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Nematodes from galls on Myrtaceae. X. *Fergusobia* from galls on narrow-leaved *Melaleuca* spp. in Australia, with descriptions of three new species

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Abstract

Three new species of *Fergusobia*, respectively collected from shoot bud galls on narrow-leaved *Melaleuca* spp. in Australia, are described. *Fergusobia armillarissae* n. sp. Davies is characterised by the combination of an arcuate to open C-shaped parthenogenetic female with an extensile uterus and a short, conoid tail, an arcuate infective female with a broadly rounded tail tip, and an arcuate male with an angular spicule and bursa arising at 50–80% of body length. *Fergusobia decorae* n. sp. Davies has an arcuate parthenogenetic female with a non-extensile uterus and a broadly conoid tail, an arcuate infective female with most curvature behind the vulva and a short tail with a broadly rounded tip, and an arcuate male with an arcuate spicule and bursa arising at 40–50% of body length. *Fergusobia liniifoliae* n. sp. Davies is characterised by the combination of an arcuate parthenogenetic female with an extensile uterus and a short, conoid tail with a bluntly rounded tip, a barely arcuate infective female with a broadly rounded tail tip, and an arcuate male with an angular spicule and bursa arising at 40–50% of body length. Earlier molecular analyses inferred from DNA sequencing of 28S rDNA D2/D3 domains and a portion of mitochondrial DNA cytochrome oxidase subunit I (mtCOI) are further discussed.

Key words: Myrtaceae, galls, Neotylenchidae, *Fergusonina*, morphology, taxonomy, DNA sequencing, molecular phylogeny

Introduction

Together, nematodes of the genus *Fergusobia* Currie 1937 (Christie 1941) (Tylenchida: Neotylenchidae) and flies of the genus *Fergusonina* Malloch 1924 (Diptera: Fergusoninidae) form galls on some Myrtaceae (Currie 1937; Giblin-Davis *et al.* 2004b; Taylor *et al.* 2005; Nelson *et al.* 2014). Each species of *Fergusonina* is associated with a particular species of *Fergusobia*, in mutualisms that are generally plant host species specific and each induce one gall form (Giblin-Davis *et al.* 2004; Taylor *et al.* 2005; Ye *et al.* 2007; Davies *et al.* 2010a; Nelson *et al.* 2014; S. Scheffer unpub. data).

Given the specificity of the *Fergusobia*/*Fergusonina* mutualism, the morphology of the dorsal shield, a cuticular structure on the dorsum of third stage fly larvae and pupae, can be used as a guide in identifying the phylogenetic group to which an associated nematode belongs (Davies *et al.* 2010a).

Morphological and sequencing studies have provided evidence for about 20 clades of *Fergusobia* nematodes (Ye *et al.* 2007, Davies *et al.* 2010a). This paper is the tenth of a series describing or re-describing species of

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