



Cotylegaleatidae, a new family of Ploima (Rotifera: Monogononta), for *Cotylegaleata perplexa* gen. et sp. nov., from freshwater benthos of Belgium

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Abstract

A new monotypic rotifer family, Cotylegaleatidae, is proposed for *Cotylegaleata perplexa* gen. et sp. nov., collected from benthos of an artificial small freshwater lake in Belgium. The new family belongs to the subclass Monogononta, order Ploima. Its distinctive characters include: a hollow cup-shaped structure (sucker ?) surrounding the mouth opening, a non-retractile head shield, a distal foot pseudosegment with two toes and two ventro-lateral spurs, a J-shaped vitellarium, and characteristic specialized virgate trophi with stiletto-shaped epipharyngeal elements.

Key words: Rotifera, Monogononta, Cotylegaleatidae fam. nov., *Cotylegaleata perplexa* gen. et sp. nov., Lepadellidae, Belgium

Introduction

Rotifera is a moderately sized phylum of pseudocoelomates, comprising some 1850 morphospecies (Segers 2002). Obviously this number does not represent the real number of extant species. In a historical analysis of taxonomic research on Rotifera, illustrated by evaluating α -taxonomy of Dicranophoridae and Lecanidae, Segers (1998) clearly demonstrated that we are far from reaching the end of naming. New morphospecies are being described at an increasing rate, even from well-studied regions, e.g. Belgium, with a long-standing tradition in rotifer taxonomy and biogeography (De Smet 1994, 1998a, 2000, 2003; Segers *et al.* 1996). Moreover, there are several illustrated records of unnamed taxa from various regions (Segers 1998), and both genetics and molecular work have shown that cryptic species can be present within apparently solid species (e.g. Gómez *et al.* 2000; Ciroso-Pérez *et al.*, 2001; Gilbert & Walsh 2005).

During a study of the benthic rotifers from a small artificial lake, I came across a species that does not fit within the morphological boundaries of the known families. This unique species and the morphological characters that distinguish it from the other monogonont families are described and illustrated in the present paper.

Materials and methods

The 'Grote Put' of Muisbroek, located in Ekeren (51°17' N, 4°23' E), Province of Antwerp, Belgium is an artificial small freshwater lake dug in 1925–1930. It is about 970×200 m, with a surface area of ~19.42 ha, and a maximal depth of 21 m. The water is neutral to weakly alkaline and of medium mineralization. Seasonal thermal stratification occurs, with the thermocline position varying from 8–9 m to 12–15 m. Water temperature was 4–5 °C at the moment (February, March) and depth (–8 and –9 m) the new taxon was found. Since