

As in the other species of *Cryptolaria* in which the gonangia have been found, these receptacles spring from the axial tube where this is covered by the peripheral, and have their distal ends curving away from the stem. In *Cryptolaria diffusa*, however, they present the singular feature of being sometimes geminate, while this condition is found on the same branch which carries the ordinary solitary form of gonangium. The geminate gonangia spring from a very short common peduncle, and immediately become adherent, back to back, for about three-fourths of their height, the distal fourth being free and divergent. It is impossible with our present knowledge to assign with confidence any reason why there should be this difference in the gonangia of one and the same colony. If it be not an abnormal occurrence of merely individual significance, it may possibly point to a monœcious condition of the colony, involving a sexual difference between the solitary and geminate gonangia.

*Perisiphonia*, n. gen.

*Name* from *περι*, around, and *σίφων*, a tube, in allusion to the way in which the axial tube is surrounded by the peripheral ones.

*Generic Character. Trophosome.*—Hydrocaulus composed of two constituents, an axial and a peripheral; the axial formed by a continuous tube which carries at intervals along its length pedunculated hydrothecæ; the peripheral formed by numerous tubes which completely surround the axial in its entire length, are destitute of hydrothecæ, but allow the hydrothecæ of the axial tube to project through interstices between them into the surrounding water; the superficial tubes of the peripheral fascicle set with tubular sarcothecæ.

This remarkable genus has very obvious affinities with *Cryptolaria*, from which, however, it essentially differs in its hydrothecæ being provided with well-defined peduncles, instead of having their cavities directly continuous with that of the tube from which they spring, in the axial tube never becoming free from the cover of the peripheral, and in the presence of a well-developed system of sarcode-bearing receptacles.

In *Perisiphonia filicula* and in *Perisiphonia pectinata*, the only two species as yet known, the hydrothecæ are flask-shaped and are disposed alternately in regular sequence along the entire length of the axial tube. The peripheral tubes completely envelop the axial, are continuous throughout the entire length of the branch, and although separable as in the other *Perisiphonidæ*, are adherent to one another except at the places through which the ends of the hydrothecæ protrude. Hence no part of the axial tube becomes exposed as in *Cryptolaria*, the peripheral tubes continuing to invest it to the extreme ends of the branches.

Another very remarkable feature in *Perisiphonia* consists in the presence of minute tubular receptacles which are borne by the superficial tubes of the peripheral fascicle. In both species these are carried all along the length of the tubes, and under a low