



## Redescription of the females of *Hystrignathus rigidus* Leidy, 1850 (Nematoda: Hystrignathidae), parasites of *Odontotaenius disjunctus* (Coleoptera: Passalidae) from eastern USA

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### Abstract

The female of *Hystrignathus rigidus* Leidy, 1850 (Nematoda: Hystrignathidae) is redescribed on the basis of new material from *Odontotaenius disjunctus* (Coleoptera: Passalidae) from Athens, Georgia, USA; which also constitutes a new locality record. SEM images are provided for the first time for the species. It is also first shown that *H. rigidus* presents ridged-shelled eggs. A differential diagnosis is provided. *H. rigidus* can be differentiated from the rest of the species of this genus by having a short, non inflated first cephalic annule; spines that surpass the level of the oesophagus, an absence of lateral alae, ridged-shelled eggs and its length of the body and tail. The material from the present study differs from a previous redescription by Christie (1934) by its shorter body (2.125–2.950 vs. 2.130–4.200), first cephalic annule (0.003–0.005 vs. 0.012) and oesophagus (0.350–0.430 vs. 0.650–0.670).

**Key words:** Nematoda, Hystrignathidae, *Hystrignathus*, Georgia, USA, taxonomy, redescription, SEM

### Introduction

The family Hystrignathidae Travassos, 1920 (Nematoda: Thelastomatoidea) comprises a large group of parasites from the posterior intestine of passalid beetles (Adamson & van Waerebeke 1992). The first studies on this family correspond to Leidy (1850) with the description of *Hystrignathus rigidus* Leidy, 1850, parasite of *Odontotaenius disjunctus* from the eastern USA. Since that time, *H. rigidus* was redescribed and recorded for the same host species from several United States localities by Christie (1934). In terms of prevalence, field surveys of *O. disjunctus* collections in North and South Carolina, USA, indicated this parasite can be found in most beetles (70–80%), and throughout all months of the year (Pearse *et al.* 1936; Reinert 1973).

Outside of the United States, *H. rigidus* was recorded by Baker (1967) as parasitizing several species of *Pentalobus* (Passalidae) from Ghana. Gupta & Kaur (1978) also recorded the species from *Melolonthus melolonthus* from northern India.

*Hystrignathus* Leidy, 1850, the type genus of Hystrignathidae, is characterized by females having the cervical cuticle armed with opposite rows of spines, the first row with 16 elements; procorpus clavate and genital tract didelphic-amphidelphic (Adamson & van Waerebeke 1992).

In the current paper the female of *H. rigidus* is redescribed on the basis of material from a new locality within the United States. New data on their morphometrics and SEM studies are also given.

### Material and methods

Two specimens of *O. disjunctus* were collected by hand in rotting logs from Athens, Georgia, in the eastern USA.

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