

calcareous polypidoms of the *Polyzoa*, the shells of the Brachiopods, the true Bivalves and most of the Gasteropods, the hyaline shells of the Pteropods, the internal supports of the cuttle-fishes, and the chambered shells of the Tetrabranchiate Cephalopods, all occur commonly as fossils. The entire class of the Tunicaries, however, with one or two exceptions, presents no hard structures, and is hence unknown to the palæontologist. Amongst the *Gasteropoda*, again, the sea-slugs and their allies (*Nudibranchiata*) possess no shell and do not occur as fossils; whilst the shell of the land-slugs is extremely minute and is hardly known to have been preserved in sedimentary deposits. Lastly, the air-breathing Molluscs, from their habits, rarely occur as fossils; whilst those which inhabit rivers, ponds, and lakes are less largely represented than the marine forms, owing to the preponderance of salt-water deposits over those of fresh water.

*f. Vertebrata*.—The majority of Vertebrate animals possess a bony skeleton, so that their preservation as fossils—so far as this is concerned—is attended with no difficulty. Some of the Fishes, however, (such as the Lancelet, the Lampreys, and the Hag-fishes) have no scales, and either possess no skeleton or have one which is almost wholly cartilaginous. The only evidence, therefore, which could be obtained of the past existence of such fishes, would be afforded by their teeth; but these are wanting in the Lancelet and are very small in the Lampreys; so that we need not wonder that these fishes are unknown as fossils. The higher groups of Fishes, however, taking everything into consideration, may be said to be abundantly represented in a fossil condition by their scales, bones, teeth, and defensive spines.

The *Amphibians* are tolerably well represented by their bones and teeth, as well as by integumentary plates, and more especially by foot-prints. Most living Amphibians, however, spend their time mainly upon the land, or frequent fresh waters; and hence their remains would not be apt to be preserved in marine deposits.

The abundance of *Reptiles* as fossils naturally varies much, according to the habits of the different orders. Of the living orders, the *Chelonians* (Turtles and Tortoises) are by no means rare, since many of them are habitual denizens of the sea or of fresh waters, while they are provided with a hard integumentary skeleton. The snakes (*Ophidia*) are chiefly represented by marine forms, which frequented water. The Lizards (*Lacertilia*) live mainly upon land, and do not,