

The flagella of the antennæ as well as the structure of the peduncles correspond in the two specimens, and there is no important variation in the structure of the appendages of the mouth.

The first pair of pereopoda is imperfect, but the meros is armed with two small teeth on the outer and two on the inner margins, which last differ from those in the male specimen.

The other pairs correspond, but the posterior pair has the last joint broken off.

The specimen, as I before said, is imperfect. Besides the fingers of the large pair of claws the posterior pair of pereopoda is only perfect as far as the propodos, and there is no evidence to determine the character of the appendages in this specimen, which is undoubtedly a female, the vulva being visible on the third pair of pereopoda.

The first pair of pleopoda is small, slender, and feeble; the second pair carries but a single stylamblys. This specimen was taken at half the depth of the preceding, at a temperature of 43°, on a bottom of volcanic mud.

The branchial arrangement corresponds with that of *Pentacheles* in the delicate character of the mastigobranchia, which is of great tenuity and shorter than the plume with which it is associated.

It will be interesting to compare with this species that which is described by Smith as *Polycheles sculptus*,¹ and with *Pentacheles sculptus*,² and *Pentacheles spinosa*³ of A. Milne-Edwards.

Professor A. Milne-Edwards' description is short and agrees with *Polycheles helleri* in every point mentioned. But Mr. Sidney Smith's description is more complete and is fully illustrated by good figures of the entire animal in both dorsal and ventral aspects, as also of most parts in detail. After studying the paper and figures carefully I can detect no distinction of sufficient importance to separate *Pentacheles sculptus* from *Polycheles helleri*, nor would it have taken much consideration to decide their identity had it not been for the generic character of the fifth pair of pereopoda, and that the specimens were procured from localities so widely apart. *Polycheles helleri* lives in the Eastern Pacific at depths of from 500 to 1000 fathoms, and *Pentacheles sculptus* in the Western Atlantic, at about 600 fathoms.

It is highly probable that many of the animals that we determine as specifically distinct, because they are found in widely separated localities, and exhibit some greater or less deviation from each other, would cease to be considered such if they lived side by side, and there can, I think, be little doubt that many of our museum specimens are not really species.

A comparative examination of the Atlantic *Pentacheles sculptus* with that of the Pacific *Polycheles helleri*, will elucidate clearly the point in question.

¹ *Ann. and Mag. Nat. Hist.*, ser. 5, vol. v. p. 269, 1880.

² *Bull. Mus. Comp. Zool.*, vol. x. p. 23, pla. iii., iv., 1882.

³ *Bull. Mus. Comp. Zool.*, vol. viii. p. 66, 1880.