

NOTE ON A CHELONIAN HUMERUS FROM THE MIDDLE EOCENE OF  
BRACKLESHAM.

BY R. LYDEKKER, B.A., F.G.S.

(Communicated by A. SMITH WOODWARD, F.G.S.)

(Read May 3rd, 1889.)

I have been requested by Mr. A. Smith Woodward to describe the imperfect humerus of a large marine Chelonian, the property of Mr. J. B. Ogle, obtained from the Middle Eocene of Bracklesham, in Sussex, which, as I am informed, was exhibited at the meeting of the Association when Mr. Woodward read his paper on 'Leathery Turtles.'\*

This specimen, of which a reduced figure is here given (Fig. 1), is the left humerus of a member of the *Chelonidæ*, or true turtles. It has lost the distal third; and the proximal extremity, and more especially the head, has suffered considerably from erosion, by which its original contour has been somewhat marred. In size this specimen agrees approximately with the humerus of the largest skeleton of *Chelone mydas* in the Natural History Museum. This feature alone suffices to distinguish the specimen from the turtles of the abundant Eocene genus *Lytoloma* (*Euclastes*†), the largest forms of which are characterized by the small size of the shell and limbs in proportion to the skull. Further, a comparison with the figure of the corresponding humerus of the Eocene genus given by M. Dollo in the 'Geological Magazine' for 1888, p. 266, fig. 2, will show better than any description how widely the present specimen differs from that bone; the

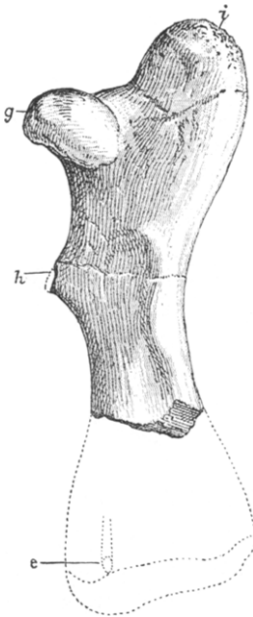


FIG. 1.—Left humerus of  
*Thalassochelys eocenica*.

\* 'Proc. Geol. Assoc.,' Vol. x, p. 2.

† For the complex synonymy of this genus see 'Quart. Journ. Geol. Soc.,' Vol. xlv (1889), pp. 233-234.

most striking differences being the lower position of the radial (lateral) process, the less constricted shaft, the more prominent ulnar (mesial) process, and the smaller obliquity of the head.

Compared, however, with M. Dollo's figure of the left humerus of *Chelone mydas* given in fig. 3 of the page cited, a much closer resemblance will be apparent. The present specimen differs, however, from the humerus of *Chelone* by the more marked constriction of the shaft below the radial process, and also by the circumstance that the head is placed more obliquely to the axis of the shaft; in consequence of which latter feature more of the head is seen from the dorsal aspect of the bone here figured than is the case with *Chelone*.

In the points in which this specimen differs from the humerus of *Chelone* it resembles that of the Loggerhead Turtle (*Thalassochelys*); and there is accordingly a *prima facie* case for referring it to that genus. There is, moreover, certain additional evidence in favour of this reference, since the British Museum possesses a portion of the mandibular symphysis (No. 38,995) of a very large Chelonian from the London Clay of Sheppey which agrees so closely with the mandible of *Thalassochelys* that there can be but little hesitation in referring it to the same genus. It does not, indeed, necessarily follow that this specimen belongs to the same species as the humerus before us, but it is important in confirming the evidence of the latter as to the existence of Loggerhead Turtles in the Eocene.

Since I am unacquainted with any described European Eocene Turtle with which the humerus under consideration can be identified, I venture to regard it as the type of a new species, for which the name *Thalassochelys eocænica* will be appropriate. I shall not, however, attempt to define this species from the evidence of the humerus alone; taking it for granted that it must certainly have been distinct from the existing species. At the same time it must also be assumed that this form is specifically distinct from all the Eocene Turtles of North America, none of which, so far as I am aware, have been referred to *Thalassochelys*.\*

Finally, the rarity in the English Eocene of remains of turtles

\* Two of the English Eocene species of *Lytoloma* were referred by Prof. Cope to *Thalassochelys*.

allied to existing types lends confirmation to the suggestion made by M. Dollo that the members of the genus *Lytoloma*, which are comparatively so common in those deposits, were mostly of estuarine habits.

---

ON ROCKS FROM THE SAAS-THAL AND GENEVA.

BY CAPTAIN MARSHALL HALL, F.G.S.

(Read May 3rd, 1889.)

I can do but little on this occasion beyond describing these rocks, since Prof. Bonney's recent paper (far more elaborate than I was led by the abstract to think it) upon two complete traverses of the Alps,\* renders my own proposed account of one half-traverse of the Pennine range so small a matter comparatively that, for the present, I put the restraint of silence upon myself. But an account of rocks under the microscope may always be of use to other workers, and may at a future time be appropriately followed up, after, if possible, another visit to the localities. Indeed, deep snow and a change to bad weather in 1880, prevented me from carrying out field work with anything approaching to completeness. Of course, drizzle, showers, and sleet or snow, which at lower levels simply cause discomfort, take forms at high altitudes which render satisfactory work impossible.

I may be allowed a reference to my very small share in the literature of our subject. My first visit to the Saas-Thal was in 1849, and the object which led to my second visit in 1880 was in great part to trace home the very interesting erratic stones scattered by the retreating glaciers on the north side of Lake Lemman and at Geneva. The year after this visit I read a paper before the Société Vaudoise des Sciences Naturelles at Lausanne, and contributed a short account of it to the Mineralogical Society, which appeared in their Magazine for June, 1883. Since then one thing or another has prevented me from revisiting the locality. I have induced my friend Mr. Grenville A. J. Cole to go through my series of euphotide and schistose rocks. He brought to bear upon them the skill of his special work, and that comprehensive shrewdness in the application

\* 'Quarterly Journal of the Geological Society,' Vol. xlv (1889), p. 67.