

the sixth pair of pleopoda, whereas in *Synalpheus* there are two, and the telson is quadrate in the former and ovate in the latter, being fringed with strong spines or teeth in *Paralpheus* as well as by numerous long hairs, whereas there are only marginal hairs in *Synalpheus*.

A strict comparison of the several features that distinguish *Paralpheus* from *Synalpheus* induces me to believe that the distinction in the form of the mandibles is the only one of true generic value, all the others only being points of greater or less specific difference, which gradually lead us to the family of the Hippolytidae, as illustrated in the genus *Spirontocaris*.

*Geographical Distribution.*—This genus is limited to the only species known, and that has only been taken in the narrow and shallow strait between New Guinea and Australia.

*Synalpheus falcatus*, n. sp. (Pl. CIII.).

Carapace broad, deep, longitudinally arcuate, and about two-fifths the length of the animal; dorsally elevated into a carina that commences over the gastric region and is produced anteriorly to a rostrum that reaches as far as the distal extremity of the second joint of the peduncle of the first pair of antennae. The orbital lobes are produced as sharp teeth that reach to half the length of the rostrum; a deep groove separates them from the median carina.

The first pair of antennae has the three joints of the peduncle subequal, the first being rather the longest, and carries a stylocerite that reaches anteriorly as far forwards as the extremity of the rostrum; it terminates in two unequal flagella, the outer being about as long as the peduncle, and bifid at the extremity, and the inner being half the length of the animal.

The second pair of antennae has the basal tooth as long as the tooth of the orbital lobe; the scaphocerite is pointed, longer than the rostrum, and shorter than the peduncle; the antennae terminate in a flagellum that is as long as the animal.

The second pair of gnathopoda reaches about as far forwards as the extremity of the rostrum.

The first pair of pereiopoda has the larger chela on the left side; in our specimens of the female it is wanting, but in the male it is more than half the length of the animal and narrow, being about three times longer than broad. The meros is armed with a tooth at the upper distal angle; the carpos is short and armed with a tooth at the lower and upper angles; the dactylos is broad, curved, and furnished with a large tuberclose tooth near the joint on the under side, which, when closed, shuts into a hollow. The smaller chela is very short, the meros is armed with a strong tooth at the upper distal angle; the carpos having a similar one at the upper and lower angles;