

specimen 8 inches long in Messier Straits, but Dr. Gilchrist's specimen 2 feet long obtained in September, 1903, about 40 miles north-east of Cape Point, proved to be a mature female specimen in which the ovaries were very advanced and crowded with reddish spherical eggs, numbering probably not less than 30,000.\*

The eggs were formed in the hanging transverse folds of the inner ovarian surface, and later they collected on the floor of the chamber of the ovary. They flowed freely from the fish, and Dr. Gilchrist was led to regard them, at first, as ordinary demersal eggs, deposited by the fish on the bottom of the sea. To his surprise he found, on closer examination, very young fish hatching out within the parent. Eight small larval fish were curled up among the loose ova. In the mouth of one larva he found some oil-globules, and in another a mass of soft food-matter, in which were oil-globules and spots of black colour. The mass was carefully removed and turned out to be part of a young fish which was being devoured by another baby fish, and the rest of the body of the victim was found close to its devourer. Alcock had already made the important announcement that in *Saccogaster*, a deep-sea species, developing embryo fish were found inside the parent and hinted that they fed on the surrounding ova; but Dr. Gilchrist's discovery proved that some embryo fish actually swallowed and fed upon other embryos of the same brood, and thus lived and grew inside the ovarian chamber. The larger larvæ 10 mm. ( $\frac{3}{8}$  of an inch) long, lived on the smaller newly-hatched young, not simply upon the surrounding eggs. These larval cannibals showed well-developed breast fins, and anal and pre-anal fin-lobes, but the tail had not any caudal fin-lobes.

Most fish, of course, produce eggs or spawn, and the young develop and hatch after they have been laid by the parent. The formation of the young inside the deposited egg of a fish, may take from 2 days to 6 or 8 months in different species, the shad being an example of rapid development (a few days), while the salmon or trout take a long period of time (many months). But in the parent forms of many viviparous fish the young may be found not only already hatched out and lively, but may be very advanced, and exhibit the almost mature form and appearance. I have frequently examined specimens of viviparous species both on the Atlantic and Pacific coasts, and can confirm Dr. Günther's description that the young, in such fish as *Zoarces*, on the Atlantic, and *Cymatogaster*, on the Pacific, coasts,

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\*Dr. Gilchrist had in August, 1903, secured a fine specimen 2 feet long.