

and each is crowned with four strong spinous teeth, or spines; the third is broad, of great tenuity, and fringed on the inner margin with a row of closely planted, simple, stiff hairs or smooth spines; the fourth lobe is posteriorly attached to the base of the preceding, and is produced anteriorly and fringed with seven or eight long, ciliated hairs; it is also produced considerably posteriorly, and fringed at the extremity with five long, ciliated hairs, the margins between the two extremities being naked and free from hairs or cilia. This plate is the homologue of the mastigobranchia, which Dana calls the "fouet," and which he has observed playing with constant motion beneath the carapace in the living animal.

The third pair of siagnopoda (*g*), or first maxillipedes, is only two-jointed; the basal joint is broad, foliaceous, and fringed on the inner margin with long, robust, simple hairs; the second is narrower, of similar construction, and furnished with a double row of similar hairs; these appendages are short but larger than the preceding, and generally lie like an operculum protecting the organs of the mouth, which are protruded and much exposed.

The first pair of gnathopoda (*h*) is tolerably robust and six-jointed; the basis and ischium forming a curve, articulate with the meros at a right angle, which causes the three succeeding joints to be directed posteriorly; all the joints bear strong ciliated hairs, and the terminal joint ends in a blunt round extremity.

The second pair of gnathopoda (*i*) is more slender, and corresponds in length with the first; it is only five-jointed, and terminates in an obtuse point.

The first pair of pereiopoda (*k*) is shorter than the gnathopoda, but much resembles the second pair in its feebleness of character. The second pair of pereiopoda (*l*) is very much longer than the first and much more robust. It is six-jointed, and terminates in an obtuse extremity sparsely ciliated with fine hairs. The third pair (*m*) resembles the second in size and general aspect, but terminates in a minute dactylos that gives to the extremity when magnified the appearance of being chelate and furnished with long hairs. The fourth and fifth pairs of pereiopoda are not developed.

The first pair of pleopoda is attached near the middle of the ventral surface of the first somite of the pleon, and has a long basal joint and terminates in a single branch. The four succeeding pairs gradually shorten posteriorly and support two rami each; those of the sixth pair differ from the others and form the lateral plates of the rhipidura. The basal joint is short and the outer plate long and terminates subapically in a sharp tooth, whereas the inner plate is shorter, more tapering and slender than the outer, and fringed with cilia on both margins.

*Organs of Generation.*—The reproductive organs of the male animal were first figured by Vaughan Thompson<sup>1</sup> and again by Dana,<sup>2</sup> but without either of them having a full appreciation of the character and importance of their observations; a circumstance that probably accounts for their not having been noticed by other writers.

In 1861 Dr. Semper described, without any illustration, the form of these structures,

<sup>1</sup> *Loc. cit.*, pl. vii. fig. 2.

<sup>2</sup> U.S. Explor. Exped., Crust., Atlas, pl. xlv. fig. 9*h*.