

joint. The outer branch flat multiarticulate, the inner two-jointed—one cylindrical, the other multiarticulate and flattened; both fringed with a few long hairs.

The sixth or posterior pair of pleopoda is biramose on a short basal joint. The branches are uniformly stiff and narrow, being of the same length as the telson, slender, tapering, slightly curved and fringed with hairs, and form the lateral plates of the rhipidura.

The branchial chamber is very large, as may be observed from the anterior position of the cervical furrow, and the dorsally narrow and posteriorly still narrower gastric, genital, and cardiac regions. The inner surface of the carapace is covered with a membrane plicated in a series of fine ridges or folds, radiating from a position near which the muscles of the mandibles are attached to the carapace. This membrane is smooth and clean, and terminates on the interior surface at the posterior margin of the carapace, where a series of thickly-set hairs form a fringe capable of assisting to afford a protection against the admission of extraneous matter. The floor, or pleural surface of the same great chamber, is smooth and highly polished, and is not covered or protected by any tissue. The surface is generally even, but a sudden depression corresponds with cavities that hold the muscles of the gnathopoda. The enlargement or elevation of the portion posterior to these appendages corresponds with the functional requirements of the several pereopoda.

The branchial formula of this species is—

Pleurobranchiæ,	.	.	.	.	...	...	...	...	...	...	...
Arthrobranchiæ,	.	.	.	.	2	2	2	2	2	2	...
Podobranchiæ,	.	.	.	.	1	1	1	1	...	...	...
Mastigobranchiæ,	.	.	.	.	r	r	r	r	r	...	...
					h	i	k	l	m	n	o

There are no pleurobranchial plumes attached to either of the somites. There are two arthrobranchial plumes attached to the articulations of all the appendages of the pereion except the last pair of pereopoda. There are only four podobranchiæ, and these are appendages of mastigobranchial rods of a reduced and imperfect character. Six similarly formed mastigobranchiæ are attached to the six anterior appendages of the pereion, the last, or fifth, pair of pereopoda being without any branchial apparatus whatever. A similarly formed mastigobranchia, being more important in character, extending in length to a considerable distance within the branchial chamber, is attached to the second pair of siagnopoda; whereas the third or next succeeding pair posteriorly has none.

*Observations.*—The branchiæ of this animal are of a peculiar character, and form an interesting feature in their relation to the entire order to which they belong.

The second pair of siagnopoda, as I have just stated, supports a long mastigobranchial appendage, that carries on its margin, more especially at the extremity, numerous extremely long and tolerably stiff hairs of peculiar formation. They are generally straight and rigid, but some are curved at the extremity. As a whole, these hairs gradually