

ment of some of the pereiopoda, while others are well formed; for instance in the genus *Pasiphæa* the first two pairs of pereiopoda are well developed, whereas the three posterior pairs are diminutive in size and imperfectly formed.

The genus *Leptochela* has also the first two pairs of pereiopoda well developed, while the three posterior pairs are slender and feeble. In *Pasiphæa* there is no synhipod attached to the mandibles, and in *Leptochela* the same appendage is only single-jointed. In *Orphanina* the chelate pereiopoda are well developed, and the three posterior slender and feeble.

These three genera I propose to unite in this one family, and there are probably others which may be found possessing features that may bring them within its range.

### *Leptochela*, Stimpson.

*Leptochela*, Stimpson, Proc. Acad. Nat. Sci. Philad., p. 111, 1860.

Carapace smooth, scarcely crested; lateral walls and margin destitute of spines. Rostrum very short, spiniform.

First pair of antennæ biflagellate.

Mandibles inflexed, broad, and compressed; synhipod short, ovate, and uniarticulate.

First pair of gnathopoda not pediform, having the last joint armed with long spines.

Second pair of gnathopoda furnished with an ephysis.

Pereiopoda carrying a basephysis. First and second pairs compressed, chelate, slender, with long parallel dactyli; three posterior pairs short.

Pleon having the antepenultimate somite more or less abruptly curved.

Pleopoda biramose, rhipidura well developed.

Telson long, narrow, and tapering.

The above definition corresponds closely with Dr. Stimpson's description of the genus, which he considers to bear a close affinity to *Pasiphæa*, differing only in having the mandibles with a synhipod, and in the first pair of gnathopoda not being pediform.

The description coincides with the characters of the specimen in the Challenger collection, except that what Dr. Simpson calls "long spines" on the terminal joint of the first pair of gnathopoda I should have called hairs.

The arrangement of the branchiæ, as observed in *Leptochela robusta*, is shown in the following table:—

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

*Geographical Distribution.*—Dr. Stimpson obtained some specimens of *Leptochela gracilis* from deep water in the Gulf of Kagosima, and *Leptochela robusta*, at a depth