

The following organs in the Caligoidea are legs. The mouth organs hence correspond to but two normal segments, the mandibular and maxillary. The legs are twelve in number, and with the preceding, make in all *sixteen* appendages.

For farther comparison, we observe, that in the Cyclopoidea, the mouth organs include two pairs of organs, besides the mandibles, and the legs are ten or twelve in number, making in all *sixteen* or *eighteen*. In the Cyproidea, the number of appendages counting from the mandibles is *ten*. In *Limulus*, the number is *ten*, besides five thoracic lamellæ behind, corresponding to five additional pairs. In the Pycnogonoids, the proboscis appears to correspond to the buccal trunk of *Caligus*; and all that exists of the anterior segment of the body, or the head if we may so call it, is the small segment bearing the eyes. If, therefore, we should cut out a small medial portion from the *Caligus*, so as to keep the eyes and trunk, and perhaps some adjoining appendages, we should have, in some respects, a representative of the Pycnogonum structure, which would be rendered more complete by elongating the trunk, and reflexing the segment, so as to make the trunk terminal upon the head.*

The *anterior appendages of the* cephalic or ophthalmic ring next demand consideration. As this segment bears the trunk as an appendage, instead of being a posterior ring, its appendages are not necessarily posterior to the mouth in their normal relations. On the contrary, it is quite as probable, that the first pair of organs may be normally *antennæ*, anterior to the mouth or the mandibular ring. In fact, they are often somewhat higher in position, rising more nearly from the upper part of the segment, as if of this character, and this view is sustained by various considerations. The prehensile form is in favour of it; for it is the prevailing form throughout the sucking Crustacea, as well as in other species, as the Corycæi, Sapphirinæ, and *Limuli*.† This then is no objection. In *Dichelestion*, which has the narrow articulated body almost of a Pycnogonoid, although of another type in its legs, these organs project in front, and are ancoral.

The study of the young or embryonic forms of the species gives

* The usual coalescence of the cephalic segment with the first thoracic segment finds an analogy in the genera *Tanais*, *Caprella*, and many others.

† No organs undergo wider variations of structure; they may be legs, hands, oars, or simply antennæ, according to the group: and in most of the Entomostraca they are in some way used for attachment or for prehension.