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Description of *Trichodorus iranicus* sp. n. (Diphtherophorina, Trichodoridae) from Iran

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Abstract

Trichodorus iranicus sp. n. is described and illustrated based on morphological and molecular characters and morphometric data. It belongs to the *T. lusitanicus* morphospecies group based on the shape of the spicules and vaginal sclerotised pieces. Males have a body length of 844–942 µm, onchiostyle length of 59 µm, three cervical papillae (CP), curved spicules, 28–30 µm in length, with narrow mid-part, sometimes provided with a few bristles, and slightly developed manubrium. Females of the new species are 727–870 µm long with secretory-excretory pore located opposite anterior end of pharyngeal bulb, vagina length 46–57% of corresponding body width, with triangular to triangular-rounded sclerotised pieces 3.5 µm long, 1–2 µm apart from each other, and vulva a transverse slit. In its morphology, the new species resembles *T. andalusicus*, *T. asturamus*, *T. azorensis*, *T. beirensis*, *T. lusitanicus*, *T. velatus* and *T. viruliferus* and the morphological and morphometric differences separating *T. iranicus* from these known species are discussed. The D2-D3 region of 28S rDNA for the new species was amplified and the 679 bp newly-obtained sequence was used in a Bayesian inference (BI) analysis which confirmed the close relationship of the new species with *T. lusitanicus* morphospecies group members and placed it as a sister taxon to *T. andalusicus* in a well-supported clade that also includes *T. asturamus*.

Key words: 28S rDNA D2-D3, Iran, new species, phylogeny, taxonomy, trichodorids

Introduction

To date, four species of the genus *Trichodorus* Cobb, 1913 have been described from Iran: *T. orientalis* De Waele & Hashim, 1984, *T. persicus* De Waele & Sturhan, 1987, *T. gilanensis* Maafi & Decraemer, 2002 and a *Trichodorus* sp. discovered by the first author of this paper (MP), later described as *T. arasbaranensis* Zahedi, Niknam, Decraemer & Karegar, 2009. During our extensive surveys on plant parasitic nematodes in several parts of Iran, one population of an unidentified species of the genus was found in northern part of the country. Its description and an analysis of its phylogenetic affinities with other species using the D2-D3 segment of 28S rDNA is the aim of the present paper.

Material and methods

A total of 105 soil samples were collected from Golestan and Mazandaran provinces in northern Iran during 2011–2013. Nematodes were extracted using the tray method (Whitehead & Hemming, 1965) and were handpicked under a Nikon SMZ1000 stereomicroscope. The collected specimens were killed in hot 4% formaldehyde solution, transferred to anhydrous glycerin using the method of De Grisse (1969), and mounted on permanent slides. Observations were made under a Nikon E600 light microscope. Some of the best-preserved specimens were photographed using an Olympus DP72 digital camera attached to an Olympus BX51 light microscope provided with differential interference contrast (DIC). Drawings were made using a drawing tube attached to the microscope, and the scanned drawings were managed and redrawn using CorelDRAW® software version 12.

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