The branchial arrangement, as I have observed it in the specimens of *Alpheus edwardsii* from the Cape Verde Islands, may be tabulated as follows :—

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

The mastigobranchiæ are all rudimentary in appearance, but they evidently have some office to fulfil, since they terminate in a strong and peculiarly shaped hook.

The branchial plume belonging to the second pair of gnathopoda is small, and consists of a bundle of leaflets attached to the flexible membrane of the coxal articulation.

Development.—The brephalos in this genus may be a Zoea or Megalopa. In the Zoea (Pl. LXXXIX. fig. 4) there is neither rostrum nor dorsal tooth, and the ophthalmopoda are large. The figure is from a specimen obtained direct from the parent by Mr. Power, from a species resembling *Alpheus neptunus*, Dana, procured at the Mauritius. The ophthalmopod is orbicular and consists of the ophthalmus only. The first pair of antennæ has a single-jointed peduncle and two small branches, one being a long plumose hair, the other short, conical, and carrying three membranous cilia. The second pair of antennæ consists of a peduncle, flagellum, and scaphocerite which is multiarticulate and fringed with hairs. The oral appendages I have not examined, but they are succeeded by three pairs of biramose apppendages, by the deciduous representatives of the third pair of siagnopoda, and the first and second pairs of gnathopoda. Posterior to these there appear to be no other appendages either on the pereion or pleon. The telson terminates in a broad fish-tail fan, fringed with ciliated hairs and flanked by a simple spine at each extremity. A specimen which I consider to be the young of this genus was taken at the surface, off the African coast of the Atlantic, on April 13, 1876, apparently only recently hatched.

In some species the brephalos appears to be in a more advanced form and is hatched in the Megalopa stage (Pl. CXXII. fig. 1), and this distinction occurs in species very closely resembling those producing the Zoea form.

This peculiarity of development was first described by myself in a memoir with drawings communicated to the Royal Society,[1] from specimens obtained by Mr. Power in the Mauritius, and the fact has since been confirmed by Mr. Packard.[2]

The original of my drawing is 2 mm. in length and was procured from a specimen 14 mm. long, resembling the figure that I have given of *Alpheus minus*, Say.

The carapace is about one-fourth the length of the animal and has no rostrum. The

[1] *Proc. Roy. Soc.*, vol. xxiv. p. 375, 1876.

[2] *American Naturalist*, vol. xv. p. 788, 1881.