



## A checklist of trematodes (Platyhelminthes) transmitted by *Melanoides tuberculata* (Mollusca: Thiaridae)

HUDSON ALVES PINTO<sup>1</sup> & ALAN LANE DE MELO<sup>2</sup>

Laboratório de Taxonomia e Biologia de Invertebrados, Departamento de Parasitologia, Instituto de Ciências Biológicas da Universidade Federal de Minas Gerais. C.P. 486, 30123-970, Belo Horizonte, Minas Gerais, Brazil.

E-mail: <sup>1</sup>hudsonalves13@ig.com.br; <sup>2</sup>aldemelo@icb.ufmg.br

### Abstract

A list of species of Trematoda (flukes) transmitted by *Melanoides tuberculata* (Müller, 1774) is presented based on 136 articles published between 1896 and 2010. This snail species has been reported as an intermediate host for flukes belonging to 17 families, 25 genera and 37 species, including 11 trematodes reported as adults from man. The greatest proportion of the associations between *M. tuberculata* and flukes has been recorded in Asia and Africa; three species are considered to be invasive in the Americas. In addition, another 81 larval trematodes found in *M. tuberculata* have been described under generic collective group *Cercaria* Müller, 1773, but have not yet been associated with the respective adult parasites. Studies in which the larvae found in *M. tuberculata* have only been grouped into eight cercarian groups are also listed.

**Key words:** thiarids, Trematoda, cercariae, parasites

### Introduction

*Melanoides tuberculata* (Müller, 1774) is a gastropod mollusc described from India that is currently expanding as an alien species across the planet. It has recently been examined in several studies relating to its distribution (e.g. Pointier *et al.* 2003), phylogeography (Facon *et al.* 2003), reproductive biology (Ben-Ami & Hodgson 2005; Ben-Ami & Heller 2007) and biological competition with planorbid molluscs that are vectors of *Schistosoma mansoni* Sambon, 1907 (e.g. Pointier & Giboda 1999; Pointier & Jourdan 2000; Pointier 2001; Pointier *et al.* 2010), among others. In addition, since the end of the nineteenth century, participation of *M. tuberculata* as an intermediate host of species of trematodes belonging to the collective taxonomic group *Cercaria* Müller, 1773, has been recorded. Studies on these larvae and their use in experimental trials have made it possible to discover, identify or even describe species and biological cycles that had previously been unknown to science. However, these studies involving the participation of *M. tuberculata* as an intermediate host for flukes are scattered across the scientific literature.

In the present study, a list of flukes transmitted by *M. tuberculata* was drawn up, thereby revealing the current state of knowledge regarding the diversity of these biological interactions.

### Material and methods

A survey of the scientific literature was conducted, between 2008 and 2010, by means of investigations in databases such as PubMed, Zoological Records and Helminthological Abstracts. The search terms used were the name of the mollusc species (*Melanoides tuberculata*) and its synonyms (*Nerita tuberculata*, *Thiara tuberculata*, *Thiara tuberculatus*, *Melanoides tuberculatus*, *Melania tuberculata*, *Melanoides fasciolata*), together with the terms “Trematoda”, “parasites”, “cercariae”, “flukes” and “Digenea”, among others. In addition, the same terms were used to search in internet-based search engines.