

The order in which the families and genera are placed in the following systematic part of this Report is, as a lineal arrangement always must be, more or less artificial. I have followed, as a general rule, the order adopted by von Drasche with the few modifications indicated in the criticism of his arrangement given above, and with the addition of the groups now formed for the reception of the species new to science.

Family I. BOTRYLLIDÆ.

Colony usually thin and incrusting, sometimes in the form of thick fleshy masses. *Systems* circular, elliptical, or forming branched lines. Common cloacal openings distinct, usually lobed.

Ascidiozooids short, and not divided into regions.

Test usually soft, traversed by numerous vessels with large terminal knobs.

Branchial Sac large and well developed, internal longitudinal bars present, stigmata numerous.

Dorsal Lamina in the form of a plain membrane.

Tentacles simple, not more than sixteen in number.

Alimentary Canal placed alongside the posterior part of the branchial sac.

Reproductive Organs on both sides of the body.

Gemmation lateral, from the bodies of the Ascidiozooids; and also stolonial, from the ectodermal processes or vessels in the test.

This family occupies the highest position amongst Compound Ascidiæ on account of the considerable differentiation attained by most of its members. It corresponds to Savigny's genus *Botryllus*,¹ and to Milne-Edwards'² two genera *Botryllus* and *Botrylloides*, but was not raised to the rank of a family until the publication of Giard's work upon the Synascidiæ in 1872.³ Since that date it has been regarded as a well-marked family by all writers, and has been discussed in particular by Della Valle⁴ and by von Drasche.⁵

As first defined by Giard in 1872, the Botryllidæ included only thin incrusting colonies, but if the forms included in the modern genera *Polycyclus* and *Sarcobotrylloides* are to be retained in the family—a matter in regard to which there can be no doubt—the amended definition given by von Drasche, and allowing of the admission of thick fleshy colonies, must be accepted. All conditions between the very thin and delicate

¹ Mémoires sur les Anim. sans Vert., 2^e Partie, 1^{re} fasc., tableaux systematique, p. 197, Paris, 1816.

² Observations sur les Asc. Comp., &c., *Mém. Acad. Sci. Paris*, t. xxviii, 1842.

³ Recherch. sur les Asc. Comp., &c., *Archives d. Zool. expér.*, t. i. p. 616, 1872.

⁴ Contribuzioni alla storia naturale delle Ascidie Composte del Golfo di Napoli, &c., Napoli, 1877.

⁵ Die Synascidien der Bucht von Rovigno, Wien, 1883.