

parts of the body; irritation failed to diminish, or increase, or even to excite the effect.

With reference to the moot point as to whether these bodies are accessory eyes or merely luminous organs, I may mention that one of the causes of the diffused phosphorescence of the sea I have observed to lie in the bright phosphorescence constantly emitted by the eyes of a small shrimp (about half an inch in length) which abounds in the South Atlantic; we have in this animal, therefore, an instance of a "luminous eye." I hope you will pardon this suggestion of mine; but I thought it right to insert it, in the event of there being any thing novel in it.

H.M.S. 'Lark,' Sydney,
December 1881.

On the Occurrence of Centrolophus pompilus on the East Coast of England. By Dr. A. GÜNTHER.

I am indebted to Henry Laver, Esq., for a very fine example of the Black-fish (*Centrolophus pompilus*), which was caught on the 20th of November last by Captain Cranfield of Rowhedge, at the mouth of the Colne.

The majority of the British specimens of this fish have been obtained on the coast of Cornwall; and, so far as I am aware, this is the first instance known of the fish having wandered so far eastwards.

The oldest Artiodactyle. By E. D. COPE.

Members of this order have been found in the Upper Eocene of North America (*Achaenodon*); but none have been determined as yet from the American Suessonian or Lower Eocene. A species represented by teeth from the Siderolitic beds of Switzerland has been referred to *Dichobune* (*D. campichii*, Piet.); but dental characters alone are not sufficient to distinguish that genus from the Perissodactyle Phenacodontidæ*. Dr. Lemoine found astragali of a small Artiodactyle in the Suessonian of Reims, which he has recently ascribed to his *Lophiochaerus Peroni*, which he believes (Proceedings French Assoc. Adv. Sci., Montpellier, 1880) to be a suilline. I have reported an astragalus from the Wind-River formation of Wyoming Territory, which is almost exactly similar to those found by Lemoine. A specimen of *Miocænus brachystomus*, Cope, now to be described, enables me to characterize with some degree of completeness this interesting form, which precedes in time all the known American Artiodactyla.

The characters of the tarsus are typically those of the order Artiodactyla. The astragalus exhibits a distal trochlea which is continuous with the sustentacular facet, and which articulates with both cuboid and navicular bones.

* See 'American Naturalist,' 1881, December.

The distal portion of the fibula is free from the tibia; and its shaft becomes very slender; but it is possible that a more perfect specimen would display it as continuous. Its distal extremity articulates with the ascending tuberosity of the calcaneum. The cuboid facet of the latter is narrow. The cuboid and navicular are distinct from each other and the cuneiforms; the mesocuneiform is shorter than the ectocuneiform, and is *co-ossified with it*.

There are probably four metatarsals. The median pair are distinct, but appressed; their section, together, subcircular; the lateral metatarsals are slender; the external one is wanting, but its facet on the cuboid is very small.

These characters are in general similar to those of the genus *Dichobune*; but Cuvier* does not state whether the cuneiforms are co-ossified in that genus or not. They are united in *Anoplotherium*.

Miocænus differs from *Dichobune* in the presence of but one internal tubercle of the superior molars, and in the single external tubercle of the superior premolars. Both genera are referable to a family to be distinguished from the Anoplotheriidae by the presence of external digits. This has been already named by Gill the Dichobunidae. The genus *Lophiochaerus* is not yet fully characterized; but its inferior true molars are very elongate and have their cusps connected by oblique ridges.—*Amer. Nat.*, Jan. 1882.

On the Genus Cladocora, Ehrenberg.

By Dr. A. VON HEIDER.

The author finds the structure of the polypes of *Cladocora* to agree exactly with that of the Actiniæ, and only the basal half of the polype modified by the acquisition of the solid calcareous skeleton.

The exclusively mesodermal formation of the skeleton, already established for the larvæ of Corals, is confirmed in *Cladocora*; and the author describes a cell-layer originating from the mesodermal lamella, and situated between it and the calcareous matter, the elements of which he names *chalicoblasts*. Within the chalicoblasts are produced the calcareous particles which unite to form the well-known acicular systems shown by sections of the coral skeleton. By the chalicoblasts calcareous material is gradually secreted at the external surface of the polype; and by this means the growth of the polypary, in the direction of its longitudinal axis, is effected, while the body of the polype itself is implicated in this only in so far as that it is *in toto* pushed upwards.—*Anzeiger d. kais. Akad. Wiss. in Wien*, December 15, 1881, p. 272.

The Characters of the Tæniodontia. By E. D. COPE.

Additional material gives the following results with regard to the affinities of this suborder. There are three allied groups, represented

* 'Ossements fossiles,' v. p. 183. Gaudry, *Enchaînement du Règne Animal*, p. 147.