

limit at about 500 metres, where they are found together with the upper representatives of the bathypelagic fauna, just as on the continental slopes the Macrurid bottom-fauna is mingled with the deepest living species belonging to the coast banks. Fig. 478 shows the vertical distribution of certain of these pelagic fishes, and we see that *Sternoptyx diaphana*, *Stomias boa*, and *Chauliodus sloanei* were taken most abundantly at 500 metres, while the species of the genera *Argyropelecus*, *Valenciennellus*, and *Vinciguerria* were mostly taken at 300 metres; the upper limit for all these species seems to be about 150 metres below the surface. As regards the geographical distribution of these species, we find that, excepting *Stomias boa*, they occur in the Indian Ocean to the north of lat. 40° S., and in the Atlantic between lat. 44° N. and 40° S., though *Argyropelecus olfersi*, *A. aculeatus*, and *A. hemigymnus* have been found on the coasts of Norway, and *Stomias boa* has been taken in the Faroe-Shetland channel during one of our cruises in the "Michael Sars."

During our Atlantic cruise in 1910, *Argyropelecus affinis* and *A. aculeatus*, *Valenciennellus tripunctulatus*, *Ichthyococcus ovatus*, and *Serrivomer sector* were only taken at our southern stations, and did not appear at any of the stations between Newfoundland and Ireland, while *Argyropelecus hemigymnus*, *Sternoptyx diaphana*, *Stomias boa*, and *Chauliodus sloanei* were caught both at northern and southern stations, but only *Stomias boa* occurred in numbers of any consequence at the northern stations. Thus, of 286 specimens of *Argyropelecus hemigymnus* taken during the cruise only 17 were captured on our northern track; of 101 specimens of *Sternoptyx diaphana* only 2 were taken north of the Azores; of 95 specimens of *Chauliodus sloanei* only 10 were taken north of the Azores. On the other hand, out of our total of 154 specimens of *Stomias boa* 91 were taken on the northern track, and this species appears to be the only abundant one north of lat. 45° N.

The temperature throughout the region occupied by these fishes, between lat. 40° S. and 45° N., and between 500 and 150 metres, exceeds 10° C. We found the distribution of the fishes of the Atlantic coast banks to be limited by this temperature in a northerly direction as well as vertically. A limit of this kind can only be roughly fixed, and is subject to variations, but the isotherm of 10° C. seems on the whole to coincide with the localities where the organisms in question occur in numbers of importance. Within the region great