

The following papers were read—

1. *Observations on some Indian and Burmese species of Trionyx.*—By W. THEOBALD, ESQ.

My attention having lately been attracted by certain erroneous statements by Dr. J. E. Gray in the Supplement to the Catalogue of Shield Reptiles, dated 1870, and in the Appendix to the same work, dated 1872, and in several papers likewise in those widely circulated works, the Annals and Magazine of Natural History, and the Proceedings of the Zoological Society of London for the years 1869, 1870, 1871, and 1872, I feel myself reluctantly compelled to come forward with a correction of them, in simple self-justification, no less than in the cause of scientific accuracy and truth, since no one is, in some respects, so well qualified to do so as myself, who collected many of the specimens to which I shall have to refer, and who am therefore in a measure responsible for any glaring error in the recorded distribution or *habitat* of a species, which I knowingly permit to remain uncorrected, when published on my authority. The tone of many of Dr. Gray's remarks is such as to render this a most unwelcome labour, but I shall endeavour to keep as closely as possible to facts which any one can verify, and I confidently appeal to the indulgent consideration of those who, from personal acquaintance, best understand the difficulty which surrounds the subject, and the great disadvantage under which a colonial naturalist writes, who ventures to impugn the *dictum* and scientific utterances of such a veteran savant as Dr. J. E. Gray.

The first point I would direct attention to, as essential to the right comprehension of the synonymy of the group, is the question what *Trionyx hurum*, B. H., really is. Is *hurum* a mere synonym of *Tr. gangeticus*, or is it still available to designate a species hitherto confounded with the last?

In the course of the present paper I shall develop my own views on this point, but first of all I shall advert to the views of Dr. Gray and Dr. Anderson, as recorded so late as 1872.

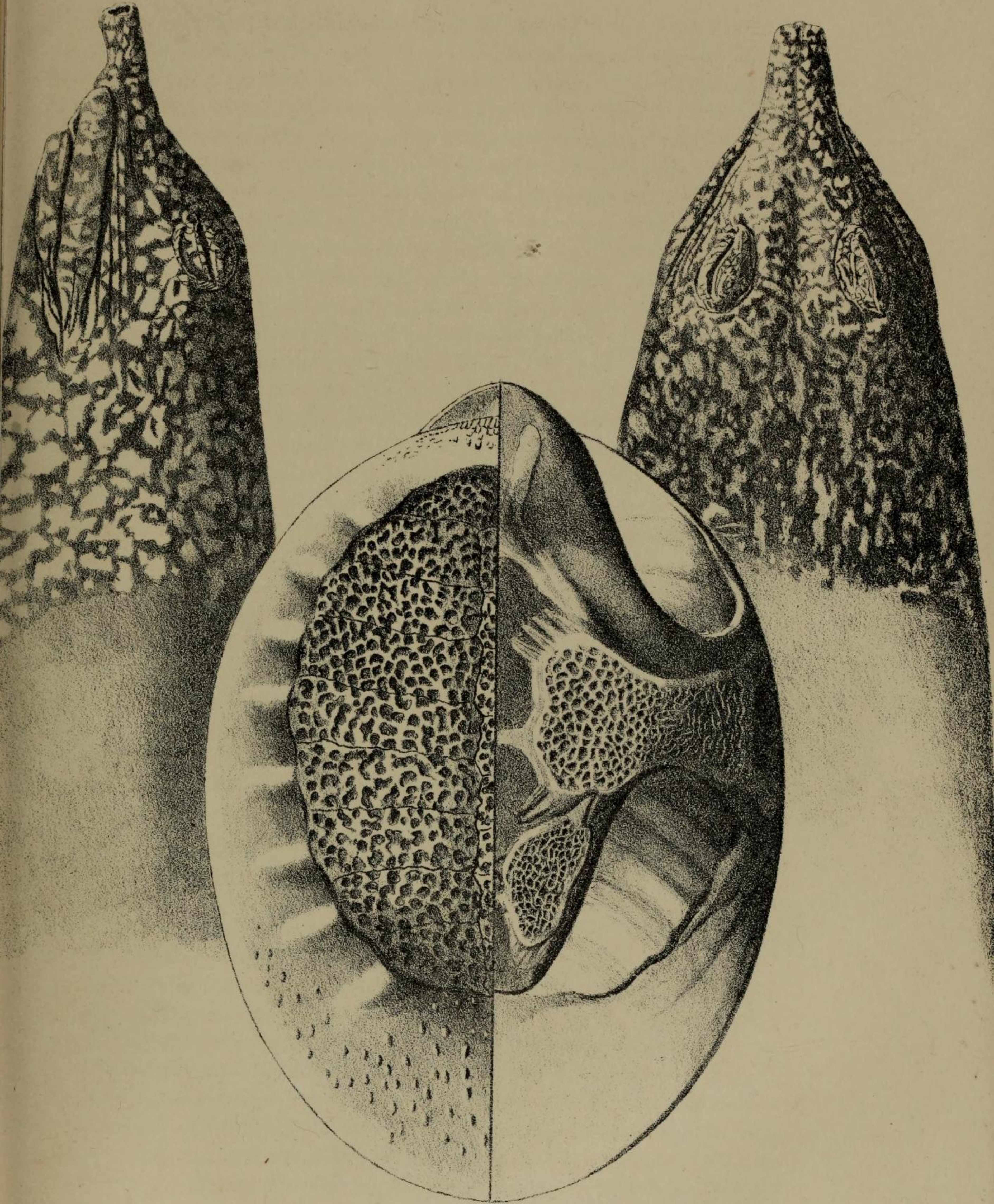
Trionyx (Testudo) hurum is a name applied by Buchanan Hamilton to a Gangetic species, the drawing of which was copied by Gray in his Illustrations of Indian Zoology in 1829. The word has no specific application that I can discover, to any one in particular of our Gangetic species, but is merely the ordinary word signifying "forbidden" (as food, that is) to Mahomedans, to whom all turtle are "unclean," and is more familiar to English eyes as *haram*, the "forbidden" apartments of women in the East. In Dr. Gray's Catalogue of Tortoises, Crocodiles, and Amphisbœnians, dated 1844, page 47, and again in his elaborate Catalogue of Shield Reptiles, dated 1855, *Tr. hurum* stands as a synonym of *Tr. gangeticus*, Cuv., and neither in the Supplement to that work, dated 1870, nor the Appendix, dated May 1872, does this same *Hurum* appear as a recognised species. Till the remarkable date then of May 1872, Dr. J. E. Gray must be held to have recognised *Tr. hurum* as a mere synonym of *Tr. gangeticus*, Cuv.

In May 1872, Dr. J. Anderson, Curator of the Imperial Museum at Calcutta, published a brief but very important paper, almost wholly devoted to pointing out the specific distinction between *Tr. hurum*, B. H., and of Gray's Illustrations and *Tr. gangeticus*, Cuv., of which it had hitherto ranked as a synonym. Also that *Tr. ocellatus*, Gray, is a synonym of *Tr. hurum*, B. H. *apud* Anderson, and not of *Tr. gangeticus*, Cuv., as classed by Gray; and that *Tr. javanicus* of Gray's Illustrations is a synonym merely of *Tr. gangeticus*, Cuv.

In the next number of the *Annals and Magazine* for June 1872, Dr. Gray publishes a criticism of Dr. Anderson's paper, containing the following statement respecting it:—"Here in 1872 we just have what Dr. Buchanan Hamilton did at the end of the eighteenth century, and what I did in the *Synopsis of the Reptiles* published in 1831." This is so far true that doubtless Buchanan Hamilton considered *Tr. hurum* a good species when he made his drawing, and so may Dr. Gray when he published *Tr. hurum* in 1829, but I fail to see how that invalidates the fact that, on this point, Dr. Gray must have changed his mind at the date of publication of his first catalogue in 1844, and his second catalogue of *Shield Reptiles* in 1855, where he sinks *hurum* to the rank of a synonym only, and where it so remained till the appearance of Dr. Anderson's paper, that is to say, if we may assume Dr. Gray's views to be represented in the above works bearing his name.

In the November number of the *Annals and Magazine of Natural History* for 1872, Dr. Gray publishes a paper on the "Mud Tortoises of India," and here for the first time that I can discover since the publication of his catalogue of *Shield Reptiles* does Dr. Gray record *Tr. hurum* as an independent species, and strange to say, Dr. Anderson, who so shortly before had elaborated this view *de novo*, is not anywhere mentioned. Comment on this is needless.

An important question now arises whether the conclusions arrived at by Dr. Anderson in the above paper, and adopted by Dr. Gray, are sound? Dr. Anderson is lucid and concise in his statements, but they are so startling that I shall give a brief quotation. Speaking of the young of *Tr. gangeticus*, Dr. Anderson remarks:—"Young individuals with these characters have greenish olive shells, vermiculated with fine black lines; and of the large series of specimens that has come under my observation, *not one has presented any trace of ocelli*." On the other hand, *Tr. hurum*, as Dr. Anderson would restrict it, usually possesses four ocelli in the young state "with the yellow spot on the temporal region, and another at the angle of the mouth with a yellow band across the snout," &c. Now, without pretending to anything like the experience which Dr. Anderson possesses, or the great resources at his disposal, I greatly question, or rather altogether distrust,



Trionyx stellatus Geoff.

the above generalization. Not long since I received a living *Trionyx* which fairly corresponded outwardly with the figure of *Tr. hurum* in Gray's Illustrations. This specimen, when prepared, proved (by its skull) to be a true *Tr. gangeticus*. I then prepared (no specimens existing for comparison in the Imperial Museum) the skull of a small *Trionyx* I had in spirit in the precise livery of *Tr. ocellatus*, Gray, and this likewise afforded a skull which I should decidedly identify as that of *Tr. gangeticus*.

The mandibular symphysis was longer in proportion than in the adult, and in this character it approached the species indicated by Anderson as *Tr. hurum*, but the convex profile was quite that of *Tr. gangeticus*. The proportionate length of the head, too, anterior to and posterior to the front rim of the orbit, measuring to the nasal bones, was that of *Tr. gangeticus*; in *gangeticus* the proportion being 1 to 7.70; in *Tr. stellatus*, 1 to 5.90; in the young specimen of *Tr. ocellatus* type, 1 to 7.20. It is moreover incredible to me that all the ocellated specimens one sees should belong to *Tr. hurum*, assuredly a rare species, adult in Bengal, and I think therefore that Dr. Anderson has entirely misunderstood the question, and whilst correct in separating the species he terms *Tr. hurum* from *Tr. gangeticus*, he is in error as to the differences whereby he distinguishes them, in the young state, and ocellated livery.

What I believe to be the case is this:—We have in Bengal an extremely abundant and rather variable species, *Tr. gangeticus*, Cuv., some of the varieties of which have been considered as distinct species by Gray and others, and two of which have lately been re-established under the old name of *hurum* by Dr. Anderson followed by Dr. Gray as described above. In addition to these better known varieties, there is, very rarely met with in Bengal, a second species, confounded by Dr. Anderson with the two so-called species *Tr. hurum*, Gray, and *Tr. ocellatus*, Gray, the whole being united under the name *Tr. hurum*, Gray, *apud* Anderson. To this I shall revert presently, but I here give the synonymy of *Tr. gangeticus*, Cuv., in accordance with the above view.

TR. GANGETICUS, CUV.

Tr. (Testudo) hurum, Buch. Ham., MSS.

Tr. (Testudo) gatajhal, Buch. Ham., MSS.

Tr. hurum, Gray, Ill. I. Z.

Tr. ocellatus, Gray, Ill. I. Z.

Tr. hurum, Gray, Ann. Mag. N. H., Nov. 1872, 331 in part.

Tr. hurum, Anderson, Ann. Mag. N. H., May 1872, in part.

This is the common *Trionyx* of Lower Bengal, and though variable in its markings may be always distinguished from the next by possessing in some form or other the dark streaks and lines on the head at all ages, which the other never does. At page 85 of the Annals and Magazine of Natural

History for 1871, Dr. Gray commits a serious error in stating that this species never exhibits the "semicircular bone in the front of the sternum, covered with a lunate callosity," for such will, I think, be found in all aged specimens of *Tr. gangeticus*, though not developed till the animal has nearly attained its full size. Dr. Gray's views seem in this matter to run in extremes. In his Catalogue of Tortoises, &c., dated 1844, at page 46, he writes:—"The sternal callosities appear and increase in size as the animal increases in age, hence they do not afford specific, much less generic, characters." So far from this being the case, the characters of the osseous plates of the sternum would seem to be one of our best means for diagnosing the different species of *Trionychidæ*, without accepting the later view of Dr. Gray and making them of generic value, by strictly following which method we should risk placing the young animal in one genus, the mature animal in another, and the aged and patriarchal member of his race, in a third!

This lunate callosity is also found in *Tr. Phayrei*, Th., and equally well developed in the species identified by Dr. Anderson as *Tr. hurum*. This is well exemplified in the skeleton of a superb male in the Imperial Museum and in a more completely ossified sternum referred by me to this species in my own possession, this last sternum measuring 15 inches, with a lunate callosity two and a half inches across. The fact is, this fifth lunate callosity is one of the generic characters in *Trionyx* in its perfectly adult state, though sex may perhaps influence the size the lunate plate may assume. It cannot therefore serve, as it has been made to do, in its nascent state, before the coalition of the two osculant patches of the immature animal, as a generic character of *Landemania* or any other genus.

The second species alluded to above is represented in the Imperial Museum by a stuffed female, half grown, the skull and sternum of which are mounted for examination, and the superb skeleton of a male, fully adult, with a sternum of 15 inches. This fine species seems to have been quite overlooked or confounded with *Tr. hurum*, which, as I have shown above, is a synonym of *Tr. gangeticus*, Cuv., and as it is requisite to bestow a name on it, I propose terming it *Tr. Buchanani*, n. sp., with the following synonymy:—

TR. BUCHANANI, n. sp.

Tr. hurum Auctorum in part.

I am not prepared to say wherein it differs externally from *Tr. gangeticus*, Cuv., but it may be at once distinguished most easily by its skull, which is more taper, and by the mandible possessing a median groove inside, quite different from the same bone in *gangeticus*. It is closely allied to *Tr. stellatus*, Geoff., but differs in having a slightly narrower head behind, and less pointed one in front, and by the median mandibular groove, for in *Tr. stellatus*, in place of a groove, there is

a well-marked median ridge. This point will alone suffice to discriminate the two species without a description of the soft parts, which I have no materials for giving. I of course do not regard it yet as *satisfactorily established*, that, according to Dr. Anderson, every ocellated *Trionyx* in Bengal belongs to this species, but should this fact *be* established, it will form an external mark for diagnosing between young individuals.

The third species of this paper is *Tr. stellatus*, Geoff.

I have myself a single specimen procured at Moulmein, of which I give a figure reduced to one-third of the natural size, and figures of the head of the full natural size. This species possesses none of the dark marks on the head seen in *Tr. gangeticus*, or described by Günther as met with in *Tr. javanicus*, though that author cautiously adds:—"The characteristic markings of the head of the continental specimens are not mentioned in descriptions of Javan individuals, so that both may be specifically different."—*Günther's Reptiles, Br. India*, p. 48.

The plates of the species here given may enable others to determine the species more satisfactorily, but as far as the materials and books of reference at my command enable me to judge, I am inclined to refer it to *Tr. stellatus*, Geoff., a head of which is figured in the *Fauna Japonica*, published in 1833.

TR. STELLATUS, var Javan, Geoff., S. H. Siebold, *Faun. Jap. Chel.*
Tab V. f. 6.

Tr. javanicus, Schw., *apud Günther, in part, not Tr. javanicus, Gray.*

Tr. peguensis, Gray, *Supp. Cat. S. R.*, p. 90.

Tr. hurum, Gray, *Ann. Mag. N. H.*, 1872, p. 366, as *Tr. Phayrei*.

Skull of an adult," *apud Gray, P. Z. S.*, 1869, p. 217.

"*Leik-kway*" of the Burmese.

I was at first much inclined to unite this species with the last, but they are, I am convinced, distinct, as all other differences apart, the shape of the head and the mandibular ridge in the one being represented by a mandibular furrow in the other, are characters sufficient to establish their distinctness. The dorsal disk too of *Tr. Buchanani*, Th., would seem to be much smoother than in *Tr. stellatus*, and less furnished with tubercles or warts, (if furnished at all) a point that can hardly be judged from a half grown and fully adult specimen.

The skull mentioned without name in the Proceedings of Zoological Society, and subsequently described by Dr. Gray as *Tr. peguensis*, belonged to an animal taken by a fish hook from the Sittoung river at Tonghoo, and has probably outgrown the spotted stage figured in the *Fauna Japonica*. During life, the Moulmein specimen displayed yellow-coloured spots, but the yellow gradually fades after immersion in spirit, and hence is not mentioned in descriptions, or rather described as white.

I now come to the consideration of a species which would seem to be

much commoner than the last in Burmah, but most rare, if not altogether wanting, in India. I give what I believe the the synonymy of this species, and must premise that in this case, as in the others, I have not attempted to evolve the less obvious synonyms, as mere speculations, without access to original figures, descriptions, or specimens, are of little value.

Tr. CARINIFERUS, Gray, Cat. Shield Rep., p. 67, Plate XXXII.

Tr. javanicus, Schw., apud Gunther, in part.

Tr. Phayrei, Theob., Jour. Latin Soc. Zool., Vol. X.

Tr. jeudi, Gray, Proc. Zool. Soc., 1869, p. 217.

Tr. formosus, Gray, Proc. Zool. Soc., 1869, p. 217.

Tr. Phayrei, Theob., apud Anderson, Proc. Zool. Soc., 1871, p. 154.

Leik. beywoon, of the Burmese.

The type specimen was obtained alive by myself in the Arakan range, west of Pegu, the dried shell being presented by me to the Bristol Museum, and the skull to the British Museum. The history of this skull I must now endeavour to unravel, not less successfully, let me hope, than I did in the case of *Testudo (Scaphia) Falconeri*, which, thanks to my observation thereon, has now been restored by the Trustees of the British Museum to the Imperial Museum, Calcutta. *Vide* Appendix to Catalogue of Shield Reptiles, 1872, p. 10, *et ante*. In the first place, I may state, as a matter of fact, that but two skulls (exclusive of young animals in spirit) of *Trionyx* passed from my hands into Dr. Gray's, either by gift or purchase, from the simple fact that I only brought home two from Burmah with me, *viz.*, 1st, a head of *Tr. stellatus*, as mentioned above, which Dr. Gray refers to *Tr. hurum* in his paper on the Mud Tortoises of India, in the Annals for 1872, p. 336, and probably alludes to without naming as "skull of an adult" in the Proceedings of Zoological Society, 1869, p. 217; and, 2nd, the skull of my type of *Tr. Phayrei*, presented by me to the British Museum in 1868 (or 67), which Dr. Gray doubtfully refers to *Tr. hurum* (erroneously as I believe), and which he also indentifies (correctly no doubt) with his *Tr. jeudi*. How comes it then I may ask that; with the type skull of my *Tr. Phayrei*, furnished him by myself, he describes another specimen as *Tr. jeudi*? In courtesy, and to avoid confusion and multiplication of names, Dr. Gray should have given such amended characters as he chose, but without altering the name of my type already published in the Journal of the Linnean Society. It is true Dr. Gray remarks (Annals and Magazine of Natural History. 1872, p. 336) of my type skull:—"It certainly *is not* the skull of the species described under that name in the Journal of the Linnean Society, nor of the Tortoise described under that name by Dr. Anderson." To this I can only say that till Dr. Gray gives some reasonable ground for this statement, I must be allowed to say that I believe it *is*; and this I say, knowing what my own type was like,

having moreover examined Dr. Anderson's aged individual, and with the skull of the individual figured in this paper, before me to compare with Dr. Gray's figure of the skull of *Tr. jeudi*. Dr. Anderson, moreover, having compared the skull of his specimen with Dr. Gray's type of *Tr. jeudi*, equally with myself, holds them to be identical, to which catena of testimony Dr. Gray opposes an assertion seemingly based on no substantial ground whatever.

In the *Annals and Magazine of Natural History*, 1871, p. 85, Dr. Gray refers Dr. Anderson's large specimen of *Tr. Phayrei* to the shadowy genus *Landemania*. But as I have shown that the sternal callosities of *Tr. gangeticus*, Cuv., when aged, really correspond with those of *Landemania*, it is hardly possible to maintain the independent existence of such a mere shred of a genus as the amended character of *Trionyx* would reduce it to; whilst a mere comparison of the species here given, with Gray's figure of *Tr. perocellatus*, *Catalogue of Shield Reptiles*, p. xxxi, will at once show how distinct *Tr. Phayrei*, Th., is from *Tr. perocellatus*, to which Dr. Gray is inclined to refer it.

A careful study, however, of *Tr. cariniferus* depicted on the next plate of the *Catalogue of Shield Reptiles* (xxxii) has convinced me that it is the same species as I subsequently named *Tr. Phayrei*, to which conclusion I am led by the feeble development of the sternal bones and callosities, and the only point which seems to throw doubt on this result is, that the peculiar head-markings are not shown in Gray's figure. No markings whatever are shown on the head, and as this is so rarely the case with a young *Trionyx*, I conclude that the markings either had altogether faded from the specimen, or that the artist had from their indistinctness omitted to copy them.

Dr. Gray, in his note to this species, *Catalogue of Shield Reptiles*, p. 67, makes precisely the same comparison with regard to this species that both myself and Dr. Anderson did in describing our specimens. Dr. Gray's words are:—"The specimens of this species are larger than the stuffed example of *Tr. javanicus*, but yet they have no appearance of any sternal callosities. Bearing in mind that *Tr. javanicus*, Gray, of the above sentence is synonymous with *Tr. gangeticus*, Cuv., the above sentence curiously resembles the description of what I considered the most salient feature of distinction in the sternum of *Tr. Phayrei*, *vide* *Journal of the Linnean Society*, Vol. X, where I use these words—"the osseous tubercular surface, however, is less developed and more feebly sculptured (the age and size of the specimen considered) than in any of its allies, and at a glance serves to discriminate the present species from them." I need not here attempt any answer to the arguments and mistakes of Dr. Gray regarding this species in his paper in the *Annals and Magazine of Natural History*, for 1871, p. 83, as they have been already fully replied to by Dr. Anderson in the *Annals* for the same year, p. 324.

I append below a few comparative measurements in Mills of the skulls of the species treated of above:—

No. 1.	<i>Trionyx gangeticus</i> , Cuv.	...	(Imperial Museum).
„ 2.	<i>Tr. Buchanani</i> , Th.	...	(Imperial Museum).
* „ 3.	<i>Tr. stellatus</i> , Geoff.	...	From Moulmein, (Plate III).
„ 4.	<i>Tr. cariniferus</i> , Gray.	...	„ Moulmein, (Plate IV).

	I.	II.	III.	IV.
Length of skull	97·	105·	102·	100·
Width behind zygoma	51·	49·	44	54
Longest diameter of orbit	15	14·	12·5	14.
Between orbits	7	11·5	7·2	11·5
Extremity of skull to anterior rim of orbit ...	73·	98	77·	89
Anterior rim of orbit to tip of nasal bones ...	14	14	13·	12
Extreme length of mandible	58·	66·2	54·5	64
Extreme height	21·	24·5	19·	25
Median depth below in front	13·	19·	13	18

I shall now notice certain statements of Dr. Gray contained in his Supplement and Appendix to the Catalogue of Shield Reptiles, but it is quite beyond my powers, within the reasonable limits of a paper like the present, to follow Dr. Gray through all the changes of species and genera, which he has from time to time introduced.

At p. 10 of the Appendix to the Catalogue of Shield Reptiles, 1872, Dr Gray observes under the head *Notochelys platynota*:—“Mr. Theobald in his catalogue confounds this species with *Geomyda grandis*.” Now in my catalogue of the Reptiles of Pegu, published in the 10th volume of the Journal of the Linnean Society, *Notochelys* is not mentioned, so the catalogue to which Dr. Gray refers must be that of the reptiles in the Museum of the Asiatic Society of Bengal, published in Calcutta by the Society in 1868, during my absence in England, and in which the only passage referring to *Notochelys* stands thus, p. 10, *Geomyda grandis*, Gray.

Cyclemys Platynota, Gray, apud Blyth.

Now I do not see how any naturalist can misunderstand the above passage, or affect to suppose that, in quoting a synonym as understood by another, the man who makes such quotation can be held thereby to endorse it. Had I intended it to be understood that I considered *grandis* and *platynota* synonymous, I should certainly have ranged *grandis* as a synonym of *platynota*, since the latter name dates from 1834, and the former only from 1860 (*vide* Annals and Magazine of Natural History, 1860, and Proceedings of Zoological Society, 1834,) but I did just the reverse, and I do not

* Both figures are one-third of natural size.

understand what shadow of right Dr. Gray had to make so disparaging a statement. The specimen of *Geomyda grandis*, Gray, in question, was presented by myself to the Museum in 1855, and consisted of a carapace only, hence it was doubtfully referred at the time by Blyth to *Emys platynota*, Gray (*vide* Journal of Asiatic Society, Vol. XXIV, pp. 712 and 714), and I entered this identification of Blyth's as a synonym of the above specimen, being careful to add "*apud* Blyth," in order to guard against the possible error of future compilers recording, on the above erroneous identification of Blyth, the occurrence of *Notochelys platynota*, Gray, in Tenasserim, whence it had never to my knowledge been obtained.

Under the head "KACHUGA," Appendix, Catalogue of Shield Reptiles, p. 17, Dr. Gray endeavours to throw the blame of the complete muddle of *habitats* of the specimens in my collection on myself, with what justice and truth I shall now endeavour to show. To take *Kachuga peguensis* first; this species is based on a head stated to have been presented by "W. Theobald Esq., India;" *vide* Proceedings of Zoological Society, 1869, p. 200, Fig. 12. Now if there is any point I have laboured to convey, it is that India is not Pegu, or Pegu India, and, consequently, if I gave the *habitat* "India," it assuredly never came from Pegu. Referring, however, to the same skull in Appendix to the Catalogue of Shield Reptiles, p. 18, Dr. Gray says:—"The skull figured as *Kachuga peguensis*, Fig. 20, was *purchased of a dealer* to whom Mr. Theobald had sold it among some reptiles said to have come from Pegu."

Now it is clear that both these conflicting statements as to how the type of *K. peguensis* came into Dr. Gray's hands cannot be true, and equally clear is it also, that I can in no ways be held responsible for such contradictory statements; but towards clearing up the imbroglio, I will contribute a fact or two that may be useful.

If Dr. Gray is correct in considering his species, *K. peguensis* as a synonym of *K. trilineata* (*vide* Supplement, Catalogue of Shield Reptiles, p. 54), then the specimen undoubtedly never was received from me, and equally undoubtedly never came from Pegu; since *B. lineata*, Gray (Catalogue of Shield Reptiles, p. 35) does not occur in Pegu, where it is replaced by the larger species *B. trivittata*, Dum. et Bib., but as Dr. Gray seems sure the type was received from me, it must have been a Pegu specimen of *B. trivittata*, Dum. et Bib., as I had in my collection several shells and skulls of that species, but only one or two shells, but no skulls of the other. Why, moreover, *B. lineata*, Gray, of p. 35, reappears as *K. trilineata*, at p. 54, I don't know; still less can I imagine, why the entirely distinct *B. trivittata*, Dum. et Bib., should figure as a synonym of it, with my name attached to it in the Supplement, at pp. 54, 55. I specially protested in person to Dr. Gray against the idea of the Pegu form being an Indian species

leaving the correctness of my identification of it with the *B. trivittata*, Dum. et Bib., an open question, and yet Dr. Gray transfers my description of the animal of the Pegu *trivittata* to the Indian *lineata*, a perfectly distinct animal.

HARDELLA THURGI. Under this head in his Appendix to the Catalogue of Shield Reptiles, p. 18, Dr. Gray indulges in a singularly disingenuous piece of criticism, breaking off his quotation of what I wrote, just where my words show that I had anticipated him in removing "*Thurgi*" from *Emys* to *Batagur*! Dr. Gray writes (*loc. cit.*):—"Mr. Theobald observes that *this species is very common at Calcutta, though adults are not very easily obtained* (the italics are my own). It appears to be more allied to *Batagur* than *Emys*, yet he did not discover that the skull that I had figured as *Kachuga Oldhami* was the skull of this species," &c. I would remark that Dr. Gray established his spurious species *K. Oldhami* in March, 1869, whilst the passage Dr. Gray quotes above was published in my Catalogue of Reptiles of the Asiatic Society, Bengal, in 1868! The exact words I really wrote are as follows, which I give for comparison with the above:—

"*A very common species at Calcutta, though adults are not very easily-got. It appears to me more nearly affined to Batagur than to Emys.*" This was the sum total of my remarks, and it was not till two years later that Dr. Gray pronounces his adhesion to the above view in his Supplement to the Catalogue of Shield Reptiles, p. 58, in the following words under the head of *Hardella Thurgi*:—

"By examining the head of the adult specimen in the British Museum, I have been enabled to prove, what I have long suspected, that Thurgi is a Bataguroid; and also to identify the skull which I figured as *Kachuga Oldhami* as the skull of this species!" Dr. Gray may truly be congratulated on the complacency with which he refers to his labours on the craniology of the *Testudinata* when within the compass of a few pages he describes as new species, three old and two of them well-known forms, *e. g.*, *Scaphia Falconeri*, Gray = *Testudo Phayrei*, Blyth; *Cachuga Oldhami*, Gray = *Batagur Thurgi*, Gray; and *Kachugu peguensis* = *Batagur lineata*, Gray, as admitted by himself in Supplement to the Catalogue of Shield Reptiles, p. 56, and to crown all his founding his genus *Potamochelys* on a skull of the common *Emyda*! *vide* Ann. of 1872, p. 340.

My reason for so summarily disposing of Dr. Gray's new species *Kachuga Oldhami* was this: I had examined Dr. Oldham's specimens before they passed into Dr. Gray's hands, and if the new species was *really*, as stated, founded on one of Dr. Oldham's specimens, I knew it must be founded on one of our common Batagurs, which one, however, I had neither means or leisure to determine,

and rested content therefore with recording my belief to that effect in a paper communicated to the Zoological Society, an abstract of which however was all that was allowed to appear in its Proceedings.

Finally, I will hazard placing on record my distrust of the correctness of Dr. Gray's identification of the skull of *Emys* (*Melanochelys*) *trijuga*, Supplement, Catalogue of Shield Reptiles, p. 34, on the ground that to the best of my recollection no such species was contained in Dr. Oldham's collection. At all events, no harm can be done by my so doing.

CALCUTTA, July 21st, 1873.

P. S.—Since penning the above paper, the Proceedings of the Zoological Society of London, Part I, for 1873, have come into my hands, wherein a paper by Dr. J. E. Gray on the *Trionychidæ* calls for some remarks from me, which I prefer embodying in the form of a postscript, rather than intercalating in the preceding pages.

The first point I have to notice is Plate VIII, whereon two specimens of *Tr. gangeticus*, each of which display four well marked ocelli, are figured. From this it is clear that Dr. Gray is no less incredulous than myself of the correctness of Dr. Anderson's observation that this species never presents ocelli, as I have shown above. This is a point however whereon further information is desirable, and I shall look with some interest to what Dr. Anderson may subsequently have to urge in corroboration of his view. The next species I would notice is *Nilssonina formosa*, p. 45, under which head Dr. Gray expresses himself as follows:—"It appears that this and the other *Trionyx*, marked "Pegu," do not really come from that place; for although the collection was sold as from "Pegu," it contained many specimens from other parts of Hindustan."

The above sentence, as it stands, is extremely unintelligible. In the first place, *by whom* were the specimens marked as coming from Pegu, which in reality came from somewhere else, and what is meant by *marking*? I do not remember that I ever marked any *Trionyx*, and I certainly challenge Dr. Gray to substantiate his assertion by producing some of the many specimens sold by me as coming from Pegu, but in reality coming from Hindustan. As a matter of fact, I can assure Dr. Gray that, if *Nilssonina* was described from a specimen in spirit in my collection, it assuredly came from Pegu, and Dr. Gray has been much misinformed by any one who has asserted the contrary. But why does not Dr. Gray give his authority for *now* stating that *Nilssonina* does not come from Pegu. Had he done so, the rectification of such incessant and petty errors would not be the never-ending task it is. Then again what is "the other *Trionyx* marked Pegu," and to whom is Dr. Gray indebted for the information that the two adult skulls of *Trionyx* procured by me in Pegu, both of which moreover perished by my revolver bullet, did not come from that province? Till Dr. Gray condescends to state the authority on which he

makes the above *quasi* corrections of the *habitat* furnished by the original possessor of the specimen, little real progress can be made in obviating such mistakes in future; as far however as can be judged at present, Dr. Gray seems to be himself mainly to blame.

Tr. hurum, Buch. Ham.

Tr. sewaare, Buch. Ham.

Tr. ocellatus, Gray.

At pages 49, 50, 51, Dr. Gray separates all these forms as distinct species, but without characterising them.

As regards *Tr. hurum*, I have nothing to add to what I have remarked previously in my paper. Of *Tr. sewaare*, Dr. Gray figures "the skull of a young species," which fairly corresponds with a skull extracted by myself from a fresh example of a *Trionyx ocellatus*, Gray. As far therefore as present materials allow us to decide, all these three names must rank as mere synonyms of *gangeticus*, though they have all probably been unwittingly applied to another species, which in the above paper I have separated under the name of *Tr. Buchanani*.

Isola peguensis.—At p. 51, Dr. Gray establishes a new genus, *Isola*, for the reception of the skull of a *Trionyx*, procured in Pegu, by myself, displaying the effects of my revolver bullet on it, but which, as I have shown above, Dr. Gray now considers to have come from Hindustan (*vide* p. 45). This species, if not identical with, is very closely allied to, *Tr. stellatus*, Geoff., but the coloration of the head of this species (if my identification of it, *vide* Plate III, is correct) would seem to differ from Dr. Gray's description of an example in spirit.

2. *On the discovery of a super-orbital chain of bones in the Arboricolæ (Wood Partridges).*—By J. WOOD-MASON.

This note will be printed in Journal, Part II, 1874.

3. *Description of new Marine Mollusca from the Indian Ocean.* By MESSRS. G. and H. NEVILL.

This paper will appear in Journal, Part II, No. 1, 1874.

The President then addressed the meeting as follows:

Gentlemen, before we separate this evening, I should wish to say a few words in tribute to the memory of one who laboured long and well in the interest of this Society, and of whose death we have so lately heard.

I speak of Mr. Blyth, of whose loss we must all of us have heard with unmixed regret. On looking round, I do not find one present who had sat with him at this table or who had worked with him here in India, and who could speak personally of his labours, not that such is necessary, for our Journal teems with his work, and his name is familiar to every naturalist in India, and to every working member of this Society.