

Three species of pteropoda (*Peraclis diversa*, *Limacina helicoides* and *Clio falcata*) live below 500 metres, but according to Bonnevie, the first of these seems to avoid the cold bottom water, while the second species seems to prefer this water and the third seems indifferent. All three forms are dark-coloured, and their structure differs from that of the surface forms, being of a more archaic type.

All the large groups of squids include bathypelagic species, of which the following may be mentioned:—

Cegopsidæ: *Calliteuthis reversa*, *Mastigoteuthis flammea*, *M. grimaldi* and *M. hjorti*, *Grimalditeuthis bonplandi*, *Toxeuma belone*.

Myopsidæ: larvæ of *Spirula*.

Octopoda: *Eledonella pygmæa*, *Vampyroteuthis infernalis*, *Cirrothauma murrayi*.

Many peculiar species of fish were found at and beyond 750 metres, for instance: *Malacosteus indicus* and *M. niger*, *Gastrostomus bairdii*, *Cyema atrum*, *Gonostoma grande*, *Melamphaës mizolepis*, *Cetomimus storeri* and a closely allied new genus. Of eight species of Ceratiidæ seven have been taken only beyond 500 metres. *Aceratias macrorhinus indicus* may also be mentioned.

Proceeding to consider the horizontal or geographical distribution of these forms, we commence with the most abundant species of fish, *Cyclothone signata* and *C. microdon*. The chart (Fig. 476) shows the localities where these species have been taken previous to and during the "Michael Sars" Expedition, and it is seen that the records are so numerous that these fishes may be said to occur all over the area examined, wherever a fishing appliance was lowered to a depth of 500 metres. They are found everywhere, from the Wyville Thomson Ridge in the north to beyond the Azores in the south, and from the slopes of Africa and Europe to the slopes of America; but the distribution of the two species is not identical. *Cyclothone microdon* has been captured by previous expeditions<sup>1</sup> on both sides of Greenland, in Davis Straits, in Denmark Straits, and also south of Iceland, whereas *C. signata* is unknown in these localities; and outside the Atlantic *C. microdon* occurs in the Pacific, in the Indian Ocean, and in the Antarctic south of lat. 50° S., whereas *C. signata* is much more restricted in its southern distribution, having been taken at only one locality to the south of lat. 40° S.

Horizontal  
distribution of  
*Cyclothone*.

The peculiar vertical and horizontal distribution of the two

<sup>1</sup> This information is derived from a chart in Brauer's paper on the deep-sea fishes of the "Valdivia" Expedition.