

The pleon is also laterally compressed, and is as deep anteriorly as the carapace, but posteriorly it gradually tapers to the extremity of the telson, corresponding with the line of the dorsal surface.

The ophthalmopoda are short but free.

The first pair of antennæ terminates in two flagella.

The second pair of antennæ carries a broad foliaceous scaphocerite armed with a tooth on the outer margin, and a long flagellum.

The mandibles have a psalidoma that is continuous with a molar process, but there is no synnhipod.

The gnathopoda are short and membranous.

The first two pairs of pereopoda are short, submembranous, and chelate, with the extremity of the pollex and dactylos furnished with long hairs. The third pair is simple, long, and very robust. The fourth and fifth are shorter and robust.

The pleopoda are short and foliaceous. The rhipidura is well developed and robust, the telson being shorter than the lateral plates.

The description of the form to which Randall has given the name of *Atyoida* so closely corresponds with *Atya* that it is difficult to see how it can be retained as a separate genus. It is undoubtedly smaller in size, and has the posterior three pairs of pereopoda comparatively more feeble in character and proportionally smaller and subequal in size.

Dana, in his great work, expresses the opinion that "among the species of *Atya* there is a very great difference as to the relative size of the third and following pairs of legs; and it seems possible that the transition may be such as to render it unnecessary to sustain the genus *Atyoida*."

A close examination of the structural details confirms this opinion of Dana, and therefore place *Atyoida* in this Report under *Atya*, as at present it appears to me that the weight of our experience leads to the belief that the two named forms are but different species of the same genus.

*Development*.—Among the numerous specimens of *Atya* (*Atyoida*) *bisulcata*, procured in the market at Honolulu, there were several females carrying ova, of a long ovate form (Pl. CXXII. fig. 2*ov*), and of these one or two specimens had the embryo so far advanced in development that on rupturing the egg-case I was able to determine the form of the brephalos.

This is in an advanced Zoea stage (Pl. CXXII. fig. 2), corresponding with that of the marine forms of the normal Phyllobranchiata, differing from that of *Crangon* only in the absence of a tooth on the third somite of the pleon, and considerably resembling that of *Alpheus*, from which it differs in not having the ophthalmopoda detached from the frontal margin of the carapace, but large and apparently continuous with it. This, however, is a consequence of its embryonic condition, and probably