

The Brazilian species of the Neotropical genus *Ophitis* Felder & Felder, 1874 with description of one new species (Lepidoptera: Notodontidae, Heterocampinae)

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Abstract

Seven species of *Ophitis* Felder & Felder, 1874 are recorded for Brazil: *O. adusta* (Rothschild, 1917), *O. biplaga* (Rothschild, 1917), *O. lemoulti* (Schaus, 1905), *O. magnaria* Felder & Felder, 1874, *O. mielkei* Becker, sp. n., *O. mistura* (Schaus, 1905), and *O. rothschildi* (Draudt, 1932). Except for *O. mistura* (Schaus, 1905) and *O. rothschildi* (Draudt, 1932), the other five are new records for the country.

KEY WORDS: Lepidoptera, Notodontidae, Heterocampinae, *Ophitis*, synonyms, new species, Neotropical, Brazil, genitalia, illustrations.

Las especies brasileñas del género neotropical *Ophitis* Felder & Felder, 1874 con descripción de una especie nueva (Lepidoptera: Notodontidae, Heterocampinae)

Resumen

Siete especies de *Ophitis* Felder & Felder, 1874 son registradas para Brasil: *O. adusta* (Rothschild, 1917), *O. biplaga* (Rothschild, 1917), *O. lemoulti* (Schaus, 1905), *O. magnaria* Felder & Felder, 1874, *O. mielkei* Becker, sp. n., *O. mistura* (Schaus, 1905), and *O. rothschildi* (Draudt). Con excepción de *O. mistura* (Schaus, 1905) y *O. rothschildi* (Draudt, 1932), las otras cinco son registros nuevos para el país.

PALABRAS CLAVE: Lepidoptera, *Ophitis*, especie nueva, Neotropical, Brasil, genitales, ilustraciones.

Introduction

The genus *Ophitis* Felder & Felder, 1874 includes 13 species of which only two (*O. cossoides* (Rothschild, 1917), and *O. griffini* (Schaus, 1939) (both synonyms; see below), were originally described from Brazil (BECKER, 2014: 18). It was treated by the earlier authors (SCHAUS, 1901: 313; DRAUDT, 1932: 995) as a monotypic genus. All the other species currently associated with it were originally described in the genus *Rifargia* Walker, 1862. Except for *O. culpata* (Schaus, 1912) and *O. adusta* (Rothschild, 1917), that reach Costa Rica, it is a South American genus, mostly in the Amazonian lowlands. The material in the collections show that at least seven species are present in Brazil, one of them undescribed. In order to identify the Brazilian species, all the type material belonging to the described species had to be examined.

Ophitis contain medium to large-size (50-80 mm wingspan) moths, with long, narrow FW, long, robust abdomen, resembling Sphingidae; antennae are short ciliated, looking nearly filiform. Male genitalia with uncus long, valvae broad, weakly sclerotized, sacculus pleated.

Material and methods

This work is based on 87 specimens (13 genitalia preparations), 81 in VOB, six in AMC, and on the type-material in the USNM and the NHMUK. Synoptic collections, representing all these species were taken to these institutions and compared with the types deposited there. The holotype of the new species is provisionally deposited in VOB, and will be transferred, together with the collection, to a Brazilian institution in the future. Genitalia were prepared following the methods described by ROBINSON (1976). Terms for morphological characters follow HODGES (1971).

Abbreviations

AMC	Alfred Moser collection, São Leopoldo, Rio Grande do Sul, Brazil
FW	Forewing
g. s.	genitalia slide
HW	Hind wing
NHMUK	The Natural History Museum, United Kingdom
PTC	Paul Thiaucourt collection, Paris
UFPR	Universidade Federal do Paraná, Curitiba, Brazil
USNM	United States National Museum, Washington
VOB	Vitor O. Becker collection, Serra Bonita Reserve, Camacan, Bahia, Brazil

Results and discussion

Among the material of *Ophitis*, collected in Brazil, specimens belonging to seven species were found. Five of them not previously recorded, including an undescribed one. In order to allow the identification of the Brazilian species, illustrations of adults and genitalia, diagnosis, and distribution of the species are here presented.

Ophitis magnaria Felder & Felder, 1874 (Figs. 1-3, 21-23)

Ophitis magnaria Felder & Felder, 1874. *Reise Novara Lep. Het.*, (9)2(2): pl. 97, fig. 10

Holotype ♀, FRENCH GUIANA: 'Guyana gall.' [no further data] (NHMUK) [examined].

= *Rifargia imitata* Druce, 1911. *Ann. Mag. Nat. Hist.*, (8) 8: 148

Holotype ♂, TRINIDAD: Caparo (NHMUK), synonymized by BECKER, 2014: 18 [examined].

Diagnosis: Male 27-30 mm (60-65 mm wingspan) (Figs. 1, 3), female (Fig. 2), slightly larger and with broader wings. Whitish gray; FW black area, based of antemedial band, inserted with an irregular, whitish area towards costa. Male genitalia (Fig. 21) with uncus tapering distad; a minute indentation at apex; socii small, thin, curved ventrad; valva with costa bearing a strong, sharp pointed, curved process at middle.

Material examined: Types; 5 ♂♂ (2 g. s.: 4099, 5559).

Distribution: Trinidad to Brazil (Pará, Rondônia, Goiás).

Remarks: Both types represent the sexes of the same species. Similar to the dark form of *mistura*, but in the last the area based of antemedial band is wholly black.

Ophitis mistura (Schaus, 1905) (Figs. 4, 5, 24-26)

Rifargia mistura Schaus, 1905. *Proc. U. S. Nat. Mus.*, 29: 269

Lectotype ♂, FRENCH GUIANA: St. Jean, Maroni River (USNM 8729), designated by SCHINTLMEISTER, 2014: 306.

= *Rifargia cossoides* Rothschild, 1917. *Novit, Zool.*, 26: 254

Holotype ♂, BRAZIL: Amazonas, Fonte Boa, 'Upper Amazons' (Klages) (NHMUK), synonymized by SCHAUS, 1928: 72 [examined].

Diagnosis: Male 30-34 mm (66-72 mm wingspan) (Figs. 4, 5). FW whitish gray, area based of antemedial band ochreous-brown to blackish; a white patch below apex, distad of postmedial band, between R4 and M1; diffuse, pale band across middle, from costa to tornus; small ocellus on tornus. HW fuscous brown. Male genitalia (Fig. 24): uncus long, thin; socii small, bent distad; valva broad, costa with a long, sharp pointed thorn at base; abruptly constricted at distal third.

Material examined: Types; 13 ♂♂ (2 g. s.: 4098, 5560), 1 ♀.

Distribution: Guianas, Perú, and Brazil, south to Espírito Santo.

Remarks: *Rifargia mistura* Schaus, 1905 was described from an unspecified number of specimens with no reference to sex. Two male syntypes were traced, the male designated as lectotype, and the second male as paralectotype. The type of *R. mistura* Schaus, 1905 resembles the dark form of *R. lemoulti* Schaus, 1905. Specimens from Perú are more brownish, resembling *R. culpata* Schaus, 1912 (Fig. 6), from Costa Rica, including their genitalia (Fig. 27); the only noticeable difference is in the shape of costa of valvae, even in *R. culpata*, whereas abruptly constricted at distal third in *R. mistura*. Also similar to the sympatric *O. magnaria*, distinguished by the contrasting white patch below apex, distad of postmedial band. SCHINTLMEISTER (2016: 330), stated that *R. mistura* is a junior synonym of *O. cymantis* (Schaus, 1905), attributing this combination to BECKER (2014: 15), what obviously is a mistake, as *Pronerice cymantis* Schaus, 1905 is correctly listed under *Kurtia* Schaus, 1901 (BECKER, 2014: 13).

Ophitis lemoulti (Schaus, 1905) (Figs. 7-10, 30-32)

Rifargia lemoulti Schaus, 1905. *Proc. U. S. Nat. Mus.*, **29**: 268

Lectotype ♂, FRENCH GUIANA: St. Jean, Maroni River (USNM 8728), designated by SCHINTLMEISTER, 2016: 330 [examined].

Diagnosis: Males 27-33 mm (60-70 mm wingspan) (Figs. 7, 8,10), females 30-33 mm (66-72 mm wingspan) (Fig. 9). FW with area based of antemedial band ochreous, dusted brown, especially next to the band, or wholly brown, or dark-brown; area distad of antemedial band mouse-gray, with faint pattern. Male genitalia (Fig. 30) with long, thin uncus; socii arms very long, thin, helicoidal; valva with short, flat protrusion on costa before apex.

Material examined: Types; 32 ♂♂ (4 g. s.: 4101, 5556-5558), 2 ♀♀.

Distribution: Guianas to Brazil, as far South as Santa Catarina, in the lowlands.

Remarks: Described from an unspecified number of males and females. Three syntypes were traced, the male lectotype, and one male and one female designated as paralectotypes. The area based of antemedial band variable: most specimens ochreous, as in the type-series (Figs. 7, 9), brown to dark-brown, to near blackish in others (Figs. 8, 10). Specimens showing all the different forms can be sympatric, being collected at the same light in the same night. Male genitalia of all forms identical.

Ophitis biplaga (Rothschild, 1917) (Figs. 11, 12, 33-35)

Rifargia biplaga Rothschild, 1917. *Novit. Zool.*, **26**: 254, pl. 4, fig. 8

Holotype ♂, PERÚ: [Puno], Carabaya, Tinguri, 3,400 ft, VIII-1904 (Ockenden) (NHMUK) [examined].

Diagnosis: Male 26-32 mm (60-72 mm wingspan) (Figs. 11, 12). FW mottled fuscous; pair of irregular, bluish-white patches on dorsum. HW fuscous; orbicular on tornus, preceded by an elongate white mark, bearing a small black dot. Male genitalia (Fig. 33) with uncus thick, socii small; valva broad; sacculus with a short, broad tooth at middle; aedeagus short, thick; a small, sharp pointed spine near apex; vesica with multiple loose spines.

Material examined: Type; 2 ♂♂ (g. s. 5597).

Distribution: Eastern Peru, Western Brazil, in the Amazon region.

Remarks: A conspicuous species, with dark area, based of antemedial band, diffuse, almost indistinct. The two white patches next to dorsum of FW are unique in the genus. Male genitalia resemble those of *adusta*.

Ophitis rothschildi (Draudt, 1932) (Figs. 17, 18, 36-38)

Rifargia rothschildi Draudt, 1932. in SEITZ. *Gross-Schmett. d. Erde*, **6**: 1006, name of substitution
= *Rifargia muscosa* Rothschild, 1917. *Novit. Zool.*, **26**: 255, pl. 7, fig. 5, nec Dognin, 1905

Holotype ♂, SURINAM: Aroewarwa Creek, Moroewym Valley, IV-1905 (Klages) (MNHUK).
Preocc., DOGNIN, 1905: 149.

= *Malocampa griffini* Schaus, 1939. *Proc. U. S. Nat. Mus.*, **86**: 549

Holotype ♂, BRAZIL: 'Espírito Santo' [no further data] ([Hoffmann]) (USNM 34706),
synonymized by BECKER, 2014: 18.

Diagnosis: Male 22-26 mm (48-56 mm wingspan) (Figs. 17, 18). FW mottled gray, antemedial band straight, double; area based of it slightly darker. HW pale, yellow along internal margin. Distal margin of 8th sternite (Fig. 38) with a large, protruding, apically round plate at the middle, with two lateral small, triangular, sharp-pointed expansions. Male genitalia (Fig. 36) with uncus tapering distad; socii arms large, flat, falcate; apex sharp.

Material examined: Types; 2 ♂♂ (g. s. 4938)

Distribution: Surinam to Brazil, as far South as Espírito Santo.

Remarks: A very distinct species in the genus; easily distinguished by the pale HW, with yellow scales along internal margin.

***Ophitis mielkei* Becker, sp. n.** (Figs. 19, 20, 39-41)

Material examined: Holotype ♂, BRAZIL: Rondônia, Vilhena, 600 m, 2-4-XII-1994, g. s. 5598 (Becker 94243) (VOB). Paratypes: 1 ♂, g. s. 4733, same data as holotype; ♀, Pará, Cachimbo, 11-18-IV-1956 (Travassos & Medeiros) (UFPR).

Diagnosis: Whitish gray; FW with ante- and postmedial bands, and median line, double; dusted fuscous on dorsum, before medial band, and on tornus, distad of postmedial band; HW fuscous, darker distad of median line.

Description: Male 25 mm (54 mm wingspan) (Fig. 19); female 30 mm (65 mm wingspan) (Fig. 20). Labial palpi whitish ventrally, dark gray dorsally; frons whitish, mixed with gray scales; vertex darker; antenna white; thorax fuscous dorsally, whitish ventrally; tarsi ringed gray. FW with antemedial band, median line, and post median band double; subterminal line black; two diffuse, fuscous patches: first on dorsum, before antemedial band; second on tornus, distad of postmedial band; underside whitish, dusted fuscous; median line and postmedial band fuscous; subterminal line white. HW fuscous; darker distad of median line to termen. Abdomen fuscous dorsally; white ventrally.

Male genitalia (Fig. 39): Uncus short, broad, apex round; pair of hairy warts ventrally, near apex; socii long, arms broadly curved, tapering distad to a sharp tip; costa of valva with blunt, conical expansion at distal third; juxta square; vinculum round, slightly concave at middle. Aedeagus short, thickened distad, a sharp tooth and several minute thorns near apex, laterally.

Distribution: Central Brazil, in the Cerrado biome.

Remarks: This small whitish gray species, the smallest of the Brazilian species, cannot be confused with no other in the genus. The short, broad uncus is also unique.

Ophitis adusta (Rothschild, 1917) (Figs. 13-16, 42-44)

Naprepa adusta Rothschild, 1917. *Novit. Zool.*, **26**: 231, pl. 5, fig. 8

Holotype ♀, PERÚ: [Puno], Carabaya, Tinguri, 3,400 ft, VIII-1904 (Ockenden) (NHMUK) [examined].

= *Rifargia christinae* Thiaucourt, 1987. *Lambillionea*, **87**: 56, figs. 10-12

Holotype ♂, ECUADOR: Route Baeza-Lumbaqui, Puente Azuela, 1600 m, 19-II-1979) (Porion) (PTC), synonymized by BECKER, 2014: 18 [not examined].

= *Riforgia kawensis* Thiaucourt, 1987. *Lambillionea*, **87**: 54, figs. 8-9

Holotype ♂, FRENCH GUIANA: Cayenne, piste de Kaw, p. k. 31, 11-XII-1986 (Toulgoët) (PTC), synonymized by BECKER, 2014: 18 [not examined].

Diagnosis: Males 30-35 mm (65-76 mm wingspan) (Fig. 13, 14); females 35-40 mm (75-86 mm wingspan) (Figs. 15, 16). Dark fuscous-brown. FW with long, irregular dark gray dashes along middle from base to near termen. HW with basal half dark gray. Male genitalia (Fig. 42) with long, thin uncus; socii short, bent distad, slightly wide and flat distad; valva with smooth costa.

Material examined: Type of *adusta*; 27 ♂♂ (3 g. s.: 4100, 5554, 5555), 2 ♀♀.

Distribution: Costa Rica to Brazil, as far south as São Paulo.

Remarks: The large series examined includes specimens that match the type-specimens of all species names, some of them even sympatric. Their genitalia are identical. Specimens from the dry Cerrado areas of Central Brazil and western São Paulo, are smaller and paler, resembling the large species of *Xylodonta* Becker.

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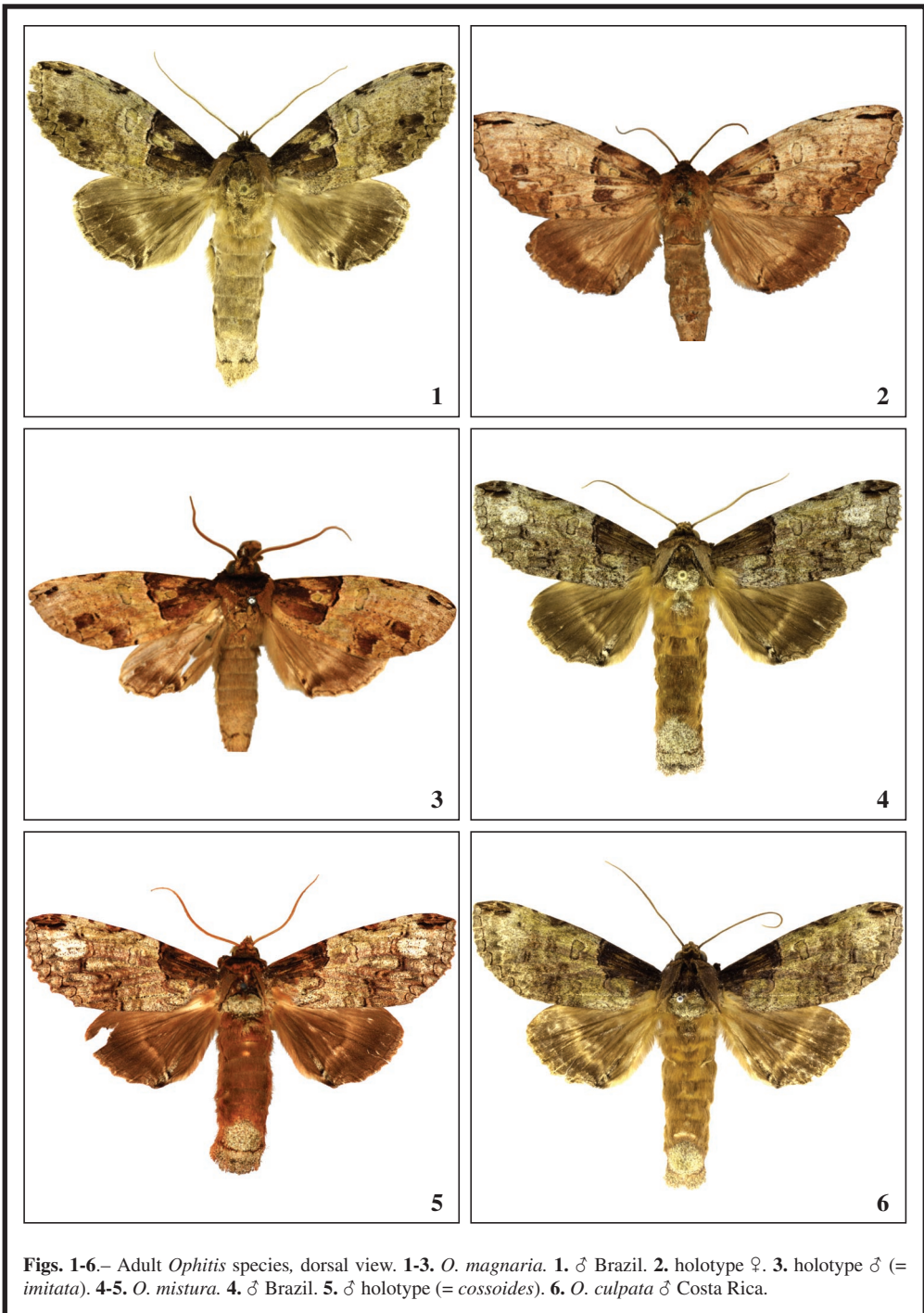
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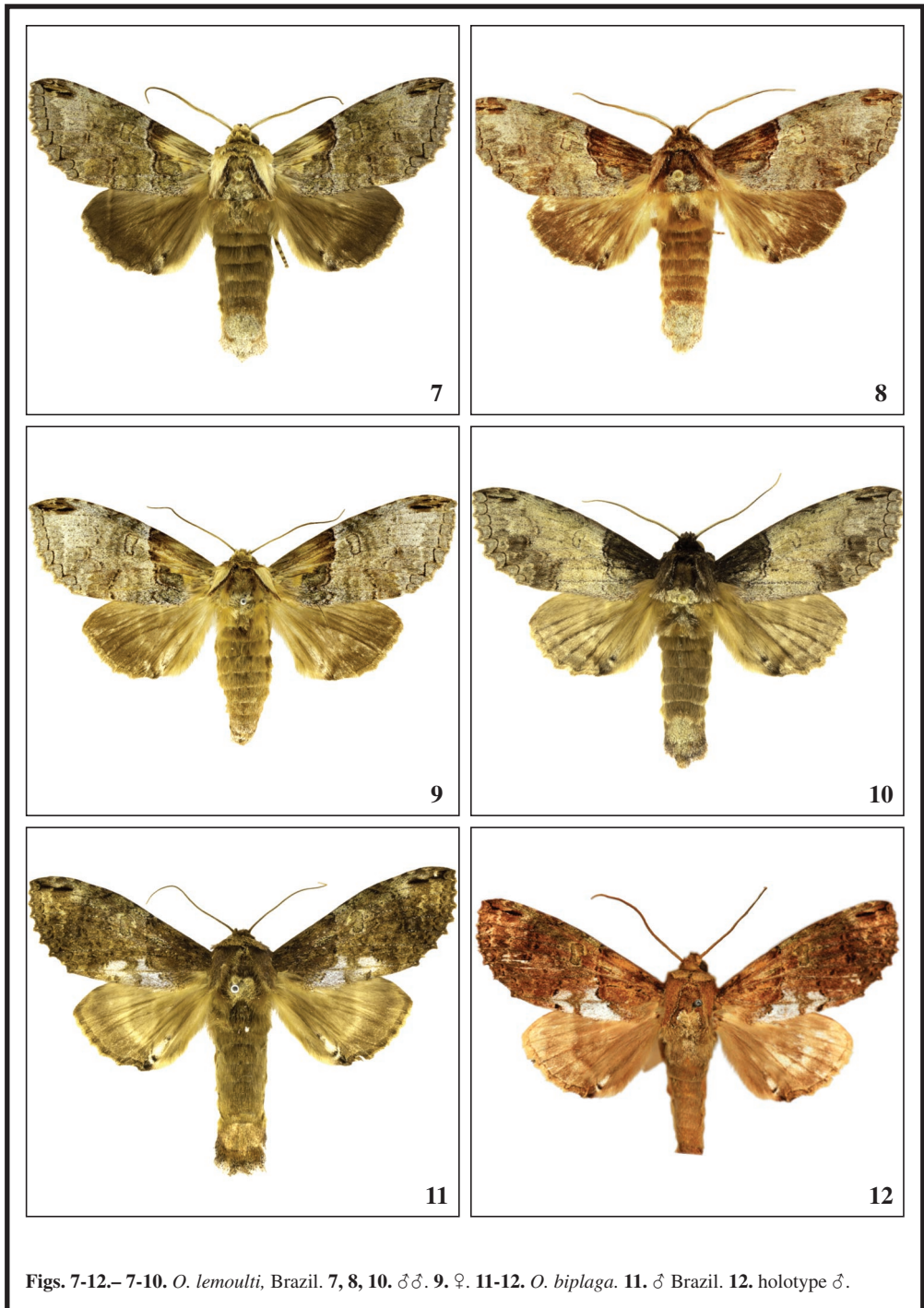
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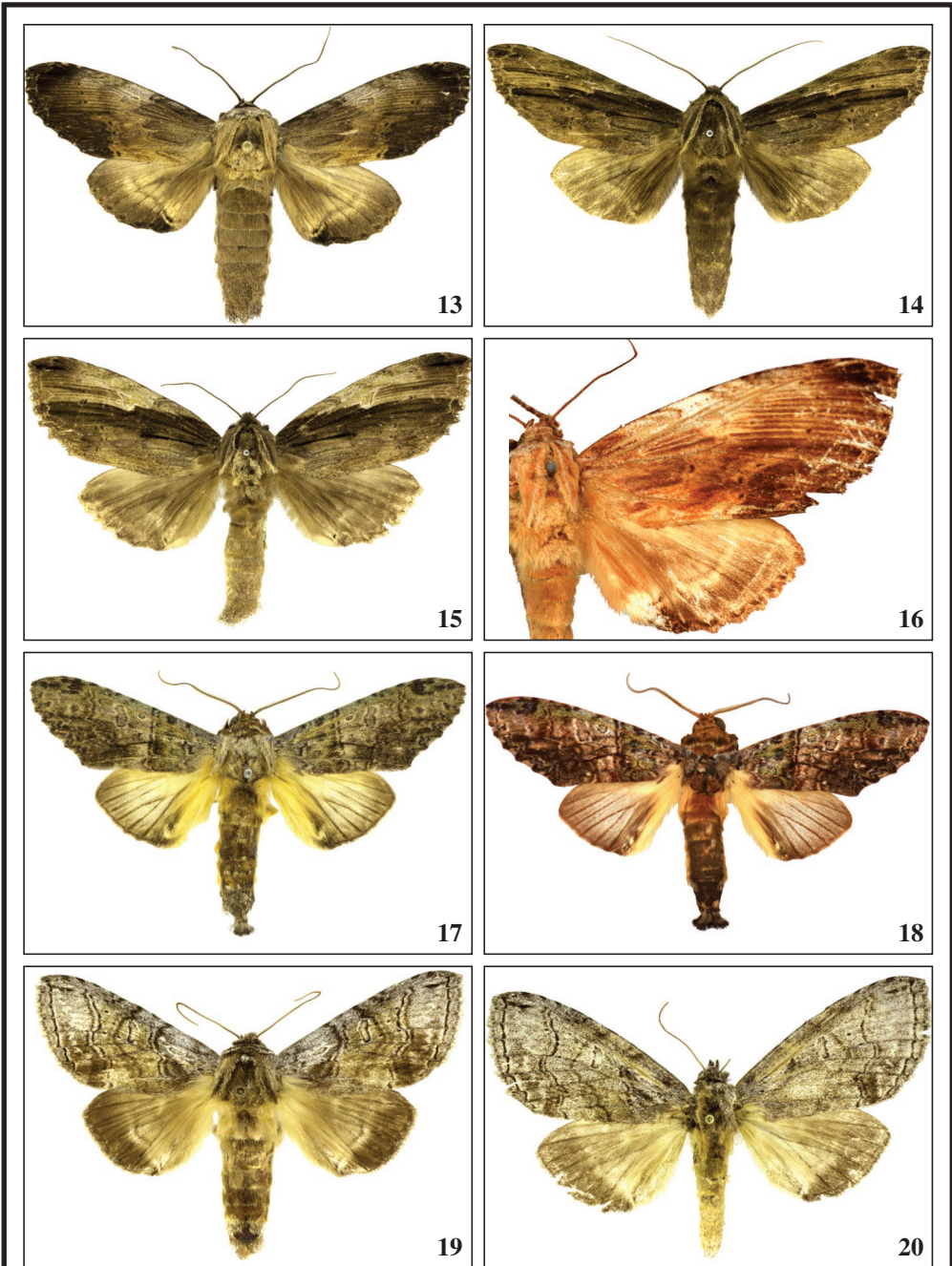
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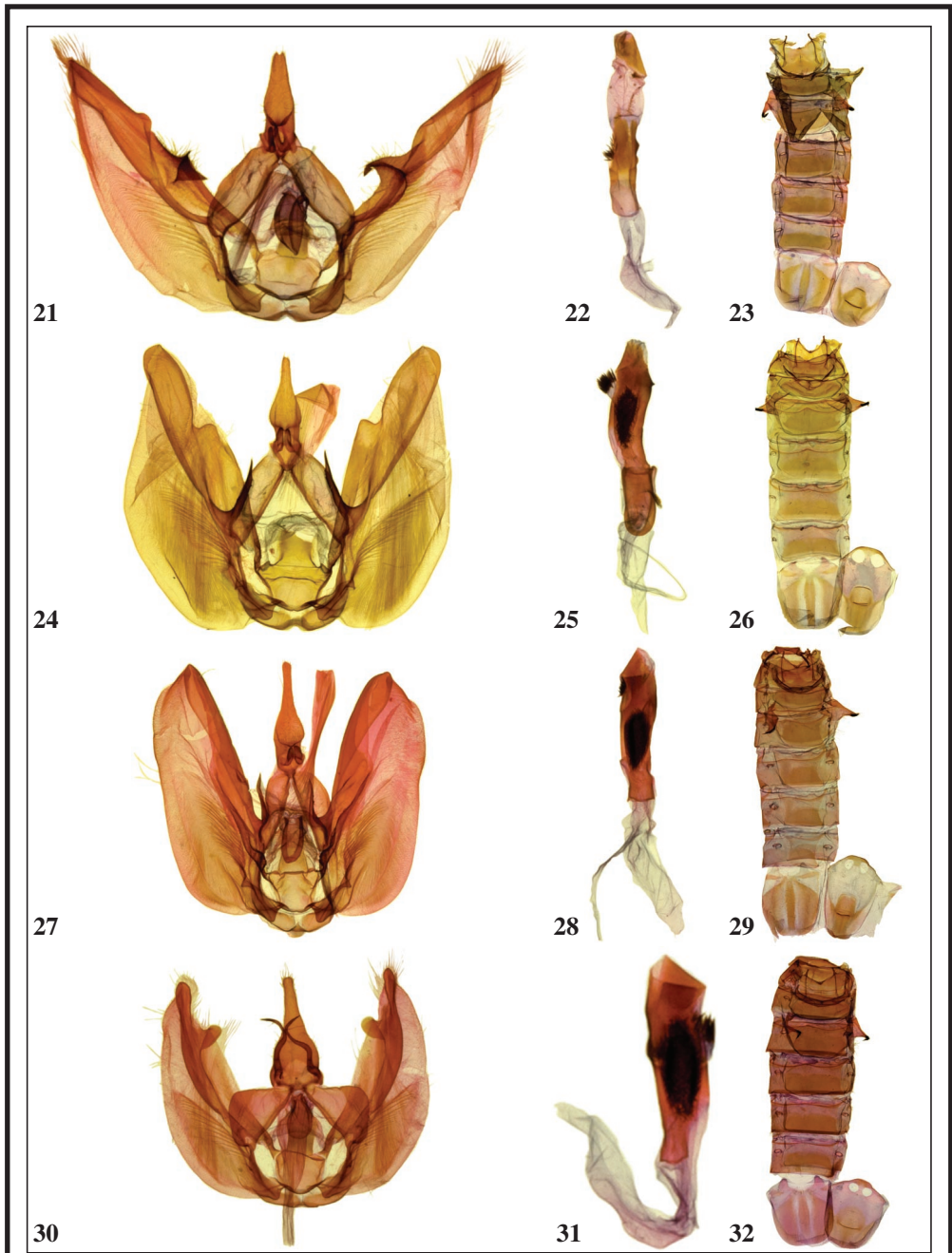
Figs. 1-6.— Adult *Ophitis* species, dorsal view. **1-3.** *O. magnaria*. **1.** ♂ Brazil. **2.** holotype ♀. **3.** holotype ♂ (= *imitata*). **4-5.** *O. mistura*. **4.** ♂ Brazil. **5.** ♂ holotype (= *cossoides*). **6.** *O. culpata* ♂ Costa Rica.



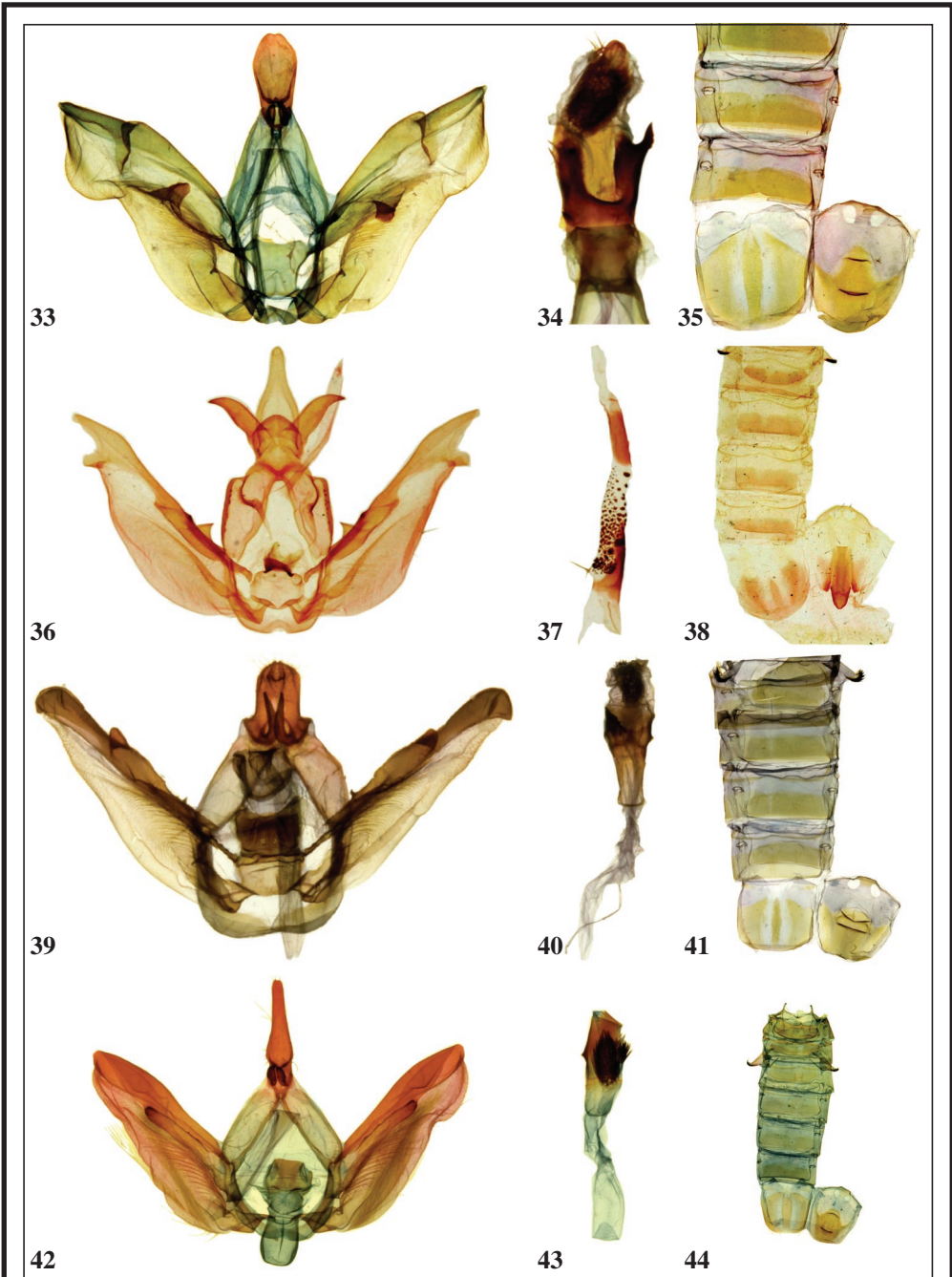
Figs. 7-12.– 7-10. *O. lemoulti*, Brazil. 7, 8, 10. ♂♂. 9. ♀. 11-12. *O. biplaga*. 11. ♂ Brazil. 12. holotype ♂.



Figs. 13-20.— 13-16. *O. adusta*. 13-14. ♂♂, Brazil. 15. ♀, Costa Rica. 16. holotype ♀. 17-18. *O. rothschildi*. 17. ♂ Brazil. 18. holotype ♂ (= *muscosa*). 19-20. *O. mielkei*. 19. holotype ♂. 20. paratype ♀.



Figs 21-32.– 21-44. Male genitalia, aedeagus, and 8th abdominal segment (tergite left; sternite right) of *Ophitis* species (ventral view). 21-23. *O. magnaria*. 24-26. *O. mistura*. 27-29. *O. culpata*. 30-32. *O. lemoulti*.



Figs. 36-44.— 33-35. *O. biplaga*. 36-38. *O. rothchildi*. 39-41. *O. mielkei* (holotype). 42-44. *O. adusta*.