On the discovery of remains of Halitherium in the Miocene deposits of Malta. By A. Leith Adams

inches, and of the middle of the shaft 2·5 inches. The lower extremity of a humerus is 2·3 inches across the articulation; the furrow on the external border is faint, which, again, distinguishes the bones in question from those of marine turtles.

A cervical vertebra, possibly the 5th or 6th, has lost its anterior half; but the convex end and vertebral foramen, together with the articulating processes, are entire. The breadth of the convex articulating surface of the body is 1·4 inch, by 1 inch in thickness; entire height of the vertebra 2·2 inches. The caudal vertebra from Benghisa Gap has also lost its posterior portion; and transverse processes of the body, with the concave articulation, canal, and anterior superior articulating facets, are preserved. The concave articulation is 0·9 inch broad by 0·7 in the antero-posterior direction; the height of the vertebra 1·7 inch, and diameter of the canal 0·3 inch.

A humerus of a very small species of Tortoise from the débris of Zebug Cave shows only the head and a portion of the shaft, the curved condition of the latter clearly distinguishing it from the Marine, whilst the greater comparative width between the tuberosities separates it from the Land, and assimilates it to either the Marsh or River families. The fragment measures from the head to the tuberosities 5·5 lines; distance from one tuberosity to the other 5 lines. The head is 3·5 lines vertically, and 3 lines broad; girth of shaft 3 lines.


Various forms of Cetacea have been met with in the four upper beds of the Miocene strata of the Maltese group. The discovery there of teeth of *Zeuglodon* by Scilla, and the abundant remains of one or more species of Dugong allied to recent forms and *Balæna*, show the prevalence of these mammals in the seas of the period. They are met with in the greatest numbers in the sand-bed and nodule-bands of the Calcareous Sandstone. In the latter situation I lately discovered a tooth which appeared to me to belong to the *Halitherium*, and in the sand-bed an ear-bone and caudal vertebra of possibly the same genus. The tooth and ear-bone I have shown to Professor Owen, who has confirmed their identity with the above-named genus.

The molar, possibly a penultimate, has lost one of its fangs. The crown is encased in thick shining enamel, and is 9 lines in length by 8 lines in breadth; the height of the crown is 2·6 lines. The fangs are two in number; the anterior small, the posterior large and diverging. The length of the latter is 7·5 lines.
The accompanying sketch represents the crown (nat. size), which probably shows a more advanced state of wear than any figured by Cuvier*. The ear-bone is entire, and measures 1.4 inch in breadth, by 9 lines in vertical diameter.

The specimens referred to in this note are in the Museum of the Geological Society.

11. On the Affinities of Chondrosteus, Ag.
By John Young, M.D., F.G.S.

(This paper was withdrawn by permission of the Council.)

[Abstract.]

The object of this communication was to show, from the characters of the skeleton, that Chondrosteus belongs not to the Chondrostean division of the ganoids as stated by Agassiz, but to the Holostean division, since it possesses a well-ossified basi-occipital; and the lateral walls of the cranium are composed of bones answering to the cartilage bones of ordinary Teleostean.

By John Young, M.D., F.G.S.

Since the publication, in 1861, of Professor Huxley's memoir on the classification of Devonian Fishes, several new genera have been established, and the intervals between some of the families (tabulated at p. 24, Mem. Geol. Surv., Decade x.) thereby diminished.

Rhizodopsis, Huxley. Fig. 8.

The specimens to which this generic name has been given are those whose scales Prof. Williamson described and figured in the Phil. Trans. 1849, under the name of Holoptichius sauroides, a term which has also been applied to a tooth which it will appear is generically distinct from Holoptichius.

The body of this fish tapers to a point posteriorly; its greatest depth is at the pectoral arch. Head depressed; orbits forward; gape wide, extending behind them. Maxilla in a single piece, furnished with fine, equal, conical teeth; premaxilla not preserved. Mandible straight, deepest posteriorly, expanded at the symphysis; contains teeth of two sizes; the larger, three or four in number, plicate at the base, strong, conical, slightly incurved; the smaller, one-fourth of the size of the preceding, like them strong, conical: the surface of all the teeth above the plicate base is smooth. Jugular plates in two pairs, principal and posterior. No trace of median or lateral plates. The occipital region is closed in by three bones, in front of which are the parietals in close approximation. The facial bones are not determinable. Operculars large, subquadrate; suboperculars a half smaller, rounded anteriorly. The parietals, operculars, and jugulars are ornamented with fine, parallel or bifurcating ridges. The facial bones and jaws have their surfaces reticu-

* Ossemen Fossiles, pl. xxxvii. figs. 9, 10, & 11.