



HAL
open science

Description of three new species and a new genus of Lithosiini from Dominican Republic (Lepidoptera: Erebidae: Arctiinae: Lithosiini)

Michel Laguerre

► To cite this version:

Michel Laguerre. Description of three new species and a new genus of Lithosiini from Dominican Republic (Lepidoptera: Erebidae: Arctiinae: Lithosiini). *Faunitaxys*, 2024, 12 (37), pp.1-9. <10.57800/faunitaxys-12(37)>. <hal-04660357>

HAL Id: hal-04660357

<https://hal.science/hal-04660357v1>

Submitted on 23 Jul 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons CC BY-NC-ND 4.0 - Attribution - Non-commercial use - No Derivative Works - International License

Faunitaxys

*Revue de Faunistique, Taxonomie et Systématique
morphologique et moléculaire*



Volume 12
Numéro 37

Juillet 2024

ISSN (Print) : 2269 - 6016
ISSN (Online) : 2970 - 4960
Dépôt légal : Juillet 2024

Faunitaxys

*Revue de Faunistique, Taxonomie et Systématique
morphologique et moléculaire*

ZooBank : <https://zoobank.org/79A36B2E-F645-4F9A-AE2B-ED32CE6771CC>

Directeur de la publication, rédacteur, conception graphique et PAO:

Lionel Delaunay

Cette revue ne peut pas être vendue

Elle est distribuée par échange aux institutions (version papier)

et sur simple demande aux particuliers (format PDF)

à l'adresse suivante:

AFCFF (Association française de Cartographie de la Faune et de la Flore)

28, rue Voltaire, F- 42100 Saint Etienne

E-mail: faunitaxys.journal@gmail.com

Elle est disponible librement au téléchargement à partir du site:

<https://faunitaxys.fr/>

La parution de *Faunitaxys* est apériodique

Faunitaxys est indexé dans / *Faunitaxys* is indexed in:

- **Zoological Record**

Articles and nomenclatural novelties are referenced by:

- **ZooBank** (<https://zoobank.org>)

Online Archives:

- **HAL** (<https://hal.archives-ouvertes.fr>)

- **Internet Archive** (<https://archive.org>)

Imprimée sur les presses de SPEED COPIE, 6, rue Tréfilerie, F- 42100 Saint-Etienne

Imprimé le 22 07 2024

Description of three new species and a new genus of Lithosiini from Dominican Republic (Lepidoptera: Erebidae: Arctiinae: Lithosiini)

MICHEL LAGUERRE (1)

31 rue de la Haute-Lande, 33850 Léognan, France.

- E-mail: mlaguerre@wanadoo.fr - Orcid: <https://orcid.org/0000-0002-6524-7069> - ZooBank: <http://zoobank.org/F323AF5A-3FE8-4C84-885E-240E67F4DFF3>

Keywords:

Arctiinae;
Lithosiini;
Boenasa;
Neoboenasa;
COI;
taxonomy;
systematics;
description;
new species;
new genus;
Neotropic.

Abstract. – Three new Lithosiini species are described for Dominican Republic fauna, two in the already described genus *Boenasa* Walker, [1865]: *Boenasa davidsoni* sp. n. from Pedernales and *Boenasa keegani* sp. n. from La Vega and the third one in a new genus *Neoboenasa* gen. n. This last new species is dedicated to John Rawlins: *Neoboenasa rawlinsi* sp. n. and seems to be a scarce endemic of the high altitudes in the Sierra de Neiba. On this occasion the generotype of *Boenasa*, *Boenasa nigrirosea* Walker, [1865], is fully redescribed.

Laguerre M., 2024. – Description of three new species and a new genus of Lithosiini from Dominican Republic (Lepidoptera: Erebidae: Arctiinae: Lithosiini). *Faunitaxys*, 12(37): 1–9.

DOI: [https://doi.org/10.57800/faunitaxys-12\(37\)](https://doi.org/10.57800/faunitaxys-12(37))

ZooBank: <https://zoobank.org/B7335288-C9EE-4A29-ABF2-6E263829A39C>

Received: 12/06/2024 – Revised: 16/07/2024 – Accepted: 16/07/2024

Introduction

Among the Neotropical Arctiinae the Lithosiini tribe is extremely neglected and almost no modern work has been published except the papers of William D. FIELD (1950, 1951, 1952, 1964), Carroll B. KNOWLTON (1967) and Christian GIBEAUX (1983, 1988). In the Barcode of Life Database (BOLD) (RATNASINGHAM & HEBERT, 2007), 85 % of the Lithosiini Barcode Index Numbers (BIN) (RATNASINGHAM & HEBERT, 2013) are unidentified at the species level and in a large number of cases they are identified only at the tribe level. In part, this lack species-level identification is due to the many Neotropical Lithosiini genera with undescribed species, like the genus *Boenasa* Walker, [1865].

In the Caribbean the tribe has evolved in several genera, the majority of them specific of one island. For instance, the genera *Cincia* Walker, 1854 *Amplicincia* Field, 1950, *Paracincia* Field, 1950 and *Parvicincia* Field, 1950 are endemic to Jamaica. The genus *Paramulona* Hampson, 1900 is endemic to Cuba. The genus *Mulona* Walker, 1866 is found only in the Greater Antilles and Bahamas Islands while *Lomuna* Field, 1952 is confined to Puerto Rico. On Hispaniola beside the genus *Mulona*, it is possible to find the genus *Boenasa* Walker, [1865]. This genus has been described on the basis of the very special male hindwings which are nearly completely upturned so that the underside becomes the functional upper side and vice versa. There are currently six described species of *Boenasa*: on Hispaniola there is the generotype *B. nigrirosea*



Fig. 1. Types of *Boenasa* from USNM. a. *Boenasa tricolor* (Herrich-Schäffer, 1866) (= *toryca* Schaus, 1924). b. *Boenasa angelica* Schaus, 1924.

Reviewers :

Benoît Vincent (France) - <https://orcid.org/0000-0002-2515-2284> - <https://zoobank.org/06127508-9ABA-4367-B137-A08E40E1D1B9>

Kevin Keegan (Carnegie Museum of Natural History; Pittsburgh, Pennsylvania, USA) - <https://orcid.org/0000-0002-0872-7875> - <https://zoobank.org/B4010D41-6349-488D-B772-B79446ED6270>



This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

Copyright 2024 The Authors. *Faunitaxys* published by Lionel Delaunay on behalf of the AFCFF (Association française de Cartographie de la Faune et de la Flore).

Walker, [1865], *B. angelica* Schaus, 1924, *B. domingonis* Schaus, 1924 and the recently described *B. benedicti* Laguerre, 2019; in Cuba there is *B. tricolor* (Herrich-Schäffer, 1866), and *B. polyphron* (Druce, 1894) is present in Mexico (type locality: Morelia). Unfortunately for this last species the type specimen is lost and the type locality, so far removed from its congeners in the Caribbean, renders the species' generic placement extremely doubtful. *B. toryca* Schaus, 1924, described from Cuba has been put into synonymy with *Boenasa tricolor* (Herrich-Schäffer), 1866, also described from Cuba, by Becker (Becker, 2002). Finally, *B. domingonis* is known only by its female type and its habitus is noticeably different from the other species of *Boenasa*, casting some doubts on its exact generic placement. The aim of the present study is to describe three more species from the Dominican Republic, two are included within the genus *Boenasa* and the third one is classified in *Neoboenasa* gen. n. which will be described below.

Materials and Methods

Genitalia of both sexes were prepared by boiling abdomens for 15 minutes with 1 pellet of potash (KOH Rectapur VWR) in 5 ml of water. After being washed with water and then alcohol, eventually stained with Chlorazole black, genitalia were photographed in a natural position suspended in 95 % alcohol, then types and museum specimens were mounted in Euparal, and remaining specimens were simply stored in glycerol. Photos were taken with a CoolPix 4500 Nikon camera attached to a trinocular Nikon stereomicroscope SMZ-10A. For genitalia illustrations, resolution was enhanced using focal planes fusion technique (3 to 6 planes were used generally) with the free software CombineZM (HADLEY, 2009).

Short sequences of mitochondrial DNA (COI gene), or DNA barcodes, routinely used for species discrimination and identification (HEBERT & *al.*, 2003) were analyzed. DNA was extracted, amplified and sequenced at the Canadian Centre for DNA Barcoding (CCDB) in Guelph, Ontario. Tissue consisted of legs removed from dried voucher specimens in the author's collection. Details of various protocols have been described in VAGLIA & *al.* (2008) and DECAËNS & ROUGERIE (2008).

The sequences were downloaded from BOLD and aligned and analyzed using MEGA7 (KUMAR *et al.*, 2016) or MEGA11 (TAMURA *et al.*, 2021) to build various distance trees. Bootstrap values (FELSENSTEIN, 1985) were used to estimate branch support: they were calculated in MEGA7 after 1000 random replications. Distance calculations were performed using the Kimura 2-parameter (K2P) method in MEGA7 (KIMURA, 1980) including all sites, with the pairwise deletion option and assuming both a homogeneous pattern of divergence among lineages and a uniform rate of substitutions among sites.

Repository abbreviations are as follows:

| | |
|-------------|--|
| CMNH | Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA. |
| MNHN | Muséum National d'Histoire Naturelle, Paris, France. |
| MNHU | Museum für Naturkunde, Humboldt-Universität, Berlin, Germany. |
| NHM | Natural History Museum, London, England, United Kingdom. |
| USNM | United States National Museum, Smithsonian Institution, Washington D. C., U. S. A. |
| MLC | Personal collection of Michel Laguerre, 33850 Léognan, France. |

Abbreviations used:

FWL = ForeWing Length (from base to apex)

WS = WingSpan

Results

Redescription of the genus *Boenasa* Walker, [1865]

The genotype is *nigrosea* Walker, [1865] (Fig. 2) described originally from Santo Domingo. The male holotype is housed in NHM and its genitalia are shown in Fig. 3 below. Moreover this specimen has been sequenced and constitutes the BIN BOLD:ABW9270.

Generally speaking, the genus contains small to tiny species with dark chocolate brown forewings very often with a creamy spot at the end of cell, and pinkish red hindwings, sometimes bordered by black. The females display classical and not upturned hindwings. Male genitalia are symmetrical, with a long and thin uncus, evenly bent downwards. Aedeagus is short, straight and cylindrical with a single lobed vesica adorned with bunches of teeth.

Redescription of *Boenasa nigrosea* Walker, [1865]

BIN = BOLD: ABW9270

Material examined

DOMINICAN REPUBLIC

1 ♂, Pedemales, Piste de Los Arroyos à El Aguacate, PK 5.2, 11-VIII-2007, 1990 m, 18°18.269' N 71°43.496' W, J. Haxaire & O. Paquit *leg.* Dissected Gen. ML3878 (light blue manuscript label) and sequenced sample ID MILA 1794 (yellow printed label), BOLD Process ID ARCTD1281-19.

1 ♀, Independencia, Sierra de Baoruco National Park, Route Puerto Escondido à Pedemales, Km 41.5, 12-V-2004, 1620 m, B. Vincent *leg.* All in MLC.

Diagnosis. – A small species with almost black forewings with a narrow red subterminal band and pinkish-red hindwings thinly bordered by black.

Male (Fig. 2 on top)

FWL = 11 mm and WS = 23 mm. – *Head.* Antennae ciliate, black with the last third yellowish. Palpi black. Vertex yellow with reddish hairs. Patagia yellow, largely interspersed with reddish hairs. – *Thorax.* Thorax, including tegulae, black. – *Abdomen.* Abdomen upperside covered by bright red hairs, except portion of first abdominal tergum with gray-brown scales. Abdomen venter black in median area, with a few red scales on venter at posterior end. Legs blackish with the tarsi brown. – *Wings.* Forewings black, a tiny red dot hardly visible at the end of cell. A subterminal red streak roughly parallel to termen from below apex to above tornus. Hindwings plain pinkish red with a thin brownish black margin on costa and termen, nearly completely upturned with venter facing dorsally and vice versa. The tornus border with very long pinkish red hairs. Below similar to upperside, except the forewings lighter and the subterminal reddish streak hardly visible.

Genitalia male (Fig. 3)

Genitalia symmetrical. Uncus narrow and long, almost cylindrical, evenly bent downwards, the tip slightly pointed. Valvae very short, not reaching the base of uncus, slightly bent inwards, the extremity bifid. At the base of valvae a sharp tooth pointing inwardly. Juxta very slightly sclerotized. Presence of a narrow transtilla. Vinculum evenly rounded with a small saccus. Aedeagus cylindrical and straight with a conical vesica and three patches of cornuti: the first one near posterior edge of aedeagus with a line of six small cornuti, the second just before the middle of the vesica with 7–8 strong cornuti and the last one in the last third with 4–5 long and strong cornuti.

Female (Fig. 2 below)

(FWL = 12 mm and WS = 25 mm). Similar to male but slightly larger and without upturned hindwings. The subterminal red band on forewings is narrower. On hindwings the background color is darker and the black margin is wider, especially on costa. Below on forewings the background color is lighter, more brown and the red subterminal band is faintly visible. The fore tarsi are beige.

Early stages. – Unknown.

Distribution. – Presently known from high altitude localities in the Sierras in the Southern part of the Dominican Republic.

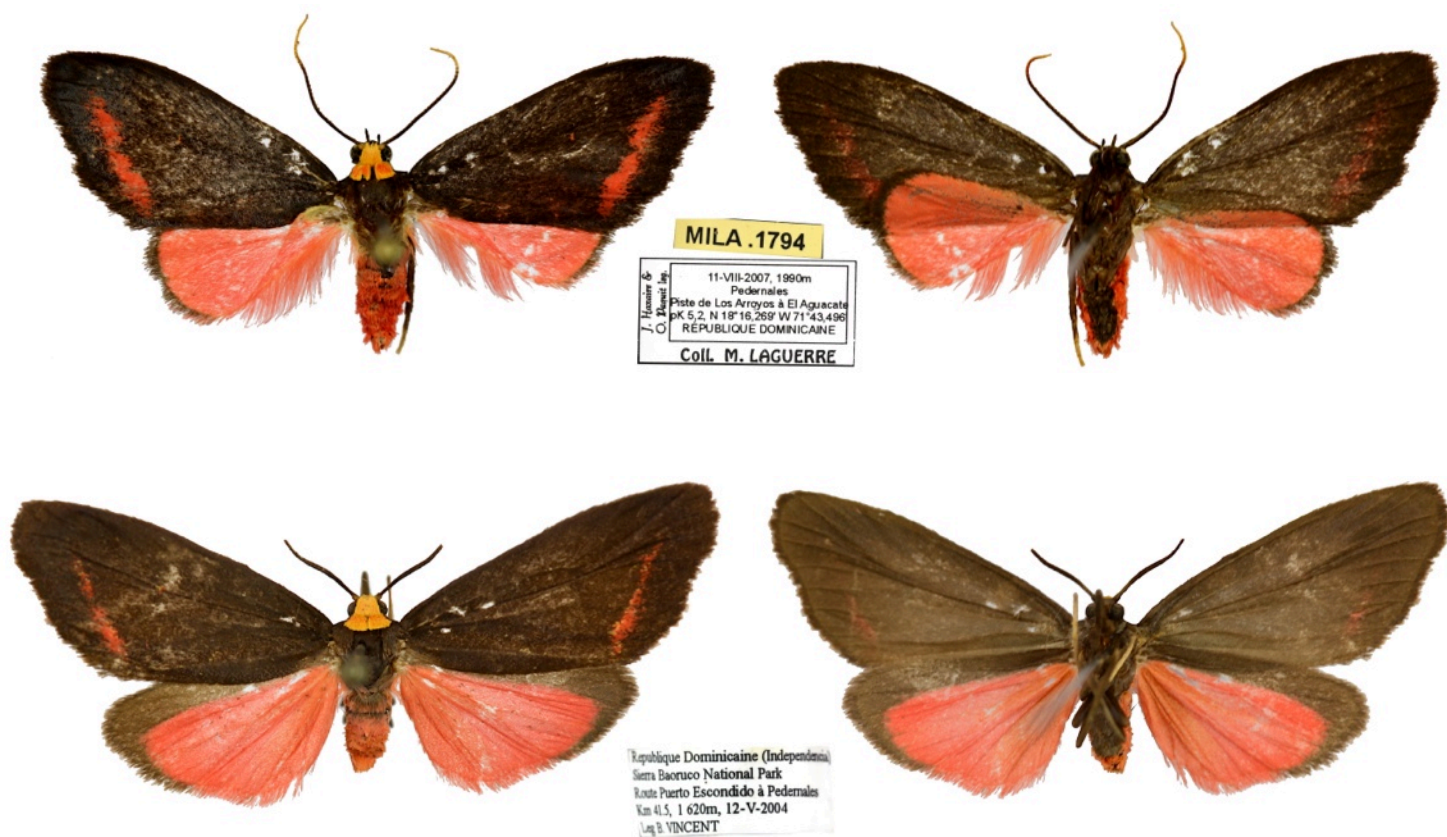


Fig. 2. A pair of *Boenasa nigrirosea* Walker, [1865]. Male on top, female below, upperside on left and underside on right. Labels not to scale.

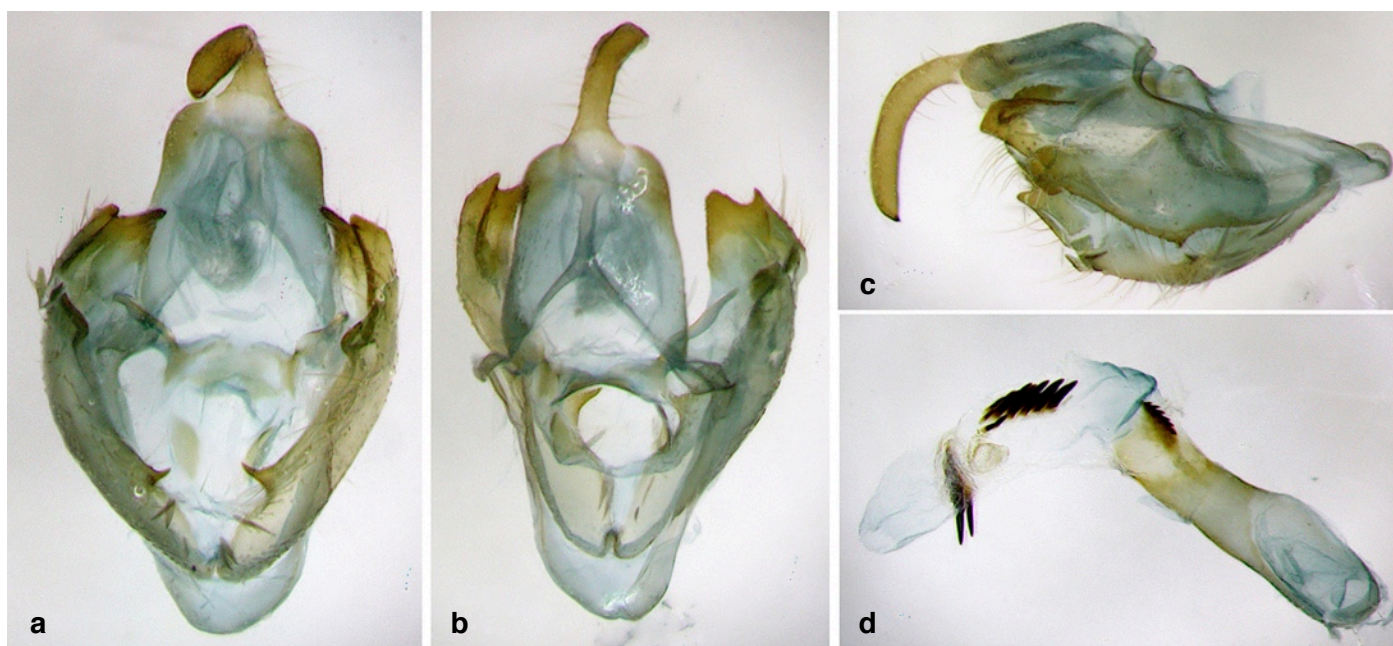


Fig. 3. Male genitalia of *Boenasa nigrirosea* Walker, [1865]. a. Ventral view. b. Dorsal view. c. Lateral view. d. Aedeagus with everted vesica.

Description of *Boenasa davidsoni* Laguerre sp. n.ZooBank: <https://zoobank.org/8AB308A8-CC3A-45B0-ADEC-0543CB0EC040>

Holotype, ♂, DOMINICAN REPUBLIC, Pedernales, La Abeja, 38 NNW Cabo Rojo, (18°09' N 71°38' W). 1160 m, 13-VII-1987, J.E. Rawlins & R.L. Davidson *leg.* Dissected Gen. ML3874 (light-blue manuscript label). In CMNH.

Paratypes, 4 ♂ & 3 ♀, DOMINICAN REPUBLIC, same data as holotype. In CMNH.

Diagnosis. – A small species with chocolate brown forewings with a pinkish basal streak. Hindwings unmarked and light pink. Head and collar pinkish-cream and strongly contrasting.

Male (Fig. 4 on top)

FWL = 7 mm and WS = 15 mm. – *Head.* Antennae thin and ciliate, light pink. Palpi black. Vertex pinkish beige. Patagia pinkish beige with some reddish hairs. – *Thorax.* Thorax including tegulae brownish black. – *Abdomen.* Abdomen

covered with orange red hairs, darker towards base. – *Wings.* Forewings chocolate brown with a pink streak from base to mid internal border. A thin blackish line on the termen margin. Hindwings plain pinkish red with long hairs on the anal border, nearly completely upturned with venter facing dorsally and vice versa. Below similar to upperside: forewings dark brownish with a large reddish patch on disk and hindwings plain pinkish red.

Genitalia male (Fig. 5)

Genitalia symmetrical. Uncus very long and narrow, with a pointed tip, evenly bent downwards. Valvae extending posteriorly slightly beyond base of uncus, ovoid with sharp denticulate extremity at cucullus pointing dorsally. Vinculum slightly concave, no saccus. Presence of a long subscaphium slightly sclerotized. Aedeagus short and cylindrical, thinly sclerotized, vesica conical very minutely spiculate.

Female (Fig. 4 below)

FWL = 9 mm and WS = 19 mm. Similar to male but larger and without upturned hindwings. Below on forewings the reddish patch is suffused with brownish scales.

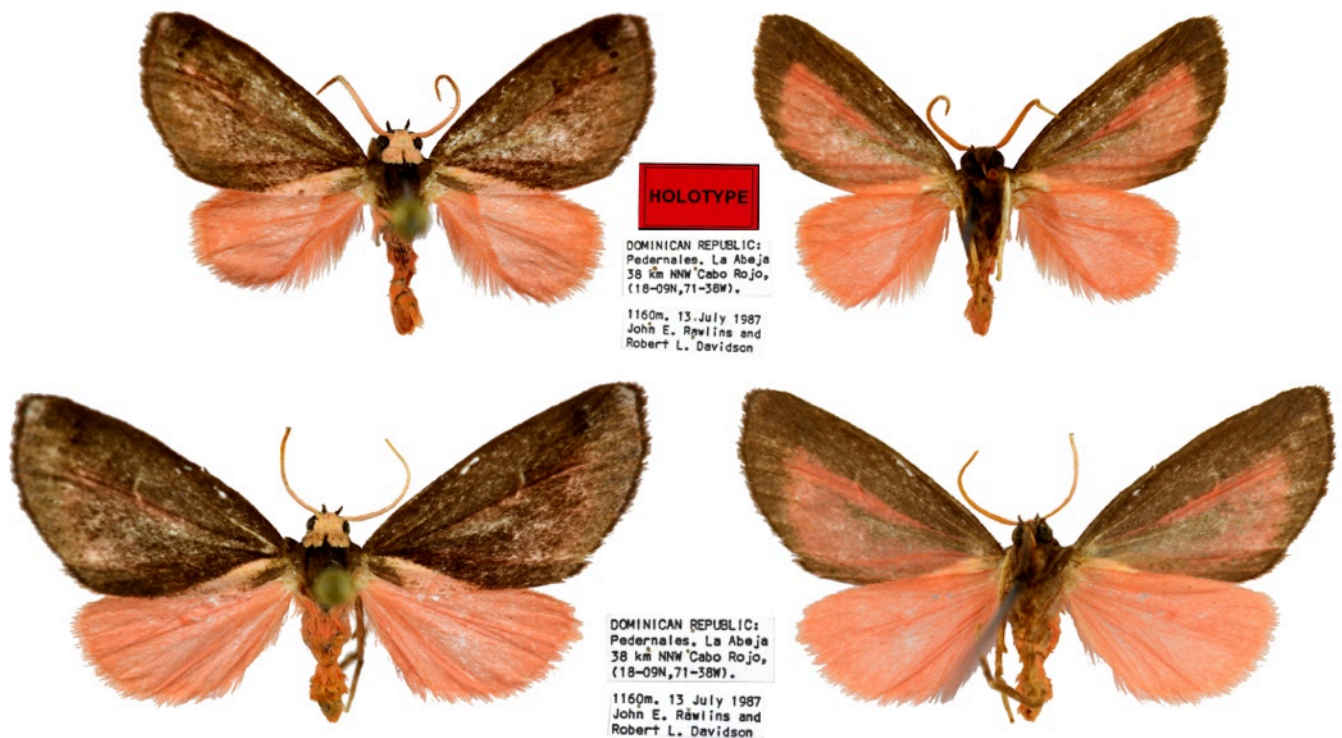


Fig. 4. A pair of *Boenasa davidsoni* sp. n. Male holotype on top, female paratype below, upperside on left and underside on right. Labels not to scale.

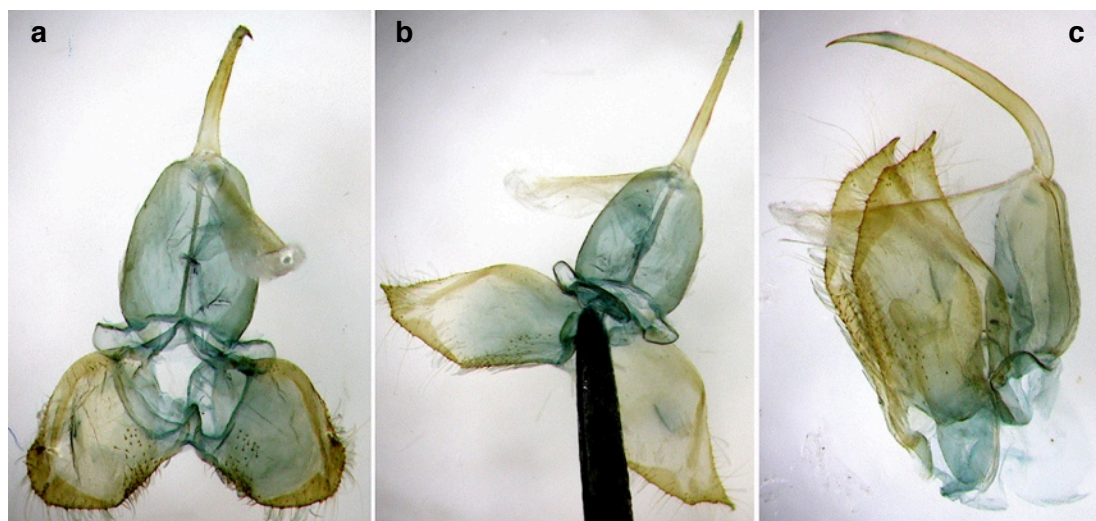


Fig. 5. Genitalia of the holotype of *Boenasa davidsoni* sp. n. a. Ventral view. b. Dorsal view. c. Lateral view with aedeagus in position.

Etymology. – Named in honor of Robert L. Davidson who collected a large part of the studied material and for his unlikely contributions to lepidopterology by spreading more moths than any other coleopterist.

Early stages. – Unknown.

Distribution. – Presently known from medium altitudes localities in the southern part of the Dominican Republic. The species is uncommon across its range.

Description of *Boenasa keegani* Laguerre **sp. n.**

ZooBank: <https://zoobank.org/C2FBDC0F-A938-4DEF-81FD-B6C963504DA3>

Holotype, ♂, DOMINICAN REPUBLIC, La Vega, 15 km N. Jarabacoa, 240 m, 21-VII-1987, J.E. Rawlins & R.L. Davidson *leg.* Dissected Gen. ML3875 (light-blue manuscript label). In CMNH.

Paratypes

DOMINICAN REPUBLIC

3 ♂ & 2 ♀, Baoruco. Sierra de Neiba, Los Guineos on upper Río

Colorado, 18°35' N 71°11' W, 630 m, 11.12-VIII-1990, J. Rawlins & S. Thompson *leg.* Mesic riparian woodland.

5 ♂ & 1 ♀, Azua, East side of crest, Sierra Martín García, 7 km WNW Barrero, 25.26-VII-1992, 860 m, 18°21' N 70°58'W, C. Young, R. Davidson, S. Thompson, J. Rawlins *leg.* 11 ♂, San Juan, 7 km N. Arroyo Cano, 1 km S. Los Frios, 1-IX-1995, 1120 m, 18°52' N 71°01' W, J. Rawlins, G. Onore, R. Davidson *leg.*

1 ♀, Elias Piña, North slope of Sierra de Neiba, 2 km SW Canada, 7 km WSW Hondo Valley, 29-VIII-1995, 980 m, 18°42' N 71°45' W.

1 ♂, La Vega, 4.1 km SW El Convento, 14-XI-2002, 1710 m, 18°50.37' N 70°42.48' W, W.A. Zanol, C.W. Young, C. Staresinic, J. Rawlins *leg.*

3 ♂ & 8 ♀, La Vega, 15 km N Jarabacoa, 21-VII-1987, 240 m, J. Rawlins, R. Davidson *leg.*

1 ♂ & 1 ♀, La Vega, 5 km SSE Jarabacoa, 25-VII-1987, 640 m, J. Rawlins *leg.*

6 ♀, La Vega, Bayacanes, 24-VII-1987, 120 m, J. Rawlins, R. Davidson *leg.* In CMNH.

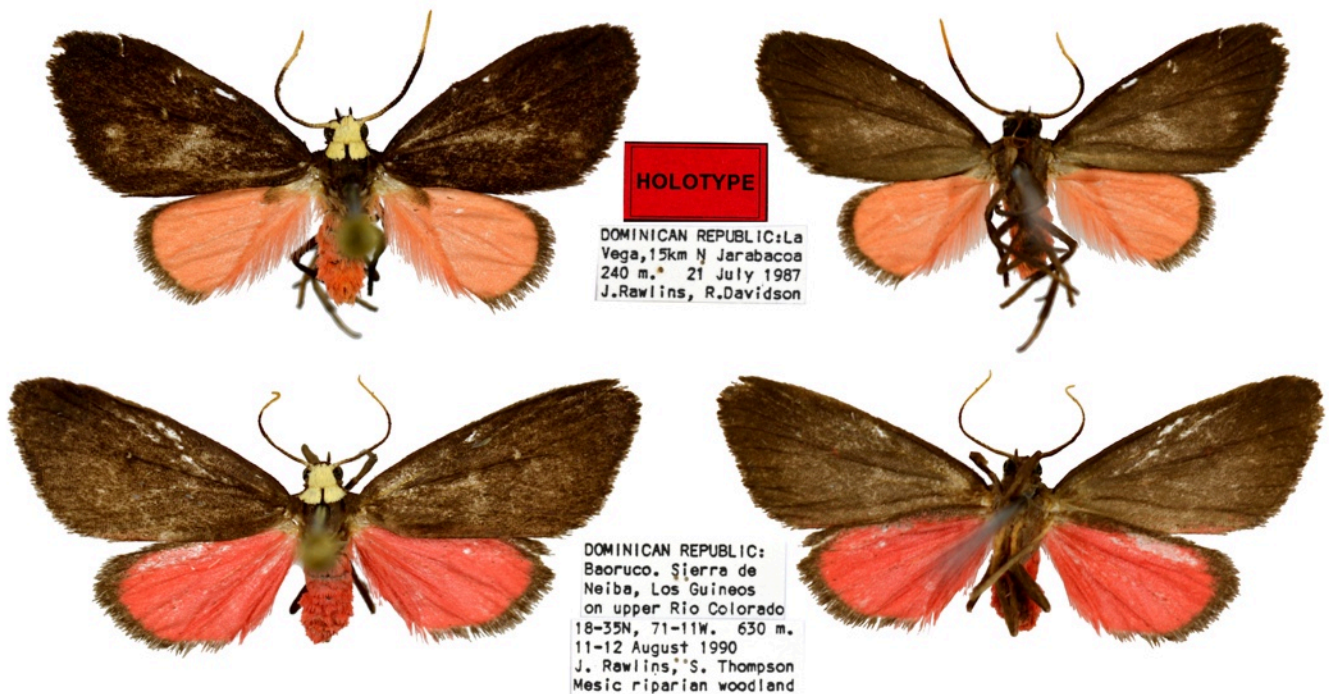


Fig. 6. A pair of *Boenasa keegani* sp. n. Male holotype on top, female paratype below, upperside on left and underside on right. Labels not to scale.

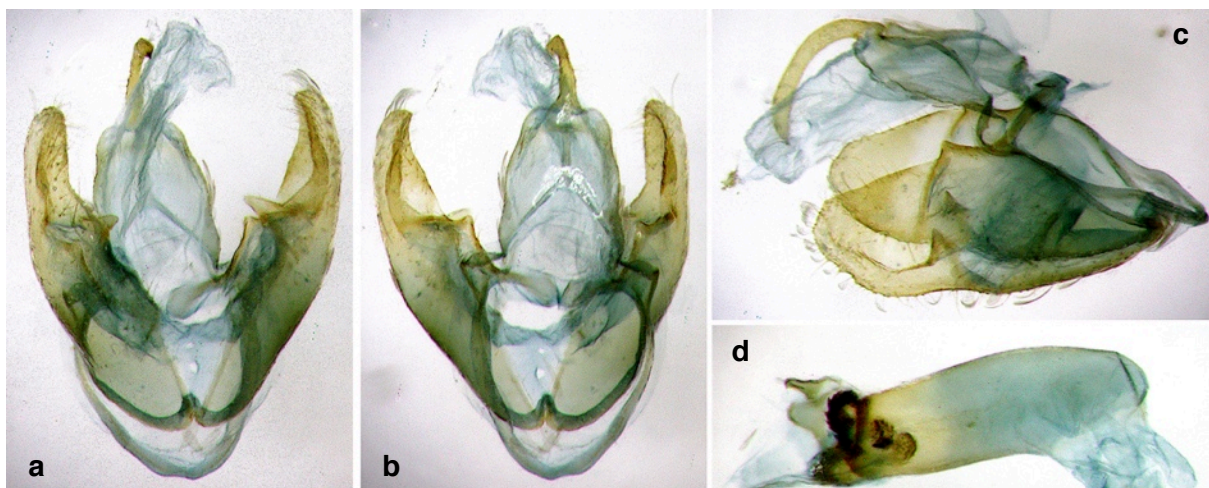


Fig. 7. Genitalia of the holotype of *Boenasa keegani* sp. n. a. Ventral view. b. Dorsal view. c. Lateral view. d. Aedeagus with vesica inside.

Diagnosis. – A small species with unmarked black forewings and hindwings bordered partially by thin black area, pinkish-orange in males or bright red in females. The head dorsum and collar are strongly contrasting creamy-white.

Male (Fig. 6)

FWL = 7 mm and WS = 15 mm. – *Head.* Antennae thin and ciliate, black with the first 5-6 antennomeres and terminal 3rd of antennae creamy yellow. Palpi black. Vertex creamy white. Patagia creamy white. – *Thorax.* Thorax and tegulae black, thorax venter brownish black. – *Abdomen.* Abdomen covered with orange red hairs. Legs dark brown. – *Wings.* Forewings plain black. Hindwings plain pinkish orange with long hairs on the anal border and a thin black at least partial margin on termen and costal margin, nearly completely upturned with venter facing dorsally and vice versa. Below similar to upperside.

Variations. In some of the specimens housed in Carnegie Museum there is a red mark near the tornus in the subterminal area, and in other specimens a light-brown subterminal band.

Genitalia male (Fig. 7).

Genitalia symmetrical. Uncus long and narrow, with a pointed tip, evenly bent downwards. Valvae short, extending posteriorly slightly beyond base of uncus. Valvae strong, narrowed in the distal half after a strong toothlike process of the distal sacculus pointing inward towards the central body axis of the moth. Presence of a membranous subsacculus. Vinculum evenly rounded with a small saccus. Aedeagus short and cylindrical. Vesica with a row of cornuti and two small patches of spicules.

Female (Fig. 6)

FWL = 8 mm and WS = 15 mm. Similar to male but larger and without upturned hindwings. The forewings background color is lighter, dark brown whereas the hindwings background color is darker, bright red, the thin black border present also on costa.

Etymology. – Named in honor of Kevin Keegan, Insect Collection Manager at Carnegie Museum of Natural History who provided the totality of the new material.

Early stages. – Unknown.

Distribution. – Presently known from low altitude localities in the northern part of the Dominican Republic. Common across its range.

The third species exhibits also the very special upturned hindwings but the size is noticeably larger, the color pattern is not chocolate brown and pink but plain dull brown and the male genitalia are no longer symmetrical but largely asymmetrical. For all these reasons we decided not to include it in the genus *Boenasa* and we describe a new genus below under the name *Neoboenasa* **gen. n.** to recall the specificity of the hindwings shape.

Description of the genus *Neoboenasa* **gen. n.**

ZooBank: <https://zoobank.org/C2FF8AC9-8AB3-482C-9289-0B0CA0326845>

Type species: *Neoboenasa rawlinsi* **sp. n.** by present designation.

Diagnosis. – Small and dull colored species, characterized in males by the nearly completely upturned hindwings. Except the hindwings, the sexual dimorphism is slight.

Description. – Larger species (FWL around 19-20 mm) with drab colors. The forewings are largely darker than the hindwings which exhibit in males a characteristic folding similar to males in the genus *Boenasa*. The genitalia are largely asymmetrical with the left valva exhibiting a strong, long and undulated costa almost reaching the tip of uncus. The two valvae are clearly curved inwards with pointed extremities. Aedeagus straight, cylindrical with a short caecum penis and a vesica bearing a terminal bunch of cornuti.

Description of *Neoboenasa rawlinsi* Laguerre **sp. n.**

ZooBank: <https://zoobank.org/52AB478F-2B03-4614-B163-FA8FA32B6326>

Holotype, ♂, DOMINICAN REPUBLIC, Independencia, Sierra de Neiba just south of crest, 5 km WNW Angel Feliz, 1780 m, 18°41' N 71°47' W, 13.15-X-1991, J.E. Rawlins, R.L. Davidson, C. Young & S. Thompson *leg.* Cloud forest. Dissected Gen. ML3870 (light-blue manuscript label). In CMNH.

Paratypes

DOMINICAN REPUBLIC

1 ♀, Independencia, Sierra de Neiba at crest, 5.5 km WNW N Angel Feliz, 1800 m, 18°41' N 71°47' W, 15-X-1991, R.L. Davidson, C. Young, S. Thompson & J.E. Rawlins *leg.* Cloud forest. In CMNH.

Diagnosis. – A large drab species, well characterized in male by the very specialized hindwings. The asymmetrical male genitalia are diagnostic.

Male (Fig. 8).

FWL = 18 mm and WS = 35 mm. – *Head.* Antennae thin and ciliate, brown in the first half then yellowish beige, below almost entirely yellowish beige. Palpi black. Vertex, tegulae, patagia and thorax, unmarked dark brown. – *Abdomen.* Abdomen upperside covered with brownish beige hairs. Abdomen below similar to upperside. Legs brown with lighter tarsi. – *Wings.* Forewings plain brown with a faint whitish laterally pointed chevron at the end of cell. Hindwings plain beige slightly suffused with brownish scales. Underside plain brownish mottled with beige scales, lighter on hindwings disk.

Genitalia male (Fig. 9)

Genitalia asymmetrical. Uncus long, narrow, covered with hairs and bent downwards in the last third. Valvae reaching almost the tip of uncus. Right valva with basal half large and terminated with an inward tooth, then strongly narrowed to a curved blade with pointed tip and long setae. Starting from base a sclerotized short cylindrical process with a blunt and spiculate extremity. Left valva in two parts. The upper part identical to the right one: base large with an inward tooth and then abruptly narrowed to a curved blade with pointed extremity. Below, the cylindrical process, slightly sinuate, very long, almost reaching the tip of uncus, with a blunt spiculate extremity. Juxta ovate with a deep median notch. Aedeagus cylindrical with a long caecum penis. Vesica short and perpendicular, slightly spiculate and ending with a bunch of 10-12 long and sclerotized spines.

Female (Fig. 8).

FWL = 19 mm and WS = 37 mm. Similar to male, but larger and with non-upturned hindwings. Forewing background color lighter, the small clear mark at the end of cell more open. Hindwing background color noticeably dusted with dark scales more densely toward termen.

Etymology. – After John Rawlins (1950–2021), former head curator of the Section of Invertebrate Zoology at the CMNH who collected a large part of the typical series, in honor of his very large contribution to our understanding the Dominican Republic Lepidoptera fauna.

Early stages. – Unknown.

Distribution. – Presently known only from the high altitude localities in the Sierra de Neiba in the Dominican Republic. The species is very rare across its range.

Except for the larger size (wingspan 37 mm against only 13 mm) this species is reminiscent of *Boenasa domingonis* Schaus, 1924 (see type in Fig. 10). Unfortunately the holotype (and only known specimen) is a female and it is not possible to see the specific hindwings shape which is present only in males. *Boenasa domingonis* may prove to belong in *Neoboenasa*, but until a male can be dissected to assess its genitalia symmetry it should remain in *Boenasa*.

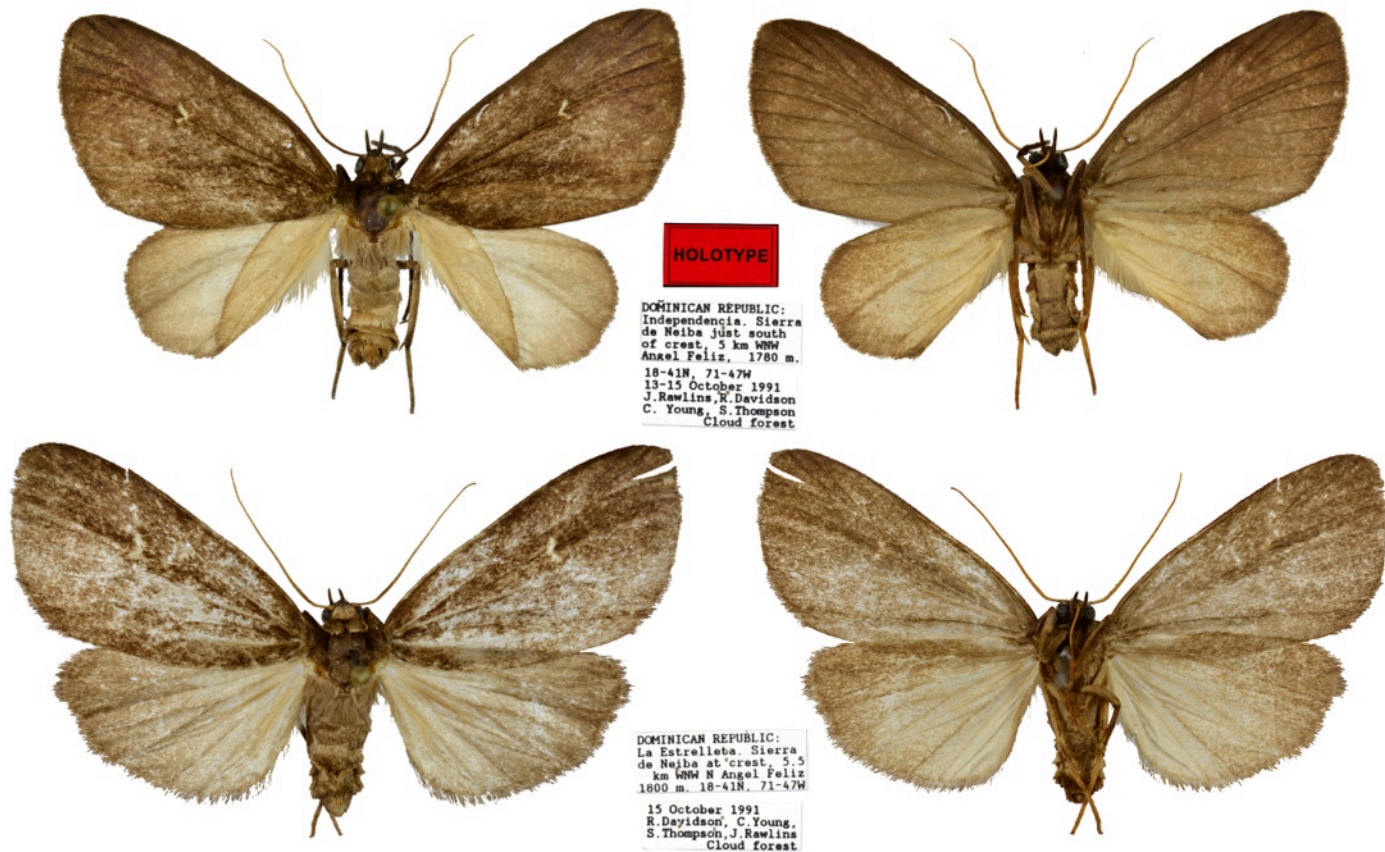


Fig. 8. A pair of *Neoboenasa rawlinsi* sp. n. Male holotype on top, female paratype below, upperside on left and underside on right. Labels not to scale.

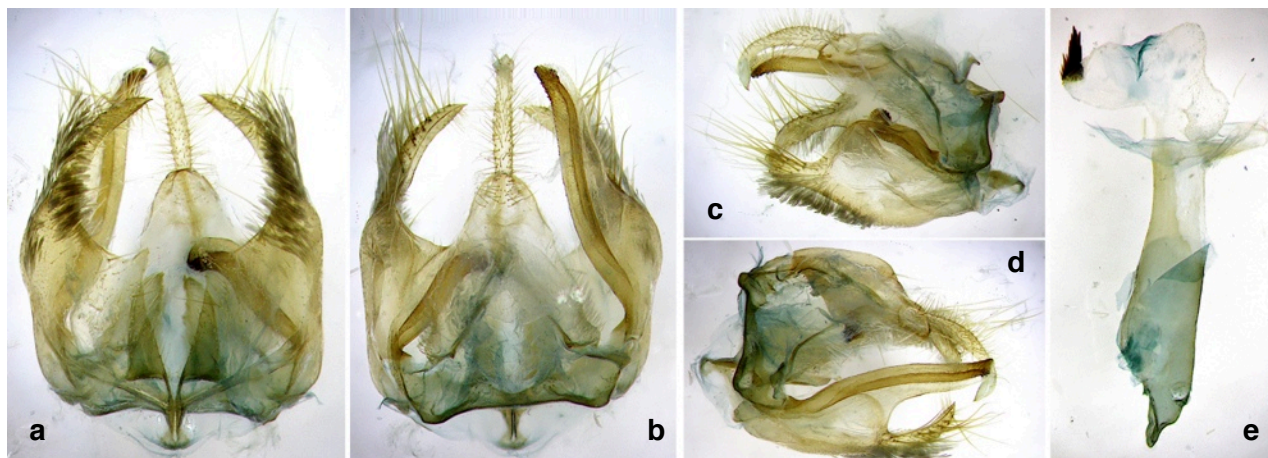


Fig. 9. Genitalia of male holotype of *Neoboenasa rawlinsi* sp. n. a. Ventral view. b. Dorsal view. c. Right lateral view. d. Left lateral view. e. Aedeagus with everted vesica.



Fig. 10. Holotype female of *Boenasa domingonis* Schaus, 1924 housed in USNM.

Acknowledgements

All the material studied in the present publication was found by Benoît Vincent in the very rich collections of the Carnegie Museum in Pittsburgh. The material was on loan for description thanks to Kevin Keegan, Insect Collection Manager, and will be returned to Carnegie Museum Collection after publication. I wish to thank Paul Hebert (CCDB, Guelph, Canada) for access to the BOLD project and providing very efficient, competent and quick DNA barcoding, and Rodolphe Rougerie (Biodiversity Institute of Ontario, University of Guelph, Ontario, Canada) for his help and his technical and scientific support in editing and compiling the hundreds of various sequences involved in the ARCT projects.

References

- Becker V.O., 2002. – The Noctuoidea (Lepidoptera) from Cuba described by Herrich-Schäffer and Gundlach in the Gundlach Collection, Havana. *Revista brasileira Zoologia*, 19 (2): 349-391.
- Decaëns T. & Rougerie R., 2008. – Descriptions of two new species of Hemileucinae (Lepidoptera: Saturniidae) from the region of Muzo in Colombia. Evidence from morphology and DNA barcodes. *Zootaxa*, 1944: 34-52. <http://www.mapress.com/zootaxa/2008/f/zt01944p052.pdf>
- Druce H., 1894. – Descriptions of some new Species of Heterocera from Central America. *Annals and Magazine of Natural History* (6), 13: 168-182.
- Felsenstein J., 1985. – Confidence limits on phylogenies: An approach using the bootstrap. *Evolution*, 39: 783-791.
- Field W.D., 1950. – Moths of the genus *Cincia* and three new and closely related genera. *Proceedings of the United States National Museum*, 100: 311-326.
- Field W.D., 1951. – Moths of the genus *Paramulona* Hampson. *Proceedings of the United States National Museum*, 101: 489-496.
- Field W.D., 1952. – Moths of the genus *Mulona* Walker and *Lomuna*, a new and closely related genus (Arctiidae: Lithosiinae). *Proceedings of the United States National Museum*, 102: 221-230.
- Gibeaux C., 1983. – Description de Nouvelles *Lithosiinae* de la Guyane Française (Lep., Arctiidae). *Annales de la Société Entomologique de France* (N.S.), 19(1): 69-78.
- Gibeaux C., 1988. – Nouveaux *Lithosiinae* da la Guyane Française (2^e note, 1^e partie) [Lepidoptera, Arctiidae]. *Revue française d'Entomologie* (N.S.), 10(3): 261-276.
- Gibeaux C., 1988. – Nouveaux *Lithosiinae* da la Guyane Française (2^e note, 2^e partie) [Lepidoptera, Arctiidae]. *Revue française d'Entomologie* (N.S.), 10(4): 313-332.
- Hadley A., 2009. – Combine ZM. <http://www.hadleyweb.pwp.blueyonder.co.uk>
- Hampson G. F., 1900. – *Catalogue of the Lepidoptera Phalaena in the British Museum* 2. London: Printed by order of the Trustees. 590 pp. <http://dx.doi.org/10.5962/bhl.title.21046>
- Hebert P.D.N., Cywinska A., Ball S.L. & de Waard J.R., 2003. – Biological identifications through DNA barcodes. *Proceedings of the Royal Society of London*, (B), 270: 313-321, 4 fig., 3 tabl.
- Herrich-Schäffer G.A.W., 1866. – Schmetterlinge aus Cuba. *Correspondenz-blatt des Zoologisch-mineralogischen Vereins in Regensburg*, 20: 130-136.
- Kimura M., 1980. – A simple method for estimating evolutionary rates of base substitutions through comparative studies of nucleotide sequences. *Journal of molecular Evolution*, 16: 111-120, 1 fig., 2 tabl.
- Knowlton C.B., 1967. – A revision of the species of *Cisthene* known to occur north of the Mexican border (Lepidoptera: Arctiidae: Lithosiinae). *Transactions of the American Entomological Society*, 93: 41-100.
- Kumar S., Stecher G. & Tamura K., 2016. – MEGA7: Molecular Evolutionary Genetics Analysis version 7.0 for Bigger Datasets. *Molecular Biology and Evolution*, 33 (7): 1870-1874.
- Laguerre M., 2019. – Description of six new species of Lithosiini for the Neotropical fauna (Lepidoptera Erebidae Arctiinae Lithosiini). *Antenor*, 6 (2): 123-133.
- Ratnasingham S. & Hebert P.D.N., 2007. – BOLD: the Barcode of Life Data System (<http://www.barcodinglife.org>). *Molecular Ecology Notes*, 7(3): 355-364. <https://doi.org/10.1111/j.1471-8286.2007.01678.x>.
- Ratnasingham S. & Hebert P.D.N., 2013. – A DNA-Based Registry for All Animal Species: The Barcode Index Number (BIN) System. *PlosOne*, 8 (8): e66213. DOI:10.1371/journal.pone.0066213.
- Schaus W., 1924. – New species of moths in the United States National Museum. *Proceedings of the United States National Museum*, 65: 1-74.
- Tamura K., Stecher G. & Kumar S., 2021. – MEGA11: Molecular Evolutionary Genetics Analysis version 11. *Molecular Biology and Evolution*, 38: 3022-3027.
- Vaglia T., Haxaire J., Kitching I.J., Meusnier I. & Rougerie R., 2008. – Morphology and DNA barcoding reveal three cryptic species within the *Xylophanes neoptolemus* and *loelia* species-groups (Lepidoptera: Sphingidae). *Zootaxa*, 1923: 18-36. <http://www.mapress.com/zootaxa/2008/f/zt01923p036.pdf>
- Walker F., 1854. – *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum*, 2: 279-581. London. <http://dx.doi.org/10.5962/bhl.title.58221>
- Walker F., [1865]. – *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum* 31: 1-322. London. <http://dx.doi.org/10.5962/bhl.title.58221>
- Walker F., 1866. – *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum*, 35: 1535-2040. London.
- Zahiri R., Lafontaine J.D., Schmidt B.C., de Waard J.R., Zakharov E.V. & Hebert P.D.N., 2014. – A transcontinental challenge – A test of DNA barcode performance for 1,541 species of Canadian Noctuoidea (Lepidoptera). *PlosOne*, 9 (3): e92797.

Résumé

Laguerre M., 2024. – Description de trois nouvelles espèces et un nouveau genre de Lithosiini pour la faune de la République Dominicaine (Lepidoptera: Erebiidae: Arctiinae: Lithosiini). *Faunitaxys*, 12(37): 1 – 9.

Trois nouvelles espèces de Lithosiini sont décrites pour la faune de la République Dominicaine, deux dans le genre déjà décrit *Boenasa* Walker, [1865] : *Boenasa benedicti* n. sp. de Pedernales et *Boenasa keegani* n. sp. de La Vega et la troisième espèce est décrite dans un nouveau genre *Neoboenasa* n. gen. Cette dernière espèce est dédiée à John Rawlins : *Neoboenasa rawlinsi* n. sp. et semble être un rare endémique des hautes altitudes dans la Sierra de Neiba. A cette occasion, le générotype du genre *Boenasa*, *Boenasa nigrirosea* Walker, [1865] est complètement redécrit.

Mots-clés. – Arctiinae, Lithosiini, *Boenasa*, *Neoboenasa*, COI, taxonomie, systématique, description, nouvelles espèces, nouveau genre, Néotropical.

Derniers articles publiés

Opitz W., 2024. – Systematics of the checkered beetle genus *Teneromimus* Gahan (Coleoptera: Cleroidea: Cleridae: Orthopleurinae). *Faunitaxys*, 12(28): 1 – 16. [https://doi.org/10.57800/faunitaxys-12\(28\)](https://doi.org/10.57800/faunitaxys-12(28))

Háva J., 2024. – Descriptions of ten new *Trogoderma* Dejean, 1821 species from Australia (Coleoptera: Dermestidae: Megatominae). *Faunitaxys*, 12(29): 1 – 7. [https://doi.org/10.57800/faunitaxys-12\(29\)](https://doi.org/10.57800/faunitaxys-12(29))

Geshev G. A. (Qiao-Zhi Yang), 2024. – A peculiar new genus and species of rhinoceros beetle, *Ceratohyphus luzonicus*, from the Philippines (Coleoptera: Scarabaeidae: Dynastinae). *Faunitaxys*, 12(30): 1 – 10. [https://doi.org/10.57800/faunitaxys-12\(30\)](https://doi.org/10.57800/faunitaxys-12(30))

Gouverneur X., 2024. – Descriptions de deux nouvelles espèces de Cerambycidae (Coleoptera) du Laos. *Faunitaxys*, 12(31): 1 – 6. [https://doi.org/10.57800/faunitaxys-12\(31\)](https://doi.org/10.57800/faunitaxys-12(31))

Gouverneur X., 2024. – Description d'une nouvelle espèce du genre *Oculohammus* Breuning & de Jong du Vietnam (Coleoptera, Cerambycidae). *Faunitaxys*, 12(32): 1 – 4. [https://doi.org/10.57800/faunitaxys-12\(32\)](https://doi.org/10.57800/faunitaxys-12(32))

Porion T. & Audibert C., 2024. – Description d'une nouvelle espèce du genre *Eupholus* Boisduval, 1835 de Papouasie-Nouvelle-Guinée (Coleoptera, Curculionidae, Entiminae). *Faunitaxys*, 12(33): 1 – 4. [https://doi.org/10.57800/faunitaxys-12\(33\)](https://doi.org/10.57800/faunitaxys-12(33))

Vives E., 2024. – Cerambycidos nuevos o interesantes de Vietnam (Coleoptera, Cerambycidae) (Pars 11). *Faunitaxys*, 12(34): 1 – 4. [https://doi.org/10.57800/faunitaxys-12\(34\)](https://doi.org/10.57800/faunitaxys-12(34))

Keith D., Pham P.V. & Sabatinelli G., 2024. – Description d'une remarquable nouvelle espèce du genre *Eotrichia* Medvedev, 1951 (Coleoptera: Scarabaeidae, Melolonthinae, Rhizotrogini). *Faunitaxys*, 12(35): 1 – 4. [https://doi.org/10.57800/faunitaxys-12\(35\)](https://doi.org/10.57800/faunitaxys-12(35))

Sabatinelli G. & Pham P.V., 2024. – A new species of *Didrepanephorus* Wood-Mason, 1878 from Vietnam with notes on the genus (Coleoptera: Scarabaeidae Rutelinae). *Faunitaxys*, 12(36): 1 – 4. [https://doi.org/10.57800/faunitaxys-12\(36\)](https://doi.org/10.57800/faunitaxys-12(36))

Faunitaxys est échangée avec les revues suivantes (« print versions ») :

- Annali del Museo Civico di Storia Naturale G. Doria (Italie)
- Boletín de la Asociación española de Entomología (Espagne)
- Boletín de la Sociedad Andaluza de Entomología (Espagne)
- Bollettino del Museo di Storia Naturale di Venezia (Italie)
- Bulletin de la Société linnéenne de Lyon (France)
- Bulletin of Insectology (Italie)
- Heteropterus Rev. Entomol. (Espagne)
- Israel Journal of Entomology (Israël)
- Klapalekiana (République Tchèque)
- Koleopterologische Rundschau (Allemagne)
- Memorie del Museo Civico di Storia Naturale di Verona (Italie)
- Nova Supplementa Entomologica (Allemagne)
- Proceedings of the Entomological Society of Washington (USA)
- Revue suisse de Zoologie (Suisse)
- Spixiana (Allemagne)
- Stuttgarter Beiträge zur Naturkunde A, Biologie (Allemagne)
- Zoosystematica Rossica (Russie)

Faunitaxys

Volume 12, Numéro 37, Juillet 2024

SOMMAIRE

Description de trois nouvelles espèces et un nouveau genre de Lithosiini pour la faune de la République Dominicaine (Lepidoptera: Erebiidae: Arctiinae: Lithosiini).

Michel Laguerre 1 – 9

CONTENTS

Description of three new species and a new genus of Lithosiini from Dominican Republic (Lepidoptera: Erebiidae: Arctiinae: Lithosiini).

Michel Laguerre 1 – 9



Illustration de la couverture :

Cyclura ricordi, on Cabritos Island, Dominican Republic.

Crédits :

Michel Laguerre : Fig. 1-10.

Max Bosio ([Creative Commons Attribution 2.0 Generic](https://creativecommons.org/licenses/by/2.0/) license): Couverture.