light, but also the proportion of the different prismatic colours at different depths. At the very first attempts the apparatus acted perfectly, and as far down as 1000 metres at any rate showed light in considerable quantities, whereas at a depth of 1700 metres the plates were unaffected even after an exposure of two hours. We may assume accordingly that the amount of light at the latter depth is infinitesimal. The ultra-violet and blue rays are the ones that penetrate deepest. There were plenty of these rays at 500 metres, whereas the effect of the red and green rays there was imperceptible even after an exposure of forty minutes. At 100 metres the rays were of every colour, though red rays were least numerous, while there were rather more green rays, but even at this depth blue and ultra-violet rays predominated. These experiments are of great assistance in dealing with such problems as the growth of plants, for which light is essential, the colours of animals at different depths, and the remarkable modifications in the organs of sight and phosphorescent light-organs that are so characteristic of the higher animal groups in the ocean depths.

Another haul by night was made at Station 52, though only with four appliances, the deepest of which was at about 600 metres. The catches in the tow-nets at the surface and at 30 metres were particularly interesting, including a quantity of young fish, amongst which were young flying-fish and a number of young *Scombresox*, many leptocephali, one of which was afterwards found to be a small undeveloped larva of the common eel; that is to say, a transition stage from the egg to the fully developed leptocephalic larva. It was extremely interesting, too, to find eggs of the deep-sea fish *Trachypterus* at the surface of this deep basin.

Eel larvæ.

In our deepest appliance we found the beautiful *Macrostomias longibarbatus*, captured by us at Station 28 in the Spanish Bay, and previously recorded by the "Valdivia" Expedition from the Gulf of Guinea and the Indian Ocean. We also captured a specimen of *Opisthoproctus soleatus*, as well as a species of *Oneirodes* resembling *megaceros* (Fig. 81). The haul with the trawl resulted in a take of at least two litres of large red prawns.

As we had now reached the Sargasso Sea, at Stations 51 and 52, we set our course northwards towards the island of Fayal, where we intended to coal before crossing over to Newfoundland. While steaming towards the bank which surrounds the Azores, we frequently saw sperm whales, sometimes swimming on the surface and easily recognisable by

Sperm and other whales.