



Tenuibiotus, a new genus of Macrobiotidae (Eutardigrada)

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Abstract

The group of *Macrobiotus* species having claws of the *tenuis*-type is discussed and a new genus, named *Tenuibiotus*, is instituted. The *tenuis*-type claws are characterised by the fusion of the primary and secondary branches over a long distance so that the common tract is longer than that found in other members of the Macrobiotidae. Distally, the secondary branch is clearly shorter than the primary branch, and forms with it almost a right angle. In all the known species attributable to the new genus, the buccal tube is narrow, the buccal cavity is small with small peribuccal lamellae; the eggs are laid freely and have conical or trunco-conical processes.

Key words: Tardigrada, *Macrobiotus*, claw structure, taxonomy

Introduction

Many early descriptions of tardigrade taxa are so limited in their scope that ‘species groups’ with apparently similar morphological characters have been created within genera. Phyletic divergence may be indicated if two relatively homogeneous ‘species groups’ differ in characters that have limited variability. Phyletic divergence is even more likely if the species groups differ from one another in more than one of these characters.

Between 1980 and the present day 15 new genera have been instituted for species previously attributed to the genus *Macrobiotus* Schultze (1834). These new genera were established on the phylogenetic significance of first the claw structure and second, the structure of the bucco-pharyngeal apparatus (Pilato, 1969). Three genera were placed in the new family Murrayidae Guidetti, Rebecchi & Bertolani, 2000; *Dactylobiotus* Schuster, 1980 (in Schuster, Nelson, Grigarick & Christenberry, 1980), *Murrayon* Bertolani & Pilato, 1988; and *Macroversum* Pilato & Catanzaro, 1988. The family Macrobiotidae Thulin, 1928 contains the remaining 12 genera with the type genus *Macrobiotus* and *Pseudodiphascos* Ramazzotti, 1965 which had been established earlier. These are: *Minibiotus* Schuster, 1980 (in Schuster, Nelson, Grigarick & Christenberry, 1980); *Adorybiotus* Maucci & Ramazzotti, 1981; *Richtersius* Pilato & Binda, 1989 (formerly *Richtersia* Pilato & Binda, 1987); *Calcarobiotus* Dastych, 1993; *Pseudohexapodibius* Bertolani & Biserov, 1996; *Xerobiotus* Bertolani & Biserov, 1996; *Biserovus* Guidetti & Pilato, 2003; *Minilentus* Guidetti & Pilato, 2003; *Insuetifurca* Guidetti & Pilato, 2003, *Famelobiotus* Pilato, Binda & Lisi, 2004; *Schusterius*, Kaczmarek & Michalczyk, 2006 and *Paramacrobiotus* Guidetti, Schill, Bertolani, Dandekar & Wolf, 2009.

Despite these additions, the genus *Macrobiotus* still includes a number of ‘species groups’, some of which appear to represent well differentiated phyletic lines. In this paper the ‘*tenuis* group’ is considered.

The species *Macrobiotus tenuis* was described by Binda and Pilato in 1972, but Maucci (1988) coined the term “*tenuis* group” and attributed to it the following characters:

- 1) Yellowish or light brown colour.
- 2) Large body length.
- 3) Buccal tube with short strengthening bar (also named ventral lamina).
- 4) Insertion point of the stylet supports placed far from the posterior end of the buccal tube.
- 5) Two macroplocoids, the first with a constriction which could divide it into two placoids.