

the arms and pinnules; while remains of their sarcode bodies occur in the intestine of decalcified specimens. Dr. Carpenter mentions the frequent presence in the alimentary canal of *Antedon rosacea*, so as almost completely to choke it, of the body of a suctorial Crustacean with its egg masses;¹ and he supposes "that it has been introduced either as an egg or as a larva, and has undergone its development parasitically where it is found." The same explanation will probably account for the frequent presence in the anal tube of *Actinometra jukesii* and *Actinometra strota* from Cape York of an Isopod (*Anilocra*) nearly half an inch long (Pl. LV. fig. 1). Either as an egg or as a larva it must have been caught in one of the ciliary currents converging on the mouth from the arms, and have then been carried through the digestive tube to the rectum where it remained.

A third form of parasitic Crustacean is one which I have found encysted in the ventral perisome of the disk of some individuals of *Antedon eschrichti* which have been cut into sections; but though one or two accomplished zoologists have examined its remains, I have not been able to learn anything about its affinities. Another equally obscure internal parasite of the Crinoids is a peculiar worm which I first found in some sections of *Actinometra parvicirra* that were cut some years ago in the zoological laboratory of the University of Würzburg. The Crinoid had been obtained in the Philippine Islands by Prof. Semper, and I found three individuals acting as hosts to this singular and entirely unknown creature, which I have not met with in any other Comatulæ from the same locality. It was first noticed in the cœliac canal of the arms, which it often almost filled, so as to suggest the idea that the egg had been introduced into the body-cavity and had developed in that part of it (Pl. LXI. fig. 4). I subsequently found it in the visceral mass of two other individuals, occupying some of the meshes in the connective tissue network which fills up the intervisceral cœlom.

The external parasites of the Crinoids are many and various; though it may be doubted whether some of them can be considered as real parasites, *i.e.*, as living at the expense of the Crinoid. Besides the well known *Myzostoma*, of which I will speak later, Willemoes Suhm found four other parasites on one *Comatula*, all resembling it in coloration.² "Es waren das erstens auf dem Kelch sitzende Ophiuriden, zweitens kleinere Aphroditaceen, drittens Amphipoden,³ die sich in den Magensack eingebohrt hatten und viertens ein Alpheus. Mit Myzostomum also fünf Parasiten auf dieser allerdings sehr grossen *Comatula!*"

I have frequently found Ophiurids entangled in the cirri, which is probably merely accidental; while small bivalves, Sertularian Hydroids, Polyzoa, tube-worms, and corals (Pl. LI. fig. 8) may be attached to the stem, not for any special nutritive purposes, but simply because the larvæ had to find a resting-place somewhere.⁴ Various

¹ *Phil. Trans.*, 1866, p. 701.

² *Zeitschr. f. wiss. Zool.*, 1876, Bd. xxvi. p. lxxix.

³ Probably the same as the Isopod above mentioned.

⁴ The same may be said of an Ophiurid larva, which was attached by its long Pluteus-arms to the solitary stem-fragment of *Metacrinus tuberosus* from near the Ki Islands (Station 192).