

ARTICLE

Mesocheira bicolor (FABRICIUS, 1804): new record for Saint Vincent and the Grenadines (Hymenoptera: Apidae: Ericrocidini)

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Abstract

The Neotropical cleptoparasitic bee *Mesocheira bicolor* (FABRICIUS, 1804) is recorded for the first time from Saint Vincent and the Grenadines based on four specimens held in the Natural History Museum, London. The addition of *M. bicolor* increases the known number of species from Saint Vincent and the Grenadines to 34 species.

Keywords | Cleptoparasitic bee • Neotropical fauna • Natural History Museum Collections

***Mesocheira bicolor* (FABRICIUS, 1804) : nouvelle espèce pour Saint-Vincent-et-les-Grenadines (Hymenoptera : Apidae : Ericrocidini)**

Résumé

L'abeille néotropicale cleptoparasite *Mesocheira bicolor* (FABRICIUS, 1804) est mentionnée pour la première fois à Saint-Vincent-et-les-Grenadines sur la base de quatre spécimens stockés au Muséum d'Histoire Naturelle de Londres. L'ajout de cette nouvelle espèce porte la faune d'abeilles de Saint-Vincent-et-les-Grenadines à 34 espèces.

Mots-clefs | Abeille cleptoparasite • faune néotropicale • Collections de Muséum d'Histoire naturelle

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INTRODUCTION

The cleptoparasitic bee *Mesocheira bicolor* (FABRICIUS, 1804) is a widespread Neotropical species belonging to the tribe Ericrocidini, which consists of nine genera (MICHENER, 2007). It is recorded here for the first time from Saint Vincent and Mustique Islands, part of Saint Vincent and the Grenadines. The species is found from northern Mexico (Sonora State) to southern Brazil (Santa Catarina State) (ASCHER & PICKERING, 2022). In the Caribbean, the species is already recorded from Cuba, Jamaica, Dominican Republic, Martinique, Grenada, and Trinidad and Tobago (GENARO, 2007; PEREZ-GELABERT, 2008; MEURGEY & DUMBARDON-MARTIAL, 2019).

While SNELLING & BROOKS (1985) listed six species names for the genus *Mesocheira*, the authors suggested only the name *M. bicolor* is valid. Likewise, MICHENER (2007) proposed only one species, making the current understanding of the genus monotypic (MICHENER, 2007). *M. bicolor* is a specialist

cleptoparasite of *Centris* spp. (Apidae: Centridini), with a preference for the wood cavity nesting subgenera *Centris* (*Hemisiella*) and to a more limited extent *Centris* (*Heterocentris*) (VIEIRA DE JESUS & GAROFALO, 2000; PARIZOTTO, 2019). However, to date only *Centris* (*Centris*) *elegans* SMITH, 1874 is known from these islands. Like many of the Lesser Antillean Islands, the bee fauna of Saint Vincent and the Grenadines, excluding to some extent the Halictidae (GIBBS *et al.*, 2022), remains understudied. Consequently, it is quite possible unrecorded *C. (Heterocentris)* or *C. (Hemisiella)* spp. are present.

To date all Ericrocidini are recorded as exhibiting larval, closed-cell parasitism (DANFORTH *et al.*, 2019). In this type of parasitism, eggs are inserted into closed cells of the host species. The larvae themselves then destroy the host egg or larvae.

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Figure 1. *Mesocheira bicolor* female (NHMUK 012859027).



Figure 2. *Mesocheira bicolor* male (NHMUK 012859028).

The genus can easily be separated from all other Ericrocidini genera by the small size (9–14mm), and presence of large plate like processes on the scutellum (SNELLING & BROOKS,

1985) (figures 1–2). Additionally, both sexes have dark markings in the apical half of the marginal cell and apex of the forewing.

While recently curating the Ericrocidini collections in the Natural History Museum, London (NHML), specimens of *M. bicolor* were noted from Saint Vincent and Mustique. The Saint Vincent and Mustique specimens (two males, one female) were collected by the American Herbert H. SMITH who collected extensively in Brazil, Colombia, and Mexico in the late 19th century. Between 1890–1895, SMITH was employed by the West Indian Commission of the Royal Society with the aim of collecting in Trinidad and Tobago, and the Windward Islands (HOLLAND, 1919). SMITH's Caribbean collection was sent to the NHML, before being forwarded to William H. ASHMEAD in the United States at the National Museum of Natural History (Washington). This resulted in a checklist being produced of the then known Hymenoptera of Saint Vincent and the Grenadines

(ASHMEAD, 1900). However, it appears these specimens were not sent to ASHMEAD as they do not appear in the published checklist.

The current work highlights the importance of continued exploration within natural history collections with the purpose of gathering data on species distributions. Unlocking collection data through digitisation is a key role of contemporary natural history institutions (SCOBLE, 2010; RAVEN & MILLER, 2020). The newly recorded specimens were given an NHMUK barcode number making the specimen data available to the public and external researchers.

Further work is needed in Saint Vincent and the Grenadines itself to determine the status of the host of *M. bicolor*.

NEW RECORDS

Saint Vincent and the Grenadines, Mustique. 2 ♂♂ (NHMUK 013390389, 012859028), 1 ♀ (NHMUK 012859027), *leg.* H. H. SMITH. Specimens deposited in the Hymenoptera collection of the NHML.

Saint Vincent and the Grenadines, Saint Vincent. 1 ♀ (NHMUK 013390388), *leg.* Farren WHITE. Specimens deposited in the Hymenoptera collection of the NHML.

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