

Taxonomic status of genus *Voousia* Schoorl, 1990 (Lepidoptera: Cossidae: Zeuzerinae)

Таксономический статус рода *Voousia* Schoorl, 1990 (Lepidoptera: Cossidae: Zeuzerinae)

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КЛЮЧЕВЫЕ СЛОВА: энтомология, Lepidoptera, древооточцы, Zeuzerinae, фауна, Неотропический регион, *Voosia*, *Brypocitia*.

ABSTRACT. The monotypic genus *Voousia* Schoorl, 1990, including *Voousia punctifer* (Hampson, 1898) from Lesser Antilles, is synonymized with the genus *Brypocitia* Schoorl, 1990. New combination is established: *Brypocitia punctifer* (Hampson, 1898), **comb.n.**

РЕЗЮМЕ. Монотипический род *Voousia* Schoorl, 1990, включающий *Voousia punctifer* (Hampson, 1898) с Антильских островов, синонимизирован с родом *Brypocitia* Schoorl, 1990. Установлена новая комбинация: *Brypocitia punctifer* (Hampson, 1898), **comb.n.**

Introduction

Cossidae (Lepidoptera) of Neotropic Region are studied fragmentary. In the recent years, a team of authors from Argentina, Germany and Russia achieved the first results in the detailed study of several Cossidae genera from South and Central America (primarily the subfamily Zeuzerinae) [Yakovlev, 2014; Penco et al., 2016, 2019a, b; Yakovlev et al., 2016, 2017, 2019a, b; Naydenov et al., 2019].

The genus *Voousia* was described by Schoorl, based on the structure of the appendages of the head and the thoracic sclerites [Schoorl, 1990], it included one species *Voousia punctifer* (Hampson, 1898) from Lesser Antilles. The genus *Brypocitia* Schoorl, 1990 was also

originally allocated by Schoorl for *Xyleutes strigifer* Dyar, 1910. Later, the taxon was re-described [Penco et al., 2016], and 5 new described species and 5 species of the genus *Aramos* Schoorl, 1990 were added to it as a result of its synonymization with *Brypocitia* [Yakovlev et al., 2019a].

In the course of the study of *Voousia punctifer* specimens we found that they are morphologically very close to representatives of the genus *Brypocitia*.

Materials and methods

Images of imago were taken by the camera of Canon EOS 70D and illuminated in Lightbox. The male genitalia slides were examined with a Zeiss Stemi 2000 C microscope and Olympus SZX16 microscope. The images were taken with the Olympus SZX16 camera. The genitalia and imago images were processed using Adobe Photoshop software.

Abbreviations used in the text:

MNHN — Museum National d’Histoire Naturelle, Paris, France

MWM — Museum of Thomas Witt, Munich, Germany

NHMUK — The Natural History Museum of United Kingdom, London, U.K.

USNM — United States National Museum of Natural History (Smithsonian Institution), Washington, USA

Results

In the study of external characters and genital structures of specimens of various genera of the subfamily Zeuzerinae Boisduval, [1828] from the New World *Voousia punctifer* (Hampson, 1898) proved to be very close to the species of the genus *Brypocitia*. The male genitalia have the following synapomorphies: laminar sprawls of the gnathos arms, the rod-shaped process on the abdominal edge of the valve. Thus, there is no point in considering the genus *Voousia* as an independent, because no significant differences between genera were found, and respectively, the genus *Brypocitia* Schoorl, 1990 = *Voousia* Schoorl, 1990, **syn.n.**

Brypocitia Schoorl, 1990: 162

Type species (by monotypy): *Xyleutes strigifer* Dyar, 1910 (Figs 3, 7).

Brypocitia punctifer (Hampson, 1898), **comb.n.**
Figs 1–2, 5–6.

Duomitus punctifer Hampson, 1898, Trans. Entomol. Soc. London: 259–260.

TYPE LOCALITY. Grenada.

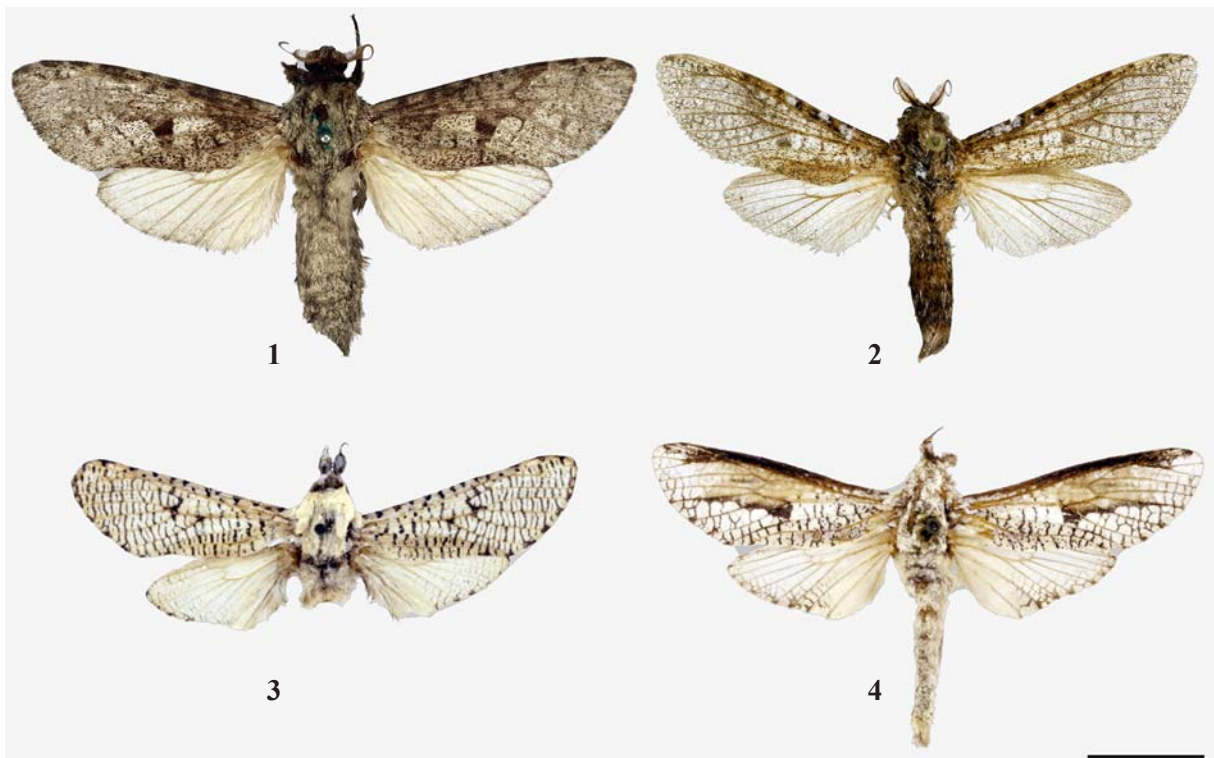
TYPE MATERIAL. Holotype, male in NHMUK, examined.

DISTRIBUTION. Lesser Antilles: Grenada, St. Vincent, St. Lucia, Martinique, Dominica, NEVIS.

MATERIAL EXAMINED. 1 ♂ (holotype), Grenada (NHMUK); 1 ♂, W. Indies, 24-247, Grenada (NHMUK); 1 ♂, Dominica, Leeward Is., Adams Bequest. B.M. 1912-399 (NHMUK); 1 ♂, W. Indies, 24-247, St. Vincent, W.I. H.H. Smith (NHMUK); 3 ♂♂, Santa Lucia. 91-57. (NHMUK); 1 ♂, Grenada (NHMUK); 1 ♂, Martinique, Colson, 24.IV.2001, J. & Cl. Pierre (MNHN); 3 ♂♂, Martinique, Fond-Saint-Denis, 1-10.XI.2007, Cl. & J. Pierre (MNHN); 1 ♂, Martinique, les trois Ilets (Anse à l'Ane), 17-1-1973, L. Matile Rec. (Lumiere) (MNHN); 1 ♀, Antilles, Iles Leeward Nevis, VII-1981, J.P. Lecerf leg. (MNHN).

DESCRIPTION of male genitalia. Uncus of medium size, triangle, gradually narrowing from base, but with slightly concave sides apically. Gnathos arms robust, apically passing into strongly sclerotized plates with folded outer edges and an acute angle dorsally, distance between dorsal edges of gnathos arms greater than between their abdominal edges. Valve of medium size, costal edge slightly bent in upper half; in medium third of abdominal edge of valve thin and short poorly sclerotized rod-like process below which there is a small notch. Juxta robust, with two rod-like lateral processes directed dorsally. Saccus large, semicircle. Phallus thick, slightly bent, a little longer than valve. Vesica aperture in a complicated dorso-apical position, with long ribbon-like poorly sclerotized cornutus in vesica lateral surface.

TAXONOMIC NOTES. It is obvious that the genital structure of *Brypocitia punctifer* is very close to that of the other specimens of the genus. For example, in the species of *B. strigifer* (Dyar, 1910) (Distribution: Mexico, Costa-Rica, Honduras, Guatemala, Columbia) (Figs 3, 7) and *B. ramosa* (Schaus, 1892) (Distribution: Brasilia) (Figs 4, 8) the shape of the uncus, valves and gnathos arms etc., is practically identical.



Figs 1–4. *Brypocitia*, adults: 1 — *B. punctifer*, ♂, Grenada (NHMUK); 2 — *B. punctifer*, ♂, Martinique, Colson, 24.IV.2001, J. & Cl. Pierre (MNHN); 3 — *B. strigifer*, ♂, holotype, Orizaba, Mex. (USNM); 4 — *B. ramosa*, ♂, holotype, Rio Janeiro. (USNM).

Рис. 1–4. *Brypocitia*, имаго: 1. *B. punctifer*, ♂, Гренада (NHMUK); 2 — *B. punctifer*, ♂, Мартиника, Колсон, 24.IV.2001, J. & Cl. Pierre (MNHN); 3 — *B. strigifer*, ♂, голотип, Оризаба, Мексика. (USNM); 4 — *B. ramosa*, ♂, голотип, Рио-де-Жанейро. (USNM).

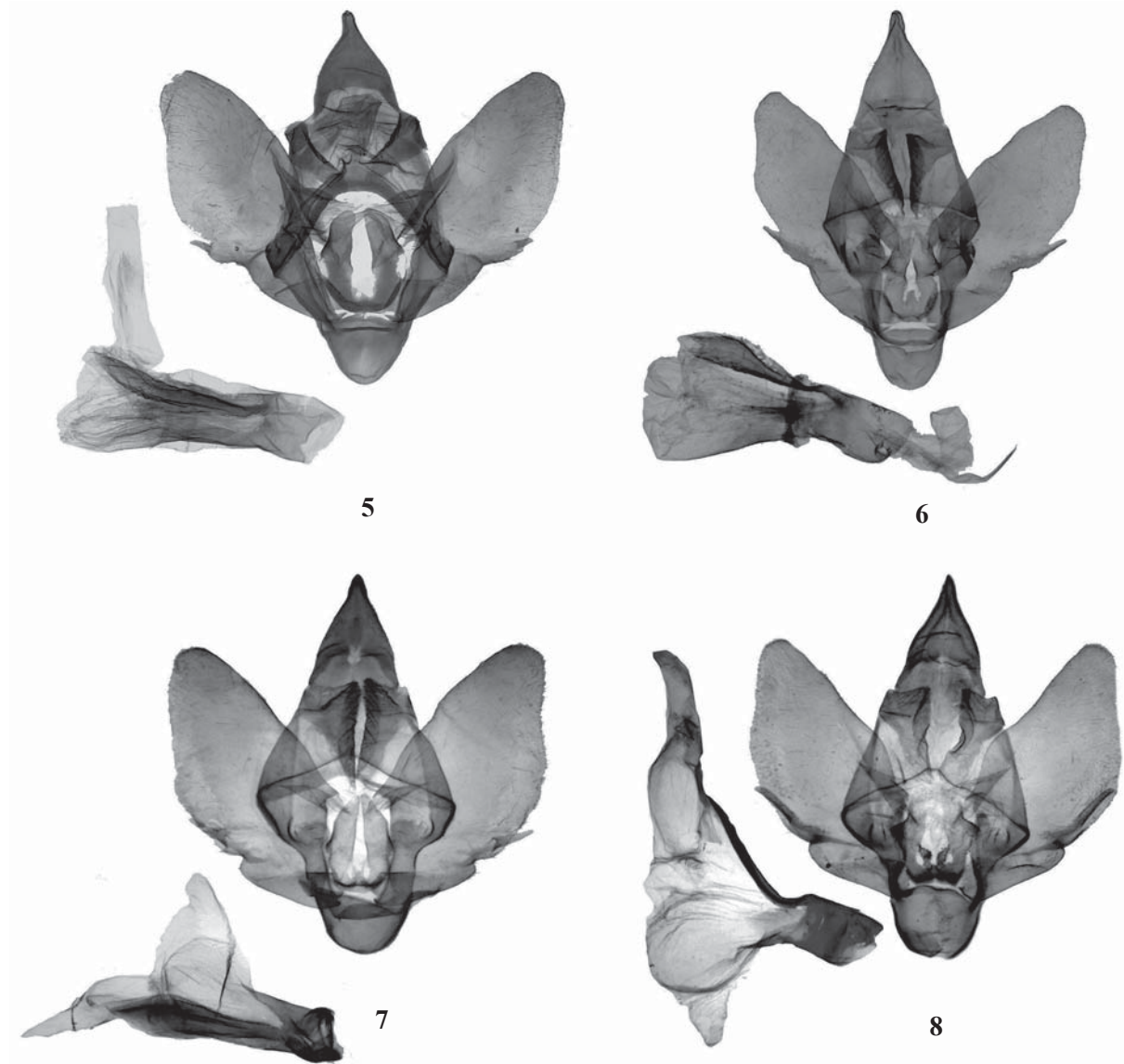
The most indicative external characters are: 1) antenna colour (thus, *B. punctifer* is closer to *B. ramosa*, having the same light brown antenna colour, unlike that black one in *B. strigifer*); 2) wings pattern (*B. punctifer* and *B. ramosa* have the same dark undulated pattern on light background on the fore wings, but with more darkness in the former; in *B. punctifer* the stroke in the medial and cubital-medial region is more pronounced; the hind wings in this species are less framed with undulated pattern than in *B. ramosa* and *B. strigifer*). Thus, *Brypocitia punctifer* is supposedly closest to *Brypocitia ramosa* and *Brypocitia ramuscula*.

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Figs 5–8. *Brypocitia*, male genitalia: 5 — *B. punctifer*, Grenada (NHMUK); 6 — *B. punctifer*, Martinique (MNHN); 7 — *B. strigifer*, Mexico, Oaxaca Prov., Metates, 40 km S Valle national (GenPr Heterocera MWM: 28.541, MWM); 8 — *B. ramosa*, Brasil, Espirito Santo, Santa Teresa (GenPr Heterocera MWM: 28.548).

Рис. 5–8. *Врупочтия*, гениталии самцов: 5 — *B. punctifer*, Гренада (NHMUK); 6 — *B. punctifer*, Мартиника (MNHN); 7 — *B. strigifer*, Мексика (GenPr Heterocera MWM: 28.541, MWM); 8 — *B. ramosa*, Бразилия (GenPr Heterocera MWM: 28.548).

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