

Gonosome.—Gonangia borne on peduncles which spring from within the cavity of certain hydrothecæ, where they take the place of the hydranths.

The genus *Synthecium* was originally characterised by me from a New Zealand Hydroid in the collection of Mr. Busk. It forms one of the most definitely marked generic groups among the Calyptoblastic Hydroids, and in the singular relation of the gonosome to the hydrothecæ is absolutely unique. This relation is found in the fact that the peduncles of the gonangia are enclosed each within the cavity of a hydrotheca. The cavity is completely filled by the peduncle, which thus takes the place occupied in other hydrothecæ by the hydranth, and has its cœnosarc directly continuous through the base of the hydrotheca with the cœnosarc of the stem; the hydrothecæ which thus carry gonangia differ in no respect, either in form or in position, from those which continue to exercise their normal function of giving protection to the hydranth.

To this condition we have a very interesting parallelism in the genus *Thecocladium* (p. 80), in which, as in *Synthecium*, the usual function of certain hydrothecæ becomes changed into another. Here, however, the place of the hydranth is taken, not by any part of the gonosome, but by the origin of a branch which in *Thecocladium* occupies the cavity of the hydrotheca exactly as the peduncle of the gonangium does in *Synthecium*. In *Thecocladium* the gonangia spring as usual from the side of an internode.

Since the first determined example of the genus was described under the name of *Synthecium elegans*,¹ another closely allied to this and possibly only a variety of it has been characterised as *Synthecium ramosum*.² To these the Challenger collection now contributes two very distinct and well-marked species, one of which differs from all the others described in the fact of its having its hydrothecæ alternate instead of opposite.

Synthecium campylocarpum, n. sp. (Pl. XXXVII. figs. 1, 1a, 1b, 1c).

Trophosome.—Stem simple, monosiphonic, set with pinnately disposed opposite ramuli; pinnæ divided into equal internodes by well-marked joints, every internode carrying a pair of hydrothecæ. Hydrothecæ strictly opposite, tubular, cylindrical, with circular even orifice.

Gonosome.—Gonangia (female?) pod-shaped, compressed, slightly curved towards the supporting pinna, the two wider sides carrying closely set, prominent, transverse ridges, which thin away towards the edges of the gonangium where they finally disappear. Male (?) gonangia oviform, destitute of the transverse ridges, and with the axis straight.

Locality.—Off Port Jackson; depth, 30 to 35 fathoms.

Synthecium campylocarpum presents in its trophosome little to distinguish it from *Synthecium elegans*, the first described species of this remarkable genus. The elongated,

¹ *Journ. Linn. Soc. Lond. (Zool.)*, vol. xii. p. 266, pl. xv.

² *Ibid.*, vol. xix. p. 137, pl. xii.