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(Hymenoptera: Apoidea: Anthophila)

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Preliminary checklist of the bees of St. Eustatius, Lesser Antilles (Hymenoptera: Apoidea: Anthophila)

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Abstract. We present a preliminary checklist of bees (Hymenoptera: Apoidea: Anthophila) compiled for St. Eustatius, an island located in the Lesser Antilles of the eastern Caribbean. The list has nine species, including six that have not been previously documented on St. Eustatius. One species is exotic to the Caribbean, one species is found only on St. Eustatius and St. Kitts, and five species occur elsewhere in the Lesser and Greater Antilles. Two of the collected specimens could not be assigned to a species; their geographical distributions are unknown.

Introduction

In many Neotropical regions the estimate of bee richness is very likely low due to a lack of sampling (Freitas et al. 2009). For example, although the Caribbean is considered to be a “hotspot” for biodiversity (Meyers et al. 2000), only a few bee species have been recorded for many of the Lesser Antillean islands (Freitas et al. 2009). Therefore, to increase knowledge of Caribbean bees, we have compiled a preliminary checklist of bees for the Lesser Antillean island of St. Eustatius, a volcanic island which is located in the eastern Caribbean (78°30'N; 62°58'W), and is 21 km² in size. The nearest neighboring islands are St. Kitts (approximately 10 km distant) and Saba (approximately 27 km distant). The climate of St. Eustatius is tropical and rainfall varies between 1500 and 2000 mm per year (Bland and Desutter-Grandcolas 2003). The majority of the native flora and fauna is found within the National Parks of St. Eustatius; either in secondary forests on hills of the northern end of the island or on the inner and outer slopes of the dormant Quill volcano.

Methods

Bees were collected in 2012 during a study of the pollinators of approximately 80 island plant species, and also during sampling forays dedicated exclusively to bee collection. The plant species that were pollinated by bees will be reported in a paper describing the pollination systems of select plants on St. Eustatius (Bush and Madden, in prep). Bees were captured with insect nets as they visited flowers. Most collections were made within primary or secondary forests of the national parks; some samples were collected from beaches, fields, and cliffs. Collected specimens were preserved in 95% ethanol and identified by an expert in bees of the region (J. Genaro). The checklist is grouped according to family, and species are ordered alphabetically within families. There are no proposed changes in taxonomy or in nomenclature.

Discussion

This preliminary checklist contains nine bee species, including six that have not been previously documented on St. Eustatius (Table 1). *Anthophora eustatiensis* Brooks and *Xylocopa mordax* Smith (Fig. 1) have been found before on the island (Brooks 1999, Moure 2012), and the precise introduction date of *Apis mellifera* Linnaeus is unknown. One species of *Lasioglossum* Curtis and one member of the *Megachile* Latreille genus could not be assigned to species, as only one individual of each was collected.



Figure 1. *Xylocopa mordax* Smith near the flowers of *Solanum* sp.

Table 1. Preliminary checklist of the bees of St. Eustatius.

Family Apidae Latreille

Anthophora (*Mystacanthophora*) *eustatiensis* Brooks
Apis (*Apis*) *mellifera* Linnaeus
Centris (*Centris*) *decolorata* Lepeletier
Centris (*Centris*) *smithii* Cresson
Centris (*Heterocentris*) *lanipes* (Fabricius)
Mesoplia (*Mesoplia*) aff. *rufipes* (Perty)
Xylocopa (*Neoxylocopa*) *mordax* Smith

Family Halictidae Thomson

Lasioglossum (*Dialictus*) sp.

Family Megachilidae Latreille

Megachile (*Pseudocentron*) sp.

The *Megachile* collected may be a subspecies of *Megachile holosericea* (Fabricius), or perhaps an undescribed species; it may also be *Megachile vitraci* Pérez (J. Genaro pers. com. 2012). Of the species collected, only *A. mellifera* is considered exotic to the Caribbean. *Anthophora eustatiensis* is endemic to the islands of St. Eustatius and St. Kitts (Brooks 1999), while *Mesoplia* aff. *rufipes* (Perty) (sensu Genaro and Franz 2008), *X. mordax*, *Centris decolorata* Lepeletier, *Centris smithii* Cresson, and *Centris lanipes* (Fabricius) are all found elsewhere in both the Greater and Lesser Antilles (Genaro and Franz 2008).

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