

## Description of the female of *Brypocitia punctifer* (Hampson, 1898) (Lepidoptera: Cossidae: Zeuzerinae)

ARTEM E. NAYDENOV<sup>1</sup>, ROMAN V. YAKOVLEV<sup>1,2\*</sup>, JEAN-PAUL DELVALÉE<sup>3</sup>,  
FRANCIS DEKNUYDT<sup>4</sup> & FERNANDO C. PENCO<sup>5</sup>

<sup>1</sup> Altai State University, pr. Lenina 61, Barnaul 656049, Russia. E-mail: [naydenov.24@mail.ru](mailto:naydenov.24@mail.ru)

<sup>2</sup> Tomsk State University, Laboratory of Biodiversity and Ecology, Lenin pr. 36, 634050 Tomsk, Russia.

<sup>3</sup> 18 rue Max Ernst 91440 Bures sur Yvette - France. E-mail: [jpdel3@free.fr](mailto:jpdel3@free.fr)

<sup>4</sup> Domaine des Tuileries - Imm. Vaubane - Appart. N° 24 - Anse Mitan - 97229 Les Trois Ilets – Martinique.  
E-mail: [deknuydt4@hotmail.fr](mailto:deknuydt4@hotmail.fr)

<sup>5</sup> Fundación de Historia Natural “Félix de Azara”, Departamento de Ciencias Naturales y Antropología, Universidad Maimónides, Hidalgo 775 piso 7 (1405BDB) Ciudad Autónoma de Buenos Aires, Argentina.

E-mail: [fernando\\_penco@hotmail.com](mailto:fernando_penco@hotmail.com)

\*Corresponding author. E-mail: [yakovlev\\_asu@mail.ru](mailto:yakovlev_asu@mail.ru)

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### Abstract

The article describes for the first time the external characters and genitals of the female *Brypocitia punctifer* (Hampson, 1898). The description is accompanied by a detailed diagnosis and illustrations.

**Key words:** Carpenter moths, biodiversity, taxonomy, Neotropics, Martinique, Lesser Antilles.

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### Introduction

The monotypic genus *Brypocitia* was described by Schoorl (1990) for *Xyleutes strigifer* Dyar, 1910. Later, after a detailed examination of genital morphology of various Neotropical species of the subfamily Zeuzerinae (Yakovlev *et al.* 2019a; Naydenov *et al.* 2020), the genera *Aramos* Schoorl, 1990 and *Voousia* Schoorl, 1990 were synonymized with the genus *Brypocitia*. Thus, as a result of establishing the new combinations and description of new species, the genus *Brypocitia* includes 12 species (*B. aetes* (Druce, 1901), *B. desdemona* (Dyar & Schaus, 1937), *B. eqaqo* Yakovlev, Penco & Witt, 2019, *B. greifensteini* Yakovlev, Penco & Witt, 2019, *B. itys* (Druce, 1911), *B. itzamna* Yakovlev, Penco & Witt, 2019, *B. kurupi* Yakovlev, Penco & Witt, 2019, *B. monai* Yakovlev, Penco & Witt, 2019, *B. punctifer* (Hampson, 1898), *B. ramosa* (Schaus, 1892), *B. ramuscula* (Dyar, 1906), and *B. strigifer* (Dyar, 1910)), widely distributed in the New World from Texas and Mexico to Brazil (Yakovlev *et al.* 2019a).

As with most Neotropical species and genera of the subfamily Zeuserinae, the study of the female morphology is extremely poor, due to their very low occurrence in nature (most likely, they are much less, than males, attracted to light sources, when we are collecting the entomological material).

The female adults and genitals have been studied only in three species of three genera (Yakovlev *et al.* 2016; 2019b; 2020): *Psychonoctua jamaicensis* (Schaus, 1901), *Allocryptobia musae* (Herrich-Schäffer, [1854]) and *Ceuroma mucorea* (Herrich-Schäffer, [1853]).

Mr. J.-P. Delvalée and Mr. F. Deknuydt collected a series of *B. punctifer* (Hampson, 1898) in Martinique, which included females. Their description is given below.

## Materials and methods

The genital preparations were made according to Lafontaine & Mikkola (1987).

The morphological terminology used in the description follows Kristensen (2003).

## Taxonomical part

### *Brypocitia punctifer* (Hampson, 1898)

Figs 1–9

*Duomitus punctifer* Hampson, 1898, *Trans. Entomol. Soc. London*: 259–260. Type locality: Grenada.



**Figures 1–4.** *B. punctifer*, adults (all from the private collection J.-P. Delvalée): **1.** male, summit of Morne Bigot 460 m, above Gallochat; **2.** male, summit of Morne Bigot 460 m, above Gallochat; **3.** female, under the summit of La Garanne, 500 m, above the «Le Prêcheur»; **4.** female, summit of Morne Bigot, 460 m, above the Gallochat.

**Material examined: Martinique:** 2 ♂♂, summit of Morne Bigot 460 m, above Gallochat, 08.iv.2013, coll. Jean-Paul Delvalée; 1 ♂, same locality, 04.iv.2014, coll. Jean-Paul Delvalée; 2 ♂♂, same locality, 25.iv.2015, coll. Jean-Paul Delvalée (Figs 1–2); 1 ♂, same locality, 14.v.2016, coll. Jean-Paul Delvalée; 1 ♂, same locality, 29.iv.2016, coll. Jean-Paul Delvalée; 2 ♂♂, Morne Césaire, Plateau Courbaril, 537 m, above Balata, 18.iv.2015, coll. Jean-Paul Delvalée; 1 ♂, Mount Sinai near Gros Morne on D1, 11.iv.2011, coll. Jean-Paul Delvalée; 1 ♂, Sainte Luce, D17 exit to the village on the Fond Henry side (Altitude Deville),

04.iii.2017, coll. Jean-Paul Delvalée; 1 ♂, Caravelle peninsula before Château Dubuc, 15.v.2015, coll. Jean-Paul Delvalée; 1 ♀, under the summit of La Garanne, 500 m, above the «Le Prêcheur», 04.iv.2013, coll. Jean-Paul Delvalée (Fig. 3, 5); 1 ♀, summit of Morne Bigot, 460 m, above the Gallochat, 25.iv.2015, coll. Jean-Paul Delvalée (Fig. 4). **Guadeloupe:** 1 ♀, Baie-Mahault, Jarry, 14.xi.2020, LEPANT20-462, coll. Francis Deknuydt.

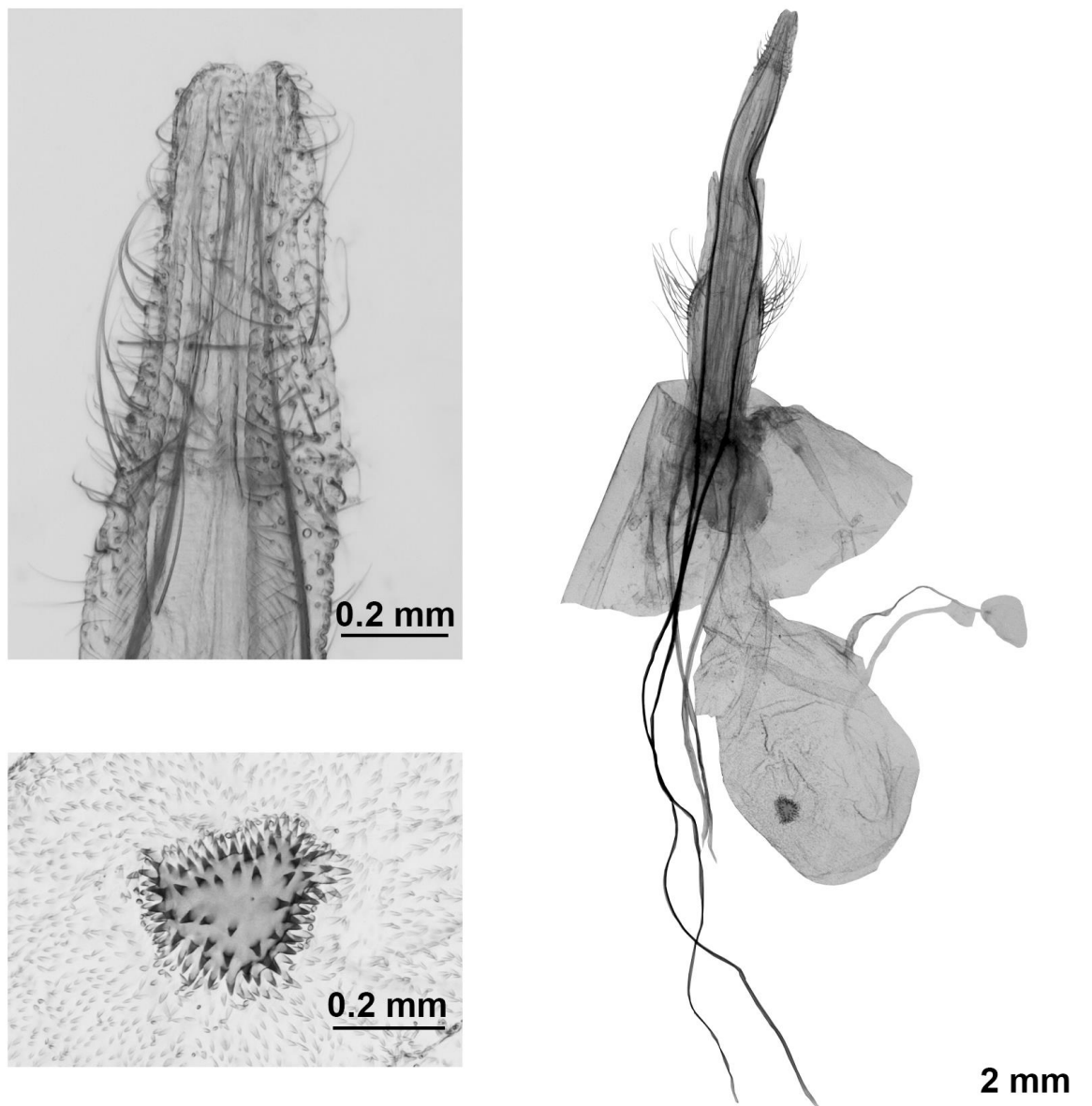
The type material and further material from the Natural History Museum (London, U.K.) and Museum National d'Histoire Naturelle (Paris, France) is detailed in (Naydenov *et. al.* 2020).

### Description

Adult male is detailed by Hampson (1898).

Adult female: length of fore wing 23–28 mm; wingspan 50–60 mm; antennae filiform, light-brown; head and thorax densely covered with light-grey scales; abdomen also covered with less dense layer of light-grey scales; fore wing elongated, wider than that of male, pattern smoky (more smoky than in male) with poorly visible dark transverse band discally; hind wing white with hardly noticeable grey undulated pattern.

Male genitalia is detailed in (Naydenov *et. al.* 2020).



**Figure 5.** *B. punctifer*, female genitalia with increased images of papillae anales and signum: under the summit of La Garanne, 500 m, above the «Le Prêcheur».



**Figures 6-7.** *B. punctifer* in nature, Martinique (photo by Régis Delannoye): **6.** male, Morne Bellevue, municipality of Marigot, 650 m; **7.** female, Fonds Cérémaux femelle La Trinité, 13.08.2013.

Female genitalia: papillae anales elongated, slightly acute, covered with short setae closer to proximal end; ovipositor very long, with long setae in middle of proximal half; apophyses anteriores significantly shorter than apophyses posteriores; ostium poorly submerged; antrum oval, well sclerotized; ductus wide, short; bursa big, bag-like, oval, with star-shaped signum on lateral surface; thin duct ending with small bulla passing from lateral surface of bursa (opposite to signum), ductus seminalis thin, flowing into bursa next to branch of bulla duct.

### Diagnosis

In the female genitalia, among the studied representatives of the genera, the genus *Brypocitia* is most close to the genus *Psychonoctua*, as the specimens of the genera *Allocryptobia* and *Ceuroma* have a longer ovipositor and a much smaller bursa, the bulla duct in these genera passes from the ductus, while in *Brypocitia* and *Psychonoctua* the duct passes directly from the bursa. Together with this, the female genitalia of *B. punctifer* have such unique characters as the antrum shape and size and the star-like structure of the signum.

**Distribution.** Lesser Antilles: Grenada, St. Vincent, St. Lucia, Martinique, Dominica, Guadeloupe and Nevis.



**Figures 8–9.** Habitats of *B. punctifer*: **8.** under the summit of La Garanne, 500 m, above the «Le Prêcheur», 04.04.2013 (photo by J.-P. Delvalée); **9.** Morne Bigot, 450 m (photo by Philippe Ravat).

**Flight period.** All year round, but more abundant from March to May.

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