



## Polycystididae (Rhabditophora: Rhabdozoa: Kalyptorhynchia) from the Indian Ocean, with the description of twelve new species

TOM J. ARTOIS<sup>1</sup> & BART S. TESSENS

Hasselt University, Centre for Environmental Sciences, Research Group Biodiversity, Phylogeny and Population Studies, Agoralaan Gebouw D, B-3590 Diepenbeek, Belgium

<sup>1</sup>Correspondence. E-mail: tom.artois@uhasselt.be

### Abstract

An overview of the Polycystididae from the Indian Ocean is presented, including the description of twelve new species. The taxonomical position of each of these species is discussed. *Austrorhynchus kerguelensis* n. sp., *Parastrorhynchus neleae* n. sp., *Paulodora ancora* n. sp., *P. contortoides* n. sp., *P. drepanophora* n. sp., *P. hamifer* n. sp., *P. porcellus* n. sp., *P. schockaerti* n. sp., *P. watsoni* n. sp., *Phonorhynchoides linguatus* n. sp. and *Polycystis elsae* n. sp. can all be distinguished from their congeners on characteristics of the construction of the hard parts of the male system. The older records of *Paulodora contorta* (Schockaert & Karling, 1975) Artois & Schockaert, 1998 by Schockaert (1982) and Jouk & De Vocht (1989) are re-evaluated and the material is recognised as *Paulodora drepanophora* n. sp.. The subspecies *P. felis asymmetrica* Artois & Schockaert, 2001 is raised to the species level. *Annalisella bermudensis* Karling, 1978, *Parastrorhynchus elixus* (Marcus, 1954) Karling & Schockaert, 1977 and *Phonorhynchoides haegheni* Artois & Schockaert, 2001 are recorded for the first time in the Indian Ocean. The new material of these species is discussed and compared with older descriptions. For *Alcha evelinae* Marcus, 1949, *Cincturorhynchus karlingi* Schockaert, 1982, *Djeziraia pardii* Schockaert, 1971 *Gyratrix hermaphroditus* Ehrenberg, 1831, *Paulodora subcontorta* (Schockaert, 1982) Artois & Schockaert, 1998 and *Polycystis ali* Schockaert, 1982 new localities are given, and newly collected material is discussed. The discussion of *P. ali* leads to the split of the species into *P. ali* Schockaert, 1982 from the African East Coast and Galapagos and *P. californica* n. sp. from California. For some of the species, new records outside the Indian Ocean are also mentioned.

**Key words:** turbellaria, Dalytyphloplanida; Eukalyptorhynchia, taxonomy, biodiversity, Indian Ocean, new taxa, new records

### Introduction

Free-living flatworms are a major component of the interstitial and epibenthic meiofaunal communities of coastal areas. Despite their ecological significance, our knowledge of the world's marine turbellarian fauna is very scant. Also the turbellarian fauna of the Indian Ocean is only scarcely documented, and our knowledge is almost exclusively limited to the African East Coast, more specifically Somalia (Schockaert 1971; Schockaert 1982), the Mombasa area in Kenya (Schockaert & Martens 1985; Jouk & De Vocht 1989; De Clerck 1994; De Clerck & Schockaert 1995) and the Seychelles (Martens & De Clerck 1994). Martens & Curini-Galletti (1989) described and discussed some Proseriata from Indonesia. The anatomy and distribution of the polycystidid *Gyratrix hermaphroditus* Ehrenberg, 1831 in Indonesia was discussed by Susetiono (1994). In more recent years, some rhabdozoels were reported from the Indian Ocean, including the description of some new taxa, by Artois (2008), Artois *et al.* (2000), Willems *et al.* (2004; 2005).