

REDESCRIPTION OF GENUS *PSYCHONCTUA* GROTE, 1865
(INSECTA: LEPIDOPTERA, COSSIDAE, ZEUZERINAE)

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We give a redescription of the genus *Psychonctua* Grote, 1865 (Lepidoptera, Cossidae) basing on the study of two species of this genus: the type species *P. personalis* Grote, 1865 and *P. jamaicensis* (Schaus, 1901). It is discovered that the genitalia of the genus *Psychonctua* correspond to the genitalia typical for the Zeuzerinae subfamily. The apomorphic characters of the genus are: very narrow valves and a cut on the abdominal edge of the valve (close to its base).

Key words: Insecta, Lepidoptera, Cossidae, *Psychonctua* Grote, redescription, apomorphic characters.

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INTRODUCTION

Cossidae (Lepidoptera) of Neotropical region are very poorly studied. For the majority of taxa described from Neotropics, the genitalia structure remains unknown, the size of genera is still unclear, the name-bearing types are not examined. Some progress in the study of the Neotropical Cossidae was made in the recent years. The Cossulinae of Costa Rica were thoroughly revised (Davis et al., 2008), the taxonomic position of the genus *Miacora* Dyar, 1905 was resolved (Yakovlev, 2014), the faunal list of Cossidae of Argentina was published (Penco & Yakovlev, 2015). In this article we give a redescription of the genus *Psychonctua* Grote, 1865. This genus was assigned to *P. personalis* Grote, 1865 from Cuba (Grote, 1865). Later a series of species from Central America and the Caribbean region was described (Schaus, 1901, 1911; Hampson, 1904; Barnes & McDunnough, 1910; Dyar, 1914, 1918, 1925, 1940; Lindsey, 1926), these species are now assigned to the genus *Psychonctua* (Schoorl, 1990: 127). Schoorl (1990) also provides data on three non-described species from Panama, the Antilles and the Virgin Islands, the specimens of which are deposited in the collections of the Nationaal Natuurhistorisch Museum (Leiden, The Netherlands) and Zoologisk Museum (Kobenhavn, Denmark). The name-bearing types of the majority of the described taxa are photographed, but there was no morphological examination. Basing on the collection of the Museum Witt (München) (further – MWM) we have examined the specimens of two species: type species of the genus – *P. personalis* Grote, 1865 and *P. jamaicensis* (Schaus, 1901).

MATERIALS AND METHODS

Male genitalia were mounted in euparal on slides following Lafontaine (2004) and examined with a Zeiss Stemi 2000 C microscope. Images were taken with the Olympus XC 50 camera.

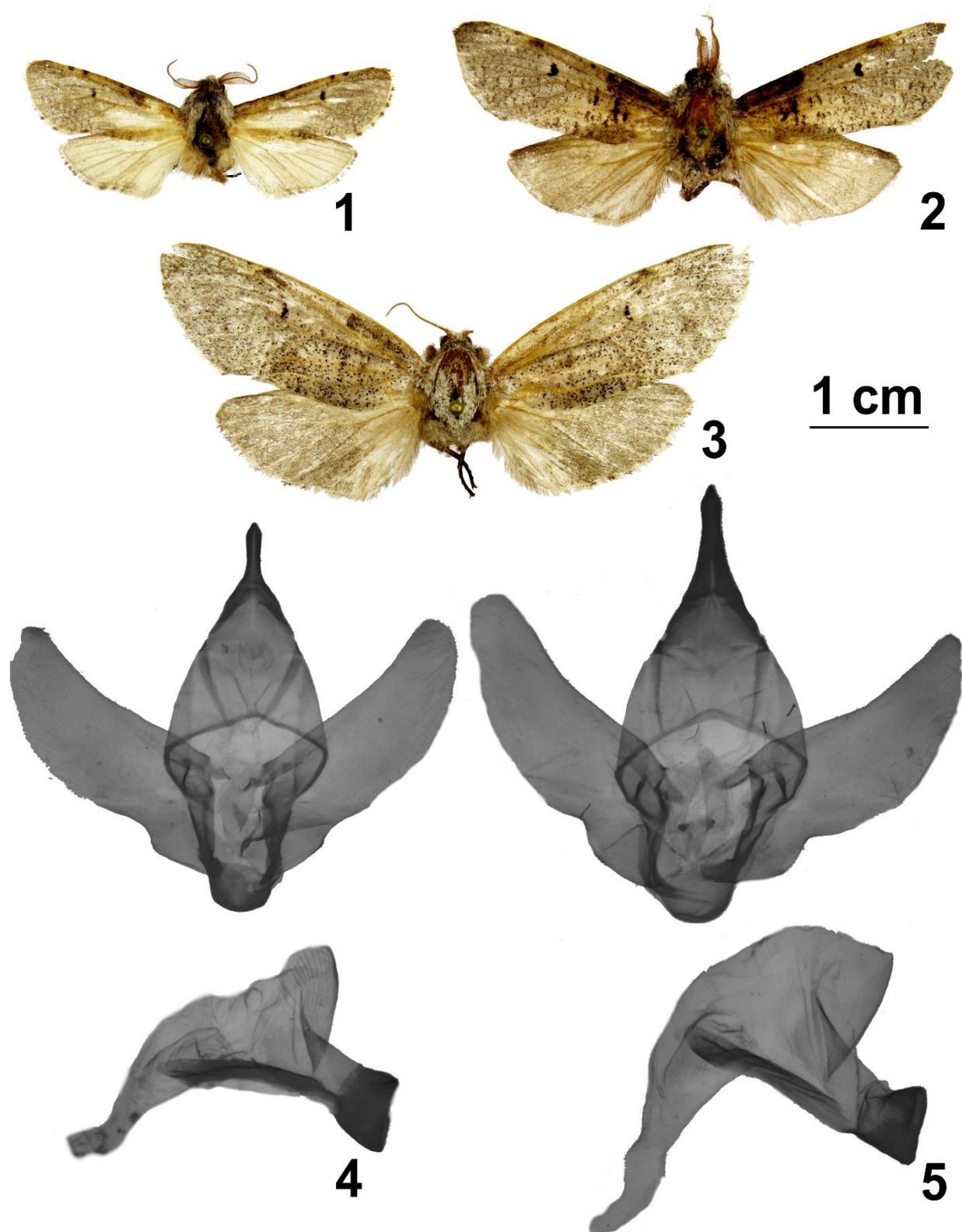


Figure 1. *Psychonoectua personalis* and *Psychonoectua jamaicensis*: 1 - *Psychonoectua personalis* Grote, 1865, male, Cuba, Prov. Holguín, Sagua de Tanamo (3 km W), 250 m, La Risuena, Cuabal-veget., 27–30.05.2000, leg. Rudloff (MWM); 2 - *Psychonoectua jamaicensis* (Schaus, 1901), male, NW Jamaica (W-Indien), Spring Garden / S. James, W of Montego Bay, 11–20.03.2002, leg. Dr. L. Rezbanyai-Reser (MWM); 3 - *Psychonoectua jamaicensis* (Schaus, 1901), female, same locality, 1–10.06.1997, leg. Dr. L. Rezbanyai-Reser (MWM); 4 - *Psychonoectua personalis* Grote, 1865, genitalia of male (GenPrHeteroceraMWM: 28.559); 5 - *Psychonoectua jamaicensis* (Schaus, 1901), genitalia of male (GenPrHeteroceraMWM: 28.558).

RESULTS

Psychonoctua personalis Grote, 1865 (Figs. 1.1, 1.4).
Grote, 1865: 251.

Material examined: 1 male, Cuba, Prov. Holguin, Sagua de Tanamo, Caro, 700 m, El Bukaral, Bergregenwald, 27–30.05.2000, leg. Rudloff (MWM; GenPrHeteroceraMWM: 28.557); 1 male, Cuba, Prov. Holguin, Sagua de Tanamo (3 km W), 250 m, La Risuena, Cuabal-veget., 27–30.05.2000, leg. Rudloff (MWM; GenPrHeteroceraMWM: 28.559).

Description. Male. Length of fore wing 12–16 mm. Antenna bipectinate from base to middle, distal half filiform. Fore wing elongated, apex tapered, coloring pale grey with thin reticulated pattern, pale portion in cubital area and black discal spot. Several black strokes on costal edge of fore wing, thin pale border on outer edge of wing, fringe mottled, dark at veins and pale between veins. Hind wing pale, without pattern, with minor spraying of black scales at anal angle, fringe pale with bunches of dark scales near anal edge.

Male genitalia. Uncus with thick base, distal part strongly elongated, thin, with parallel edges and tapered apex; gnathos arms thin, ribbon-like, slightly narrowing from base to apex, not fused; valve narrow, edges practically parallel, apex rounded, notch at abdominal edge near base; juxta of medium size with long wide leaf-like lateral processes; saccus semicircular, small; phallus thick, short ($\frac{1}{4}$ shorter than valve), vesica very big, with long ribbon-like sclerites in its lateral surfaces, one of them 3 times larger than other.

Female not examined.

Distribution. Endemic of Cuba (Aguila & Cañamero, 2012)

Psychonoctua jamaicensis (Schaus, 1901) (Fig. 1.2, 1.3, 1.5)

Duomitus jamaicensis Schaus, 1901: 46.

Material examined: 1 male, NW Jamaica (W-Indien), Spring Garden / S. James, W of Montego Bay, 11–20.03.2002, leg. Dr. L. Rezbanyai-Reser (MWM; GenPrHeteroceraMWM: 28.558); 1 female, same locality, 1–10.06.1997, leg. Dr. L. Rezbanyai-Reser (MWM; GenPrHeteroceraMWM: 28.560).

Description. Male. Length of fore wing 18 mm. Antenna bipectinate from base to middle, distal half filiform. Fore wing elongated, grey with continuous thin reticulated pattern, relatively big black V-shaped spot near base of discal cell, brown brushstroke on costal edge (on border between two proximal thirds and distal third of wing length), brown portion at wing base (continuous at costal edge and split into brown strokes in cubital area), fringe grey. Hind wing grey without pattern, fringe grey.

Male genitalia are very similar to those of *P. personalis*. The differences are:

uncus with narrowing edges, saccus larger, notch at abdominal edge of valve more expressed.

Female larger. Length of fore wing 20 mm. Antenna filiform. Fore wing grey with relatively rare sputtering of black scales, discal black spot small, expressed more poorly than that of male. Hind wing grey without pattern.

Female genitalia. Ovipositor very long. Papillae anales tapered, anterior and posterior apophyses very long, equal in length, antrum slightly dipped, funnel-shaped, ductus wide, short, bursa pouch-like with large signum on lateral surface, channel (ending with small rounded bulla) extending from lateral surface of bursa.

DISCUSSION

The morphological study conducted for the first time has proved the assignation of the genus *Psychonoctua* to the Zeuzerinae subfamily. The external characters (elongated fore wings, thin reticulated patterns), the antennae structure (bipectinate from the base to middle, with a filiform distal half) and the genitalia structure of males (reduction of the gnathos, the long poorly sclerotized lateral processes of the juxta, complicated structure of the phallus) and of females (presence of bulla), are typical for the representatives of this subfamily. The peculiar apomorphic characters of *Psychonoctua* are narrow valves and an expressed notch on the abdominal edge of the valve.

Additionally, our study confirms the correctness of Schoorl's decision (1990: 126) about the exclusion of *Zeuzera masoni* Schaus, 1894. *Z. masoni* was placed to *Psychonoctua* (Blanchard & Knudson, 1985) not examining the genitalia of type species *Psychonoctua personalis*. Schoorl (1990) placed *Z. masoni* into the genus *Aramos* Schoorl, 1990 (type species – *Zeuzera ramosa* Schaus, 1892), also not examining the genitalia. Blanchard and Knudson (1985: 428, Fig. 1.3–1.5, Fig. 2) provided an image of the genitalia of *Z. masoni*. It is obvious that, except the general structure typical to all the Zeuzerinae, the genitalia of *masoni* differ sharply from those of *P. personalis* (valves wide, leaf-like, without notch on the abdominal edge, phallus thin, long, uncus rostrally tapered). The redescription of *Aramos* using the genitalia characters will be performed in one of our following works.

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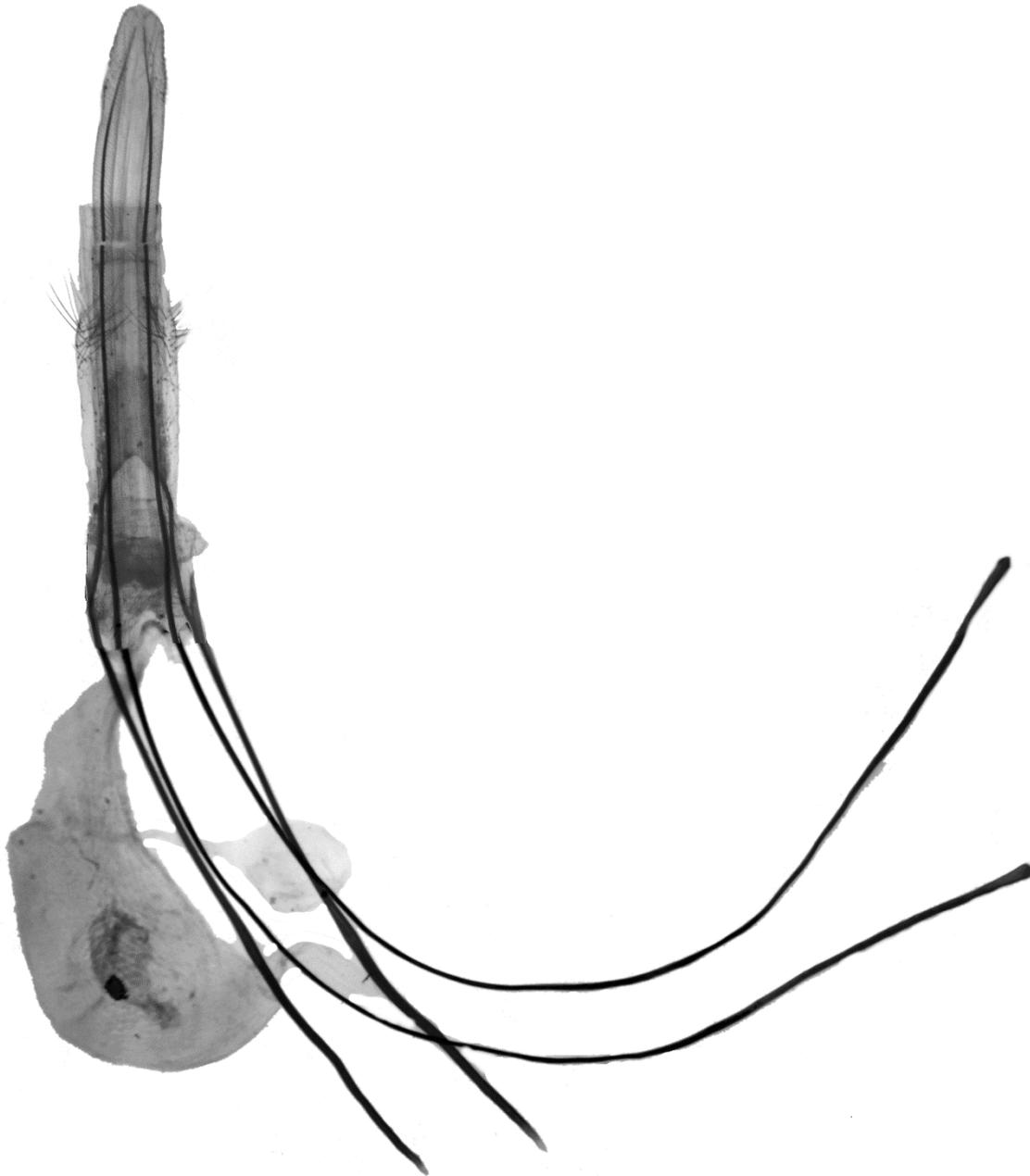


Figure 2. *Psychonoctua jamaicensis* (Schaus, 1901), genitalia of female (GenPrHeteroceraMWM: 28.560).

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