

HYDROIDA.—By Professor Allman, M.D., LL.D., F.R.S., P.L.S.

(Plate XVIII.)

The species of Hydroida collected at Kerguelen Island and placed in my hands for determination amount in number to seven. Of these, one cannot be separated from the widely distributed *Sertularella polyzonias* ;* the others were before unknown.

Among them the gymnoblastic hydroids are represented by a single species only, a *Coryne* or *Syncoryne*, whose nearer determination in the absence of the gonosome is impossible.

The new calyptoblastic forms are represented by five species. Of these one constitutes the type of a new genus (*Hypanthea*). The others belong to the genera *Sertularella*, *Halecium*, and *Campanularia* (provisional), all of which are well represented by other species in our own latitudes.

The species which has been referred to *Campanularia* (though in the absence of a fuller knowledge of its gonosome, only provisionally) cannot be specifically distinguished from a hydroid obtained last autumn by H.M.S. "Valorous" in Baffin's Bay. It belongs to a common group of campanularian forms; but yet the fact of identical forms occurring in such widely separated localities, though under conditions probably very similar, is one of great interest and significance, more especially as the distribution can hardly be explained, as in certain other cases, by the transporting agency of ships' bottoms.

On the whole the hydroid fauna of Kerguelen Island, so far as it is represented by this collection, exhibits little which can be referred to as impressing on it anything of a special or characteristic facies. The only unusual type is offered by the form for which I have constituted the new genus *Hypanthea*. All the others, notwithstanding the specific peculiarities by which most of them are distinguished from forms occurring elsewhere, belong to well-known and widely distributed types.

The following are the diagnoses of the new Kerguelen Island Hydroida.

HYDROIDA CALYPTOBLASTEÆ.

SERTULARELLA.

Sertularella unilateralis.

(Plate XVIII., figs. 10, 11.)

Allman, Ann. & Mag. of Nat. Hist., 4th ser., 1876, xvii., p. 114.

Trophosome.—Hydrocaulus attaining a height of about an inch and a half, alternately and pinnately branched, monosiphonic; Hydrothecæ deep, divergent and somewhat tumid below, slightly curving towards the stem above, strongly four-toothed, all of them deflected towards one side of the stem and branches.

* I do not now regard the *Sertularella kerguelensis* of the preliminary notice (Ann. & Mag. Nat. Hist. 1876) as sufficiently distinct from *S. polyzonias* to justify its separation from that species.

Gonosome.—Gonangia arising just below the base of a hydrotheca, ovoid, with a four-toothed terminal orifice; distal portion marked with wide annulations which become obsolete towards the proximal end.

Dredged in Swain's Bay.

The mode in which the hydrothecæ, though springing from opposite sides of the stem and branches, are all deflected towards one side, causes them to appear to be monostichous, and thus gives to the species a peculiar and well-marked character.

Sertularella lagena.

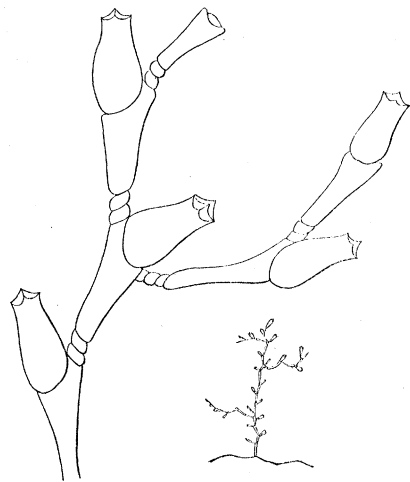
Allman, Ann. & Mag. of Nat. Hist., 4th ser., 1876, xvii., p. 114.

Trophosome.—Hydrocaulus springing from a creeping stolon, attaining a height of about an inch, slightly branched; internodes much attenuated towards their proximal ends, and there furnished with two or three well marked oblique annulations. Hydrothecæ rather distant, borne by the internode close to its distal end, tumid below, becoming narrow towards the orifice which is distinctly four-toothed.

Gonosome.—Not known.

Dredged in Observatory Bay, Kerguelen Island.

This is a small species distinguished chiefly by its flask-shaped hydrothecæ, and proximately attenuated internodes with oblique annulations.



Sertularella lagena.

HALECIUM.

Halecium mutilum.

(Plate XVIII., figs. 8, 9.)

Allman, Ann. & Mag. of Nat. Hist., 4th ser. 1876, xvii., p. 114.

Trophosome.—Hydrocaulus attaining a height of about an inch, irregularly branched; branches with two or three oblique annulations at their origin; internodes short, each carrying for the support of the hydranth close to its distal end a bracket-shaped process which is not produced into a tube, and which is surrounded by a narrow membranous punctate margin.

Gonosome.—Not known.

Dredged in Observatory Bay, Royal Sound.

This species like *H. macrocephalum*, Allman, from the Western part of the Gulf Stream, and *H. sessile*, Norman, from the Hebrides, is remarkable for the utter absence of the tubular prolongation of the lateral orifice of the internode which gives support to the hydranth in most of the species of *Halecium*.

CAMPANULARIA.

Campanularia ? *cylindrica*.

(Plate XVIII., figs. 4, 5.)

Allman, Ann. & Mag. of Nat. Hist., 4th ser., 1876, xvii., p. 114.

Trophosome.—Hydroid attaining a height of about a quarter of an inch; peduncles springing from a creeping filiform stolon, marked with several annulations at their proximal ends, and having at their distal ends each a single globular annulation which immediately supports the hydrotheca; in their intermediate portion they are slightly corrugated. Hydrothecæ deep, cylindrical, with the margin deeply cut into about twelve strong teeth.

Gonosome.—Gonangia on very short peduncles which spring from the creeping stolon, cylindrical above with a flat summit, and then tapering below towards the peduncle.

Dredged in Swain's Bay.

Beyond our knowledge of the situation and the external form of the gonangia, we know nothing of the gonosome, and therefore the reference of this species to the genus *Campanularia* is merely provisional. A form which cannot be distinguished specifically from this, has more recently been dredged by H.M.S. "Valorous" from 60 fathoms in Baffin's Bay.

HYPANTHEA.

Trophosome.—Hydrothecæ pedunculate, inoperculate, with walls enormously thickened and so far encroaching upon the cavity as to render impossible the complete retraction of the hydranth.

Gonosome.—Gonangia enclosing fixed sporosacs.

The genus *Hypanthea* is very remarkable from having the place of the ordinary hydrothecæ occupied by bodies which may be said to support rather than contain the hydranths, which are thus almost as incapable of being withdrawn into a protective receptacle as are the hydranths of the various species of *Halecium*,—a most exceptional condition among the calyptoblastic hydroids.

Hypanthea repens.

(Plate XVIII., figs. 6, 7.)

Allman, Ann. & Mag. of Nat. Hist., 4th ser., 1876, xvii., p. 115.

Trophosome.—Peduncles attaining a height of about a quarter of an inch, springing at intervals from a creeping stolon, having each a globular annulus just below the hydrotheca, destitute of annulations in the remainder of their extent. Hydrothecæ obconical with very oblique margin, their cavity forming distally a shallow cup, whence is prolonged a narrow cylindrical tube backwards through the axis of the hydrotheca.

Gonosome.—Gonangia elongated, narrow, passing gradually into a short peduncle which springs from the creeping stolon; colonies monœcious; the male gonangia exceeding in height the peduncles of the hydrothecæ, fusiform, opening on the summit by a narrow circular orifice; the females shorter than the males, scarcely narrowing towards their distal extremity where they open by a wide orifice.

Dredged in Swain's Bay.

The singular form of the hydrothecæ, the large naked hydranths, and the greatly elongated gonangia, give to *Hypanthea repens* a striking physiognomy. The great development of the chitinous perisarc is shown not only in the hydrothecæ but also in the peduncles on which these are borne; for the perisarc of the peduncles like that of the hydrothecæ attains a great thickness and narrows their cavity in a manner similar to that by which the walls of the hydrothecæ contract the space contained by them. The lips of the orifice of the female gonangia are inverted for a short distance. In each gonangium of either sex one sporosac only is developed. This forms a greatly elongated sac which occupies almost the whole of the cavity of the gonangium. The presence in this hydroid of male and female gonangia in the same colony is another very exceptional feature.

Several of the hydranths in the specimen were sufficiently well preserved to admit of their form and their relations to the other parts being determined.

HYDROIDA GYMNOBLASTEIA.

CORYNE.

Coryne (?) *conferta*.

(Pl. XVIII., figs. 1-3.)

Allman, Ann. & Mag. of Nat. Hist., 4th ser., 1876, xvii., p. 115.

Trophosome.—Hydrocaulus attaining a height of about an inch and a half; much and irregularly branched, forming dense tufts; stems and branches distinctly and regularly annulated. Hydranths with about 20 tentacles.

Gonosome.—Not known.

Gathered on *Mytilus* at or near low water mark in Observatory Bay (the tide falls only about 2 feet). Scarce.

The absence of the gonosome renders the reference of this species to *Coryne* provisional. It might with equal reason be regarded as a *Syncoryne*. Its densely tufted stems with their strongly annulated perisarc confer upon it a well marked character.

This is the only Gymnoblasic species in the collection.

