Klagesiana gen. n. – new genus of Carpenter-Moths (Lepidoptera: Cossidae: Zeuzerinae) from Brazil

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Abstract
The article describes the new genus, Klagesiana Yakovlev, Naydenov, Penco gen. nov. (type species Klagesiana amazoniensis Yakovlev, Naydenov, Penco sp. nov.). The new genus differs well from the known Neotropical Zeuzerinae. The conclusions are illustrated.

Key words: Cossidae, new genus, new species, taxonomy, Neotropics, carpenter moths.

Introduction
The study of the neotropical carpenter moths fauna (Lepidoptera, Cossidae) remains at a very poor level. Some success so far has been obtained from the study of the subfamily Zeuzerinae (type species – Zeuzera Latreille, 1804) (Donahue 1980; Penco et al. 2016; Yakovlev et al. 2016, 2017, 2019 a, b; Naydenov et al. 2019), in particular, of the genera Morpheis Hübner, 1820, Brypoctia Schoorl, 1990, Psychonoctua Grote, 1865, Allocryptobia Viette, 1951, and Schreiteriana Fletcher & Nye, 1982. We have also described the new genus from Brazil, Listrada Naydenov, Yakovlev, Penco & Witt, 2019. During our further examination of specimens of Zeuzerinae deposited in the collections of the Natural History Museum (London, United Kingdom) we have found a small series of males of a new species with sharp differences from all currently known Cossidae genera.
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 an Olympus SZX16 microscope. The images were taken with the Olympus SZX16 camera. The genitalia and imago images were processed using Corel Draw software.

Taxonomical part

*Klagesiana* Yakovlev, Naydenov, Penco gen. nov.

Figs. 1–5

https://zoobank.org/urn:lsid:zoobank.org:act:465C319D-36CC-424E-A3E4-33567D2610B7

Type species (by monotypy) *Klagesiana amazoniensis* Yakovlev, Naydenov, Penco sp. nov.

Description. Adult of small size. Antenna bipectinate, crest processes shorter than antenna rod diameter. Head, thorax and abdomen covered with light scales. Fore wing milky-white from above, with pattern of wide transverse light grey undulated bands, series of dark spots with blurred edges along costal edge. Hind wing shorter than fore wing, from above milky-white with pattern of narrow transverse light grey bands; from below wing pattern the same.

**Figures 1–2.** *Klagesiana amazoniensis* Yakovlev, Naydenov, Penco sp. nov. (adult male specimens): 1. Holotype (specimen photo NHMUK012832495); 2. Paratype (specimen photo NHMUK012832494).

Male genitalia. Uncus pyramidal, gradually narrowing from base to apex, distal third of uncus with parallel lateral edges, apically narrowing sharply; tegument robust, domed; valve with even costal edge, slightly narrowing apically, abdominal edge with small notch closer to valve base, small harpe in shape of elongated triangle on abdominal edge of valve; gnathos arms poorly expressed, shaped as thin short ribbons apically narrowing; gnathos reduced; juxta robust, saddle-like, with pair of large leaf-like lateral processes; saccus robust, semicircular; phallus very robust, 1.5 longer than valve, consisting of two parallel sclerotized walls and poorly sclerotized bridges between them; vesica very massive, with extensive zone of scabination in lateral surface.

Female unknown.
Figures 3–4. Klagesiana amazoniensis Yakovlev, Naydenov, Penco sp. nov. (male genitalia): Genitalia of holotype (slide NHMUK 010315526); 4. Genitalia of paratype (slide NHMUK 010315525)

Diagnosis. The new genus has significant differences from all Neotropical Zeuzerinae:
- small size
- very light color of the wings
- specific spear-shaped uncus
- very big phallus (in relation to the genital structure).

The relationship is not currently clear, probably, it is most close to the genera Morpheis, Bryoctica and Allocryptobia which also have the developed harpe on the abdominal edge of the valve. Additionally, the same feature is in the African genus Acosma Yakovlev, 2011, completely revised in 2019 году (Yakovlev 2019). And these structures are found in some representatives of the Australian genus Sympycnodes Turner, 1932, united into “Sympycnodes digitata group” (Kallies & Hilton 2012).

The genus is monotypic and includes only one species.

Etymology. The new genus is named after the collector of the type series, amateur entomologist and ornithologist, Samuel M. Klages (1875-1957), who “was one of the most extraordinary collectors of South American birds in the first third of the 20th century” (Kirwan et al. 2015).

Klagesiana amazoniensis Yakovlev, Naydenov, Penco sp. nov.
Figs. 1–5
https://zoobank.org/urn:lsid:zoobank.org:act:C888A662-2F56-4073-8F6B-EE0DC03A9E17

Material: 1 ♂, holotype, Fonte Boa [2°30′50″ S / 66°05′45″ W], Amazonas, [Brazil] July 1906. (S. M. Klages) (Natural History Museum); 4 ♂♂, paratypes, Fonte Boa, Amazonas, July 1906. (S. M. Klages) (Natural History Museum).

Description. Length of fore wing of the holotype 12 mm, of paratypes – 12–13 mm. Other characters – see the genus description.
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Figure 5. Map of distribution of *Klagesiana amazoniensis* Yakovlev, Naydenov, Penco sp. nov.

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