

muslin in the Stacy group are garments which were unknown to Greek artists. Doubtless the art displayed in the two pieces of sculpture is superior to what we are accustomed to in other parts of India at a later age, but such of the ancient sculptures of Mathurá as have come to light along with these, and which are thoroughly Indian in subject, are not much inferior to them, and making due allowance for the decayed character of the Udayagiri, Sanchi and Amarávarti sculptures there is nothing to show that those who designed and carved them could not produce the Mathurá figures.

“With reference to the third question, I regret to have to differ from Mr. Growse in the opinion that the stones were intended for bases of pillars. When I first received his paper, I was led to think that he was right, and accordingly wrote to him to say that I would have to give up the opinion which I had before expressed of the stones being fountains or tazzas. But a thorough study of the subject induces me to revert to my old opinion. The top of the Stacy stone is carefully cut into a shallow circular cup and polished, so as to indicate that it was intended to be kept exposed and hold a fluid. Such a cavity could never be intended to serve as a receptacle for the end of a pillar. The Indian mortice is a square hole roughly cut and never polished, and this is the case with every stone that has been yet discovered in Muthurá, and the tenons are always in keeping with it. There is nothing to show that there ever was a departure from this rule in any case, and *à priori* it may be said that as a mechanical contrivance the shallow cup would never be equal in strength and security to a square mortice. I have not had an opportunity of seeing Mr. Growse’s stone, but from the drawings and photographs sent by him the outline of its top appears like that of a shallow basin, which I imagine it to be. The stones are besides so shaped as not to be at all fit for stylobates. Their flatness, with carvings on two sides, would unfit them for such a purpose. As ornaments for a garden or courtyard, as fountains or tazzas, they would appear much more appropriate and befitting, and I am therefore disposed to take them for such.”

2.—*Observations on some Indian and Burmese species of Trionyx, with a Rectification of their Synonymy and a Description of two New Species.*  
By W. THEOBALD.

(With Plates II, III, and IV.) ∇

Since the publication of my observations on Indian Trionyches in the Proceedings for 1874, I have obtained additional materials for the study of the group, which, after due comparison with specimens in the Indian Museum, Calcutta, and with specimens previously in my own possession, suggest certain important modifications of the synonymy of our Gangetic species.

The species I propose to notice in this paper are *T. Gangeticus*, Cuv.; *T. sewaare*, Buch. Ham.; *T. ocellatus*, Buch. Ham.; *T. Phayrei*, Theob.; *T. stellatus*, Geoff.; *T. Peguensis*, Gray; *J. Grayii*, n. s., and *T. ephippium*, n. s.

The most important result of the proposed rectification of the synonymy of our Bengal species is the separation of a third species which by later writers seems to have been confounded under a closely allied one, so that the number of species satisfactorily known in Bengal is raised to three; and the discrimination of two new species of the genus from the Burmese countries, east of the Bay of Bengal.

*T. Gangeticus*, which may be regarded as the type of the genus, has from its great variability of colours, no less than from the imperfect material in museums, received a number of synonyms, of which the more important only are here given.

#### T. GANGETICUS, Cuv. (R. A.)

- |                                                                               |   |                                                 |
|-------------------------------------------------------------------------------|---|-------------------------------------------------|
| <i>T. stellatus</i> , var. <i>Japonicus</i> , Schl., F. Jap.                  | } | Gray,<br>Cat. Tort.<br>Croc. and Amphisbænians. |
| <i>T. hurum</i> , Buch. Ham. and Illus. Ind. Zool.                            |   |                                                 |
| <i>Gymnopus Duvaucellii</i> , D. et B.                                        |   |                                                 |
| <i>Testudo chin</i> , Buch. Ham.                                              |   |                                                 |
| <i>Test. ocellata</i> , Buch. Ham.                                            |   |                                                 |
| <i>Aspidonectes Indicus</i> , Fitz., Gray., Sup. Cat. S. R. p. 97.            |   |                                                 |
| <i>T. Javanicus</i> , Gray (not Cuvier), Illus. Ind. Zool.                    |   |                                                 |
| <i>Tyrse Javanicus</i> , Gray, Cat. Tort. Croc. and Amph. p. 47.              |   |                                                 |
| <i>T. gatajhol</i> , Buch. Ham. ( <i>gataghol</i> Gray).                      |   |                                                 |
| <i>T. hurum</i> , Buch. Ham., Anderson, A. & M. N. H. Vol. IX, p. 382 (1872). |   |                                                 |
| <i>Ganga kachim</i> of the Bengali fishermen.                                 |   |                                                 |

From some reason or other, young individuals of this species would seem to be rare in Calcutta, as none exist in the Indian Museum (that is in a recognisable state), though adults are commonly brought to market, I believe, mostly from the direction and neighbourhood of Faridpur. Dr. Anderson asserts that the young are not ocellated, a statement which is met by Dr. Gray, by his figuring two young specimens of typical *Gangeticus*, each displaying four ocelli (P. Z. S., 1873, Pl. VIII). The smaller specimen, a little over one inch in length, displaying four symmetrical ocelli, whilst the larger one, measuring over three inches, displays the ocelli regularly shaped, the posterior pair being elongated and divergent, very much after the fashion of the spots in the figure of *hurum* in Buch. Hamilton's drawings, whilst both possess the radiating black lines on the head peculiar to the present species.

An equally serious error to that made by Anderson respecting this species, is made by Dr. Gray regarding the character of the genus, where

he ascribes to it only four sternal callosities, and where he makes six sternal callosities a generic character of *Landemania*. Now a fifth callous 'lunate' bone in the sternum is found not only in the present species when fully adult, but in *ocellatus* (= *hurum* of Anderson) and *Phayrei*, Theob. and is doubtless a generic character of *Trionyx* though not developed in early life, nor perhaps till extreme age. The sternum of *Landemania* figured by Gray (in the Sup. Cat. S. R. p. 96) is that of a *Trionyx*. The animal was not full grown, as may be inferred from the unankylosed suture of the abdominal plates, and the callosity of the lunate bone in front is at that age (as I have seen examples in *Gangeticus*) being developed from two osculant centres; though the figure would suggest the idea of the lunate bone being divided by a median suture, which of course it is not, and the idea is unfortunately supported by Gray speaking of these two osculant patches *on* the lunate bone as a 'sternal pair' in precisely the sense he refers to the abdominal or caudal pairs. This is a mistake, and as far as its sternal characters go *Landemania* is nothing more nor less than *Trionyx*.

Equally open to suspicion are the sternal characters of *Aspilus* (A. & M. N. H. 1872, Vol. X, p. 339, and Sup. Cat. S. R. p. 101), where the sternal callosities are described as "two lateral." Buch. Hamilton's figure of *T. gatajhol* would seem to be answerable for this character, but I cannot help thinking that the two lateral callosities seen in the above figure are *no callosities* at all, but scars or abrasions accidentally produced, the more so, as the figure is drawn from life, and in the living animal the bony callosities are not apparent but only become visible as the epidermis covering them dries and contracts over them. Dr. Gray, it is true, describes the linear callosities (without figuring them, which is curious) in a Javan specimen of *A. cariniferus*, but I see no ground for supposing that the *scars* (as I believe them to be) represented in the drawing of *gatajhol* represent callosities at all.

*T. Gangeticus* is somewhat variable in colour, ranging from dark to pale olive green. The head is symmetrically marked with black diverging lines or with thick black lines, more or less irregular in adults, or in very aged specimens perhaps wanting. The profile of the face is short. The mandible is armed inside with a median tubercle, hardly developed into a ridge, with a short ridge on either side springing from the inner edge of the jaw and invading for a short distance the masticatory area.

*Hab.*—The Ganges valley. Its occurrence east of the Bay of Bengal requires confirmation.

T. SEWAARE, Buch. Ham.

*T. sewaare*, Buch. Ham., Icon. ined. (*young*).

*T. sewaare*, Gray, A. & M. N. H. 1872, Vol. X, p. 336.

*T. chhim*, Buch. Ham. (*adult*) Icon. ined. (Chim.).

*T. chin*, Gray, Syn. Rep. 47, t. 10.

*T. hurum*, in part of Anderson, Gray, and other authors.

*T. Gangeticus*, Gray, Sup. Cat. S. R. p. 97, "3 half grown specimens."

*T. ocellatus*, in part of Gray, Anderson, Theobald, and other authors.

*T. Gangeticus*, Theobald or part P. A. S. B. 1874, p. 77.

This species is based on a figure of Buchanan Hamilton, which Gray in his paper on the mud-tortoises of India (A. & M. N. H. Vol. X, 1872, p. 336) thus describes—"The upper surface of the head uniform olive with a distinct yellow spot on each side of the crown." From these yellow spots on the temples this species was regarded by Dr. Anderson as '*ocellatus*' (= *hurum*), and by myself from the characters of its skull as a young *Gangeticus*. According to Dr. Gray (Mud-tortoises, l. c.) this species has either four or six ocelli and he figures its skull in the P. Z. S. for January, page 50. This skull, as I remarked in my previous paper, exactly resembles a skull I extracted from a spirit specimen in my own possession, which fairly agreed, as I then thought, with the figure of *ocellatus*. There are among the spirit specimens in the Indian museum very few young specimens in the *ocellatus* livery, and no prepared skulls, but among the former I found some possessing the abrupt outline of head as in *Gangeticus*, and others with the more tapering skull of typical *ocellatus*. It is thus clear that the species with outline of head of *Gangeticus* is not a mere phase of growth of *ocellatus*, and, although there are no specimens of very young *Gangeticus* here for comparison, it is certain from Gray's figures (P. Z. S. 1873, Pl. VIII), that the colouration is identical with that of larger individuals and wholly unlike Buchanan Hamilton's '*sewaare*,' which name will therefore stand.

Of this species very little is known, save that it differs from its nearest allied species, *ocellatus*, externally, by wanting the broad yellow band across the snout (though displaying the temporal blotches), and internally by its skull and shorter face, which has the profile seen in *Gangeticus*. Its sternal characters are not known, nor is the adult, unless the figure of '*chhim*' should be intended for it.

Among Buchanan Hamilton's drawings is a very beautiful one of a large *Trionyx* named '*chhim*,' which shows *two temporal patches* and *no band across the nose*, and this drawing, I have little doubt, represents the adult, but no profile view of the head is given, and it is wrongly identified by Gray (who would seem to have misspelt the name '*chin*') as '*hurum*' in Syn. Rep. tab. X. I prefer, however, adopting the name of the immature stage '*sewaare*,' as '*chhim*' (or '*sim*' as corruptly pronounced) is the name applied in Eastern Bengal to the *chitra*, and would perpetuate error.

There is some confusion here, General Hardwicke calls the '*chitra*' '*sewteree*'—a name I believe still applied to it along the Ganges ('*chhim*' or '*sim*' being used in Eastern Bengal), whilst Buchanan Hamilton terms it

'*Testudo chitra*' and applies the term '*chhim*' to a *Trionyx*. Now it seems to me very probable that this is a clerical error, and the names have been transposed, as *chitra*, which I presume is an etymological cousin of '*chittee*,' '*chitul*,' '*chitur*,' meaning spotted (a spotted snake, the spotted axis, the leopard), is very applicable to the adult figure of '*chhim*,' as is at once seen by reference to the original drawing. In this drawing the back is represented as a dark plumbeous olive, very rich and uniform, and profusely studded with small equidistant and equal lenticular spots of a paler colour with their long axes arranged longitudinally. The head is uniform, with two large ragged temporal blotches of a pale colour, but no pale band in front of the eyes. Be this as it may, '*chhim*' is the recognised vernacular name of the *chitra* and is therefore inapplicable and must be set aside in favour of Buchanan Hamilton's other name '*sewaare*.'

*Hab.*—The Ganges valley.

From the separation now effected of this *Trionyx*, uniting the colouration of '*ocellatus*' and the facial profile of *Gangeticus*, it follows that the true *ocellatus* with a conspicuous yellow band across the snout, is still available as a name for the species designated *hurum* by Anderson and *Buchanani* by myself.

T. OCELLATUS, Buch. Ham. (*young*) Anderson and Gray. Pl. IV.

*T. Buchanani*, Theob., P. A. S. B. 1874, p. 78.

*T. hurum*, Anderson, A. & M. N. H. 1872, Vol. IX, p. 382.

*T. sewaare*, Buch. Ham. apud Anderson, l. c.

*Kala kachim* of the Bengali fishermen.

In his paper in the Annals l. c., Dr. Anderson does not discriminate, or even allude to the last described '*sewaare*,' though specimens in the museum were examined by him. They were not in the best state, but whether from this or from not discriminating them, he appears to refer them all to one species, *hurum* apud Anderson. From '*sewaare*' the present species is distinguished externally by a pale yellow band across the nose, in front of the eyes, which is absent in *sewaare*, and by a much greater development of the pale yellow blotch beneath the lower jaw on either side, which is slightly developed in '*sewaare*,' but forms a prominent band rising with a slight curve upwards towards the back of the neck in *ocellatus*. From *sewaare* it is also distinguished by the more elongate form of the anterior half of the skull, the profile of the face of *sewaare* being the same as in *Gangeticus*, and differing wholly from *ocellatus*, though the subspatulate symphysis of the mandible departs from the form of *Gangeticus* and resembles that of *ocellatus*.

For a comparison of the dermal characters there are no materials.

Dr. Anderson was clearly led to the identification of *ocellatus* and *hurum* by the fact that the figure of *hurum* displays four ocelli, which Dr. Anderson

argued were never seen in *Gangeticus*, but this view I consider Dr. Gray has entirely demolished, as I have already explained.

That the figure of *hurum* really represents one of the many varieties of *Gangeticus*, is rendered pretty certain, by the character of the black lines on the head, which in *ocellatus* or *sewaare* is uniform, or at most darker mottled, and not marked by thick lines, as in the figure of *hurum*, neither is there present the characteristic band across the snout, or the temporal blotches. The head of the specimen figured as *hurum* seems to have been a uniform and unusually pale yellowish colour or greenish yellow, but the style of marking by thick black lines decides it to belong to *Gangeticus*.

Skull and face of *ocellatus* more elongate than in *Gangeticus*. Mandible almost spatulate in front, with a well defined median groove or furrow (f. P. IV) inside. Young handsomely ocellated and the shell reticulately marbled with darker. A conspicuous yellow bar across the nose, and a large yellow spot on either temple, and a smaller one at the gape. General colour green, darker on the occiput, where it is mottled with paler. Throat and neck plumbeous white. Eyelids red (*vide* A. Anderson *in litt.*). Cartilaginous portion of carapace almost devoid of tubercles in half grown and adult specimens. Pittings of sternum coarser than in *Gangeticus*, and the abdominal plates more bent, I think, than in that species.

*Hab.*—The Ganges Valley. The specimen (figured one-third the natural size) was procured by Mr. A. Anderson, at Futtehgurh. The skull is figured of the natural size.

#### T. PHAYREI, Theobald. Pl. IV.

*T. Phayrei*, Theob., P. A. S. B. 1874, p. 75.

*T. cariniferus*, Gray (l. c.) Journ. Lin. Soc. Lond., Vol. X.

In my paper in the Proceedings (l. c.) I referred with doubt the present species to *T. cariniferus*, Gray, believing it to be identical with the figure in the Cat. S. R. p. 67, Pl. XXXII. As, however, the correctness of this surmise cannot well be verified and as *Phayrei* certainly differs from the specimens described under Gray's name, in the Sup. Cat. S. R. p. 101, and from the skull of *Aspilus cariniferus* figured on page 102, my name must stand for this species.

The colouration of the head of *Phayrei* is marked and peculiar. The head is pale coloured with elegant and symmetrical subreniform marblings of a darker colour, arranged regularly and occupying about an equal area with the ground colour whereon they are displayed. *T. cariniferus*, Gray, however, is described as being marked on the head and neck with white spots, in a fashion which the present species could display at no phase of its growth.

*Hab.*—Arakan, Pegu, and the Malayan Peninsula.

**T. JAVANICUS, Geoff.**

*T. Javanicus*, Geoff. in Siebold's F. J., Chelonia, tab. V, f. 6 (skull).

*J. stellatus*, Geoff., Theobald, P. A. S. B. 1874, Pl. III.

The sternal character of the species found at Maulmein, which I consider identical with that from Java, may be seen by reference to my former paper (l. c.), but till a comparison is made with Javan specimens, the identity of the two forms cannot be considered as established. The *T. Javanicus* of Gray and Günther is, of course, *T. Gangeticus*, as pointed out by Anderson.

*Hab.*—Tenasserim, Java, &c.

**T. PEGUENSIS, Gray.**

This species is as yet only known from the head of an adult in spirit, brought from Pegu by myself. Gray describes it as a "pale olive green minutely and closely punctulated with black. The upper lip, lower part of the sides of the head, sides of the neck, chin and throat uniform greyish white. The lower margin of the flap of the upper lip opaque white."

This species is no doubt not rare in Pegu, and it is very desirable to ascertain its sternal character and its colouration in a young state. A skeleton of probably this species exists in the Indian Museum, and another has been carried home by Dr. Anderson.

*Hab.*—Pegu.

**T. GRAYII, n. sp., Pl. III.**

The specimen which I have the pleasure of naming in honour of the veteran zoologist so recently lost to us, was forwarded to me by Dr. Hungerford from the neighbourhood of Thayet-myo. The head was dried, but, on moistening it, the colouration of the skin was seen closely to resemble that of *T. Phayrei*, which I at first concluded it to be. The sternal characters, however, indicated a totally different animal, as may be seen by referring to the accompanying plate, wherein the shell is figured one third of the natural size and the skull of the full size. The skull on extraction proved to be very similar to that of *T. Peguensis*, Gray, but the style of colouration of the head was so different from that of *Peguensis* that it clearly belonged to some other species. The sternum of *Peguensis* is not known, unless a skeleton in the Indian Museum may belong to it, but as I have no means of ascertaining the colouration of the head of this specimen, I cannot say to which species, *T. Peguensis* or the present one, it belongs. The mandible is furnished with a median ridge (r fig. III) inside, wherein it differs from *ocellatus*, which has a median mandibular furrow instead, all of which marks in turn serve to diagnose it from its nearest allies, *Phayrei*, *Peguensis*, and *ocellatus*.

*Hab.*—The Irawadi valley.

J. EPHIPPIUM, n. s., Pl. V, Figs. a, b, c (shell slightly reduced).

This species is based on a young specimen forwarded to me dried, from Tenasserim. The head on soaking displayed many yellow spots, something like '*stellatus*,' but the profile of the skull is very different from the figure in the *Fauna Japonica* of that species, a copy of which I give for comparison. On the back of the shell was a transverse dark mark (b. fig. V.) like a saddle-shaped flap, not quite symmetrical on both sides. Though a young animal, no traces of *ocelli* were visible, and the peculiar saddle marking has not been noticed that I can find on any described species. The mark is not visible on the dried shell but becomes distinct on soaking the shell in water, and was no doubt conspicuous during life. Anterior odd bone of the thorax *smooth*. Disk profusely covered with granular tubercles (each tubercle being rough like a mignonnette seed) ranged in sub-parallel rows. Thorax considerably arched with a prominent vertebral ridge. Sternum very cartilaginous without any pitted bone whatever. The species approaches '*ornatus*,' but would seem to be distinguished by its colouration from that species, and from all others with the descriptions of which I am acquainted. Those who may be inclined to question the specific value of colouration in the young of this genus should remember the words of Dr. Gray, who remarks that the "colouring of the young animal forms one of the best characters of the species of the genus" (Sup. Cat. S. R. p. 103).

*Hab.*—Tenasserim.

I have quite failed to arrive at any satisfactory opinion, as to whether any of the species noticed in this paper should be referred to Gray's genus *Aspilus*—beyond the fact, that if the genus *Aspilus* really possesses only two linear callosities as stated, then none certainly belong to it that I am acquainted with, but I am inclined to doubt this character, partly from reasons stated before with respect to B. Hamilton's figure of *T. gatajhol*, and partly from the youth of so many of Dr. Gray's specimens, and the consequent probability that this character may have been partly due, where observed in some cases, to immaturity.

There is, however, one character which may be made to serve as the means of dividing this genus into sections, each possessing a fixed geographical range, and that is the character of the mandible, for in all the species from the eastern coast of the Bay of Bengal, the mandible is traversed inside, in front, by a sharply marked median ridge (r. Plate III), whilst in species from Hindustan, in place of this ridge there is either a smooth surface or a depression (f. Plate IV).

The members of either section may be briefly characterised as follows.



Section *A*.

*Mandible smooth in front inside, or traversed by a median furrow or depression.*

1. Head ornamented with radiating black lines in the young, and *ocelli* on the back. In aged individuals some thick black lines or markings, generally present. Colour a more or less lively olive green. Mandible smooth inside. T. GANGETICUS, Cuv.

2. Head ornamented with two conspicuous yellow temple patches and one across the snout. No black lines on the head, but more or less reticulate mottling. *Ocelli* in the young. Colour darker and more dusky than in *Gangeticus*. Mandible in front subspatulate with a deep central groove. Profile of head elongate (P. A. S. B. 1875, Pl. IV).

T. OCELLATUS, Buch. Ham.

3. Young ocellated and with the yellow temporal patches, but no band across the snout. Profile intermediate between *Gangeticus* and *ocellatus*. Mandible with a central internal groove. Adult (the presumed *T. Chim* of Buch. Ham.) brown, profusely spotted with paler.

T. SEWAARE, Buch. Ham.

All these three species inhabit the Ganges valley and perhaps other parts of Hindustan, but are not authentically known from east of the Bay of Bengal.

Section *B*.

*Mandible in front, traversed inside by a median ridge.*

4. Head regularly marbled with dark reniform spots. Osseous granulations on sternum sparingly developed, and only fully on animals of a large size. Young ocellated. (P. A. S. B. 1874, Pl. IV).

T. PHAYREI, Theob.

5. Head dark irregularly spotted somewhat as in the last. Osseous granulations on sternum well developed in young individuals. (P. A. S. B. 1875, Pl. III).

T. GRAYII, Theob.

6. Head very elongate profusely yellow-spotted. Osseous granulations on sternum well developed. (P. A. S. B. 1874, Pl. III).

T. STELLATUS, Schl.

7. Head uniform dusky grey, minutely punctulated with black.

T. PEGUENSIS, Gray.

8. Head sparingly and irregularly yellow-spotted. A dark saddle-shaped band across the back. No *ocelli*. Young only known. (P. A. S. B. 1875, Pl. V).

T. EPHIPIUM, Theob.

It has yet to be determined whether any of the species included in section *A* range east of the Bay of Bengal or any in section *B* into Hindustan; also to which of the sections the other described Indo-Malayan species of *Trionyx* should be referred; and additional particulars of all are still much wanted.

What, moreover, *Aspilus cariniferus*, Gray, from Puna really is I do not know, and should be much obliged to any one who would forward me soft turtles from that locality to settle the question.

P. S.—A very curious account of the habits of some of our river turtles, probably of the present family, was communicated to me by Lt. Col. Swiney, 24th M. N. I. This officer was one day preparing to fish in the Narbada, when he remarked a funeral procession directing its way to the spot he had selected for his work. Putting up his rod, he watched the affair, and was surprised soon to see numerous little black bodies in the river, which proved to be turtles hastening to the scene of operations. The creatures even had the boldness to leave the water and had to be kept off the body with sticks. The body was that of a poor man, so after slightly burning the face, it was pitched into the river and then it was a sight to see the race that took place between the turtles on shore and those in the water to get at it. The place in question was the ordinary burning ghát of the neighbouring villages, and these turtles were evidently exercising their vested rights in these funeral baked meats, and were really in so doing performing useful service.

Mr. Wood-Mason remarked that Mr. Theobald was in all probability quite right in assuming that the very young in all the three Gangetic species of *Trionyx* were ocellated, the very young of a multitude of closely-allied forms being often so similar as to be nearly, if not quite, indistinguishable from one another. Such cases were explicable on what had been called the "recapitulation hypothesis," according to which the remarkable series of changes which every individual in passing from its simplest to its completely adult form underwent were so many more or less complete repetitions of the forms which its ancestry had successively exhibited in bygone ages: to adopt Haeckel's formula "the development of the individual (*ontogeny*) was a brief and rapid recapitulation of that of the species (*phylogeny*)." We might therefore feel confident that these young turtles in their ocellated livery showed us the colouration of the progenitor of the group. In conclusion, he alluded briefly to the possibility of forming, by a study of the development and of certain peculiarities in the adults of their living descendants, some idea of the colouration of many animals long extinct: for instance, from the existence of longitudinal stripes in the young of the wild pigs of India and Europe and from the tendency in the young of feral individuals

of domesticated races to re-assume this striped character, from the brilliantly-striped foetus of the Asiatic and American tapirs, from the shoulder and leg-stripes of many horses and especially from the colouration of the Zebra,—it might with confidence be inferred that the numerous porcine, tapirine, and equine animals that had existed during the deposition of the older tertiary strata were conspicuously striped creatures.

3.—*Descriptions of new species of Marine Mollusca from the Indian Ocean.*—By G. and H. NEVILL.

(Abstract.)

The following species are described as new :—

*Ringicula abbreviata.*

Regularly striated throughout ; whorls  $3\frac{1}{2}$ , spire peculiarly short ; outer lip crenulated as in *R. Charon*, H., without any tubercle ; columella with a broadly reflected, rugose callosity, with two teeth, parietal tooth large.

Long. 3, diam.  $2\frac{1}{2}$  mil. Ceylon.

*Drillia lucida.*

Smooth and glistening ; white, irregularly marbled with pale brown ; apex somewhat mamillate and sinistral ; whorls  $8\frac{1}{2}$ , divided with a deep groove below the suture, longitudinally, distantly ribbed, last whorl only transversely striated at its base ; columella smooth, sinus deep. Closely allied to Hind's *Clavatula quisqualis*.

Long. 8, diam. 3 mil. Persia, Andamans, Púri.

*Mangelia fulvocincta.*

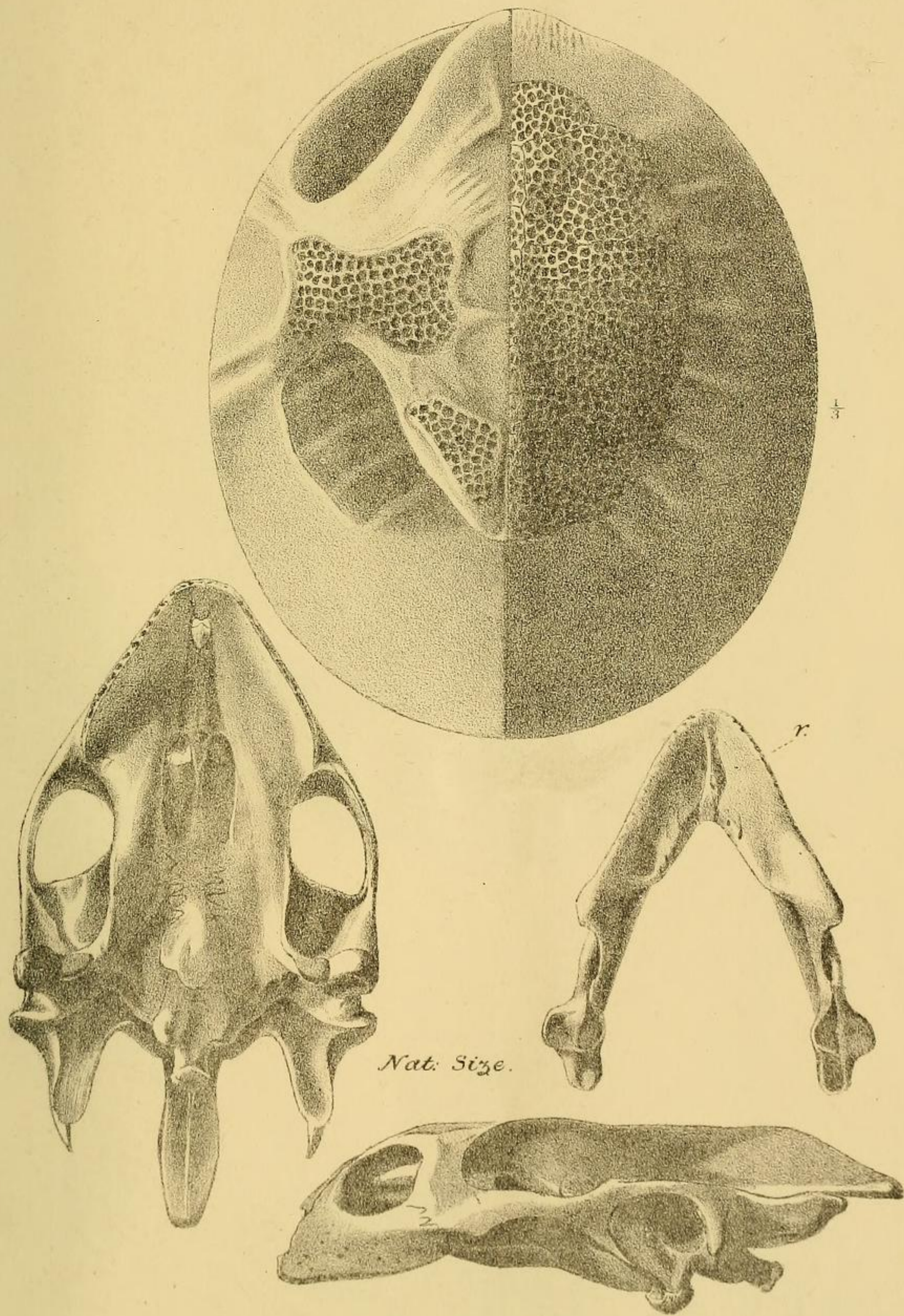
Attenuately fusiform ; whorls 9, longitudinally varicosely ribbed, minutely and regularly transversely striated ; white with a brown band below the suture ; the lower portions of the last whorl, the outer lip and aperture are brown, as is also the columella ; sinus obsolete, canal very short and truncate.

Long. 8, diam. 3 mil. Bombay, Ceylon, Púri.

*Mangelia Fairbanki.*

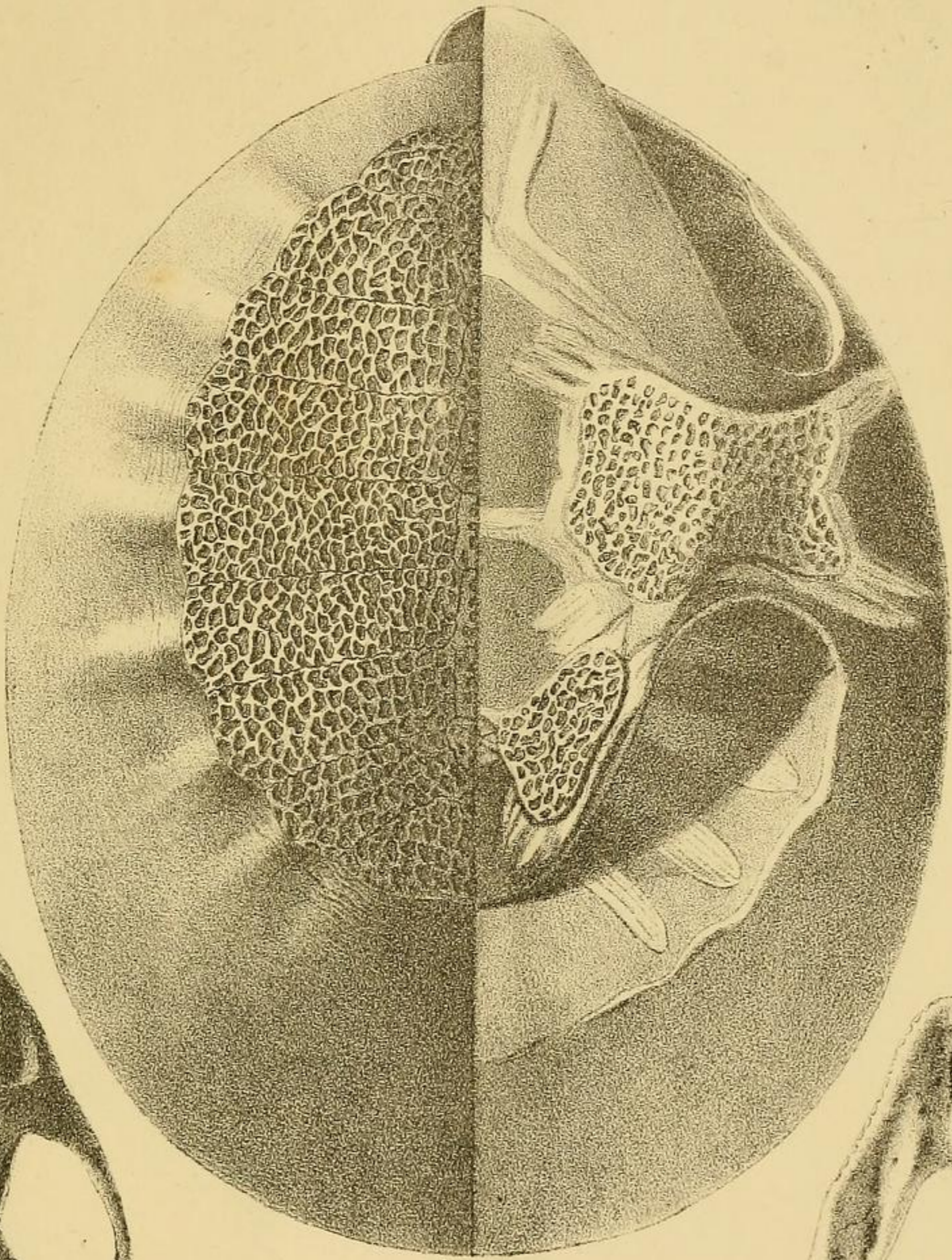
Very close to Reeve's *hexagonalis*, but with more open canal, six denticulations on the outer lip, sharp transverse distant striæ throughout, only three on each whorl ; leaden brown colour, stained a darker shade on the outer lip and on the columella.

Long. 6, diam. 2 mil. Bombay.

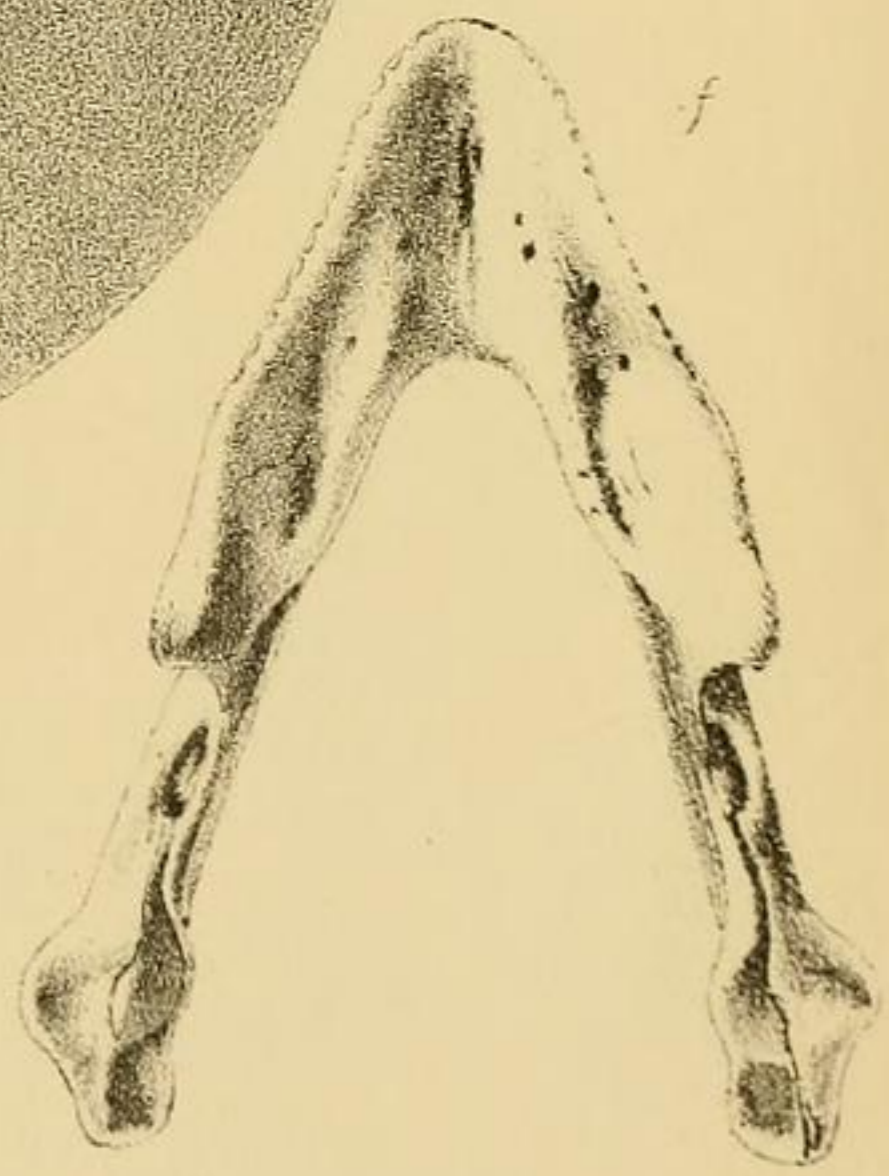
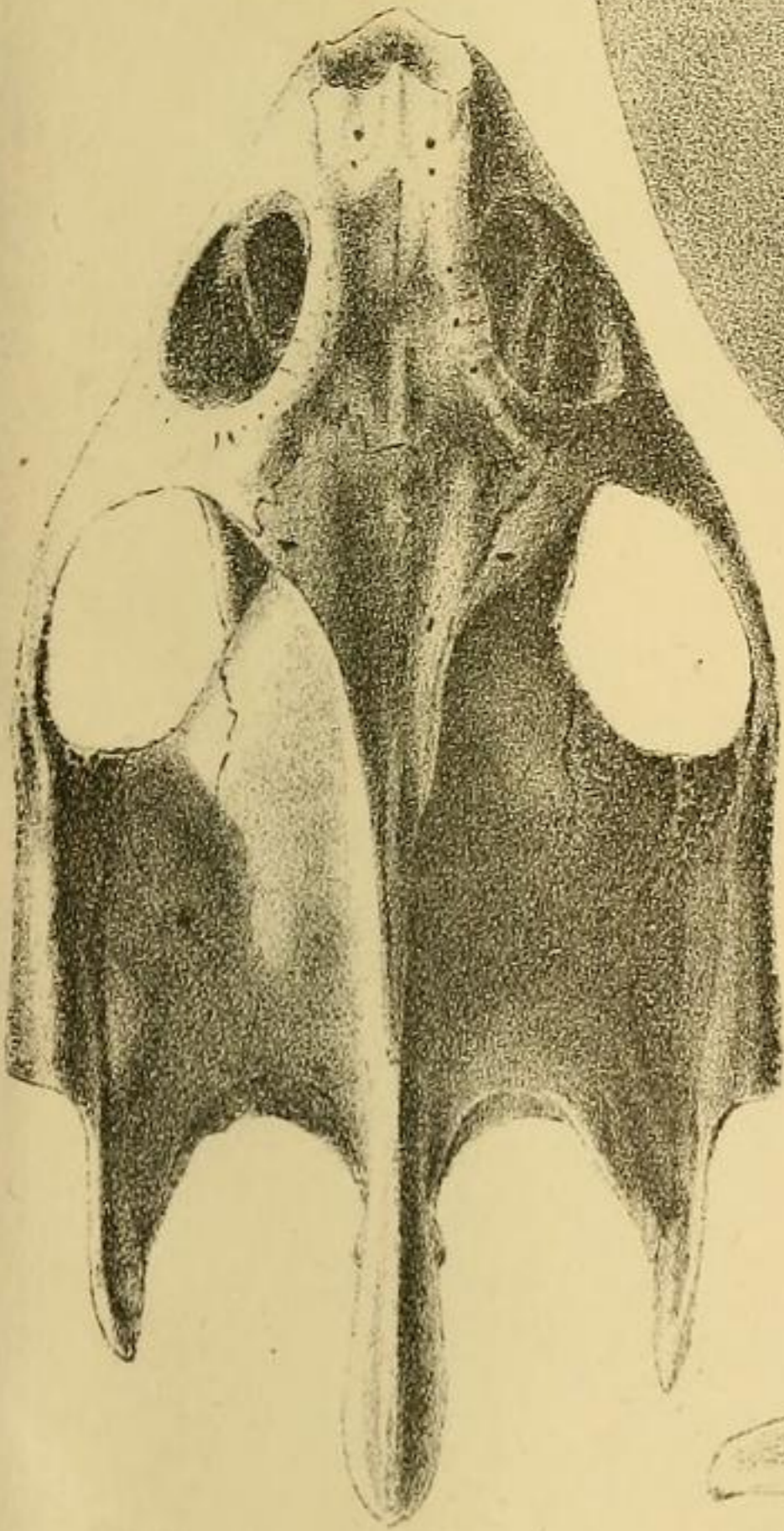


*J. Schaumburg, Lith.*

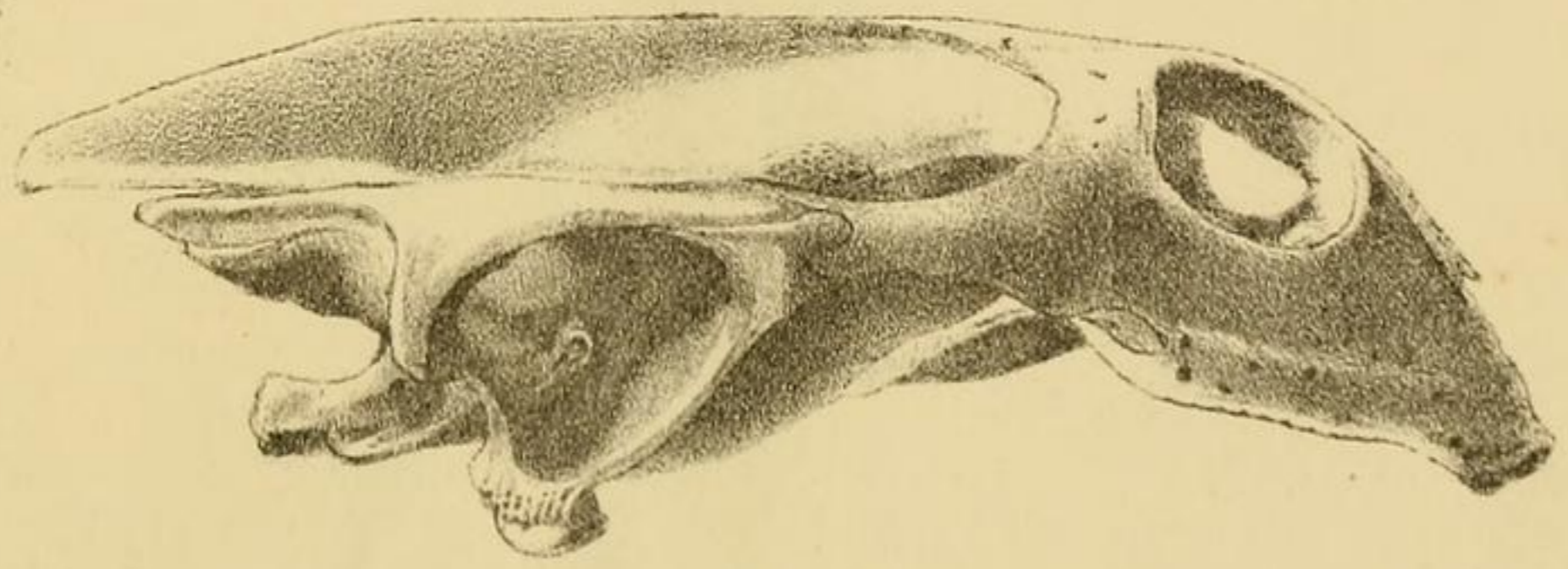
T. GRAYII. n. s.



cal

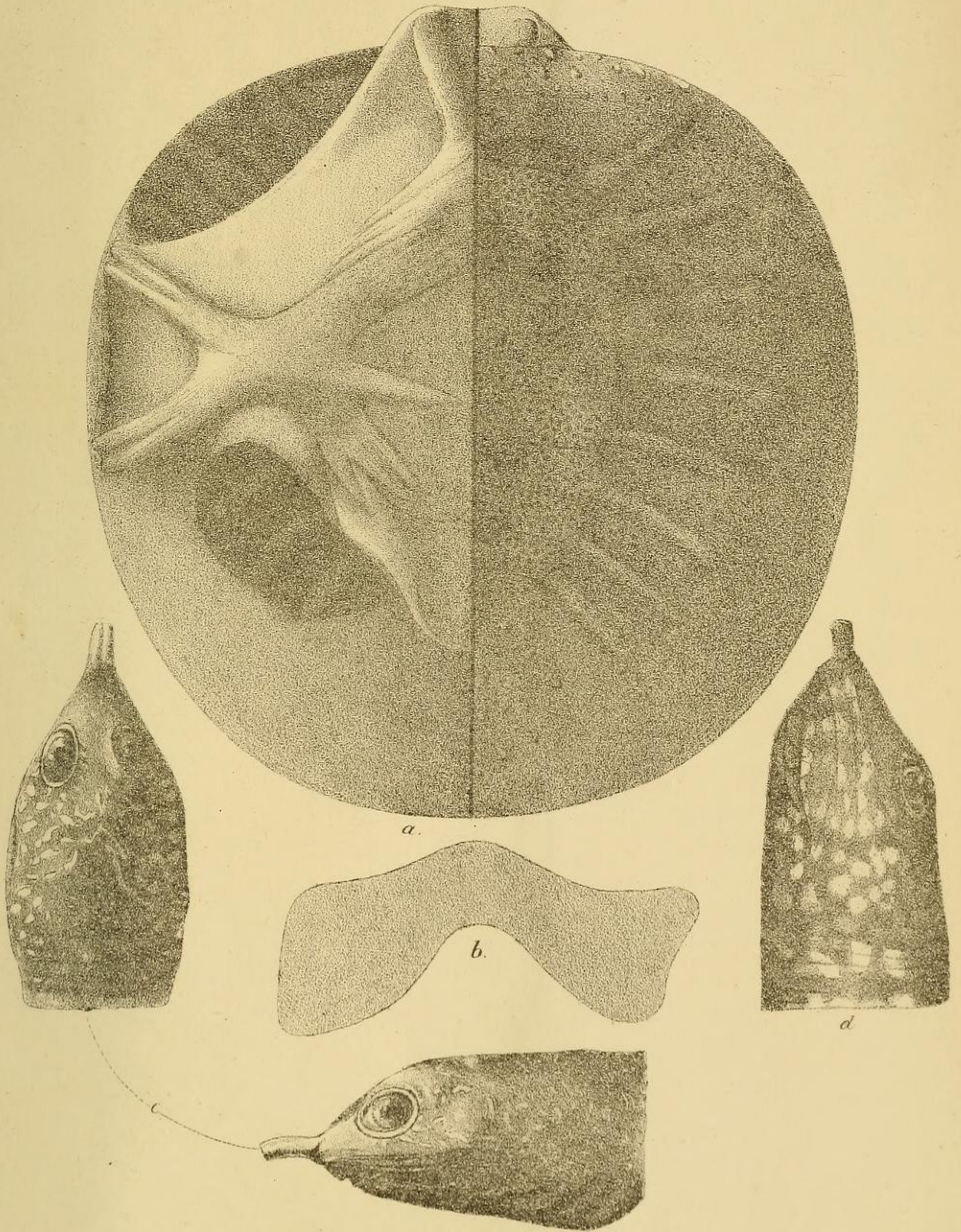


Nat. Size.



J. Schaumburg, Lith.

T. OCELLATUS. Buc: Ham:  
T. hurum. B. H. apud. J. Anderson.



*J. Schaumburg, Lith.*

*a. b. c.* T. EPHIPPIUM. n. s.

*d.* T. JAVANICUS. Geoff.