

# A review of the Antillean genus *Murgisca* Walker, 1863 with descriptions of four new species (Lepidoptera: Pyralidae, Chrysauginae)

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## Abstract

Six species of the genus *Murgisca* Walker, 1863 are recognized, four of them new: *Murgisca antillana* Becker, sp. n., from Jamaica and Dominican Republic, and *M. cubana* Becker, sp. n., *M. sympatrica* Becker, sp. n. and *M. taina* Becker, sp. n., from Cuba. The genus is restricted to the Antilles, with *M. cervinalis* Walker, 1863 previously described from the Dominican Republic and *M. subductella* (Möschler, 1890) from Puerto Rico. Two species are not congeneric and transferred to *Lepidomys* Guenée, 1852 as *L. diplommatialis* (Dyar, 1914), comb. n., from Panama and *L. pyrophoralis* (Hampson, 1916), comb. n., from Peru.

KEY WORDS: Lepidoptera, Pyralidae, Chrysauginae, *Murgisca*, new species, *Lepidomys*, new combinations, taxonomy, Antilles.

## Una revisión del género antillano *Murgisca* Walker, 1863 con descripción de cuatro nuevas especies (Lepidoptera: Pyralidae, Chrysauginae)

## Resumen

Se reconocen seis especies del género *Murgisca* Walker, 1863, cuatro de ellas nuevas: *Murgisca antillana* Becker, sp. n., de Jamaica y República Dominicana y *M. cubana* Becker, sp. n., *M. sympatrica* Becker, sp. n. y *M. taina* Becker, sp. n., de Cuba. El género está restringido a las Antillas, con *M. cervinalis* Walker, 1863 previamente descrita en la República Dominicana y *M. subductella* (Möschler, 1890) en Puerto Rico. Las dos especies no son congéneres y transferidas a *Lepidomys* Guenée, 1852 como *L. diplommatialis* (Dyar, 1914), comb. n., de Panamá y *L. pyrophoralis* (Hampson, 1916), comb. n., de Perú.

PALABRAS CLAVE: Lepidoptera, Pyralidae, Chrysauginae, *Murgisca*, nuevas especies, *Lepidomys*, combinaciones nuevas, taxonomía, Antillas.

## Introduction

*Murgisca* Walker, 1863 was established as a monotypic genus. Currently it includes four species: two from the Antilles and two from Panama and Peru respectively (SOLIS *et al.*, 1995). Examination of the material in the author's collection (VOB) and the type material, revealed that six species occur in the Antillean islands, four of them new, described herein. The two species from the American mainland are not congeneric with *Murgisca cervinalis* Walker, 1863 the type of the genus, and are transferred to *Lepidomys* Guenée, 1852: *L. diplommatialis* (Dyar, 1914), **comb. n.**, from Panama, and *L. pyrophoralis* (Hampson, 1916), **comb. n.**, from Peru (WOLCOTT, 1951).

## Material and methods

This review is based on 47 specimens (16 g. s.) in VOB, 10 in the USNM, and two in the

CMNH. The holotypes of the new species, except for that of *M. antillana*, deposited in the CMNH, are provisionally deposited in VOB, and will be transferred, along with the rest of the collection, to a Brazilian Institution in the future. Some paratypes will be deposited in the USNM. Genitalia were prepared following the methods described by ROBINSON (1976). Terms for morphological characters follow HODGES (1971) and KRISTENSEN (2003).

### Abbreviations

CMNH	=	Carnegie Museum of Natural History, Pittsburgh, USA
FW	=	Forewing
g. s.	=	genitalia slide
HW	=	Hind wings
MNHU	=	Museum für Naturkunde Humboldt Universität, Berlin, Germany
NHMUK	=	Natural History Museum, London, United Kingdom
TS	=	Type-species
USNM	=	United States National Museum, Washington, USA
VOB	=	Vitor O. Becker collection, Serra Bonita Reserve, Camacan, Bahia, Brazil

### Results and discussion

*Murgisca* Walker, 1863

*Murgisca* Walker, 1863, *List specimens lepid. Insects Colln Br. Mus.*, **27**: 11

TS: *Murgisca cervinalis* Walker, 1863. *List specimens lepid. Insects Colln Br. Mus.*, **27**: 12, by monotypy.

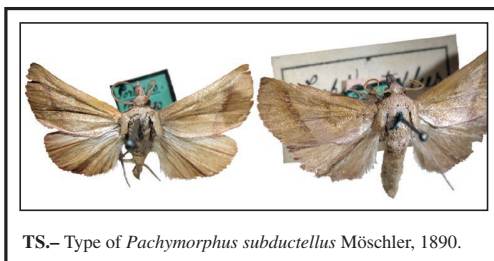
= *Pachymorphus* Möschler, 1890. *Abh. senckenb. naturforsch. Ges.*, **16**: 324

TS: *Pachymorphus subductellus* Möschler, 1890. *Abh. senckenb. naturforsch. Ges.*, **16**: 324, by monotypy. Junior homonym of *Pachymorphus* Chaudoir, 1838. *Bull. Soc. imp. Nat. Moscou*, **1838**: 12 (Coleoptera). [Synonymized by FLETCHER & NYE, 1984: 109].

Diagnosis: Medium to large (24-50 mm wingspan), reddish brown. Labial palpus porrect, downcurved, 2X as long as eye diameter in males, 3-4X in females; antenna, in males filiform or pectinate, filiform in females. FW with costa nearly straight, apex acute, termen round; antemedial and postmedial bands straight or slightly curved, Cu1 before angle of cell, M2-M3 stalked from lower angle, M1 from near upper angle. Male genitalia with uncus broad, gnathos as long as, or longer than uncus; valva long, costa nearly straight, saccus 1/3 to 1/2 length of valva; vinculum round or projected as thin, sharp pointed saccus; phallus nearly straight or bent ventrad, expanded apically. Female genitalia with papillae anales broad; antrum wide, sclerotized; ductus bursae thin, shorter than corpus diameter; corpus bursae oblong; signum absent.

Host plants: Two of the species: *M. subductella* (Möschler) and *M. sympatricus* Becker, sp. n., were reared from larvae boring the shoots of *Tabebuia* spp. (Bignoniaceae), in Puerto Rico and Cuba, respectively.

Remarks: *Pachymorphus* was established in the Crambidae and transferred to Chrysauginae by BŁESZYŃSKI (1966: 492). HAMPSON (1897: 635) regarded *Murgisca* as derived from *Bonchis* Lederer, whose larvae are pod-borers of the same host plants (MARTORELL, [1976]). They are easily distinguished by the shape of FW dorsum: expanded at middle in *Bonchis*, whereas straight in *Murgisca*. Their male genitalia are also distinct: *Bonchis* has a short, shallow, broad uncus, whereas in *Murgisca* it is expanded as projections, constricted at base.



TS.— Type of *Pachymorphus subductellus* Möschler, 1890.

## Key do species (males):

1. Antennae with pectination long, at least twice as long as flagellum diameter.....2  
Antennae filiform .....3
2. Dominican Republic.....*cervinalis*  
Cuba.....*cubana*
3. Area distad of postmedial band whitish.....*antillana*  
Area distad of postmedial band concolor, basad whitish or concolor.....4
4. Lesser Antilles .....*subductella*  
Cuba .....5
5. FW length >15 mm .....*taina*  
FW length <11 mm.....*sympatrica*

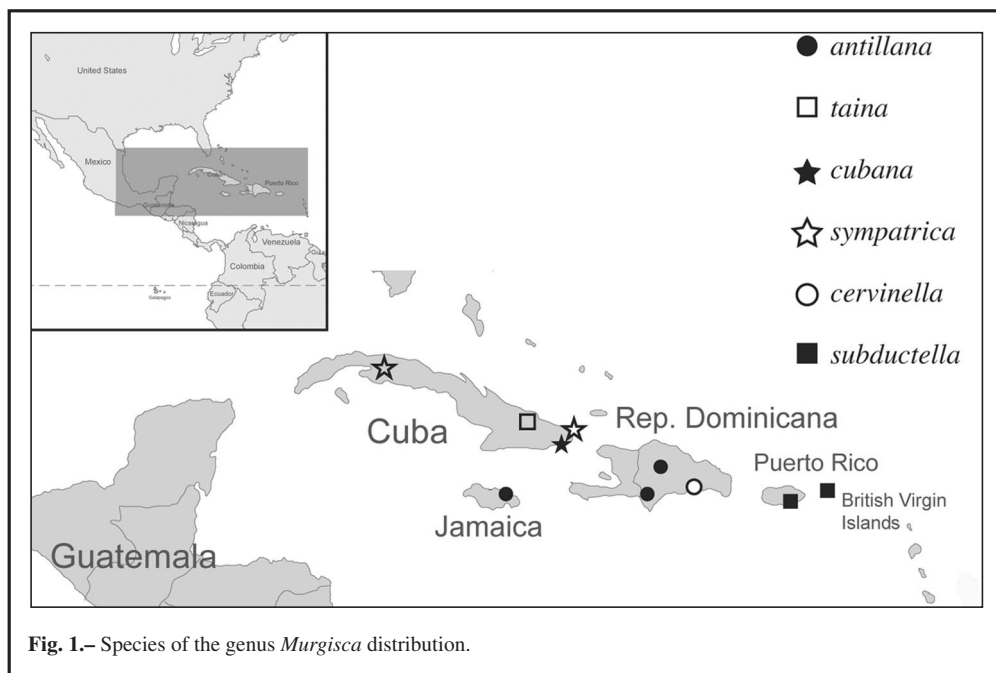


Fig. 1.– Species of the genus *Murgisca* distribution.

*Murgisca cervinalis* Walker, 1863 (Figs 1, 11, 15-17)

*Murgisca cervinalis* Walker, 1863. *List Specimens lepid. insects Colln Br. Mus.*, 27: 12

Holotype ♀, DOMINICAN REPUBLIC, “St. Domingo” (Tweedy) (NHMUK) [examined].

Material examined (Types, 1 male, 1 g. s.: 5689): DOMINICAN REPUBLIC, 1 ♂, Independencia, 4 km S Los Pinos, Loma de Vientos, 18°35'N - 71°46'W, 455 m, semideciduous forest with pastures, 23-VII-1992 (Davidson, Rawlins, Thomson & Young) (VOB).

Diagnosis: Male (Fig. 11) FW length 13 mm (29 mm wingspan); female FW length 15-17 mm (wingspan 32-36 mm). Pale reddish brown; palpi porrect, downcurved; antennae pectination long, at

least twice as long as flagellum diameter; HW pinkish. Tympanal case (Fig. 15) closed medially, as typical to Pyralidae. Male genitalia (Figs 16-17): Uncus large, almost square, slightly constricted basad, slightly round distad; gnathos thin, longer than uncus, apical end curved. Valva almost as long as uncus, distal half tapering distad, slightly constricted beyond sacculus; costa slightly curved; sacculus 1/3 as long as valva, slightly expanded ventrally; juxta broad U-shaped, arms short, tapering distad to a sharp tip; vinculum triangular; phallus (Fig. 17) long, thin, almost straight.

Remarks: Walker had two female specimens, from the same locality: the type, and a second, described apart as a "Var". Males share the long pectination with *M. cubana*, described below (see *M. cubana* for differences), however the male genitalia is more similar to those of *M. taina*, a species belonging to the group with filiform antenna.

***Murgisca cubana* Becker, sp. n. (Figs 1, 8, 10, 24-25)**

Holotype ♂, CUBA: Guantanamo, Imias, 10 m, 17-VII-1990 (Becker 72764) (VOB). Paratypes (6 specimens, 3 g. s.: 5246, 5677, 5678), 4 ♂♂, 2 ♀♀, same data as holotype (VOB).

Diagnosis: Small, pale reddish brown. Antennae pectination long, at least twice as long as flagellum diameter; FW costa almost straight, apex acute, postmedial band straight, thin, dark fuscous. HW pale reddish brown, slightly darker towards margins.

Description: Male (Fig. 8) FW length 9-11 mm (21-26 mm wingspan), female (Fig. 10) FW length 14-16 mm (32-36 mm wingspan). Pale reddish brown. FW with costa straight, apex acute; antemedial band straight, ill-defined, postmedial straight, thin, dark fuscous, area distad slightly darker. HW pale reddish brown, gradually reddish brown towards margins. Female with pattern less contrasting.

Male genitalia (Figs 24-25): Uncus short, almost as wide as long, apex strongly indented; gnathos longer than uncus. Valva longer than uncus, broad, distal half tapering distad, not constricted beyond sacculus, costa slightly curved; sacculus half as long as valva, slightly round ventrally; juxta U-shaped, arms long; vinculum round; phallus (Fig. 25) thin, long, curved ventrad, slightly expanded at apex.

Female genitalia: Papillae anales triangular, ostium narrow, antrum as long as ductus bursae, tapering basad; ductus bursae short, thin; corpus bursae oblong.

Distribution (Fig. 1): Cuba, eastern side, in dry forest; known from the type locality only.

Remarks: Males share the long pectination with *M. cervinalis*, described above however the male genitalia is more similar to those of *M. sympatricus*. Similar in size and sympatric with *M. sympatricus*, but *M. sympatricus* has filiform antenna and the antemedial band curved and the postmedial sinuose.

Etymology: In reference to the type locality.

***Murgisca antillana* Becker, sp. n. (Figs 1-3, 22-23)**

Holotype ♂, DOMINICAN REPUBLIC, San Juan, 7 km N Arroyo Cano, 1 km S Los Fríos, pine forest 12°52'N - 71°01'W, 120 m, 1-IX-1995 (Rawlins, Onore & Davidson) (CMNH). Paratypes: DOMINICAN REPUBLIC, Pedernales, 30 km N Cabo Rojo, 18°07'N - 71°39'W, 1070 m, 1 ♂, 23-24-VIII-1990, g. s. 5673 (Young, Rawlins & Thomson) (VOB). JAMAICA, Gordon Town, Mt. Mansfield House, 1 ♂, 12-VII-1936, g. s. 5672 (Avinoff & Schumatoft) (VOB).

Diagnosis: Large, dark reddish brown. FW apex sharp with postmedial band sharp, curved, dark gray, paler on distal side; darker along termen.

Description: Male (Figs 2-3) FW length 14-16 mm (32-36 mm wingspan). Dark reddish brown. Labial palpus, legs, thorax and abdomen ventrally dark brown. Frons with thin, white line laterally. Basal half of antenna with white line dorsally. FW with costa straight, apex acute, postmedial band thin, sharp, bordered pale brown outside; dark brown along termen. HW pale reddish brown, fringes dark brown. Female unknown.

Male genitalia (Figs 22-23): Uncus wide, slightly constricted at middle, apex shallowly concave; gnathos almost as long as uncus. Valva narrow, as long as uncus, bent dorsad, constricted beyond

sacculus; costa strongly sclerotized; sacculus nearly half as long as valva; juxta U-shaped; saccus long, thin, sharply pointed; phallus (Fig. 23) long, almost straight, expanded distad.

Distribution (Fig. 1): Greater Antilles: Dominican Republic, Jamaica.

Remarks: Similar to *M. taina* in color and size but easily distinguished by the position of the whitish shade along the post medial band: basad of this band in *M. taina*, distad in *M. antillana*. Also allopatric: *M. antillana* is known from the Dominican Republic and Jamaica whereas *M. taina* is restricted to Cuba.

Etymology: In reference to the Antilles.

***Murgisca taina* Becker, sp. n.** (Figs 1, 5-7, 18-19, 28)

Holotype ♂, CUBA, Holguin, Pinares de Mayari, 640 m, VII-1990 (Becker 71863) (VOB). Paratypes (19 specimens, 3 g. s.: 5674-5676): 17 ♂♂, 2 ♀♀, same data as holotype (VOB, USNM).

Diagnosis: Large, purple-brown. Antennae filiform. FW with area basad of postmedial band paler.

Description: Male (Figs 5-7) FW length 15-17 mm (34-40 mm wingspan), female (Fig. 6) FW length 20-22 mm (45-50 mm wingspan). Labial palpus, body and FW underside, dark brown. Frons, vertex and FW area basad of postmedial band pale reddish brown; antemedial band indistinct, postmedial thin, sharp, dark gray. HW with basal half pale reddish brown, darker towards margins. Female FW with pattern less contrasting.

Male genitalia (Figs 18-19): Uncus very wide, constricted at base, longer than valva; gnathos shorter than uncus. Valva broad, tapering towards round apex, constricted beyond sacculus, costa nearly straight, sacculus 1/3 as long as valva, round ventrally; basal half of juxta rectangular, distal half U-shaped; vinculum round; phallus (Fig. 19) slightly bent, expanded distad.

Female genitalia (Fig. 29): Papillae anales broad; ostium wide, antrum cup-shaped, sclerotized; ductus bursae narrow, short; corpus bursae oblong.

Distribution (Fig. 1): Cuba, at the type locality only.

Remarks: This is the largest species of the genus, and with the widest uncus. Similar to *M. antillana* in color and size but easily distinguished by the position of the paler area along the post medial band: basad of this band in *M. taina*, distad in *M. antillana*. Also allopatric: *M. taina* is restricted to Cuba, whereas *M. antillana* is known from the Dominican Republic and Jamaica.

Etymology: In reference to the Taino people, the original inhabitants of the Antilles.

*Murgisca subductella* (Möschler, 1890) (Figs 1, 12-14, 20-21, 28)

*Pachymorphus subductellus* Möschler, 1890. *Abh. senckenb. naturforsch. Ges.*, **16**: 324

Holotype ♂, PUERTO RICO, [No further data] (MNHU) [image examined].

Material examined (27 specimens, 5 g. s.: 5245, 5668-5671): PUERTO RICO, Maricao, 770 m, 3 ♂♂, 12-VIII-1987, g. s. 5669 (Becker 67546) (VOB); Guanica, 170 m, 1 ♂, 29-VIII-1987, g. s. 5245 (Becker 67814) (VOB); Patillas, 590 m, 5 ♂♂, VIII-1987, g. s. 5668 (Becker, 68120) (VOB). BRITISH VIRGIN ISLANDS, Guana, 12 ♂♂, 6 ♀♀, 9-23-VII-1987, X-1989, 24-X-5-XI-1990, g. s. 5670, 5671 (Becker & Miller 66703, S. Miller & T. Kuklenski, Becker 70864) (VOB, USNM).

Diagnosis: Male (Figs 12-13) FW length 11-13 mm (25-30 mm wingspan), female (Fig. 14) FW length 13-16 mm (30-36 mm wingspan). Reddish brown. Antennae filiform. FW with antemedial and postmedial bands slightly curved, dark gray, distinct, or absent. HW gradually darker towards margins. Male genitalia (Figs 20-21): uncus wide, slightly constricted basally, apex concave; gnathos shorter than uncus, apex curved, sharp pointed. Valva broad, long, tapering distally, constricted beyond sacculus, apex round, costa straight, sacculus 1/3 length of valva; juxta half-moon shape; saccus an acute triangle; phallus (Fig. 21) long, sinuose, flattened dorso-ventrally; vesica without cornuti. Female genitalia (Fig. 28): papillae anales tapering distally; ostium and antrum wide, round basad, sclerotized; ductus bursae membranous, short, narrow; corpus bursae oblong.

Distribution (Fig. 1): Lesser Antilles (Puerto Rico, Virgin Islands).

Host plants: Larvae boring in twigs of various species of “roble” (*Tabebuia* spp.) (Bignoniaceae) (MARTORELL, [1976]).

Remarks: Similar to *M. sympatricus*, but allopatric: *M. sympatricus* is restricted to Cuba, whereas *M. subductella* known from the Lesser Antilles only. The type material not examined. The identity is based on an image of the types and on the identified as such in NHMUK and USNM, and by the fact that so far it is the only species known for the Lesser Antilles.

***Murgisca sympatricus* Becker, sp. n.** (Figs 1, 4, 9, 26-27)

Holotype ♂, CUBA, Guantanamo, Imias, 10 m, 17-VII-1990, g. s. 5247 (Becker 72765) (VOB). Paratypes: CUBA, Matanzas, Ciénaga de Zapata, 2 ♂♂, 18-VII-1990, g. s. 5679 (Becker 73701) (VOB).

Diagnosis: Small. Antennae filiform. FW dark reddish brown; area between antemedial and postmedial band whitish.

Description: Male (Figs 4, 9) FW length 9-11 mm (22-26 mm wingspan). Pale reddish brown. FW with costa straight, apex a sharp right-angle, termen round. FW dark fuscous, area between antemedial and postmedial bands pale reddish brown; with small, ill defined, dark dot at end of cell. HW whitish, slightly brown towards margins.

Male genitalia (Figs 26-27): Uncus wide, as long as valva, margins parallel, apex slightly concave; gnathos shorter than uncus. Valva broad, tapering towards apex beyond sacculus, not constricted; juxta U-shaped distally; vinculum round; phallus (Fig. 28) short, thick, bent dorsad, expanded towards apex.

Distribution (Fig. 1): Cuba, at the type locality and on the southern coast.

Remarks: Specimens from Ciénaga de Zapata (Fig. 9) are smaller and with a less distinct pattern, but their genitalia are almost identical. Very similar in habitus and size as *M. cubana*; easily distinguished by the filiform antennae and by the antemedial band: curved in *M. sympatricus*, straight in *M. cubana*. The genitalia are also very distinct, resembling those of *M. subductella*. In the USNM collection there is a series of six specimens, also from Cuba, with the pupal skin pinned to each specimen, which certainly belongs to the material mentioned by BRUNER *et al.* (1975: 332) as “*Pachymorpha* [sic!], sp. n. (Heinrich, ‘44). Una oruga taladradora de las ramas [del roble blanco: *Tabebuia pentaphylla* (Bignoniaceae)]”.

Etymology: From the Latin *patria* = fatherland, with the prefix *sym* = together, with.

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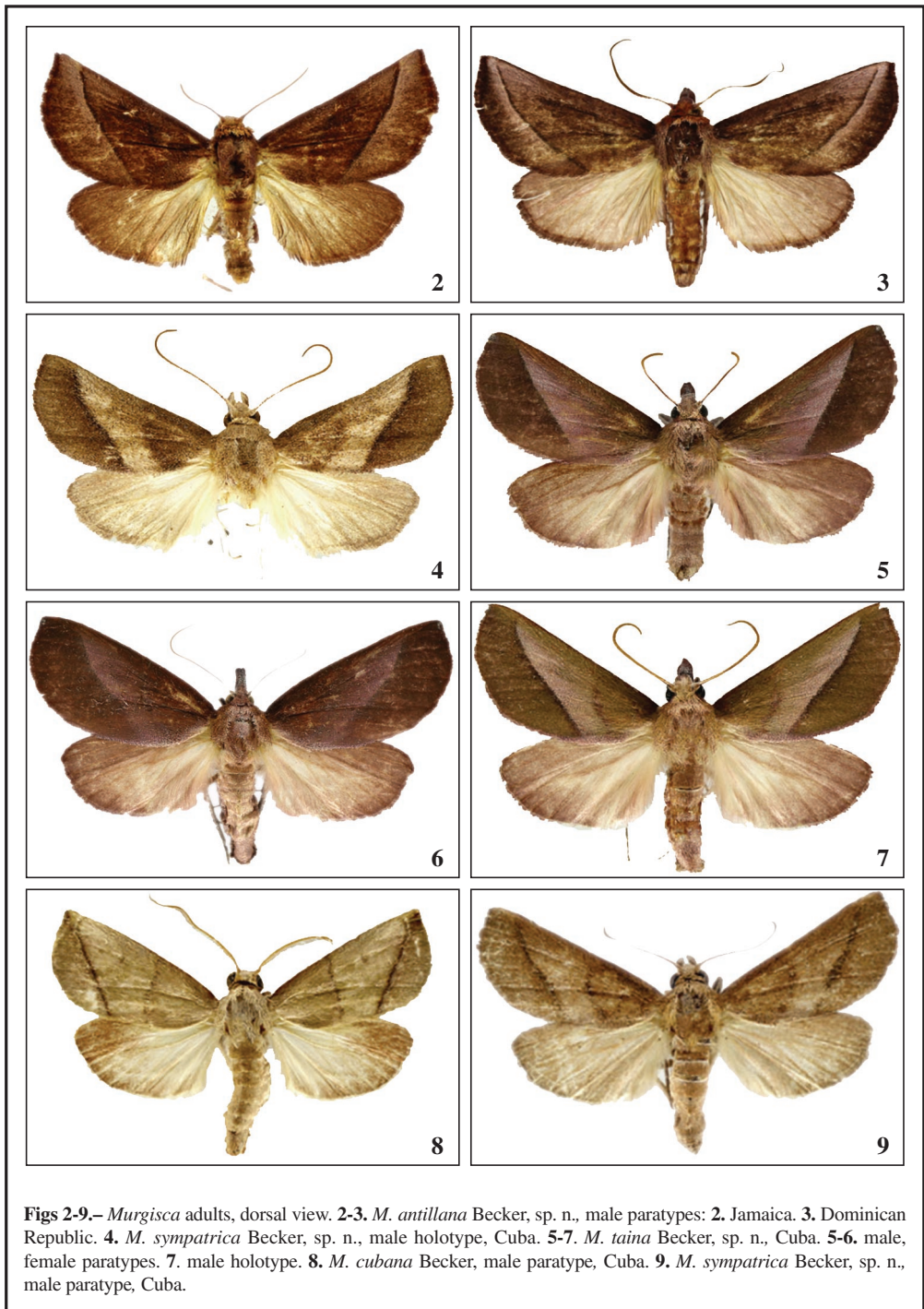
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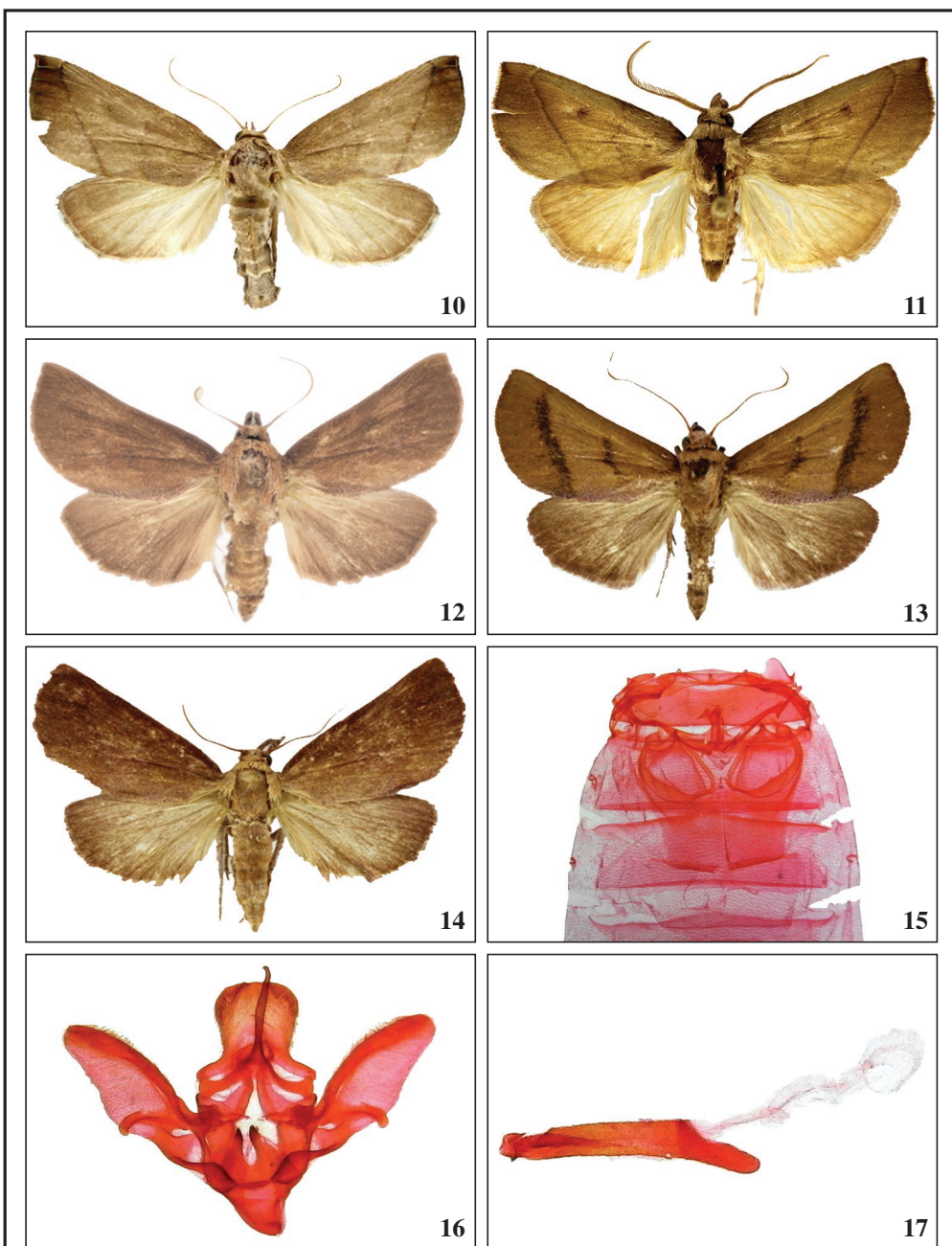
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**Figs 10-17.**– *Murgisca* species: **10-14.** Adults, dorsal view: **10.** *M. cubana* Becker, sp. n., paratype, female, Cuba. **11.** *M. cervinalis*, male, Dominican Republic. **12-14.** *M. subductella*, Guana Island. **12-13.** Males. **14.** Female. **15-17.** *M. cervinalis*, Dominican Republic: **15.** tympanum, ventral view. **16-17.** Male genitalia.

