

A review of the Neotropical Tirathabini genus *Xenophasma* Dognin, 1905 with description of two new species (Lepidoptera: Pyralidae, Galleriinae)

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Abstract

Three species of *Xenophasma* Dognin, 1905, are recognized from Brazil, two of them new: *Xenophasma albifasciata* Becker, sp. n. and *X. loxogramma* Becker, sp. n., described here. Diagnosis, key to species, and illustrations of the type and two new species are also presented.

KEY WORDS: Lepidoptera, Pyralidae, Galleriinae, Tirathabini, taxonomy, new species, distribution, Brazil.

Revisión del género *Xenophasma* Dognin, 1905 de Tirathabini Neotropical con la descripción de dos especies nuevas (Lepidoptera: Pyralidae, Galleriinae)

Resumen

Se reconocen tres especies de *Xenophasma* Dognin, 1905, para Brasil, dos de ellas nuevas: *Xenophasma albifasciata* Becker, sp. n. y *X. loxogramma* Becker, sp. n., aquí descritas. También se presenta la diagnosis, clave e ilustraciones de las especies tipo y de las dos nuevas.

PALABRAS CLAVE: Lepidoptera, Pyralidae, Galleriinae, Tirathabini, taxonomía, especies nuevas, distribución, Brasil.

Introduction

Xenophasma Dognin, 1905 was established as a monotypic genus in the Schoenobiinae, transferred to the Epipashiinae by HAMPSON (1916), and to the Galleriinae, Tirathabini by SOLIS (1993). Examination of the material in the author's collection (VOB) revealed two further undescribed species from Brazil. The genus is reviewed and a key, descriptions and illustrations are presented for their identification.

Material and methods

This work is based on 38 specimens (9 g. s.) in the author's collection (VOB), 15 in USNM, and 2 in AMC. Specimens representing all the species were taken to the NHMUK and the USNM to be compared with the material deposited there, but, except for *X. notodontooides* Dognin, 1905, nothing that matched. The holotypes of the new species are 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
CPAC	= Centro de Pesquisa Agropecuária dos Cerrados, Planaltina, DF, Brazil
FW	= forewing
g. s.	= genitalia slide
HW	= hind wing
NHMUK	= Natural History Museum, United Kingdom
TS	= Type species
USNM	= collection of the United States National Museum, Washington, DC
VOB	= Vitor O. Becker Collection, Serra Bonita Reserve, Camacan, Bahia, Brazil

Results and discussion

Examination of the material in the collections of NHMUK, USNM, and VOB revealed that three species belong to the genus, two of them undescribed. Diagnosis, descriptions, a key to species, and illustrations are given here to allow their identification.

Xenophasma Dognin, 1905

Xenophasma Dognin, 1905. *Annals Soc. Ent. Belg.*, **49**: 62

TS: *Xenophasma notodontoides* Dognin, 1905. *Annals Soc. Ent. Belg.*, **49**: 62, by original designation.

Diagnosis: Medium size (wingspan 35-44 mm), vinaceous or whitish. Ocelli absent; labial palpi porrect, longer in females; antenna short ciliated in males, filiform in females. FW dusted fuscous-tip scales, group of erected scales next to base, and on cell; costa curved on distal third, termen round; transverse bands and lines absent or ill-defined. Male genitalia: uncus short, apex excavated; supra transtilla sac present; valva with sacculus well developed, differentiated; juxta large, with or without ventral process directed distad; manica spined distad; phallus long, straight, thin, or expanded distad. Female genitalia with the ostium-antrum area expanded, sclerotized.

Distribution (Fig. 5): Brazil, central and southeastern.

Remarks: The absence of ocelli and gnathos, and the presence of a sac [supra transtilla sac] between anal tube and transtilla, support the current association.

Key to species

1. FW vinaceous*notodontoides*
FW grayish2
2. FW with black fascia along costa, bent on the distal 1/3 toward termen*loxogramma*
FW with whitish fascia below costa*albifasciata*

Xenophasma notodontoides Dognin, 1905 (Figs 5-8, 12-14, 17)

Xenophasma notodontoides Dognin, 1905. *Annals Soc. Ent. Belg.*, **49**: 62

Holotype ♂, BRAZIL: São Paulo, Paranapanema, ex Dognin Col. (USNM) [examined].

Diagnosis: Medium size (wingspan 32-44 mm). Vinaceous. Male (Figs 6, 8) FW length 14-17 mm (wingspan 32-38 mm); female (Fig. 7) FW length 18 mm (wingspan 40 mm). FW costa and termen dark reddish-brown; postmedial band ill-defined, diffuse. HW pinkish. Female labial palpi twice as long as those of males. Male genitalia (Fig. 12): uncus short, thick, wide basally, tapering distad, sharp ridge at apex, ventrally; valva long; sacculus large, prominent, half as long as valva; costa well defined; vinculum triangular; juxta large, nearly square plate, no ventral process; manica (Fig. 13) expanded, spined distad; phallus (Fig. 14) long, straight, expanded gradually distad, apex spined. Female genitalia (Fig. 17) half as long as abdomen; ostium wide, antrum constricted medially, sclerotized basad; ductus bursae narrow, as long as bursa diameter; corpus bursae globose.

Material examined (5 specimens): Type; 3 ♂♂ (2 g. s.), 1 ♀ (1 g. s.). BRAZIL: Minas Gerais, Nova Lima, 850 m, 1-10-I-1985, g. s. 1698 (Becker 55746) (VOB); 1 ♀, Idem, Poté, 500 m, 15-XII-1997, g. s. 6558 (Thöny) (VOB); 1 ♂, São Paulo, São Luis do Paraitinga, 23°20'S - 45°06'W, 900 m, 12-17-XI-2001 (Becker 134094) (VOB); 1 ♂, Bahia, Camacan, Reserva Serra Bonita, 15°23'S - 39°33'W, VIII-2009, g. s. 5657 (Becker 144664) (VOB).

Distribution (Fig. 5): Southeastern Brazil, at mid elevations.

Remarks: The only vinaceous species in the genus.

***Xenophasma loxogramma* Becker, sp. n.** (Figs 1-5, 9, 10)

Material examined: 38 ♂♂ (3 g. s.), 8 ♀♀ (1 g. s.). Holotype ♂, BRAZIL: Mato Grosso, Chapada dos Guimarães, 800 m, 20-XI-1994 (Becker 93939) (VOB). Paratypes: 32 ♂♂, 2 ♀♀, Same data as holotype, g. s. 1961 (VOB, USNM); 1 ♀ Idem, Diamantino, Alto Rio Arinos, 350 m, 21-29-IX-1995 (Moser & Furtado) (AMC); 1 ♂, 2 ♀♀, Distrito Federal, Planaltina, 15°35'S - 47°42'W, 1100 m, 19-X-1976, g. s. 366; 15-X-1981, 5-XI-1988, g. s. 1960 (Becker 19711, 58991 (VOB) (CPAC 8742); 1 ♀, Goiás, Goiás, 500 m, 13-15-X-1984 (Becker 52888) (VOB); 1 ♀, Maranhão, Açailândia, 19-27-XI-1990, g. s. 1959 (Becker & Dubois) (VOB); 1 ♀, Minas Gerais, Unaí, 650 m, 21-X-1998 (Becker 117463) (VOB); 3 ♂♂, São Paulo, Luiz Antônio, Jataí, 21°35'S - 47°44'W, 13-18-X-2001 (Becker 133291) (VOB); 1 ♂, Minas Gerais, Aiuruoca, 22°00'S - 44°38'W, 1300 m, 10-12-X-2018 (Becker 157449) (VOB).

Diagnosis: Medium size. Whitish, dusted fuscous. FW with a dark gray band along costa to distal 2/3 than bent towards termen, above M3.

Description: Male (Fig. 9) FW length 15-17 mm (wingspan 33-38 mm), female (Fig. 10) FW length 18-20 mm (wingspan 40-44 mm). Labial palpus pale yellow, dark gray ventrally, frons and vertex pale yellow. Thorax and abdomen pale yellow; abdomen with a diffuse, dark gray band along dorsum; legs dark gray. FW pale yellow, costa black above cell, from base to distal 2/3, following as a fascia to termen above M3, termen narrowly black. HW pale yellow, margin and cilia dark fuscous. Female darker than male, HW gray. Male genitalia (Fig. 1) uncus wide, tapering distad, slightly expanded before apex; apex slightly excavated distally; valva narrow, curved dorsad; sacculus large, half as long as valva; vinculum triangular; juxta a vertical, rectangular plate folded at the edges; ventral, medial process longer than juxta; manica (Fig. 2) expanded distad, two parallel rows of blunt teeth before apex; phallus (Fig. 3) long, thin, slightly bent dorsad, vesica with a short, sclerotized process. Female genitalia (Fig. 10): over half as long as abdomen; ostium broad, sclerotized; antrum broad; ductus bursae narrow, as long as corpus bursae diameter; corpus bursa globose.

Distribution (Fig. 5): Brazil, central and southeastern, from Mato Grosso to São Paulo.

Etymology: From the Greek *λοχισ* =slanting, slope + *γραμμη* =line; in reference to the slanting dark fascia on FW.

Remarks: Easily distinguished by the black fascia along costa, bent towards termen.

***Xenophasma albifasciata* Becker, sp. n.** (Figs 5, 11, 15, 16, 18)

Material examined (3 specimens): 1 ♂ (1 g. s.), 2 ♀♀ (1 g. s.). Holotype ♀, BRAZIL: Mato Grosso, Diamantino, Alto Rio Arinos, 350 m, 21-29-IX-1995 (Moser & Furtado) (VOB). Paratypes: 1 ♂, 1 ♀, Distrito Federal, Planaltina, 15°35'S - 47°42'W, 1100 m, 19-X-1976, g. s. 1699, 5659 (Becker 19711) (VOB).

Diagnosis: Medium size. Grayish. FW with costa dark fuscous, white diffuse band below costa, from base to termen, below apex; postmedial band diffuse, slightly contrasting. HW whitish in male, gray in female.

Description: Male: FW length 15 mm (wingspan 34 mm), female (Fig. 11) FW length 17 mm (wingspan 38 mm). Head, thorax and abdomen whitish; legs whitish, tarsi fuscous. FW whitish, densely dusted gray scales; costa dark gray along costa to apex, interrupted before distal third; white,

diffuse band below costa, from base to termen below apex; postmedial band ill-defined; margin and cilia dark gray. HW white. Female darker than male; HW dusted gray. Male genitalia (Fig. 15): short, narrow, sharp ridge dorsad; valva short, broad, sacculus large, nearly 2/3 of valva, costa with a curved process folded ventrad; vinculum broad, narrow, short, blunt tooth basad; juxta a large, nearly square plate, medial process conical; manica (Fig. 16), attached to phallus, expanded and minutely spined distad; phallus long, thin, straight. Female genitalia (Fig. 18) half as long as abdomen; ostium posterior margin slightly round; antrum large, sclerotized; ductus bursae, narrow, shorter than corpus bursae diameter; corpus bursae globose.

Distribution (Fig. 5): Central Brazil, in the Cerrado biome.

Etymology: From the Latin *albus* =white + *fascia* =band; in reference to whitish band below costa of FW.

Remarks: Easily distinguished by the grayish FW, with the white fascia below costa.

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BIBLIOGRAPHY

- DOGNIN, P., 1905.– Hétérocères nouveaux de l'Amérique du Sud.– *Annales de la Société Entomologique de Belgique*, **49**: 61-90.
- HAMPSON, G. F., 1916.– Descriptions of new Pyralidae of the subfamilies Epipaschianae, Chrysauginae, Endotrichinae and Pyralinae.– *Annals and magazine of Natural History*, (8) **18**: 126-160.
- HODGES, R. W., 1971.– Sphingoidea.– In R. B. DOMINICK *et al.* *The moths of America North of Mexico*, **21**: 158 pp. Classey and R. B. D. Publications, London.
- ROBINSON, G. S., 1976.– The preparation of slides of Lepidoptera genitalia with special reference to the Microlepidoptera.– *Entomologist's Gazette*, **27**: 127-132.
- SOLIS, M. A., 1993.– A Phylogenetic Analysis and Reclassification of the Genera of the *Pococera*-Complex (Lepidoptera: Pyralidae: Epipaschiinae).– *Journal of the New York Entomological Society*, **101**: 1-83.

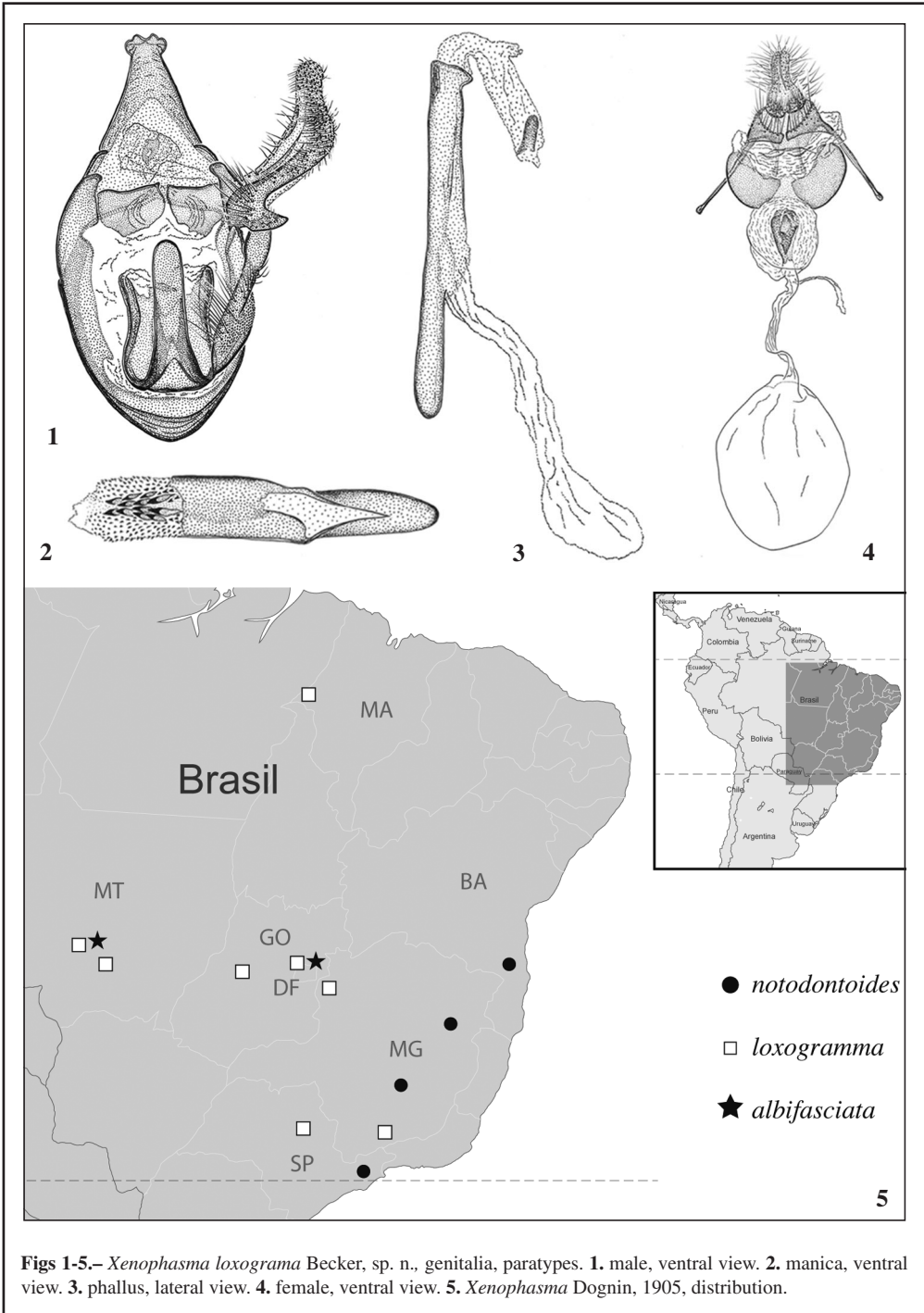
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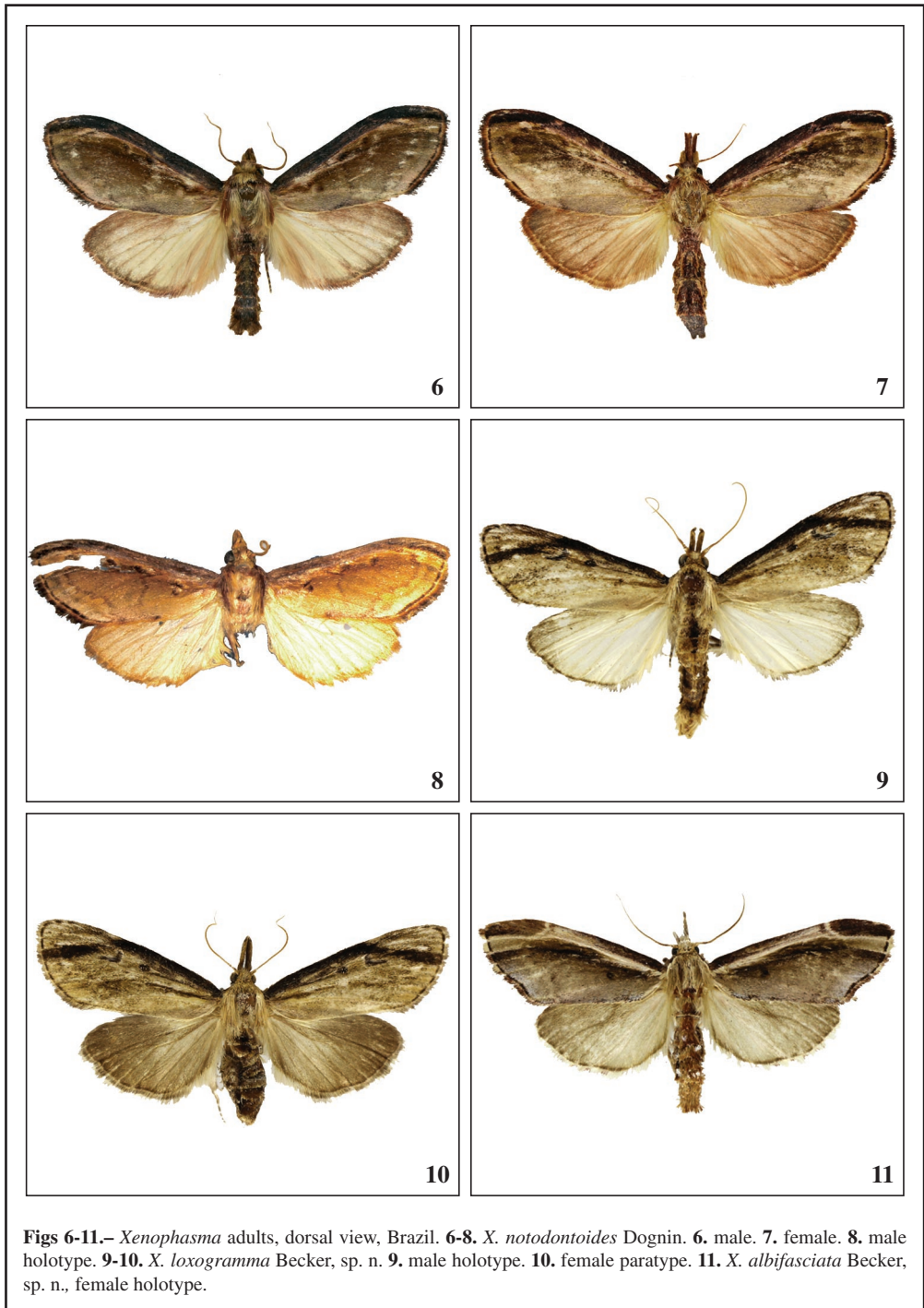
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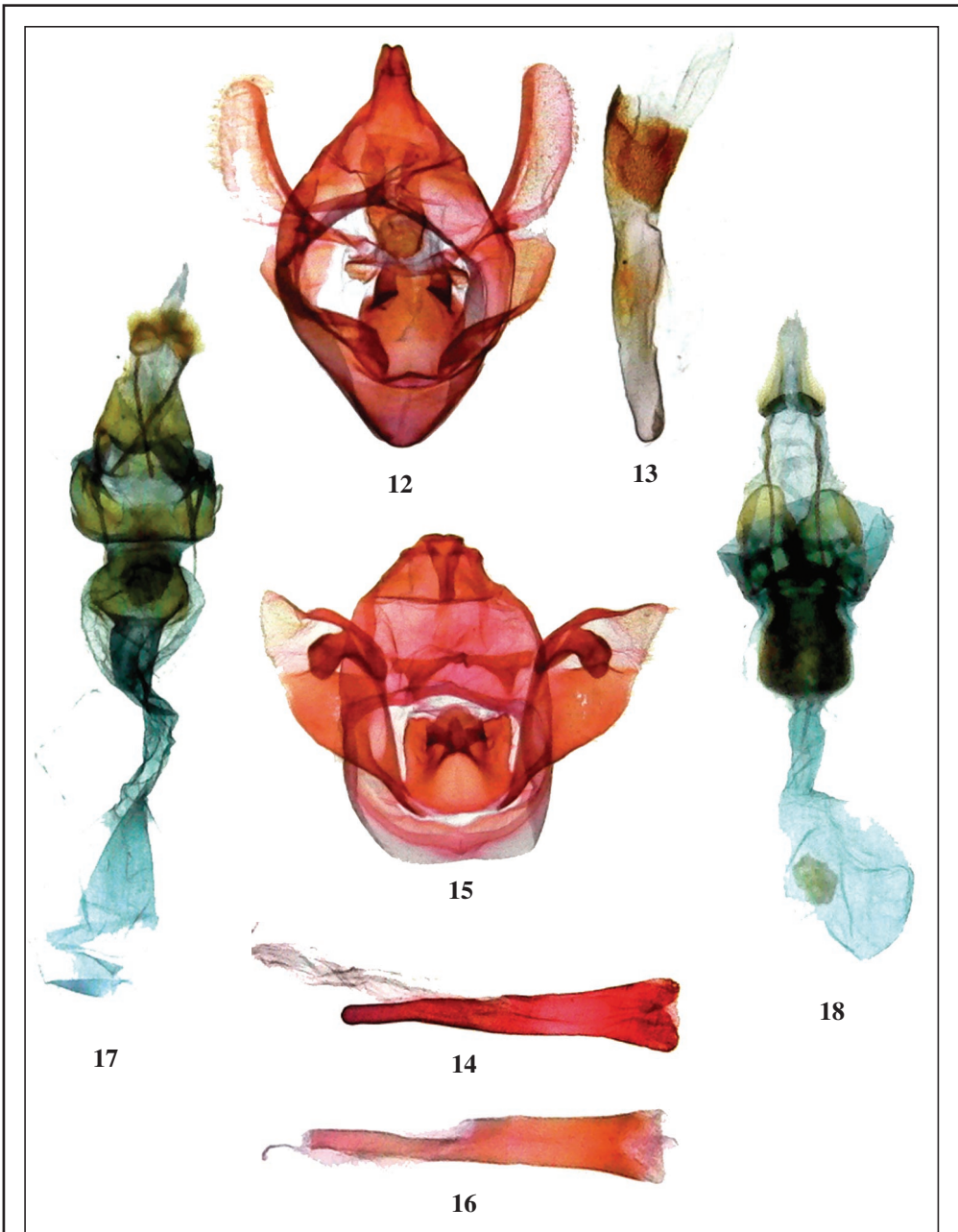
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Figs 12-18.– *Xenophasma* genitalia, ventral view, phallus, lateral view, Brazil. **12-14.** *X. notodontoides* Dognin. **12.** Male. **13.** Manica. **14.** phallus. **15-16.** *X. albifasciata* Becker, sp. n., paratype. **15.** male. **16.** phallus. **17.** *X. notodontoides* Dognin, female. **18.** *X. albifasciata* Becker, sp. n., paratype, female.