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Sirovena Bouček (Pteromalidae: Pireninae), a new member of the fig wasp community associated with *Ficus microcarpa* (Moraceae)

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Abstract

Sirovena Bouček (Chalcidoidea: Pteromalidae, Pireninae) was known only from females of its type species, *S. stigma* Bouček, 1988. Males and host associations were both unknown. Both sexes of a second species of *Sirovena*, *S. costallifera* sp. nov., reared from *Ficus microcarpa* L. (Moraceae) in Yunnan, China, are described based on morphological characters and mitochondrial COI sequences. The males of *S. costallifera* show sexual dimorphism in body coloration, structure of the antennae and notauli, and body sculpture. Reliable host records of Pireninae are Cecidomyiidae (Diptera). Because midges also parasitize some figs, we speculate that *S. costallifera* is a parasitoid of some cecidomyiid midge that attacks fig syconia. A key to differentiate the two species is provided.

Key words: taxonomy, molecular identification, sexual dimorphism

Introduction

Fig wasps that live within syconia of fig trees include pollinator species (Chalcidoidea: Agaonidae) and non-pollinating species of other chalcidoid families. The community of fig wasps associated with *Ficus microcarpa* L. has been well surveyed in China (Taiwan) (Chen *et al.* 1999), USA (Hawaii) (Beardsley 1998) and Brazil (Farache *et al.* 2009). During sorting of wasp specimens reared from *F. microcarpa* in Yunnan, China, we found a species that did not belong to any known genus of fig wasps associated with this fig. However, using the key to Australasian pteromalid genera by Bouček (1988), both females and males of the species keyed to *Sirovena* Bouček, 1988 (Pteromalidae: Pireninae). Bouček based *Sirovena* on *S. stigma* Bouček, collected on Christmas Island in the south of Java, Indonesia, and known only from females. Males and host biology were unknown. Here we describe a second species of *Sirovena*, reared from *F. microcarpa* in Yunnan, China, and compare females with those of the type species, *S. stigma*. We also describe males of *Sirovena* for the first time and confirm subfamily placement using mitochondrial COI sequences. *Sirovena* shares the following morphological features with other genera of Pireninae: antennae inserted very low, close to clypeus; clypeus large with lower margin produced; mandibles weakly curved, with 4 teeth; notauli complete; propodeum not sculptured, lacking plicae; fore wing with marginal vein broaden and wedge-shaped, postmarginal vein absent, and stigmal vein short.

Material and methods

Morphological studies. In March, 2003, approximately 1–3 days before maturing, figs were collected from *F. microcarpa* in Yunnan province, China, and placed in fine-mesh bags (200×200 mm) that allowed the wasps to emerge naturally from the syconia. All emerged wasps were collected and preserved in 95% ethanol and stored at -20° for further morphological and molecular studies. Ethanol-preserved type specimens were subsequently dried