Zootaxa 3700 (4): 561–572
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3700.4.4
http://zoobank.org/urn:lsid:zoobank.org:pub:EBAB3055-DC91-46C6-956A-5B716EBD5371

Description of *Schistonchus altissimus* n. sp. (Nematoda: Aphelenchoididae), an associate of *Ficus altissima* in China

YONGSAN ZENG[1], WEIMIN YE[2], JIANGHUA HUANG[1,4], CHANGHUI LI[1] & ROBIN M. GIBLIN-DAVIS[3]

[1]*Zhongkai University of Agriculture and Engineering, Department of Plant Protection, Guangzhou, 510225, People's Republic of China. E-mail: zys65@163.com; jhhuang@139.com*

[2] *Nematode Assay Section, Agronomic Division, North Carolina Department of Agriculture & Consumer Services, 4300 Reedy Creek Road, Raleigh, NC 27607, USA. E-mail: weimin.ye@ncagr.gov*

[3]*Fort Lauderdale Research and Education Center, University of Florida-IFAS, 3205 College Avenue, Fort Lauderdale, FL 33314-7719, USA. E-mail:giblin@ufl.edu*

[4]*Corresponding author*

Abstract

A new nematode species was recovered from the syconia of *Ficus altissima* from the residential area of Huajingxincheng, Guangzhou, Guangdong Province, China during a survey of nematode diversity. *Schistonchus altissimus* **n. sp.** is characterised by having females with a short post-uterine sac, an ovoid spermatheca and a conoid tail with a mucron in the female, excretory pore located near the lip; and males with amoeboid sperm, a conoid tail without a mucron and three pairs of subventral papillae, no gubernaculum, and hook-shaped spicules with a cucullus and a thorn-shaped rostrum. *Schistonchus altissimus* **n. sp.** is typologically differentiated from all other described species in this genus, except for *S. microcarpus*, by having a spicule with cucullus on the male tail tip. *Schistonchus altissimus* **n. sp.** is easily differentiated from other sequenced species by the partial small subunit rRNA gene (SSU), D3 expansion segment of the large subunit rRNA gene (LSU) and mitochondrial DNA subunit I (mtCOI). Phylogenetic analysis with partial SSU sequences suggests that *S. altissimus* **n. sp.** is in a highly supported monophyletic clade with two Chinese species (*S. microcarpus* and *S. centerae*) and two neotropical species (*S. aureus* and Schistonchus sp. ex *Ficus colubrinae* Standl.). Based on inferences using LSU D3 sequence data, *S. altissimus* **n. sp.** has a closer relationship with four Chinese species (*S. centerae, S. fistulosus, S. guangzhouensis* and *S. microcarpus*) than with *S. hirtus* and *S. superbus,* also from China.

Key words: morphology, morphometrics, fig, large subunit rRNA (LSU), mitochondrial DNA subunit I (mtCOI), molecular, new species, phylogeny, small subunit rRNA (SSU), taxonomy

Introduction

Ficus altissima Blume is a woody tree that grows in mountains and on plains at elevations of 100–2,000 m (Zhang 1998). It is native to the Asian temperate area (China) and the Asian tropics (Bhutan, India, Nepal, Myanmar, Thailand, Vietnam, Indonesia, Malaysia and the Philippines) (Zhou & Gilbert 2003) and distributed in Guangdong, Guangxi, Hainan and Yunnan provinces in China?http://www.invasive.org./weeds/asian/ficus.pdf). It is an important plant species being used as a woody ornamental and a host for the Lac-producing insect, *Kerria lacca* Kerr (). *Ficus altissima* is a member of the monoecious subgenus *Urostigma* and is pollinated by the fig wasp *Eupristina altissima* Balakrishnan & Abdurahiman (http://www.figweb.org/Ficus/Subgenus_Urostigma/Section_Urostigma/Subsection_Conosycea/Ficus_altissima.htm).

Schistonchus Cobb, 1927 (Aphelenchoididae) has long been recognised as associated with fig wasps and fig sycones (Gasparrini 1864). So far, 21 species of Schistonchus have been described from Ficus species from Central America, North America, Asia, Africa and Australia (Anand, 2002; Bartholomaeus *et al.* 2012; Cobb 1927; Davies *et al.* 2010, 2013; DeCrappeo & Giblin-Davis 2001; Kumari & Reddy 1984; Reddy & Rao, 1984; Vovlas *et al.* 1998; Zeng *et al.* 2007, 2010, 2011, 2013a, 2013b). A recent survey on the diversity of fig nematodes in Guangdong Province, China revealed an undescribed species of nematode from F. altissima in the residential area

Accepted by K. Davies: 1 Aug. 2013; published: 15 Aug. 2013