

rudiment of a mastigobranchia. I have seen nothing of the kind in any other species, and there is no ecphysis or branch attached to any other part of the appendage, a circumstance that is characteristic of few Crustacea, and distinguishes the species of this family from those of other related families.



FIG. 22.—First gnathopod of *Pentacheles euthrix*; at the base a rudimentary palpus. From a drawing and note by Willemoes-Suhm.

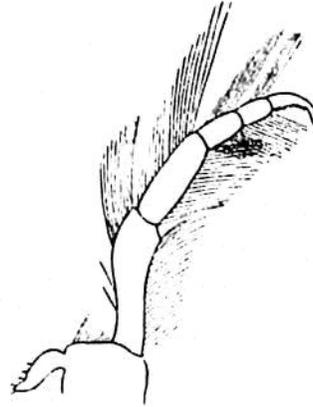


FIG. 23.—Second gnathopod of *Pentacheles euthrix*; at the base a rudimentary palpus. From a drawing by Willemoes-Suhm.

The second pair of gnathopoda (Pl. XVIII. *i*) is likewise devoid of an ecphysis attached to any of its joints, except the mastigobranchia, which is always small, and sometimes rudimentary. This limb is also pediform, more decidedly so than the first; it is much longer and more slender, it terminates in a sharp unguis, and overlies the oral appendages. In *Willemæsia leptodactyla*, *Pentacheles lævis*, *Pentacheles gracilis*, and *Polycheles crucifera* the mastigobranchia exists as a decided feature, capable of fulfilling its duty. In *Pentacheles euthrix*, as shown in Suhm's fig. 23, it is scarcely more than rudimentary, while in *Stereomastis auriculata*, *Stereomastis suhmi*, and *Polycheles baccata*, it is reduced to an absolutely rudimentary condition. It varies a little in shape, and in some it is studded with hairs.

The pereiopoda, with the exception of the posterior pair in the male of *Polycheles*, are all more or less chelate, and have little tendency to vary. The first pair (Pl. XVIII. *k*) is very long, being generally equal to the length of the entire animal. In *Polycheles crucifera*, however, it is not quite so long, a circumstance due to the shape of the carpos, which is short and broad, and approximates to the more common type in Crustacea, whereas in this family it is generally very long and slender—a character common to all the joints to a greater or less extent, and is especially marked in the dactylos and its antagonising pollex. The latter in the genus *Willemæsia* is armed with a strong and sharp tooth, which is absent in all the other genera.

The inner or impinging surfaces in the great chela are furnished with a sharp margin, peculiar in being formed by a series of microscopically small plates (k''''), placed erect and obliquely transverse. This structure, with some slight modification, appears to be common to all the species. The coxa generally carries a mastigobranchia and a podobranchial plume, that vary in their importance and in relative proportion. In *Polycheles baccata* and *Pentacheles euthrix* the mastigobranchia is small and of great tenuity. In *Stereo-*