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Description of *Neodolichodorus hainanensis* n. sp. (Nematoda: Dolichodoridae) from rhizosphere soil of golf turf in China

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Abstract

Neodolichodorus hainanensis n.sp. is described from China, extracted from soil around turf in a golf course. *N. hainanensis* n.sp. is characterized by having a conspicuous offset cephalic region with 6–7 striae, divided into 4 lobes; stylet a little shorter (82–100 µm) than most species in this genus; lateral field with four incisures, areolated, with outer lateral field regularly crossed by every second external stria at most of body length, and inner lateral field partly or wholly irregularly crossed by extending external striae; subconoid tail with rounded terminus; gubernaculum and spicule slightly protruding from cloaca, middle bursa lobe small with a bifid extremity in ventral view.

Key words: new species, morphological characteristics, taxonomy, plant nematodes, turf

Introduction

The genus *Neodolichodorus* was erected by Andrássy (1976) to accommodate those species of *Dolichodorus* Cobb, 1914 mainly characterized by 4 incisures in the lateral field and hemispherical tail. Since then, twelve species have been reported. It is relatively easy to identify these species, because the number of reported species is relatively small, and various nematologists have commented on these species and given diagnostic keys (Smart & Nguyen 1991; Vovlas *et al.* 2004; Hodda & Nambiar 2005). However, the taxonomic status of its family—Dolichodoridae Chitwood, 1950—is problematic (Luc & Fortuner 1987). In China, only one species, *N. sinensis* Zhuo, Wang & Liao, 2010, extracted from rhizosphere soil of mangroves, has been described. Here, we describe another new species extracted from the rhizosphere soil of turf from a golf course in China.

Material and Methods

Nematode material. Soil samples were collected from the rhizosphere of turf from a golf course. Nematodes were extracted using the Baermann funnel method, heat-killed and fixed by FG fixation (formalin: glycerol: distilled water =10:1:89) (Xie 2005).

Light miscroscopy. Fixed nematodes were processed by transferring them to glycerin by a slow evaporation method and mounting them as permanent mounts on glass slides (Seinhorst 1959). Drawings and measurements of nematodes were done with the aid of a camera lucida. Photomicrographs were taken with a Nixon Eclipse 90i microscope bearing a digital camera, and edited using Adobe Photoshop CS 8.0.

Scanning electron microscopy. Fixed nematodes were washed 3 times with distilled water, postfixed in glutaraldehyde added drop by drop (until final concentration was 2.5%) for over 12 h at 4ºC, then washed 3 times with cold distilled water, each time for 8–10 min. Washed nematodes were fixed again in 1% osmic acid for at least 3 h at 4ºC, and washed 4–6 times with cold distilled water. Nematodes were dehydrated by passing them through 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100% ethanol for 8–10 min duration in each concentration, with

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