

***Heterorhabditis floridensis* n. sp. (Rhabditida: Heterorhabditidae) from Florida**

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Abstract

In a survey of entomopathogenic nematodes associated with plants and trees in areas adjacent to production citrus groves in Florida, a new species of nematode in the genus *Heterorhabditis* was found based of morphological and molecular studies. The new nematode is described as *Heterorhabditis floridensis* n. sp. *H. floridensis* n. sp. is characterized by males, females, and infective juveniles. For males, the number of papillae in the terminal group of bursa is variable, either with 2 pairs of papillae (40%), with 3 papillae on one side and 2 papillae on the other side (30%), with one pair of papillae (20%), or with three pairs of papillae (10%). SW and GS values are 179 and 50, respectively. Females have a typical vulva pattern, which is different from that of closely related nematode species *H. bacteriophora*, *H. mexicana*, and *H. indica*. For infective juveniles, EP=109 (101–122) μm , ES=135 (123–142) μm , tail length=103 (91–113) μm , and a=27.6 (25–32) are different from those of the above-mentioned three related nematodes. Phylogenetic analysis based on ITS regions show that the new species forms a clade with *H. mexicana*, *H. baujardi* and *H. indica* and differs from these species by several nucleotide autapomorphies.

Key words: entomopathogenic nematodes, ITS rDNA, morphology, nematode, phylogeny, SEM, systematics, taxonomy

Introduction

Entomopathogenic nematodes (EPN) are important biological control agents of a variety of economically important pests (Shapiro-Ilan *et al.*, 2002; Klein, 1990). At present, over 40 species of *Steinernema* and nine species of *Heterorhabditis* (Nguyen, 2005) have been