

exists as an obtuse process of the propodos, the two lying in juxtaposition, without having the characteristic movement of a chela, and the basecephysis is longer than the limb.

The posterior two pairs of pereopoda are simple, having the seven joints visible, and support a short basecephysis.

The first pair of pleopoda is in a bud-like condition, but the four following pairs are long, slender and biramose, the branches being membranous, flexile, and free from hairs.

The posterior pair of pleopoda is well developed, armed on the outer margin near the distal extremity with a small tooth, and fringed on the inner with small hairs; it reaches beyond the extremity of the telson.

Pl. XLVIII. fig. 3, represents the rhipidura of a specimen taken in the Western Pacific. Length, 10 mm. (0.4 in.).

This form differs from the others in having the rostrum, which is as long as the carapace, serrate towards the extremity, and it has no tooth on the dorsal crest. The pleon is armed with a strong tooth, projecting posteriorly from the third somite, all the other somites being smooth. The telson is long, with parallel sides, and becomes suddenly acuminate distally; it is fringed on the distal margin with four hairs on each side of the central point, and each lateral margin is furnished with two small points or teeth. The lateral branches of the rhipidura are scarcely as long as the telson.

The branchiæ (fig. 3*br*) are well developed. The three anterior pairs of pereopoda possess well-formed chelæ, but shorter than the basecephysis. The posterior two pairs are simple, but short and support a long basecephysis. The pleopoda are moderately developed and well formed, and the whole animal is characteristic of a true *Penæus*, and probably becomes mature in the next stage.

Pl. XLVIII. fig. 4, represents what appears to be a mature but young form of some such species as *Penæus monodon*, or, judging from the unequal length of the two flagella of the first pair of antennæ, of *Hemipenæus tomentosus*.

Its length is 6 mm. It was taken in the surf off Samboangan.

Tracing the above series of young animals from Fritz Müller's and Claus's earlier Protozoa stage, we find that each successive form corresponds with a higher stage of development. In one or two instances, where there has been a deviation in relative size compared with the degree of development, it may be assumed that the young of larger species attain greater dimensions in their successive stages than those of smaller species. Thus it appears that we may accept the history of the progressive development of the young in a family as corresponding with that of a single genus, and if so it may be accepted as being parallel with the development of a single species.

Two links of importance are yet wanting: the one is that which connects the earliest Protozoa form with Fritz Müller's Nauplius, and the other that which connects the