

Article XVII.—GLYPTOTHERIUM TEXANUM, A NEW
GLYPTODONT, FROM THE LOWER
PLEISTOCENE OF TEXAS.

By HENRY FAIRFIELD OSBORN.

PLATE XLIII.

The existence of Glyptodonts in the United States was made known by Cope ¹ in 1888 in his description of *Glyptodon petaliferus*, based on a single carapace scute or plate from the Lower Pleistocene Equus Beds of Texas; and by Leidy ² in 1889 in his *Glyptodon septentrionalis*, based on carapace and caudal scutes from Florida; Leidy also described ³ and figured from Florida plates of the *G. petaliferus* type. The American Museum Expedition sent out by the writer, with the aid of the William C. Whitney Fund, under the leadership of Mr. J. W. Gidley, was fortunate in securing the nearly complete carapace, pelvis, sacrum, caudals, and complete tail armature of an individual in fine preservation. It proves to represent a new genus and species, combining characters of several of the South American forms of the Pleistocene and Miocene periods. The specimen was skillfully brought in by Mr. Gidley and prepared and mounted under the direction of Mr. Adam Hermann. The writer is especially indebted to Prof. W. B. Scott for pointing out several of the features in which *Glyptotherium* differs from the known South American genera. Also to Mr. W. K. Gregory for the preparation of the manuscript for the press.

The specific distinctions given below are derived by comparison of (1) the specimens referred by Leidy to *G. petaliferus* and of (2) Cope's description, which runs as follows: ". . . with the circumferential areas of the rosette but little smaller than the central one. The former are regularly pentagonal,

¹ Amer. Naturalist, Vol. XXII, 1888, p. 345.

² Proc. Acad. Nat. Sci. Phila., 1889, p. 97; and 'Description of Vertebrate Remains from the Peace Creek of Florida,' Trans. Wagner Free Inst. of Phila., Vol. II, 1889.

³ *Ibid.*, pl. iv, fig. 9; pl. vi, fig. 1.

the latter regularly hexagonal, and they are separated by well-defined grooves." Cope's type specimen is not available for comparison; it may prove that Cope's description and Leidy's reference are both misleading.

***Glyptotherium texanum*, gen. et sp. nov.**

The *carapace* measures 1450 mm. (4 ft. 9 in.) along the dorsal curvature anteroposteriorly, and 1920 mm. (6 ft. 4 in.) from side to side; the tail armature is 620 mm. (about 2 ft. 1 in.) long, having a circumference proximally of 705 mm. The larger plates in the dorsal region measure 60 mm. in the longest diameter, which is oblique to the axial line of the carapace. The marginal plates may be estimated at 84, or 42 as counted on the more perfectly preserved left side. Eight of the posterolateral marginal plates are pointed or projecting; all the others have an even, gently convex, border. The central plates are quadrate in the lower portion of the shield, irregularly pentagonal and hexagonal in the upper, all being characterized by a large central circular area surrounded by from 7 to 12 smaller peripheral areas, all separated by grooves. From 35 to 36 transverse rows of these plates may be counted along the top of the carapace, and 34 at the side, practically the same number as in *Glyptodon clavipes* Owen.¹ The six anterolateral rows are firmly united, but the seventh to fifteenth are separated by deep grooves and admitted of some freedom of motion; these plates overlapped, the borders being bevelled. A similar freedom is observed in *Panocthus*.

The *tail armature* is composed of eighteen circles of plates, of which the anterior fifteen are arranged in paired rings and the posterior three are coalesced into a single triple piece or terminal cone. There are thus eight of the movable rings, of which the seven anterior are composed of two rows of simple flattened plates, and the eighth of a single row of elongate

¹ Cf. Lydekker, R., Contributions to a Knowledge of the Fossil Vertebrata of Argentina, Pt. II., pll. i-v. Paleontologia Argentina, III. La Plata, 1894.

plates with three pieces intercalated anteriorly. Behind these eight distinct rings is the terminal cone, composed of three rings of plates; of this coössified portion the anterior ring contains eight pieces with two anterolateral pieces; the mid-ring is composed of six pieces, and the terminal ring is irregularly composed of four pieces. Thus the tail comprises eight complete rings and a terminal cone, the same number as in *Glyptodon clavipes* as described by Lydekker. The rings gradually increase in length from 60 mm. anteroposterior measurement, and decrease in diameter from 230 to 183 mm. The terminal cone is laterally compressed, measuring 75 mm. transversely and 132 anteroposteriorly. The posterior borders of the ring plates are gently scalloped, not pointed as in *Glyptodon clavipes*.

Within the carapace and caudal rings were found one *sacrocaudal* and thirteen free *caudal vertebrae*, with an imperfectly developed fourteenth, and seven chevrons—all perfectly preserved. Of these vertebrae the posterior ten, as appears from measurement and from the deflected transverse processes, were fitted within the tail-sheath, there being thus a vertebra for each ring, while the anterior three articulated with the peculiar sacrocaudal vertebrae, in which the greatly elongated transverse processes or ribs extend outward to coössify with the posterior plates of the ischia. The first free caudal has a transverse diameter of 302 mm., and distinct lateral articulations as facets for the posterior borders of the last sacrocaudal and of the ischium; the neural laminae are elevated, the pre- and postzygapophyses are elevated and vertically placed; the neural spine is low; caudals 2 and 3 were also well within the carapace, with transversely extended spines; in caudals 4–11 the transverse processes are deflected, downwardly and forwardly directed; the neural arches, zygapophyses, and spines diminish in distinctness. Caudals 12–13 lack all processes. A single *chevron* of the narrow type, similar to the most anterior chevron in *G. clavipes*, was found with the specimen; it measures 130 mm. vertically. Six stout chevrons with shallow, obtusely forked inferior processes, anteroposteriorly expanded distally, are placed beneath

caudals 5-11. These chevrons have an entirely different form from the deep, narrow chevrons in *G. clavipes*.

Both ossa innominata, as well as the entire dorso- and caudo-sacral complex, are preserved.

GENERIC AND SPECIFIC CHARACTERS.

The hexagonal osseous plates of the carapace of this species resemble those figured by Leidy (*op. cit.*, pl. iv, fig. 9; pl. vi, fig. 1) as *G. petaliferus*, but differ specifically in: (1) the relatively large size of the central area; (2) the smaller size and irregular form of the peripheral areas; (3) the shallowness of the circular and radiating grooves.

As regards generic distinction, this animal is very primitive and simple in its tail structure, which strongly suggests that of *Propalæohoplophorus* and other Santa Cruz (Miocene) types, but it appears to show some degeneration in the sculpturing of the carapace plates, in which the central and marginal areas are not so sharply defined as in *G. petaliferus*, *Panocthus*, and other types. The imbricating lateral plates suggest those of *Panocthus*. The shallow caudal chevrons are rather like those of *Sclerocalyptus* (*Hoplophorus*) than the deep chevrons of *Glyptodon*. The general shape of the carapace is also rather like that of the *Sclerocalyptus* type than that of *Glyptodon*.



GLYPTOTHERIUM TEXANUM, TYPE.
With *Lysturus uncinatus*. $\times \frac{1}{3}$.

