

PROPAGATION

During autumn and the last months of the year thermal conditions alter greatly in boreal waters, high temperatures retreating from the surface down to 200 or 300 metres (see Fig. 509). At the same time the sexual organs develop in most boreal food fishes: the cod family, the herrings, the flat-fishes and others, and during the three or four first months of the

year they spawn. Most of these edible fishes possess large ovaries containing enormous numbers of eggs, the cod, for instance, having apparently on the average no less than five million eggs.

Late in the 'sixties of last century, G. O. Sars commenced his investigations on the famous cod fisheries in the Lofoten Islands. He found that the eggs of the cod were pelagic, floating in the surface layers of the sea, and he carefully studied the development of these eggs, making a number of excellent drawings, which I regret to say have never been published. These original

Develop-
mental stages
of the cod.



G. O. SARS.

drawings foreshadow much of the knowledge gained in recent years on the early development of the cod, and I consider it interesting to reproduce some of them illustrating certain stages. The characters distinguishing these stages are just as law-bound as those of the adult individuals. One stage (see Fig. 520) is characterised by dark transverse bars of black pigment, which subsequently dissolve into fine longitudinal bands, following the dorsal and ventral side of the body, a fine stripe running along the lateral line. Later on the