# New species, new genera, and new combinations of Grapholitini (Lepidoptera: Tortricidae) from the Neotropical Region

### Józef RAZOWSKI

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Abstract. 16 genera and 70 species are treated. Two new genera (Ranapoaca gen. n., Phloerampha gen. n.) and 42 species are descreibed as new (Talponia zuliana sp. n., T. trinidadi sp. n., T. tambopatae sp. n., T. alhajuelo sp. n., Ricula oneiros sp. n., R. psenbasis sp. n., R. waltheriae sp. n., R. ybycuia sp. n., Riculorampha obrima sp. n., R. masaguarali sp. n., Goditha laminaegera sp. n., Phloerampha phloea sp. n., Satronia selvae sp. n., S. masaguarali sp. n., S. heredia sp. n., S. biseriata sp. n., S. rytidogramma sp. n., S. mabeae sp. n., Sereda vegas sp. n., Dichrorampha atalla sp. n., D. huichihuayana sp. n., D. yellahs sp. n., D. rhadina sp. n., D. flinti sp. n., D. talancingana sp. n., D. chloantha sp. n., D. tandayapae sp. n., D. geitantrum sp. n., Ranapoaca caparoana sp. n., Ofatulena manca sp. n., O. moguilae sp. n., O. dominica sp. n., O. neblinana sp. n., Ethelgoda opta sp. n., E. okrodon sp. n., Cydia antioquiae sp. n., C. catamarcae sp. n., C. rufiterma sp. n., C. tepica sp. n., C. orteguazae sp. n., C. sagittula sp. n., Grapholita catarranae sp. n., G. aprosmicta sp. n., G. yurubina sp. n., G. pakitzae sp. n., G. huipulcana sp. n.). Riculoides PASTRANA is synonimized with Ricula HEINRICH; status of Balbis WALSINGHAM is revised; new combination of following species are proposed: Carpocapsa comptana WALKER and Hemimene limemenita MEYRICK are transferred to Ricula, Laspeyresia fabivora MEYRICK and L. torostoma CLARKE are transferred to Ethelgoda, and Laspevresia exsurgens MEYRICK to Cydia, Eucosma procellosa MEYRICK to Coniostola.

Key words: Lepidoptera, Tortricidae, Grapholitini, Neotropics, new taxa.

Józef RAZOWSKI, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, 31-016 Kraków, Sławkowska 17, Kraków, Poland. E-mail: razowski@isez.pan.krakow.pl

## I. INTRODUCTION

Grapholitini are represented by just over 900 species worldwide (ROTA & BROWN 2008). Yet, in the Neotropics, where tortricid diversity is highest in most major lineages, only about 125 species are recorded (POWELL et al. 1995). Based on the number of undescribed species in collections worldwide, this modest number reflects limited study of the group rather than low diversity. Although inventories of some South American countries suggest otherwise (e.g., Ecuador) (RAZOWSKI & WOJTUSIAK 2008a, 2008b, 2009), col-

lecting in Costa Rica indicates that Grapholitini diversity is highest at lower elevations, decreasing dramatically above ca 500 m (J. BROWN, pers. comm.).

Nearly half of the known Neotropical grapholitines were described by MEYRICK (1916, 1922), mostly in the genus *Hemimene* Hübner. Because *Hemimene* subsequently was synonymized with *Pammene* HÜBNER, POWELL et al. (1995) transferred all of MEYRICK's Neotropical *Hemimene* species to *Pammene*, resulting in numerous new combinations, although these were not noted as such. Based on unpublished studies by Furumi KOMAI, BROWN & al. (2005) treated all of these as "Grapholitini Unplaced Species"; their generic placements were uncertain, but based on studies on the Palearctic fauna (KOMAI 1999), they do not belong in *Pammene*.

The rather impressive amount of material that has accumulated recently from the Neotropics, combined with the lack of appropriate generic assignments for many of the described species, indicate that considerable study of the group is necessary to bring it to a level of understanding commensurate with that of other tortricid tribes in the Neotropics (e.g., Cochylini, Euliini, Archipini). The purpose of this paper is to describe many of the new species that have accumulated during field work in the Neotropics and to begin to assign to approriate genera many of species previously described by MEYRICK in *Hemimene* and *Laspeyresia*, neither of which is currently recognized as a senior synonym.

# **II. MATERIALS AND METHODS**

Over 500 specimens of Neotropical Grapholitini deposited in collections worldwide were examined. Abbreviations of depositories are as follows: BMNH, The Natural History Museum, London, United Kingdom; USA; INBio, Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica; and USNM, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA. Other abbreviations used in the materials examined include the following: ca. = circa (approximately); Est. = Estación; GS = genitalia slide number; and P.N. = Parque Nacional. The holotypes of the newly described species are preserved in the Systematic Laboratory, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA.

Dissection methods follow those presented in BROWN & POWELL (1991, 2000). Images of adults and genitalia were captured using a digital camera. Terminology for genitalia structures and forewing pattern follow RAZOWSKI (2002).

# **III. SYSTEMATICS**

KOMAI (1999) recognized three generic groups within Grapholitini: the *Dichroram-pha*-group, the *Cydia*-group, and the *Grapholita*-group, each of which is defined by one or more putative synapomorphies. HORAK (2006) followed KOMAI's (1999) assessment, adding a fourth group, the *Loranthacydia*-group. The grapholitine fauna of the Neotropical Region includes members of all but the *Loranthacydia*-group. The taxa treated in this paper are arranged by generic groups, preceded by brief discussions of the group.

#### Dichrorampha-group

As defined by KOMAI (1999), the Dichrorampha-group was comprised of Dichrorampha and Pammenemima DIAKONOFF. ROTA and BROWN (2009) added Satronia HEIN-RICH, Ethelgoda HEINRICH, Talponia HEINRICH, Ricula HEINRICH, Riculoides PASTRANA, and Riculorampha ROTA & BROWN with some reservation owing to the inconsistency of some character states. Members of the group can be distinguished by the following morphological features: hindwing vein  $R_5$  and  $M_1$  separate and parallel or subparallel (HEINRICH 1926, KOMAI 1999); forewing with a row of black dots along the termen (KOMAI 1999); sterigma, seventh sternite, and sclerotized part of the ductus bursae completely fused (KOMAI 1999); forewing termen with subapical notch between  $R_5$  and M<sub>1</sub> (ROTA & BROWN 2009); female frenulum with two bristles (ROTA & al. 2009; ROTA & BROWN 2009); and corpus bursae with a single signum (ROTA & BROWN 2009). While the subapical notch of the forewing and the two-bristled frenulum are found in one or more species not included in the Dichrorampha-group, loss of one of the signa may represent a synapomorphy for at least Dichrorampha, Ricula, Riculoides, Goditha, and Riculorampha. Talponia, Sereda, and Satronia share most other features of the group, but all have two signa.

### Talponia HEINRICH, 1926

*Talponia* HEINRICH, 1926, Bull. U.S. Natn. Mus., **132**: 19. Type species: *Hemimene plummeriana* BUSCK, 1906, Maryland, U.S.A.

*Talponia* can be distinguished from most other genera in the *Dichrorampha*-group by the presence of two signa in the corpus bursae of the female genitalia; this character state is shared with *Satronia* and *Sereda*. The male genitalia are most similar to those of *Riculoi-des* on the basis of the narrow, dorsally attenuate tegumen with setae at the top, and the long slender socii. The genitalia of *Talponia* also are similar to those of *Ricula*, but in *Talponia* the tegumen is more attenuate dorsally, the socii are considerably longer, and the sterigma is fused with the subgenital sternite. BROWN (2005) included two species in the genus, *T. plummeriana* (BUSCK) and *T. batesi* HEINRICH, 1926. It is likely that several species described in *Hemmime* by MEYRICK belong here as well. Five new species are described below.

# Talponia zuliana sp.n.

(Figs 1, 76)

D i a g n o s i s. Superficially, *T. zuliana* is similar to *Hemimene penetralis*, but *T. zuliana* has a smaller and paler forewing, and the male genitalia lack the ventral process of the sacculus. *T. zuliana* also is similar to *T. plummeriana*, but the forewing of *T. zuliana* has a pinkish violet hue in the pale postmedian area, and in the male genitalia the neck of the valve is atrophied.

Description. Wing span 9 mm. Forewing as in *penetralis* but basal half olive brownish with yellowish shade and fine transverse strigulation, and posterior edge of this area convex. Pale posterior area lighter than in *penetralis* with more posterior marbling. Hindwing brownish grey.

Male genitalia (Fig. 1). Uncus weak, submembranous; socius very long, slender; valva slender, somewhat broadening in basal fourth; aedeagus simple, tapering terminally.

Female not known.

Holotype male: "V[en]e[zue]la. Zulia Ditto. Maracaibo F. La Rinconada, 20. II. 1975; Ex Flores de Guanabana; O. DOMINGUEZ colector"; GS 126,544. Pratype male: "Guiana: Esseq., 6 mi. S Wineperu, Picrewana, 8-16.III.69, DUCKWORTH & DIETZ"; GS 126,523; deposited in USNM.

E t y m o l o g y. The specific name refers to the type locality.

## Talponia trinidadi sp. n.

# (Figs 45, 77

Diagnosis. Facies very similar to *zuliana* but *trinidadi* terminal part of wing browner with sparse pinkish dots and costal strigulae before middle of wing reduced.

D e s c r i p t i o n. Wing span ca 11 mm. Head creamish, end of labial palpus brownish; thorax greyish olive with cream termination of scales. Forewing slenderer than in the preceding species, brownish olive, creamer basally, with brownish dorso-terminal half dotted pinkish; terminal area brownish with a few brown dots. Cilia (rubbed) brownish. Hindwing brownish with paler cilia.

Male not known.

Female genitalia (Fig. 45). Posterior part of sterigma broad fused with broad posterior part of subgenital sternite; antrum built of thick membrane; origin of ductus seminalis in middle of ductus bursae followed by a rather weak sclerite situated just before antrum; signa two, small.

Holotype female: "St. Augustine, Trynidad. BWI April 1937"; GS 126, 480. Deposited in USNM.

E t y m o l o g y. The specific name refers to country of the origin.

## Talponia tambopatae sp. n.

## (Figs 2, 45, 78)

D i a g n o s i s. In facies, *T. tambopatae* is similar to *Ricula luctifica* (MEYRICK, 1922) from British Guiana, but *T. tambopatae* has an oval, brownish blotch near the end of median cell of the forewing. The male genitalia of *T. tambopatae* have somewhat shorter socii than those of its congeners.

D e s c r i p t i o n. Wing span 15 mm. Head and thorax brownish (rubbed). Forewing broad; costa bent postmedially; apex small, termen with small subapical concavity, remainder convex. Forerwing ground colour brownish cream, mixed pinkish in distal third; strigulation brownish; remnants of markings darker, with oval blotch near end of median cell; costal strigulae whitish, divisions brown; row of black dots along termen. Hindwing brown; cilia similar.

Male genitalia (Fig. 2). Uncus short; socius long, slender, hairy and spined; basal half of valva gradually tapring towards end of neck; cucullus with distinct but short ventral lobe; cucullus long, tapering terminally with strong marginal spines; aedeagus short.

Female genitalia (Fig. 45). Sterigma a crescent-shaped sclerite with triangular ostium area followed by a short sclerite; proximal part of sterigma fused with large subgenital plate with pair of lateral invardly sclerotzited processes; antrum sclerite long, ill-defined posteriorly; corpus bursae with two slender signa.

Holotype male: "Peru: Madre de Dios; Rio Tambopata Res; 30 air km. SW Pto Maldonado, 290 m, 11-15 XI 1979, J. B. HEPPNER, subtropical moist forest"; GS 126 448; paratype an identically labelled female, GS 126 449. Deposited in UA+SNM.

### ?Talponia batesi HEINRICH, 1932

## (Figs 46, 79)

D i a g n o s i s. This species is closely related to *T. plummeriana* (BUSCK, 1906) from Maryland, the U.S.A. and their female genitalia are almost identical. However, externally the two species are very different, *plummeriana* chiefly by its reddish orange distal part of the forewing.

Description. Wing span 8 mm. Head and thorax brownish grey, labial palpus whiter. Forewing broad, expanding terminally. Forewing ground colour cream grey, suffusions and strigulation brownish grey. Costal strigulae cream, distinct. Row of black dots distinct, situated in dorsal third of termen. Cilia worn. Hindwing brownish, cream along termen; cilia whitish.

Female genitalia (Fig. 46). Sterigma broad, straight in middle posteriorly, extending latero-proximally into slender processes, with proximal edge well sclerotized; sclerite of antrum short; basal and postmedian sclerites of ductus bursae present. Signa well developed.

Specimen examined, male: "Costa Rica: Prov. Heredia, Sarapiqui, Magsaysay, 10.24'N 84.03'W, 170 m, Cantarrana Refuge 19 Febryary 2004, 03/L/00/011, D. WAG-NER"; GS 126,452. Deposited in USNM.

## Talponia alhajuelo sp. n.

(Figs 47, 80)

D i a g n o s i s. In facies, *S. alhajuelo* is most similar to *Hemimene ardescens* MEYRICK, 1916 from Peru (illustrated in CLARKE 1958: 408) but the former has brown costal suffusion of the forewing. The female genitalia of *T. alhajuelo* are similar to those of *Satronia masaguarali* but differ by having a long cingulum fused with the sclerite of the antrum.

D e s c r i p t i o n. Wing span 12 mm. Head cream brown; thorax brownish. Forewing strongly expanding terminally; costa straight to beyond middle; termen deeply concave beneath apex. Forewing ground colour brownish cream, preserved chiefly subterminally and dorsally where tinged pale orange, crossed by several slender brownish lines, wing base, costa, and part of median area brownish with brown lines; costal strigulae fine, whitish; black terminal spots well developed. Cilia pale cream brown. Hindwing brown, whiter in area of median cell; cilia whitish.

Male not known.

Female genitalia (Fig. 47). Anteostial sterigma a slender, rounded proximally sclerite, postostial sterigma broad; sclerite of antrum fused with cingulum; corpus bursae with two moderate funnel-shaped signa.

Holotype female: "Alhajuelo Pan[ama]. Apr[il]. [19]11, August BUSCK"; GS 126,529. Deposited in USNM.

E t y m o l o g y. The name refers to the type locality.

### Talponia rytidogramma sp. n.

(Figs 48, 81)

D i a g n o s i s. This species is similar to *T. biseriata* but *T. rytidogramma* has several lines from the dorsum of the forewing, a sclerite at the base of ductus bursae, and a large subgenital sternite.

D e s c r i p t i o n. Wing span 11 mm. Head whitish scaled blackish, labial palpus blackish in distal half dorsally; thorax cream grey with blackish markings. Forewing broad expanding to beyond middle; costa convex; termen not oblique, hardly concave beneath apex. Forewing ground colour cream in form of seven dorsal lines reaching costal part of median fascia, ochreous at termen where a series of black dots present; costal strigulae whitish, divisions brown; ocellar area reduced; several oblique lines from costa followed by refractive marking; remaining areas brown. Cilia brownish. Hindwing broadly rounded apically, brown, whiter basally; cilia cream, in anal area whiter.

Male unknown.

Female genitalia (Fig. 48). Sterigma broad, subsquare, with well expressed corners and strongly sclerotized proximal edge convex medially; sclerite of antrum slender fused with long sclerite of distal part of ductus bursae; ductus seminalis originating from bulbous postbasal part of latter; corpus bursae with two slender funnel-shaped signa.

Holotype female: "Venezuela: T.P. Amaz[onas], Cerro de la Neblina, Basecamp 0°50'N 0°9'4" 140 m, 1-10 March 1984, D. DAVIS & T.MCCABE"; GS 126.560, deposited in USNM.

E t y m o l o g y. The name refers to the forewing markings; Greek: rhytis – a wrinkle, gramma – a carved sign.

R e m a r k s. This species is included to *Talponia* on basis of presence of two signa.

### Talponia biseriata sp. n.

## (Figs 49, 82)

D i a g n o s i s. This species is related to *T. masaguarali* from which it differs by the double row of blackish subterminal spots of the forewing, a broad sterigma, and the absence of a cingulum in the female genitalia.

D e s c r i p t i o n. Wing span 8.5 mm. Head and thorax grey-brown, end of labial palpus blackish. Forewing strongly broadening terminally; termen weakly oblique, incised beneath apex. Forewing ground colour greyish brown densely sprinkled olive yellowish in proximal half of wing, strigulaed brownish; two rows of blackish brown dots parallel to termen; costal strigulae indistinct except for two (the last large) clear white subapical ones, divisions brown; termen in part yellowish olive. Traces of brown markings hardly visible. Cilia brownish. Hindwing brownish, paler basally; cilia brownish.

Male unknown.

Female genitalia (Fig. 49). Apophyses fairly long, slender; sterigma broad with rather short anteostial part and large postosial part; antrum membranous distally with short anterior sclerite with posterior processes; cingulum absent; corpus bursae wth pair of moderately large signa.

Holotype female: "Venezuela, T.F. Amaz. Cerro de la Neblina, Basecamp. 155 m, 0°50'N 66°9'44''W, Canopy 1-10 Mar. 1984, D. DAVIS & T.MCCABE"; GS 126,491; deposited in USNM.

E t y m o l o g y. The name refers to the arrangement of markings; Latin: bi - double, seria – a row.

### Ricula HEINRICH, 1926

*Ricula* HEINRICH, 1926, Bull. U.S. Natn. Mus., **132**: 18. Type species: *Lipoptycha maculana* FERNALD, 1901, Florida, U.S.A.

*Riculoides* PASTRANA, 1952, Bull. Soc. Cient. Argent., **154**: 66. Type species: *Riculoides gallicola* PAS-TRANA, 1952, Argentina – **syn. n.** 

The female genitalia of *Ricula* have a broader and shorter ductus bursae than other genera in the *Dichrorampha*-group, and the corpus bursae has a single signum. The male genitalia of *Ricula* have a pair of setae at the top of the tegumen and long slender socii of variable length. BROWN (2005) included two species *Ricula*: *R. dubitana* KUZNETSOV from Vietnam and *R. maculana* (FERNALD) from Florida, USA. *Riculoides* previously was considered to be monotypic. Two new species are described and two new combinations are proposed below.

## Ricula comptana (WALKER, 1863), comb. n.

(Figs 3, 83)

*Carpocapsa comptana* WALKER, 1863, List Specimens lepid. Insects Colln. Brit. Mus., **28**: 403; t.l.: Brazil: Ega, Amazonas. BROWN 2005: 252 (*Dichrorampha*).

D e s c r i p t i o n. Wing span of female holotype ca. 12 mm. Head missing; thorax grey-brown. Forewing fairly broad; costa curved postmedially; termen slightly concave beneath apex. Basal half of wing and costal area dark brown, remaining part of wing orange with brown marbling, separated costally by a slender fascia; costal strigulae fine, whitish, three proximal strigulae followed by orange lines, posterior strigulae followed by refractive bluish lines. Cilia grey, browner at tornus. Hindwing dark brown; cilia paler. A male from Teffé with identical pattern; labial palpus brown cream.

Male genitalia (Fig. 3). Uncus membranous, well developed; socius long, broadening basally, sparsely hairy; basal part of valva broad, distinctly convex beyond basal process; sacculus convex; submarginal lobe at beginning of ventaral incision of valva; neck of valva slender; cucullus elongate; aedeagus moderately long.

Female genitalia unknown.

Holotype female with abdomen missing; additional specimen is labelled: "Teffé, Brazil, PARISH, I.[19]20"; GS 32164, both in NHML.

#### *Ricula limenita* (MEYRICK, 1922), comb. n.

(Fig. 50, 84)

*Hemimene limenita* MEYRICK, 1922, Exot. Microlep., **2**: 530; t.l.: Brazil: Amazonas, Teffé. BROWN 2005: 366 (Grapholitini Unplaced Species).

Material examined (Fig. 50). One female from Trinidad, Panama, May 1912, August BUSCK (USNM).

R e m a r k s. This species was described from Teffé, Brazil; the lectotype female is illustrated by CLARKE (1958: 412).

#### *Ricula oneiros* sp. n.

## (Figs 4, 85)

D i a g n o s i s. This species differs from *R. maculana* (FERNALD, 1901) and representatives of allied genera by the brown hindwing edged with orange, and from all other known grapholitines by the bulbous, spiny postzonal part of the aedeagus.

Description. Wing span 15 mm. Head and thorax brown-grey, labial palpus slightly lighter, creamer. Forewing expanding terminally; costa gradually convex; termen distinctly concave beneath apex. Forewing ground colour orange, preserved in median cell area, at termen, and edging dorsal blotch which is dark brown and has two lines from submedian part of costa; basal third of wing and anterior half of costal area brown-grey, posterior part of wing brown with some fine orange marks; costal strigulae fine, whitish; black terminal dots on orange ground. Cilia creamish scaled brownish. Hindwing orange brown on periphery and along anal veins; cilia orange.

Male genitalia (Fig. 4). Uncus broad, soft, helmet-shaped; socii short, fairly broad; basal third of valva broad; neck slender; sacculus convex; cucullus long, slender, with distinct ventral lobe; aedeagus broad beyond zone with dense, short spinualation, slender in terminal part.

Female not known.

Holotype male: "Costa Rica Prov. Alajuela, P.N. Volcan Tenorio, Albergue Heliconi, 700 m, Aug. 2001, G. RODRIGUEZ, Luces, DN 300250 423500#64124"; GS 126,553.

## Ricula waltheriae sp.n.

### (Figs 6, 52, 87)

D i a g n o s i s. The male genitalia of *Ricula waltheriae* resemble those of *ybycuia* and somewhat to *Cydia ingens*, but externally the two species are very different. Male genitalia similar to *ybycuia* but *waltheriae* with short aedeagus and reduced ventral incision of valva. The male genitalia also are similar to *Cydia flexiloqua* (HEINRICH, 1926) from Ontario, Canada, but those of *C. waltheriae* have an elongate dorsal part of cucullus and lack of the antrum sclerite.

D e s c r i p t i o n. Wing span 9 mm. Head and thorax grey cream. Forewing weakly expanding terminad, termen slightly concave beneath apex. Forewing ground colour cream with slight brownish admixture, darker in terminal area and costa where tinged brown-grey; costal strigulae small, cream, divisions brown; a series of brown dashes near wing middle subcostally; row of black-brown dots along termen; dorsal half of wing parallelly strigulated brownish, broadest marking near middle. Cilia paler than strigulae. Hindwing pale greyish brown; cilia creamish.

V a r i a t i o n. Male paratype darker than the holotype, more brown-grey. Female wing span 11 mm; head thorax and proximal part of forewing whitish cream densely strigulated brown; subterminal interfascia cream ferruginous, remaining area tinged brown-grey.

Male genitalia (Fig. 6). Tegumen slightly expanding terminally; valva rather uniformly broad; sacculus hardly convex; ventral incision indistinct; cucullus curved upwards, with reduced ventral lobe; aedeagus short, wedge shaped; cornuti moderately long.

Female genitalia (Fig. 52). Anteostial sterigma broad, rounded proximally; postostial sterigma slender, convex distally; antrum large, membranous; single large signum and a weak sclerite present.

Holotype male: "9577 E.E.A. de Cuba No.; Gallmaker on *Waltheria americana*"; GS 126,510; paratypes an identically labelled pair, female with GS 126511, deposited in USNM.

Etymology. The name refers to the food plant.

#### *Ricula ybycuia* sp. n.

(Figs 7, 52, 88, 89)

D i a g n o s i s. *Ricula ybycuia* is closely related to *waltheriae*; *ybycuia* can be distiguished by its brownish grey forewing dorsum, its broad median part of the aedeagus, and the more pronounced neck of the valva.

D e s c r i p t i o n. Wing span 11 mm. Head and thorax brownish grey, labial palpus creamish, brown-grey subterminally. Forewing broad with termen not oblique, concave beneath apex. Forewing ground colour cream strongly sufused and sprinkled brown-grey, brownish in distal half, sprinkled creamish along wing edges; costal strigulae fine, cream and greyish, divisions grey-brown; row of blackish dots along termen. Cilia brownish cream. Hindwing brownish, darker on peripheries; cilia cream, brown scaled.

Variation. Female darker than holotype, more brown-grey, densely sprinkled creamish, with whitish dorsal patch divided by four brownish lines; terminal dots rudimentary.

Male genitalia (Fig. 7). Tegumen rounded apically; valva broad to end of sacculus; ventral incision shallow; cucullus curved upwards with indistinct, broad ventral lobe; aedeagus broad to before middle then obliquely tapering terminad, with dorsal serrate sclerite and a few minute lateral thorns near middle.

Holotype male: "Paraguay: Depto Nueva Asunción, Nueva Asunción, 23-25.III.1986, Leg. POGUE & SOLIS"; GS 126,520; paratype, an identically labelled female, GS 126,521; deposited in USNM.

E t y m o l o g y. The name refers to the collecting locality of the females.

R e m a r k s. Two similar females collected in same locality on 15-16.III.1986, same collectors, one with GS 126,521 examined. They differ from the holotype in reduction of terminal dots and presence of blak spots of subterminal fascia. Female genitalia (Fig. 53; ovipositor short; sterigma with large lateral lobes and small anteostial part; antrum uniformly broad with rather weak sclerite ductus bursae with basal sac; two equally sized signa present) resemble rather representatives of *Talponia*.

## Ricula masaguarali sp. n.

(Figs 8, 53, 90)

D i a g n o s i s. The facies of this species is similar to *R. waltheriae* but *masaguarali* termen with a few white dots and more oblique dorsal patch, male genitalia with slender neck of valva, female genitalia with small sterigma.

Description. Wing span 9 mm. Head cream brown; thorax, especially base of tegula, browner. Forewing slightly expanding terminad; apex broadly rounded; termen al-

most straight. Forewing ground colour whitish, reduced to three lines of dorsal patch and some minute dots situated more posteriorly and medially; remaining area brownish grey; costal strigulae whitish, divisions grey-brown; row of blackish dots in dorsal half of termen and at apex. Cilia brownish grey with two white interruptions beneth apex and one before tornus. Hindwing brownish grey; cilia whitish.

V a r i a t i o n. Dorsal patch with distinct divisions, some additional brown-grey lines medially and towards tornus; whitish dots of ground colour more or less distinct.

Male genitalia (Fig. 8). Terminal part of tegumen broad; socii absent; neck of valva fairylly broad, well developed; cucullus elongate with broad ventral lobe; aedeagus fairly broad, tapering terminad.

Female genitalia (Fig. 54). Sterigma small, convex, posteriorly completely fused with subgenital sternite; antrum slender, membranous; cingulum posterior, well sclerotized; corpus bursae with two signa.

Holotype female: "Venezuela: Guarico, Hato Masaguaral 6-8 May 1988, 45 km S Calabozo 8.57N, 67.58W Savanna#16, 75 m, uv light, M. EPSTEIN & R. BLAHNIK"; GS 126,485. Paratypes one male and 3 females similarly labelled as the holotype but from Guarico, 9-11 May; male collected at 75 m, 8-9 April 1988, GS 126,484, deposited in USNM.

E t y m o l o g y. The name refers to the type locality.

#### **Balbis** WALSINGHAM, 1897 revised status

Balbis WALSINGHAM, 1897, Proc. Zool. Soc. London, 1897: 128. Type species: Carpocapsa assumptana WALKER, 1863, Amazonas, Brazil.

*Balbis* has traditionally been treated as a junior synonym of *Dichrorampha* GUENÉE, 1845 (e.g., POWELL et al. 1995, BROWN 2005). However, the genus probably is distinct from *Dichrorampha*; it is either closely related to, or a senior synonym of *Ricula*. The main difference between the two is the presence of a very long, apomorphic basal process of the valva in *Balbis*. HEINRICH (1923) noted that *Balbis* "has a costal hair pencil on hindwing of male, strong pecten on underside of vein 1b on fore wing and different venation." Other features are similar to *Ricula*, especially the large socii (variably in length in *Ricula*) and the valva. Until the female of *Balbis* is discovered, the synonymy of *Ricula* and *Balbis* is uncertain.

### Balbis assumptana (WALKER, 1863) revised status

### (Figs 9, 91)

*Carpocapsa assumptana* WALKER, 1863: 406. Type locality: Brazil: Ega, Amazonas. Colln NHML. BROWN 2005: 251 (*Dichrorampha*).

D e s c r i p t i o n. Wing span 16 mm. Head and thorax orange, the latter with brown marks. Forewing distinctly expanding terminally; costa weakly convex; termen gently concave beneath apex. Forewing ground colour orange with numerous brown-grey transverse marks in posterior half of wing and some longitudinal marks in basal half; costal strigulae short, cream, followed by rust orange area, divisions broad, brown; refractive marking bluish. Cilia orange, browner at apical third of wing. Hindwing orange, brown in anal field and peripheries; cilia orange.

Male genitalia (Fig. 9). Terminal part of tegumen and uncus well sclerotized, the latter bifid; socius long, rather broad; attachment sclerite for muscle 4 broad; valva slender, tapering posteriorly; sacculus weakly convex; cucullus long, without lobes, strongly spined towards middle of basal cavity; basal process extremely long; aedeagus broad, short.

Female unknown.

Holotype male (not female as indicated by BROWN 2005): Brazil: "Ega"; GS 11812, in NHML.

#### Riculorampha ROTA & BROWN, 2009

*Riculorampha* ROTA & BROWN, 2009, ZooKeys, 23: 41. Type species: *Riculorampha ancyloides* ROTA & BROWN, 2009, Florida, U.S.A.

In the female genitalia of *Riculorampha* the ostium and posterior portion of the ductus bursae are broad, and the corpus bursae is rounded with a single signum. The male genitalia have a broad rounded dorsum of the tegumen and lack elongate socii. Male genitalia are further characterized by a large triangular sacculus. The genus was described as monotypic; a single new species is described below.

# Riculorampha psenbasis sp. n.

### (Figs 5, 86)

Diagnosis. *Riculorampha psenbasis* is superficially similar to *Riculorampha obrima* but in *S. psenbasis* the dorso-posterior edge of the basal forewing blotch is concave with a pale edge. *R. psenbasis* differs from *S. tantilla* and *Riculorampha obrima* in the presence of a short cucullus and broad aedeagus.

Description. Wing span 13 mm. Head and thorax greyish brown, labial palpus paler, yellower. Forewing broad, slightly expanding terminad; costa weakly bent; termen weakly concave beneath apex. Forewing ground colour pale orange except submedian concave line from dorsum and two subterminal costal strigulae; other costal strigulae orange, divisions brown; refractive lines sparse, bluish; black terminal dots on orange ground; basal half of wing dark brown; numerous curved and sinuate lines chiefly in posterior part of wing on the ground colour. Cilia brownish. Hindwing dark brown; cilia paler.

Male genitalia (Fig. 5). Uncus reduced; socii asmall, naked; basal half of valva broad, ventral incision subtriangular, followed by large basal lobe of cucullus; sacculus curved; aedeagus broad, wedge-shaped posteriorly.

Female unknown.

Holotype male: "Dominica, Pont Cassé 2 mi NW, IV-11-1965, R.D. DAVIS"; GS 126,530, deposited in USNM.

E t y m o l o g y. The name refers to colouration of basal half of wing; Greek: psen – smooth, basis – base.

### *Riculorampha obrima* sp. n.

(Figs 10, 92)

D i a g n o s i s. The male genitalia of *Riculorampha obrima* are very similar to *Riculorampha ancyloides* ROTA & BROWN, Florida, U.S.A., but those of *R. obrima* have a long, posteriorly slender aedeagus with a dentate terminal part. From *Ricula maculana* (FER-

NALD, 1901) from Florida, U.S.A., *R. obrima* differs in the possession of broad, rigid socii, a slender aedeagus, and an angulate sacculus. *R. obrima* differes from *lathraeopa* in the oblique dorso-posterior edge of the basal blotch and the marbled dorso-postmedian area of forewing, and the straight cornutus of the aedeagus.

D e s c r i p t i o n. Wing span 12 mm. Head and thorax brown. Forewing expanding terminally; costa slightly convex; termen long, concave beneath apex. Forewing ground colour cream in postmedian area, slightly mixed orange, in form of submedian interfascia, cream at markings, leaden grey in costal area; costal strigulae small, cream and pale orange, divisions brown; row of black terminal dots on orange ground; apex orange proximally limited by a white line. Cilia brown. Hindwing brown; cilia paler.

Male genitalia (Fig. 10). Tegumen broad terminally; socii broad, well sclerotized, not hairy; valva broad to 1/3, with slender neck and abrupt proximal edge of sacculus; cucullus elongate with spiny ventral edge; similar spines in distal half of ventral incision of valva; distinct lobe at angle of sacculus; aedeagus slender from beyond base, with postmedian process laterally; one strong cornutus in vesica.

Female unknown.

Holotype male: "Venezuela: Aragua; Rancho Grande 1100 m, 1-3.IV.1978, blacklight, cloud forest, J. B. HEPPNER"; GS 126,546; deposited in USNM.

E t y m o l o g y. The specific name refers to strong spines and some parts of the genitalia; Greek: obrimos – strong.

## Goditha laminaegera sp. n.

(Figs 54, 93)

D i a g n o s i s. This species differs from *Goditha bumeliana* HEINRICH, 1926 from Texas, USA in subtriangular, elongate cucullus. Superficially, this species is externally somewhat similar to *Cydia tonosticha* (MEYRICK, 1922) but *Goditha laminaegera* has a row of terminal black dots on the forewing, and in the female genitalia the sterigma is fused with the edges of the posterior incision of the subgenital plate.

Description. Wing span 17 mm. Head and thorax brown-grey with olive hue. Forewing barely expanding terminally; costa weakly convex; termen gently concave beneath apex, slightly oblique. Forewing olive grey with ochreous scaling; costal strigulae small, cream, except two posterior ones which are large, white, divisions pale brown-grey; row of three black dots along mid-termen; ocellar area indistinctly differentiated with fine black edged yellowish line; four radial dashes beyond median cell. Cilia concolorous with wing. Hindwing brownish, brown on peripheries; cilia creamish brown.

Male remains unknown, female genitalia as in Fig. 54.

Holotype female: "Jamaica, W. M. SCHAUS"; GS 126,489. Deposited in USNM.

E t y m o l o g y. The specific name refers to presence of sclerotic plates of the subgenital sternite; Latin: lamina – plate, gero – I carry.

# Phloerampha gen. n.

Type-species: Phloerampha phloea sp. n.

D i a g n o s i s. This genus is placed in the *Dichrorampha*-group based on the forewing pattern (especially row of dots along termen); remaining characters of markings and fe-

male genitalia resemble to some degree *Cydia* HÜBNER and the female genitalia those of *Sereda* HEINRICH but sterigma of the latter broad and short; from sterigma of *Ethelgoda* HEINRICH this genus differs in having distal, convcave folds whilst in *Phloerampha* these parts are convex.

D e s c r i p t i o n. Venation: In forewing all veins separate; R5 to beneath apex, Cu2 beyond base of R1 oppositely; M and chorda well developed. In hinding M3-Cu1 connate.

Male not known.

Female genitalia: Sterigma fused with posterior median lobe of subgenital sternite, with broad membranous part at ostium bursae; lateral parts of this sternite convexely olded; sclerite of antrum weak (chiefly a strong membrane) long; signum one.

R e m a r k s. The genus is monotypic known to date from Venezuela. Nothing is known of its biology.

E t y m o l o g y. The name is based on the name of its type-species and part of the name *Dichrorampha*.

## Phloerampha phloea sp. n.

# (Figs 55, 94)

D i a g n o s i s. *Phloerampha phloea* is similar to *E. opta* but is distinguished by the dorsal patch of the forewing consisting of four cream lines, the tornal area brown, dotted cream, and the veins not suffused brown.

D e s c r i p t i o n. Wing span 15 mm. Head and thorax brownish grey; labial palpus cream. Forewing weakly expanding terminally; termen slightly concave beneath apex. Forewing ground colour cream in form of dorsal patch followed by concolorous maculation on brown background; subtornal blotch dark brown; two posterior costal strigulae distinct, whitish, divisions brown; terminal area brownish with row of black dots. Cilia brownish. Hindwing brownish, dark brown on peripheries with cream elongate patch on vein M1; cilia cream.

Male unknown.

Female genitalia as in Fig. 55.

Holotype female: "Venezuela: Arag.[ua], Rancho Grande 10-21. II.[19]69, DUCK-WORTH & DIETZ"; GS 126,519, deposited in USNM.

Et y mology. This name refers to the colouration; Greek: phloe (from phloios) – a bark.

### Satronia HEINRICH, 1926

Satronia HEINRICH, 1926, Bull. U.S. Natn. Mus. 132: 17. Type species: Satronia tantilla HEINRICH, 1926, Florida, U.S.A.

The female genitalia of *Satronia* share with those of *Talponia* and *Sereda* the presence of two signa in the corpus bursae. The male genitalia of *Satronia* are most similar to those of *Talponia*, but those of *Satronia* lack setae at the top of the tegumen and long slender socii. BROWN (2005) included one species in the genus, *S. tantilla* HEINRICH. Three species are transferred provisionally to *Satronia*: *Hemimene penetralis* MEYRICK, 1916, from British Guiana; *H. diagrapta* MEYRICK, 1922, from British Guiana; and *Laspeyresia ioxesta* MEYRICK, 1922, from Brazil; all are illustrated by CLARKE (1958) but not re-examined for this paper. Eight new species are described below.

#### *Satronia selvae* sp. n.

(Figs 11, 95)

D i a g n o s i s. *Satronia selvae* is externally similar to *S. herediae* but the latter has a grey hindwing. The male genitalia of *S. selvae* are distinguished by the long uncus-like apical projection of tegumen and the distinctly convex caudal edge of the cucullus.

D e s c r i p t i o n. Wing span ca 9 mm. Head and thorax white-grey (rubbed). Forewing slender; costa straight; termen moderately oblique and convex. Forewing ground colour whitish; suffusions grey-brown; costal strigulae indistinct, divisions and remnants of markings pale brown. Cilia damaged. Hindwing grey, cilia paler.

Male genitalia (Fig. 11). Tegumen long, slender, strongly prolonged apically to form a projection; no trace of apical hairs; valva slender with slender neck and broad ventral incision; sacculus slightly convex; cucullus rather short, convex caudally; aedeagus proportionally large, broad to middle.

#### Female unknown.

Holotype male: "Costa Rica: Prov. Heredia, Est. Biol. La Selva 50-150 m, 10°26'N 84°01'W, MV light 17/18.II. 2002; D. WAGNER, J. ROTA & A. KAWAHARA coll."; GS 126,497, deposited in INBio.

E t y m o l o g y. The name refers to the type locality, La Selva.

### Satronia herediae sp. n.

(Figs 12, 96)

D i a g n o s i s. Externally, this species is similar to *Sereda tautana* (CLEMENS, 1865) from the U.S.A., but *S. herediae* lacks the forewing dorsal patch and has a brown hindwing. The male genitalia of *S. herediae* are closest to those of *S. masaguarali* but in *S. herediae* the sacculus is distinctly angulate, and the neck of valva is slender.

D e s c r i p t i o n. Wing span 9 mm. Head and thorax brownish. Forewing slender; costa nearly straight; apex rounded; termen distinctly oblique. Forewing ground colour whitish strongly suffused brown, with some brown strigulae; costal strigulae whitish, divisions brown; terminal row of black dots absent. Markings brown: basal blotch well developed; median fascia divided into costal and dorsal parts; subterminal fascia complete, subapical markings less so; apex brown. Cilia brownish. Hindwing brown; cilia paler.

Male genitalia (Fig. 12). Tegumen slender with weakly sclerotized apical part; valva broad to middle with slender neck; angle of sacculus rounded; cucullus elongate-oval, with strong spines; aedeagus broad basally, tapering ventro-terminally.

### Female unknown.

Holotype male: "Costa Rica: Prov. Heredia: 16 km SSE La Virgen 1050-1150 m, 10°16'N 84°05W, 10 Apr. 2001, INBio-OES-ALAS transect"; GS 126,504. Paratype male from Costa Rica: Prov. Heredia: 9 km NE Vera Blanca, 1450 m-1550 m, 10°14'N 84°06'W, 14-20 Mar 2005, deposited in INBio.

E t y m o l o g y. The name refers to the type locality.

### Sereda vegas sp. n.

(Figs 56, 97)

D i a g n o s i s. Facies similar to the type species of this genus, *S. tautana* (CLEMENS, 1865), from Virginia, U.S.A., but *S. vegas* has multiple whitish transverse lines of the forewing, and the female genitalia have a single signum.

D e s c r i p t i o n. Wing span 9 mm. Head and thorax brownish white; labial palpus brown terminally; thorax with two transverse brownish fasciae. Forewing weakly expanding terminally; costa slightly convex; termen moderately oblique, concave beneath apex. Ground colour whitish comprised of several transverse lines angulate medio-posteriorly; suffusions indistinct, brownish and ochreous; refractive markings in form of incomplete lines; costal strigulae white, divisions brown; row of black dots along termen. Markings consisting of brown transverse lines the broadest of which is submedian, dorsal fascia and tornal blotch. Cilia greyish. Hindwing brown with grey cilia.

Male unknown.

Female genitalia (Fig. 56). Sterigma broad, short, convex posteriorly, fused with subgenital sternite, with two ribs extending from vicinity of ostium bursae; sclerite of antrum distinct, short; ductus bursae long; signum a single funnel.

Holotype female: "Cuba, Vegas, Jan.[uary] 21 [19]63, A. OTERO col.; Ento No. 10042 E.E.A. Cuba"; GS 126,561. Deposited in USNM.

Etymology. The specific name is based on name of the type loocality.

### Macrocydia divergens BROWN & BAIXERAS, 2006

M a t e r i a 1 e x a m i n e d. One pair from Heredia Province, Costa Rica (10 km SE La Virgen, 19.I.2003), from the type locality; deposited in INBio.

#### Dichrorampha GUENÉE, 1845

Dichrorampha GUENÉE, 1845, Annls Soc. Ent Fr.,(2)3: 185. Type species: Grapholitha plumbagana TREITSCHKE, 1830, Austria.

The female genitalia of *Dichrorampha* share with several genera the presence of a single signum in the corpus bursae. The male genitalia of *Dichrorampha* are somewhat variable; in many Nearctic and Palaearctic species, the distal one-third to one-half of the valva is reflexed dorsally; in some species the distal one-third is curved downward; and in some species the distal portion is expanded as in many species of *Cydia* and *Grapholita*. BROWN (2005) included 112 species in the genus, a few of which probably are assigned incorrectly to *Dichrorampha*. In addition, several species described by MEYRICK in *Hemimene* may belong here as well. In a few species in the genus, the male has a distinct forewing costal fold, which is rarely encountered in other Grapholitini.

## Dichrorampha atalla sp. n.

## (Figs 13, 57, 98)

D i a g n o s i s. *Dichrorampha atalla* is superficially similar to *Laspeyresia pyrozona* MEYRICK, 1916 from British Guiana. The male genitalia somewhat resemble those of *Dichrorampha leopardana* (BUSCK, 1906) from Maryland, U.S.A., but in *D. atalla* the aedeagus is slender in the male genitalia, and the sclerite of antrum is short in the female

genitalia. *D. atalla* differs from all known congeners by the orange yellow ground colour of the forewing.

D e s c r i p t i o n. Male: wing span 14 mm. Frons and labial palpus yellow cream, remaining parts and collar brownish; thorax black-brown proximally and posteriorly, yellow medially; tegula black-brown at base and terminally. Forewing broad; costa weakly bent; termen incised beneath apex. Forewing ground colour dark yellow with orange admixture medially and posteriorly; costal strigulae similar in colour except for two distal, strong whitish ones and postapical strigula, divisions weak, brown. Base of wing, apex and dorso-postmedian area black-brown. Cilia grey, refractive. Hindwing whithish brown in basal part, brownish posteriorly; cilia pale brownish.

Female. Wing span 15 mm. Colouration as described for the male but orange admixture somewhat stronger and hindwing orange broadly edged black-brown.

Male genitalia (Fig. 13). Top of tegumen broad; valva broad to middle, ventral incision very large, neck slender; sacculus straight ventrally; cucullus oval; aedeagus slender.

Female genitalia (Fig. 57). Sterigma broad, rounded posteriorly, subgenital sterite weakly incised posteriorly; antrum rather membranous except for edge of ostium bursae; cingulum submedian; signum fairly large.

Holotype male: "C[osta]R[ica]: Heredia, East. Biol. La Selva, 10°26'N 84°01'W, 50-150 m, 23-29 Febr. 2004. D.L. WAGNER, at MV light"; GS 126,496, deposited in IN-Bio. Paratype female label similar but with note: MV light; lab clearing 7 Mar. 2006, WAGNER"; GS 126,495, deposited in INBio.

Etymology. The name refers to colouration of the moth; Latin: atalla – splendid.

## Dichrorampha huichihuayana sp. n.

#### (Fig. 14, 99)

D i a g n o s i s. This species is externally somewhat similar to *D. geitantrum*, but the forewing of *D. huichihuayana* is pale brownish without dark brown edges of the dorsal patch. The male genitalia are most similar to those of *D. atalla*, but the two species are remarkably different externally (*D. atalla* has an orange yellow ground colour of wings), and in the male genitalia *D. atalla* differs by its broad aedeagus.

D e s c r i p t i o n. Wing span 12 mm. Head brownish cream, labial palpus brown terminally, vertex cream-brown. Forewing rather broad, expanding terminad; termen weakly convex. Forewing ground colour brownish cream, in terminal area yellower; dorsal patch divided by incomplete marking extending from median area of wing; costal strigulae indistinct except for yellowish cream posterior pair, divisions brownish; a few dark brown vertical strigulae beyond end of median cell; terminal dots ill-defined; cilia pale brownish. Hindwing pale brown-grey, cilia more cream.

Male genitalia (Fig. 14). Tegumen broad, convex apically; basal part of valva broad, ventral incision deep; sacculus distinctly angulate; cucullus subtriangular with rounded lobes (the ventral large); aedeagus short, fairly broad, pointed ventro-terminally; cornuti numerous, rather long.

Female unknown.

Holotype male: "Mex[ico] SLP, Huichihuayan, 4 June 1967, O.S. FLINT, Jr."; GS 126,503, deposited in USNM.

E t y m o l o g y. The name refers to the type locality.

### Dichrorampha yallahs sp. n.

### (Figs 15, 100)

D i a g n o s i s. Similar to *D. circumfluxana* ZELLER, 1877 and *D. sarmentana* ZELLER, 1877 from Colombia (Bogota), but *D. yallahs* has a longer aedeagus, and the ventral lobe of the cucullus tapers posteriorly.

Description. Wing span ca. 14 mm. Head and thorax brown-grey; labial palpus whitish, blackish terminally. Forewing weakly expanding terminally; termen weakly oblique.Forewing ground colour brownish grey with faint olive hue, markings much darker, diffuse. Costal strigulae small, whitish; terminal area with row of five black dots. Cilia colour similar to that of markings. Hindwing brownish grey, cilia similar.

Male genitalia (Fig. 15). Terminal prominence of tegumen small; valva broad to middle with deep ventral incision and rather slender neck; sacculus angle rounded, proximel edge of incision oblique; cucullus short with rounded dorsal lobe and pointed ventral lobe; ae-deagus rather slender, not longer than costa of valva from base to cucullus, weakly bent.

Female unknown.

Holotype male: "Jamaica, St. Andrew, Parish, Yallahs River, Chestervalle, 17 July 1963, FLINT & FARR"; GS 126,545, deposited in USNM.

E t y m o l o g y. The name refers to the name of the river on which the type locality is situated.

### Dichrorampha rhadina sp. n.

(Figs 16, 101)

D i a g n o s i s. *Dichrorampha rhadina* is very similar to *D. circumfusana*, but it can be distingusihed from the latter by its strongly oblique forewing termen, yellow-edged forewing markings, and broad neck of valva.

Description. Wing span 14 mm. Head and thorax pale olive brown. Forewing rather slender; costa straight with fold to beyond 1/3 in male; apex rounded; termen distinctly oblique. Forewing ground colour yellow suffused brownish, strigulate brown; costal strigulae yellowish and white (median), divisions brown; lines from costa dark brown, edged olive yellow, apex olive yellow; refractive lines bluish grey; terminal dots absent. Markings reduced; dorsal patch ill-defined. Cilia whitish brownish terminally. Hindwing brown, cilia whitish.

Male genitalia (Fig. 16). Uncus slender; valva broad to middle with broad neck; sacculus weakly angulate; ventral lobe of sacculus broad; aedeagus simple; cornuti numerous.

Female unknown.

Holotype male: "Ecuador: Napo Prov.: Papallacta 00°22 S x 078 08 W, 10°500 ft. 28 Jan. 1958, leg. R. W. HODGES"; GS 126,498, deposited in USNM.

E t y m o l o g y. The specific epithet refers to the facies of the adult; Greek: rhadinos – delicate.

## Dichrorampha sarmentana ZELLER, 1877

(Figs 17, 102)

Dichrorampha sarmentana ZELLER, 1877: 169; t.l.: Bogota, Colombia; BROWN, 2006: 367 (Grapholitini unplaced species).

D e s c r i p t i o n. Wing span 13 mm. Head and thorax brownish, labial palpus creamer with brownish end. Forewing slender; costa slightly convex; termen oblique beneath postapical incision. Wing almost unicolorous brownish grey with dense cream dots (ends of scales); costal strigulae indistinct, brownish cream, cream before apex, divisions slightly darker than wing. Cilia brownish grey, creamer basally. Cilia brownish, paler basally; cilia whitish.

Male genitalia (Fig. 17). Uncus weak, represented by subtriangular prominence of tegumen; basal half of valva broad; ventral incision distinct with oblique proximal edge; cucullus almost oval, broadening dorsally, with large lobes; aedeagus moderate, with dorsal projection.

Female not known.

Holotype male: "Dichrorampha sarmentana, Bogota; 99"; GS 11736; coll. NHML.

## Dichrorampha flinti sp. n.

## (Figs 18, 103)

D i a g n o s i s. In facies *D. flinti* is similar to *Balbis assumptana* (WALKER, 1863) from Amazonas (Brazil), but the forewing of *D. flinti* has an orange ground colour and transverse maculation (Fig. 103). The male genitalia of *D. flinti* are similar to those of *B. circumfusana*, but the type of the latter has presumably anomalous asymmetric valvae, hence a comparison is meaningless.

D e s c r i p t i o n. Wing span 12 mm. Head orange with dark brown mark between compound eyes; labial palpus cream, blackish terminally; thorax orange, yellower proximally, collar and transverse fascia brown. Forewing broad; costa convex, termen rather not oblique. Forewing ground colour orange; costal strigulae indistinct except for two cream coloured posterior ones, divisions brown. Markings in the form of several transverse convex lines; refractive lines in posterior area; three black spots at mid-termen. Cilia brownish, whitish basally, brown grey at tornus. Hindwing orange with dark brown fascia along subterminal area; cilia brown-grey.

Male genitalia (Fig. 18). Terminal projection of tegumen distinct; valva broad to middle; sacculus angulate; ventral incision of valva deep; cucullus with rounded dorsal lobe and broad, somewhat rounded ventral lobe; aedeagus small, slender.

Female unknown.

Holotype male: "Guatemala, 20 mi NW of Huechuetenango, 9-10. Aug. 1967, O.S. FLINT Jr."; GS 126,383. Deposited USNM.

E t y m o l o g y. The species is named after its collector Oliver S. FLINT, Jr., an entomologist at the National Museum of Natural History, Washington, DC.

## Dichrorampha tulancingana sp. n.

(Figs 58, 104)

D i a g n o s i s. This species is related to *D. leopardana* (BUSCK, 1906) from Maryland, U.S.A., but in the latter the forewing ground colour is pale cream orange (cream in *D. tulancingana*), the dorsal patch is absent (present in *D. tulancingana*), and the sclerite of antrum is much longer and asymmetrical.

D e s c r i p t i o n. Wing span 10 mm. Head and thorax pale olive brownish, labial palpus whitish to before middle; distal part of thorax cream. Forewing moderately slender. Forewing ground colour cream, costal strigulae and dorsal patch distinct; lines and spots of markings brownish; terminal row of black dots on ochreous ground, refarctive markings present but week. Cilia cream, brown posteriorly. Hindwing brown-grey, cilia paler.

Male not known.

Female genitalia (Fig. 58). Ostium bursae protected by ventral elongate sclerite; antrum sclerite long, symmetric, cingulum submedian.

Holotype female: "Mexico: 5 mi E. Tulancingo, H[idal]go, July 24 1963, 7400' DUCK-WORTH & DAVIES"; GS 126,455; deposited in USNM.

E t y m o l o g. The name refers to the type locality.

## Dichrorampha chloantha sp. n.

# (Figs 19, 105)

D i a g n o s i s. This species is distinguished superficially by the dense blackish lines on a yellowish forewing ground colour. The male genitalia resemble the European *D. cacale-ana* (HERRISCH-SCHÄFFER, 1851) in having a caudal process of cucullus, but *D. chloan-tha* has a long neck of the valva and lacks the additional ventral process of the cucullus.

D e s c r i p t i o n. Wing span 13 mm (in paratype 11.5 mm). Head and thorax white cream, the latter with greyish, transverse submedian line and brownish line along middle of tegula. Forewing broad, expanding terminally with costa rather straight and termen slightly convex medially. Forewing ground colour yellowish cream, slightly tinged brownish from beyond mid-costa to tornal part of termen where very fine brown strigulation occurs; reminaing area densely lined blackish; costal strigulae small, numerous, cream, divisions brown; row of blackish dots along termen. Cilia whitish, brownish terminally. Hind wing pale brownish mixed cream towards base; cilia white.

Male genitalia (Fig. 19). Uncus-like projection of tegumen reduced; basal third of valva broad; neck slender; ventral incision deep, rounded, with two weak prominences; cucullus rounded caudally and dorsally, with large ventral lobe and small caudal process below middle of distal edge; aedeagus simple, short, slender postmedially.

Female unknown.

Holotype male: "Brazil: Dist.[rito] Fed.[eral], Planaltina, 1000 m, 25-30 Sep. 1985, Scott E. MILLER"; GS 126,509. Paratype male, same label. Both deposited in USNM.

# Dichrorampha tandayapae sp. n.

(Figs 59, 106)

D i a g n o s i s. *Dichrorampha tandayapae* is similar to *D. galapagana* RAZOWSKI & LANDRY, 2008, from the Galapagos Islands, but in *D. tandayapae* the dorsal patch of the forewing is broader, consisting of four pale lines, and the termen is more oblique. In facies and female genitalia *D. tandayapae* is similar to the European *D. harpeana* FREY, 1870, but the antrum of the latter is much shorter.

D e s c r i p t i o n. Wing span 10.5 mm. Head brownish, frons and labial palpus cream, the latter brown subterminally; thorax whitish cream with brownish markings. Forewing weakly expanding terminad; costa alsmost straight; termen fairly oblique, concave be-

neath apex. Forewing ground colour brownish white in form of large dorsal patch extending almost to subcostal area, divided by three interrupted parallel brownish lines; basal and ocellar areas strigulated brownish; costal strigulae cream, divisions brownish; termen tinged yellow with a row of brown dots. Cilia whitish, brown terminally. Hindwing pale brownish, cilia paler.

Male unknown.

Female genitalia (Fig. 59). Postostial sterigma weakly sclerotized, convex posteriorly; antrum broadening subterminally, asymmetrically sclerotized in proximal half; cingulum large, submedian, almost connected with long basal sclerite of ductus bursae; signum base slender.

Holotype female: "Ecuador: Cotopaxi Prov.: Tandayapa; el[evation]. 4000 ft, 00 01S x 078 46N, 18 May 1958, leg. R.W. HODGES"; GS 126,499, deposited in USNM.

Etymology. The specific name refers to the type locality.

# Dichrorampha geitantrum sp. n.

## (Figs 60, 107)

D i a g n o s i s. *Dichrorampha geitantrum* is closely related to *D. tandayapae* but can be distinguished by its brown forewing pattern, white fore femora, a longer sclerite of antrum, a small basal sclerite of ductus bursae, and the absence of a cingulum.

D e s c r i p t i o n. Wing span 9 mm. Head brownish, labial palpus brown cream, blackish brown terminally; thorax brown; fore legs bright yellow, remaining femora white. Forewing somewhat expanding terminad; costa weakly bent from middle; termen oblique, concave beneath apex. Forewing ground colour in form of brownish cream dorsal patch divided by three parallel brown lines, broadly brown edged anteriorly and posteriorly; olive yellow patch at end of median cell; remaining parts of ground colour brown with violet hue; costal strigulae fine, white, divisions brownish. Brown markings along dorsal patch extending to costa; oblique brown mark limiting tornal area. Cilia brownish, glossy. Hindwing brown, cilia paler.

Male unknown.

Female genitalia (Fig. 60). Sterigma and posterior part of ductus bursae as in *D. tan-dayapae*; cingulum absent; basal sclerite of ductus bursae small, weak.

Holotype female: "Venezuela, T.F. Amaz.[onas] Cerro de la Neblina, Basecamp. 140 m, 0°50'N 66°10'W 21-28 February 1985; Malaise trap in rainforest; P.J. & P.M. SPAN-GLER, R.A. FAITOUTE & W.E. STEINER collrs."; GS 126,500, deposited in USNM

E t y m o l o g y. The specific name refers to the type locality.

## Ranapoaca gen. n.

Type species: Ranapoaca caparoana sp. n.

D i a g n o s i s. This genus appears to be most closely related to *Ricula* on the basis of the shared fusion of the sternum with the sterigma. It also has a single signum (characteristic of *Ricula*, *Goditha*, *Riculorampha*, and most species of *Dichrorampha*) and a broad aedeagus (similar to that in a few related Grapholitini genera and in many Eucosmini). Superficially, *Ranapoaca* is very similar to some species of *Ofatulena* Heinrich, 1926 (e.g., *O. dominica*). The forewing pattern also somewhat resembles representatives of

Enarmoniini, but the sterigma and pedunculus are quite different from members of that tribe. A putative autapomorphy for the genus is the soft, hairy uncus.

Description. Wing venation: In forewing M3-Cu1 connate or separate; base of Cu2 opposite 1/4 distance between bases of R1-R2; chorda and M-stem present. In hindwing Rr-M1 separate-M1 separate; M3-Cu1 connate or on a very short stalk.

Scent organs. In male costal fold broad, semioval postbasally.

Male genitalia. Tegumen delicate with slender, simple pedunculi; uncus weakly sclerotized, slender, hairy; socii missing; subscaphium membranous; valva broad basally with distinct ventral incision; cucullus subtriangular, more or less oval caudally, with distinct, spined ventral lobe; aedeagus broad, short; cornuti numerous rather short spines.

Female genitalia. Ovipositor short; subgenital sternite weak proximally, with large strongly sclerotized latero-posterior parts, fused with sterigma; sterigma an oval plate with slender process posteriorly; ostium area large, membranous, externally protected by a slender collar like sclerite; sclerite of antrum fairly well developed, long, fused with broad cingulum; signum one, large.

B i o l o g y. Moths collected at the altitudes of 450-1100 m.

D i s t r i b u t i o n. Central America: Mexico, Costa Rica, Venezuela, and West Indies: Dominica.

Etymology. The generic name is an anagram of the name of the type species.

#### Ranapoaca caparoana sp. n.

# (Figs 20, 61, 108)

D i a g n o s i s. This is the only species of the new genus (see its diagnosis). In facies it is somewhat similar to *Cydia neblinana*, sp. n., but *Ranapoaca caparoana* has a brown dorsal blotch on the forewing.

D e s c r i p t i o n. Wing span 13 mm. Head and thorax grey with bluish gloss; frons whitish. Forewing not expanding terminally; apex pointed; termen sinuate, not oblique. Forewing ground colour grey, mixed brown medially, with bluish gloss; tornal area tinged grey; costal strigulae small, white, divisions brown. Markings consist of brownish median fascia reaching end of median cell, dark brown white edged dorso-postbasal blotch, and rather median semioval blotch at dorsum. Cilia whitish brown at apex, mixed grey at tornus. Hindwing brown; cilia cream brown; white blotch on reverse of median cell.

V a r i a t i o n. Hindwing brownish occasionally dark brown on peripheries; upperside of hindwing whitish proximally; lower side of hindwing brownish.

Male (Fig. 20) and female genitalia (Fig. 61) as described for the genus. There is a slight variation in the genitalia.

Holotype male: "Venezuela: Barinas; Rio Caparo Res. Station 32 km E El Canton, blight 3-5 II 1978, seasonal forest, J. B. HEPPNER"; GS 126,474. Paratypes: Identically labeled pair, GS 126,475. One male from same country, T.M. Amaz.[onas] Cerro de la Neblina, 15-22 Feb. 1984, T. MCCABE; one male from Ar.[agua], Rancho Grande, 1100 m, 1-5. XI. 1966, SS & WD DUCKWORTH; T.F. Amazonas, Santa Lucia-R. Negro, 23 Nov. 1984, R.L. BROWN. All deposited in USNM.

Other specimens examined. Mexico: S.L.P., 4 mi S of Tamazunchale 27.VI. 1965, O.S. Flint; Veracruz, Cordoba, 2.VII. 1965, Paul SPANGLER. El Salvador, Quezaltepeque, 11.II.

1965, SS & WD DUCKWORTH (hindwing brownish). Costa Rica, Heredia, 10 km SE La Virgen, 450-550 m, 18.II.2003 (with whitish medio-proximal upper side of hindwing, and brownish reverses). Panama: Barro Colorado Is., 18-28. IV. 1964; 1-9.V.; 10-17.V., WD &SS DUCKWORTH (underside of hindwing entirely brownish). Jamaica, Portland Par, 4 mi S. Hartford, 850 ft, 26-27.IV. 1973, D. & M. DAVIS. Puerto Rico, Maricao Fish Hatchery, 23.XII. 1962, P. & Phyl SPANGLER; Las Marias, 13-14.VII.1956, J.A. RAMOS. Dominican Republic, La Estrelleta. 4 km SE Rio Limpio, 760 m, 24-25.V. 1973, D. & M. DAVIS (2 specimens). Dominica, Pont Casse, 2 mi NW, 8.VI.1965, D.R. DAVIS (proximal half of hindwing pale brownish, peripheries dark brown).

R e m a r k s. The above mentioned variation in colour and genitalia is not correlated and on basis of the present material impossible for interpretation.

# Cydia-group

# Ofatulena duodecemstriata (WALSINGHAM, 1884)

Material examined. One male from Nuevo Leon, Mexico (Linares, Rio Camacho, 21-22.VI.1965, O.S. FLINT, GS 126,515, USNM).

R e m a r k s. This species was described from Arizona, U.S.A.

### Ofatulena moguileae sp. n.

(Figs 21, 109)

Diagnosis. *Ofatulena moguileae* is closely allied to *O. duodecemstriata* (WALSINGHAM, 1884) described from Arizona, U.S.A., but *O. moguileae* is easily distinguished it by broader aedeagus. In facies *O. moguileae* is similar to *O. neblinana*.

D e s c r i p t i o n. Wing span 11 mm (paratype 10 mm). Head and thorax grey with bluish hue. Forewing almost uniformly broad in posterior half; apex pointed; termen broadly sinuate. Forewing ground colour grey mixed whitish (dense, fine sprinkling), brownish in tornal area; costal strigulae white, divisions and apex brown, in subapical area edged by fine, curved line; a few brown dots subterminally. Markings brown, consisting of two dorso-postbasal spots and median fascia terminating beneath median cell. Cilia whitish grey, brown at apex, grey in tornal half of termen. Hindwing brown paler basally; cilia whitish in apical third, brownish anally.

Male genitalia (Fig. 21). Apical process of top of tegumen pointed; socii represented by concave subapical bristled folds; subscaphium weak; valva broad to end of sacculus; ventral incision shallow followed by bilobed convexity armed with 8 strong spines; sacculus straight ventrally; cucullus rather slender with strong marginal spines in proximal part and oblique series of shorter spines directed towards costa; aedeagus simple, broad; cornuti numerous long spines.

Female unknown.

Biology. Food plant is *Moguilea tomentosa* (the label data).

Holotype male: "Brazil, Bahia, 12.III. 1928; *Moguilea tomentosa*". Paratype, an identically labeled male. Both deposited in USNM.

Etymology. The name refers to genus of the food-plant.

### Ofatulena manca sp. n.

## (Figs 22, 62, 110)

D i a g n o s i s. Externally this species is similar to *O. caparoana*. It shares with *O. mo-guileae* similar socii and the process of the top of the tegumen, but *O. manca* has short ventral spines of the valva and a distinct prominence of the ventral incision of the valva, larger than in *O. neblinana*.

D i a g n o s i s. Wing span 11 mm. Head pale brownish, thorax brown. Forewing broadest postmedially; termen sinuate, convex postmedially. Forewing ground colour pale greyish to before middle, then slightly tinged brownish; costal strigulae white, divisions brown; two brown dashes beneath divisions subapically; ocellar area brownish. Markings brown white edged: dorso-basal blotch almost perpendicular to dorsum, elongate; median fascia slender reaching about end of median cell; broad oval blotch near tornus. Cilia white, brown at apex, grey towards tornus. Hindwing brown; cilia paler.

Male genitalia (Fig. 22). Apical prominence of tegumen pointed; socius bristled; sacculus straight ventrally, with distinct angle; ventral incision of valva shallow with strong lobe; cucullus elongate armed with strong but rather short ventral spines; aedeagus broad; cornuti numerous.

Female genitalia (Fig. 62). Sterigma rather weakly sclerotized, cup-shaped with lateral edges of ostial area better sclerotized, bristled; sclerite of antrum long; cingulum postmedian; signum single, large, funnel-shaped. Subgenital sternite weak.

Holotype male: "Panama: Barro Colorado Is., 1-9. V. [19]64, WD & SS DUCK-WORTH"; GS 126,462. Paratypes, one male and 2 females labeled as above, one dated 10-17.V.1964 and one 18-28.IV.1964; one male from Cerro Campana, nr. Chica, 2-3.IV.1965. All deposited in USNM.

Etymology. The name refers to short marginal spines of valva.

#### *Ofatulena dominica* sp. n.

(Figs 63, 111)

Diagnosis. *Ofatulena dominica* is similar to *O. manca*, but in *O. dominica* the dorso-basal blotch of the forewing is slender, the subtornal blotch expands costad, the sclerite is attached to the sterigma, and the cup-shaped part of sterigma is well sclerotized.

Description. Wing span 12 mm. Head brownish grey; thorax grey, glossy. Forewing as in *O. manca*. Forewing ground colour grey with bluish gloss, ocellar area brownish, subapical interfascia with numerous brown dashes; costal strigulae white, divisions brown. Markings brown edged white, similar to *manca*. Cilia brownish with whitish parts, brown at apex and tornus. Hindwing brown paler in basal half; cilia brownish cream.

Male unknown.

Female genitalia (Fig. 63). Cup-shaped part of sterigm well sclerotized, posterior part of postostial sterigma protruding distad, bristled; sclerite of antrum and cingulum well developed; blade of signum slender.

Holotype female: "Dominica, Pont Casse 2 mi NW, VI 8 1965, D. R. DAVIS"; GS 126,463, deposited in USNM.

### Ofatulena neblinana sp. n.

## (Figs 23, 64, 112)

D i a g n o s i s. *Ofatulena neblinana* is superficially similar to *O. moguileae*. Its genitalia differ from the latter and from *O. duodecemstriata* in lacking the large marginal spines of ventral edge of valva, the prominent caudal angle of the sacculus, and the presence of single, very large signum.

D e s c r i p t i o n. Wing span 14 mm. Head and thorax brownish grey shining bluish, labial palpus larger, brownish paler terminally. Forewing rather not expanding terminad; costa convex; termen concave beneath apex. Forewing ground colour brownish entirely shining bluish, with weak browner strigulae along dorsum; costal strigulae white, fine except for subapical one; termen and apex dark brown; median fascia brown, slender extending from mid-costa to a spot at end of median cell, followed by a refractive area reaching tornus; three blackish brown spots in basal third of wing. Cilia brown. Hindwing brown with paler cilia.

Male genitalia (Fig 23). Top of tegumen with small median prominence; neck of valva long; ventral incision deep proximally, shallow postmedially, a small ventral prominence before middle; cucullus elongate densely spiny proximally; aedeagus broad with ventro-subterminal process; cornuti numerous.

Female genitalia (Fig. 64). Sterigma cup-shaped with weakly sclerotized dorsoposterior part; antrum weakly sclerotized; cingulum long, uniform, broad proximally; ductus seminalis anterior; signum very large.

Holotype female: "Venezuela: T.F. Amaz.[onas], Cerro de la Neblina, Basecamp 0°50N 66°9'44''W, 140 m, 21 -29. Feb. 1984, D. DAVIS & T. MCCABE"; GS 126, 151. Paratypes 2 males, same labels, one male with GS 126,450. Deposited in USNM.

Etymology. The name refers to the type locality.

### Ethelgoda texanana (WALSINGHAM, 1879)

## (Figs 24, 65, 113)

M a t e r i a l e x a m i n e d. One male from Cuba and six males and females from Jamaica (St. Ann Par. nr. Runaway Bay Cave, 50 ft. 1-2 May 1973, Don & Mignon DAVIS, USNM).

R e m a r k s. This species was described from Texas, USA; HEINRICH (1926) mentioned it also from Florida. Genitalia in Figs 24, 65.

# Ethelgoda opta sp. n.

## (Figs 25, 114)

D i a g n o s i s. *Ethelgoda opta* is closely related to *E. texanana* but can be distinguished by the proximal edge of the ventral incision of valva being weakly expanding distad and the apex of ventral lobe of the cucullus sharp apically.

D e s c r i p t i o n. Wing span 16 mm. Head and thorax brownish grey with olive hue, labial palpus cream. Forewing weakly expanding terminally; costa somewhat convex; termen hardly concave beneath apex. Forewing ground colour brownish cream, suffused brownish grey basally and dorsally, orange so terminally; dorsal path creamer, indistinct; costal strigulae whitish, divisions brown-grey; basal third of four veins beyond median cell and two transverse lines in tornal area brown; three brown dots along termen. Cilia brownish. Hindwing pale brown; cilia paler.

Male genitalia (Fig. 25). Apical part of tegumen straight; socius absent; basal third of valva broad; sacculus angulate; neck of valva slender, slightly curved; proximal edge of ventral incision weakly convex; cucullus large, transversely oval with sharp tip of ventral lobe; aedeagus short.

Female unknown.

Holotype male: "Venezuela: Ar.[agua], Rancho Grande, July 22-31.'967, RW POOLE, 1100 m"; GS 126,501, deposited in USNM.

Etymology. The name refers to the type locality.

### Ethelgoda okrodon sp. n.

(Figs 26, 115)

D i a g n o s i s. *Ethelgoda okrodon* is most similar to *E. texanana* and *E. opta*, but *O. okrodon* has a brownish cream frons and a uniformly brownish tornal area of the forewing. The male genitalia of *E. okrodon* can be distinguished from those of the mentioned species by its very slender neck of the valva.

D e s c r i p t i o n. Wing span 16 mm. Head brownish, frons brownish cream, labial palpus cream. Forewing broadest medially; costa convex; termen slightly concave beneath apex. Forewing ground colour brownish cream, more orange terminally and beyond costal strigulae; two last strigulae distinct, cream, divisions brownish; row of traingular black dots terminally. Cilia pale brownish. Hindwing brown paler towards base; cilia much paler, in part cream.

Male genitalia (Fig. 26). Top of tegumen convex; basal third of valva broad; sacculus angulate; proximal edge of ventral incision of valva slightly convex; cucullus large with large tip of ventral lobe; aedeagus short.

Female unknown.

Holotype male: "Dominica, Pont Case, 2 mi. NW, IV.24. 1965, RW DAVIS"; GS 126,512. Paratypes four identically labelled males. All deposited in USNM.

E t y m o l o g y. The name refers to the shape of ventral lobe of cucullus; Greek: okris – pointed, blade; odus, (genitive: odontos) – tooth.

## Cydia antioquiae sp.n.

(Fig. 27, 116)

D i a g n o s i s. This species is related to *C. tepica* but can be distinguished from the latter by its brown dorsal blotch of the forewing followed by whitish veriegatad brownish ocellar area, and in the male genitalia the cucullus is smaller, not extending dorsally.

D e s c r i p t i o n. Wing span 13 mm (paratypes 12.5-13 mm). Head brownish yellow, vertex darker, labial palpus cream; thorax grey. Forewing slightly expanding terminally; termen weakly convex. Forewing ground colour brownish rust, grey in costal and partly in basal area, orange rust in posterior third of wing; dorsal blotch brown followed by whitish variegate with grey-brown atypical ocellar area; costal strigulae cream, divisions blackish brown; some fine brown vertical lines in median area. Cilia brownish grey with brown basal line. Hindwing brown, mixed cream basally; cilia cream tinged brownish, partly brownish.

V a r i a t i o n. Paratypes ground colour of forewing almost completely rust; brown dorsal blotch rather weak, more subdorsal, cilia browner than in holotype.

Male genitalia (Fig. 27). Tegumen rather short; proximal half of valva slender; ventral incision weak; cucullus elongate-oval, with weak lobes; aedeagus rather large, slender; cornuti moderately long.

Female unknown.

Holotype male: "Colombia, San Jeromino, Antioquia 25 Feb. 1974"; GS 126,524. Paratypes 3 males with similar labels but additionally with "ex. *Pseudosamanea gauchapels*, 74-7397". All deposited in USNM.

Etymology. The name refers to the type locality.

## Cydia catamarcae sp. n.

(Figs 28, 117)

D i a g n o s i s. *Cydia catamarcae* is closely related to *C. antioquiae*, from which *C. catamarcae* can be distinguished by its grey forewing, more oblique termen, distinct neck of valva, and almost straight caudal edge of cucullus.

D e s c r i p t i o n. Wing span 18 mm. Head yellowish cream, vertex mixed brownish; thorax grey. Forewing costa somewhat convex; termen weakly oblique. Forewing ground colour grey to middle, mixed brownish medially, rust posteriorly; costal strigulae short, cream, divisions brown; median area slightly creamer with a few blackish lines; ocellar area with creamish dots and refractive lines; dorsal blotch dark greyish brown. Cilia brownish with brown basal line. Hindwing brownish, brown on peripheries; cilia whitish.

Male genitalia (Fig. 28). Valva rather slender proximally with well developed but slender neck; sacculus convex; cucullus broadening distally, straight caudally; aedeagus fairly long, slender.

Female unknown.

Holotype male: "Argentina: Catamarca Prov.; Rio Portrero, near Andalgala 15 February 1972, W. D. DUCKWORTH"; not dissected. Paratypes 3 identically labelled males, one with GS 126,517. All deposited in USNM.

Etymology. The name refers to the type locality.

## *Cydia rufiterma* sp. n.

# (Figs 29, 118)

D i a g n o s i s. *Cydia rufiterma* is similar to *C. catamarca* but is distinguished by its strong, pointed ventral lobe of the cucullus; the dorsal lobe of cucullus resembles that of *C. tepica*, but the latter has a broad ventral lobe and short neck of valva.

D e s c r i p t i o n. Wing spen 13 mm. Head yellow cream with vertex browner; thorax and antenna grey. Forewing with termen not oblique, convex. Forewing ground colour grey, paler basally, darkening medially, greyish brown distally to median cell; terminal area dark rust, limited from the ocellar field by distinct refractive line; dorsal blotch slender, grey-brown edging ocellus; costal strigulae cream, divisions dark brown. Cilia grey, basal line dark brown. Hindwing brownish, brown on periphery; cilia cream whitish anally.

Male genitalia (Fig. 29). Tegumen rounded apically; neck of valva distinct; cucullus broad with ventral lobe large, pointed; aedeagus rather slender, fairly large.

Female unknown.

Holotype male: "Mexico State, Forest. P.R., July 29, 1953; J.A. RAMOS Collector; At light"; GS 126,531, deposited in USNM.

E t y m o l o g y. The name refers to colouration of forewing; Latin: rufus - rust, red, Greek - terma - end, limit.

R e m a r k s. One example from Puerto Rico (Susua Alta, Bosque Estatal de Susua, Yuco, MA GONZALEZ; Emergio 12 IX 1997 Semillas de *Calliandra locoensis*; GS 126,508) differs slightly from the holotype, hence not designated as a paratype.

## Cydia tepica sp. n.

(Figs 30, 66, 119)

D i a g n o s i s. This species is similar to *C. tonosticha* (MEYRICK, 1922) from Teffé, Brazil, but *Cydia tepica* is yellow-brown in hue, has a longer ovipositor, a much broader subgenital sternite, and longer signa.

D e s c r i p t i o n. Wing span 14 mm (paratypes 15-16 mm). Head yellow-brown, labial palpus more cream; thorax darker than head, scalled yellow ferruginous. Forewing weakly expanding terminad; costa gradually convex; termen weakly concave beneath apex, not oblique to middle. Forewing ground colour yellow-brown with slight rust admixture: dorsal patch reaching tornus, finely strigulated brown towards median cell, termen suffused rust brown, basal half of wing brown, costal area paler with yellow cream strigulae and yellow brown divisions; ocellar area marked by refractive posterior line and blackish dots and dashes also posteriorly to the latter. Cilia brownish yellow in apex area, otherwise brownish. Hindwing dark brown; cilia brownish yellow, brownish anally, with brown basal line.

V a r i a t i o n. Dorsal patch weakly dashed or without any sprinkling, termen pale rust medially, basal area yellow-brown with brown suffusions; costal half of median fascia more or less distinct, yellow-brown; hindwing paler than described above.

Male genitalia (Fig. 30). Tegumen rounded apically; subscaphium sclerites large; basal half of valva slender, incision small; cucullus very large (valvae asymmetrical); row of spines connecting ventral lobe of cucullus with edge of basal cavity; aedeagus long, slender; cornuti moderately sized.

Female genitalia (Fig. 66). Postostial sterigma submembranous, long; cup-shaped part large; antrum weakly sclerotized; ductus bursae slender; ductus seminalis median; signa large, equal.

Holotype male: "Mexico, Nayarit, Tepic, 20.X.[19]33". Paratypes, 1 male and 3 females with same locality data but dated: 3, 11, 12 and 16. X.1933, GS: 126,481, female, 65: 126,482. All deposited in USNM.

Etymology. The name refers to the type locality.

## Cydia tonosticha (MEYRICK, 1922)

(Figs 31, 67, 120)

Material examined. One male and two females from Panama, Corozal, Canal Zone, ex pods of "1383". One male and two females from Panama (Ex *Cassia moschata*,

Nr. Capira, Pan.[ama], Em.[erged] May 1941, J. ZETEK 4807). Three females from Venezuela (Tachira, 5 km N San Juan de Colon,, 25. II. 1978, black light, montane forest, J.B. HEPPNER). Three females from Peru (Loreto Prov., Rio Amazonas, 200 m, 50 mi E Iquitos, 12-16. Sept. 1990, Ron LEUSCHNER; Huanuco: Tingo Maria 672 m, 25-31.I. 1990, J. B. HEPPNER, premontane rain forest). All deposited in USNM.

D e s c r i p t i o n. Male genitalia (Fig. 31). Tegumen broad, rather flat apically; socius rudimentary; valva moderate with indistinct neck; sacculus convex followed by a small ventral incision; cucullus semioval, densely spined; aedeagus simple, slender, long; cornuti moderate.

Female genitalia (Fig. 67). Ovipositor rather elongate, apophyses long sterigma illdefined with two posterior scobinate belts; sclerite of antrum slender in proximal third, extending dorso-posteriorly; subgenital sternite with slender proximal arms tapering terminally; ductus bursae short; cornuti equal, large blades.

R e m a r k s. This species and its synonymy *Laspeyresia cassiana* LIMA, 1952 were described from Amazonas and Rio de Janeiro, Brazil, respectively. The latter was reared from same plant as the Panama specimens listed above. It is widely destributed based on the present data (Panama, Venezuela, Peru).

## Cydia membrosa (HEINRICH, 1926)

Material examined. Monte Cristi Prov., Dominican Republic.

*Cydia membrosa* is common in Texas and Arizona, USA. The specimen from the Domimican Rep. (GS 124,620) has a much longer aedeagus than that shown in the illustration by HEINRICH (1926). It is uncertain whether the specimen represents a new species are merely exhibits geographic variation.

## Cydia curitibana SCHÖNHERR, 1987

(Fig. 39)

Material examined. One male from Santa Catarina, Brazil (São Bento do Sul, 6-9 March 1999 Ron LEUSCHNER, USNM).

Description of male genitalia (Fig. 39). Tegumen moderate, rounded apically; valva fairly broad with weak ventral incision; sacculus convex; cucullus elongate-oval, rounded caudally; aedeagus long, slender.

# *Cydia araucariae* (PASTRANA, 1950)

Material examined. Two females from Paraná, Brazil (Curitiba, 19 III and 20 IX 1970, V.O. BECKER leg., USNM).

R e m a r k s. This species was described from Misiones, Argentina.

## Cydia pyraspis (MEYRICK, 1928)

(Figs 33, 122)

M a t e r i a l e x a m i n e d. Four specimens from Colombia (San Jeromino, Antioquia, ex. *Pseudosamanea guachapeis*, 74-7397), one of them without name of the hostplant but with date "29 Febr. 1974".

D e s c r i p t i o n of male genitalia (Fig. 33). Tegumen weakly convex apically; valva slender to end of sacculus, with small ventral incision and large, rounded caudally cucullus; aedeagus fairly large, slender; cornuti numerous slender spines.

# Cydia orteguazae sp. n.

## (Figs 32, 121)

D i a g n o s i s. This species is related to *C. pyraspis* but has a very broad cucullus and very slender aedeagus as compared to those structures in *C. pyraspis*.

D e s c r i p t i o n. Wing span 14 mm. Head orange cream, labial palpus much paler; thorax olive brown. Forewing slightly expanding terminally; costa weakly convex; termen somewhat oblique, straight except for weak depression beneath apex. Proximal half of wing brownish olive grey, browner near middle limiting greyish dorsal patch consisting of two slender lines followed by a similar but weaker two subtornal lines; opposite area with weak costal half of median fascia; three small whitish costal strigulae postmedially and two large white subapical ones, divisions broad, short, olive brown; ocellus with weak anterior and large posterior line followed by brown olive terminal marking. Cilia paler than wing. Hindwing brownish with paler cilia.

Male genitalia (Fig. 32). Tegumen rounded posteriorly with small apical prominence; sacculus convexly rounded; neck of valva short, ventral incision rather deep; cucullus large, oval, broadly rounded ventrally; aedeagus long, slender.

Female unknown.

Holotype male: "Colombia: Caqueta, Rio Orteguaza nr. Rio Peneya, 14-18. I. [19]69, DUCKWORTH & DIETZ"; GS 126,522, deposited in USNM.

E t y m o l o g y. The name is derived from the name of the type locality.

## Cydia rhodaspis (MEYRICK, 1928), comb. n.

(Figs 34, 68, 123)

Laspeyresia rhodaspis MEYRICK, 1928: 231; t.l.: Peru. BROWN 2005: 367 (Grapholitini Unplaced Species).

Material exmined. One male from Panama (Cerro Campana, Nr. Chica, 2-5. IV.[19]65, SS & WD DUCKWORTH, GS 126,538), female from Costa Rica, San Jose, San Pedro, U.C.R. Reserva Ecologica Leonel Oviedo 1150 m, 27. II. 2000 col. Kenji NISHIDA, dia encima de una hoja de *Inga vera*, GS 126,537).

R e m a r k s. Externally these specimens fit the illustration by CLARKE (1958); the genitalia of the material examined are described and illustrated for comparison.

Male genitalia (Fig. 34). Tegumen broad with small apical prominence; sacculus convex; neck short; incision broad; cucullus very large, rounded caudally; aedeagus long, slender.

Female genitalia (Fig. 68). Cup-shaped part of sterigma broad; postostial sterigma submembranous; antrum without sclerite; ductus bursae rather short, slender; two almost equally sized signa present. Subgenital sternite small, extending to beyond middle of sterigma.

#### *Cydia ninana* DYAR, 1903

## (Figs 35, 104)

#### Material examined. Two males from Mexico (San Cristobal, 29. VI. 1926).

R e m a r k s. This species was described from Arizona, U.S.A. The genitalia were illustrated by HEINRICH (1926); the male examined is illustrated for comparison (Fig. 35).

## Cydia sagittula sp. n.

## (Figs 36, 125)

D i a g n o s i s. This species is closely related and similar to *C. pyraspis*, but *C. sagittula* has a mediotornal brown blotch that almost reaches the end of the median cell with a few brown dots on orange ground, hindwing with a weak white fascia from mid-base to about end of median cell, and a much smaller cucullus.

D e s c r i p t i o n. Wing span 16 mm. Head lemon yellow, antenna brown; thorax olive grey, outer edge of tegula lemon white. Forewing as in *C. rhodaspis*; ground colour olive brown, shining bluish; costal strigule white-yellow, divisions dark olive brown; concolorous line from mid-base of wing to transverse brown fascia extending from before tornus to end of median cell, a weaker line along dorsum, and a trace of line in basal third of costa; subterminal area except for costal part orange with some brown dots beyond middle of wing; brown blotches at termen, median extending proximally towards middle of wing, the other rather rounded. Cilia ochreous brownish, whitish at tornus. Hindwing dark brown with white, diffuse line from middle of wing. Cilia white with incomplete, brown basal line.

Male genitalia (Fig. 36). Ventral incision of valva shallow; sacculus weakly convex; cucullus large, oval; aedeagus slender long; cornuti moderate.

Female unknown.

Holotype male: "[Mexico] 583/33, Compostel, Nayarit, Cl 18/X [19]33"; GS 126,540. Deposited in USNM.

## Cydia latiferreana (WALSINGHAM, 1879)

Material examined. Two males from Nuevo Leon, Mexico (2 mi S Monterrey, 4200' Chipinque Mesa, Aug. 10, 1963, DUCKWORTH & DAVIS, USNM).

R e m a r k s. This species was described from California and Oregon and is distributed from Pacific to the East coast in the U.S.A., ranging south into northern Mexico. The adult and genitalia are illustrated by GILLIGAN et al. (2008).

# Cydia ingens (HEINRICH, 1922)

(Figs 37, 126)

M a t e r i a l e x a m i n e d. Three males from the Dominican Republic (Prov. La Vega, Motel Montana, 20. V. 1973, Don & Mignon DAVIS, USNM).

D e s c r i p t i o n of male genitalia (Fig. 37). Tegumen moderately slender with medioapical projection; valva slender; ventral incision broad, shallow, with broad median lobe; cucullus with short, rounded ventral lobe and much slenderer dorsal lobe; aedeagus broad,

expanding ventro-terminally; cornuti in two groups: each consisting of ca 15 slender spines, in the proximal group somewhat longer than the posterior one.

R e m a r k s. This species was described from Florida, the U.S.A., and the female genitalia were illustrated by HEINRICH (1926). *Cydia ingens* is closely related and very similar to the transpalaearctic *C. cosmophorana* (TREITSCHKE, 1835) (cf. RAZOWSKI 2003). Male genitalia of *C. cosmophorana* have a shorter apical projection of the tegumen, a shorter ventro-terminal part of the aedeagus, smaller cornuti, and a well developed spiny lobe at the end of the basal cavity dorsally to aedeagus.

## Cydia phyllisi MILLER, 1986

Material examined. One female paratype (San Juanita, Chihuahua, Mexico).

### Cydia montezuma MILLER, 1986

Material examined. One female paratype ("Sta Tomas...", 27 III [19]81).

R e m a r k s. This species was described from the Federal District of Mexico. According to the system by DANILEVSKY & KUZNETSOV (1968), this species belongs to the section of *a. pactolanae* which based on the work of those authors, occurs only in the Palaearctic region.

## Cydia nigra (MILLER, 1966)

M a t e r i a l e x a m i n e d. One female paratype from the type-locality (Tlaxco, Mexico).

R e m a r k s. This species also is placed in the section of *pactolanae*.

# Cydia latisigna MILLER, 1986

Material examined. One male paratype (Mexico: Uruapan, Michoacan, A.A. MORA Coll).

### Cydia eucyanea WALSINGHAM, 1914

## (Fig. 38, 127)

M a t e r i a l e x a m i n e d. Two males from Tamaulipas, Mexico (Rancho del Cielo, 6 km NNW Gomes Farias, 3500 ft, M. A. SOLIS, July 1982). One male from Costa Rica (Estac. Mengo 1400 m, W side Volcan Cacao, Guanacaste Pr. 5.I. 1988, JANZEN & HALL-WACHS).

R e m a r k s. This species was described from Tlictopec, Veracruz (Mexico). I am leaving it in *Cydia* where it was originally placed, however, it may not belong in that genus. Male genitalia on Fig. 38. An examination of the female genitalia should elucidate this question.

### Cydia exsurgens (MEYRICK, 1922), comb. n.

(Figs 69, 129)

Material examined. One female from Peru (Manu, Pakitza, 8-9 IX 1989, D. ADAMSKI; GS 162,479, USNM).

D e s c r i p t i o n of female genitalia (Fig. 69). Anteostial sterigma slender, postostial part short, fairly broad; sclerite of antrum weak, broad; ductus seminalis from 2/3 of ductus bursae; signa absent.

R e m a r k s. This species was described from Pará, Brazil and illustrated by CLARKE (1958). The specimen examined fits the description and the illustration in CLARKE, except for size – 14 mm in the specimen examined, 9 mm in the lectotype. The male of *C. exsurgens* has well developed scent organs similar to those of *Grapholita* and Oriental *Andrioplecta* OBRAZTSOV, 1968. The specimen examined lacks the signa which are always developed in *Grapholita*. The species is provisionally assigned to *Cydia* until additional material indicates otherwise (described in *Laspeyresia* Hübner, [1825]).

## Grapholita-group

### Ecdytolopha torostoma (CLARKE, 1972), comb. n.

### (Figs 40, 70, 130)

*Laspeyresia torostoma* CLARKE, 1972: 467; t. l.: Turrialba, Cartago Province, Costa Rica; BROWN 2005: 241 (*Cydia*).

D e s c r i p t i o n. Male genitalia (Fig. 40). Socii fused with one another, concave apically; valva fairly broad; neck broad; cucullus oval; sacculus weakly convex; aedeagus slender, moderately long; cornutus broad.

Female genitalia (Fig. 70). Cup-shaped part of sterigma distinct; postostial sterigma tapering to middle then forming slender, weak lateral bands; antrum submembranous except for proximal portion; cingulum weak; signa equally sized.

Material examined. One male without label and one female paratype from Costa Rica Turialba dated 8. III. [19]65, USNM.

### Ecdytolopha fabivora (MEYRICK, 1928), comb. n.

Laspeyresia fabivora MEYRICK, 1928: 449; t.l.: Honda, Colombia. CLARKE, 1958: 439, holotype illustrated; Laspeyresia fabivora: CLARKE, 1972: 471, synon.: Eulia prosecta Meyrick, 1932, Laspeyresia leguminis HEINRICH, 1943. Cydia fabivora: BROWN, 2005: 233, catalogue, with synon.: Laspeyresia leguminis HEINRICH, 1943: 71 and Eulia prosecta MEYRICK, 1932.

*Eulia prosecta* MEYRICK, 1932: 259; t.l.: Orosi, Costa Rica. RAZOWSKI 1964: 462, female genitalia of holotype figured, redescr.; 2010: 259, photograph of holotype.

Laspeyresia leguminis HEINRICH, 1943: 71; t.l.: Peru.

M a t e r i a l e x a m i n e d. Male and female from Colombia (Nechi, Gallego) and one male from Panama (Canal Zone Reserve, Gamboa, 23.III. 1965, SS & WD DUCKWORTH, USNM).

#### Gymnandrosoma trachycerus FORBES, 1931

*Gymnandrosoma trachycerus* FORBES, 1931: 349; t. l.: Puerto Rico. *Ecdytolopha trachycerus*: POWELL & al.,1995: 156, catalogue; *Gymnandrosoma trachycerus*: ADAMSKI & BROWN, 2001: 72, redescription, figured.

Material examined. Dominica, Pont Cassé (2 mi NW, IV. 201965, D.R. DAVIS, USNM).

R e m a r k s. According to ADAMSKI & BROWN (2001), this species is known from the Dominican Republic, Puerto Rico, British Virgin Islands, and Dominica.

#### Cryptophlebia saileri CLARKE, 1987

## (Figs 131, 132)

Cryptophlebia saileri Clarke, 1987: 4; T.I.: Fundo Refresco, Chile; Brown 2005: 225, catalogue.

Material examined. One pair of paratypes, Chile (Fundo Refresco, Region Taracapa, Pampa Tamarugal, Iquique Province, male; similar label as above but Valle de Apaza, 25 m, Ricardo MENDOZA).

### Cryptophlebia cortesi CLARKE, 1987

M a t e r i a l e x a m i n e d. One pair of paratypes, Chile (Valle de Azapa, Region Taracapa, Iquique Province).

### Cryptophlebia carpophagoides CLARKE, 1951

Material examined. Paratype female; Argentina (Tucuman).

## Grapholita catarranae sp. n.

#### (Figs 41, 133)

D i a g n o s i s. This species is similar and closely related to *G. eclipsana* ZELLER, 1875 from Texas, U.S.A., but *G. catarranae* has entirely brownish hindwings, long sacculus, and a long, slender aedeagus with slender cornuti.

D e s c r i p t i o n. Wing span 7.5 mm. Head brownish grey with olive hue. Forewing somewhat expanding terminally; costa weakly convex; termen moderately oblique, straight. Ground colour whitish; dorsal patch consisting of two double lines followed by a large area reticulated brown; basal area of wing olive grey to before middle browner post-medially and before dorsal patch; seven broad, white costal strigulae present; glossy markings diffuse. Cilia brownish grey. Hindwing brownish mixed whitish at base, cilia whitish.

Male genitalia (Fig. 41). Tegumen weakly sclerotized, bilobed terminaly; socius rudimentary; valva slender with long, angulate sacculus and slender, rather short neck; cucullus short, broad, strongly spiny; aedeagus large, slender postmedially; cornuti six slender spines.

Female unknown.

Holotype male: "Costa Rica: Prov. Heredia 11 km ESE La Virgen 350 m, Catarrana refuge, 18 Feb. 2004, 10.21'N 84.03'W, Bla[ck]light trap, D.L. WAGNER, 03/L/010"; GS 126 453, deposited in INBio.

E t y m o l o g y. The specific epithet refers to the type locality.

# Grapholita aprosmicta sp. n.

## (Figs 71, 134)

D i a g n o s i s. *Grapholita aprosmicta* is similar in facies to *G. eclipsana* but the former has a white dorsal patch of the forewing, and in the female genitalia the antrum sclerite lacks spines.

D e s c r i p t i o n. Wing span 10.5 mm. Head and thorax olive brownish grey, labial palpus much creamer. Forewing weakly expanding terminad; costa rather straight; termen incised beneath apex. Forewing ground colour whitish in form of two lines forming a dorsal

patch and strigulae at least along costa, divisions brownish; ocellar area brown cream with strong refractive proximal line and brown edges. Remaining area brownish grey with olive hue, most pale basally. Cilia concolorous with middle of wing. Hindwing white except for apical 1/3 and outer edge to anal vein. Cilia pale brownish, in anal area white.

### Male unknown.

Female genitalia (Fig. 71). Sterigma forming a subtriangular belt extending posteriorly, edged by a weaker sclerite, fused with antrum sclerite which tappers proximally; medioproximal part of antrum and two small, lateral sacs beyond cingulum membranous; the latter consisting of two parts, posterior of which slender well sclerotized; one signum very large, the other minute.

Holotype female: "Peru: Cusco Machu Picchu 2335 m, 6. II. 1959, J. F. G. CLARKE"; GS 126,506, deposited in USNM.

E t y m o l o g y. The name refers to the systematic position of the species; Greek: aprosmiktos – lonely.

## Grapholita yurubina sp. n.

### (Figs 42, 43, 135)

D i a g n o s i s. *Grapholita yurubina* is very similar to *G. pakitzae* in facies, but *G. yurubina* can be distinguished by larger series of terminal dots (8 in *G. yurubina*, 6 in *G. pakitzae*) situated more distally on the broad fascia of yellow orange ground colour.

Description. Wing span 15 mm. Head and thorax brown sprinkled yellowish. Forewing broad; costa lightly bent; termen hardly oblique, indistinctly concave beneath apex. Ground colour brown to middle densely sprinkled yellowish; orange yellowish interfascia subterminally marked with row of black terminal dots; costal strigulae concolorous with interfascia, divisions brown; refractive markings present. Median fascia brown, strongly convex posteriorly. Cilia brownish. Hindwing brown; cilia, except for anal area, mixed pale orange.

Male genitalia (Fig. 42, 43). Tegumen slender with latero-terminal processes; subscaphium strongly sclerotized, broad medially, slender posteriorly; socii absent; valva slender with short neck and a shallow ventral incision; sacculus weakly convex with large triangular lobe before ventral incision; cucullus small, rounded caudally, with strong spines; aedeagus broad, wedge-shaped.

Female unknown.

Holotype male: "Venezuela: Yaracuy; Yurubi Natl. Park, 4 km NW san Felipe, 8 III 1978, montane forest, J. B. HEPPNER"; GS 126,514, deposited in USNM.

Etymology. Specific name refers to the type locality.

# Grapholita pakitzae sp. n.

## (Figs 72, 136)

D i a g n o s i s. In colouration, this species somewhat resembles *G. molesta* (BUSCK, 1916) and *G. packardi* ZELLER, 1875 from Texas, USA, but it is larger, has broader wings (as in *Cydia pomonella* LINNAEUS, 1758), and had dense creamish sprinkling on the forewing. The female genitalia resemble those of the Palaearctic *G. orobana* TREITSCHKE, 1830, especially in the shape of the sterigma. From *Ethelgoda texanana* this species differs

in its darker colouration and the lateral processes of the antrum; it also can be distinguished from *G. mabeae* by its shorter antrum sclerite.

D e s c r i p t i o n. Wing span 15.5 mm. Head and thorax olive brown sprinkled cream, labial palpus greyer. Forewing broad; costa weakly convex, termen slightly oblique, concave beneath apex. Forewing ground colour olive brown densely sprinkled cream to middle, tinged grey subcostally; costal strigulae cream; ocellus with black inner spots, limited from anterior part of wing by means of brownish cream curved line. Cilia paler than wing with black basal line. Hindwing brown paler basally; cilia cream.

Male not known.

Female genitalia (Fig. 72). Sterigma convexely rounded posteriorly with distinct lateral lobes tapering apicad; ostium area large, membranous; antrum slender, weakly sclerotized distally, broad, tapering posteriorly, provided with pair of lateral subterminal processes; cingulum helmet-shaped, well sclerotized, postbasal; two equal, moderately large signa present. Subgenital sternite simple, elongate, tapering posteriorly.

Holotype female: "Peru: Pakitza Trial I, 6-8 Sept 1989, D. ADAMSKI & M. EPSTEIN"; GS 126,518, deposited in USNM.

Etymology. The name is derived from the type locality.

### Grapholita mabeae sp. n.

(Figs 73, 137)

D i a g n o s i s. *G. mabeae* is very similar to *G. pakitzae* but the former has a paler forewing ground colour with a brown subtornal blotch extending towards end of median cell; and in the female genitalia *mabeae* has rudimentary lateral lobes of the sterigma, a short sclerite of the antrum, and a longer cingulum. Female genitalia resemble also those of *Hemimene praecisa* MEYRICK, 1922 from British Guiana (not re-examined) but *mabeae* with longer posterior sclerite of ductus bursae and strong sclerite (? a cingulum) at ductus seminalis.

D e s c r i p t i o n. Wing span 13 mm. Head grey; thorax, especially tegulae, brownish, sprinkled cream. Forewing as in *G. pakitzae*, but termen more oblique. Forewing ground colour olive brown, sprinkled cream to middle, grey along costa and in terminal third of wing; costal strigulae cream, divisions brown; ocellus with brown spots; subtornal blotch brown, elongate, broadening beyond median cell. Cilia paler than ground colour. Hindwing pale brown; cilia cream.

Male unknown.

Female genitalia (Fig. 73). Sterigma tapering posteriorly with small, sharp lateral lobes; antrum sclerite shorter than cingulum, with sclerotized lateral processes posteriorly; cingulum with spiny medio-proximal lobe; signa rather small. Subgenital sternite simple, short, small.

B i o l o g y. Food plant: *Mabea occidentalis* (Euphorbiaceae); larva in fruit.

Holotype female: "Canal Zone: Is. Barro Colorado, Fe. 14 1978; ex fruit of *Mabea oc-cidentalis* BENTH. (Euphorbiaceae), D. de STEVEN"; GS 126,547, deposited in USNM.

# Grapholita huipulcana sp. n.

(Figs 74, 138)

D i a g n o s i s. This species is similar to *G. interstinctana* (CLEMENS, 1860) from the U.S.A., but *G. huipulcana* has a uniform white dorsal patch and two well developed signa

(in *G. interstinctana* the signa are absent). In facies it is also similar to *Cydia menoides* WALSINGHAM, 1914 from Mexico, but the latter has a cuneiform dorsal patch.

D e s c r i p t i o n. Wing span 11 mm. Head cream with upper part brownish; thorax olive brown. Forewing weakly expanding terminad; costa and termen slightly convex. Forewing ground colour olive brownish basally, brown in posterior half, tinged rust posteriorly; costal strigulae and dorsal patch clear white; reddish rust suffusion at ocellar area; ocellar spots on yellowish and grey ground; refractive markings present. Cilia brownish. Hindwing brownish; cilia whitish.

Male unknown.

Female genitalia (Fig. 74). Anteostial sterigma weakly sclerotized, convex proximally; postostial sterigma proximally fused with subgenital sternite, somewhat tapering terminad; ostium area large, broad proximally; ductus bursae short, slender, sclerotized in basal half; ductus seminalis very broad, proximal; corpus bursae very large with two signa.

Holotype female: "Huipulco, Mex.[ico], 21 Aug. 192, E.G. SMITH"; GS 126,478, deposited in USNM.

Etymology. The name refers to the type locality.

### Coniostola procellosa (MEYRICK, 1917), comb. n.

## (Figs 75, 139)

Eucosma procellosa MEYRICK, 1917: 19; t.l.: Lima, Peru. BROWN, 2005: 367 (Grapholitini Unplaced Species).

Material examined. One pair from Venezuela (T.F. Amaz.[onas], Cerro de la Neblina, 0°50'N 66°0'44"W, 140 m, 4-12 Feb. 1984, D. DAVIS & T. MCCABE, USNM). One female from Costa Rica (Prov. Heredia: 10 km SE La Virgen, 550 m, 10°20'N 84°05'W, 11. IV. 2003, INBio-OET-ALAS transect, INBio).

R e m a r k s. This species is very closely related to *C. isabelae* RAZOWSKI & LANDRY, 2008 from the Galapagos Islands, but *C. procellosa* differs in the possession of a distinct posterior line of the ocellus in the forewing; a broad dorsal patch consisting of several parallel lines on the forewing; and a longer aedeagus in male genitalia. The female genitalia (Fig. 75) of the two species are nearly identical.

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Figs 1-4. Male genitalia: 1 – *Talponia zuliana* sp. n., holotype; 2 – *Talponia tambopatae* sp. n., holotype; 3 – *Ricula comptana* (WALKER), holotype; 4 – *Ricula oneiros* sp. n., holotype.



Figs 5-8. Male genitalia: 5 – *Ricularampha psenbasis* sp. n., holotype; 6 – *Ricula waltheriae* sp. n., holotype; 7 – *Ricula ybycuia* sp. n., holotype; 8 – *Ricula masaguarali* sp. n., holotype.



Figs 9-12. Male genitalia: 9 – 12. *Balbis assumptana* (WALKER), holotype; 10 – *Riculorampha obrima* sp. n., holotype; 11 – *Satronia selvae* sp. n., holotype; 12 – *Satronia herediae* sp. n., holotype.

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Figs 13-16. Male genitalia: 13 – *Dichrorampha atalla* sp. n., holotype; 14 – *Dichrorampha huichihuayana* sp. n., holotype; 15 – *Dichrorampha yallahs* sp. n., holotype; 16 – *Dichrorampha rhadina* sp. n., holotype.



Figs 17-20. Male genitalia: 17 – *Dichrorampha sarmentana* ZELLER, holotype; 18 – *Dichrorampha flinti* sp. n., holotype; 19 – *Dichrorampha chloantha* sp. n., holotype; 20 – *Ranapoaca caparoana* sp. n., holotype.

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Figs 21-24. Male genitalia: 21 – *Ofatulena moguillae* sp. n., holotype; 22 – *Ofatulena manca* sp. n., holotype; 23 – *Ofatulena neblinana* sp. n., holotype; 24 – *Ethelgoda texanana* (WALSINGHAM), Runaway Bay, Jamaica.



Figs 25-28. Male genitalia: 25 – *Ethelgoda opta* sp. n., holotype; 26 – *Ethelgoda okrodon* sp. n., holotype; 27 – *Cydia antioquiae* sp. n., paratype; 28 – *Cydia catamarcae* sp. n., holotype.



Figs 29-32. Male genitalia: 29 – *Cydia rufiterma* sp. n., holotype; 30 – *Cydia tepica* sp. n., holotype; 31 – *Cydia tonosticha* (MEYRICK), Panama, near Capira; 32 – *Cydia orteguazae* sp. n., holotype.



Figs 33-36. Male genitalia: 33 – *Cydia pyraspis* (MEYRICK), Heredia Province, Costa Rica; 34 – *Cydia rhodaspis* (MEYRICK), San Jose, Costa Rica; 35 – *Cydia ninana* DYAR, San Cristobal, Mexico; 36 – *Cydia sagittula* sp. n., holotype.

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Figs 37-41. Male genitalia: 37 – Cydia ingens (HEINRICH), Dominican Republic; 38 – Cydia eucyanea Walsingham, Tamaulipas, Mexico; 39 – Cydia curitibana SCHÖNHERR, Santa Catarina, Brazil; 40 – Ecdy-tolopha torosticha (CLARKE), Turrialba, Cartago Province, Costa Rica; 41 – Grapholita catarranae sp. n., holotype.



Figs 42-45: Male and female genitalia. 42, 43 – *Grapholita yurubina* sp. n., holotype; 44 – *Talponia trinidadi* sp. n., holotype; 45 – *Talponia tambopatae* sp. n., holotype.



Figs 46-49: Female genitalia. 46 – *Talponia ?batesi* HEINRICH, Heredia Province, Costa Rica; 47 – *Talponia alhajuelo* sp. n., holotype; 48 – *Talponia rytidogramma* sp. n., holotype; 49 – *Talponia biseriata* sp. n., holo-type.



Figs 50-53. Female genitalia: 50 – *Ricula limenita* (MEYRICK), Trinidad, Panama; 51 – *Ricula waltheriae* sp. n., paratype; 52 – *Ricula ybycuia* sp. n., paratype; 53 – *Ricula masaguarali* sp. n., paratype.

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Figs 54-57. Female genitalia: 54 – *Goditha laminaegera* sp. n., holotype; 55 – *Phloeorampha phloea* sp. n., holotype; 56 – *Sereda vegas* sp. n., holotype; 57 – *Dichrorampha atalla* sp. n., paratype.



Figs 58-61. Female genitalia: 58 – *Dichrorampha tulacingana* sp. n., holotype; 59 – *Dichrorampha tandayapae* sp. n., holotype; 60 – *Dichrorampha geitantrum* sp. n., holotype; 61 – *Ranapoaca caparoana* sp. n., paratype.



Figs 62-65. Female genitalia. 62 – *Ofatulena manca* sp. n., holotype; 63 – *Ofatulena dominica* sp. n., holotype; *Ofatulena neblinana* sp. n., paratype; 65 – *Ethelgoda texanana* (WALSINGHAM), Runaway Bay, Jamaica.



Figs 66-69: Female genitalia. 66 – *Cydia tepica* sp. n., paratype; 67 – *Cydia tonosticha* (MEYRICK), near Capira, Panama; 68 – *Cydia rhodaspis* (MEYRICK), San Jose, Costa Rica; 69 – *Cydia ?exsurgens* (MEYRICK), Manu, Peru.

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Figs 70-73. Female genitalia: 70 – *Ecdytolopha torosticha* (CLARKE), Turrialba, Cartago Province, Costa Rica; 71 – *Grapholita aprosmixta* sp. n., holotype; 72 – *Grapholita pakitzae* sp. n., holotype; 73 – *Grapholita mabeae* sp. n., holotype.



Figs 74, 75. Female genitalia: 74 – Grapholita huipulcana sp. n., holotype; 75 – Coniostola procellosa (MEYRICK), Amazonas, Venezuela.

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Figs 76-83. Adults: 76 – Talponia zuliana sp. n., holotype; 77 – Talponia trinidadi sp. n., holotype; 78 – Talponia tambopatae sp. n., holotype; 79 – Talponia batesi HEINRICH, Province Heredia, Costa Rica; 80 – Talponia alhajuelo sp. n., holotype; 81 – Talponia ritidogramma sp. n., holotype; 82 – Talponia biseriata sp. n., holotype; 83 – Ricula comptana (WALKER), holotype.



Figs 84-91. Adults: 84 – *Ricula limenita* (MEYRICK), Trinidad, Panama; 85 – *Ricula oneiros* sp. n., holotype; 86 – *Ricularampha psenbasis* sp. n., holotype; 87 – *Ricula waltheriae* sp. n., holotype; 88 – *Ricula ybycuia* sp. n., holotype; 89 – *Ricula ybycuia* sp. n., paratype; 90 – *Ricula masaguarali* sp. n., 91 – *Balbis assumptana* (WALKER), holotype.

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Figs 92-99. Adults: 92 – *Riculorampha obrima* sp. n., holotype; 93 – *Goditha laminaegera* sp. n., holotype; 94 – *Phloeorampha phloea* sp. n., holotype; 95 – *Satronia selvae* sp. n., holotype; 96 – *Satronia here diae* sp. n., holotype; 97 – *Sereda vegas* sp. n., holotype; 98 – *Dichrorampha atalla* sp. n., holotype; 99 – *Dichrorampha huichihuayana* sp. n., holotype.



Figs 100-107. Adults: 100 – Dichrorampha yallahs sp. n., holotype; 101 – Dichrorampha rhadina sp. n., holotype; 102 – Dichrorampha sarmentana ZELLER, holotype; 103 – Dichrorampha flinti sp. n., holotype; 104 – Dichrorampha tulacingana sp. n., holotype; 105 – Dichrorampha chloantha sp. .n, holotype; 106 – Dichrorampha tandayapae sp. n., holotype; 107 – Dichrorampha geitantrum sp. n., holotype.

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Figs 108-115. Adults: 108 – Ranapoaca caparoana sp. n., holotype; 109 – Ofatulena moguileae, holotype; 110 – Ofatulena manca sp. n., holotype; 111 – Ofatulena dominica sp. n., holotype; 112 – Ofatulena neblinana sp. n., paratype; 113 – Ethelgoda texanana (WALSINGHAM), Runaway Bay, Jamaica; 114 – Ethelgoda opta sp. n., holotype; 115 – Ethelgoda okrodon sp. n., holotype.



Figs 116-123. Adults. 116 – *Cydia antioquiae* sp. n., paratype; 117 – *Cydia catamarcae* sp. n., holotype; 118 – *Cydia rufiterma* sp. n., holotype; 119 – *Cydia tepica* sp. n., holotype; 120 – *Cydia tonosticha* (MEYRICK), near Capira, Panama; 121 – *Cydia orteguazae* sp. n., holotype; 122 – *Cydia pyraspis* (MEYRICK), Heredia Province, Costa Rica; 123 – *Cydia rhodaspis* (MEYRICK), San Jose, Costa Rica.

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Figs 124-131. Adults. 124 – *Cydia ninana* DYAR, San Cristobal, Mexico; 125 – *Cydia sagittula* sp. n., holotype; 126 – *Cydia ingens* (HEINRICH), La Vega Province, Dominican Republic; 127 – *Cydia eucyanea* (Walsingham), Tamaulipas, Mexico; 128 – *Cydia curitibana* SCHÖNHERR, Santa Catarina, Brazil; 129 – ?*Cydia exsurgens* (MEYRICK), Manu, Peru; 130 – *Ecdytolopha tor osticha* (CLARKE), Turrialba, Costa Rica; 131 – *Cryptophlebia saileri* CLARKE, paratype.



Figs 132-139: Adults. 132 – *Cryptophlebia saileri* CLARKE, paratype; 133 – *Grapholita catarranae* sp. n., holotype; 134 – *Grapholita aprosmicta* sp. n., holotype; 135 – *Grapholita yurubina* sp. n., holotype; 136 – *Grapholita pakitzae* sp. n., holotype; 137 – *Grapholita mabeae* sp. n., holotype; 138 – *Grapholita huipulcana* sp. n., holotype; Coniostola procellosa (MEYRICK), Amazonas, Venezuela.