

**Systematics and faunistics of Neotropical Grapholitini, 5:
Phloerampha, *Goditha* and *Ranapoaca* (Lepidoptera: Tortricidae)**

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ABSTRACT. Three genera – *Phloerampha*, *Goditha* and *Ranapoaca* – are treated, and the following species are described as new: *Phloerampha involuta* sp. n., *Goditha latebrata* sp. n., *G. plesia* sp. n., *G. prepocydia* sp. n., *Ranapoaca rostellaria* sp. n., *R. memata* sp. n. and *R. liota* sp. n. *Laspeyresia sporosema* MEYRICK is transferred to *Goditha*.

KEY WORDS: Tortricidae, Grapholitini, Neotropical, new taxa.

INTRODUCTION

The systematics and geographical distribution of Neotropical Grapholitini are little known. This paper, the fifth in the series on the Neotropical Grapholitini, deals with the species of three genera. The specimens were collected in Brazil, Costa Rica, Ecuador and Mexico. These new data significantly expand the known distribution and to some degree the morphology of many of the species and genera.

Phloerampha RAZOWSKI, 2011 was erected for a single Venezuelan species, *P. phloea*, on the basis of the wing venation and female genitalia. The new species (*P. involuta*) is also a female with the characteristic subgenital sterite and the postostial sterigma. Unfortunately the male remains unknown. To the sparse biological data we add that the new species occurs in Costa Rica at an altitude of 1800 m.

Goditha HEINRICH, 1926 was originally monotypic, known from Texas, U.S.A. RAZOWSKI (2011) added one new species from Jamaica and described the female genitalia

(but incorrectly stated that the male genitalia were unknown). The three species described in this paper are represented by both males and females. The autapomorphies of *Goditha* are the large, simple uncus and the presence of lateral plates in the proximal part of the subgenital sterite.

The genus was previously known from Texas and Jamaica; we record it from Costa Rica, Brazil and Ecuador. Its altitudinal distribution ranges from 600 m (in Costa Rica and Minas Gerais, Brazil) to 900 m (in Veracruz, Mexico).

Ranapoaca RAZOWSKI, 2011 was described as a monotypic genus to include the Venezuelan *R. caparoana*. Possible conspecifics from Mexico, Costa Rica, Panama, Jamaica and the Dominican Republic were mentioned, but their identification was uncertain, as the observed variation in colour and genitalia were not correlated.

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MATERIAL

All the specimens were collected the second author in Brazil, Costa Rica, Ecuador and Mexico. The types of the newly described species have been deposited temporarily in the Becker Collection, Camacan, Brazil, and will eventually be deposited in one of the Brazilian museums. Some specimens have been kindly donated to the Institute of Systematics and Evolution of Animals, PAS, Kraków.

Note. The numbers cited on the labels of the type material are the entry numbers of the specimens in the register book of the above mentioned collection.

Abbreviations

GS – genitalia slide, WZ – Witold Zajda.

RESULTS

***Phloerampha involuta* sp. n.**

(Figs 4, 9)

Diagnosis

P. involuta is very similar and closely related to *P. phloea* RAZOWSKI, 2011 from Venezuela, but *P. involuta* has elongate latero-posterior lobes of the sterigma, two fenestrae at the base of the posterior part of the subgenital sternite, a rather well developed proximal sclerite of the ductus bursae, and a small signum. In contrast, *P. phloea* lacks these features.

Description

Wing span 19 mm. Head and thorax dark brown. Forewing weakly expanding terminally; costa slightly convex; termen concave below apex. Ground colour yellowish brown in majority of wing, suffused brown, with three lines parallel to dorsum, divided by brown; tornal third of wing dotted cream costally, edged dark brown; termen orange in middle, with some brown dots; costal strigulae cream, weak proximally, two posterior strigulae orange yellow, long; divisions brown, median edge orange. Markings in form of brown fascia limiting proximally cream dorsal patch. Cilia greyish brown. Hindwing dark brown with distinct cream patch beneath vein Rs; cilia cream brown.

Male unknown.

Female genitalia (Fig. 4). Lateroposterior parts of sterigma elongate, pair of slender fenestrae near base of posterior portion of subgenital sternite; proximal part of sterigma cup-shaped, broad; sclerite of antrum long, angled; basal sclerite of ductus bursae present; signum small with slender blade.

Material

Holotype female: "Costa Rica: Volcan Turrialba, 1800 m, 31. III. 1973, V.O. Becker Col; Col. Becker 38015"; GS 485 WZ.

Etymology

The specific name refers to the folds of the subgenital sternite; Latin: involuta – folded.

***Goditha* HEINRICH, 1926**

Description

Male genitalia. Pedunculi slender, distal part of tegumen very large, broad medially, tapering terminally, without trace of socii; subscaphium moderately sclerotized; basal third of valva broad; sacculus rounded caudally; ventral incision of valva deep with posterior edge convex near base; neck of valva slender, short; cucullus short, convex or subtriangular caudally; aedeagus short; cornuti developed.

Female genitalia described by RAZOWSKI (2011).

Distribution

This genus includes five described species distributed from Veracruz, Mexico to Brazil (Amazonas and Mato Grosso); it is also known from the West Indies (Jamaica) and Costa Rica.

***Goditha laminaegera* RAZOWSKI, 2011**

Material examined

Three females from Costa Rica (Turrialba, 600 m, VII. 1972, Colln Nr. 37040 and Santa Cruz Turrialba, 1500 m, VIII. 1981, Colln Nr. 45345).

Remarks

G. laminaegera was described from a single female collected in Jamaica. The continental specimens show slight differences from the holotype in the shape of the subgenital sternite plates and in the size of the signum.

***Goditha latebrata* sp. n.**

(Figs 5, 10)

Diagnosis

G. latebrata is very closely related to *G. laminaegera* RAZOWSKI, 2011 from Jamaica, but *G. latebrata* has the posterior edge of the sterigma straight, the basal sclerite of the ductus bursae absent, the plate of subgenital the sternite slender, and the signum small. In contrast, *G. laminaegera* has the posterior edge of the sterigma curved (compare the characters listed above).

Description

Wing span 18 mm. Head pale ferruginous cream, vertex more rust-coloured; thorax olive brown. Forewing broad, expanding terminad; costa bent at 2/3; termen slightly concave below apex, weakly oblique. Ground colour white cream in form of dorsal patch consisting of three lines, weak orange fascia with three blackish spots, and some indistinct orange lines in posterior third of wing; remaining area olive brown; costal strigulae cream, fine, except for subapical which is large and white. Cilia brownish. Hindwing brown, cilia creamer.

Variation. Wing span in one paratype ca 16 mm. Head and scape of antenna cream.

Male unknown.

Female genitalia (Fig. 5). Sterigma deeply incised and fused with subgenital sternite, with posterior and lateral edges well sclerotized; ostium area elongate, membranous; sclerite of antrum long, fused with median sclerite of ductus bursae (cingulum); signum small. Subgenital sternite large with oblique lateral sclerites.

Material

Holotype female: "Brasil: M[inas]G[er]ais, Unai, 700 m, 7. XI. 1982, V.O. Becker Col; Col. Becker 49148"; GS 633 WZ. Paratypes three identically labelled females.

Etymology

The specific name refers to slight differences to other species; Latin: latebrata – hidden.

***Goditha plesia* sp. n.**

(Figs 6, 11)

Diagnosis

G. plesia is closely related to *G. laminaegera*, but *plesia* can be distinguished by diffuse brownish dorsal patch of forewing (missing in *G. laminaegera*), broader posterior part of

the sterigma, a larger basal sclerite of the ductus bursae, and semi-oval plates of the subgenital sternite.

Description

Wing span 22 mm. Head brownish yellow, labial palpus yellowish cream; thorax olive brown. Forewing broadest medially; termen concave below apex, then convex. Ground colour brownish in form of broad dorsal patch; terminal orange fascia with four blackish dots; tornal area with cream orange lines and dots limited distally by a transverse line; costal strigulae indistinct, cream, two terminal strigulae large, yellowish cream; divisions brown, two which followed by orange cream lines; a few concolorous lines on veins in subapical area; brown, diffuse fascia obliquely from before dorsal patch. Cilia brownish. Hindwing brown; cilia more cream-coloured.

Male unknown.

Female genitalia (Fig. 6). Posterior part of sterigma subtriangular, moderately sclerotized, straight distally; lateral edges of sterigma long, sclerotized; proximal sclerite of ductus bursae large; plates of subgenital sternite large, semi-oval; signum moderately large.

Material

Holotype female: "Mexico: Veracruz, Est. Biol. Tuxtlas, 11-16. VI. 1981, V.O. Becker Col; Col. Becker 42453"; GS 481 WZ.

Etymology

The specific epithet refers to the systematic position of the moth to its congeners: Greek: plesios – close.

***Goditha sporosema* (MEYRICK, 1922), comb. n.**

Laspeyresia sporosema MEYRICK, 1922, Exotic Microlepid., 2: 531. T.l.: Brazil: Obidos.

Remarks

CLARKE (1958) transferred this species to *Grapholita* TREITSCHKE, 1829 on the basis of the presence of abdominal coremata on the subgenital segment. The illustration, however, is unclear because of the position of the valva and aedeagus on the slide. It is closely related to *G. prepocydia* (see diagnosis of the latter).

***Goditha prepocydia* sp. n.**

(Figs 1, 12)

Diagnosis

G. prepocydia is closely related to *C. latebrata* as indicated by the male genitalia, but *G. prepocydia* has a shorter terminal part of the tegumen, a shorter aedeagus, and a larger white dorsal patch of the forewing. This species differs from *G. sporosema* in having

a large dorsal patch on the forewing and a short spiny area of the cucullus, which in *G. sporosema* is longer, extending to the end of the neck of valva.

Description

Wing span 14 mm. Head dirty cream, thorax olive brown. Forewing expanding terminad; costa slightly bent; termen incised below apex then distinctly convex. Ground colour retained as large white dorsal patch with some marginal brownish marks, followed by area of white dots reaching a series of four yellowish black-edged lines on veins distally to median cell; terminal fascia orange with three blackish dots; costal strigulae cream, indistinct except for one subapical, white; divisions brownish followed by some orange yellow lines. Remaining area olive brown-grey, paler basally, darker before dorsal patch. Cilia brownish, creamer towards tornus. Hindwing brown, paler basally; cilia brownish cream.

Male genitalia (Fig. 1). Terminal part of tegumen short, broad; basal part of valva short with straight sacculus; ventral incision deep; neck of valva short, rather slender; cucullus moderate, rounded ventrally; aedeagus very short.

Female unknown.

Material

Holotype male: "Ecuador: Morona, Gualaquiza, 900 m, 15. XII. 1992, V.O. Becker Col; Col. Becker 102418"; GS 688 WZ. Paratypes three males, same locality and date.

Etymology

The name refers to the facies of the moth; Greek: prepo – I am similar; Cydia – name of the genus.

***Ranapoaca caparoana* RAZOWSKI, 2011**

Material

Two females from Brazil (Rondonia, Cacauplandia, 140 m, XI. 1991, Colln Nr. 80228; GS 609 WZ; Santa Catarina, Brusque 100 m, 15-20. I. 1981, Colln Nr. 51889; GS 616 WZ).

Remarks

The Brazilian specimens do not differ from the types from Venezuela. A discussion on variation in facies and genital morphology is given in the original description.

***Ranapoaca rostellaria* sp. n.**

(Figs 2, 7, 13)

Diagnosis

R. rostellaria is closely related to *R. caparoana*, but *R. rostellaria* has a slenderer uncus, a longer ventral spine from the cucullus, and a larger median projection of the poststrial sterigma.

Description

Wing span 11.5 mm. Head and tegula greyish, remainder of thorax brown. Forewing not expanding terminally; costa weakly convex; termen concave medially, indistinctly oblique. Ground colour brownish in part, proximal half suffused glossy grey, posterior costal area pale rust; costal strigulae minute, white; divisions rust. Markings brown, typical of genus; median fascia finely edged silver posteriorly. Cilia whitish, brownish in apical and tornal area. Hindwing pale brown, whiter to before middle; cilia pale brownish.

Male genitalia (Fig. 2). Uncus slender, well sclerotized; basal part of valva large, subtriangular posteriorly; neck of valva slender; ventral incision rounded proximally; cucullus elongate-oval with long, single spine ventrally; aedeagus short.

Female genitalia (Fig. 7). Postostial sterigma forming a triangular posterior sclerite, lateral parts fused with sclerites of subgenital sternite; sclerite of antrum elongate, folded laterally; cingulum postmedial; proximal part of ductus bursae forming an indistinct sac; signum broad basally.

Material

Holotype male: "Costa Rica: Turrialba, 600 m, X. 1971, V.O. Becker Col; Col. Becker 3549"; GS 628 WZ. Paratypes two specimens, same labels, female GS 627 WZ, male not dissected.

Etymology

The specific name refers to the projection of the sterigma; Latin: *rostellum* – a small snout.

***Ranapoaca memata* sp. n.**

(Figs 3, 14)

Diagnosis

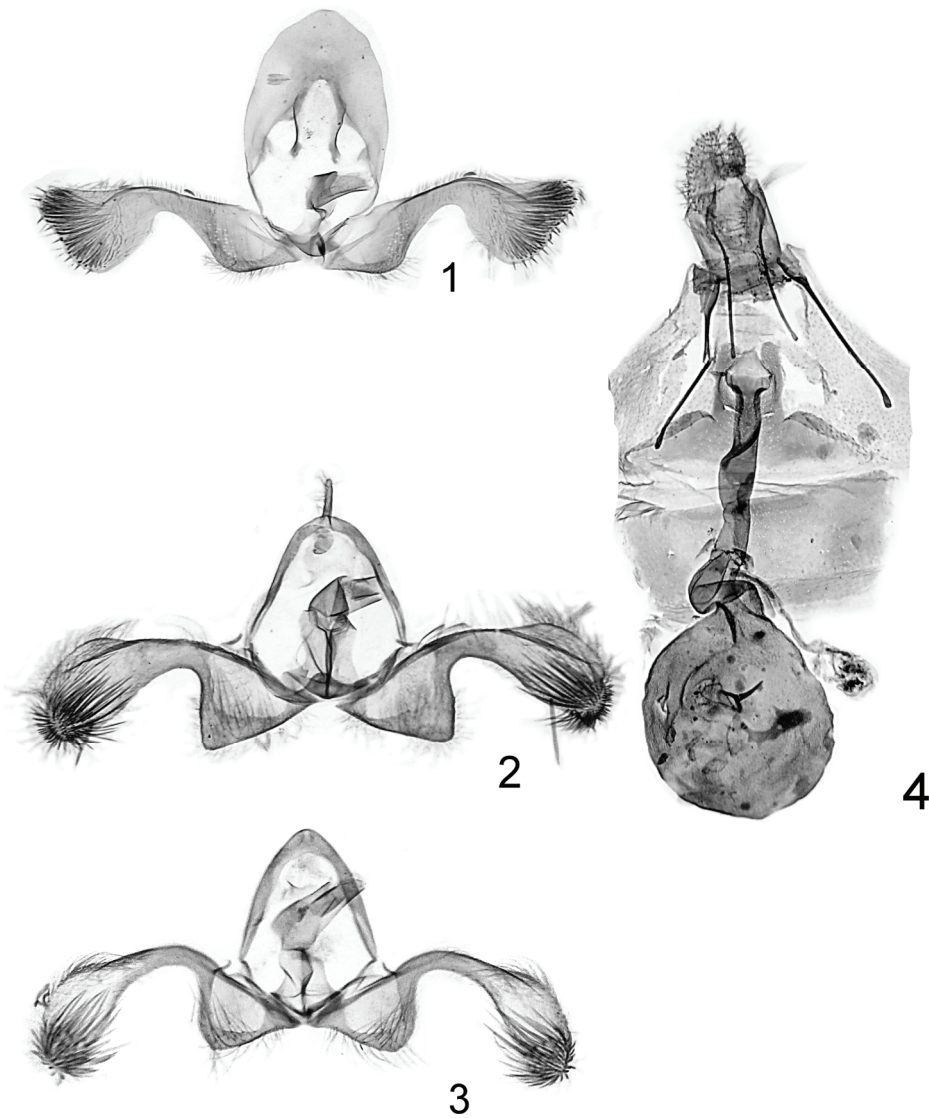
R. memata is externally similar and related to *R. caparoana* and *R. rostellaria*, but *memata* can be distinguished by the absence of an uncus and a longer neck of the valva.

Description

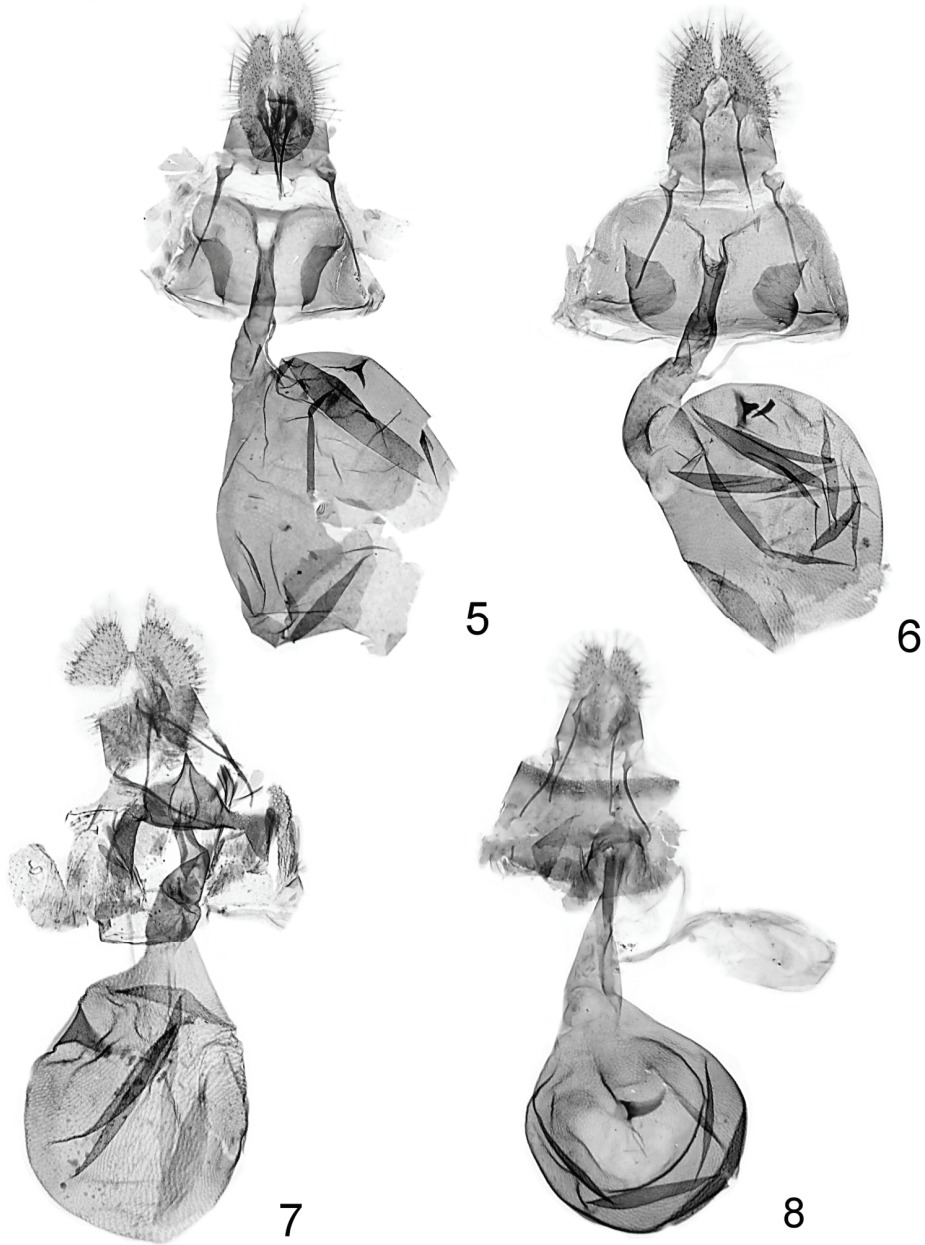
Wing span 11 mm. Head and thorax greyish, the latter mixed whitish proximally. Forewing not expanding posteriorly; costa weakly convex; termen weakly concave medially. Ground colour grey, mixed whitish, glossy bluish basally, brownish grey posteriorly; costal strigulae small, white; divisions brown. Markings brown: dorsobasal blotch elongate; median fascia retained in dorsal half, edged refractive posteriorly; broad, rounded blotch at mid-dorsum. Cilia white, brown at apex and tornus. Hindwing brownish, grey cream to middle; cilia pale brown. Scent scales brown, forming a broad patch at mid-costa.

Male genitalia (Fig. 3). Tegumen tapering terminally; uncus absent; basal part of valva broad; neck of valva long, slender, well sclerotized; sacculus angulate, rounded ventrocaudally; cucullus ovoid; aedeagus typical of the genus.

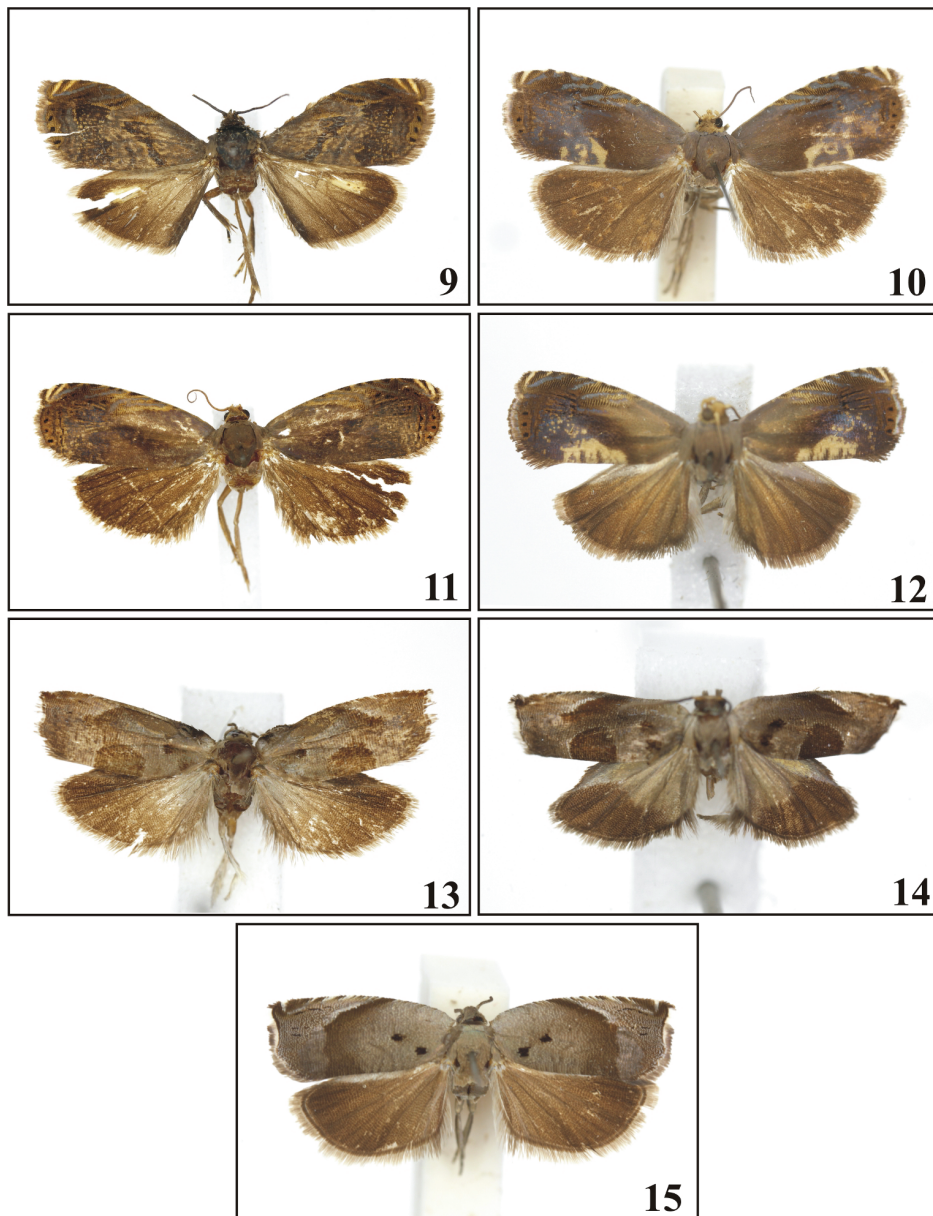
Female unknown.



Figs 1-4. Male and female genitalia: 1 – *Goditha prepocydia* sp. n., holotype, 2 – *Ranapoaca rostellaria* sp. n., holotype, 3 – *Ranapoaca memata* sp. n., holotype, 4 – *Phloerampha involuta* sp. n., holotype.



Figs 5-8. Female genitalia: 5 – *Goditha latebrata* sp. n., holotype, 6 – *Goditha plesia* sp. n., holotype, 7 – *Ranapoaca rostellaria* sp. n., holotype, 8 – *Ranapoaca liota* sp. n., holotype.



Figs 9-15. Adults: 9 – *Ranapoaca involuta* sp. n., holotype, 10 – *Phloerampha latebrata* sp. n., holotype, 11 – *Goditha plesia* sp. n., holotype, 12 – *Goditha prepocydia* sp. n., holotype, 13 – *Ranapoaca rostellaria* sp. n., holotype, 14 – *Ranapoaca memata* sp. n., holotype, 15 – *Ranapoaca liota* sp. n., holotype.

Material

Holotype male: "Brasil: ES[Espirito Santo], Linhares, 40 m, 20-29. II. 1992, V.O. Becker Col; Col. Becker 81958"; GS 611 WZ. Paratype an identically labelled male.

Etymology

The specific epithet is from the Greek: meo – I desire.

***Ranapoaca liota* sp. n.**

(Figs 8, 15)

Diagnosis

R. liota is related to *R. caparoana*, but *R. liota* has two spots in dorsobasal area of the forewing (compared to *R. caparoana*) and a long, slender posterior process of the sterigma, which is short in *R. caparoana*.

Description

Wing span 12 mm. Head and thorax whitish grey with bluish suffusion. Forewing slightly expanding posteriorly; costa rather uniformly convex; termen not oblique, distinctly concave medially. Ground colour grey with weak bluish admixture, slightly suffused yellowish subterminally; costal strigulae white; divisions brown, subapical one rust brown, two minute black dashes subterminally. Markings: two black postbasal spots in dorsal half of wing; brown partly mixed rust median fascia, slender in costal half, broad and diffuse in dorsal part. Cilia white brown at apex and in dorsal half terminally. Hindwing brown, paler basally; cilia cream, mixed brown, brownish in apical area.

Male unknown.

Female genitalia (Fig. 8). Postostial sterigma short with long, slender process medially and small lateroproximal projections; antrum sclerite connected to incomplete, long cingulum; signum moderately long, broad.

Material

Holotype female: "Brasil: D[istrito]F[ederal], Planaltina, 1000 m, 20. IV. 1982, 15° 35'S 47° 42'W, V.O. Becker Col; Col. Becker 40066"; GS 650 WZ. Paratype one identically labelled female.

Etymology

The name refers to the ground colour of the forewing; Greek: liotes – smooth.

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