

First record of *Megischus brunneus* Cresson, 1865 (Hymenoptera: Stephanidae) from Hispaniola, the Antilles

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**Abstract.** The occurrence of *Megischus brunneus* Cresson (Hymenoptera: Stephanidae) is recorded for the first time from Hispaniola, the Antilles. The species was previously known from southern Florida and Cuba. This finding further demonstrates the similarities between the Cuban and Hispaniolan biota.

**Key words.** Hymenoptera, Stephanidae, *Megischus brunneus*, Hispaniola, first record.

**Resumen.** Se registra por primera vez la presencia de *Megischus brunneus* Cresson (Hymenoptera: Stephanidae) para la Hispaniola. Esta especie se conocía anteriormente del sur de la Florida y Cuba. Este hallazgo constituye otro ejemplo de las similitudes de la biota cubana e hispaniolana.

**Palabras claves.** Hymenoptera, Stephanidae, *Megischus brunneus*, Hispaniola, primer registro.

### Introduction

The only moderately diverse family Stephanidae (Hymenoptera) contains species of solitary idiobiont ectoparasitoids of wood boring insect larvae (332 species worldwide; see Aguiar and Johnson 2003; Aguiar 2006a, b, c). Stephanid wasps are remarkable insects, with a slender and richly sculptured body, highly modified hind legs, and a somewhat spherical head - set out on a long neck - which bears a crown of tubercles around the median ocellum (Aguiar 2006a, b).

*Megischus* Brullé is a cosmopolitan genus (Aguiar 2004; Hong et al. 2011). Aguiar and Johnson (2003) provided data on geographical distribution, biology and a key to the North American species of *Megischus*, including the Antilles. Aguiar (2006c) subsequently also revised the Mexican species. Aguiar (2006c) revised the Mexican species, describing new ones and offering a key.

*Megischus brunneus* Cresson can be recognize by having a pronotum with four sharp transverse carinae, and mesopleuron and prosternum with dense foveolae, each separated by less than their diameter (Aguiar and Johnson 2003). The species was previously known from the United States (Southern Florida) and Cuba (Townes 1949; Alayo 1972, 1973; Aguiar and Johnson 2003; Aguiar 2004). This study provides the first record of the occurrence of *M. brunneus* for Hispaniola, the Antilles.

Codens for collections mentioned here are as follows: Department of Biology, University of Puerto Rico at Mayagüez (**UPRM**) (located in Mayagüez); personal collection of the author (**JAGA**).

### Results

In November of 2003 evidence was gathered on the occurrence of this species in the Dominican Republic. This was possible because of a direct sighting and capture of a single female in the town of Oviedo, Pedernales, in the backyard of the Jaragua Group facilities. Unfortunately the material was subsequently stolen. Nevertheless, further collecting in Jaragua yielded another female and another female was found in the UPRM collection, which validates this new record.

The specimen collected at Oviedo lake was resting on a mangrove's trunk (Fig. 1). The habitat (Fig. 2) is characterized by the following mangrove species: *Rhizophora mangle* (L.) Rhizophoraceae, *Avicennia germinans* (L.) L. Avicenniaceae, *Conocarpus erectus* L. Combretaceae and *Laguncularia racemosa* (L.) Gaertn. f. Combretaceae. Similar habitats have been reported elsewhere for this species (Aguiar and



**Figures 1-2.** *Megischus brunneus*. 1) Female resting on a mangrove trunk of *Laguncularia racemosa* at Oviedo Lake, Pedernales. 2) Habitat at Oviedo Lake constituted by salt marsh vegetation and mangroves

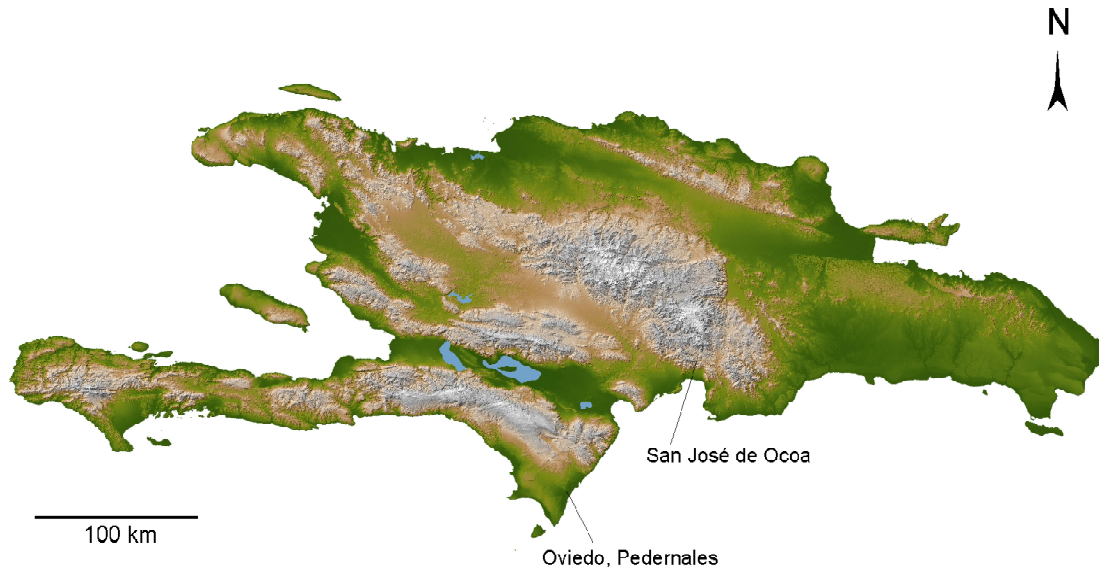
Johnson 2003). The distributional records (Fig. 3) show that *M. brunneus* is present in dry areas of the southwestern Dominican Republic.

**Material examined.** HISPANIOLA, Dominican Republic, Oviedo lake, Pedernales, Jaragua National Park, 21.viii.2010, coll. J. A. Genaro (female, JAGA) (body length, excluding ovipositor 29.2 mm; hind wing length 14.8 mm); Dominican Republic, San José de Ocoa, ca 3km N along road towards El Canal, empty riverbed, night coll. (Hg and UV lights), 18°33'53"N 070°30'57"W, 500 m asl, 6.vi.2008, Franz lab-DR 08 (female, UPRM) (body length, excluding ovipositor 28 mm; hind wing length 13.5 mm).

*Megischus brunneus* likely originated on the continent and dispersed to Cuba, perhaps via the Bahamas, as Cuba and the Florida have never been connected by emerged lands. Portions of Cuba and Hispaniola were connected during Latest Eocene-Early Oligocene (35-33 Ma), a time of general uplift and a maximum area of subaerial land (Iturralde-Vinent 2006). This offered favorable conditions for sharing biota. After the Late Oligocene (29-27 Ma) isolation of land areas resulting in the subdivision and separation of block-terraces previously acting as continuous landmasses (Iturralde-Vinent 2006). Perhaps vicariance has isolated populations of *M. brunneus* creating the present-day distribution patterns.

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**Figure 3.** New locality records for *Megischus brunneus* from Hispaniola.

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