

PALEONTOLOGY. — *Discovery of a scelidosaurian (ornithischian dinosaur) in the Upper Triassic of Basutoland.* Note (\*) by Mr. Léonard Ginsburg, presented by Mr. Jean Piveteau.\*

Discovery of a new scelidosaurian in the upper Red Beds of the Stormberg Series of Basutoland. Form near but smaller than *Scelidosaurus* from the Lias of England. This work traces our understanding of stegosaurs into the Upper Triassic.

The continental Stormberg Series, which crowns the well-known Beaufort Beds in South Africa, is traditionally divided into three parts: Molteno, Red Beds, and Cave Sandstones, and extends roughly onto the terminal part of the Middle Triassic, the Upper Triassic, and the Rhaetian. From the paleontological point of view, it marks an important renewal of the fauna: mammal-like reptiles of large size have practically disappeared, while ictosaurs, tritylodonts, and dinosaurs have appeared.

I have already described the remains of a tritylodont skull <sup>(1)</sup> arising from the upper Red Beds of Likhoele near Maphutseng in Basutoland. The same locality ceded to me, in the course of the summer of 1959, a very interesting fragment of mandible still bearing some teeth in an excellent state of preservation.

The mandible is thin, gracile, and relatively little elevated relative to its thickness. Meckel's fenestra is situated in a fairly low position but its importance cannot be judged because its inferior border is broken. The single-rooted teeth possess long, rectilinear roots and the crown is wider than the neck. These teeth are straight, trenchant, and triangular in profile. From the single point descend two carinae, one anterior and one posterior. Fine crenulations indent the edge of these carinae. A slight swelling exists finally at the base of these teeth, forming a small cingulum from front to rear on the external face as the internal face. The three preserved teeth are 3.3 to 3.5 mm in length, versus 2.5 to 3.0 mm in height and 2.3 mm in maximum width.

These fine, triangular, and crenulated teeth immediately evoke the teeth of ornithischians. However they have neither the long grooves characteristic of ornithopods, nor the thinning of the teeth of Upper Jurassic stegosaurs. In contrast, they very closely resemble the mandibular teeth of *Scelidosaurus harrisonii* from the Liassic of England <sup>(2)</sup>. They only differ by their lower height and the feebleness of the two basilar crenulations which, in the English fossil, form two strongly hooked salients at the base of the tooth.

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Furthermore, the teeth of *Scelidosaurus* appear slightly recumbent towards the rear, whereas ours are more vertically erect. Finally, *Scelidosaurus harrisonii* was twice as large as our fossil. The other representative of the scelidosaurids, *Lusitanosaurus liasicus* <sup>(3)</sup> from the Portuguese Liassic, is a form more than twice as large as *Scelidosaurus* but which approaches it narrowly by the presence of important anterior and posterior basilar points on each tooth. Therefore, *Lusitanosaurus* could not be confused with the Basutoland fossil, which appears more primitive by its size and morphological characters. I will name this fossil *Fabrosaurus australis*, in honor of geologist Mr. Jean Fabre, who was my voyaging and research companion in these remote lands; meanwhile the species name recalls the country of origin of this fossil.

The diagnosis will be the following: dinosaur of small size, with single-rooted teeth possessing long vertical roots; small, straight crowns with clearly equilateral profile, crenulated regularly on the two edges. The only specimen was the holotype and was deposited in the Muséum National de l'Histoire Naturelle de Paris.

The presence of a scelidosaurid in the Upper Triassic of South Africa is not without interest. It is this period in which the oldest known remains of dinosaurs appeared. In Basutoland, saurischians are well represented and already differentiated into carnosaurs (with *Gryponyx* and *Aetonyx*), prosauropods (with numerous genera such as *Massospondylus* and *Plateosaurus*) <sup>(4)</sup>, and perhaps sauropods <sup>(5)</sup> (*Euskelosaurus*?). The ornithischian genera were until now much less numerous. Only the genera *Geronosaurus* [*sic*: *Geranosaurus*] <sup>(6)</sup> and *Heterosaurus* [*sic*: *Heterodontosaurus*] <sup>(7)</sup> were known with certitude, both attributable to the suborder Ornithopoda. The presence of a stegosaur shows that ornithischians, like saurischians, were represented by at least two suborders. Moreover, if one considers that the thecodonts, which are placed at the origin of archosaurs, are only in the Triassic, the extreme rapidity of dinosaur evolution at the beginning of their history must be shown. Once more, one can speak of an explosive and bushy phase of evolution. Like eutherian mammals at the beginning of the Tertiary, dinosaurs appeared abruptly at the beginning of the Mesozoic and the remainder of their history will not be very important on the morphological level compared to that, older and uniquely Triassic in age, which is still hidden from us.

(\*) Meeting of February 17, 1964.

(1) *Annales de Paléontologie*, 48, 1962.

(2) R. OWEN, *Paleontographical Soc.*, 1862.

(3) A. F. DE LAPPARENT and G. ZBYSZEWSKI, *Mém. Serv. Géol. Portugal*, new series, no. 2, 1957.

(4) S. H. HAUGHTON and A. S. BRINK, *Paleontographica Africana*, no. 2, 1954.

(5) F. and P. ELLENBERGER, *C. R. som. Soc. géol. Fr.*, no. 4, 1958.

(6) S. H. HAUGHTON, *Annals of the South African Museum*, 1924.

(7) A. W. CROMPTON and A. J. CHARIG, *Nature*, no. 4859, 1962.

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