

uses its larger hand, by holding its food while the smaller carries it to the mouth. We may suppose that the blind *Thaumastocheles*, resting upon a bed of Globigerina or Diatom ooze, can, by raking the surface of the mud, fill the long comb-like hand with multitudes of minute animals more or less adapted for its food; that then the smaller hands gather up the larger and more suitable portions, and carry them to the mouth. It is interesting to learn that a near ally of *Thaumastocheles zaleuca* appears to have existed so far back as the Cretaceous formation, in the species *Stenocheles esocinus* of Fritsch and Kafka;<sup>1</sup> but whether this was also a blind animal or not I do not know.

In the Dendrobranchiata the first is the smallest of the three chelate pairs characteristic of the division, one of which is large; the first is moreover the shortest, and appears from its relative length to be capable of reaching the mouth.

It is also noticeable in this division, that in those genera in which there is a downward tendency from the normal form and power, the change takes place at each extremity of the pereion. The first pereopod is the first to become enfeebled, as may be seen in the Sergestidæ, in which the first has lost its chelate structure, and yet retains a grasping or holding power in the peculiar adaptation of the carpo-propodal articulation; while at the posterior extremity of the pereion the fifth pair has become little more than rudimentary, and the fourth is much diminished in importance and value.

In the Phyllobranchiata the first pair of pereopoda varies greatly in relative form and size, being sometimes the largest, as in *Alpheus*, but more commonly very much the smallest, as in the Palæmonidæ; again, as in the Crangonidæ, it is reduced to a subchelate condition, in consequence of the polliciform angle of the propodos being reduced to a small tooth-like point, as in *Crangon* and its immediate congeners. In *Glyphocrangon* this point is altogether absent, and in *Nika* the change in structure differs on the two sides, this pair being simple on one side and chelate on the other. In the Pandalidæ it exists as a pair of simple pointed legs, styliform in appearance.

In the freshwater genus *Atya* this pair of pereopoda is developed into a kind of brush to provide the mouth with supplies of fine mud on which the animal lives. The extremity of both the finger and thumb is provided with a tuft of long bristles, which, when the hand is open, form a kind of fan which retains the fine mud; when the hand is closed, the bristles are closed around the mud, compressing it into a pellet, which is passed into the mouth with great rapidity.<sup>2</sup>

*The Second Pereiopoda.*—The second pair of pereopoda varies much in some families and but little in others. All through the Trichobranchiata it is chelate and only of moderate proportions, being much smaller than the first and as large as or larger

<sup>1</sup> Die Crustaceen der Böhmischen Kreideformation, 1887.

<sup>2</sup> Fritz Müller, *Kosmos*, Bd. viii. p. 117, 1881.