

which are marine worms, surrounded by a solid sheath. The class of Insects is entirely wanting.

477. The inferiority of the earliest inhabitants of our earth appears most striking among the Vertebrates. There are as yet neither reptiles, birds, nor mammals. The fishes, as we have said, are the sole representatives of this division of animals.

478. But the fishes of that early period were not like ours. Some of them had the most extraordinary forms, so that they have been often mistaken for quite different animals; for example, the *Pterichthys*, (*a*), with its two wing-

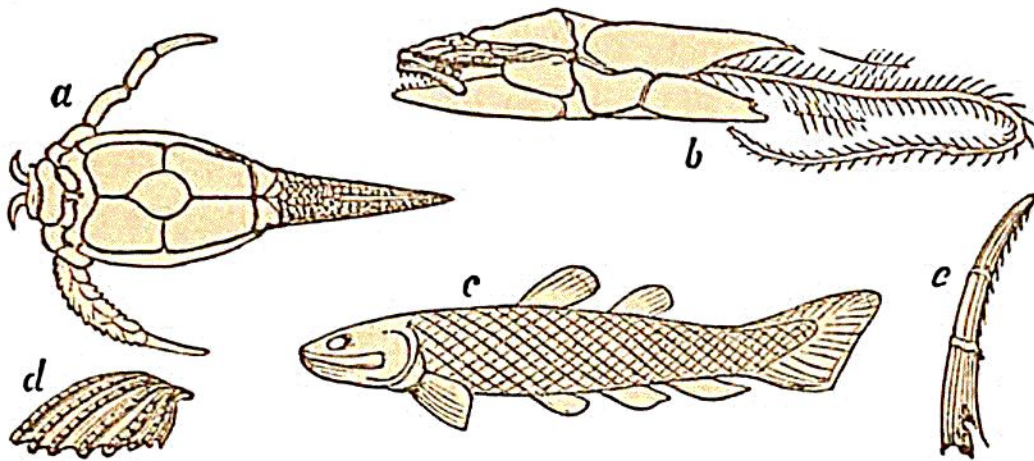


Fig. 157

like appendages, and also the *Coccosteus* (*b*) of the same deposit, with its large plates covering the head and the anterior part of the body. There are also found remains of shark's spines, (*e*), as well as palatal bones, (*d*), the latter of a very peculiar kind. Even those fishes which have a more regular shape, as the *Dipterus*, (*c*), have not horny scales like our common fishes, but are protected by a coat of bony plates, covered with enamel, like the gar-pikes of the American rivers. Moreover, they all exhibit certain characteristic features, which are very interesting in a physiological point of view. They all have a broad head, and a tail terminating in two unequal lobes. What is still more curious, the best preserved specimens show no indications