

(*Salmo salar*), sea trout (*Salmo trutta*), capelan (*Mallotus villosus*).

In the southernmost part of our boreal region certain Atlantic pelagic forms are found in such numbers that they may be considered as belonging to the boreal area, though in the main they are Atlantic; so far the occurrence of these species resembles that of certain bottom fish, like the sole, the turbot, and the brill. The principal forms are: the horse mackerel (*Caranx trachurus*), *Clupea alosa*, and the anchovy (*Engraulis encrasicolus*).

Certain bottom fishes are often found in mid-water, such as the sharks which pursue the herring shoals, the common dog-fish (*Acanthias vulgaris*), the herring-shark (*Lamna cornubica*) and the large *Selache maxima*. Many fishes of the cod family lead a partly pelagic life, especially the saithe, and sometimes also the cod, haddock, and others. A specially remarkable type is the Norway haddock (*Sebastes marinus*). The pelagic eggs, larvæ, and young of economically important fishes, chiefly the cod and flounder families (Gadidæ and Pleuronectidæ) form another very important section of the pelagic communities.

When in the year 1900 I commenced my investigations with the newly built "Michael Sars," one of my main objects was to find out to what extent the fishes of the coast banks occurred in the deep mid-water of the Norwegian Sea. A large amount of information regarding this question has been accumulated, and we may now classify these animals in four groups:—

1. Larvæ and young organisms which have been carried out by currents, mainly of jelly-fish and cod, saithe and haddock.

2. Adult coast fish which have migrated; they spawn on the coast banks, but not over the deep water of the Norwegian Sea, the species observed being herring, cod, haddock, and saithe; also the squid, *Ommatostrephes todarus*.

3. Adult forms which spawn and occur in all stages of development in the coast waters, and also spawn over the deep Norwegian Sea; the only species of this kind observed is the Norway haddock (*Sebastes marinus*).

4. Atlantic animals: besides those previously mentioned we have also found the squids, *Gonatus fabricii* and *Architeuthis dux*, and the "Atlantic" whales, the "Bottle-nose" (*Hyperoodon diodon*) and the cachalot (*Physeter macrocephalus*).

Of these groups I will discuss the three last, leaving the first to be dealt with in the next chapter.

On the chart (Fig. 482) I have denoted all the localities