

The armature of the two species may be best appreciated side by side, and formulated as below.

The marginal fringe of the carapace is

Male, <i>Polycheles helleri</i>,	.	.	.	.	7-4-5, gradually decreasing.
Female, <i>Polycheles helleri</i>,	.	.	.	.	7-4-14, gradually decreasing.
Female, <i>Pentacheles sculptus</i>,	.	.	.	.	6-3-6, gradually decreasing.

Median dorsal ridge

Male, <i>Polycheles helleri</i> (counting the rostral teeth),	.	.	.	.	2·1·1·2·1 = 2·2·2.
Female, <i>Polycheles helleri</i> (counting the rostral teeth),	.	.	.	.	2·1·1·2·1 = 2·2·2.
Female, <i>Pentacheles sculptus</i> (counting the rostral teeth),	.	.	.	.	2·1·2·1 = 2·2·2.

On the inner side of the orbital notch the frontal margin is armed with a small tooth in *Pentacheles sculptus*, and so in the female of *Polycheles helleri*.

“In front of the cervical suture there is an irregular longitudinal dorso-lateral line of five minute spines; on each side of and behind these, a single spine on each side on the posterior edge of the cervical suture.” The last of these alone is present in the male of *Polycheles helleri*, in the female there is, besides, a small tooth on the inner side of the orbital notch, and one or two nearer the median line, but not in a line corresponding with those given in Sidney Smith’s plate.

“Extending from the posterior margin nearly to the cervical suture, there is a sharp sublateral carina parallel to the lateral margin, about a third of the way from it to the median carina and armed with five or six small spines.”

These also exist in *Polycheles helleri*, and traverse the line corresponding with the upper edge of the inner wall of the branchial chamber.

The character of the ophthalmopoda is similar, and the passage in this description (page 137) relating to the translucent appearance of the external tissue of the eye was in type before Smith’s remarks on the same were published. I do not mention this to plead for priority of observation, but to demonstrate, from independent sources, how close the relationship between the two animals from antipodal regions really is, and that Mr. Smith’s observation supports this opinion.

Excepting the termination of the fifth pair of pereopoda in the males there is no structural distinction between the two forms, so far as I can determine, but that of a tooth or two on the outer surface of the carapace, and I think there are few naturalists but must feel that the two specimens, except for the generic feature, might have been classified as belonging to one and the same species, so closely does *Polycheles helleri* resemble *Pentacheles sculptus*.