

Family PERISIPHONIDÆ.

Character of the Family. Trophosome formed of two essential constituents—an axial and a peripheral, the axial consisting of a single tube which carries the hydrothecæ and the peripheral, formed of numerous tubes destitute of hydrothecæ, and united into a fascicle which surrounds the axial to a greater or less extent, and allows the hydrothecæ to project through intervals between its component tubes. Hydrothecæ never adnate by their sides to the axial tube where this is covered by the peripheral. Peripheral and axial tubes not inseparably coalesced.

There is among the Calyptoblastic Hydroids no more natural and distinctly defined family than that of the Perisiphonidæ. The remarkable structure of the trophosome with its axial hydrotheca-bearing tube enveloped by the peripheral fascicle is, except in *Grammaria*, quite unknown in any other group; for this condition must not be confounded with the fasciculation of the stem which occurs in many Plumularinæ and is common in *Halecium*, *Sertularia*, *Thuiaria*, and other genera (see Part I. p. 4), in which the component tubes are not divisible into an axial tube which carries the hydrothecæ and peripheral tubes which are destitute of hydrothecæ. Except in *Cryptolaria* the gonosome of the Perisiphonidæ is entirely unknown.

Four genera, all of which occur among the dredgings of the Challenger, must be assigned to the family Perisiphonidæ. The essential points of difference between these are given in the following scheme:—

PERISIPHONIDÆ	}	Axial tube not wholly enveloped by the peripheral. Hydrothecæ sessile or pedunculate, never adnate to the axial tube, and with the cavity directly continuous with that of the stem or peduncle. No sarcothecæ present.	}	<i>Lafoëa</i> .	
		Axial tube not wholly enveloped by the peripheral. Hydrothecæ pedunculate, never adnate to the axial tube, and with the cavity distinctly differentiated from that of the peduncle. No sarcothecæ present.			<i>Lictorella</i> .
		Axial tube wholly enveloped by the peripheral. Hydrothecæ pedunculate, distichous. Sarcothecæ developed on the stem.			
		Axial tube not wholly enveloped by the peripheral. Hydrothecæ sessile on the axial tube, to the free portion of which they are more or less adnate; distichous or scattered. No sarcothecæ present.			<i>Cryptolaria</i> .

Lafoëa, Lamouroux.

Lafoëa, Lamouroux, Expos. Méthod., 1821.

Generic Character. Trophosome.—Hydrocaulus in its main stem and principal branches consisting of a single axial tube, enveloped by numerous peripheral tubes, but