



On *Macrothrix agsensis* Dumont, Silva-Briano & Babu, 2002 (Cladocera: Anomopoda: Macrothricidae), with description of the male and ephippial females, and comments on the distribution of the genus in Mexico

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Abstract

The *Macrothrix rosea-triserialis* group of species (Cladocera: Macrothricidae) is characterized by (1) a well developed postabdomen heel; (2) rows of strong spines on preanal margin of postabdomen and (3) scraper 5 of limb II with enlarged subapical teeth. *Macrothrix agsensis*, a member of this group, was recently described from the Mexican Central Plateau based on parthenogenetic females only. It is characterized by five rows of long spines in the female antenna I, and five thick spines on setae 4–5 of endite 2 of limb I. Here we describe its ephippial females and males, as well as development of the latter. The ephippium is strongly chitinized, with a special ornamentation in the form of hexagonal cells. The male is characterized by peculiar groups of long and short spinules in the anterior half of the antenna I, three furrows with spinules on the male copulatory hook on limb I, and a longer seta in the outer distal lobe, armed with bean-like projections. With regard to the known distribution of *Macrothrix* in Mexico, it is now feasible to consider the existence of four possible endemic species in this region: *Macrothrix mexicanus*, *M. agsensis*, *M. sierrafriatiensis* and *M. marthae*. All of them, except the last one, are restricted to the Central Plateau. Another species, *Macrothrix smirnovi*, was described from Mexico and later found in Sacramento (USA). Among the widespread species are *Macrothrix elegans* and *M. spinosa*, the former one of the most common macrothricids in the Neotropics. It shows a northern distributional limit at the north-west of Mexico and it is possible to find it from north to south. *Macrothrix hirsuticornis*, restricted to North America has a southern limit in the north. *Macrothrix spinosa* is found from north to south of Mexico, but its distribution range extends to South America. Other old records are doubtful, such as *Macrothrix triserialis*, *M. rosea* and *M. laticornis*, because they seem to be restricted to the old world.

Key words: cladocera, taxonomy, distribution, limb morphology, systematics

Introduction

The Macrothricidae Norman & Brady, 1867 (Cladocera: Anomopoda) are a heterogeneous group of crustaceans, dwelling in the littoral zone of fresh or brackish water bodies (Smirnov, 1992). Among them, *Macrothrix* Baird, 1843 is the most widespread genus, with about 40 species in the world (Smirnov, 1992; Dole-Olivier *et al.* 2000). However, they are not well known yet, and several species have been described by using different criteria (Silva-Briano, 1998). Also, several species claimed to be cosmopolitan are groups of morphologically similar congeners (Silva-Briano, 1998; Frey, 1987). Macrothricids seem to be more abundant in subtropical and tropical waters, where some taxa have a large number of species, for example in Australia and Mexico (Dumont & Negrea, 2002, Dumont *et al.* 2002). In Mexico, five new species have been described