

there is little doubt that they have been brought up from the bottom of the sea, the largest specimens having been taken from the greatest depths. *Willemoesia leptodactyla* (see fig. 181) has been taken from a depth of 1900 fathoms, or rather more than two miles, both in the Pacific and Atlantic Oceans. *Polycheles*, which is represented by four species, has been taken in the Mediterranean and off the coast of Spain, in the Mid Atlantic, and off the Fiji Islands, as well as near the Kermadec and New Guinea groups. The beautiful *Polycheles crucifera* (see fig. 182) was captured in the West Indian seas.

"The closely-allied genus *Pentacheles*, which is represented by six species that differ from each other in no very remarkable degree in their external features, is scattered over a large area, the specimens being captured when the dredge or trawl was let down to depths ranging from 120 to 1070 fathoms. They were taken on the western shores of South America, around the broken coast, and in the channels between the rocky islands that lie along the shore, of Patagonia; among the Philippine Islands; from the deeper water around New Guinea; off the Fiji Islands; and from near the New Hebrides.

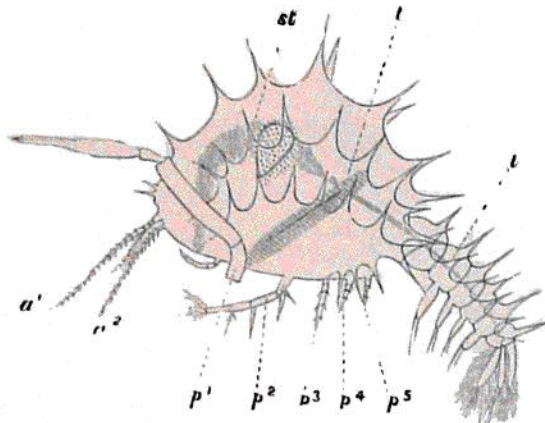


FIG. 183.—*Eryoneicus cœcus*. After a drawing by von Willemoes Suhl. a^1 , first antennæ; a^2 , second antennæ; p^1 , p^2 , p^3 , p^4 , p^5 , pereiopoda; st , stomach; t , testis(?); i , intestinal canal.

"The organs of vision are entirely absent in *Eryoneicus* (see fig. 183), and are so hidden in *Willemoesia* and the other genera that they were long supposed not to exist, and in the fossil representative they have not yet been detected.¹ It has generally been supposed that this rudimentary condition of the organs of vision in animals that live in deep waters is largely due to their being far beyond the reach of sunlight. The genus *Glyphocrangon*, in which the eyes are remarkable for their large and well-developed condition, was taken when

the trawl was sent to great depths, and frequently associated with *Willemoesia*; and taking the several Stations from which species have been obtained, the average depth of the Willemoesian group is less than that of other deep-sea forms in which the eyes are large and conspicuous organs. An examination of the embryo before it has quitted the egg, shows that in its earliest stages of development the young has organs of vision conformable to the ordinary Crustacean type.

"The genus *Thaumastocheles* (fig. 184) taken by the Challenger in the West Indies is totally blind, without even the rudiment of an organ of vision. It is related to the genus *Calocaris* of the British seas, which has only very small visual organs, and is also allied to *Gebia*.

¹ In the typical *Eryon* eyes have never been preserved, but Dr. Woodward figures them as being present in a restored figure of *Eryon barrovensis*, M'Coy.