

of its affinities has not been attained. So far as the terms of the “generic definition” are concerned, the name will apply equally well to a sole or a sun-fish; but the fine figures and detailed description of the fossils help to compensate for the insufficiency of the diagnosis.

The memoir as a whole makes an important advance in our knowledge of the Upper Cretaceous Fishes of Western Europe, and ichthyologists are much indebted to the author for providing so many new facts that will assist in future generalizations.

A. S. W.

### III.—Dr. E. FABRINI ON *MACHÆRODUS*.

*MACHÆRODUS* (MEGANTHEREON) DEL VALDARNO SUPERIORE, MEMORIA DEL DOTT. EMILIO FABRINI. (Boll. R. Com. Geol. 1890, Nos. 3-6, pp. 43, pls. 3.)

THE present Memoir is another of the series intended to illustrate the extinct Mammalian fauna of Italy, reference to which has already been made in our issue of last month.

The author describes in full detail, with excellent illustrations, all the more important remains of Sabre-toothed Tigers (*Machærodus*) from the Pliocene of the Val d'Arno preserved in the Italian Museums. He concludes that two species have hitherto been confused together under the name of *M. cultridens*. In that species the upper canine teeth of the male are long and narrow, and have no serrations on their trenchant edges; and it is believed that the smaller skulls and jaws which have been regarded as representing a distinct species—*M. meganthereon*—are really referable to females of *M. cultridens*. A second new species designated *M. crenatidens* is distinguished by the shorter and wider canine teeth of the males, in which both the front and hind edges are strongly serrated. In accordance with the contour of the canine the hollow in the flange of the lower jaw, against which they are applied, is likewise unusual. It is considered that the lower jaw from the Norfolk Forest-bed, described by the late Mr. Backhouse in the Geological Society's Journal, is referable to this form, whereby a new species is added to the British Fauna.

A second new species, which it is proposed to designate *M. nestianus*, is characterized by the upper canine teeth carrying serrations only on their hinder edges; and likewise by the long gap separating the third and fourth premolars in the lower jaws. It is suggested that it may be advisable to regard this species as the type of a new genus, in which case the name *Homotherium* might be adopted.

R. L.

### IV.—SUR LA NATURE VÉGÉTALE DE L'*AACHENOSAURUS MULTIDENS*, G. SMETS. Par Dr. MAURICE HOVELACQUE. (Mem. Soc. Belge de Géol. iv. (1890) p. 59 et seq.)

THE “wooden Dinosaur”—as the so-called *Aachenosaurus multidens* has not inaptly been termed on this side of the Channel—has at length received its *coup de grâce* at the hands of the author of this

memoir. The vegetable nature of the fossil could not possibly be disputed by any one who examines the descriptions and figures in the text with the accompanying plate; or who, like the writer of this notice, has had the privilege of seeing sections of the "bones" under the microscope. The two fragments examined by Dr. Hovelacque, viz. the so-called *épine dermique* and *mâchoire*, he shows to belong to two different families of plants, and they now receive the names of *Achenoxylon* and *Nicolia Moresneti* respectively. G. F. H.

V.—*LA FAUNE TERTIAIRE MARINE DE CARRY, DE SAUSSET ET DE COURONNE (PRÈS MARSEILLE). FACIES DES ÉTAGES TERTIAIRE DANS LA BASSE-PROVENCE.* Par M. PAUL GOURRET. (Mem. Soc. Belge de Géol. iv. (1890) pp. 73–143, with four plates.)

THE author commences by giving a general outline of the Tertiary beds of Basse-Provence, showing that the Eocene, Oligocene, Miocene and Pliocene are each represented in that district. In this memoir he gives a few palæontological details fixing the horizons of the several beds and roughly correlating them with the Tertiary strata of adjacent areas.

The second part enumerates the species found at the three places mentioned in the title of the memoir, and under the heading of each of these species are placed the names (where necessary) of what the author considers to be synonyms, together with a brief account of its geologic and geographic distribution, with occasional critical remarks. This is the most important section of the paper, and it is put forward as a revision of the whole fauna and as the result of much careful research. In all, 301 species of fossils are recorded, which are distributed as follows:—Pisces 8, Crustacea 5, Mollusca 247, (Gasteropoda 157, Pelecypoda 90), Polyzoa 6, Brachiopoda 3, Echinodermata 13, Coelenterata 19. The Fish belong to the genera *Lamna*, *Myliobates*, *Oxyrhina* and *Sphærodus* (*sic*); whilst the Crustacea are mainly *Balani*. The Mollusca naturally claim a large share of attention, and it may be remarked that in dealing with them, the author does not adhere to certain well-known and generally accepted rules of nomenclature, which is much to be regretted. For example, when the generic appellation of a species is changed, he inserts the name of the individual who made the alteration after the specific, instead of that of the original describer of the species. The science of Malacology has made great strides during the past ten years, but this fact has not been sufficiently recognized in the memoir now under review. It would be tedious to point out all the shortcomings in this respect, but we may mention *Pyrula melongena*, Bast., which should be *Melongena cornuta*, Ag.; *Pyrula bulbosus*, Desh. = *Sycum bulbosus*, Sol.; *Buccinum baccatum*, Bast. = *Cyllenina baccata*, Bast.; *Buccinum reticulatum*, Linn. = *Nassa reticulata*, Linn.; *Voluta rarispina*, Lam. = *Volutilithes rarispinus*, Lam.; *Ancillaria* = *Ancilla*; *Chenopus* = *Aporrhais*. Again, no attempt is made to classify the larger groups—the heterogeneous assemblage of forms which were included under such