



## Notes on some enigmatic taxa of limnoterrestrial rhabdocoels, with the description of two new species

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### Abstract

Six taxa of limnoterrestrial rhabdocoels are discussed, two of them, both belonging to Typhloplanidae Graff, 1905, are new to science. *Adenoplea reisingeri* n. sp. can be distinguished from its congeners by the absence of a separate seminal receptacle, the presence of a copulatory bursa and the fact that it has an unarmed copulatory organ. *Carcharodopharynx schlitzensis* n. sp. can be distinguished from *C. arcanus* (Reisinger, 1924) Poche, 1926, the only other species within the genus, by the fact that the cirrus bears spines. For four other taxa: *Adenoplea perigraptopera* Reisinger, 1924, *A. meridionalis* Kolasa, 1981, *C. arcanus* (Reisinger, 1924) Poche, 1926 and *Archivortex silvestris* Reisinger, 1924, new data on morphology and distribution are provided. Neotypes are designated for *A. perigraptopera* and *C. arcanus*.

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

### Introduction

Although limnoterrestrial rhabdocoels appear to be common in terrestrial environments such as mosses, moist meadows and grasslands, and leaf litter in woods, they received very little attention from taxonomists (see Van Steenkiste *et al.* 2010). Therefore, these animals are poorly known in all aspects of their biology. This lack of knowledge is partly because only very few specialists of turbellarians have explored typical limnoterrestrial environments, and then almost exclusively in Europe. Only Erich Reisinger in the 1920's and 1930's and Peter Schwank and Jurek Kolasa in the 1970's and 1980's have specifically studied these animals (e.g. Kolasa 1977; Reisinger 1924; Schwank 1981). Moreover, identification of live animals is extremely difficult as they are mostly very small, often opaque without clear distinguishing characters, and in many cases known only from the original description, because no material was retained, or because retained material has been lost (e.g. Kolasa 1981; Reisinger 1924; Schwank 1981). Most limnoterrestrial rhabdocoels, 46 species to be exact, are classified within the taxon Protoplanellinae Reisinger, 1924 (Typhloplanidae Graff, 1905). The 12 remaining species are classified within five different genera: eight species of *Adenoplea* Reisinger, 1924, *Macrophysaliophora inconstans* Reisinger, 1924 and *Carcharodopharynx arcanus* (Reisinger, 1924) Poche, 1926 (all in Typhloplanidae Luther, 1904), *Archivortex silvestris* Reisinger, 1924 (Provorticidae Beklemischev, 1927), and *Ventrociliella romanae* Kolasa, 1977 a dalytyphloplanid of uncertain affinities (see Van Steenkiste *et al.* 2010). All but *Adenoplea nanus* Sayre & Wergin, 1994, a species known only from Maryland (USA), are described from the Palearctic. Therefore, the worldwide diversity of limnoterrestrial rhabdocoels is undoubtedly much higher than presently known, as is the case for the freshwater and marine rhabdocoels (Appeltans *et al.* 2012; Schockaert *et al.* 2008). During short sampling trips in Belgium and Austria we explored different terrestrial habitats and found several taxa of rhabdocoels, the non-protoplanelline representatives of which are treated in this contribution.