



New species of *Limipolycystis* Schilke, 1970 (Rhabdoceola: Kalyptorhynchia: Polycystididae) from the Western Mediterranean

TOM ARTOIS^{1,3}, WIM WILLEMS¹, NATHALIE REVIS¹, PAUL MARTENS² & ERNEST SCHOCKAERT¹

¹Hasselt University, Centre for Environmental Sciences, Research Group Zoology: Biodiversity and Toxicology, Universitaire Campus Gebouw D, B-3590 Diepenbeek, Belgium

²PHL University College, Campus Elfde Linie, Gebouw D, Elfde-Liniestraat 23, B-3500 Hasselt, Belgium

³Corresponding author. E-mail: tom.artois@uhasselt.be

Abstract

Five new species of *Limipolycystis* Schilke, 1970 are described and their morphology is compared to that of the only species known, *L. curvitubo* Schilke, 1970. *L. sicilicula* n. sp., *L. falx* n. sp., *L. friedae* n. sp., *L. libra* n. sp. and *L. wallbergi* n. sp. all largely resemble *L. curvitubo* as to the internal anatomy. They all have a caudally-situated testis and, at least in those species for which good material is available, a seminal receptacle could be seen. This seminal receptacle is tubiform, connecting the bursa with the most proximal part of the oviduct, which is filled with sperm. All these species are mainly distinguishable from each other by details in the shape of the stylet. Diagnoses are provided for all new species and the diagnosis of the genus is emended to reflect the new finds.

Key words: Platyhelminthes, flatworms, microturbellaria, biodiversity, Typhlopolycystidinae, taxonomy

Introduction

In 1970, Schilke described *Limipolycystis curvitubo* Schilke, 1970, an interstitial polycystidid from the island of Sylt (Germany). Evdonin (1977) placed it in the subfamily Typhlopolycystidinae Evdonin, 1977, together with *Typhlopolycystis* Karling, 1956 and *Lagenorhynchus* Brunet, 1965 (now *Lagenopolycystis* Artois & Schockaert, 2000). Upon the description of two new, related taxa, *Myobulla* Artois & Schockaert, 2000 and *Sabulirhynchus* Artois & Schockaert, 2000, these authors discussed the relationships of and within the Typhlopolycystidinae, commenting briefly on the anatomy of *L. curvitubo*. In two later papers, Artois & Schockaert (2003, 2005) further reported on the morphology of the male and female system of all species of Polycystididae Graff, 1905. They came to the conclusion that the presence of a muscular accessory glandular vesicle in the male system (the accessory vesicle type II in their terminology) is typical of Typhlopolycystidinae (although lacking in *Sabulirhynchus axi* Artois & Schockaert, 2000). In some taxa [species of *Typhlopolycystis*, *Lagenopolycystis peresi* (Brunet, 1965) Artois & Schockaert, 2000 and *L. curvitubo*] this vesicle is connected to a typical stylet, which was called the accessory stylet type II by Artois & Schockaert (2003). Only in *L. curvitubo* is this the only stylet present in the male system, clearly distinguishing this species from all other taxa within Typhlopolycystidinae.

In their paper dealing with the species of Typhlopolycystidinae from Galapagos, Artois & Schockaert (2000) mentioned several new species of *Limipolycystis*, the morphology of which was said to resemble very much that of *L. curvitubo*. All these species were from the Mediterranean, and were not formally described. In this contribution we describe and discuss this material, complemented with new material collected during the last decade in the Western Mediterranean: the Marseille area, the area around Banyuls-sur-Mer, Calvi and Northern Sardinia. This study results in the description of five new species, which enables us to further discuss the morphology of the taxon *Limipolycystis* in detail.