this number is now much increased by the discovery of many new species and genera. Modifications of certain organs, perfectly novel, and of the greatest interest were found, but the most important results of this voyage are, that the general character of the abyssal fish-fauna, the abundance of fishes, and the exact depths to which they may descend, have been ascertained. The depths at which the fishes collected by the Challenger were taken cannot be received without some critical examination of each individual species; seeing that no precaution was taken to keep the mouth of the dredge or trawl closed during its descent or ascent, the fishes may have been captured in various strata between the surface and bottom. The Naturalists have simply recorded the greatest depth reached by the dredge or trawl on each occasion, therefore before anything like a division into bathymetrical zones can be attempted, the observations of the Challenger Expedition must be confirmed and supplemented by other series of similar systematic observations. One of the most startling conclusions that would have to be drawn from the Challenger observations, if the greatest depths be taken as those at which the fishes lived, is, that some of the species of deep-sea fishes would range from a depth of some 300 fathoms down to one of 2000 fathoms, or, in other words, that a fish which has once attained that modification of its organisation which will enable it to exist under the pressure of half a ton, can easily accommodate itself to a pressure of two tons or more, a conclusion which requires to be confirmed by other observations.

The greatest depth reached hitherto by a dredge in which fishes were collected is 2900 fathoms. But the specimens thus obtained belong to a species (*Gonostoma microdon*) which seems to be extremely abundant in the upper strata of the Atlantic and Pacific, and were therefore most likely caught by the dredge in its ascent. The next greatest depth, viz., 2750 fathoms, must be accepted as one at which fishes undoubtedly do live; the fish obtained from this depth in the Atlantic, *Bathyophis ferox*, showing by its whole habit that it is a form living on the bottom of the ocean.

The fish fauna of the deep sea is composed chiefly of forms or modifications of forms which are found represented at the surface in the cold and temperate zones, or which appear as nocturnal pelagic forms.

The Chondropterygians are few in number, not descending to a depth of more than 600 fathoms. The Acanthopterygians, which form a majority of the coast and surface faunas, are also scantily represented; genera identical with surface types are confined to the same inconsiderable depths as the Chondropterygians, whilst those Acanthopterygians which are so specialised for the life in the deep sea as to deserve generic separation, range from 200 to 2400 fathoms. Three distinct families of Acanthopterygians belong to the deep-sea fauna, viz., Trachypteridæ, Lophotidæ, and Notacanthidæ. They consist respectively of three, one, and two genera only.

Gadidæ, Ophidiidæ, and Macrurida are very numerous, ranging through all depths; they constitute about one-fourth of the whole deep-sea fauna.