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Scientific Note

First record of *Lonomia camox* Lemaire, 1971 (Lepidoptera, Saturniidae) in Brazil

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Abstract. *Lonomia* Walker, 1855 is a genus of Lepidoptera belonging to the Saturniidae whose caterpillars have a defense system based on scoli connected to venom glands, which can cause medical accidents of envenomation, thereby making this genus medically important. In this work, *Lonomia camox* Lemaire, 1971, is recorded for the first time in Brazil, more specifically in the state of Amazonas. Photographs of male and female genitalia and an updated map with new occurrence records are presented.

Keywords: Brazilian Amazon; Central Amazonian; Hemileucinae; new record; Taxonomy.

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Lonomia Walker, 1855 (Lepidoptera, Saturniidae, Hemileucinae) is a genus of medical importance because the caterpillars have structures that produce and conceal substances with urticant action causing internal hemorrhage if injected in sufficient amounts, being responsible for serious accidents of envenomation, including deaths (Lorini 2008).

Lonomia is endemic to the Neotropical region, with about 60 species distributed from Mexico to northern Argentina (Lemaire 2002; Brechlin *et al.* 2011; Brechlin & Meister 2011). In Brazil, the distribution data are scarce, especially for the Northern region. According to the Taxonomic Catalog of the Brazilian Fauna (Catálogo Taxonômico da Fauna do Brasil) (Camargo *et al.* 2022), only eight species and two subspecies of *Lonomia* have been registered for Brazil: *Lonomia achelous achelous* (Cramer, 1777), *Lonomia achelous diabolus* (Drudt, 1929), *Lonomia antoniae* (Brechlin & Meister, 2015), *Lonomia descimoni* Lemaire, 1971, *Lonomia leopoldina* Brechlin & Meister, 2011, *Lonomia maranhensis* Brechlin & Meister, 2011, *Lonomia obliqua* (Walker, 1855), *Lonomia parobliqua* Walker, 1855 and *Lonomia rufobahiana* Brechlin & Meister, 2013.

Lonomia camox was described by Lemaire (1971) based on two male specimens, the holotype from Venezuela and a paratype from French Guiana. The records were expanded to Peru in the subsequent publication (Racheli & Callegari 1996).

This study records, for the first time, the occurrence of *L. camox* in Brazil, more precisely in the municipalities of Manaus and Presidente Figueiredo, in the state of Amazonas. According to the Köppen climate classification, the climate of the region is of the Am type, with a low annual thermic range and average monthly rainfall over 60 mm. The annual average temperature is 26.7 °C, ranging between 23.3 °C and 31.4 °C, while the annual average rainfall is 2,286 mm and relative humidity is around 80%; the rainy season is from December to May, and the dry season is from June to November (Barbosa *et al.* 2015).

In this study, we report 11 specimens of *L. camox* from Brazil (10 males and one female). The examined material is deposited at the collection of Invertebrates at the National Institute of Amazonian Research (Instituto Nacional de Pesquisas da Amazônia - INPA) and Professor Paulo Bührnheim Zoological Collection (Coleção Zoológica Professor Paulo Bührnheim) at the Federal University of Amazonas (Universidade Federal do Amazonas - UFAM).

The specimens were identified based on the description of morphological characters and images presented in Lemaire (1971, 1972, 2002). However, species of this genus have a set of common external morphological characters (Lemaire 1971). The genitalia contains the main structures for correct identification. Therefore, six specimens had their abdomens removed and cleared in 10% potassium hydroxide (KOH) solution for further dissection and removal of the genitalia, which were analyzed and photographed with Leica® M205A digital camera stereomicroscope coupled with a Leica® DMC4500 digital microscope camera and the Leica Application Suite v. 4.10.0 Interactive Measurements Montage. After analysis, the genitalia were stored in microtubes containing glycerin, duly labeled with their corresponding specimen numbers.

The geographical distribution was plotted using the online mapping software SimpleMappr (Shorthouse 2010). If absent in the specimen labels, geographical coordinates were obtained using Google Earth.

***Lonomia camox* Lemaire 1971**

(Figures 1A-D, 2A-C, 3)

Diagnosis. Male genitalia (Figures 2A-C) with distal margin of eight sternum bifid and sclerotized; elongated uncus, with rounded distal margin, with three strongly sclerotized projections. Valvae symmetrical, elongated, sub-rectangular, with a spiniform structure in the medial region of the inner surface. Juxta with two long falciform projections, strongly sclerotized. Anterior projection of the saccus wider than the length. Aedeagus cylindrical. Vesica membranous with cornutus is an elongated and strongly sclerotized spine. Female genitalia (Figure 2D) with papilla analis elongated dorsoventrally. Lamella antevaginalis wide, medially deeply notched with slightly serrated anterior margin; lamella postvaginalis narrower, represented by wide subtriangular sclerotization. Ductus bursae, a voluminous membranous pouch, fused dorsally to the lamella antevaginalis. Corpus bursae ovoid. Ductus seminalis arises from the left side of the anterior margin of ductus bursae. Anterior apophysis about one-third the length of posterior apophysis.

Biology. According to Lemaire (2002), only the first instar is known.

Distribution. Venezuela (Bolívar), French Guyana, Peru (Loreto), and Brazil (Amazonas) (Figure 3).

Flight period. Based on specimens label, this species flies in March, April, May, August, September, October, November, and December.

Remark. Most of the specimens were collected in light sources and in the primary forests, whose phytophysiognomy is evidenced by the classes of vegetation formations covered by a Dense Tropical Forest.

The occurrence of *L. camox* in Brazil was expected, considering that all its records were for the Amazon biome (e.g., Lemaire 1971, 1972; Racheli & Callegari 1996; Bénéluz 2021). The relevance of this information contributes considerably to the knowledge of Amazonian biodiversity and the mapping of this species for future studies in the medical field.

Even though there are no available records of medical accidents for *L. camox*, it cannot be said that it has no medical importance, as the studies are scarce, and many cases may not have been reported. Furthermore, for many species of *Lonomia*, the immature stages are still unknown.

Material examined. BRAZIL, **Amazonas**, Presidente Figueiredo, Br-174, Km 113, Sítio Santa Lúcia; 19-20.VIII.2001; F. Gouveia, leg.; sheet with mixed light; 1 ♂ (INPA). AM-240 Km 12; 02°03'09" S, 59°55'20" W; 16-17.X.2006; C.S. Motta et al. leg.; light trap sheet; 20:00-21:00h; 1 ♂ (INPA). Km 24, Comunidade São Francisco; 02°01'05" S, 59°49'60" W; 07.X.2007; F.F. Xavier Filho, G.M. Lourido, V.A. Ribeiro leg.; mixed light of 250w; 20:00-21:00h; 1 ♂ (INPA). Manaus, Reserva Ducke; 02°55' S, 59°59' W; 20-21.X.1998; Motta, C.S. Xavier Filho, leg.; mercury mixed light sheet; 21:00-22:00hs; 1 ♂ (INPA). Campus of the University of Amazonas; 20.XI.1984; Hebert Lima leg.; 2 ♂ and 1 ♀ (UFAM). 22.XI.1984; Hebert Lima leg.; 1 ♂ (UFAM). 01.V.1984; Hebert Lima leg.; 1 ♂ (UFAM). 01.V.1984; Hebert Lima leg.; 1 ♂ (UFAM). 12.IV.1988; N. O. Aguiar leg.; 1 ♂ (UFAM).

Figure 1. *Lonomia camox* Lemaire, 1971. Male: A. Dorsal view. B. Ventral view. Female: C. Dorsal view. D. Ventral view.

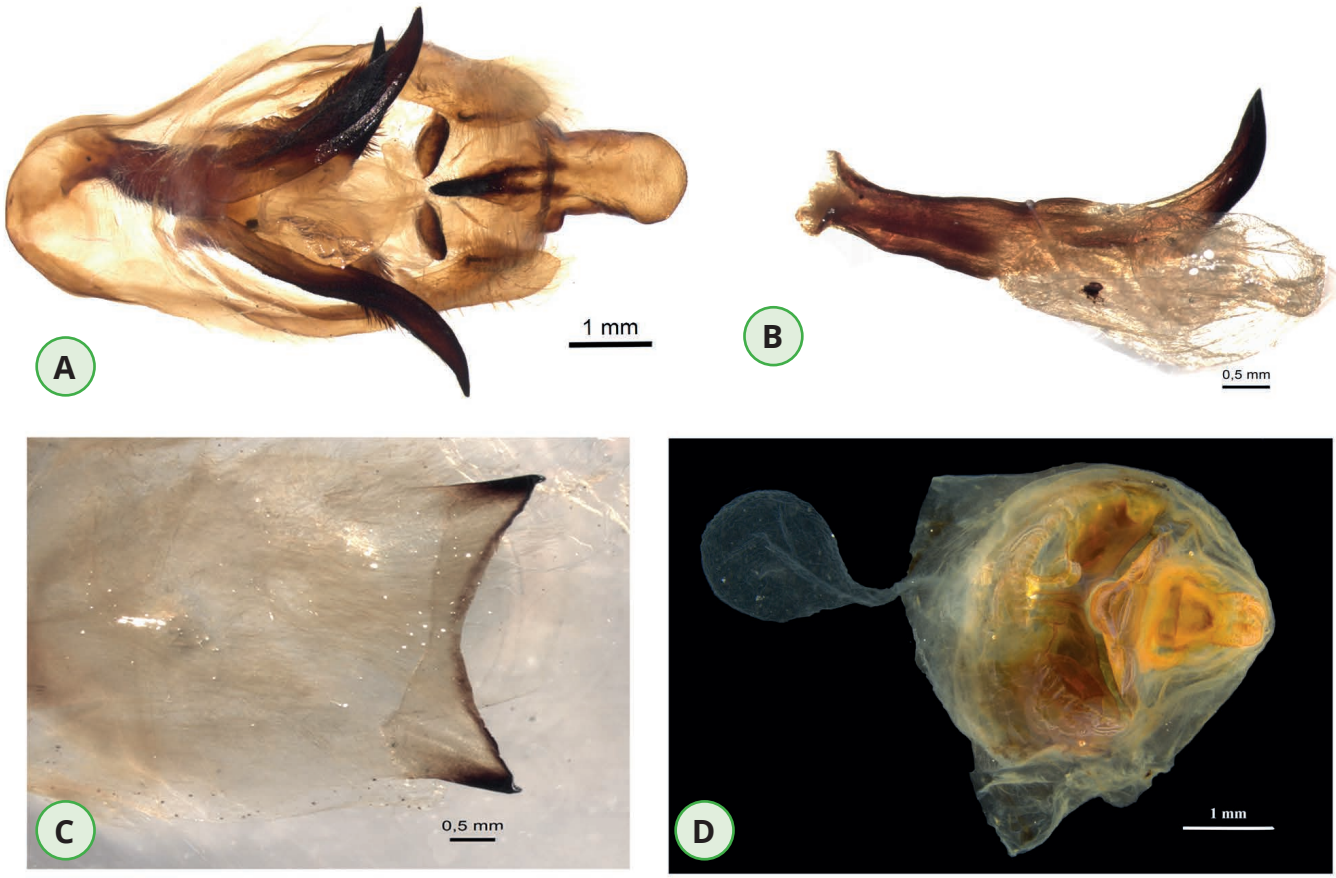

Figure 2. Genitalia of *Lonomia camox* Lemaire, 1971. Male: A. Ventral view. B. Aedeagus. C. Eight sternum. Female: D. Ventral view.

Figure 3. Distribution map of *Lonomia camox* Lemaire, 1971.

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