

The close correspondence between the development of pigment and the vertical distribution is very striking. Nos. 1 and 2 live above 150 metres, and are nearly transparent. Nos. 3 to 7 are distinguished by deep red colours with blue patches, and were taken above 500 metres during the night, but in the daytime have their maximum distribution at 500 metres or deeper. Nos. 8 to 11 have no blue pigment, but only red and yellow colours, and live deeper than 500 metres, not having been taken in less depths even at night.

As indicated in Chapter IX. the deep layers contain a great variety of animals, and in all these groups we repeatedly find the same dark colours. In the medusæ *Atolla*, *Periphylla*, *Crossota* we find dark-brown colours or, as in *Agliscra* and others, red colouring. Among the Sagittidæ we meet red colours (*Sagitta macrocephala*, *Eukrohnia fowleri*). All the crustaceans are red (*Euchaeta*, *Cyclocaris*, *Gigantocypris*, Schizopoda, Decapoda); in the Pteropoda the colours are dark violet (*Peraclis diversa*, *Limacina helicoides*, *Clio falcata*). The squids are red, the fishes black or blackish violet.

Dark-coloured animals in the deeper layers.

In the Atlantic gray, mirror-like, and silvery colours are characteristic of the fishes between 150 and 500 metres. The silvery sheen is very often iridescent with dark green, violet, and blue tinges (see *Argyropelecus affinis* in Plate II.). The backs of these animals are brown or black. These colours correspond to those of the herring in boreal waters, and as previously mentioned they have been well known and recognized as protective colours. From above the fish are not easily seen because from this point of view the ocean looks dark or black. On the other hand, the light rays from above are reflected by the mirror-like sides of the body. From a position below the fish an eye would have great difficulty in distinguishing the outlines of the fish because of the rays coming directly from the source of light. This can only be understood when examining the fish in a living condition, for preserved fishes lose their silvery sheen very soon, generally turning black, and losing their original appearance. Most Scopelidæ have generally been represented as black, but many of them are really quite silvery (see Fig. 491, which, however, is not very good, because the silvery sheen does not come out well in this kind of reproduction).

Silvery and light-coloured animals in the shallower layers.

These remarks apply not only to the animals of this intermediate layer, but to many surface forms having a similar arrangement of colour. During our Atlantic cruise this was