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CORYSTOLONA, A NEW HYDROID GENUS (LEPTOLIDA: LEPTOTHECATAE) FROM SOUTHERN AUSTRALIA

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Abstract

Watson, J.E., 2002. *Corystolona*, a new hydroid genus (Leptolida: Leptothecatae) from southern Australia. *Memoirs of Museum Victoria* 59(2): 333–336.

A hydroid first described as *Reticularia annulata* Watson, 1973 from the Great Australian Bight is the type species of a new genus *Corystolona* in the family Clavidae, subfamily Corydendriinae Calder, 1988. The simple, stolonal colonies of *Corystolona* lack nematophores and have internal gonophores.

Introduction

Abundant colonies of a hydroid previously described as *Reticularia annulata* Watson, 1973 were collected in a survey of the Port of Launceston, Tasmania, Australia, in May, 2001. The colonies were found on wharf pilings at depths of 1–4 m below low water mark. The hydroid assemblage on the piles included the common southern Australian species, *Pennaria wilsoni* Bale, 1913, *Bimeria australis* Blackburn, 1937 and *Aglaophenia plumosa* Bale, 1882. The finding of several colonies with intact, extended hydranths and gonophores enclosed within the hydrocaulus showed *R. annulata* to be referrable to the family Clavidae McCrady, 1859 and to belong, with slight emendation, to the subfamily Corydendriinae Calder, 1988. Type and other material is held in the Museum of Victoria, Melbourne, Australia (NMV).

Clavidae McCrady, 1859

Corydendriinae Calder, 1988

Diagnosis (emended). Clavid hydroids with stolonal or erect colonies; branches of erect colonies adnate to hydrocaulus for a varying distance basally. Hydranths elongate, more or less cylindrical, not polymorphic; tentacles filiform, scattered over much of hydranth. Nematophores absent. Gonophores fixed, external or internal sporosacs or free medusae, arising from hydrorhiza, hydrocaulus, branches or pedicels but not from body of hydranths.

Remarks. Calder (1988) discussed the status of the family Clavidae, considering it to be sufficiently disparate to warrant separation into several subfamilies additional to the nominal subfamily Clavinae McCrady, 1859 and proposed the subfamily Corydendriinae Calder, 1988. With one difference the present specimens accord with the diagnosis of the Corydendriinae, this being that it is not clearly stated whether gonophores may be external or internal. The diagnosis of the Corydendriinae is therefore emended to accommodate both external and internal gonophores.

Corystolona gen. nov.

Diagnosis. Clavid hydroids with stolonal colonies, hydrocaulus simple, unbranched, perisarc firm, terminating at hydranth base; hydranths elongate, tubular, hypostome dome-shaped, tentacles filiform, scattered over hydranth body; gonophores fixed sporosacs, arising as blind sacs beside hydranths within perisarc of hydrocaulus.

Type species. Reticularia annulata Watson, 1973.

Etymology. Refers to relationship with the Corydendriidae and strictly stolonal habit of the colonies.

Remarks. Corystolona is close to a group of four clavid genera: *Corydendrium* van Beneden, 1844; *Tubiclava* Allman, 1864; *Rhizodendrium* Calder, 1988; and *Merona* Norman, 1865. These genera were rejected from consideration for *Corystolona annulata* because the gonophores of *Tubiclava* are borne on the hydranth body, those of *Rhizodendrium* and *Merona* are hydrorhizal, and *Corydendrium* as defined by van Beneden (1844), Millard (1975) and Bouillon (1985) includes only

those species with erect, ramified colonies, with either internal or external gonophores. The strictly stolonal colonies together with internal gonophores sets *Corystolona* apart from these genera. *Corydendrium brevicaulis* Hirohito, 1988 from Japan is a sparsely branched species with internal gonophores which should be included in the Corydendriinae. While *C. brevicaulis* is close to *Corystolona*, the strictly simple, stolonal hydrocauli of *Corystolona* distinguishes it from Hirohito's species.

Corystolona annulata (Watson, 1973)

Figure 1a–e

Reticularia annulata Watson, 1973: 164, figs 5, 6.

Material examined. Holotype, NMV G1922, microslide, NMV G2091, preserved material, remainder of holotype colony, Pearson Island, South Australia, 17 m, on calcareous bryozoan. NMV F91279 (malinol mounted microslide, infertile colony), NMV F91280 (malinol mounted microslide, female colony), NMV F91281 (malinol mounted microslide, male colony), NMV F91282 (alcohol preserved material), Port of Launceston, Tasmania, colonies from bryozoans on wharf pilings 1–4 m, Aquenal Pty Ltd, May 2001.

Description (of Tasmanian material). Colonies comprising a few to many hydrocauli given off from poorly adherent tubular stolons; stolons unbranched or very sparsely branched, occasionally produced into a loose tangle where growing end becomes free of substrate; perisarc smooth to rather crumpled.

Single hydrocauli given off at various angles and at irregular intervals along stolon.

Perisarcal tube horn-shaped, proximally narrow at junction with stolon, but without true pedicel, thereafter widening to become cylindrical; length very variable, younger tubes often quite short and narrow, mature ones wider, straight or with 1 or 2 bends; sometimes recurved into a loop.

Perisarc of younger hydrocauli thin but firm, becoming thicker with age; perisarc evenly and deeply transversely annulated in basal third, corrugations usually continuing throughout length of tube, occasionally becoming smoother distally. Margin circular, perisarc of rim usually thinner and more fragile than rest of tube, sometimes torn by eruption of hydranth.

Hydranth long, cylindrical, with tall, narrowly dome-shaped hypostome with deep central slit; body with 26–30 scattered filiform tentacles, an incipient ring of 4–5 tentacles below hypostome; tentacles longest in mid-region, becoming shorter proximally; tentacles armed with prominent rings of nematocysts. Base of hydranth enclosed in a long funnel-shaped sheath of tissue inside tube; when hydranth retracted sheath becomes a muscular supporting girdle.

Colonies dioecious, gonophores laying beside hydranth deep within perisarcal tube; gonophore digitate with blunt distal end, no spadix, female containing 10–12 small ova, male of same shape as female but with undifferentiated spermatogenic mass.

Two kinds of nematocysts in hydranths: (1) desmonemes, capsule broadly droplet-shaped, 6.4–6.8 x 3.6–4.4 μm; and (2) euryteles, capsule elongate droplet-shaped, 8.4–10.4 x 4.0–4.8 μm, set in rings in tentacles. Both types of nematocysts very abundant; none found discharged.

Colour. Perisarc of younger hydrocauline tubes translucent white, darkening to horn-coloured with thickening of perisarc. Young stolons opaque white. Hydranth and tentacles (formol preserved) white, a trace of pink in some hydranths.

Measurements of mature specimens (μm):

Hydrorhiza	
Diameter of stolon	140–176
Hydrocaulus	
Length of mature tube	640–4,000
Proximal width	152–176
Diameter at margin (mature tube)	320–560
Hydranth	
Length extended (preserved material)	540–900

Remarks. The small sample of *Reticularia annulata* from Pearson I. in the eastern Great Australian Bight had deeply withdrawn, partly decomposed, sterile hydranths and disposition of the specimen on the bryozoan host was such that the bases of the hydrocauli were obscured; the specimen was thus mistakenly referred to *Reticularia* Thomson, 1853 (junior synonym, *Filellum*, Hincks, 1868). The smaller dimensions of the type compared with those of the present specimens is almost certainly due its being a young, infertile colony while the Tasmanian material ranges from young to aged. The difference in size of immature hydrocauli compared with older ones is a striking feature of the present material.

In 1839 d'Orbigny described *"Tubularia rugosa"* collected from a jetty south of the Rio Negro in Patagonia. He considered the specimen remarkable by its long annulated tubes but did not mention any soft parts. Bedot (1905) considered the material indeterminable but Leloup (1937) referred it to *Stephanoscyphus*. Notwithstanding

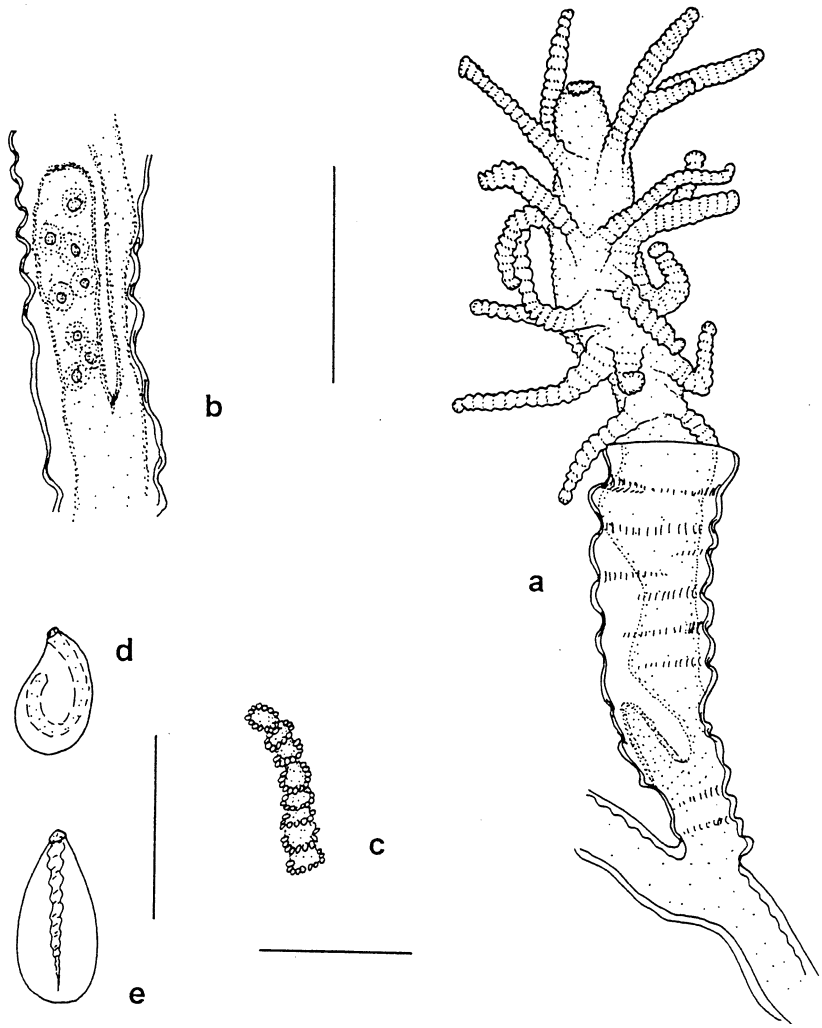

Figure 1. a, hydrorhiza, hydrocaulus and hydranth with young male gonophore. b, mature female gonophore with ova. c, rings of nematocysts in tentacle. d, desmoneme, undischarged. e, euytele, undischarged, from tentacles. Scale bar: a, b, 0.5 mm; c, 0.2 mm; d, e, 10 mm.

the opinion of these authors the similarities between d'Orbigny's specimen and *Corystolona annulata* suggests that it may be the same or similar species. As the type material of *T. rugosa* appears to be lost the question cannot be settled until the finding of live material.

Little information could be gleaned about substrate preferences of *Corystolona annulata* from the present samples since most colonies had been detached from their substrate in the laboratory. However, like the Pearson I. specimens several colonies were attached to a bryozoan, in this case, *Amathia* sp. Because of their poor adherence long strands of stolons could be easily freed from the substrate. The tightly contracted tentacles with many rings of nematocysts suggest that the tentacles are probably very extensible in life. The deeply slit hypostome indicates a capacity for wide expansion to engulf quite large prey. Because of retraction during preservation it could not be unequivocally established whether the mature hydranth is fully retractable into the tube, but the strong muscular band below the hydranth suggests that it is capable of doing so.

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