

STUDIES IN AUSTRALIAN ATHECATE HYDROIDS.

No. II. Development of the Gonophores and Formation of the Egg in *Myriothela australis*, Briggs.*

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(Plates xlii-xliv, and Figures 1-4.)

INTRODUCTION.

Previous to the publication of Benoit's exhaustive researches into "L'Ovogénèse et Les Premiers Stades du Développement chez La Myriothèle et chez La Tubulaire,"¹ our knowledge of the more salient features in the development of the gonophores of *Myriothela* was based on the works of the earlier investigators, in particular Allman (1875), Korotneff (1880 and 1888), and Hardy (1891). Although Labbé (1899), in his work on *Myriothela* and *Tubularia* studied the oogenesis of these genera in more or less detail, he assumed that the origin of the germ-cells and the development of the gonophores were sufficiently well established to enjoin no further investigation into these problems. Consequently he confined his attention almost exclusively to the mode of formation of the egg, but from his observations was unable to reconcile this with the normal cycle of oogenesis in the Metazoa.

Unfortunately Jäderholm's excellent description of the structure and histology of *M. austro-georgiæ*² does not include an account of the development of the gonophores in this diœcious species. He has confined himself solely to figuring the immature male and female gonophores as they appear in longitudinal sections. This is all the more to be regretted in view of the fact that the Australian species of *Myriothela*, *M. australis* and *M. harrisoni*,³ are also diœcious, whereas the northern forms, *M. phrygia* and *M. cocksi*, are characterized by their monœcious condition. Benoit has observed and described for the first time the process of fertiliza-

* For No. I see "Records of the Australian Museum," Vol. xvi, No. 7, 1928, p. 305.

¹ Benoit.—Archiv. de Zool. Exp. et Gén., lxiv, 2, 1925.

² Jäderholm.—Wiss. Ergebn. d. schwedischen Südpolar-expedition, 1901-1903, v, 8, 1905.

³ Briggs.—Rec. Austr. Mus., xvi, 7, 1928.