

to the disk, being sometimes turned towards it and sometimes away from it. The shape of the cysts, and their proportion to the parts of the arm is also quite different. Sometimes they are extended and sausage-shaped (fig. 2), sometimes more ovoid (fig. 1), sometimes (fig. 3) intermediate between these two forms; the cysts are never longer than 3 mm., or broader than 2 mm. Some lie longitudinally in the ambulacral furrow of the arm (fig. 2); some extend along the pinnule (fig. 3); some are independent, and only attached by one extremity (fig. 1), where the cyst is laid transversely over the arm and bent to the antambulacral side. One cyst arises from the ambulacral furrow, and becomes attached to two opposite pinnules growing along their bases. The great thickness of the wall of the cysts is shown in the section (fig. 4). Every cyst contains a large brown coloured female (♀) and a small yellowish dwarf male (♂). The latter is transparent, and lies with its ventral side close to the side of the cyst, and with the dorsal side turned towards the female. The female has its lateral parts bent up and touching on the dorsal side, so that a tube is formed, the exterior wall of which is formed by the ventral surface, while the dorsal side forms a canal which is trilateral in section, and contains numerous eggs (fig. 4, *x*). As in *Myzostoma inflator* and *Myzostoma murrayi*, so in both sexes in the present species the suckers are absent; the female has no parapodia, but in their place are traces of the hook-apparatus. In neither sex are there cirri; the mouth (*m.*) and cloaca (*cl.*) are terminal.

The most striking difference between this species and the other dioecious species is, that the female possesses rudiments of testicles besides the ovaries, which together occupy all the available space between the alimentary canal and the body-walls. The rudiments of the testis are in the form of collections of small cells (*t.*), closely resembling the immature testicular follicles of hermaphrodite forms, situated beneath the intestine; the existence of these rudiments is interesting, inasmuch as this species forms therefore a link between the hermaphrodite and dioecious Myzostomida.

The intestinal ramifications of the female (*i.*) reach almost to the margin of the body, and between them pass bundles of muscular fibres running from the dorsal to the ventral surface. The female is very firmly attached to the walls of the cyst, so that it was found impossible to detach one without injury. It appears to be circular in form, with a diameter of 2 mm. at the outside, and considerable thickness. The female shown in fig. 4 was .6 mm. thick in the middle of the body, and .2 mm. at the commencement of the lateral portions of the body.

The male (fig. 5) is smaller than usual. It is circular in form, with a diameter of .8 mm. The compact testicles (*t.*), with the marginally situated genital apertures (♂), placed somewhat behind the middle of the body, and the intestinal canal (*i*₁-*i*₃, the cæca; *r*, the small rectum), are distinctly visible, and though I was unable to follow the intestinal cæca to their extremities, it appears that they differ from those of the female in not reaching the margin, but leave a large marginal zone unoccupied. The parapodia (*p.*) are small,