaris.

**VAUCHERIACEÆ.**

*91. Vaucheria sessilis, DC., a. cespitosa, Ag.
Pegu, Yoma centralis, Khayeng-mathay-choung (3172); var. b. repens, Hass. (forma terrestris); ibidem, in limo siecescente (3181).

**ULVACEÆ.**

92. Enteromorpha compressa, L., var. c. complanata (E. complana- ta, Kg.).
Pegu, Elephant-point in rhizophoretis (3278); Arracan, Akyab, in mari (3281, 3284).

*93. Phycoseris Burmanica, Z., n. sp.
**DIPLOSTROMIEÆ.**

*94. DIPLOSTROMIUM TENUISSIMUM, Kg.
Pegu, Elephant-point, in rhizophoretis ad radices (3272).

**CONFERVACEÆ.**

*95. CONFERVA FUNKII, Kg.
Pegu, in palude prope Phounggyee (3244).

*96. CONFERVA RHYPOLIILA, Kg.
Pegu, in planicie fluminis Irrawaddi, Eng-suay in trunci $submersis$. (3165/c.).

*97. CONFERVA SUBSETACEA, Kg.
Arracan, Akyab in aqua subsalsa (3288).

*98. CONFERVA BURMANICA, Z., n. sp.
Albo-virescens, rigida, intricata; articulis diametro (1/130—1/100 lin) 2½-5 plo longioribus. Pegu, Yenay-eng in planicie fl. Irrawaddi, in planitie $aquaticis$ (3165/6).

*99. CONFERVA UTRICULOSA, Kg.
Pegu, Yoma centralis, Khayeng-mathay-choung, in stagnis natans (3171); Tay Tay-choung (Zamayco) in lmo siccissente (3179).

*100. CONFERVA INÆQUALIS, Rabenh. (Psychohormium, Kg.); forma, filis ad 1/120 lin. crassis. Rangoon in aqua vadosa lacus natans (3243).

*101. RHIZOCLONIUM HOOKERI, Kg.
Pegu, Elephant-point in lmo marino (3260).

*102. RHIZOCLONIUM ARBOREUM, Z., n. sp.
Obscure viride, siccate cinerasceus; filis a basi apicem versus paulo attenuatis, hinc inde ad genicula intumescentibus, brevissime radicantibus et genuflexis; articulis diametro (1/35—1/25 lin.) equalibus, vel duplo longioribus; cytiomatermate crasso. Pegu, Elephant-point, in rhizophoretis ad corticem arborum (Sonneratia apetala) frequentissime truncorum latus ad septentriom venegs dense investeiens (3261).

103. CLADOPHORA CALLICOMA, Kg. (Cl. glomerata, forma III. Rabenh.) Pegu, Kadeng-choung ad Natmadheo. (3225).

*104. CLADOPHORA JAVANICA, Kg.
Ibidem (3220).

*105. CLADOPHORA STREPENS, Kg. (Cl. fracta c. strepens, Kg.). Pegu, Yoma centralis, Wopyoo, choung (Khayeng-mathay-chg.) versus Ghalee Tay (3177).
106. **Cladophora Tranquebariensis**, Kg.
   Pegu, Yoma centralis, Tay Tay-choung, natans (3188).

*107. **Cladophora Codiola**, Z., n. sp.
   Cespitosa, viridis, sicca pallida, pygmaea, vix 2 lin. longa, subsimplex; filis 1/100—1/75 crassis, apice incrassatis, obtusis; ramellis raris, uni-articulatis; articulis diametro 8-20 plb et ultra longioribus, infimo perlongo; cytiodermate crasso, hyalino, lavi; cytioplasmate granulari. Pegu, Irrawaddi, Eng-suay in truncis submersis (3166).

108. **Cladophora Exigua**, Z., n. sp.

*109. **Cladophora (Ælagropila) Contorta**, Z., n. sp.
   Cespitosa, pallide viridis, filis e radice pulposa provenientibus, simplicibus, perraro ramellum uniarticulatum emittentibus, 2-4 poll. longis, in funiculos contortis, basi 1/80 lin., sursum ad 1/35 lin. apice 1/100 lin. crassis; articulis cylindricis, valde inaequalibus, diametro 2-12 plb longioribus. Pegu Tonghoo, in fundo naviculi in fluvio Sittang (3143).

110. **Cladophora Minutissima**, Z. (ad interim).
   Pallide viridis, filis in cortice truncorum radicantibus, dense aggregatis, semilineam vix superstans, 1/250—1/150 lin. crassis, simplicibus, v. raro ramello unicellularis instructis, a basi apicem versus incrassatis; articulis diametro 1½-3 plb longioribus; cytiodermate flaccido, hyalino, cytioplasmate lamelloso. (Forsan Cladophoræ cujusdam status juvenilis). Marina Elephant-point in truncis submersis (3264).

**CEDOGONIACEÆ.**

*111. **Cedogonium Apophysatum**, A. Br.
   Pegu, Kya Eng (3195).

*112. **Cedogonium Braunii**, Kg.
   Pegu, Eng-suay non procul a flumine Irrawaddi infra Henzadah (3166/a); Kadeng-choung ad Natmadhee (3229).

*113. **Cedogonium Gracile**, Kg.
   Pegu, Eng-suay in truncis submersis (3165/d).

*114. **Cedogonium Landsboroughii**, Kg.
   Pegu, prope Tonkyan supra Rangoon (3248).

*115. **Cedogonium Rothii**, Bréb.
   In lacu Rangoonensi fluitantis (3253).
*116. *Cedogonium scutatum*, Kg.
Pegu, Kya Eng in radicibus (3195).

*117. *Cedogonium tenellum*, Kg.
Pegu, in stagnis et fossis prope Tonkyan, vicum supra Rangoon (3248).

*118. *Cedogonium vesicatum*, Link.
Pegu, Eng-ga-na (3242); Yoma centralis, Zamayee-choung in saxis arenosis (3283).

var. g. fuscescens, Kg.
Pegu, Kya-eng in radicibus (3193).

*119. *Cedogonium Kurzii*, Z., n. sp.
Monocum; cellula basilari biloba, articulo terminali obtuso, articulis diametro (1/45—1/32 lin.) 2-5 plo longioribus, sæpe medio dilatatis, v. cuneiformibus, passim uno fine transversim plicatis; oogoniiis sparsis, raro seriatis, ellipticis, diametro (1/30 lin.) 1½—2 plo longioribus; oosporis fuscis, sphæricis, v. diametro paulum longioribus; antheridiis unicellularibus, lanceolatis, medio constrictis. Pegu, in palude prope Wanet (3255).

*120. Bulbochete intermedia*, De Bary.
Pegu, Kya Eng (3195, 3203).

*121. Bulbochete Peguana*, Z., n. sp.
Dense intricata, repetite ramosissima, ramis alternis vel oppositis, sensim attenuatis et setis longis, vix 1/1500 lin. crassis, terminatis; articulis fili primarii ad 1/200 lin. crassi 2-3 plo, ramorum 1/300—1/500 lin. crassorum 5 plo et ultra longioribus; oosporis ignotis. Pegu, Yoma centralis, ad rupes calcaro-siliceas inter muscos in cacumine montis Kambala-toung, alt. 3200 ped. s. m. (3459).

**ULOTHRIXACEÆ.**

*122. Ulothrix subtilis*, Kg.
Pegu, Eng-ga-na (3242).

*123. Schizogonium tenuissimum*, Z., n. sp.

**CHROOLEPIDEÆ.**

*124. Chroolepus flavum*, Kg.
Yoma centralis, ad bambusarum culmos (3144).

var. filis tenuioribus, articulis longioribus, Chr. flavi et elongati intermedium. Yoma, ad arborum corticem frequens (3145).
*125. Chroolepus lageniferum, Hildebrand.
In lacu Rangoonensi, inter Conservum inaequalem in aqua vadosa natans (3243).

*126. Chroolepus umbrinum, Kg. (Protococcus crustaceus, Kg.). Pegu, Yoma, Yai-tho-choung, corticola, frequens (3148).

*127. Chroolepus botryoides, Z., n. sp.
Cespìte siccitate pallide luteo, viloso, 2-3 lin. alto; filis flaccidis, ad 1/100 lin. crassis, levibus; ramis subsecundis, divaricatis, attenuatis, apice 1/250 lin. crassis; articulis diametro 1/2-2 plo longioribus; spermatiis globosis, minutis, plerumque ad latera ramorum in cumulos botromorphos aggregatis. Pegu, Yoma, in cortice arborum (3147).

128. Chroolepus calamicola, Z., n. sp.
Cespìte intricato, viridi, (in sicco pallide lutescente); filis ramosis, ramis attenuatis, subsecundis, divaricatis; articulis infinis 1/120 lin. crassis, diametro sesquionlongioribus; superioribus diametro (1/300 ad 1/180 lin.) 2-4 plo longioribus; spermatiis plerumque lateralibus, raro terminalibus, sessilibus, globosis v. ellipticas, 1/180 lin. crassis, solitarii, v. seriatis. Supra Rangoon, in silvis sempervirentibus in foliis Calami (3467).

*129. Chroolepus elongatum, Z., n. sp.
Cespitum, siccitate flavo-cinereum, filis rectis, rigidis, 1/150 lin. crassis, ramosis; ramis secundis, valde elongatis, acuminatis, 1/300—1/225 lin. crassis; articulis primaris diametro duplo, ramorum 4-6 plo longioribus; spermatiis ignotis. Pegu, Yoma, Yai-tho-choung, in cortice arborum in silvis sempervirentibus (3148).

*130. Chroolepus fusco-atrum, Z., n. sp.
Strato tenui, crustaceo, fusco-atro (in sicco); filis brevis, rectis, v. parum curvatis, torulosis; ramis divaricatis; articulis fuscis, 1/400—1/300 lin. crassis, globosis, v. late ellipticas. Pegu, in valle Choungmenah (Khaboung) non procul a Tonghoo, in silvis sempervirentibus (3469).

*131. Chroolepus Kurzii, Z., n. sp.
Semipollicare, viride, cespitosum, in fasciculos conicos dense implicatum, filis primariis ad 1/125 lin., ramorum ad 1/300 lin. crassis; articulis diametro 2-4 plo (rarius pluries) longioribus; ramis divaricatis, subsecundis; spermatiis lateralibus, creberrimis, seriatis, sessilibus, v. breviter petiolatis, initio globosis, deinde crateriformibus, 1/250—1/60 lin. crassis. Pegu, Tonghoo, Choungmenah-choung in silvis sempervirentibus ad foliis fruticum (præcipue Alsodeia) (3149).
1873] G. Zeller—On Burmese Algae, &c. 191

*132. CHROOLEPS TENUE, Z., n. sp.
Cespitulis exiguis, gregariis, aurantiaci, siccatis cinereis; filis primariis 1/375—1/300 lin. crassis, varie flexuosis; ramis divaricatis, interdum recurvis, 1/500—1/400 lin. crassis; articulis diametro æqualibus, vel ad duplum longioribus, torulosus; spermatiis globosis, terminalibus et lateralibus. Ochr. abietino proximum, sed articulis omnibus plus minus inflatis, brevioribus et tenuioribus distinguendum. Pegu, Elephant-point, in rhizophoretis ad corticem Sonneratia apetala frequens (3268).

CHÆTOPHORACEÆ.

*133. STIGEOCLONIUM TENUE, H., γ. gracile, Kg.
Pegu, Beendau Eng in caulibus Polygoni (3141).

*134. STIGEOCLONIUM RANGOONICUM Z., n. sp.
Cespitae vix 1½ lin. alto, dilute viridi, vel lutescente, dense implicato; filis primariis 1/375—1/250 lin. crassis; ramis subdichotome secundis, ad 1/900 lin. crassistim attenuatis, flaccidis; articulis valde inæqualibus, diametrum æquantibus torulosus, ad genicula leviter constrictis, vel cylindricis et eæ 2—6plo longioribus. In cisterna quadam oppidi Rangoon (3249).

*135. CHÆTOPHORA PISIFORMIS, Ag.
Pegu, Phounggyee in laculo ad radices submersas (3190); Prome, Myitmakha-choung ad Gho-tau, in plantis aquaticis (3140).

*136. CHÆTOPHORA RADIANIS, Kg.
Pegu, Kya Eng in radicibus (3193).

*137. CHÆTOPHORA TUBERCULOSA, Kg.
Pegu, in laculo inter Phounggyee et Kyauzoo (3245).

*138. CHÆTOPHORA STRICTA, Z., n. sp.
Viridis, expansa, mollis, 1—2 lin. crassa; filis internis repetite et dichotome ramosis, strictis; ramis attenuatis, gracilibus, non piliferis; articulis oblongis, ad 1/350 lin. crassi, diametro 1½—8plo longioribus. Pegu, Kadeng-choung at Natmadhee in ramis emortuis submersis (3231); Prome, Khyee-thay, ad silices rivuli tenui aqua fluentis in flumine Irrawaddi (3136).

*139. GONGROSIRA PYGMEÆ, Kg.
Forma tenuis, non ultra 1/180 lin. crassa. Rangoon, ad rudera lateritia submersa (3250).

140. GONGROSIRA ONUSTA, Z., n. sp.
Flavo-viridis, cespitibus confluentibus, lineam crassam; filis e basi fibrosa continua articulatis; articulis diametro (1/150—1/100 lin.) 2—8plo longioribus; ramis numerosis, undique egredientibus, moniliformibus; articulis
ramorum omnibus oogonia globosa, ad 1/125 lin. crassa, formantibus; oosporis fuscis, 1/250 lin. crassis. Pegu, Elephant-point secus littora in truncis vetustis inundatis (3262).

**CHANTRANSIÆ.**

*141. CHANTRANSIA ROSEOLA, Z., n. sp.

Cespitulis minutis, roseo-chalybeis; -filis 1/400—1/300 lin. crassis, fastigiatim ramosis; ramis distantibus, erectis; articulis diametro 4plo longioribus. Pegu, Beendaub Eng, in caulibus Polygoni (3141).

**BATRACHOSPERMACÈÆ.**

142. BATRACHOSPERMUM MONILIFORME, Roth.

Pegu, in gurgite profundo paludis prope Phoungyee, ad radices arborum (3188).

**HILDENBRANDTIÆÆ.**

*143. HILDENBRANDTIA ARRACANA, Z., n. sp.


**CERAMIEÆ.**

*144. GONGOCRERAS RADICANS, Z., n. sp.

Capillare, repens, pollicare, apicibus rectis, vel parum curvatis, non forcipatis; -filis intricatis, subpectinati, vel repetite dichotomis, radicantibus; radiculis numerosis e parti inferiori egredientibus, continuis, vel articulatis; articulis cylindricis, diametro nunc 1½-2plo longioribus, nunc ei æqualibus, supremis brevioribus; zonis superioribus confluentibus; tetrachocarpis plerumque infra apices ramorum verticillatim dispositis. Pegu, Elephant-point in rhizophoretis ad radices truncosque arborum inundatos, (3274).

**HALYMENIEÆ.**

*145. CATENELLA OPUNTIA, Grv.

Pegu, Elephant-point, frequens in rhizophoretis et secus littora in truncis vetustis inundatis, (3265).

**GELIDIEÆ.**

146. ACROCARPUS INTRICATUS, Kg. (Gelidium, Kg., Sphærococcus, Ag.).

Arracan, Akyab in rupibus marinis, (3279).
POLYSIPHONIEÆ.

*147. POLYSIPHONIA SUBADUNCA, Kg., major, ramis crebrioribus, minus strictis.
   Pegu, Elephant-point, in rhizophoretis frequens, (3274).

*148. BOSTRICHIA INTRICATA, Mont.
   Pegu, Elephant-point, in rhizophoretis frequens, (3263).

*149. BOSTRICHIA BIVULARIS, Harv.
   Pegu, Elephant-point, in rhizophoretis ad arborum radices, (3271).

DELESSERIEÆ.

*150. HYPOGLOSSUM BENGALESE, Mart.
   Pegu, Elephant-point, in truncis vetustis inundatis ad littora satis frequens, (3266).

*151. HYPOGLOSSUM LEFRIEURII, Kg.
   Pegu, Elephant-point, in rhizophoretis frequens, (3270).

APPENDIX.

Characeæ Burmanice,* determined by Dr. A. Braun, Professor of Botany in Berlin.

1. NITELLA ROXBURGHII, A. Br.
   Pegu, Kya Eng, (3295).

2. NITELLA MICROGLOCHIN, A. Br. sp. v. subsp. nov. N. oligosperae proxima.
   Arracan, in valle Koladyne in stagno quodam silvatico.

3. N. OLIGOSPERA, A. Br.
   Pegu, Kya Eng, (3294).

4. CHARA GYMNOPTYS, A. Br.

* It may not, I think, be uninteresting to insert at this opportunity the few Characeæ, which have as yet been found in Burma. I am indebted to Prof. A. Braun who obligingly sent me the list a long time ago, for the names of the species. (S. Kurz.)
ON THE **Pteropidae** OF **India** AND ITS **Islands**, WITH DESCRIPTIONS OF NEW OR **LITTLE KNOWN** SPECIES,—by G. E. Dobson, B. A., M. B., **Staff Surgeon**, H. M.'s **British Forces**.

**With Plate XIV.**

[Read July 5th, received July 18th, 1873.]

Although Dr. W. Peters has done so much towards clearing up the synonymy of the *Pteropidae* as well as of other families of Chiroptera, much yet remains to be done before a correct list of the species can be obtained.

The state of confusion into which the species of this family have fallen, in common with most species of Chiroptera, is mainly due to the great imperfection of the original descriptions, from many of which it is impossible to recognise the family to which the species belongs.* This imperfection in description has arisen chiefly from the general ignorance respecting the Order which has prevailed amongst Zoologists, who seem to have shared the vulgar antipathy to these animals, if we may judge from the small amount of attention they have received, and also from the want of proper material in the Museums. Most of the *Pteropidae* being large bats, and therefore unlikely to be preserved by collectors in spirit, have been described from dried specimens, and this also has added much to the imperfection of the description.

Much work, therefore, remains to be done both in obtaining well-preserved duplicates, in comparing them with the type specimens, and in producing from them descriptions from which it may be possible for naturalists in general to determine the species.

If the species of the genus *Pteropus*, as given by Drs. Peters and Gray,† be enumerated, there will be found to be not less than fifty.

The distribution of these fifty species is as follows:—

<table>
<thead>
<tr>
<th>Continent</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay Archipelago</td>
<td>25</td>
</tr>
<tr>
<td>China, Japan, and Loo-choo Islands</td>
<td>4</td>
</tr>
<tr>
<td>Solomon Islands; New Caledonia; New Hebrides; Fiji Islands; Marianne and Viti Islands</td>
<td>9</td>
</tr>
<tr>
<td>Australia</td>
<td>5</td>
</tr>
<tr>
<td>Africa and its Islands</td>
<td>6</td>
</tr>
</tbody>
</table>

* Thus Dr. J. E. Gray remarks (P. Z. S. Lond., 1866, p. 148)—"The generic characters of *Aello*, as given by Dr. Leach, occupy nearly a page of a quarto book, and yet no one has been able to discover the genus. One could not have a more convincing proof that it is not mere length of character that is required to define a genus."

It is very remarkable that, supposing the localities to be correct or approximately so, one half of the whole number of species is distributed among the small islands of the Malay Archipelago, while a single species— *Pteropus mediuss—* is the sole representative, hitherto discovered, of the genus in the Continent of India and Burma.

That a large proportion of the species should be found in the Malay Archipelago and adjoining Islands might be expected, as these animals like monkeys can live only where a constant supply of fruit is attainable throughout the whole year, but the same conditions obtain in the greater part of the Peninsula of India, and especially in Equatorial Africa, yet scarcely one-seventh of the whole number has been found in these regions.

The Malay Archipelago is, therefore, either the original and special home of the genus from which a few species have wandered into India and Africa, or many species remain undiscovered in the latter countries, and probably many of the so-called species which go to make up the large number from Malayana have been founded on insufficient grounds.

I have not the least doubt that the real number of species is much less than that recorded, and that many described as new by Temminck and others will, with the accession of additional and more perfectly preserved specimens to the collections hitherto available in our Museums, be found referable to a few really distinct species. This may be especially expected in the case of those species that have been founded on differences in the colour of the fur, which appears to have been regarded by some zoologists as of equal importance with the colour of the feathers in birds.

I have elsewhere* dwelt at some length on the variability of the colour of the fur in many species of bats, and have shown that, in the *Pteropus* especially, individuals belonging to the same species present very different shades of colour according to sex age and season, and probably also, but in a less degree, according to locality.

Differences in the form of the skull and in the teeth have been also used to distinguish the species, but these, though of the greatest importance, are not satisfactory, if alone available as a means of diagnosis, for it should, surely, be possible to distinguish the species of a given vertebrate animal without first finding it necessary to kill and make a skeleton of it.

It is, therefore, desirable that, in the description of species, certain external characters may be given from which the living animal can be known, and these, I believe, may be found in the shape and relative size of the ears, and in the quality and distribution of the fur.

In all the Chiroptera, we find one or more of the organs of special sense greatly developed to supplement or, in some genera, almost wholly replace the visual organs (which in most cases are very rudimentary or, where

moderately developed, can be of little use owing to the nocturnal habits of the animals), and this development varies remarkably according to family, genus, and species.

Thus the peculiar form of the nose-leaf taken with the shape of the ears at once characterises the *Rhinolophidae*, and each species of the family may be distinguished by secondary modifications of these organs alone.

And in those families of bats where the nostrils are not furnished, with appendages, the form and relative size of the ear will generally be found to be the most important characters for readily and accurately determining the species, and, next to and with these, the quality and distribution of the fur.

I shall employ this principle of diagnosis in the following descriptions of the species of Frugivorous Bats known to inhabit Continental India and Burma, and the Islands of the Bay of Bengal.

**Genus I.—Pteropus, Brisson.**

*Nostrils projecting; upper lip with a vertical groove in front bounded laterally by naked prominences; index finger with a distinct claw, metacarpal bone of second finger shorter than the index finger; wings from the sides of the hairy back; wing-membrane attached to the back of the first phalanx of the second toe; tail none.*

**Dentition**:—in. $\frac{4}{4}$; c. $\frac{1-1}{1-1}$; pm. $\frac{2-2}{3-3}$; m. $\frac{3-3}{3-3}$.

**A.—Ears acutely pointed.**

**Pteropus medius.** Pl. XIV, Fig. 1.


Ears long, with acutely pointed tips, the upper third of the outer margin concave beneath the tip; in fully grown individuals the longest diameter of the opening of the external ear, from the point of junction of the outer and inner margins below to the tip, measures one inch and a half.*

Nostrils projecting, with a deep intervening emargination; upper lip with a narrow vertical groove in front bounded laterally by naked rounded prominences continuous with the integument of the nostrils.

* The length of the ear (anteriorly) as given in the tables of measurements accompanying this paper (and also wherever mentioned in previous papers) has been determined by measuring the distance between the termination of the outer margin below and the tip. The breadth has been ascertained by means of a string passed round the ear posteriorly from the inner to the outer margin.
The ears are naked except at the bases posteriorly, and a narrow triangular portion covered with short hairs terminating towards the middle of the outer margin; anteriorly, the anterior flattened edge of the inner side of the conch is covered from the base upwards for about one-third of the length of the ear.

The face is naked in front of a line joining the inner angles of the eyes, and on either side of the naked space (which corresponds to the position of the nasal bones) a few long fine hairs arise from separate papillae. The fur is rather dense and moderately long on the back of the head, neck, and shoulders, but short and appressed on the back, narrowing to about two inches in width across the loins. A narrow line of short fur passes outwards on to the wing membrane posterior to the humerus for rather more than half its length; the elbow is quite naked, but a few short hairs cover a narrow portion of the wing-membrane, about one inch and a half long, posterior to the forearm. The femur, and the interfemoral membrane as far as a line corresponding to the position of the semi-circular band on the under surface of the membrane are covered; the tibiae are naked, or have only a few very short hairs; the feet are quite devoid of hair.

On the under surface, the whole body is well covered; the antebrachial membrane is similarly covered as far as a line drawn from the knee to a point about one inch posterior to the elbow joint, thence the hair passes outwards on the wing-membrane posterior to the forearm, terminating at about the beginning of the distal third of the radius. The thighs are covered, the legs and inter-femoral membrane are quite naked.

The nape of the neck and the shoulders are usually reddish yellow or golden yellow or pale straw colour, but every shade of these colours has been observed, the different colours and intermediate shades appearing to depend on sex, age, season, or locality. The darker shades are usually found in females.

The chest and upper part of the abdomen are either of the same colour as the nape of the neck or of a darker hue. The remainder of the fur black or dark brown often mixed with grayish hairs.

The fur of the neck is coarser and longer than that covering other parts of the body. In most male specimens a circular tuft of rigid unctuous hairs, of a deep reddish yellow colour, is found on each side of the neck, situated midway between the base of the ear and the origin of the ante-humeral portion of the wing-membrane from the shoulder. In a large male obtained near Calcutta, these tufts occupy a space one inch in diameter, and the hairs composing them measure about one-third of an inch in length.

*Hab.*—India generally, from Kachh to Burma, and from the Himalaya to Ceylon.

To this section of the genus belongs *Pt. edulis*, Péron et Lesueur, from
Java and Sumatra, which has been reported from Tenasserim,* and may probably be found in the Nicobar Islands. This species, the largest of known bats, may be readily distinguished from *Pt. medius* by its ears, and by the distribution and quality of the fur. The ears are proportionately shorter and narrower than in the Indian species, and the concavity of the upper third of the outer margin is much less distinct. In a specimen from Java, in the Indian Museum, the ears are about the same length as in the most adult specimen of *Pt. medius*, while its forearm exceeds that of the latter species by more than two inches, and the tibia by an inch and a half. Compared with *Pt. medius* the light coloured portion of the fur extends further down upon the shoulders, and the breadth across the loins occupied by hair is proportionately much greater: this is well seen when specimens of equal size are compared, the breadth of the fur in this position in the not fully grown *Pt. edulis* being nearly, if not quite, double that in the adult *Pt. medius*. Elsewhere the distribution of the fur is similar in both species, but the hair on the wing-membranes and legs is conspicuously much longer in *Pt. edulis*.

**B. — Ears rounded at the tip.**

*Pteropus nicobaricus.* Pl. XIV, Fig. 2.


Ears rounded off at the tip, their breadth nearly equal to their length; the upper third of the outer margin slightly flattened, not concave, the lower two-thirds convex; in fully grown individuals the longest diameter of the opening of the external ear, from the point of junction of the outer and inner margins below to the tip, scarcely exceeds one inch.

The distribution of the fur of the body is similar to that of *Pt. medius*, but the hair on the wing-membrane is very much shorter.

In some male specimens the colour of the fur also corresponds very closely with that of *Pt. medius*; generally, however, the lighter coloured portions of fur on the nape of the neck, and on the shoulders and chest, are of a deeper hue than in the latter species, usually dark ferruginous red or chestnut; females and young males are commonly *intensely black throughout*; in some female specimens the position of the light-coloured tippet in the male is indicated by a reddish tinge.

* A very badly preserved dried skin of an immature specimen of some species of *Pteropus*, in the Indian Museum, has been identified by Mr. Blyth with *Pt. edulis*, and the locality 'Tenasserim' recorded in his Catalogue. The specimen is in such a very bad condition I am able neither to confirm nor to correct Mr. Blyth's identification.
The skull differs from that of *P. medius* in being shorter, wider across the maxillary and nasal bones, and in having nearly all its processes and ridges much more strongly defined. The distance between the small anterior upper premolars exceeds that in *P. medius* by one-twelfth of an inch. The *foramen ovale* is divided in the centre by a process of bone, in *P. medius* it is undivided. A post-orbital process of the zygomatic arch is present, though not so well developed as in *P. medius*.

The mandible is shorter and its rami deeper than in *P. medius*; the coronoid process is more developed vertically, its posterior margin is nearly straight, not deeply concave, and its superior angle is narrowly, not broadly rounded off as in the latter species.

The teeth are stouter in *P. nicobaricus* but their general characters are the same in both species.*

**Hab.**—Andaman and Nicobar Islands, probably Java also. An old dried specimen in the Indian Museum is labelled Java, but not numbered in Blyth’s Catalogue.

Neither Fitzinger nor Blyth described this species, though they invented names for it. Zelbor’s description occupies nearly two pages of a quarto book, and very careful measurements of the original specimen are given, yet, as his description is taken from a young individual and contains few really diagnostic characters, I was unable to feel certain that specimens obtained by me last year from the Andamans and Nicobars should be referred to this species. But Dr. Peters has lately, at my request, kindly compared some specimens sent to him from the Indian Museum with the type specimens of *P. nicobaricus* in the Vienna Museum. He informs me that they agree in the form of the ear and feet. With this additional information I feel no hesitation in referring the specimen from which the above description is taken, to that species.

<table>
<thead>
<tr>
<th></th>
<th>Pteropus medius</th>
<th>Pteropus nicobaricus</th>
<th>Pt. edulis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length, head and body</td>
<td>9.0</td>
<td>3.16</td>
<td>7.5</td>
</tr>
<tr>
<td>Head</td>
<td>3.1</td>
<td>3.16</td>
<td>3.0</td>
</tr>
<tr>
<td>Ear (anteriorly)</td>
<td>1.5</td>
<td>1.5</td>
<td>1.45</td>
</tr>
<tr>
<td>Breadth, ear</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
</tr>
<tr>
<td>Length, from ear to tip of nostril</td>
<td>2.7</td>
<td>2.7</td>
<td>2.9</td>
</tr>
<tr>
<td>From eye to tip of nostril</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Forearms</td>
<td>3.6</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Thumb</td>
<td>2.7</td>
<td>2.7</td>
<td>2.8</td>
</tr>
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<td>Second finger</td>
<td>15.5</td>
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<td>15.5</td>
</tr>
<tr>
<td>Fourth finger</td>
<td>5.6</td>
<td>5.6</td>
<td>7.5</td>
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<tr>
<td>Third finger</td>
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<td>3.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Foot and claws</td>
<td>2.3</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Calcaneum</td>
<td>1.0</td>
<td>0.9</td>
<td>0.88</td>
</tr>
</tbody>
</table>

* For the dentition of the genus *Pteropus* see De Blainville, "Ostéographie."
Genus II.—Cynopterus,* F. Cuvier.

Nostrils projecting; upper lip with a vertical groove in front, bounded laterally by naked prominences; index finger with a distinct claw; metacarpal bone of second finger exceeding slightly in length the index finger; wings from the sides of the hairy back, wing-membrane attached to the base of the first toe; tail short, distinct.

*Dentition*:—in. \(4 \over 4\); c. \(1-1\); pm. \(2-2\); m. \(2-2\).

*Cynopterus marginatus*. Pl. XIV, Fig. 4.


*Eleutherura marginata*, Gray, Catalogue of Monkeys, Lemurs and Fruit-eating Bats, 1870, p. 118.†

Ears large, rounded at the tip, with a slight but distinct concavity of the outer margin immediately beneath the tip; both the outer and inner margins are bordered with white; the white border along the inner margin is about one-twelfth of an inch wide, and contrasts strongly with the dark brown colour of the ear; the outer margin terminates below without forming a lobe at the base.

Nostrils projecting, with a deep intervening emargination. The upper lip marked in the centre, as in *Pteropus*, with a narrow vertical groove bounded laterally by naked rounded prominences continuous with the integument of the nostrils.

The ears are naked posteriorly except at their bases; anteriorly, a few hairs appear on the conch along the outer side of the white border of the inner margin of the ear, and, similarly, along the inner side of the white border of the outer margin. On the upper surface, the fur of the back extends upon the wing-membrane nearly as far as a line joining the elbow and knee joints, also, thinly, upon the humerus, the femur, and proximal end of the tibia. Beneath, the antebrachial membrane is covered with moder-

* I have placed the genus *Cynopterus* next *Pteropus* as I believe it presents more affinities with that genus than any of the other genera of *Pteropidae*. The species of these genera agree very closely in the form of the nostrils and of the narrow emargination on the upper lip bounded by naked prominences. In *Cynonycteris* this emargination is wide and deep with slanting sides, altogether very different from the same part in *Pteropus*. In habit also the species of *Cynopterus* and *Pteropus* perfectly agree; they are all strictly frugivorous bats and live in trees, while the species of *Cynonycteris* are commonly found in caves, and I have been informed that a colony of *C. amplexicaudata* living near the sea were seen to feed on Mollusca left exposed by the tide.

† For a complete list of synonyms of this species see Peters in Monatsb. Berlin Akad., 1867, p. 866, and 1869, p. 395.
ately long thinly spread hairs, and the wing-membrane is clothed to about the same extent as on the upper surface, the hairs also passing outwards in a narrow band posterior to the forearm. The colour of the fur is extremely variable, dark brown, reddish-brown, snuff-brown or olive-brown, sometimes with a bluish tinge throughout.

The first upper premolar is minute, and in the centre of the space between the canine and second premolar; the second premolar is about equal to the lower canine in vertical extent.

**Cynopterus marginatus, var. andamanensis.** Pl. XIV, Fig. 5.

This is, I believe, a permanent variety of *C. marginatus*. It is readily distinguished by the small size of the ears which are similarly margined with white. The relative size is very well shown in the accompanying illustration.

Specimens of young individuals of *C. marginatus* from Bengal with forearm bones nearly half an inch shorter than specimens of adult animals of this variety from the Andamans have considerably larger ears.

**Cynopterus sherzeri.** Pl. XIV, Fig. 6.


This species, like *Pteropus nicobaricus*, was named but not described by Fitzinger, and Zelebor regards it as a variety only of *C. marginatus*. It is at once distinguished from that species by its small and narrow ears which are also not margined with white. When adult specimens of *C. marginatus* and of this species are compared together, the difference in the size and shape of the ears is very striking.

The muzzle is thicker, and the colour of the fur much darker than in any specimen of *C. marginatus*.

Zelebor mentions that the ears of the specimens obtained at Car-Nicobar are margined with white, but I have been unable to detect even the slightest trace of a white border in the ears of several specimens examined by me. Therefore, either Zelebor has been mistaken, or the white bordering of the ears is not a constant character in this species, or I have wrongly identified the species here described with *C. sherzeri*. But although it is quite impossible to identify the species here described with that obtained during the Novara Expedition at Car-Nicobar Island from Zelebor's description (which consists merely of some unimportant remarks on the colours of the fur, wing-membrane, and eyes), yet as the animals which furnished the above description were taken not only at the same island—Car-Nicobar—but also from the same place on that island, namely, from the leaves of the cocoa-nut palms, I think it highly probable that they
belong to the same species, and, accordingly, to avoid the possibility of introducing a fresh synonym, I have retained Fitzinger's name.

**Cynopterus Brachysoma.** Pl. Xiv, Fig. 7.


I have little to add to my original description of this species.

The ears are much rounded off above, and the upper third of the outer margin is straight or slightly convex; the presence of a rounded lobe at the base of the outer margin at once distinguishes this species.

The difference in the measurements of the breadth of the ear given with the original description and in the table below is due to the measurement having been taken in the former case across the concavity of the ear, anteriorly; in the latter, by means of a string round the convexity, posteriorly.

Genus III.—Cynonycteris, Peters.

**Nosrits projecting; upper lip with a wide groove in front with smooth not elevated margins; index finger with a distinct claw; metacarpal bone of second finger exceeding, or equalling, the index finger in length; wings from the sides of the hairy back; wing-membrane from the base of the second toe; tail short, distinct.**

*Dentition* :—*in.* 4 4; *c.* 1 1 1; *p.m.* 2 2 3 3; *m.* 3 3 5 5*

**Cynonycteris Amplexicaudata.** Pl. Xiv, Fig. 8.


Leschenaultii, Desmar., Mammal., p. 110.

" amplexicaudatus, Temm., I, p. 200.


Head long, triangular; upper lip with a wide groove directly continuous with the *margination* between the nostrils, the edges of the groove smooth, not thickened as in *Pteropus* or *Cynopterus*; ears moderate, triangular, rounded at the tip, the upper half of the outer margin straight, the lower half convex.

Posteriorly the ears are naked except at their bases, anteriorly the conch is covered with a few very short fine hairs. The fur of the body extends upon the humerus and upon the fleshy part of the forearm, the remaining part to the carpus has only a few very fine hairs. The portion of the back and wing-membrane covered with fur across the loins is not more than an inch in breadth. The inteferemoral membrane is densely covered with hair at the root of the tail, and on either side as far as lines drawn from the knee joints to the base of the free portion of the tail; the remaining portion, the legs and a considerable part of the wing-membrane beyond, are clothed with short, thinly-spread fur which extends along the wing membrane and legs
to the back of the feet. Beneath, the ante-humeral membrane is clothed with rather long thinly-spread fur, and the wing-membrane is similarly covered as far as a line drawn from the knee to a point about half an inch posterior to the elbow, whence the fur extends outwards to the carpus. The interfemoral membrane, the legs, and the feet are covered with a few very short hairs.

First upper premolar minute, equally distant from the canine and second premolar; second premolar exceeding lower canine in vertical extent; first lower premolar small, less than half the size of the second premolar; second premolar nearly equal to lower canine in vertical extent.

_Hab._—From the Persian Gulf to the Philippine Islands. Bengal; Southern India; Ceylon; Burma; Celebes; Amboyna; Timor; Aru Islands.

**Cynocticteris minor**, n. sp. Pl. XIV, Fig. 9.

Ears smaller and much narrower than in _C. amplexicaudata_; muzzle also proportionately shorter.

The minute first upper premolar is closely wedged in between the canine and second premolar; in _C. amplexicaudata_ it is separated by a narrow interval from both these teeth.

The distribution of the fur is somewhat similar to that of _C. amplexicaudatus_, but it is much shorter on the wing-membrane and almost absent from the backs of the tibiae, from the adjoining portions of wing-membrane, and from the feet.

_Hab._—Java.
Genus IV.—Eonycteris, (nov.)

Nostrils not projecting; upper lip with a shallow vertical groove in front; index finger without a claw; thumb short, part of terminal phalanx included in the wing-membrane; metacarpal bone of second finger equal to the index finger in length; wings from the sides of the hairy back; wing-membrane from the base of the first toe; tail short, distinct.

\[ \text{Dentition: } - \text{in. } \frac{4}{4}; \ c. \frac{1-1}{1-1}; \ pm. \frac{2-2}{3-3}; \ m. \frac{3-3}{3-3}. \]

First upper premolar minute.

Eonycteris spelea. Pl. XIV, Fig. 10.


When first describing this species, I placed it in the genus Macroglossus on account of its very close resemblance to M. minimus, the type of that genus, in the form, number and arrangement of the teeth. Subsequently, however, in the MS. of a 'Catalogue of Chiroptera in the Indian Museum' I placed it in a separate subgenus 'Eonycteris' on account of the very different attachment of the wing-membrane to the foot and sides. Lately, Dr. Peters writes to me that he is convinced, after a very careful examination of specimens sent to him from the Indian Museum, that the differences existing between this species and M. minimus are of generic importance, and require the formation of a new genus for its reception.

Since I described this species in 1871 I have come to regard the dentition of the Chiroptera as of less importance in their classification than many other characters. I believe that, although the teeth of Macroglossus minimus and Eonycteris speleae correspond very closely, these species yet present many structural differences of more than subgeneric importance, and I agree with Dr. Peters that the latter species should be placed in a separate genus. I have, accordingly, raised my subgenus 'Eonycteris' to the rank of a distinct genus of Pteropidae.

Genus V.—Macroglossus, F. Cuvier.

Nostrils not projecting, upper lip not grooved in front; index finger with a distinct claw; thumb moderate; metacarpal bone of second finger equal to, or longer than, index finger; wings from the sides, their points of attachment separated by a considerable interval from the spine: wing-membrane from the base of the fourth toe; tail very short.

\[ \text{Dentition: } - \text{in. } \frac{4}{4}; \ c. \frac{1-1}{1-1}; \ pm. \frac{2-2}{3-3}; \ m. \frac{3-3}{3-3}. \]
First upper premolar nearly equal in size to the second.

MACROGLOSSUS MINIMUS. Pl. XIV, Fig. 11.


Macroglossus minimus, Temminck, Monogr. de Mammal., I, p. 191.

Pteropus rostratus, Hornfield, Zool. Researches in Java.

This species is so well-known, and has been redescribed so carefully by Temminck, that no further description of it is here necessary.

It is found in abundance in the deep warm valleys about Darjiling. It extends from India through Burma to the Malay Archipelago.

DESCRIPTION OF A NEW SPECIES OF VESPERTILIO FROM THE NORTH-WESTERN HIMALAYA,—by G. E. Dobson, B. A., M. B.

VESPERTILIO MURINOIDES, n. sp., Pl. XIV, Fig. 12.

This species is closely allied to V. murinus of Europe, from which, however, it is readily distinguished by the following characters:—

The general form of the ear is triangular, with narrow rounded tips: the inner margin is very faintly convex, almost straight, in its upper third, and the outer margin is concave beneath the tip, the remaining portion convex with a faint concavity opposite the base of the tragus.

In V. murinus the inner margin of the ear is strongly convex from the base to the tip, the concavity of the outer margin beneath the tip is very feeble, and there is a distinct emargination, almost angular, opposite the base of the tragus, succeeded by a well-developed terminal lobe; the general form of the ear is, moreover, oval, not triangular.

The tragus is slender and acutely pointed, with a quadrangular lobe at the base of its outer margin. In V. murinus the tragus is subacutely pointed, and the lobe at the base of the tragus is remarkably small *.

The fur is dark brown above, with light brown tips; beneath, dark brown, almost black, with grayish tips.

The first upper premolar is very small, scarcely visible from without, and not much larger than the second. In V. murinus this tooth is distinctly visible from without and much larger than the second premolar.

The specimen (an adult female preserved in spirit) from which the above description is taken, was obtained at Chamba, at an elevation of about 3000 feet, by H. McLeod Hutchison, Esq., H. M.'s 14th Regiment.

* The relative shape and size of the ears and tragi of V. murinus and V. murinoides are well shown in Pl. XIV, figs. 12, 13.
A dried specimen in the Indian Museum, labelled \( V \) murinus, belongs also to this species. It is said in Blyth's Catalogue to have been sent from Masuri by Captain Hutton. The measurements of both specimens compared with those of \( V \) murinus, L from Europe are as follows —

<table>
<thead>
<tr>
<th>Measurements</th>
<th>Murinaeinauridae</th>
<th>V. murrinus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length, head and body,</td>
<td>27</td>
<td>25</td>
</tr>
<tr>
<td>&quot; tail,</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>&quot; head,</td>
<td>0 8</td>
<td>0 9</td>
</tr>
<tr>
<td>&quot; ear, (anterory),</td>
<td>0 8</td>
<td>0 8</td>
</tr>
<tr>
<td>Breadth ditto,</td>
<td>0 5</td>
<td>0 75</td>
</tr>
<tr>
<td>Length, tragus,</td>
<td>0 4</td>
<td>0 1</td>
</tr>
<tr>
<td>Breadth, ditto,</td>
<td>0 1</td>
<td>0 12</td>
</tr>
<tr>
<td>Length, forearm,</td>
<td>2 2</td>
<td>2 26</td>
</tr>
<tr>
<td>&quot; thumb,</td>
<td>0 4</td>
<td>0 5</td>
</tr>
<tr>
<td>&quot; second finger,</td>
<td>3 75</td>
<td>3 3</td>
</tr>
<tr>
<td>&quot; fourth ditto,</td>
<td>2 5</td>
<td>2 65</td>
</tr>
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<td>&quot; tibia,</td>
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<td>0 9</td>
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<td>0 7</td>
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<tr>
<td>&quot; foot and claws,</td>
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<td>0 5</td>
</tr>
</tbody>
</table>

The measurements given in the third column are those of a not fully grown specimen of \( V \) murinus.

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**Explanation of Plate XIV.**

1. Ear of Pteropus medius
2. " " meobancus
3. " " edulis
4. " Cynopterus marginatus
5. " " var and minensiv
6. " " sherzeni
7. " " brachysoma
8. " Cynonycteris amplexicaudata
9. " " minor
10. " Eonycteris spelea
12. " Vespertilio murinauridae
13. " " murinus.
14. " " Murina cyclotis
1 Pteropus medius  2 P. nicobaricus  3 P. sondaicus
4 Cynopterus marginatus  5 C. marginatus var. endamanensis
6 C. ahomensis  7 C. brachyoma  8 Cynopterus sanctithomas
9 C. minor  10 Eonycteris spelaea  11 Macroglossus minimus
12 Vespertilio murinus  13 V. tricolor  14 V. danielli