

On a new species of trionx from the miocene of Malta and a  
chelonian scapula from the London clay. By R. Lydekker

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3. *On a NEW SPECIES of TRIONYX from the MIOCENE of MALTA and a CHELONIAN SCAPULA from the LONDON CLAY.* By R. LYDEKKER, Esq., B.A., F.G.S. (Read November 12, 1890.)

#### I. TRIONYX FROM MALTA.

IN a paper read before the Society in November, 1885, I described part of a Crocodilian skull from the Miocene of the Maltese Islands, which was referred to the existing Oriental genus *Tomistoma*\*; attention being at the time particularly directed to the interest of the occurrence, in those deposits, of a genus now confined to one island in the purely tropical Malay Subregion of the Oriental Region. On the present occasion I bring to the notice of the Society evidence of Oriental affinities in a member of the Chelonian family *Trionyhidæ*, of which the remains have been recently obtained from the Miocene of Malta.

The specimen forming the subject of this part of the paper is one of a small collection brought from Malta by Dr. John Murray, and presented by him to the British (Natural History) Museum. It consists of a portion of the middle and right half of the anterior region of the carapace of a large Chelonian referable to the family *Trionyhidæ*. The specimen, of which a reduced and restored representation is given in the accompanying figure, is embedded in the characteristic buff limestone of Malta, with the sculptured surface exposed. The nuchal bone (*nu*) is missing, but the greater part of the first four costals ( $c^1-c^4$ ) of the right side are preserved; and there also remain portions of five neural bones, and the inner extremities of the first, second, and third costals of the left side. The form of the neural ( $n^3$ ) situated between the third costals, with its shorter lateral surfaces placed posteriorly, is alone sufficient to show that the specimen belongs to the anterior half of the carapace. The forward inclination of the fourth costal is, however, apparently due to the flattening which the specimen has undergone.

The carapace indicates a species nearly or quite as large as the existing *Chitra indica*, the length of the third neural being 2·8 inches. It also agrees with that species in the coarseness of the sculpture, but this feature is also met with in some species of *Trionyx*. The comparative shortness of the ribs and costal plates suggests that the specimen is not fully adult.

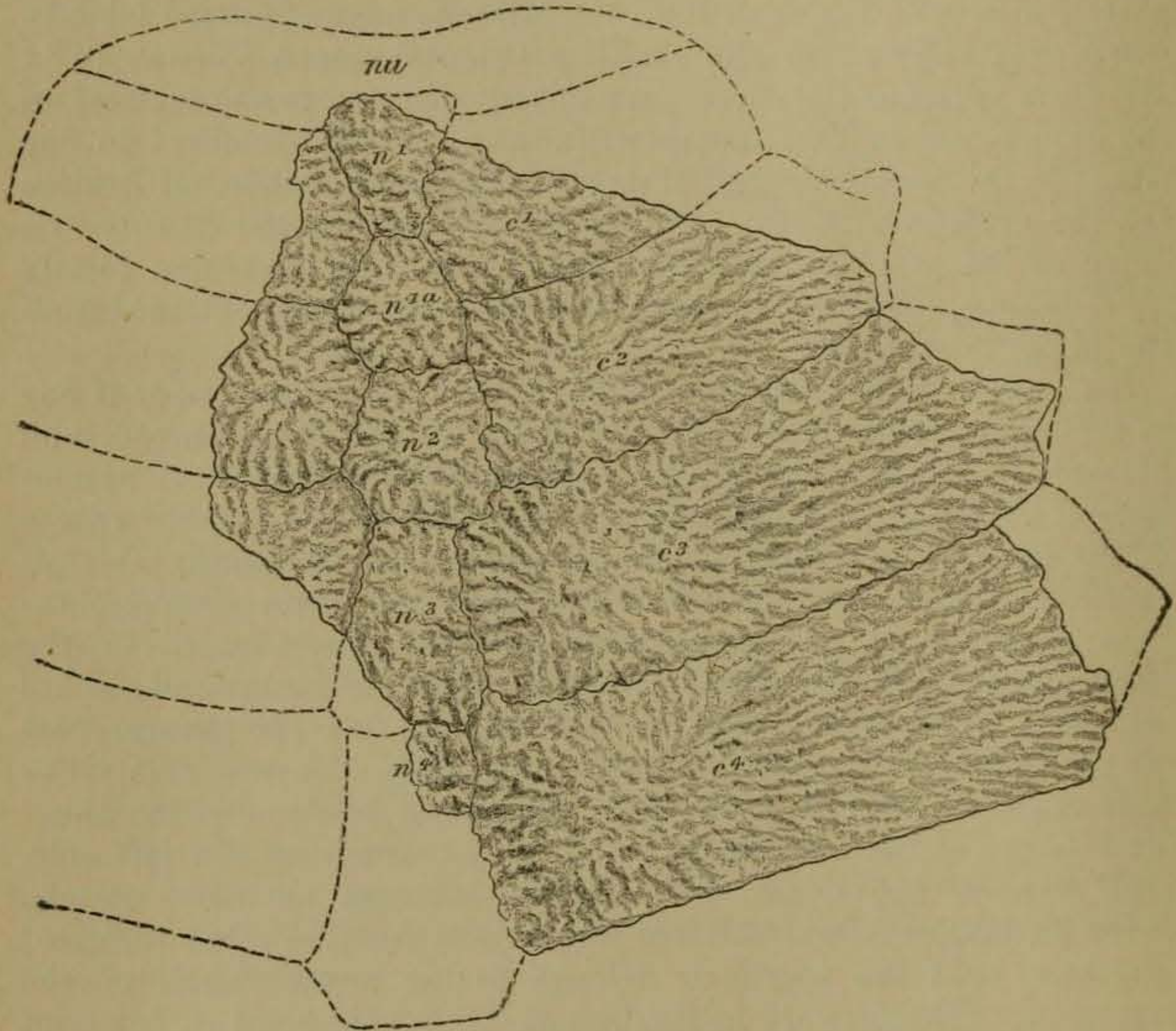
Before proceeding further, it should be observed that the three Indian species of *Trionyx* (viz. *T. gangeticus*, *T. Leithi*, and *T. hurum*) differ from all other members of the family in having two neural bones between the first pair of costals †, this being apparently due to a subdivision of the normal first costal. All the fossil species hitherto described, of which the entire carapace is known, agree

\* See Quart. Journ. Geol. Soc. vol. xlii. p. 20 (1886).

† See Boulenger, 'Catalogue of Chelonians, &c. in Brit. Mus.' p. 244 (1889).

with the normal type in having but a single long neural between the first pair of costals; and no species, so far as I am aware, has been named from the Maltese Miocene. An inspection of the figure of the Maltese specimen will, however, at once show that it agrees with the *T. gangeticus* group in having two neurals ( $n^1$  and  $n^{1a}$ )

Fig. 1.—Upper surface of the anterior part of the carapace of *Trionyx melitensis*; from the Miocene of Malta. (One fourth of the natural size.)



between the first costals, and that it is therefore specifically distinct from all fossil species based on specimens sufficiently perfect to exhibit the characteristic features of this part of the carapace. From *T. gangeticus* and its allies it is distinguished by the greater elongation of the second moiety of the divided neural ( $n^{1a}$ ), in consequence of which the proper second neural ( $n^2$ ) becomes much shorter, and also by the coarser sculpture. In its coarse sculpture it agrees with *T. planus*, of the Hordwell beds, in which the anterior part of the carapace is unknown, but is of larger dimensions.

It has already been mentioned that in its large size and coarse sculpture the fossil approximates to *Chitra indica*; and the question naturally arises whether extinct species of *Chitra* may not, like the Indian species of *Trionyx*, have the first neural divided. In the absence of the skull it is almost or quite impossible to say whether

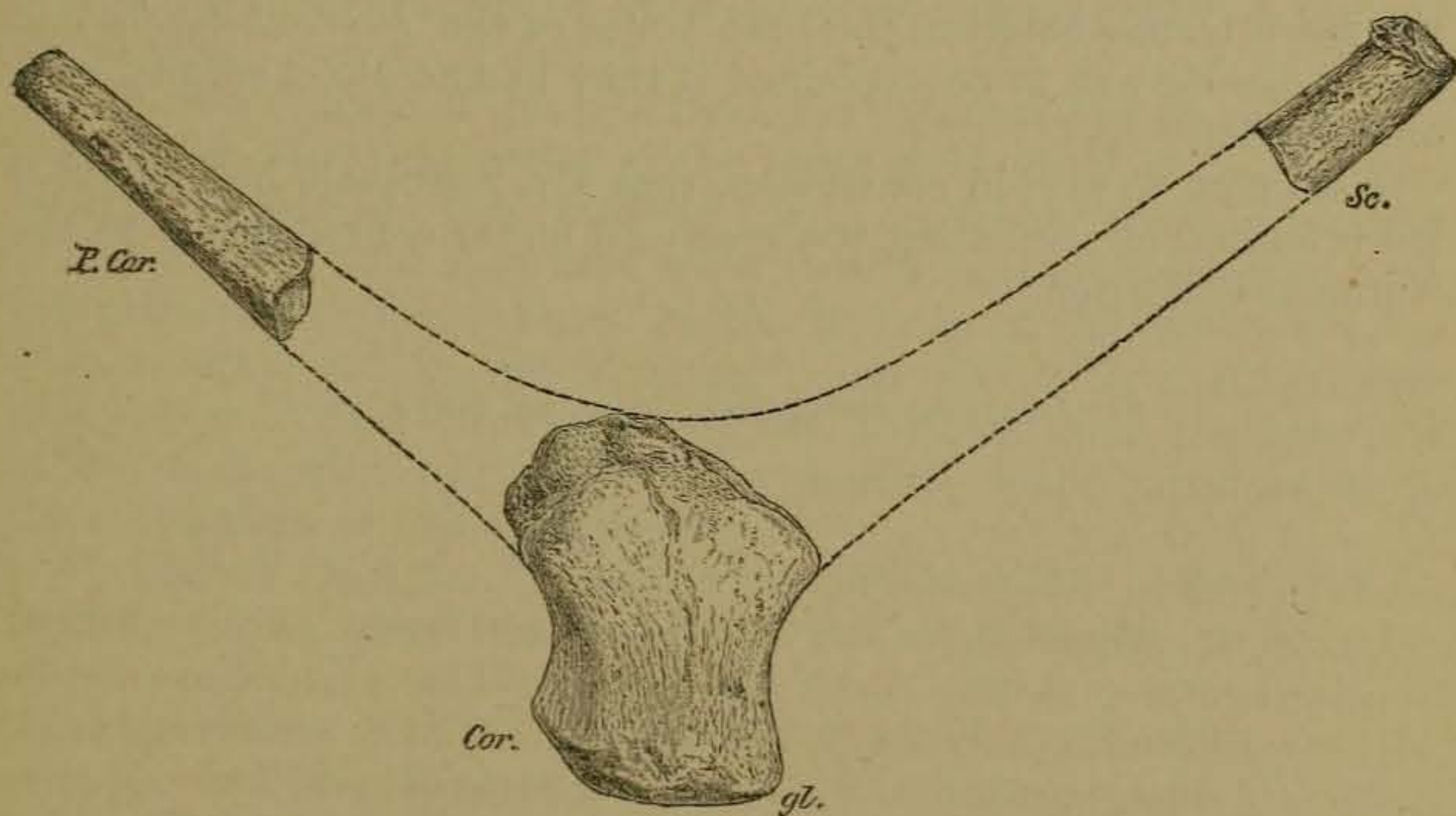
the fossil species should be referred to *Chitra* or *Trionyx*; but in either case its Indian affinities would be certain, since *Chitra*, like the species of *Trionyx* with a divided first neural, is now confined to India.

Since we know of the existence of a divided first neural in *Trionyx*, and have no evidence of such a condition in *Chitra*, I propose to refer the species represented by the specimen under consideration to the former genus, with the designation *T. melitensis*.

## II. SCAPULA OF EOSPHARGIS FROM THE LONDON CLAY.

A short time ago Mr. W. H. Shrubsole, F.G.S., submitted to my notice three fragments of a large reptilian bone obtained from the London Clay of Sheppey, which I soon recognized as portions of the left scapula of a gigantic turtle. The fragments, which are represented in their approximately relative positions in fig. 2, indicate a larger scapula than has hitherto come under my notice; and the only known turtle, from these deposits, to which they can be referred is the so-called *Chelone gigas* of Owen, a species which I have made the type of the genus *Eosphargis*, and classed among *Dermochelyidae*\*. The fragments comprise the glenoidal portion of the bone, the distal

Fig. 2.—*Ventral aspect of the left scapula of Eosphargis gigas, from the London Clay. (One sixth of the natural size.)*



*Sc.*, scapula; *P. Cor.*, precoracoid; *Cor.*, coracoidal facet; *gl.*, glenoid facet.

extremity of the true scapular bar, and a considerable portion of the precoracoidal bar. Among the specimens of *Eosphargis gigas* preserved in the British Museum is a slab of rock, numbered 44089†, which contains the imperfect bones of the pectoral girdle. In this specimen there is the glenoidal extremity of a scapula (or, as it may

\* Quart. Journ. Geol. Soc. vol. xlv. p. 241 (1889).

† See 'Cat. Foss. Rept. & Amphib. Brit. Mus.' pt. iii. p. 226 (1888-89).