

# NEW GENERA AND SPECIES OF MICROLEPIDOPTERA FROM PANAMA.

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The following is the second installment<sup>1</sup> of descriptions of Microlepidoptera from Panama, based on material collected by the writer while a member of the Smithsonian Biological Survey of Panama, during two periods, from January to June, 1911, 1912.

The type material is deposited in the United States National Museum, and cotypes are, as far as possible, exchanged with the British Museum.

The citation of the type under each genus does not signify that the fixation is original in this paper, in most cases it is not; but in some as yet debatable cases the citation is necessary in order to define the author's conception of the genus in question, and the uniform citation of the genotypes will be a convenience for future students.

## Family COSMOPTERYGIDÆ.

### Genus ERITARBES Walsingham.

*Type.*—*Eritarbes otiosa* Walsingham.

#### ERITARBES GUTTATA, new species.

Labial palpi straw-yellow, with terminal joint blackish toward the face. Face, head, and thorax straw-colored. Antennæ nearly as long as the forewings, straw-yellow, faintly dotted on each joint with black. Forewings shiny light straw-yellow, overlaid on exterior half with light brown; a conspicuous deep black elongate spot on the fold equidistant from apex and base of the wing; an inconspicuous dark-brown dot at the end of the fold, a few dark-brown scales at apex. Cilia straw-colored. Hindwings dark straw-colored above; underside of both wings blackish brown. Abdomen yellow. Legs whitish ochreous.

*Alar expanse.*—14 mm.

*Habitat.*—Cabima and La Chorrera, Panama, May, June.

*Type-specimen.*—Cat. No. 16668, U.S.N.M.

Reminds one in a general way of *Sitotroga cerealella* Olivier.

<sup>1</sup> The first paper was published in the Smithsonian Miscellaneous Collection, vol. 59, No. 4, 1912.

## Genus PERIMEDE Chambers.

*Type*.—*Perimede errantella*, Chambers.

## PERIMEDE ANNULATA, new species.

Labial palpi blackish brown, terminal joint somewhat lighter. Antennæ dark brown with last dozen joints silvery white. Face, head, and thorax shining black. Forewings uniformly shining black with four small deep-black tufts of erect scales, one on the cell, one at the end of the cell, one on the middle of the fold, and one near the end of the fold, all encircled with whitish scales. Cilia gray. Hindwings light fuscous. Abdomen dark fuscous. Legs blackish; tarsal joints very indistinctly annulated with white.

*Alar expanse*.—11 mm.

*Habitat*.—Corozal and Paraiso, Isthmian Canal Zone, March, May.

*Type-specimen*.—Cat. No. 15814, U.S.N.M.

Very close to *Perimede particornella* Busck, but of deeper black color and distinguished by the narrow white circlets around the tufts of raised scales.

## Genus WALSHIA Clemens.

*Type*.—*Walshia amorphella* Clemens.

## WALSHIA ALBICORNELLA, new species.

Labial palpi dull ochreous, shaded with black; terminal joint nearly black with extreme apex pale. Antennæ ochreous, annulated with black and with apical fourth silvery white. Face ochreous. Head and thorax ochreous, dusted with brown and black. Forewings shiny ochreous, with black and brown ill-defined markings; from base of costa to basal fourth of dorsum runs an oblique, broad, black fascia containing two large tufts of raised scales; near the end of the cell is an oblique, transverse row of raised ochreous scales mottled with black; at tornus is an ill-defined group of black and brown scales, and along the terminal edge is a row of three black dots; apical part of the wing mottled with scattered black scales; cilia light fuscous. Hindwings dark fuscous with lighter cilia. Abdomen blackish fuscous above, underside and anal tuft ochreous. Legs ochreous with broad black bars and black tarsal annulations.

*Alar expanse*.—10–11 mm.

*Habitat*.—Paraiso and La Chorrera, Panama, February, May.

*Type-specimen*.—Cat. No. 15813, U.S.N.M.

Very close to the type of the genus and difficult to distinguish from it except by its smaller size and the white-tipped antennæ. *Walshia calcarata* Walsingham, which also has the white-tipped antennæ, differs by the white head and the clothed posterior spurs.

## Family GELECHIIDÆ

## FORTINEA, new genus.

*Type.*—*Fortinea auriciliella*, new species.

Labial palpi long, thin, recurved; second joint slightly thickened with appressed scales, compressed, slightly ruffled in front; terminal joint slender, acute, as long as second. Antennæ finely ciliate. Forewings very elongate, broadest just within tornus; costa straight until apical fourth, thence somewhat deflected to the well defined apex; termen but little oblique; dorsum straight; 11 veins; veins 10 and 11 so closely approximate and parallel as to unite throughout their length into one heavy vein, only separable into its constituents under magnification; 7 and 8 stalked; 7 to costa; 2 from near middle of cell; 3 from before the end of the cell; 4 from end of cell; 1 *b* furcate at base. Hindwings broader than forewings; costa straight; apex pointed; termen straight, oblique; dorsum straight; 8 veins; 6 and 7 stalked; cell produced at their stalk; 5 cubital, separate; 3 and 4 separate, but approximate. Posterior tibiæ hairy above.

A genus of uncertain affinity though probably related to *Cataleris* Walsingham and *Logisis* Walsingham; from both of these genera it differs in having vein 9 of the forewing free and in the unusual semi-coincidence of veins 10 and 11.

## FORTINEA AURICILIELLA, new species.

Labial palpi light ochreous brown. Face and head light straw-colored. Antennæ light straw-colored, faintly annulated with dark brown toward their tips. Thorax light brown. Forewings light ochreous brown; extreme costal edge blackish brown; below this runs a thin, light ochreous, submarginal line from base to apex, whence it turns obliquely inward straight to the middle of the fold; this thin ochreous line is edged above with dark brown and is faintly continued along the fold to the base of the wing; it gives the wing a superficial appearance of a much narrower, elachistid wing with a long cilia represented by the tornal part; along the terminal edge is a dark brown submarginal line, beyond which the wing and the cilia are strongly metallic golden; dorsal cilia not metallic, dark greenish brown. Hindwings dark brownish fuscous with golden yellow tips; apical cilia golden yellow with a deeper yellow basal line; dorsal cilia brown. Abdomen dark brown above; underside ochreous. Legs ochreous, shaded externally with dark brown.

*Alar expanse.*—24 mm.

*Habitat.*—Porto Bello, Panama, May.

*Type-specimen.*—Cat. No. 15815, U.S.N.M.

## ATOPONEURA, new genus.

*Type.*—*Atoponeura violacea*, new species.

Labial palpi long, recurved; second joint thickened with appressed scales, compressed, slightly rough posteriorly; terminal joint thickened with scales except at extreme tip, compressed. Antennæ three-fourths, simple. Tongue well developed, spiraled. Head and thorax smooth. Forewings elongate, narrow; costa and dorsum nearly straight and parallel; tip of the wing rounded; apex below the median line; termen rounded; 11 veins; 7 and 8 coincident; 6 to costa; 5 to apex; 2 and 3 stalked. Hindwings broader than forewings; costa deflected beyond the middle; apex blunt; termen slightly sinuated; dorsum nearly straight; flexus prominent; 8 veins; 3 and 4 connate; 5 cubital; 6 and 7 closely approximate; crossvein between 7 and 8 at basal fourth. Posterior tibiæ hairy above.

Nearest to and correlated with *Simoneura* Walsingham and like it with vein 6 in the forewing running to costa but further advanced in having 5 to apex and 3 and 4 stalked.

The form of the labial palpi also distinguishes it from this genus. Only one other American genus is known with a similar venation in the forewing, i. e., *Idiocrates* Meyrick,<sup>1</sup> which differs, however, in having vein 2 and 3 separate while the venation of the hindwings [6 and 7 parallel and 5 absent] proves it not at all related to the present genus.

## ATOPONEURA VIOLACEA, new species.

Labial palpi golden metallic yellow with base and terminal joint shaded with black exteriorly. Antennæ purplish black. Head and thorax bluish black, iridescent; face a shade lighter. Forewings black, overlaid with metallic, light blue scales and with a strong purplish sheen, especially toward apex, which, as well as the cilia, in certain light appear like burnished copper. Hindwing dark fuscous. Abdomen bluish fuscous. Legs bluish gray on the inside, black exteriorly.

*Alar expanse.*—14 mm.

*Habitat.*—Trinidad River, Panama, March.

*Type-specimen.*—Cat. No. 15816, U.S.N.M.

The species appears plain black and inconspicuous in dull light, but in reflected light it is a very brilliant insect.

## BELTHECA, new genus.

*Type.*—*Belthea picolella*, new species.

Labial palpi long, recurved; second joint thickened with scales, which are smoothly applied on the under side, but form a short brush on the upper side; terminal joint longer than second, slender, acute.

<sup>1</sup> Trans. Ent. Soc. Lond., 1900, p. 19.

Fore wings elongate, ovate, apex round pointed, termen oblique; 11 veins: 7 and 8 coincident to costa; 6 to apex; 2, 3, 4, and 5 equidistant; (7 and 8), 9, 10, and 11 equidistant; 11 from beyond middle of the cell; 1b furcate at base. Hind wings somewhat narrower than the forewings with costa gently arched, apex produced, termen strongly sinuate, dorsum straight; 7 veins: 6 obsolete; 7 to apex; 2, 3, 4, and 5 well separated, equidistant. Posterior tibiæ rough haired above.

A development from *Aristotelia*, correlated with *Chrysopora* Clemens, from which it differs by the coincident veins 7 and 8 of the forewings.

BELTHECA PICOLELLA, new species.

Second joint of labial palpi whitish gray with blackish tuft; third joint black with a broad, longitudinal, silvery line and with silvery apex. Eyes in the living specimen red. Lower face silvery white; upper face and head dark iridescent brown. Thorax blackish brown. Forewing blackish brown with a thin outwardly oblique white streaklet just beyond middle of costa and with two triangular white dashes just before apex; a few scattered white scales at the end of the cell and on the fold. Cilia black; just below apex it is short so as to give the wing a slightly emarginate appearance. Hind wings blackish fuscous with a bluish cast; cilia black. Abdomen iridescent blackish fuscous with silvery white underside. Legs blackish brown with white tarsal annulations.

*Alar expanse*.—9–10 mm.

*Habitat*.—Cabima, Panama, May.

*Type-specimen*.—Cat. No. 16669, U.S.N.M.

A striking little species reminding one of the genus *Apopira* Walsingham.

BESCIVA, new genus.

*Type*.—*Besciva longitudinella*, new species.

Labial palpi long, recurved, sickle-formed; second joint somewhat thickened with scales, smooth; terminal joint longer than second, pointed. Antennæ shorter than the fore wings. Fore wings narrow, elongate ovate with apex pointed; 11 veins: 7 and 8 coincident to costa; 6 separate to termen; 2, 3, 4, and 5 separate, nearly equidistant; 11 from beyond middle of cell, subobsolete toward the edge of the wing. Hind wings somewhat narrower than the fore wings with costa and dorsum nearly straight and parallel; apex produced, termen sinuated below apex; 8 veins: 6 and 7 longstalked; 6 to apex; 3 and 4 shortstalked; 5 cubital. Posterior tibiæ hairy above.

Allied to *Untomia* Busck, from which it differs in the separate veins 3 and 4 of the fore wing, the stalked veins 3 and 4 of the hind wing, and in having vein 6 of the hind wing to apex.

## BESCIVA LONGITUDINELLA, new species.

Second joint of labial palpi white, barred exteriorly with light brown; terminal joint white with two indistinct brown annulations. Antennæ light brown with white annulations. Face, head, and thorax white laterally with a light brown central streak. Fore wings with the white ground color strongly overlaid by light ochreous brown and black scales; a nearly continuous, longitudinal, undulating line runs through the middle of the wing from base to apex, bordered above with pure white; another black longitudinal line covers basal four-fifths of the fold; the rest of the wing area is ochreous brown, with the costal edge slightly dusted with black. Hind wings blackish fuscous with ochreous cilia. Abdomen blackish above, light ochreous on the under side. Legs whitish ochreous, dusted exteriorly with brown.

*Alar expanse*.—9 mm.

*Habitat*.—La Chorrera and Trinidad River, Panama, March, April.

*Type-specimen*.—Cat. No. 16670, U.S.N.M.

## GALTICA, new genus.

*Type*.—*Galtica venosa*, new species.

Labial palpi long, sickle-formed, reaching far beyond vertex; second joint slightly thickened with appressed scales; terminal joint nearly as long as second, slender, acute. Fore wings elongate ovate; apex bluntly pointed; termen rounded; 11 veins; 7 and 8 coincident; 4 and 5 shortstalked from the end of the cell; 2 and 3 widely separate from before the end of the cell; transverse vein nearly obsolete; 1*b* furcate at base. Hind wings wider than the forewings; costa nearly straight, slightly deflected beyond the middle; apex bluntly pointed; termen and dorsum rounded; 8 veins; 6 and 7 separate, though approximate; 3 and 4 connate; 5 cubital. Posterior tibiæ with heavy spreading tufts of long bristly hairs above.

This genus comes nearest to *Diadytica* Walsingham, from which it differs in having veins 4 and 5 of the fore wing shortstalked and in having 3 and 4 of the hind wings connate, not shortstalked; more strikingly distinguished in the very remarkable hair development of the posterior tibiæ; those of *Diadytica* being nearly smooth.

## GALTICA VENOSA, new species.

Labial palpi straw-yellow, with a thin, longitudinal, anterior, deep black line from base to apex, somewhat broader on the terminal joint. Face, head, and thorax purplish black, mottled with a few yellow scales. Forewings deep dull black with a broad, ill-defined, yellow band across the wing near base and with all the veins on the outer half of the wing indicated by narrow, yellow lines; an irregular aggregation of yellow scales at tornus; cilia blackish with a yellow base line. Hindwings dark fuscous. Abdomen blackish fuscous.

Legs blackish with yellow tarsi; posterior tibiæ with very striking spreading tufts of yellow and black hairs, displayed conspicuously when the insect is at rest; posterior first tarsal joints thickened with smooth, dark metallic blue scales.

*Alar expanse*.—18 mm.

*Habitat*.—Porto Bello, Panama, April.

*Type-specimen*.—Cat. No. 15817, U.S.N.M.

#### Genus ANACAMPSIS Curtis.

*Type*.—*Anacamopsis populella* Clerck.

#### ANACAMPSIS PECULELLA, new species.

Labial palpi silvery gray, shaded with darker gray, especially anteriorly on the terminal joint. Antennæ dark brown with narrow silvery annulations. Tongue silvery white. Head and thorax dark brownish fuscous; face somewhat lighter. Ground color of the forewings is white but so strongly and evenly overlaid with dark brown scales as to be obscured, except under magnification; near the base is a broad, outwardly oblique, dark brown costal streak, reaching beyond the fold; on the middle of costa is a large, triangular spot, reaching to the lower edge of the cell; at the end of the cell is a small, moon-shaped, dark brown spot; just before termen and parallel with it is a broad, dark brown fascia, and between it and the discal spot is a narrower, less pronounced and slightly convex, dark brown fascia; cilia dark brown with lighter tips. Hindwings dark brownish fuscous. Abdomen dark brown above with each joint tipped with silvery white. Underside of body silvery white. Legs silvery white, barred and annulated with dark brown.

*Alar expanse*.—11–12 mm.

*Habitat*.—Paraiso, Porto Bello, Trinidad River, and La Chorrera, Panama, February–May.

*Type-specimen*.—Cat. No. 15818, U.S.N.M.

This species is very close to *Anacamopsis siderophaea* Walsingham, but differs in the darker and more pronounced wing ornamentation and the lighter legs and body. *A. siderophaea* Walsingham has the abdomen uniformly dark brown above, without the silvery white crosslines possessed by the present species.

#### ANACAMPSIS LAGUNCULARIELLA Busck.

*Anacamopsis lagunculariella* BUSCK, Proc. U. S. Nat. Mus., vol. 23, 1900, p. 230; vol. 25, 1902, p. 848; Bull. 52, U. S. Nat. Mus., 1903, No. 5706.

*Anacamopsis lagunculariella* DYAR, Proc. Ent. Soc. Wash., vol. 10, 1901, p. 474.

This species, hitherto known only from the bred type series from Palm Beach, Florida, was taken in several specimens at Corozal and La Chorrera, Panama, April–May.

*Foodplant*.—*Laguncularia racemosa*.

## ANACAMPSIS DORSALIS, new species.

Second joint of labial palpi and base of third black, iridescent; upper four-fifths of terminal joint white. Antennæ black, with basal fourth and extreme tip white. Face smoky; head and thorax whitish ochreous. Forewing whitish ochreous with a large, blackish brown, oval, dorsal spot, occupying more than a third of the wing space, beginning near the base and reaching to apical third of the dorsal edge and beyond the middle of the wing; apical part of the wing largely occupied by a strongly iridescent pearly area before and after which the wing is shaded with brown; apical third of costa blackish brown with a short, oblique, ochreous streak before a triangular apical spot; three short, black, longitudinal streaks on the terminal edge; cilia white with a brown line parallel to the wing edge. Hindwing dark fuscous with whitish costal edge. Abdomen dark fuscous with ochreous anal tuft and a series of lateral ochreous spots. Legs light ochreous with broad black bars on tibiæ and tarsi.

*Alar expanse.*—13–14 mm.

*Habitat.*—Trinidad River, Porto Bello, and La Chorrera, Panama, April, May, and June.

*Type-specimen.*—Cat. No. 15819, U.S.N.M.

I have tried to identify this species with *fuliginosa* Felder and Rogenhofer, which, according to the figure, is very similar, but deem it safer to keep it under a separate name.

## ANACAMPSIS PHYTOMIELLA, new species.

Second joint of labial palpi blackish green on the outer surface, whitish at apex and on the inner side; terminal joint with basal half white, except for a broad, dark green annulation and with outer half golden brown; extreme tip black. Head and thorax dark olive green; face a shade lighter green. Forewing dark green, mottled with light ochreous and blackish brown scales; on the middle of the costal edge is a black spot and at apical third is a similar spot; from both of these run faint, irregular, darker green, zigzag fasciæ across the wing outwardly narrowly edged with ochreous; scattered irregularly over the wing are small tufts of blackish brown, raised scales and around apical and terminal edge is a subterminal row of black dots. Hindwings dark blackish brown; darkest and nearly black towards the tip; costal edge above vein 8 silvery white. Abdomen blackish brown above, greenish fuscous below. Legs greenish brown with narrow, white annulations on the tarsal joints.

*Alar expanse.*—18–19 mm.

*Habitat.*—Alhajuela, Cabima, and Porto Bello, Panama, March–June.

*Type-specimen.*—Cat. No. 15820, U.S.N.M.



A very good example of protective coloration. All of the thirty-odd specimens were taken on mossy tree trunks in the deep forest and their colors blended so well with those of the bark, that even when I saw them alight and after they had been disturbed by a puff of tobacco smoke, I would again and again lose sight of these quite large specimens. On one large tree trunk near Alhajuela, where the majority of the specimens were taken, many hundred were quietly sitting and could not be detected except by making them fly up, though I knew they were there.

ANACAMPSIS BISTRIGELLA, new species.

Second joint of labial palpi black exteriorly with apical edge white; inner side of second joint and the terminal joint whitish ochereous with a black dot just before the tip. Antennæ ochreous with dark brown annulations. Face, head, and thorax light ochreous fuscous. Forewings light ochreous fuscous with white and blackish brown markings; costal edge with three blackish markings, one from base to basal fourth with a smaller projection obliquely outward, one an obliquely outwardly directed streak on the middle and the third a large spot covering apical third of the costal edge but interrupted by a thin, white, transverse, outwardly angulated fascia across the wing at apical fourth and by two, small, perpendicular streaks beyond this fascia; at the angle of the fascia is a narrow, longitudinal, black streak; apical edge with a marginal, black streak; cell and dorsal part of the wing mottled with several, irregular, small, blackish brown spots. Hindwings dark fuscous. Abdomen dark fuscous with light ochreous underside. Legs fuscous; tarsi blackish brown with the tips of the joints ochreous.

*Alar expanse*.—8-9 mm.

*Habitat*.—Alhajuela and Cabima, Panama, April, May.

*Type-specimen*.—Cat. No. 15822, U.S.N.M.

It reminds one in coloration and pattern of the North American *Aprozema nigratomella* Clemens.

ANACAMPSIS UNISTRIGELLA, new species.

Very similar to the foregoing species though somewhat darker and more greenish in color. The costal spots are nearly contiguous; the first one smaller than in *bistrigella*; the second and third separated only by a thin, white streak; there is only one whitestreaklet on the costal margin beyond the fascia and the longitudinal, black streak at the angle of the fascia is surrounded by white scales contiguous with the fascia; at the end of the cell are two, elongate, black streaks and the cell and dorsal part are not mottled.

*Alar expanse*.—8 mm.

*Habitat*.—Taboga Island, Panama, June.

*Type-specimen*.—Cat. No. 15821, U.S.N.M.

## ANACAMPSIS CURTELLA, new species.

Second joint of labial palpi light gray with blackish apex; terminal joint white with a broad, black band just below the tip. Face whitish gray. Head and thorax dark gray. Forewings dark gray, finely irrorated with minute greenish ochreous dusting; outer half of costal edge with an oblique, white streaklet at apical third and a perpendicular, white streaklet just before apex; this latter nearly connects with a thin, perpendicular, white line across the wing, outside of which the tip of the wing is light gray with a single black longitudinal dash and a broad black marginal line narrowly edged with yellow. Hindwings dark brownish fuscous with basal half of costa silvery white. Abdomen dark fuscous above, silvery on the underside. Legs silvery gray; the tarsi blackish with narrow ochreous annulations.

*Alar expanse*.—10, 11 mm.

*Habitat*.—Trinidad River, Panama, June.

*Type-specimen*.—Cat. No. 15823, U.S.N.M.

Closely allied to the two foregoing species, but larger and darker than either.

## ANACAMPSIS TERRENELLA, new species.

Labial palpi dark fuscous; both joints with an anterior, thin, white line from base to apex, bordered on both sides with black. Face iridescent ochreous fuscous. Head and anterior part of thorax and base of the patagina blackish brown; posterior two-thirds of thorax and patagina light reddish brown. Forewings of a light reddish brown color with a violet sheen and sparsely dusted with black atoms; extreme base of costa, a small spot on the middle of costa, and another at apical third black; two ill-defined small black dots on the middle of the cell and a similar one at the end of the cell; entire tip and terminal cilia black; dorsal cilia ochreous. Hindwings broader than the forewings, dark fuscous, shiny; cilia a shade lighter. Abdomen dark fuscous with underside and anal tuft ochreous. Legs ochreous shaded with black.

*Alar expanse*.—16 mm.

*Habitat*.—Porto Bello, Panama, May.

*Type-specimen*.—Cat. No. 16671, U.S.N.M.

## Genus PARASPISTIS Meyrick.

*Type*.—*Paraspistis palpiger* Walsingham.

## PARASPISTIS PALPIGERA Walsingham.

*Gelechia palpiger* WALSINGHAM, Trans. Ent. Soc. Lond., 1891, p. 94, pl. 4, fig. 31.

*Paraspistis ioloncha* MEYRICK, Journ. Bombay Nat. Hist. Soc., vol. 16, 1905, p. 600.

*Lipatia crotolariella* BUSCK, Bull. Dep. Agr. Trinidad, vol. 9, 1910, p. 243.

Labial palpi light brown with second joint blackish exteriorly. Antennæ light brown, annulated with white. Face, head, and thorax

light brown. Forewings light ochreous brown, with a deeper tinge outwardly and with costal edge becoming broadly dark brown toward the apex; on the middle of the wing, on the middle of the fold, and at tornus are small aggregations of blackish scales, ill-defined and easily rubbed off. Hindwings blackish fuscous. Abdomen dark fuscous with the basal joints velvety ochreous above. Legs ochreous, sprinkled with black exteriorly; tarsi blackish with narrow ochreous annulations.

*Alar expanse*.—13—14 mm.

*Habitat*.—British West Indies, F. W. Urich, coll.

*Food-plant*.—*Crotolaria*.

*Type-specimen*.—Cat. No. 13382, U.S.N.M. Cotype in British Museum.

Bred by Mr. Urich from the pods of *Crotolaria*. There has been for many years a specimen of this species in the United States National Museum, bred by Dr. H. G. Dyar from pods of "woman's tongue," *Acacia?* sp. at Nassau, Providence Island, British West Indies, in 1891, which indicates a quite extensive range of the species.

While collating Mr. Meyrick's descriptions of East Indian genera with my synoptic tables I recognized in his *Paraspistis ioloncha*, described from four Ceylon specimens my *Lipatia crotolariella*, described from Trinidad, and sent Mr. Meyrick a specimen of the latter for verification. Mr. Meyrick concurred in this synonymy and was good enough to give me the further synonymy of *Gelechia palpigera* Walsingham, described from East Africa.

This interesting species, previously also recorded by the author from the Bahamas, was taken at Alhajuela and Corozal, Panama, April, 1911.

It breeds in the pods of *Crotolaria* and has attained its remarkable geographic distribution with its food-plant.

#### Genus RECURVARIA Haworth.

*Type*.—*Recurvaria nanella* Hübner.

#### RECURVARIA PUTELLA, new species.

Labial palpi whitish; second joint with two, large, poorly defined, ochreous brown blotches anteriorly, one reaching from base to beyond middle, the other just before the end of the joint; terminal joint white, with two black annulations; apex white. Face white; head mottled with ochreous. Antennæ white sharply annulated with blackish brown. Thorax white, mottled with ochreous and brown. Forewings with the white ground color, strongly suffused with gray, brown, ochreous, and black scales; a large blackish brown, dorsal blotch at the base of the wing terminates in tufts of raised scales, the tips of which are white; three equidistant, blackish, costal spots, one near the base, one before the middle, and one at apical third; a central, longitudinal, black streak is edged on both sides with ochreous

and is interrupted at apical fourth by a transverse streak of tufted whitish scales; cilia gray. Hindwings dark gray with cilia a shade lighter. Abdomen silvery white, shaded laterally with fuscous. Legs white; tarsal joints with black annulations.

*Alar expanse*.—7 mm.

*Habitat*.—Paraiso, Isthmian Canal Zone. La Chorrera, Panama, May, April.

*Type-specimen*.—Cat. No. 15824, U.S.N.M.

Reminding in a general way of *Recurvaria stricta* Walsingham, but is smaller and with more mottled wing ornamentation.

RECURVARIA FLAVIDELLA, new species.

Labial palpi ochreous; second joint with rather larger tuft than is normal in the genus; terminal joint with two deep black annulations. Antennæ ochreous with black annulations. Face silvery white. Head light ochreous. Thorax darker ochreous. Forewings light ochreous, suffused on costal and apical half with darker ochreous; on the middle of the cell is a small black dot and below it on the fold is a tuft of raised scales; at the end of the cell are two, small, black dots, one above the other, below which a tuft of raised scales, narrowly edged with black; on the middle of costa is an inconspicuous, outwardly oblique, black streaklet; at apical fourth is a similar, but much more pronounced black streak, reaching nearly to termen and edged posteriorly with light ochreous; around the apical edge is a series of short black lines. Cilia dark ochreous with lighter tips. Hindwings light ochreous fuscous with light ochreous cilia. Abdomen light ochreous above, silvery below. Legs ochreous; tarsal joints annulated with black.

*Alar expanse*.—7 mm.

*Habitat*.—Paraiso, Isthmian Canal Zone. April, May.

*Type-specimen*.—Cat. No. 15825, U.S.N.M.

This species is very close to *R. apictripunctella* Clemens, and *R. variella* Chambers, smaller than either and differing, aside from details of ornamentation, in the more tufted palpi.

Genus GELECHIA Hübner.

*Type*—*Gelechia rhombella* Hübner.

GELECHIA TRADUCELLA, new species.

Labial palpi with second joint nearly smooth and terminal joint fully as long as second; black, minutely sprinkled with white scales, which on the terminal joint form an indistinct, longitudinal, anterior line. Lower part of face black; upper part and head light ochreous. Antennæ black with short, longitudinal, silvery white streaks. Thorax black. Forewings black with a light yellow, oblique fascia from basal fourth of costa to basal third of dorsum and with a spot of the same

color on apical fourth of costa; upper part of cilia black, lower part yellow. Hindwings blackish fuscous. Abdomen blackish fuscous above, underside ochreous. Legs black with a broad, yellow band at the end of the posterior tibiae and with narrow, yellow tarsal annulations.

*Alar expanse*.—12 mm.

*Habitat*.—La Chorrera, Panama, May.

*Type-specimen*.—Cat. No. 15826, U.S.N.M.

Reminds in a general way of *Arogalea sonorella* Busck, which was collected at light at the same time as the present species. It is easily distinguished by the complete yellow fascia on the forewings.

GELECHIA GENIATELLA, new species.

Labial palpi with well developed triangular tuft, white with a blackish bar on the middle and an ochreous pencil in the tuft; terminal joint fully as long as second, white sparsely sprinkled with brown. Face white, iridescent. Head mottled with gray. Thorax white mottled with gray and ochreous. Forewings white overlaid with dark gray and ochreous scales; on the middle of the cell are two large tufts of dark erect scales, one above the other and together reaching nearly across the wing; the bases of these tufts are yellow; on the costa are four dark brown spots edged below with yellow; at tornus is a fugitive ring of dark brown scales with a few yellow scales within; apical part of the wing is heavily overlaid with dark brown which obscures a row of dark terminal dots. Hindwings semitransparent on basal half; dark fuscous on apical half; the males have a strong costal tuft, ochreous at base, blackish brown at tips; veins 6 and 7 are long stalked; veins 3 and 4 short stalked. Abdomen dark silvery fuscous above, whitish on the underside. Legs whitish ochreous, sprinkled with black and with black tarsal annulations.

*Alar expanse*.—11-12 mm.

*Habitat*.—Porto Bello, Trinidad River, Alhajuela, Paraiso and Corozal, Panama, March-May.

*Type-specimen*.—Cat. No. 15827, U.S.N.M.

A rather extreme form with its *Ypsolophus*-like tuft, its long-stalked veins 6 and 7, its strongly tufted forewings and with the male costal hair pencil, which is rather exceptional in the genus, but withal properly included in *Gelechia*.

AROGA, new genus.

*Type*.—*Gelechia paraplutella* Busck.<sup>1</sup>

Labial palpi long, recurved; second joint thickened with rough, slightly furrowed brush on the underside; terminal joint long, slender, acute, shorter than the second. Forewings elongate, smooth; costa and dorsum nearly straight and parallel until apical fourth;

<sup>1</sup> Proc. Ent. Soc. Wash., vol. 11, 1909, p. 181.

apex pointed; termen oblique; 12 veins; 7 and 8 stalked; 2, 3, 4, and 5 separate, nearly equidistant; 2 and 3 from before the corner of the cell; 1*b* furcate at base. Hindwings as broad or broader than the forewings; apex somewhat produced; termen sinuate; 8 veins; 3 and 4 separate but approximate; 5 cubital; 6 and 7 separate. Posterior tibiae hairy above.

A genus for the reception of species immediate between *Gelechia* Authores and *Telphusa* Chambers, differing from the former in having 3 and 4 of the hindwings separate, not connate, and from the latter in having veins 6 and 7 in the hindwings separate, not stalked. The genus, *Arogalea* Walsingham<sup>1</sup> conforms to these demands, but differs from the present genus in the approximation of veins 3, 4, and 5 from the end of the cell in the forewings and by the raised scales of the forewings as well as in the form of the labial palpi. *Parastega* Meyrick<sup>2</sup> differs from the present genus in the form of the palpi and in having veins 3 and 4 of the forewings stalked.

#### AROGA PARAPLUTELLA Busck.

*Gelechia paraphutella* BUSCK, Proc. Ent. Soc. Wash., vol. 11, 1909, p. 181.

Labial palpi creamy white; extreme base of second joint and the terminal joint sprinkled with black scales; brush well-developed, furrowed. Antennæ deep black. Face and head creamy white. Thorax light clay-yellow; patagina black. Forewings blackish fuscous with entire dorsal part below the fold light reddish yellow; in faded specimens this color becomes yellowish white. Hindwings light fuscous. Abdomen dark fuscous with light anal tuft. Legs ochreous on their inner sides, heavily barred with black externally; tarsi with broad black annulations.

*Alar expanse*.—11–12 mm.

*Habitat*.—San Diego, California, May and July. L. E. Ricksecker, coll.; Los Angeles, California, June, Dyar and Caudell, coll.

*Type-specimen*.—Cat. No. 12688, U.S.N.M.

A single rubbed specimen from Paraiso, Panama, January, is with some doubt referred to this species.

#### Genus PSORICOPTERA Stainton.

*Type*.—*Psoricoptera gibbosella* Zeller.

#### PSORICOPTERA HORA, new species.

Labial palpi ochreous; terminal joint and outer side of second joint shaded with black. Antennæ light ochreous, annulated with dark brown. Face light golden ochreous. Head and thorax darker ochreous, mottled with dark brown. Forewings light ochreous, shaded and longitudinally streaked with blackish brown; a large, dark, brown

<sup>1</sup> Biol. Cent.-Amer., vol. 4, 1910, p. 98.

<sup>2</sup> Trans. Ent. Soc. Lond., 1912, p. 693.

spot reaches from the middle of costa to apical fifth and is followed by a small, unmottled, ochreous space; on the middle of the fold is a black streak; extreme tip of the wing blackish; cilia ochreous with a basal and a terminal black line. Hindwings light fuscous with edges and cilia a shade darker. Abdomen dirty ochreous. Legs ochreous, barred with dark brown; tarsi annulated with black.

*Alar expanse*.—12 mm.

*Habitat*.—Alhajuela, Panama, April.

*Type-specimen*.—Cat. No. 15828, U.S.N.M.

An inconspicuous species reminding of *Phthorimaea striatella* Murtfeldt.

Genus TELPHUSA Chambers.

*Type*.—*Telphusa longifasciella* Clemens.

TELPHUSA OBLIGATA, new species.

Second joint of the labial palpi black with white apex; terminal joint white. Face silvery ochreous. Antennæ light ochreous with narrow black annulations. Head and thorax light reddish ochreous. Forewings light ochreous with a strong rosy tint, especially on costal and apical part; and sparsely sprinkled with minute black atoms; at basal third of costa is a large, deep black, outwardly oblique spot, reaching beyond the fold; at apical third is a deep black costal spot; a series of small terminal dots black; base of dorsum and a small dot on the middle of the wing near base black; cilia reddish ochreous. Hindwings light fuscous. Abdomen fuscous with the posterior edge of each joint and with anal tuft ochreous. Legs ochreous; tarsal joints barred with black.

*Alar expanse*.—11 mm.

*Habitat*.—La Chorrera, Panama, May.

*Type-specimen*.—Cat. No. 15829, U.S.N.M.

A pretty species with a bold, easily recognized wing ornamentation.

TELPHUSA MEDULELLA, new species.

Labial palpi ochreous, mottled with black; terminal joints mostly black, but with base and extreme apex ochreous. Antennæ black with first joint and apical joints tipped with yellow. Face and head ochreous, slightly tipped with black. Thorax blackish brown on anterior half, ochreous posteriorly; patagina brown. Forewings ochreous and dark brown in about equal proportion; taking the brown as ground-color, there is an ill-defined ochreous band from near the base of costa to the middle of dorsum and thence upward again across the outer part of the cell to apical third of costa; this uneven band is loosely connected with an ochreous spot on apical fourth of costa by a downwardly curved narrow band and also with a yellow spot at base of dorsum, the whole forming a very irregular

zigzag band of more or less raised scales on the smooth dark background; at the end of the cell are two deep black dots and on the middle of the fold is a similar, smaller, black dot; cilia dark fuscous. Hindwings light fuscous; cilia with ochreous base. Abdomen fuscous mottled with ochreous and with ochreous anal tuft. Legs blackish brown with the ends of the joints annulated with yellow.

*Alar expanse*.—9 mm.

*Habitat*.—Porto Bello and Trinidad River, Panama, March, April, and May.

*Type-specimen*.—Cat. No. 15830, U.S.N.M.

Genus PARASTEGA Meyrick.

*Type*.—*Parastega niveisignella* Zeller.

PARASTEGA CURVATELLA, new species.

Labial palpi blackish brown, slightly sprinkled with white and with extreme apex white. Face, head, and thorax blackish brown. Forewings blackish brown with a purple sheen; from basal fifth of costa runs a narrow white streak obliquely outwards and downwards to the fold and is continued much attenuated and obscurely beyond the fold outwardly in a shallow curve; on the fold is an interrupted, light brown, longitudinal streak; at apical fifth is a small white costal spot; cilia blackish brown. Hindwings dark fuscous. Abdomen blackish brown with small ochreous anal tuft. Legs blackish brown with narrow white annulations at the end of the joints.

*Alar expanse*.—12–14 mm.

*Habitat*.—Porto Bello, Trinidad River, and La Chorrera, Panama, March–May.

*Type-specimen*.—Cat. No. 15731, U.S.N.M.

Close to and easily mistakable for the type of the genus, *P. niveisignella* Zeller, but differing in the much narrower and longer basal costal spot and the smaller apical, costal, white spot. *P. chionostigma* Walsingham, described as *Telphusa*, must also be referred to this genus; it is easily separated by its white head and bold, clear-cut wing markings.

PARASTEGA TRICHELLA, new species.

Labial palpi black; second joint with brush rust brown; terminal joint with an anterior line of white dots and with extreme apex white. Antennæ purplish black. Face, head, and thorax purplish black. Forewings blackish brown with strong purple sheen; at basal fourth is a narrow, outwardly oblique, straight, silvery white streak; at apical fourth is a small triangular outwardly pointed white costal streak; cilia bluish dotted with dark brown. Hindwings dark fuscous. Abdomen blackish brown. Legs black with narrow white annulations at the end of the joints.

*Alar expanse*.—11 mm.



*Habitat*.—Porto Bello and Trinidad River, Panama, April, May.

*Type-specimen*.—Cat. No. 15832, U.S.N.M.

Very close to the foregoing species, *curvatella* Busck, but smaller, more shiny, with less white ornamentations and without the brown streak on the fold. The reddish brown palpal brush at once separates this species.

Genus AROGALEA Walsingham.

*Type*.—*Arogalea cristifasciella* Chambers.

AROGALEA SORONELLA, new species.

Second joint of labial palpi white above and at apex with black underside; terminal joint black, with extreme tip white. Face and head whitish yellow. Antennæ black. Thorax black with two, small, yellow, posterior tufts of raised scales. Forewings deep black with light yellow markings; an oblique yellow spot on basal fourth of costa; a yellow spot on apical fourth of costa; a small yellow tuft of raised scales on the middle of the fold; black scale tufts at basal fourth and at the end of the cell, the latter with a few yellow scales; a minute yellow dot at tornus; cilia black. Hindwings blackish fuscous. Abdomen black with yellow anal tuft. Legs black; tarsal joints annulated with yellow.

*Alar expanse*.—12–13 mm.

*Habitat*.—La Chorrera and Cabima, Panama, May.

*Type-specimen*.—Cat. No. 15833, U.S.N.M.

Reminds in coloration and pattern very much of the somewhat larger *Parastega chionostigma* Walsingham, from which it is, however, at once distinguished by the yellow dots on the thorax and the differently colored labial palpi.

Genus DICHOMERIS Hübner.

*Type*.—*Dichomeris ligulella* Hübner.

DICHOMERIS TRISTICTA, new species.

Second joint of labial palpi with well-developed brush (*Malacotriche* type), light brown on the inner side; blackish brown exteriorly, with tip of the brush white; terminal joint light brown. Antennæ light ochreous brown with narrow black annulations. Face, head and thorax light ochreous brown; extreme posterior tip of thorax black. Forewings light ochreous brown with a round black dot on the middle of the cell, another at the end of the cell and a similar one on the fold, all slightly edged with reddish brown; base of costal edge black; around the apical edge is a series of small black dots. Hindwings dark brownish fuscous. Abdomen ochreous brown. Legs ochreous on the inner sides, blackish exteriorly.

*Alar expanse*.—14 mm.

*Habitat*.—Trinidad River, Panama, May.

*Type-specimen*.—Cat. No. 16672, U.S.N.M.

Nearest and very similar to *D. hexasticta* Walsingham, but differing in the number of discal dots and in the much darker hindwings.

DICHOMERIS COSTALIS, new species.

Second joint of labial palpi with strong rounded tuft above and beneath; ochreous at base, brush blackish, minutely dotted with white; terminal joint blackish brown with silvery base. Lower face golden ochreous; upper face and head colored like the palpal tuft. Thorax dark brown; patagina light ochreous brown with a palpal sheen. Entire costal part of the wing light ochreous brown with a violet sheen; this color is edged by a deep velvety black, longitudinal streak from the inner angle of the wing to apex; this black color gradually fades into the dark blackish fuscous color which occupies the dorsal half of the wing; a thin indistinct black line parallel with termen; cilia dark fuscous with a faint ochreous base line. Hindwing shiny light fuscous; underside of wing with strong golden reflections. Abdomen dark fuscous with golden ochreous underside and anal tuft. Legs ochreous with fuscous tarsi. The males have a thin golden yellow hair-pencil on each side of thorax at the base of the forewings, which can be expanded up over the base of the wing.

*Alar expanse*.—20 mm.

*Habitat*.—Tabogilla Island and Porto Bello, Panama, February, April.

*Type-specimen*.—Cat. No. 16673, U.S.N.M.

Closely allied to *D. arotrosema* Walsingham and *D. varronia* Busck, and at once recognizable by its striking longitudinal wing pattern.

DICHOMERIS EXCAVATA, new species.

Second joint of labial palpi smooth, *Trichotaphe*-formed, golden orange, shaded on the upper side with black; terminal joint ochreous, strongly suffused with black. Face silvery white; head deep metallic blue. Thorax metallic blue, laterally ochreous; patagina blue, ochreous at tip. Forewing with undulating costa, strongly arched at basal third, depressed on the middle and again arched at apical third; dorsal edge strongly excavated beyond the middle; tornus prominent; metallic blue with dark brown markings; at basal third is a broad, outwardly convex deep brown velvety fascia; entire terminal third of the wing deep blackish brown with a costal blue blotch extended as a thin, blue, marginal line around the edge; on the middle of the wing are four large, poorly defined, round, brown spots; cilia golden brown with a basal marginal black line. Hindwing dark fuscous with bluish cilia; costa produced at apical fourth and there clothed

with a tuft of long, bluish black cilia. Abdomen bluish black. Legs bluish black with narrow ochreous tarsal annulations.

*Alar expanse*.—14 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16674, U.S.N.M.

Easily recognized by the bizarre wing form and the metallic coloration

DICHOMERIS PERCEPTELLA, new species.

Labial palpi smooth, *Trichotaphe*-formed; second joint but slightly thickened with smoothly appressed scales; third joint slender, black exteriorly, dark fuscous, iridescent on the inner side and with a thin longitudinal white line in front from base to apex. Face and head dark bluish fuscous. Thorax dark bluish brown. Forewings blackish brown with a violet sheen and with three, large, conspicuous, reddish orange blotches occupying about half of the wing space; the first of these orange spots lies on the basal third of costa and extends obliquely outward and downward over the cell beyond the fold, nearly, but not quite, to the dorsal edge, ending in a sharp point above the middle of the dorsum; the second ochreous spot lies on apical third of costa, is like the first, irregularly pentagonal, with a point toward but not reaching dorsum and a sharp attenuated point toward apex; the third smaller orange spot, on costa, just before apex is drop-shaped and is continued as a submarginal yellow line along termen and dorsum, ending between the two large orange spots; cilia blackish fuscous. Hindwing nearly black. Abdomen black with whitish underside and small ochreous anal tuft. Legs black with narrow white annulations at the joints.

*Alar expanse*.—14–15 mm.

*Habitat*.—La Chorrera, and Cabima, Panama, May, June.

*Type-specimen*.—Cat. No. 16675, U.S.N.M.

DICHOMERIS LUMINOSA, new species.

This is the Atlantic representative of the foregoing species, very similar in coloration and easily mistaken for it but quite distinct, both in structure and ornamentation. Labial palpi dark steel gray, with a thin, anterior, longitudinal, reddish orange line from base to apex; second joint smoothly thickened with compressed scales; terminal joint with compressed tuft of scales on its posterior edge. Face silvery fuscous. Head and thorax dark brown; base of patagium silvery. Forewings nearly identical in color and ornamentation with those of *perceptella*, but with the blackish brown part even more violet iridescent, with a light yellow inner edge of the first orange spot, with a light yellow central dash in the second orange spot and with this spot more rounded and without the dorsal and apical attenuations found in *D. perceptella*. Hindwings, abdomen and legs colored like the foregoing species.

*Alar expanse*.—14 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16676, U.S.N.M.

I also have a specimen of this species from St. Jean, French Guiana W. Schaus, collector.

DICHOMERIS CORNUTA, new species.

Both joints of labial palpi smooth in front but with compressed tufts of scales posteriorly; dark fuscous with a bluish sheen and with extreme tip ochreous. Face light iridescent. Head dark fuscous. Antennæ ochreous with narrow, dark fuscous annulations. Anterior edge of thorax and base of patagium dark fuscous; rest of thorax light golden brown. Forewings light golden brown with base of costal edge and a large, triangular spot on apical third of costa dark brown, the edges of which are strongly iridescent; at the end of the fold is a dark brown spot, surrounded by strongly iridescent scales; at apical fifth is a perpendicular, dark brown line across the wing tip edged exteriorly with a strongly iridescent patch of steel blue scales; apical cilia golden ochreous; terminal cilia dark brown with ochreous base and preceded by dark brown marginal line. Hindwing dark fuscous. Abdomen dark fuscous with ochreous anal tuft and silvery white underside. Legs fuscous with narrow indistinct ochreous tarsal annulations.

*Alar expanse*.—13 mm.

*Habitat*.—Corozal and Trinidad River, Panama, March and June.

*Type-specimen*.—Cat. No. 16677, U.S.N.M.

DICHOMERIS STELLATELLA, new species.

Labial palpi with smoothly appressed scales, light golden ochreous, shaded with dark metallic blue exteriorly. Lower face light ochreous; upper face, head, and thorax dark metallic bluish black. Forewing dark brown suffused with metallic blue and with scattered single silvery and light blue scales; a few of these congregate to form an ill-defined costal spot at apical third. Cilia blackish brown. Hindwing dark brownish fuscous. Abdomen bluish black with silvery white underside. Legs dark fuscous, with narrow ochreous tarsal annulations.

*Alar expanse*.—9 mm.

*Habitat*.—Taboga Island, Panama, February.

*Type-specimen*.—Cat. No. 16678, U.S.N.M.

PAVOLECHIA, new genus.

*Type*.—*Pavolechia argentea*, new species.

Labial palpi long, slender, smooth, recurved; second joint slightly thickened with smoothly appressed scales; terminal joint half as long as second, thin, acute. Antennæ simple, shorter than the fore-

wings. Head and thorax smooth. Forewings with costa straight to apical fourth, thence deflected; apex tolerably pointed; termen oblique, slightly sinuate; tornus rounded; 11 veins; one costal vein [9] absent or 7 and 8 coincident, stalked with 9; 2, 3, 4, and 5 nearly equidistant; 4 from the corner of the cell; 1 *b* furcate at base. Hindwings quite as broad as the forewings, broadest at tornus; with color pattern; costa straight; apex blunt; termen not much oblique and hardly sinuate; 7 veins; vein 5 absent; 3 and 4 connate; 6 and 7 connate. Posterior tibiæ hairy above.

Related to *Menesta* Clemens and the *Dichomeris* group; amply differentiated from any described genus by the venation and by the ornamented hindwings, which give it a *Choreutid* appearance.

PAVOLECHIA ARGENTEA, new species.

Second joint of labial palpi bright saffron yellow; terminal joint dusky. Face ochreous fuscous. Antennæ dark brown. Head and thorax greenish or purplish metallic brown, according to the light. Forewings dark blackish brown with a bright, bluish metallic sheen; a round, silvery white dot on the cell and an oblong, silvery white dash at the end of the cell; cilia golden yellow at apex, otherwise dark brown. Hindwings blackish brown with a large silvery white spot on the middle of costa and a somewhat smaller similar spot just below it on the dorsal edge; apical cilia tipped with silvery white; on the underside is a complete silvery white fascia in the place of the white spots and a less complete narrower white fascia at basal fourth; underside of the forewing has the two silvery white spots of the upper side and a third such spot below them on the dorsal edge. Abdomen blackish brown, iridescent on upper side; underside silvery white. Legs blackish brown with silvery white annulations on the middle and at the tip of the tibiæ.

*Alar expanse*.—11 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16679, U.S.N.M.

A brilliant day-flying moth reminding one of the genus *Brenthia* Clemens.

PROMENESTA, new genus.

*Type*.—*Promenesta lithochroma*, new species.

Labial palpi long, recurved; second joint slightly thickened with appressed scales; terminal joint slender, acute, nearly as long as second. Antennæ three-fourths the length of the forewings. Forewings with costa gently arched; apex rounded; termen perpendicular; dorsum straight; 10 veins: 7 and 8 coincident; 2 and 3 coincident; rest separate. Hindwings broader than the forewings, apex blunt; termen and dorsum rounded; 8 veins: 6 and 7 stalked; 3 and 4 stalked; 5 approximate to 4. Posterior tibiæ rough-haired above.

Correlated with *Menestra* Clemens, from which it differs by having 3 and 4 in the hindwings stalked, not coincident.

PROMENESTA LITHOCHROMA, new species.

Labial palpi light ochreous; second joint shaded with fuscous exteriorly. Face light strawcolored, nearly white, iridescent. Head light strawcolored. Antennæ light ochreous. Thorax light saffron yellow. Forewings light saffron without any markings; edges and apical part slightly darker. Hindwing light yellow. Abdomen light ochreous with whitish iridescent underside. Legs light strawcolored; tarsi dusky.

*Alar expanse*.—12–13 mm.

*Habitat*.—Alhajuela, Trinidad River, and Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16680, U.S.N.M.

PROMENESTA MARGINELLA, new species.

Labial palpi white; second joint with base blackish brown and with a brown bar exteriorly; terminal joint with base and an annulation just before the tip blackish brown. Face pure white, iridescent. Head dark greenish fuscous. Antennæ dark fuscous with white bases. Thorax dark olive brown. Forewings dark olive brown with costal, apical, and terminal edges narrowly bright saffron yellow; just before the terminal edge is a marginal series of black dots; cilia yellow. Hindwings dark fuscous. Abdomen dark fuscous above with silvery white underside. Legs strawcolored with dusky tarsi.

*Alar expanse*.—10 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16681, U.S.N.M.

Looks like a diminutive *Stenomoma marginata* Busck. (See p. 49.)

Family ECOPHORIDÆ.

HAMADERA, new genus.

*Type*.—*Hamadera aurea*, new species.

Labial palpi long, thin, sickle formed; second joint but slightly thickened with smoothly appressed scales; terminal joint much longer than second, slender, acute. Antennæ somewhat longer than forewings, simple, without pecten on basal joint. Head and thorax smooth. Forewings with costal and dorsal edges nearly straight and parallel but both slightly concave at the end of the cell; apex and termen evenly rounded; 11 veins: 7 and 8 coincident; 2 and 3 connate from the corner of the cell; 4 from the end of the cell; 5 distant; 6 to apex; 9 and 10 from near the end of the cell; 11 from before middle; 12 in the female normal, in the male curved downward and running

into vein 11 at its basal third, with the membrane above it thickened; 1 *b* furcate at base. Hindwings as broad as the forewings; costa straight; apex bluntly pointed; termen and dorsum evenly rounded; 8 veins: 3 and 4 stalked; 5 parallel with 4; 6 and 7 parallel; 8 free. Posterior tibiæ nearly smooth.

Agreeing with *Fabiola* Busck and *Himotica* Meyrick in having veins 7 and 8 in the forewings coincident; differs from both in the long antennæ and the very long terminal joint of the palpi; *Fabiola* has 2 and 3 in the forewings widely separate; *Himotica* has these veins stalked and the present genus has 2 and 3 connate.

HAMADERA AUREA, new species.

Labial palpi blackish with basal half of second joint golden yellow. Face, head, and thorax metallic blue, strongly iridescent. Antennæ deep black with a broad, white annulation just before the tip. Basal half of the forewings deep black, with a broad, semicircular, metallic blue band from near the base to just before the middle of the costa; the ends of this band on the very edge white; a large, contiguous, metallic blue spot on the fold near base and another similar one on the middle of the fold, neither reaching the dorsal edge; apical half of the wing deep golden yellow, which color sends a broad projection into the dark basal part on the middle of the cell; extreme tip of the wing and a slender projection therefrom into the yellow part dark violaceous, strongly metallic and iridescent; apical cilia purplish black; terminal cilia dusky golden. Hindwings blackish brown with the costal edge above vein 8 silvery white; cilia dark bronze. Abdomen blackish fuscous above; underside silvery white. Legs blackish with broad light yellow bands and narrow yellow annulations on the tarsal joints

*Alar expanse*.—11–12 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16682, U.S.N.M.

A brilliantly colored species, which reminds in a noteworthy degree of the similarly sized *Dichomeris exteriorella* Walker and *D. luminella* Busck; like these species, it is a day-flying, sun-loving insect.

COSTOMA, new genus.

*Type*.—*Costoma basirosella*, new species.

Labial palpi long, recurved, smooth; second joint somewhat thickened with scales; terminal joint shorter than second, stout, acute. Antennæ simple, without pecten on basal joint. Head and thorax smooth. Forewings elongate ovate; costa and dorsum slightly and evenly curved; apex and termen rounded; 12 veins: 2 and 3 stalked; 7 and 8 stalked; 9 out of the stalk; 7 to apex; 11 from before middle of cell; 1 *b* furcate at base. Hindwings as broad

as the forewings; costa straight; apex blunt; termen and dorsum evenly rounded; 8 veins: 3 and 4 stalked; 5 parallel; 6 and 7 separate and parallel. Posterior tibiæ hairy above.

*COSTOMA BASIROSELLA*, new species.

Labial palpi, face, and head bright yellow. Thorax purplish brown, edged laterally with pink; patagina pink with brown base and yellow tip. Base of the forewings light pink, on the costa yellow; this bright colored base is sharply limited outwardly by a narrow, blackish brown, transverse fascia; beyond this fascia the wing is dark olive brown with the costal edge from basal fourth outwardly, broadly yellow, and with the entire apical, terminal, and dorsal edge narrowly yellow. Hindwings dark brownish fuscous. Abdomen blackish above; underside and anal tuft yellow. Legs yellow with dark brown tarsal annulations.

*Alar expanse*.—31 mm.

*Habitat*.—Trinidad River, Panama, June.

*Type-specimen*.—Cat. No. 16683, U.S.N.M.

This large, handsome species has a noteworthy resemblance to the somewhat larger Arctiid moth, *Automolis (Cratoplastis) diluta* Felder,<sup>1</sup> and even more strikingly so to the Lithosiid *Diarhabdosia coroides* Schaus<sup>2</sup> and to the Stenomid moth, *Stenoma lampyridella* Busck,<sup>3</sup> both of which were taken at the same place and at the same time as *Costoma basiroscella*. The same coloration in all these species, though differently placed, give the same general impression at first sight; they all probably imitate a large lampyrid beetle, *Cratomorphus* sp., which occurred commonly at the same time and place as the last three named Lepidoptera and which both in flight and alighting resemble them very remarkably.

*RHINDOMA*, new genus.

*Type*.—*Rhindoma rosapicella*, new series.

Labial palpi long, recurved; second joint comparatively short, somewhat thickened with scales, rough anteriorly; terminal joint more than twice as long as second, rather stout, compressed, with rough anterior edge; apex acute. Antennæ longer than the forewings, simple; basal joint without pecten. Forewings elongate; costa sinuate beyond middle; apex rounded; termen oblique; dorsum straight; 12 veins: 7 and 8 stalked; 7 to below apex; 2, 3, and 4 approximate, but separate. Hindwings narrower than the forewings; costa sinuate beyond the middle; apex and termen rounded; 8 veins: 3 and 4 stalked; 5 cubital but distant; 6 and 7 separate and parallel. Posterior tibiæ rough above.

<sup>1</sup> Reise Novara, 1867, pl. 102, fig. 8.

<sup>2</sup> Ann. Acad. Nat. Hist. (8), vol. 7, 1911, p. 368.

<sup>3</sup> See p. 41.



The long and rather stout antennæ and the remarkably long terminal joint of the labial palpi easily separate this genus. It differs from *Lupercalia* Busck, *Filinata* Busck, and *Mnesichara* Walsingham, which it resembles in the long antennæ, in having vein 7 of the forewing to termen, in 3 and 4 of the forewing separate, and in 3 and 4 of the hindwing stalked, not coincident.

RHINDOMA ROSAPICELLA, new species.

Labial palpi blackish brown; terminal joint with light ochreous tip. Antennæ light ochreous. Head and thorax blackish brown; face a shade lighter. Forewings with large dorsal patch, reaching to the end of the cell, blackish brown; costal area above this patch and terminal area beyond it light ochreous; at apical third is an elongate blackish brown costal streak edged toward the base with orange scales and apically with light rose-colored scales; these latter persist in a narrow band around apex and include a dark brown subapical spot; a few rose-colored scales are also found below the costal spot and an indistinct and ill-defined orange streak crosses the apical light ochreous area.

Hindwings dark brownish fuscous, with rose-colored tip. Abdomen brownish fuscous above, underside and anal tuft ochreous. Legs light ochreous, shaded externally with blackish brown; tarsal joint dark brown with narrow ochreous annulations.

*Alar expanse*.—12–13 mm.

*Habitat*.—Alhajuela and Trinidad River, Panama, April, May.

*Type-specimen*.—Cat. No. 16684, U.S.N.M.

Genus PSILOCORSIS Clemens.

*Type*.—*Psilocorsis quercicella* Clemens.

PSILOCORSIS CRUCIFERA, new species.

Second joint of labial palpi light yellow mottled with wine red; terminal joint yellow with a broad, wine-red band on the middle. Facelight-straw yellow. Head and thorax light yellow, mottled with wine red. Antennæ dark brown with basal joints wine red. Forewings light yellow with all the veins sharply outlined in wine red; costal and terminal edges dark brown; a dark brown line from just before middle of costa across the wing to tornus; another dark-brown line from base to basal third of dorsum and thence upward to the end of the cell touching the other brown line nearly at right angles; a thin, irregularly wavy, outwardly curved, brown line from apical third of costa across the wing to middle of dorsum; cilia dark brown. Hindwings light iridescent yellow with the margin light rose colored; cilia light golden yellow. Abdomen light yellow. Legs light yellow touched on the outer sides with rose.

*Alar expanse*.—16-19 mm.

*Habitat*.—Trinidad River and Cabima, Panama.

*Type-specimen*.—Cat. No. 16686, U.S.N.M.

Allied to *P. traili* Butler, but easily distinguished by its wing pattern. In the United States National Museum are also specimens from St. Jean, French Guiana, and from Sixola River, Costa Rica, W. Schaus, collector.

Genus PELEOPODA Zeller.

*Type*.—*Peleopoda lobitarsis* Zeller.

PELEOPODA IMPERIELLA, new species.

Labial palpi light brick red, terminal joint light yellow. Face and head yellowish white. Antennæ reddish yellow. Thorax silvery white. Forewings silvery white with a violet sheen and strongly overlaid with light brick red, except on a broad longitudinal curve from base of dorsum up to middle of costa and to termen; base and apical third of costal edge light brick red; a large poorly defined dorsal area covering nearly half the wing reddish yellow with the upper edge broadly saffron; cilia golden yellow. Hindwings reddish yellow with slightly paler cilia. Abdomen reddish yellow. Legs reddish yellow with yellowish white tibiæ and tarsal tufts.

*Alar expanse*.—32 mm.

*Habitat*.—La Chorrera, Panama, May.

*Type-specimen*.—Cat. No. 16687, U.S.N.M.

The largest described species of the genus, closely allied to *P. reginella* Busck, but yellow in general tone where the other species is wine red.

ANCIPITA, new genus.

*Type*.—*Ancipita atteria*, new species.

Second joint of labial palpi very long, slender, compressed with slightly rough scales just before apex; terminal joint less than half the length of second, slender, smooth, acute. Antennæ as long as the forewings, without basal pecten. Forewings elongate, ovate, apex rounded; 12 veins; 7 and 8 stalked; 7 to apex; rest separate; 2, 3, 4, and 5, nearly equidistant. Hindwings as broad as the forewings; apex rounded; costa straight; termen and dorsum evenly rounded; 8 veins; 3 and 4 connate; 6 and 7 parallel. Posterior tibiæ rough-haired above.

ANCIPITA ATTERIA, new species.

Labial palpi golden yellow, strongly shaded with black on apical half of both joints. Face silvery white. Head golden yellow with a large, central, dark-blue, metallic patch. Antennæ yellow with narrow black annulations. Thorax saffron yellow with two, lateral, dark-

blue, metallic spots and with the posterior tip blackish fuscous. Forewings brick red, with golden yellow costal and dorsal edges and with three, broad, longitudinal, black streaks from near base to just before the apical edge of the wing; these black bands are interrupted beyond the middle of the wing by a narrow, brick-red crossline, connecting the two edges of the wing; cilia black with a deep-blue metallic basal line. Hindwing brick red with apical third black; cilia black. Abdomen brick red with golden yellow underside. Legs red with black tarsal annulations.

*Alar expanse*.—17 mm.

*Habitat*.—Cabima, Panama, June.

*Type-specimen*.—Cat. No. 16688, U.S.N.M.

#### Genus DOXA Walsingham.

*Type*.—*Doxa sodalis* Walsingham.

#### DOXA VIRGINIA, new species.

Labial palpi, face, and head deep violet red, mottled with black. Antennæ black with basal joint violet. Thorax saffron yellow with anterior edge and base of patagina black. Forewing saffron yellow with costal edge darker yellowish brown, extreme base black, and with apical and terminal edge narrowly dark violet; an indistinct blackish brown spot on the middle of the cell; an even less distinct brown spot at the end of the cell; cilia bright violet dusted with black. Hindwings light yellow with rose-red edges and cilia. Abdomen and legs yellow.

*Alar expanse*.—12–13 mm.

*Habitat*.—Trinidad River, Panama, March, April, June.

*Type-specimen*.—Cat. No. 16745, U.S.N.M.

Smaller than the type of the genus, *Doxa sodalis* Walsingham, and at once distinguished by the dark violet head and dark edges of the wings.

Named in honor of my efficient assistant, Miss Pearl Virginia Boone.

#### Genus CRYPTOLECHIA Zeller.

*Type*.—*C. straminella* Zeller.

#### CRYPTOLECHIA IGNICOLOR, new species.

Labial palpi carmine red mottled with black. Face red with a small, central, yellow spot. Head and thorax carmine red mixed with yellow. Antennæ yellowish with basal joint carmine. Basal two-thirds of forewings light yellow, heavily overlaid with carmine scales; outer third dark violet red mixed with brown and carmine; entire costal edge from base to apex blackish brown; at the end of

the cell is a curved blackish brown line; cilia blackish. Hindwings light carmine red with somewhat lighter cilia. Abdomen carmine red above with light yellow underside; legs yellow shaded with carmine.

*Alar expanse*.—28 mm.

*Habitat*.—Cabima, Panama, May.

*Type-specimen*.—Cat. No. 16746, U.S.N.M.

A showy species, allied to *Cryptolechia miniata* Dognin.

CRYPTOLECHIA ILLUMINELLA, new species.

Labial palpi dark purplish red dusted with black. Antennæ dark brown. Face reddish ochereous. Head red. Thorax brown. Forewings golden brown; costal edge brick red; extreme base black; three indistinct darker brown transverse lines, one across the middle of the cell, one on the middle of the wing reaching across the wing, and at apical fourth inwardly curved at costa and not quite reaching the dorsal edge; terminal edge broadly dark brown with cilia dark reddish; dorsal cilia light brick red. Hindwings bright aniline red with slightly paler cilia. Legs golden brown, shaded externally with dark brown.

*Alar expanse*.—17 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16747, U.S.N.M.

The hindwings have the same striking shade as *C. ignicolor* Busck., from which it differs by its smaller size and brown striped forewings. It is nearer in size and ornamentation to *Cryptolechia incensatella* Walker, and *Cryptolechia fervida* Zeller, described from Brazil, in which the forewings, however, are also of a carmine red, not brown, as in the present species.

CRYPTOLECHIA SULPHUREA, new species.

Second joint of labial palpi brick-red, mottled with yellow; terminal joint light yellow. Face brick red. Head sulphur yellow. Antennæ reddish. Thorax light yellow. Forewings glossy white with a strong violet sheen and overlaid with yellow scales; extreme base of costa, a longitudinal central line from base to termen and the apical edge, reddish yellow; cilia brown with purplish base and a black transverse line. Hindwings glistening light violet yellow with light yellow cilia. Abdomen and legs yellow.

*Alar expanse*.—30 mm.

*Habitat*.—Porto Bello, Panama, June.

*Type-specimen*.—Cat. No. 16748, U.S.N.M.

A large showy species, allied to *Cryptolechia crossota* Walsingham.

## CRYPTOLECHIA TUNICATA, new species.

Labial palpi, face and head light lemon yellow. Thorax light lemon yellow with posterior half and tips of the patagina rose red. The greater dorsal part of the forewings dark brown, edged below but along the costa from base to tornus by a broad curved band of rose red which is again limited along the extreme edge of the costa by lemon yellow, which color broadens out toward the apex and covers apical and terminal edge; on the middle of the cell is a large, pure white, comma-shaped spot with the thin end toward apex; this white spot is edged above and below by rose red and laterally by ill-defined black spots. Hindwing dark brown. Abdomen light fuscous. Legs light yellow.

*Alar expanse.*—20 mm.

*Habitat.*—Porto Bello, Panama, June.

*Type-specimen.*—Cat. No. 16749, U.S.N.M.

Allied to the foregoing species and to *C. crossota* Walsingham, but smaller and at once recognized by the large, white comma-shaped discal spot.

## CRYPTOLECHIA MARCELLA, new species.

Labial palpi yellowish red with dark brown base. Face light yellow; head and thorax light reddish brown. Antennæ dark brown. Forewings light reddish brown with lighter brick red costal and terminal edges; on the middle of the cell is a small black dot; at the end of the cell a similar somewhat larger dot and on the middle of the fold a third black dot; from the outer fourth of costa runs a broad but gradually narrowing blackish shade across the wing to outer fifth of the fold; this shading is poorly defined and single blackish scales are found outside of it on both sides; cilia reddish brown. Hindwings light golden yellow with tips and terminal edge rose colored; cilia golden. Abdomen light yellow. Legs light yellow, shaded externally with brown.

*Alar expanse.*—17–20 mm.

*Habitat.*—Trinidad River, Panama, March.

*Type-specimen.*—Cat. No. 16750, U.S.N.M.

Specimens also from St. Jean, French Guiana, and from Sixola River, Costa Rica, W. Schaus, collector.

## CRYPTOLECHIA CHORRERA, new species.

Labial palpi reddish ochreous; base of second joint blackish brown; terminal joint sprinkled with black scales. Antennæ ochreous, mottled with black. Face and head light ochreous. Thorax and forewings light violaceous brown; basal fourth of costal edge black; a small black dot on the middle of the cell, another at the end of the cell, and a similar one on the middle of the fold; a faint, outwardly

curved series of black dots at apical fifth parallel with the apical and terminal edges, which are narrowly rose-colored; cilia golden. Hindwings dull fuscous with cilia concolorous and with the extreme edge whitish. Abdomen dark fuscous above, light ochreous below; anal tuft orange. Legs light ochreous, shaded on the outer sides with dark brown.

*Alar expanse*.—19–20 mm.

*Habitat*.—La Chorrera, Panama.

*Type-specimen*.—Cat. No. 16751, U.S.N.M.

**CRYPTOLECHIA ANALIS, new species.**

Labial palpi reddish ochreous, dusted with black and with basal third of second joint blackish brown on the outer side. Antennæ blackish fuscous with bright reddish ochreous basal joints. Face and head light ochreous, the latter slightly reddish. Thorax brown. Forewings deer-brown with the edges and cilia brick red; a small black dot at the base of costa; an indistinct black dot at the end of the cell and one on the fold; an indistinct row of black dots across the wings parallel with the outer edge at apical fifth. Hindwings dark fuscous. Abdomen dark fuscous above, whitish on the underside. Legs whitish, shaded with dark brown exteriorly

*Alar expanse*.—14–15 mm.

*Habitat*.—Porto Bello, Panama, April.

*Type-specimen*.—Cat. No. 16752, U.S.N.M.

Close to *C. chorrera*, but smaller and distinguished by the bright reddish edges of the forewings.

**CRYPTOLECHIA NOTELLA, new species.**

Labial palpi light ochreous, base of second joint shaded with black. Antennæ ochreous with narrow black annulations. Face light ochreous. Head slightly mixed with reddish ochreous. Thorax reddish ochreous. Forewings reddish ochreous with extreme base of costa black; a small black dot at base of wing; a large round black spot on middle of cell and a black ill-defined spot obliquely above this on the costal edge just before the middle; an indistinct, strongly outwardly curved series of black dots parallel with apical and terminal edges at apical fifth; a small black dot on the fold. Hindwings reddish ochreous with a strong sheen and with golden yellow cilia. Abdomen and legs whitish ochreous.

*Alar expanse*.—14–16 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16753, U.S.N.M.

Allied to the same group as the foregoing species, but smaller and at once distinguished by the conspicuous, black wing spots.

## Genus TERATOMORPHA Walsingham.

Type.—*Teratomorpha albifrons* Walsingham.

## TERATOMORPHA CHILIBRELLA, new species.

Labial palpi, face, head, and thorax whitish ochreous. Antennæ faintly annulated with darker ochreous. Forewings whitish ochreous, slightly and irregularly overlaid with single, dark-brown scales and with the costal edge and the veins somewhat deeper ochreous; the brown scales form two faint and ill-defined, outwardly curved lines across the wing, one submarginal and one parallel therewith on the middle of the veins; there is also an irregular aggregation of dark scales on the middle of the cell, tending downward to the dorsal edge; on the middle of the costa is a small group of dark-brown scales and at the end of the cell is a similar dark-brown spot; cilia ochreous white. Hindwings with costal edge deeply and sharply excavated at apical third; ochreous white, brownish below the costal excavation, with a faint brown submarginal shade and a thin brown line at the base of cilia.

*Alar expanse*.—20 mm.

*Habitat*.—Alhajuela, Panama, April.

*Type-specimen*.—Cat. No. 16754, U.S.N.M.

Bred from a large (30 by 10 mm.), thin, flat, semitransparent cocoon, spun on the middle of a leaf of a flower-bearing shrub growing in the upper Chilibrillo River near Alhajuela.

## Genus DECANTHA Busck.

Type.—*Decantha borkhauseni* Zeller.

## DECANTHA MINUTA, new species.

Labial palpi ochreous white. Face silvery. Head and thorax light ochreous fuscous. Antennæ ochreous with narrow black annulations. Forewings broad in proportion to their length; light ochreous fuscous, with the costal edge narrowly bright orange and with light ochreous cilia; at the end of the cell is a large, round, dark-brown spot; underneath this at the end of the fold is a similar blackish brown spot, not so clearly defined and around apical edge are a few scattered dark-brown scales. Abdomen dark fuscous above; underside light ochreous. Legs light ochreous.

*Alar expanse*.—6.5 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16755, U.S.N.M.

## Genus TRICLONELLA Busck.

*Type.*—*Triclonella pergandeella* Busck.

## TRICLONELLA SEQUELLA, new species.

Labial palpi black, second joint with two anterior longitudinal lines throughout its length; terminal joint with one such line. Face, head, and thorax black. Antennæ black with a white dash on each segment. Forewings blackish brown, with a large golden yellow area covering more than half the wing space; the yellow area begins with sharp perpendicular limits at basal fifth and covers the central part of the wing to apical fourth, except for a large, triangular, black, costal spot just beyond the middle and a smaller, elongate, triangular, opposite spot, which touches the apical black part of the wing; a marginal row of faint, small, yellow dots; cilia blackish fuscous. Hindwings light fuscous. Abdomen blackish fuscous. Legs blackish fuscous with narrow white annulations at the joints.

*Alar expanse.*—8–10 mm.

*Habitat.*—Paraiso, La Chorrera, Corozal, and Porto Bello, Panama, April, May.

*Type-specimen.*—Cat. No. 16692, U.S.N.M.

Closely allied to and intermediate between *T. determinatella* Zeller, and *T. euzosta* Walsingham, but amply different from both in pattern.

## Genus BORKHAUSENIA Hübner.

*Type.*—*Borkhauseniana minutella*, Linnæus.

## BORKHAUSENIA CLEVELANDI, new species.

Labial palpi white, sparsely sprinkled with brown dots and with outer side of base of second joint brown. Face, head, and thorax pure white. Antennæ dark brown with white basal joints. Forewings white overlaid with bluish, black, brown, and ochreous scales except for a broad subcostal streak, which is unmottled white; basal two-thirds of costal edge ochreous brown dotted with black; on the middle of the wing are two groups of raised yellowish brown scales, the upper one of which is preceded by a black dash; on the middle of the cell at apical third are two similar yellowish brown tufts of raised scales, followed by a black dash and a bluish area; the dorsal half of the wing is rather heavily overlaid with blue scales and has a small black dot just within the middle of dorsum; an irregular series of ochreous brown scales before the terminal edge; cilia bluish mixed with brown and black. Hindwing light ochreous fuscous, with whitish cilia. Abdomen light ochreous fuscous, with series of black spots on the under side. Legs blackish, with ochreous tibial tufts and ochreous annulations and bars.

*Alar expanse.*—15–16 mm.



*Habitat*.—La Chorrera, May (Busck, coll.), and Porto Bello, Panama, October (Cleveland, coll.).

*Type-specimen*.—Cat. No. 16693, U.S.N.M.

Agreeing with the genus in venation and oral characters but rather aberrant in coloration and in the tufts of raised scales in the forewings. The scaling is rather loose and easily rubbed so as to obliterate part of the ornamentation.

Named in remembrance of my friend, Mr. G. F. Cleveland, with whom I had many happy collecting trips in the country around Porto Bello.

Mr. Cleveland secured this species and many others not treated here, in the autumn at the height of the rainy season, in which I personally have had no opportunity to collect.

#### Genus EPICALLIMA Dyar.

*Type*.—*Epicallima argenticinctella* Clemens.

#### EPICALLIMA TABOGA, new species.

Labial palpi grayish fuscous; apex of second joint white. Face, head, and thorax light ochreous. Forewings whitish ochreous, overlaid with light fuscous and with conspicuous, black, round dots; extreme base of costal edge black, a black spot on the middle of the cell; another obliquely below on the fold and a third above on the base of vein 10, the latter often fainter; a black dot at the end of the cell and a marginal series of eight to ten black dots around the costal and terminal edge terminating in a somewhat larger dot at the beginning of the dorsal cilia; cilia ochreous fuscous. Hindwings light ochreous fuscous. Abdomen light fuscous. Legs ochreous with dusky tarsi faintly annulated with ochreous.

*Alar expanse*.—8–10 mm.

*Habitat*.—Taboga Island, Panama, June.

*Type-specimen*.—Cat. No. 16694, U.S.N.M.

A small distinctively marked species reminding in size and coloration of *Borkhausenia ascriptella* Busck.

#### Family ETHMIIDÆ.

#### Genus ETHMIA Hübner.

*Type*.—*Ethmia aurifluella* Hübner.

#### ETHMIA FESTIVA, new species.

Second joint of labial palpi blackish brown; terminal joint white. Antennæ brown with white bars. Lower half of face brown, upper half and top of the head white; a narrow collar of bluish black. Thorax white with a thin transverse bluish black line anteriorly and

a broad black line across the posterior tip; patagina white. Forewings white with black and golden yellow markings; costal edge black at base, golden yellow on the outer half; from the black part run three nearly parallel transverse lines across the wing to dorsum, one near the base of the wing, one at basal fourth, and one near the middle of the wing; adjoining the last of these lies a large square golden yellow dorsal spot, black margined also posteriorly and partly on top and below; on the apical half of the wing is a spider-web of five black lines radiating from a black, white-centered ring; two of these irregular lines run to the costal edge, one joins the exterior black edge of the yellow dorsal spot, one goes to the dorsal edge and one joins a transverse black line across the wing at apical fifth beyond which the tip of the wing is golden yellow. Hindwing light golden fuscous. Abdomen dark fuscous with underside and anal tuft saffron yellow. Underside of thorax silvery white. Legs yellow, tarsal joints slightly tipped with black.

*Alar expanse*.—19–20 mm.

*Habitat*.—Porto Bello, Panama, May.

*Type-specimen*.—Cat. No. 16695, U.S.N.M.

A clearly marked, pretty species, nearest to the larger *E. dellabella* Fernald, from which it is at once distinguished by the large yellow dorsal spot, and to *E. cypraeella* Zeller, from Venezuela.

ETHMIA UNGULATELLA, new species.

Second joint of labial palpi black; terminal joint dirty white. Face blackish. Head white; collar narrowly black. Thorax white with a large central spot and a posterior transverse streak bluish black; extreme posterior tip white. Forewings white suffused along the costa with a smoky brown color more widely along the middle, where two blunt lobes of this color reach into the cell; on basal fourth lie six bluish black metallic spots, four above the fold and two below it; on the middle of the dorsum rests a large semicircular bronzy brown spot edged above on the middle of the cell by an elongate smoky brown streak, and transversed by a thin interrupted silvery blue zigzag line; apical part of the wing is similarly bronzy brown; also transversed by a thin white zigzag line and edged toward the base of the wing by a cloudy smoky brown area; two detached smoky brown dots lie between this and the large dorsal spot; cilia smoky brown with silvery white base. Hind wings shiny dark fuscous with white cilia. Abdomen dark fuscous above, with third joint velvety yellow, silvery white laterally and with a deep black ventral streak; anal tuft saffron yellow. Legs smoky brown exteriorly, silvery white on their inner sides.

*Alar expanse*.—Female, 23 mm.; male, 16 mm.

*Habitat*.—Cabima and Alhajuella, Panama. May.

*Type-specimen*.—Cat. No. 16696, U.S.N.M.

Nearest and quite similar to *E. terpnota* Walsingham, but smaller and at once differentiated by the coppery brown wing tips and by the striking abdominal coloration.

ETHMIA ELUTELLA, new species.

Labial palpi dark gray with white apex. Face dark brown with bluish metallic sheen. Head, collar, and patagina white. Thorax white with a large, dark bluish brown center occupying most of the area. Forewing satiny white with the ground color largely obscured by extensive gray and purplish brown marking; costal half above the fold clouded by large, rounded, light gray spots, nearly confluent on basal half; at apical third is an unmottled, pure white costal area; apical tip of the wing and base of the cilia dark purplish brown; on the middle of dorsum lies a large, semicircular, dark purplish brown spot, transversed by irregular, faint, silvery, zigzag lines. Hindwings light fuscous with white cilia. Abdomen dark fuscous above with second joint velvety ochreous; underside silvery white. Legs white; tarsi dusky.

*Alar expanse*.—14 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16697, U.S.N.M.

Allied to the foregoing, but smaller and lighter and lacking the dark blue metallic spots on basal half of the forewings.

Family STENOMIDÆ.

Genus CATARATA Walsingham.

*Type*.—*Catarata lepisma* Walsingham.

In the definition of this genus in the *Biologia Centrali-Americana* it is stated that vein 4 is out of the stalk of vein 2 + 3 in the forewings. This, however, is not the case in either of the two species described, the type *C. lepisma* Walsingham and *C. stenota* Walsingham. With the evidence of additional material the specific identity of these is apparent; the species is quite variable; *stenota* was founded on two rubbed specimens in poor condition, and the name should be placed as a synonym of *C. lepisma* Walsingham. Types and cotypes of both are in the U. S. National Museum, and I now have a large series from all parts of Panama; the species has vein 4 approximate to but separate from 2 + 3.

Such is also the condition in the two following species, while in the third, *C. obnubila*, the veins are as described by Lord Walsingham. These modifications, which in any of the higher families, Gelechiidæ, Oecophoridæ, or Cosmopterygidæ, would be definite and sound grounds for generic differentiation, I do not consider of such value in the generically far less crystalized family Stenomidæ.

## CATARATA LAPILELLA, new species.

Labial palpi dirty ochreous white, shaded externally with dark fuscous. Face whitish iridescent. Head and thorax light fuscous. Forewings dirty ochreous white, iridescent, toward the base and below the fold somewhat darker than on outer half; entire costal edge and the tip of the wing dusky dark fuscous; from the inner angle of the wing runs a slightly curved, ill-defined, broad, blackish brown streak upward across the fold and the cell to the middle of costa; at the end of the cell are a few ochreous scales and the costal apical part of the wing contains several small brown and black spots not very definitely arranged in two curved lines; cilia whitish. Hind wings light fuscous. Abdomen dark fuscous above, underside and legs whitish ochreous; tarsal joints dusky.

*Alar expanse*.—12 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16703, U.S.N.M.

## CATARATA PUMILIS, new species.

Labial palpi white; second joint with base and an indistinct annulus before apex dark brown. Face and basal joint of the antennæ pure white. Head brownish gray. Thorax dark brown with anterior edge and the tip of the patagium pure white. Forewing dark brown with costal edge from basal third pure white; a white, thin, zigzag line runs from the middle of costal edge obliquely across the wing to apical third of dorsum; a broad white streak parallel with and just before the apical and terminal edge, an indistinct darker brown spot on the middle of the cell and another similar one on the middle of the fold; cilia whitish. Hindwing dark fuscous with cilia a shade lighter. Abdomen dark fuscous above, light ochreous on the underside. Anterior legs pure white; posterior legs light fuscous with whitish tarsi.

*Alar expanse*.—12 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16704, U.S.N.M.

A pretty little species reminding in coloration and pattern of the somewhat larger *Stenoma filiferella* Walker.

## CATARATA OBNUBILA, new species.

Labial palpi dark brown. Head and thorax blackish brown. Forewings blackish brown toward the base and along the costal edge; this color gradually shades into a light olive gray which covers the greater outer part of the wing; from apical fourth of costal edge runs a broad, reddish brown streak obliquely across the tip of the wing to tornus and outside this streak the wing is iridescent, metallic violaceous; cilia violet. The males have on the underside of the fore-

wings near base a large tuft of hairs, at rest lying longitudinally and covering basal two thirds of the cell. Hindwings with unusually well-developed costal area, dark fuscous. Abdomen blackish fuscous above with silvery underside. Legs ochreous fuscous with dusky tarsi.

*Alar expanse*.—12–13 mm.

*Habitat*.—Trinidad River and Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16705, U.S.N.M.

CATARATA OCELLATA, new species.

Labial palpi milky white with a small dark fuscous spot on the outer side of second joint. Face milky white. Head and thorax dark purplish brown, nearly black. Forewing blackish brown with purplish reflections; at the end of the cell is a black dot surrounded by an incomplete circlet of pure white scales; above and before this eyespot are a few scattered white scales and a few white scales are found on the fold; cilia blackish fuscous. Hindwing blackish brown. Abdomen above dark brown; entire body below silvery white; anal tuft large, ochreous. Legs silvery white; first tarsal joints black exteriorly.

*Alar expanse*.—14 mm.

*Habitat*.—La Chorrera, Panama, May.

*Type-specimen*.—Cat. No. 16707, U.S.N.M.

Closely allied to *C. obnubila* Busck, but darker and larger and at once recognized by its white palpi and face.

CATARATA CURVILINIELLA, new species.

Labial palpi white; second joint with base black externally; terminal joint with extreme base and an annulus just before the tip black. Lower face lead colored, upper face and head white. Antennæ ochreous fuscous with white basal joints. Thorax white. Forewings white faintly mixed with ochreous scales and with black markings; from near base of costa runs a thin black line obliquely downward and outward to the middle of the cell and thence to the end of the cell, where it curves upward and inward forming an elongated question mark; at the end of the cell this black line is edged by yellow scales; on the middle of the costa is a small, black, outwardly directed spur and at apical third is a similar, inwardly directed, black spur; parallel with the terminal edge at apical fourth is a faint row of yellowish scales, and in fresh specimens the wing is sparsely sprinkled with black scales; these and the yellow lines, however, are easily rubbed off and are lost in most flown specimens; cilia white. Hindwing light fuscous with whitish cilia. Abdomen fuscous with whitish underside and yellow anal tuft. Legs white, tarsi annulated with black.

*Alar expanse*.—15–17 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16706, U.S.N.M.

Reminding in size, color, and ornamentation of our North American *Agonopteryx curviliniella* Beutenmüller.

#### Genus ATHLETA Walsingham.

*Athleta* WALSINGHAM, *Biologia Centrali-Americana*, vol. 4, Heterocera, 1912, p. 155.

*Type*.—*Athleta trisecta* Walsingham.

In the description of the genus *Athleta* vein 2 of the forewing is given as separate and distant from vein 3. Such, however, is not always the case in the type species under consideration. With several additional specimens from Porto Bello and Trinidad River, Panama, it is found that this character is not stable within the species, but that vein 2 may be separate, connate, or even short stalked with vein 3. Similar instability of these veins within the species is found in other groups of this family and makes the character of little value generically. The genus *Athleta* may, however, be separated from its nearest ally, *Catarata* Walsingham, by the anastomosis of veins 2 and 1c, which appears to be constant; from whatever starting point vein 2 runs nearly at right angles downward and into vein 1c, separating from it again just before tornus. The male of this species, which was not known at the time of the description, has a very noticeable short fold along vein 1b of the hindwings, which contains a large expansible tuft of yellowish hairs

#### ATHLETA NIGRICANS, new species.

Labial palpi white sprinkled with dark fuscous; second joint with two ill-defined dark fuscous bars exteriorly, one at base and one near the tip; terminal joint with a dark fuscous annulation at the base, one just before the tip and a dark intermediate spot in front. Face silvery white. Head white, slightly mixed with fuscous. Thorax dark brown with anterior edge and base of patagium white. Forewing dark brownish fuscous with cilia and terminal edge silvery white; extreme base of costa and apical two-thirds of costal edge silvery white also. Hindwing dark fuscous with cilia a shade lighter. Abdomen dark fuscous above, silvery white on the underside. Legs silvery white with anterior tibiae and tarsi barred with dark brown and with posterior tibiae yellowish.

*Alar expanse*.—12 mm.

*Habitat*.—Trinidad River, Panama, June.

*Type-specimen*.—Cat. No. 16708, U.S.N.M.

Resembling in coloration and markings *Stenoma marginata* Busck. (See p. 49.)

## Genus ZETESIMA Walsingham.

*Type.*—*Zetesima lasia* Walsingham.

## ZETESIMA PORTENTOSA, new species.

*Male.*—Labial palpi light reddish ochreous; second joint dusted with dark brown exteriorly; brush on the middle of terminal joint blackish brown. Face silvery white. Head light brown. Antennæ reddish brown. Thorax blackish brown. Forewings dark brown with obscure, blackish brown markings and with light ochreous costal and terminal edges; a strong costal fold reaching nearly to the middle of the wing contains a cluster of long, broad, iridescent scales; a round black dot at the end of the cilia, edged by ochreous scales; a black, ill-defined streak on the outer and upper edge of the cell; a series of ill-defined, black, marginal spots around the costal, apical, and terminal edges; upper part of cilia ochreous, lower part dark fuscous. Hindwings blackish brown with light ochreous costal space covered by the forewings. Abdomen blackish fuscous, with light ochreous underside. Legs light ochreous brown.

*Alar expanse.*—16 mm.

*Habitat.*—Porto Bello, Panama, March.

*Type-specimen.*—Cat. No. 16709, U.S.N.M.

Identical in structure of palpi and wings with the type of the genus, but larger and much darker brown.

## Genus STENOMA Zeller.

*Type.*—*Stenoma litura*, Zeller.

## STENOMA CLARIPENNIS, new species.

Second joint of labial palpi white with a dark brown annulation just before its apex; terminal joint strongly suffused with dark fuscous and with dark brown base. Face silvery white. Antennæ dark brown. Head and thorax dark olive brown. Forewing dark olive brown with the veins outlined in light greenish yellow; costal, apical and terminal edge narrowly light ochreous; cilia light brown. Hindwings dark greenish fuscous with costal area, covered by the forewings, white. Abdomen dark olive brown above, underside silvery. Legs silvery white, tarsi dusky.

*Alar expanse.*—16 mm.

*Habitat.*—Porto Bello, Alhajueta, and Taboga Island, Panama. March, April and June.

*Type-specimen.*—Cat. No. 16710, U.S.N.M.

The wing form and pattern places this species near *S. venatum* Busck.

## STENOMA VIVAX, new species.

Labial palpi light bluish gray, black toward the face. Antennæ dark gray. Face white, iridescent. Head lead gray with whitish side tufts. Thorax bluish gray with one central and two lateral large, contiguous, yellow spots and with four, smaller, black spots; patagina light saffron yellow. Forewings light pearly gray with all the veins clearly and thinly outlined in dark lead gray and with dorsal space below the fold shaded with the same darker color; extreme base of costa black; cilia white. Hindwings light gray with whitish cilia; abdomen light fuscous above. Entire underside of body silvery white. Legs white, shaded externally with gray; tarsi and spurs yellowish.

*Alar expanse*.—26 mm.

*Habitat*.—Cabima, Panama. May.

*Type-specimen*.—Cat. No. 16711, U.S.N.M.

A fine clear-cut species, which comes next to the group consisting of *renselariana* Stoll, *stigmatias* Walsingham, *ergates* Walsingham, *dissecta* Zeller, *loxogrammos* Zeller, *lacera* Zeller, and *venatum* Busck.

## STENOMA SAGAX, new species.

Labial palpi light gray, shaded with black toward the face. Antennæ golden fuscous. Face and head whitish. Thorax light golden ochreous with two yellow lateral spots and with posterior tip blackish; patagina yellow. Forewings light ochreous gray with the veins thinly outlined in dark lead gray and with entire dorsal half shaded with darker gray; the edge of the wing is golden ochreous and the extreme base of costa is black. Hindwings light ochreous fuscous with golden edges and cilia. Abdomen light fuscous above; underside of body silvery white. Legs ochreous white.

*Alar expanse*.—22–23 mm.

*Habitat*.—Porto Bello, Panama, May.

Bred from larvæ, feeding between the leaves of a small thorny palm.

*Type-specimen*.—Cat. No. 16712, U.S.N.M.

Very close to the foregoing species (*vivax*) and clearly the Atlantic representative of this Pacific species; but can readily be distinguished by its smaller size, more ochreous color and the less pronounced, though identical wing pattern.

## STENOMA FELIX, new species.

Labial palpi white, second joint shaded externally with brown; terminal joint mottled with brown and with extreme tip blackish brown. Antennæ dark olive brown. Face whitish. Head and thorax dark olive brown. Forewing lighter olive gray with the entire costal edge narrowly light ochreous; terminal edge with a series of nearly contiguous, white spots; from above the middle of



costa to apical third of dorsum runs a narrow, oblique, broken, blackish brown fascia edged toward the base of the wing by a correspondingly irregular thin white line; on the middle of the cell is a dark brown dot continued faintly obliquely downward to a similar dot on the fold; cilia whitish. Hindwings dark olive fuscous. Abdomen dark fuscous above; underside silvery white. Legs white shaded above with dark fuscous.

*Alar expanse*.—18 mm.

*Habitat*.—Cabima, Panama, May.

*Type-specimen*.—Cat. No. 16713, U.S.N.M.

Very close to *S. aphanes* Walsingham, but of a clearer less ochreous gray color and lacking the outer and inner fasciæ of this species.

STENOMA CHLORINA Kearfott.<sup>1</sup>

Labial palpi white, second joint with a broad anterior, longitudinal, greenish brown streak; terminal joint with a black anterior longitudinal line. Antennæ brown above, whitish on the underside. Face white. Head and thorax brownish olive green. Forewings with costa strongly and evenly arched from base to apex; termen rounded; dorsum straight; olive green with costal edge narrowly yellow; from the base of the wing parallel with the costal edge runs a thin, white line, which curves down and ends in an obscure ocelate white spot at the end of the cell; another faint white line runs below and parallel with the outer third of costal edge and a faint series of small white dots follow the terminal edge; cilia olive green. Hindwings light greenish fuscous. Abdomen and legs bright ochreous.

*Alar expanse*.—30 mm.

*Habitat*.—San Paulo, Brazil, and Porto Bello, Panama, May.

*Type-specimen*.—Cat. No. 16714, U.S.N.M.

Near to *S. aesiocopia* Walsingham, but larger, more green and without the blackish discal spot of this species.

STENOMA LAMPYRIDELLA, new species.

Labial palpi light ochreous, outer side of second joint and tip of terminal joint shaded with fuscous. Face light bluish fuscous iridescent. Head dark bluish fuscous. Thorax light ochreous fuscous. Forewings elongate ovate; costa and dorsum nearly straight, apex and termen evenly rounded; dark mouse-gray with a yellowish tint and with costal edge and a longitudinal streak from base to apex through the middle of the wing ochreous; extreme base of costa black, below which the base of the wing is conspicuously reddish brown; base of the fold ochreous. Hindwing blackish fuscous. Abdomen blackish fuscous. Legs ochreous with black tarsi, on which are narrow ochreous annulations.

*Alar expanse*.—22 mm.

<sup>1</sup>Ent. news, vol. 22, 1911, p. 126.

*Habitat*.—Cabima, Panama, May.

*Type-specimen*.—Cat. No. 16715, U.S.N.M.

Though produced by different means, the color effect and general appearance of this species is remarkably like that of *Costoma basiro-sella* Busck. and certain other *Lampyrid*-like Lepidoptera. (See p. 24.)

STENOMA VIRIDIS, new species.

Second joint of labial palpi light ochreous on the inner side, reddish brown exteriorly; terminal joint whitish ochreous. Face dark brown with dark ochreous lateral margins. Head violaceous brown. Antennæ dark gray with whitish underside and with ochreous brown basal joints. Thorax light brown sparsely sprinkled with black and with posterior tip black. Basal half of the forewings light brown sprinkled with black, outer half light leaf green, sprinkled with single black scales; the limit between the green and the brown parts is sharp and begins at basal third of costal edge, whence it runs downwards and obliquely outwards to a sharp point below the end of the cell and from there down and back to the middle of dorsal edge; just before the tip of the brown projection into the green is a small, pure white spot; costal edge narrowly brown in its entire length; apical and terminal edges broadly brown; cilia brown. Hindwings dark fuscous on basal two thirds, light ochreous brown on outer third, cilia ochreous. Abdomen brown with ochreous anal tuft and white underside. Legs light ochreous.

*Alar expanse*.—23–25 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16716, U.S.N.M.

A specimen which undoubtedly belongs to this species from Tuis, Costa Rica, W. Schaus, collector, has the apical brown part much larger than the type, extending over entire apical fourth part of the wing and limiting the green part to a large boot-shaped spot. This and the following species are next to *S. speratum* Busck., and both are allied to *S. trochilosticta* Walsingham.

STENOMA FRONDIFER, new species.

Second joint of labial palpi light brownish fuscous, whitish on the inner side; terminal joint whitish. Lower face light straw colored, upper face reddish brown. Head dark brownish fuscous. Antennæ dark fuscous with ochreous brown basal joints. Thorax dark fuscous with posterior tip black. Forewing dark brownish fuscous with a greenish tint and strongly mottled with transverse, black striations; at the end of the cell lies a large oblong leafgreen spot which is connected by a narrow neck with another similar, but perpendicular, oval spot at tornus; below the first of these spots is a small, pure, white dot

as in the preceding species; cilia dark fuscous. Hindwings light fuscous, unicolored. Abdomen dark fuscous, with the first joints, underside, and anal tuft light ochreous. Legs light ochreous.

*Alar expanse*.—18 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16717, U.S.N.M.

Closely allied to the foregoing species but smaller, darker, more black mottled, and with the green area much smaller.

STENOMA VIVIDELLA, new species.

Labial palpi white, sprinkled with black, second joint with a large basal black spot on the outside; terminal joint with a small black spot at base and a black annulation before the tip. Face whitish. Head white mixed with ochreous. Antennæ ochreous with narrow black annulations. Thorax ochreous, mixed with white and greenish scales. Forewings light ochreous with the larger costal and apical area white and green; the ochreous ground color occupies the dorsal part of the wing and sends a broad triangle upward, the tip of which nearly reaches the costal edge before the middle; this ochreous space is sprinkled with white and greenish scales and contains a large, ill-defined, light-green spot on the middle of the cell, in which is found a small deep black dot; base of costal edge alternately white and light green; from the middle of costa runs a broad outwardly oblique green streak down to middle of termen; this green streak contains a few, scattered, black scales and a larger, ill-defined aggregation of black scales near termen; above it the wing is white with two ill-defined green spots; across the middle of the wing and apical third are indistinct, transverse ridges of raised scales; cilia light ochreous with alternate black tipped, green and ochreous spaces on the basal half. Hindwing triangular, dark fuscous; cilia ochreous with a fuscous basal line. Abdomen light ochreous above, whitish on the underside. Legs whitish ochreous, heavily barred with blackish brown on their exterior side.

*Alar expanse*.—17–19 mm.

*Habitat*.—La Chorrera and Porto Bello, Panama. April, May.

*Type-specimen*.—Cat. No. 16718, U.S.N.M.

This species is allied to *S. lactis* Busck. Mr. Meyrick uses the generic name *Agriophara* Rosenstock, for this group, which includes *S. acronitis* Busck, *S. mendoron* Busck, *S. nestes* Busck, and *S. apicalis* Busck, on the character "more or less developed tufts or ridges of raised scales on the disk of the forewing," but this character is found in many species which can not be closely associated with the above, and I feel sure that the genus can not be maintained.

## STENOMA FENESTRA, new species.

Second joint of labial palpi light golden ochreous in front, white on the inner side and dark brown exteriorly; terminal joint dusky white. Face and head yellowish white, silvery. Thorax reddish brown with ochreous posterior tip; patagina blackish brown on lower half, tips light ochreous. Forewing dark violaceous brown; a round lemon yellow spot on costal edge near base, followed by a large reddish yellow spot, edged by dark velvety brown scales; a small yellow dot within the middle of the dorsal edge, some diffused reddish and dark-brown streaks on the cell; two indistinct and suffused, whitish, zigzag lines across the wing at apical third; extreme costal edge, a small spot at apical third of costa and extreme apex light yellow. Hindwing dark fuscous. Abdomen dark fuscous with white underside. Legs white; tarsi and anterior tibiæ barred with dark brown.

*Alar expanse*.—22 mm.

*Habitat*.—Chiriquicito, Panama; Sixola River, Costa Rica, W. Schaus, collector.

*Type-specimen*.—Cat. No. 16719, U.S.N.M.

Nearest to *S. apicalis* Busck, which species was also taken in Panama, at Cabima, June.

## STENOMA PHYTOPTERA, new species.

Second joint of labial palpi dark violaceous brown, strongly mixed with light ochreous toward the tip; terminal joint light yellow, with dark violaceous brown base and annulation before the tip. Face light straw yellow. Head dark ochreous mixed with brown. Thorax dark violaceous brown with posterior lobe leaf green. Forewing dark violaceous brown, irregularly mottled with leaf-green scales, a large blotch of which is found just before the middle of dorsum, followed by a black dot on the fold; at the end of the cell is a short, transverse, black line; on the middle of the edge is a large showy dark velvety brown spot with a pure white center and with deep black shadings in front, and with four or five black dashes toward the margin; cilia dark brown with small equidistant pencils of light ochreous. Hindwings blackish fuscous. Abdomen blackish brown; underside mixed with ochreous. Legs blackish brown; tarsi with narrow ochreous annulations.

*Alar expanse*.—25–27 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16720, U.S.N.M.

I also have this showy species from Sixola River, Costa Rica, W. Schaus, collector. Though of quite different ornamentation, it falls in the same group as the preceding species.

## STENOMA FUMIPENNIS, new species.

Labial palpi dark gray; inner side of second joint, base and extreme tip of terminal joint white. Lower face white; upper face, head, and thorax dark gray with a greenish and violet metallic sheen. Forewings dark gray; a small, triangular, whitish ochreous spot just before the middle of costa is bordered by two ill-defined, dark green, metallic spots; dorsal part of the wing below the fold strongly suffused with dark green metallic scales; at the end of the cell is a whitish ochreous, ill-defined cloud with a small green center, from which a metallic green spur runs down to the end of the fold; at apical third and just before terminal edge are two faint, whitish lines across the wing; the dark space between these lines is strongly suffused with green metallic scales; the entire wing when looked at toward the light is brilliant iridescent green, while away from the light the gray appears dull and the green appears blackish; cilia dark gray. Hindwing blackish fuscous. Abdomen blackish fuscous with two, lateral, whitish, longitudinal streaks. Legs silvery white on their inner sides; dark gray exteriorly.

*Alar expanse*.—22–25 mm.

*Habitat*.—Alhajuela and Trinidad River, Panama, March.

In the United States National Museum are specimens also from St. Jean, French Guiana, Sixola River, Costa Rica, and Aroa, Venezuela, W. Schaus, collector.

*Type-specimen*.—Cat. No. 16725, U.S.N.M.

A brilliant iridescent form allied to the foregoing species.

## STENOMA BASILARIS, new species.

Labial palpi dark olive brown with apex of second joint and a thin streak on inner side of both joints white. Lower face white, upper face and head dark gray. Thorax dark gray with blackish patagina. Forewings white, overlaid with dark and light gray on dorsal half, costal half mostly white; base of costal edge and a short streak at costal fourth black; a small black streak on costa at apical third; a prominent, oval, black spot at the end of the cell, followed by a very irregular and inconspicuous, blackish, zigzag line across the wing; at apical fourth is a narrow white transverse fascia; around apical and terminal edges a marginal series of blackish brown dots; cilia dirty white. Hindwings light fuscous with the apical cilia white. Abdomen light fuscous with the white underside and light yellow anal tuft. Legs white sprinkled exteriorly with light brown scales.

*Alar expanse*.—16–18 mm.

*Habitat*.—Alhajuela, Porto Bello, and Trinidad River, Panama, March, April.

*Type-specimen*.—Cat. No. 16721, U.S.N.M.

A well-marked species of the *Schlaegeri* group, recognizable by its prominent black discal spot and the black inner angle of the forewing.

**STENOMA DISCALIS**, new species.

Labial palpi blackish fuscous with whitish inner surface. Face dark fuscous with lower edge white. Head yellowish white. Thorax yellowish white, central part shaded with fuscous, anal lobe dark fuscous; patagina yellowish white. Forewing yellowish white with dorsal half suffused with light gray; a small, blackish costal spot at basal fourth; another at apical fourth, and one at apex; a small dark brown spot at basal fourth of dorsum; cilia yellowish white. Hindwings light fuscous with yellowish white cilia and in the males with a white hairpencil at base of costa. Abdomen fuscous with white underside and yellowish anal tuft. Legs white with dusky tarsi; anterior tibiae and tarsi black in front.

*Alar expanse*.—20 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16722, U.S.N.M.

Closely related to *S. basilaris*, but slightly larger and without the discal and dorsal black spots.

**STENOMA MITRATELLA**, new species.

Second joint of labial palpi light ochreous brown exteriorly, blackish at base; inner side white; terminal joint white, faintly sprinkled with light brown. Face and head pure white. Thorax dark fuscous with bluish black anal lobe; patagina light ochreous fuscous. Forewings white, heavily overlaid with light ochreous fuscous except on costal part, which is pure white, and an ill-defined streak from base along the lower edge of the cell, where the white scales predominate; at the end of the cell is a short, transverse, blackish brown streak; from apical third of costa runs an outwardly curved, dark fuscous, ill-defined line across the wing; at basal third of dorsal edge is a conspicuous tuft of light ochreous brown, raised scales; cilia light fuscous. Hindwing light fuscous with whitish top and apical cilia. Abdomen light fuscous above, underside white. Legs white with tarsi and anterior tibiae brown.

*Alar expanse*.—23 mm.

*Habitat*.—Porto Bello, Panama, April.

*Type-specimen*.—Cat. No. 16723, U.S.N.M.

Easily recognized in the *Antæotricha* group by the ochreous brown dorsal tuft.

## STENOMA PLUMOSA, new species.

Labial palpi yellowish white; second joint externally barred with light yellow and blackish brown; terminal joint with extreme base and a broad annulation before the tip blackish brown. Face light yellowish fuscous. Head and thorax light yellowish brown. Forewing yellowish brown with violaceous sheen; a dark brown line from base along base of dorsum, another similarly colored, zigzag line obliquely across the cell to the middle of dorsum; a dark brown, nearly straight, line from middle of costa at tornus and an outwardly curved, dark brown line from apical fourth to tornus; a marginal series of black dots around apex; cilia light ochreous; the male has a costal fold, from which expands a large heavy tuft of stiff, light ochreous hairs, half as long as the forewings. Hindwing light yellow fuscous, in the male with a light yellow costal hair pencil. Abdomen dark fuscous. Legs yellowish white.

*Alar expanse*.—15 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16724, U.S.N.M.

Superficially mistakable for the somewhat smaller *Zetesima lasia* Walsingham, which also has a costal fold and tuft on the forewing, but the present species has normal *Stenoma* venation.

## STENOMA STRIATELLA, new species.

Labial palpi white; second joint shaded with dark fuscous externally toward base; terminal joint dusky toward the tip. Face pure white, silvery. Head white with center of tuft gray. Antennæ dark fuscous with white base. Thorax dark brownish gray with whitish patagina and posterior tip. Forewings white; the dorsal two-thirds heavily overlaid with dark gray and sprinkled with darker, blackish brown, short, longitudinal dashes, of which a few also occur in the pure white costal third; three short, outwardly oblique, dark brown costal streaks, one at basal fourth, one on the middle of costa, and one at apical fifth; a submarginal series of black streaks around apical and terminal edge; cilia white. Hindwings dark fuscous with lighter cilia. Abdomen dark fuscous with lighter whitish underside and anal tuft. Legs white with dusky tarsi.

*Alar expanse*.—14–16 mm.

*Habitat*.—Trinidad River and Alhajuela, Panama, March, April.

*Type-specimen*.—Cat. No. 16726, U.S.N.M.

## STENOMA PALLULELLA, new species.

Labial palpi dark gray with inner side and tip of second joint whitish. Lower face white, upper face dark gray. Head and thorax dark brownish fuscous. Forewing with a large, blackish brown, basal area, reaching to basal third of costa and to the middle of dorsum;

this space is liberally sprinkled with golden ochreous scales, especially on the two margins, and with scattered white scales; on the dorsal side this space is continued into a lighter dark gray space on the middle of dorsum; a large quadrangular space on the middle of costa and reaching down to the middle of the cell milky white, with a white ill-defined spur down to basal fourth of dorsum; in this white space is a black transverse spot at the end of the cell and an indistinct, black, zigzag line in the outer part; apical third of the wing blackish brown with a diffused line of white across the wing and with a series of white terminal dots; cilia dark brown. Hindwing blackish brown with white costal area and in the male with a white costal hair pencil. Abdomen blackish fuscous with ochreous anal tuft. Legs light gray externally, white on the inner side; tarsi golden on the underside.

*Alar expanse*.—20–22 mm.

*Habitat*.—Trinidad River, Panama, March. Also a specimen from Turrialba, Costa Rica, W. Schaus, collector.

*Type-specimen*.—Cat. No. 16727, U.S.N.M.

A very dark species of the *Antaeotricha* group, distinguished by the very dark hindwing and the white costal hair pencil in the male.

#### STENOMA CARBONIFER, new species.

Second joint of labial palpi rich dark brown exteriorly, whitish on the inner side and at tip; terminal joint white. Face and head milky white. Anterior edge of thorax and base of patagina white; tip of patagina and the larger posterior part of thorax black, with a bluish metallic sheen. Forewing light ochreous clouded with brown, with a large, dorsal, evenly rounded patch of black scales, at base of which some are more or less erect; above and bordering this black space is a small patch of brown scales; three dark brown costal spots, one at basal third, one on the middle, and one at apical fourth, from the latter starts an indistinct, outwardly curved, row of small brown dots across the wing to termen; a faint row of brown marginal dots along terminal edge; a small black dot at the end of the cell; cilia dark fuscous. Hindwings light yellowish fuscous with yellowish cilia. Abdomen dark fuscous above; underside light ochreous. Legs whitish ochreous; forelegs with dark fuscous outer side of tibiae and tarsi.

*Alar expanse*.—19–23 mm.

*Habitat*.—Porto Bello, and Corozal, Panama. Specimens also from St. Jean, French Guiana, and from Tuis, Costa Rica, W. Schaus, collector.

*Type-specimen*.—Cat. No. 16728, U.S.N.M.

Intermediate between the foregoing *Antaeotricha* group and the genus *Gonioterma*, in wing form and coloration. Vein 8 of forewing to apex.



## STENOMA MARGINATA, new species.

Labial palpi bright ochreous; second joint shaded with dark fuscous exteriorly; terminal joint with base and an annulation above the middle dark fuscous. Face light golden yellow. Head, anterior part of thorax and patagina, and costal edge of the forewings bright ochreous; thorax and patagina otherwise dark purplish brown. Forewings elongate ovate; apex and termen rounded, purplish brown, with a black dot at the end of the cell, another on the middle of the fold, and a marginal series of black dots around the apical and terminal edges; cilia ochreous fuscous. Hindwings dark purplish fuscous with the costal part, which is covered by the forewings, white. Abdomen dark purplish brown above, with light ochreous underside. Legs light ochreous, barred, and annulated with dark fuscous.

*Alar expanse*.—16 mm.

*Habitat*.—Cabima and Trinidad River, Panama, March and May.

*Type-specimen*.—Cat. No. 16729, U.S.N.M.

Very similar in color and ornamentation to the somewhat smaller *Cryptolechia epidesma* Walsingham.

## STENOMA SIMPLEX, new species.

Second joint of labial palpi white, shaded with dark fuscous exteriorly and with a dark spot on the inner side near apex; terminal joint dark fuscous, with posterior edge white. Face white. Head and thorax dark violaceous brown. Forewing dark brown, nearly black, with a violaceous sheen; extreme costal edge narrowly white; a thin, white, broken, zigzag line across the wing from the middle of costa over the end of the cell to apical third of dorsum, but not quite reaching the dorsal edge; a small white spot with a black center at apex; a faint row of small white dots along terminal edge; upper part of cilia around apex white, lower part blackish brown. Hindwing blackish brown, with apical cilia whitish. Legs dark brown externally, pure silvery white on the inner side. Underside of body white.

*Alar expanse*.—14–15 mm.

*Habitat*.—Trinidad River, Panama, June.

*Type-specimen*.—Cat. No. 16738, U.S.N.M.

Very close to *S. menestella* Walsingham, *S. filiferella* Walker, and *S. niviliturella* Walker, but somewhat larger than any of these, nearer in size to the also closely allied *S. ochropa* Walsingham.

## STENOMA MINOR, new species.

Labial palpi silvery white, shaded externally with blackish fuscous. Face pure silvery white. Head blackish brown. Thorax blackish brown, with a bluish metallic sheen. Forewings dark purplish brown, with strong metallic reflections; costal edge at apical fourth touched with white; cilia light straw yellow, with a basal series of dark brown

spots. Hindwing dark brown. Abdomen above dark purplish brown, with gray anal tuft and silvery white underside. Legs silvery white.

*Alar expanse*.—8 mm.

*Habitat*.—Trinidad River and Porto Bello, Panama, March and May.

*Type-specimen*.—Cat. No. 16730, U.S.N.M.

Reminding superficially very much of our North American species of *Menesta*. The type of this species has vein 2 and 3 in the forewing short stalked.

**STENOMA LEUCOTHEA, new species.**

Labial palpi pale rosy ochreous on the inner side, brown on the outer side. Face and head rosy ochreous. Thorax rosy ochreous, with a central and posterior ridge of raised reddish brown scales. Forewings pale ochreous gray; costal edge narrowly bright terra cotta; dorsal edge narrowly bright ochreous brown; a large, oval, light yellow spot at the end of the cell, edged posteriorly with dark ochreous; an outwardly curved transverse row of small blackish brown dots from apical third of costa across the wing; a similar, parallel, but fainter and not so complete, row of dark-brown scales from the middle of costa touches the yellow spot; a still fainter and less complete line of dots at basal third; cilia rosy ochreous. Hindwings light ochreous fuscous. Abdomen light fuscous above, pale yellow on the underside. Legs light ochreous, with dusky tarsi.

*Alar expanse*.—20 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16735, U.S.N.M.

A very delicately tinted species, readily recognized by the darker, bright-colored edges of the forewings.

**STENOMA BOVINELLA, new species.**

Second joint of labial palpi light rose colored on the inner side, ochreous brown exteriorly; terminal joint light ochreous brown. Lower face white; upper face light ochreous brown. Head reddish brown. Thorax light brown. Forewings light brown with costal edge narrowly vivid brick red; from the middle of costa to basal angle of dorsum runs a darker, blackish brown, nearly straight line; from apical fourth of costa to apical fourth of dorsum runs an outwardly evenly curved, blackish brown line; at the end of the cell is a circlet of blackish brown scales, enclosing a brown area, which is slightly lighter than the rest of the wing; a few scattered blackish brown scales on all parts of the wing; cilia light rose colored. Hindwings light ochreous with the cilia touched with rose at the apex. Abdomen light brown above; light ochreous on the underside. Legs light ochreous with tarsi light brown externally.

*Alar expanse*.—19 mm.

*Habitat*.—Paraiso and Corozai, Panama, June.

*Type-specimen*.—Cat. No. 16736, U.S.N.M.

This species may be placed next to the *S. tristrigata* Zeller group, from which it differs in the smaller size and the inwardly directed dark line on forewings.

STENOMA AFFIRMATELLA, new species.

Labial palpi light bluish gray; second joint blackish brown exteriorly; terminal joint with a blackish brown longitudinal line in front. Face dark lead colored. Head light, whitish gray, loose scaled. Thorax dark bluish gray. Forewings light bluish gray; the ground color is really dirty white but is so evenly and closely overlaid with bluish fuscous scales as to give the impression of an even color to the naked eye; three complete, broad, blackish fuscous lines run obliquely across the wing, the first from basal fourth of costa to the middle of dorsum, the second from the middle of costa to just before tornus; these two are tolerably straight and nearly parallel; the third line runs from apical fourth of costa to tornus and is outwardly curved and sinuated; a series of small, black, equidistant marginal dots around apex and termen; cilia light gray. Hindwing light ochreous fuscous. Abdomen dark fuscous above, silvery white on the under-side. Legs white, barred exteriorly with dark fuscous.

*Alar expanse*.—19 mm.

*Habitat*.—Paraiso, Panama, June.

*Type-specimen*.—Cat. No. 16737, U.S.N.M.

Allied to *S. liniella* Busck, but much smaller and lighter in color.

Genus GONIOTERMA Walsingham

*Type*.—*Gonioterma burmanniana* Cramer.

GONIOTERMA IMPRESSELLA, new species.

Labial palpi dark brown on the outer side; inner side and terminal joint reddish ochreous. Antennæ dark olive brown. Face dark brown; head and patagina light reddish brown; thorax dark blackish brown. Forewings with costa nearly straight; apex pronounced but rounded; termen perpendicular; tornus pronounced; dorsum slightly concave; light reddish brown with a violet tinge, shaded with rich dark brown; at the base of costa is a large dark brown area reaching down to the fold; from basal third of costa runs an oblique dark brown line across the wing to apical third of dorsum, edged basally with ochreous scales; at the end of the cell is a short, perpendicular, brown streak; outer half of costal area dark brown; from just before apex runs a dark brown line across the wing, nearly meeting the other crossline at right angles on dorsal edge; cilia reddish ochreous with

dark brown basal line. Hindwing bright golden ochreous with a reddish tinge toward apex. Abdomen light ochreous with light red tip. Legs light ochreous; tarsi dark brown.

*Alar expanse*.—21–25 mm.

*Habitat*.—Cabima and Trinidad River, Panama, May.

In the United States National Museum is also a specimen from St. Jean, Maroni, French Guiana, W. Schaus, collector.

*Type-specimen*.—Cat. No. 16739, U.S.N.M.

A very showy species when fresh; rubbed specimens lose much of the brilliancy and appear simply brown with a darker brown cross-line and with light yellow hindwings.

GONIOTERMA GERDA, new species.

Labial palpi light clay yellow, with exterior side of second joint blackish brown. Face and head light clay yellow. Thorax light yellowish brown. Forewing light yellowish brown with costal and terminal edges narrowly light yellow; on the middle of the fold is a small black dot; at the end of the cell is a similar black dot; from apical fourth of costa runs a faint darker brown line across the wing to dorsum; this line is sharply inwardly bent just below costa, thence evenly outwardly curved, terminating just before the beginning of the cilia; cilia dark yellowish fuscous. Hindwing yellowish fuscous with narrow yellow edge and light yellowish cilia. Abdomen light yellowish brown with whitish yellow underside. Legs yellow, anterior tibiae and tarsi marked with blackish brown; posterior tarsi light brown.

*Alar expanse*.—29 mm.

*Habitat*.—Porto Bello, Panama, April.

*Type-specimen*.—Cat. No. 16740, U.S.N.M.

Very close to *S. emma* Busck, slightly larger and with more rounded terminal edge in the forewing; at once distinguished from this species by the lighter hindwing and the absence of the costal spot on the forewings.

GONIOTERMA MINNA, new species.

Second joint of labial palpi bluish white on the inner side, light golden brown in front and dark brown exteriorly; terminal joint white. Lower face light violaceous; upper face iridescent white. Head and thorax light purplish brown. Forewing light purplish fuscous; extreme costal edge golden yellow; two triangular dark purple costal spots, one on the middle of costa, one somewhat larger at apical fourth extended nearly to apex; just before apex a small, bright ochreous spot; from the two costal spots run very faint, outwardly strongly angulated lines of dark purple dots across the wing; a faint dark streak also from basal third of costa; base of costa slightly darker; a faint dark purple first and second discal dot; from the base of dorsal

edge runs a slightly curved dark purplish brown streak longitudinally across the fold and terminating just below the second discal spot at the end of the cell; terminal edge dark brown; cilia dark purple. Hindwing dark golden fuscous with yellowish purple cilia; the males have a strong yellowish costal tuft of long sense hairs from base of the hindwings. Abdomen fuscous with lighter underside. Legs light ochreous with darker brown tarsi.

*Alar expanse*.—22–23 mm.

*Habitat*.—Porto Bello and Alhajuela, Panama, March.

*Type-specimen*.—Cat. No. 16741, U.S.N.M.

Differs from all species in this genus known to me by the longitudinal dark streak from base of dorsal edge to the end of the cell.

GONIOTERMA CORA, new species.

Labial palpi dark bluish brown with base and inner side whitish. Lower edge of the face and the tongue silvery white; upper face, head, and thorax dark brown. Forewings dark brown with a purplish sheen and with indistinct, darker blackish brown markings; from the blackish brown costal edge run three thin, irregular, zigzag lines of the same color across the wing; one from basal third of costa to middle of dorsum, one from middle of costa to apical third of dorsum, and one from apical third of costa to tornus; a very faint row of small blackish brown dots along termen; cilia dark purplish brown. Hindwing dark fuscous. Abdomen dark brown above, light ochreous on the underside. Legs silvery ochreous, shaded with dark brown exteriorly.

*Alar expanse*.—22 mm.

*Habitat*.—Trinidad River, Alhajuela and Porto Bello, Panama, April, May.

*Type-specimen*.—Cat. No. 16742, U.S.N.M.

Nearest to the foregoing species but with darker head and without any costal spot or longitudinal line.

Family SPARGANOTHIDÆ.

Genus HOMONA Walker.

*Type*.—*Homona coffearia* Nietner.

HOMONA AQUILA, new species.

*Male*.—Labial palpi saffron yellow. Face and head bright saffron. Thorax brownish ochreous. Forewings arched at base; costa depressed beyond the middle; termen sinuate below apex; basal third light ochreous, reticulated with brown lines; rest of the wing, except a small ochreous, reticulated area on termen, suffused with dark brown, in which two irregular, outwardly curved, darker brown fasciæ are barely discernible, one from just before middle of costa,

the other from apical fifth; entire wing sparsely speckled with small black atoms tending to form transverse striation; cilia concolorous with the dark brown part of the wing. Hindwing dark brownish fuscous, much darker than the forewings, with apex and terminal edge broadly mottled with brown and black. Underside of both wings light ochreous, mottled with dark fuscous, transverse striation. Abdomen dark fuscous above, underside light ochreous with a longitudinal row of three deep black spots; male genital tufts blackish fuscous.

*Alar expanse*.—34 mm.

*Habitat*.—Cabima, Panama, May.

*Type-specimen*.—Cat. No. 16743, U.S.N.M.

Very similar in wingshape and ornamentation to *Homona sebasta*, Walsingham, but somewhat larger and distinguished from all described species in the genus by the very dark hindwings and abdomen. The longitudinal row of black spots on the underside of the abdomen is common to all the species of the genus known to me.

HOMONA CONSOBRINA, new species.

*Female*.—Labial palpi light saffron yellow mottled with dark red. Face and head light ochreous with a dark red, transverse line below the antennæ; collar reddish brown. Thorax and patagium light violaceous brown. Forewing with base of costa strongly arched and middle of costa depressed; apex prominent; termen strongly sinuated below apex and strongly convex on the lower part; light brown, clouded with darker brown and evenly sprinkled with blackish brown dots, which tend toward transverse striation; costal edge from before middle to apex broadly white, which color gradually mixes with the brown color of the wing; base of costal edge narrowly dark reddish brown; cilia dark mahogany brown strongly contrasting with the lighter brown scaling. Hindwings reddish brown, with white costal area and with faint, blackish brown, irregular, transverse spots. Underside of forewing reddish brown with apical part lighter ochreous, and sprinkled with brown, transverse striation. Underside of hindwing light ochreous with brown, transverse striations; three round black dots in a longitudinal row between veins 5 and 6 and scattered black dots at the base of the light ochreous cilia. Abdomen light brown; underside ochreous with the usual row of black spots; terminal joint on the underside with a large cushion of peculiar, erect, thickened scales, such as are found in the females of all the American species. Legs ochreous; tarsi marked with dark brown.

*Alar expanse*.—32 mm.

*Habitat*.—Porto Bello, Panama, May.

*Type-specimen*.—Cat. No. 16744, U.S.N.M.

Closely allied to *H. patulana* Walker, but somewhat larger and darker and at once separated by the dark hindwings, which, however, are not as dark as those of *H. aquila* Busck.

Family HEMEROPHILIDÆ.

Genus HEMEROPHILA Hübner.

Type.—*Hemerophila albertiana* Stoll.

HEMEROPHILA LACINIOSELLA, new species.

Labial palpi golden fuscous. Face and head dark purplish brown. Antennæ dark brown dotted on the upper side with silvery white. Thorax dark brown, finely sprinkled with ochreous white atoms. Forewings dark brown, finely but irregularly mottled with ochreous white dots; on the outer half sparsely sprinkled with single black scales; just before the middle is a transverse, slightly convex fascia, reddish brown on its costal half, dark brown on its dorsal half; apical corner of the wing bright golden yellow, with extreme apical and terminal edge deep black and with metallic blue angulated line, parallel with the edge; this angulated line is bordered on the inner side by a similarly angulated black line; all these markings cover only the upper two-thirds of termen; cilia coppery fuscous with strong metallic reflections. Hindwings and cilia dull dark brown with a whitish marginal line. Abdomen dark brown with broad, transverse, silvery white bands on the underside. Legs dark brown with broad silvery white annulations.

*Alar expanse*.—14 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16756, U.S.N.M.

Near to *H. contrariana* Walker, but without the golden yellow, zigzag line on outer half of the forewing and differing also in the more elaborately ornamented apical corner.

HEMEROPHILA MERATELLA, new species.

Labial palpi whitish with dusky tip. Face and head dark brown. Antennæ blackish brown with silvery annulations. Thorax dark brown with two broad, lateral, whitish brown streaks. Forewings with pointed, slightly produced apex; dark brown, finely sprinkled with ochreous white atoms; a broad, unsprinkled, reddish brown fascia just before the middle; the outer edge of this fascia is slightly convex and is well defined by the more condensed white dusting outside; the inner edge is not so clearly defined, the white dusting encroaching somewhat upon the fascia; beyond the fascia the ground color of the wing becomes more purplish; before apex is a large, round, reddish-ochreous spot, traversed longitudinally on its lower half by a pointed and uneven purplish prominence from the ground-

color; extreme terminal edge deep black; inside of this is a broad, marginal, ochreous streak, which is bent at the apex and continued along outer fifth of costal edge; the ochreous line is edged interiorly by a thin, bluish silvery line, which is in turn broadly edged by black on its inner side; cilia bluish fuscous, with strong metallic reflections. Hindwing with apex unusually sharply pointed and prominent; clear, light reddish ochreous with extreme base and a small, ill-defined spot on the middle of termen dark fuscous; cilia dark fuscous, with metallic sheen. Abdomen brown, underside transversely banded with silvery white; underside of body silvery white. Legs silvery white, with broad, dark brown bars on the outer side.

*Alar expanse*.—15 mm.

*Habitat*.—Trinidad River, Panama, March.

*Type-specimen*.—Cat. No. 16757, U.S.N.M.

Forewing very similar in color and pattern to those of *H. contrariana* Walker, but the bright ochreous hindwing places the species near to *H. huitwinalis* Cramer (*pulsana* Walker).

#### Genus JONACA Walker.

*Type*.—*Jonaca compulsana* Walker.

Though Walker's generic descriptions are entirely inadequate for present day requirements and though my generic notes on the type of his genus *Jonaca*, made several years ago, are unfortunately not full enough for absolute determination, I feel reasonably safe in applying this name to the following species, which has the general habitus of the type of the genus. Below are given the generic characters of the present species, which I believe also apply to the type of the genus, *J. compulsana* Walker; a cursory examination of the type of this species in the British Museum will easily determine this. Labial palpi curved, ascending, hardly reaching vertex; second joint somewhat thickened with appressed scales; terminal joint short, bluntly pointed. Face, head, and thorax smooth. Antennæ short, stout, simple. Forewing with costa nearly straight, slightly deflected from apical third; apex blunt; termen rounded; tornus rounded; dorsum straight; cilia short; 12 veins, all separate; 2 from near end of cell; 3, 4, 5, equidistant, approximate from end of cell; 7 to termen; 11 from the middle of the cell; no secondary cell; 1*b* furcate at base. Hindwing broader than the forewing, roughly triangular with rounded apex; 8 veins; 3 and 4 connate; 5, 6, and 7 parallel. Posterior tibiæ with short tufts of hair above the spurs. Body stout.

Allied to *Rhobonda* Walker, which differs in having an internal vein in the cell, vein 11 from near the base and vein 2 from near the middle of the cell.



## JONACA OLIVACEA, new species.

Second joint of labial palpi ochreous white, with a broad blackish brown band just before the apex; terminal joint with the extreme tip ochreous white. Face blackish brown, with a few scattered ochreous scales. Head and thorax dark olive brown; patagina olive, with whitish tips. Basal fourth of forewing greenish brown; the rest of the wing is deep blackish brown, nearly black except for a large, light ochreous, costal spot at apical third and a similar, duller, opposite dorsal spot, which, together form a nearly complete, broad, light fascia across the wing; this light fascia is poorly defined outwardly, and the light color is somewhat diffused over the apical part of the wing, which is otherwise blackish brown; cilia blackish brown. Hindwing deep blackish brown, nearly black, with a large spot on the upper part of the cell ochreous white, a small spot following this golden ochreous, and with costal area white; the short cilia is pure white. Underside of forewings black, with a large golden yellow spot on the base of the apical veins; underside of the hindwings black, a large yellow costal spot at apical third and with the white semi-transparent spot of the upper side showing through. Abdomen above black, each segment posteriorly edged with white; last segment all black; underside of body ochreous white, slightly sprinkled with black scales. Legs whitish ochreous, broadly barred with black exteriorly; tarsal joint black with narrow golden annulations.

*Alar expanse.*—15–18 mm.

*Habitat.*—Cabima, Trinidad River, La Chorrera, and Taboga Island, Panama, January to June.

*Type-specimen.*—Cat. No. 16758, U.S.N.M.

## Genus TORTYRA Walker.

*Type.*—*Tortyra spectabilis* Walker.

## TORTYRA CUPRINELLA, new species.

Second joint of labial palpi violaceous silvery; terminal joint dark purple. Face violaceous silvery. Head dark metallic blue. Antennæ with the thickened basal part deep blue, a white annulation beyond it and tips gray. Thorax and patagina light bluish gray; thorax with two, dark purplish brown, lateral streaks. Extreme base of forewings silvery, followed by a short, oblique, blackish brown, costal streak and a similar, dorsal streak; basal two-thirds of the forewings dark brown, finely and evenly stippled with white dots, with the effect of a fine, white, transverse grain; at basal third is a transverse, bluish silvery fascia, of even width throughout, but slightly convex and broadly edged with blackish brown; terminal third of the wing strongly metallic, dark coppery with violet and blue reflections; the limit between this part and the basal grained part of the

wing is oblique and rather sharply drawn from apical fourth of costal to shortly after the middle of dorsum; costal edge from apical third to apex dark greenish brown, unmottled; cilia light violaceous fuscous, with strong, iridescent, metallic luster. Hindwings dark olive brown, with light violaceous, iridescent cilia. Abdomen dark olive brown; underside of body silvery brown. Legs light violaceous brown, barred with dark brown; first tarsal joints with large white spots above.

*Alar expanse*.—14–15 mm.

*Habitat*.—Cabima and Porto Bello, Panama, March and June.

*Type-specimen*.—Cat. No. 16759, U.S.N.M.

This species is close to *T. fulgens* Felder and Rogenhofer, but differs in the two-colored thorax, the black basal streaks, the absence of metallic purple on basal third of the wing and the much lighter silvery fasciæ.

TORTYRA FERRATELLA, new species.

Labial palpi whitish gray. Face iridescent, bluish silvery. Head deep metallic green. Antennæ with thickened basal two-thirds deep metallic blue; a broad white annulation at apical third; tip dark brown. Thorax light silvery fuscous with two, broad, dark blue, lateral streaks. Forewings with the dark brown ground color irrorated and obscured by closely set whitish ochreous stippling, which forms fine transverse lines; just before the middle of the wing is a broad fascia of light steel colored scales, not very different from the stippling on both sides except in their luster; the fascia is markedly broader on the dorsal side than on the costal side and is edged with two, broad, blackish brown, transverse lines of which the outer is the broadest and nearly straight, while the basal one is irregularly undulating and as a whole slightly convex; across the base of the wing runs an oblique, interrupted, dark brown streak, and extreme base of costal edge is black; terminal part of the wing dark metallic blue, irrorated with gold and with a broad, golden, longitudinal streak at tornus; in the outer part of the whitish stippled part of the wing run several, spreading, longitudinal, deep black lines, mainly along the veins; apical fourth of costa dark unmottled brown; cilia dark brown with strong ferruginous sheen. Hindwing dark purplish brown with light steel colored cilia. Abdomen dark silvery fuscous. Underside of entire body silvery white. Legs silvery white with blackish brown bars and last tarsal joints blackish brown.

*Alar expanse*.—15 mm.

*Habitat*.—Paraiso, Panama, January.

*Type-specimen*.—Cat. No. 16760, U.S.N.M.

Belongs to the group of *auriferalis* Walker and *spectabilis* Walker, but differs from both by the black longitudinal striation, as well as by the more subdued coloration, especially of the fasciæ.

## Genus PORPE Hübner.

*Type.*—*Porpe bjerkandrella* Thunberg.

## PORPE LAMELLA, new species.

Tuft on second joint of labial palpi black with base and a ring near apex light ochreous; terminal joint light ochreous with a broad, longitudinal, black streak in front. Face light ochreous. Head blackish brown with a central and two lateral, longitudinal, light red stripes. Forewings blackish brown on basal half, light reddish brown on outer half; in the black basal half are three longitudinal red lines, one on the middle of the wing from base to basal third, one above and one below this, beginning a little farther out and reaching to the reddish brown apical area; there are, besides, in the reddish black area one red, outwardly oblique, costal streak near base and two bluish metallic, outwardly oblique, costal streaks farther out, with a small red dash between them; also one large, outwardly oblique, bluish metallic dorsal streak reaching from the middle of dorsum to the end of the cell, where it is edged exteriorly by a deep black spot in the reddish apical area; in the apical part of the wing are three dorsal and three costal bluish metallic streaks, all more or less bordered with black; a black line along the terminal margin; cilia reddish brown. Hindwings blackish brown. Abdomen dark fuscous with broad, transverse bands on the underside. Underside of body and legs broadly, transversely banded with light reddish ochreous and black.

*Alar expanse.*—12–15 mm.

*Habitat.*—Porto Bello, Panama, March.

*Type-specimen.*—Cat. No. 16761, U.S.N.M.

Differs in the longitudinal markings from other species of the genus, of which it is otherwise typical, though rather narrow winged.

## Genus USSARA Walker.

*Type.*—*Ussara decoratella* Walker.

## USSARA EURYTHMIELLA, new species.

Second joint of labial palpi light yellow; terminal joint darker golden yellow. Face and head light yellow. Thorax light yellow with two broad, longitudinal, brown stripes uniting at the posterior end; patagium brown with a light yellow basal stripe. Forewings reddish brown with two prominent, light yellow, basal streaks; one on the middle of the wing from base, slightly upwardly curved, terminating abruptly at basal third; the other, broader, on base of dorsal edge also terminating abruptly at basal third; the two streaks are nowhere connected; just before the middle of the wing is a straight, perpendicular, bluish metallic fascia, followed by a short costal and a

smaller dorsal light yellow dash; at the end of the cell is a short, bluish metallic transverse streak broadly edged with black and above it is a short, bluish metallic costal streak; beyond the end of the cell is an oval black patch traversed by fine, longitudinal, white lines and dashes; two light yellow costal dashes just before and in the cilia, preceded by small metallic spots; a broad, curved, interrupted, bluish metallic band around the termen edged on both sides with black; cilia light purplish with a yellow dash emphasizing the emargination of the wing. Underside of forewing dark purplish brown with the two apical yellow dashes equally prominent as on the underside. Hindwings dark purplish brown with light purplish cilia. Abdomen blackish brown with light yellow, transverse bands on the upper side. Anterior legs concolorous with the palpi, golden yellow; posterior legs light yellow with broad, blackish brown annulations.

*Alar expanse*.—10 mm.

*Habitat*.—Porto Bello, Panama, April.

*Type-specimen*.—Cat. No. 16762, U.S.N.M.

Very similar to the type of the genus in color and pattern, but smaller and differing in details, by the black, white-striped, oval patch beyond the cell and by the two basal yellow streaks being separate.

USSARA EUMITRELLA, new species.

Labial palpi with terminal joint even more flattened than in the other species of the genus; black, with two thin, longitudinal, yellow stripes. Face and head black. Thorax black with a small yellow dot at posterior tip. Forewings black on basal part and on a large round area within tornus; elsewhere dark golden ochreous; the black basal part covers about a third of the wing and contains at basal fourth a large, light yellow, pointed, dorsal streak which reaches beyond the middle of the wing; the reddish ochreous part of the wing contains six small, bluish metallic, black edged, costal streaks, one terminal metallic streak below apex and two larger, dorsal, metallic streaks between and edging the two black fields; at the end of the cell is a bluish metallic round spot; cilia blackish brown. Hindwing blackish brown. Abdomen blackish brown with broad, transverse, silvery white bands on the underside. Legs black with narrow white annulations at the joints and with the outer spurs white.

*Alar expanse*.—10.5 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16763, U.S.N.M.

Very close to *U. repletana* Walker, but differing in the large basal black patch and the unmottled black tornal patch, as well as in the coloration and size of terminal joint of the palpi.

## Genus MACHLOTICA Meyrick.

*Type*.—*Machlotica chrysodeta* Meyrick.

MACHLOTICA ATRACTIAS Meyrick.<sup>1</sup>

Second joint of labial palpi light yellow with two broad black annulations; terminal joint longer than second, light yellow, with a broad, longitudinal streak in front. Face and the head dark fuscous with yellow edges. Thorax dark purplish fuscous. Basal half of forewing light yellow, streaked longitudinally and transversely with purplish brown lines, forming a neat, checkered effect; apical half of the wing dark purplish fuscous with strong metallic, iridescent sheen; three broad, evenly edged, violaceous metallic, costal streaks; two short golden streaks just below apex; a terminal patch with two longitudinal, golden streaks intervein three longitudinal rows of small round golden dots; cilia dark purple. Hindwings dark purplish brown with silvery costal area below the forewings. Abdomen dark purplish brown with golden underside. Legs dark purplish brown with narrow, light yellow bars and tarsal annulations.

*Alar expanse*.—7 mm.

*Habitat*.—Bolivia, and Porto Bello, Panama, April.

A brilliant little moth, which I also have from Cordoba, Mexico, February; F. Knab, collector; and from Peru.

## Genus GLYPHIPTERYX Hubner.

*Type*.—*Glyphipteryx bergstraesserella* Fabricius.

## GLYPHIPTERYX PLENELLA, new species.

Labial palpi, face, head, and antennæ black. Thorax black with a central red spot; patagina black with red bases. Forewings deep brick-red with the ground color largely obscured by the extensive, metallic, greenish and black markings; extreme base and entire edge of the wing narrowly black; a transverse, straight, metallic, black bordered fascia across the middle of the wing; two costal and one dorsal, greenish metallic, black bordered, nearly perpendicular spots on basal half of the wing before the fascia; a strongly outwardly curved, greenish metallic, costal streak at apical third, the black border of which is continued into two black, longitudinal streaks, toward but not reaching the terminal edge; a long, curved, greenish metallic, black bordered streak from the end of the cell downward and along the terminal edge to just below apex; within the curve of this last streak are three longitudinal, parallel streaks with light ochreous intervals; cilia blackish. Hindwings black with whitish costal area; cilia black. Abdomen black. Underside of body and the legs black.

<sup>1</sup> Trans. Entom. Soc. London, 1909, p. 38.

*Alar expanse*.—Male: 21 mm.; female: 24 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16765, U.S.N.M.

A perfect male and female of this gorgeous species taken while they were flying in copulation in the bright sunshine at Santa Rosa River, near Porto Bello; the species resembles a large *Heliodines*.

#### Family ARRHENOPHANIDÆ.

Only two genera are at present recognized as belonging to this family. These may, according to Durrant, be separated as follows:

Forewings with veins 8 and 9 stalked, 10 absent = *Arrhenophanes* Walsingham.

Forewings with veins 9 and 10 stalked, 8 separate = *Cnissostages* Zeller.

#### Genus ARRHENOPHANES Walsingham.

*Type*.—*Arrhenophanes perspicilla* Stoll.

##### ARRHENOPHANES PERSPICILLA Stoll.

*Phalaena Bombyx perspicilla* STOLL, Sup. Cramer's Pap. Exot., 1790, p. 74, pl. 16, fig. 8.

*Parathyris perspicilla* HUBNER, Verz. Schm., 1820, p. 158, sp. 1641.

*Dasychira ? perspicilla* WALKER, Cat. Lep. Brit. Mus., vol. 7, 1856, p. 1740.

*Parathyris ? perspicilla* KIRBY, Syn. Cat. Lep. Het., vol. 1, 1892, p. 853, sp. 13.

*Parathyris perspicilla* BUSCK, Smiths. Misc. Coll., vol. 59, 1912, pp. 4, 8-10, pl. 1.

*Arrhenophanes perspicilla* WALSINGHAM, Biol. Cent.-Amer., vol. 4, 1912, p. 205, pl. 7, fig. 7.

No additional material of this interesting species was obtained since my note on it last year. It is recorded from French Guiana, Para, Brazil, and from the Canal Zone, Panama. The larva is a case maker and feeds in silk-lined galleries in *Polyporus*.

##### ARRHENOPHANES CHIQUITA, new species.

*Male*.—Labial palpi light ochreous, tinged with brown. Tongue absent. Antennæ finely ciliated throughout. Face and head ochreous. Thorax ochreous, mixed with dark brown; posterior tuft long and thin. Basal two-thirds of the forewings golden brown suffused with dark burnt brown; an indistinct, oval, light ochreous spot on the middle of the fold edged with black; a larger, quadrangular, whitish ochreous spot at basal third of costa; at the end of the cell an indistinct group of black scales and base of costa darker than the rest of the wing; apical third of the wing, rather sharply separated from the basal dark part, is covered with large, circular or oval, whitish, semitransparent spots, with the narrow intervals light golden brown; cilia white with a dark brown pencil at apex and with ternal part blackish brown. Hindwings blackish brown with large, ochreous

white, semitransparent spots; basal third whitish, a large, white spot of irregular outline across the base of veins at the end of the cell and two, small, round, white dots near tornus; also a larger white spot on the middle of termen; cilia blackish brown except for white tufts at apex and on the middle of termen. Abdomen and legs golden yellow; claspers and uncus very long, nearly a third of the abdomen.

*Alar expanse*.—12 mm.

*Habitat*.—Cabima, Panama.

*Type-specimen*.—Cat. No. 16766, U.S.N.M.

*Female*.—Not known but probably much larger. The species has the venation of the present genus, but the wing ornamentation of *Cnissostages* Zeller, which is not known to me except through descriptions and figures. Mr. Durrant states that this latter genus has vein 9 and 10 in the forewing stalked with 8 free, and if this proves a constant character it will amply separate the two genera, which, however, are closely related.

*Cnissostages* is also a fungus feeder, according to Zeller, on *Boletis arborum*.

#### Family TINEIDÆ.

#### HARMACLONA, new genus.

*Type*.—*Harmaclona cossidella*, new species.

Labial palpi recurved; second joint long and bushy, especially laterally, reaching to middle of face; terminal joint very short and blunt, erect. Antennæ in the males very short, bipectinate; in the females somewhat longer, but less than half the forewing; thickened with scales; simple. Face and head clothed with erect scales. Forewings long, narrow; costa and dorsum straight, parallel; apex bluntly pointed, termen oblique; 12 veins; 2 from outer fifth of cell; 3 and 4 approximate from end of cell; 7 and 8 stalked, both to costa; 11 from before middle of cell; internal veins prominent, one from between 10 and 11 to between 6 and 7, another from base to vein 5. Hindwings broader than forewings; elongate; triangular; costa straight; termen very oblique; apex bluntly pointed; 8 veins, all separate; 3 and 4 approximate from the corner of the cell; 5 and 6 somewhat approximate; 6 and 7 parallel, oblique; cross vein between 8 and the cell; cilia short, scaling sparse; both wings being semitransparent. Posterior tibiæ with long loose hairs above.

The short, pectinated male antennæ and the strong internal veins as well as the robust body and the sparse scaling remind strongly of the family Cossidæ.

#### HARMACLONA COSSIDELLA, new species.

Labial palpi white, sprinkled with reddish brown. Face and head reddish white sprinkled with brown. Antennæ dark brown with slight fugitive white scaling in the male. Thorax reddish white with

a large, central, velvety brown patch and blackish brown, posterior tuft; patagium with a velvety brown spot at base. Forewings violaceous white with strong iridescent reflections; sparsely scaled; semi-transparent; dusted with light brown, each scale having a light brown dot; along the veins, especially on dorsal half, are interrupted lines of scattered black scales; near apex are three small costal and three small dorsal blackish brown spots; cilia white, sprinkled with black. Hindwings hyaline, bluish, iridescent with darker veins and yellowish white cilia. Abdomen long and robust, sparsely clothed above with rusty brown, below with rusty white scales; anal tuft yellowish. Legs white sprinkled with brown and with brown tarsal joints.

*Alar expanse*.—22–42 mm.

*Habitat*.—Cabima, Porto Bello, and Alhajuela, Panama, April to October.

*Type specimen*.—Cat. No. 16767, U.S.N.M.

The United States National Museum possesses a large series of this singular species from Orizaba and Jalapa, Mexico, Sixola River and Juan Vinas, Costa Rica, W. Schaus, collector, and from Misantla, Mexico, R. Muller, collector.

#### Genus AMYDRIA Clemens.

*Type*.—*Amydria effrenatella* Clemens.

#### AMYDRIA UMBRATICELLA, new species.

Brush on second joint of labial palpi dark brown mottled with black; terminal joint brown with two, ill-defined and indistinct, black annulations. Face light ochreous. Head somewhat darker ochreous. Thorax black. Forewing light ochreous suffused with brown and black; entire costal edge broadly black; a round black dot at the end of the cell; the area between this dot and tornus strongly mottled with black and dark brown; a small black dot at the base of dorsal edge; entire wing irregularly sprinkled with single black and brown scales; cilia light ochreous mottled irregularly with black. Hindwings dark brownish fuscous with lighter ochreous cilia. Abdomen dark brown. Legs dark brown; tarsi broadly annulated with black. The males are much smaller than the females and rather lighter in color.

*Alar expanse*.—Females, 20–22 mm; males, 11–14 mm.

*Habitat*.—La Chorrera, Alhajuela, Porto Bello, and Trinidad River, Panama. March and June.

*Type specimen*.—Cat. 16768, U.S.N.M.

Commonly taken in copulation, in the thatched roofs of native houses and at light.



## Genus SCARDIA Treitche.

*Type*.—*Scardia boleti* Fabricius.

## SCARDIA ISTHMIELLA, new species.

Labial palpi light ochreous brown on the inner side, blackish brown exteriorly. Face and head light ochreous brown; vertex touched with blackish brown. Antennæ ochreous. Thorax blackish brown; tips of patagina ochreous. Forewing dark bluish brown overlaid with black and with strong golden and iridescent reflections; costal edge with small, indistinct, geminate, ochreous spots, hardly discernible on basal half, more distinct on apical third; a broad, light, ochreous area along terminal edge sprinkled with black and brown scales; the ochreous space reaches from just before apex on the costal edge to apical third of dorsum; the edge toward the basal dark part is undulating; a black projection at the end of the cell encroaches upon the light part and just below the light part projects into the dark area; a series of small, dark brown dots along the apical and terminal edges. Hindwings dark purplish brown, with yellowish cilia. Abdomen dark brown above, light ochreous on the under side. Legs ochreous, strongly barred with blackish brown exteriorly.

*Alar expanse*.—30 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16769, U.S.N.M.

A large, typical, narrow-winged species, close to *S. coloradella* Dietz, but without any dorsal ochreous markings.

## SCARDIA MINIMELLA, new species.

So nearly identical in coloration and markings to the foregoing species as to suggest their identity, but only about half the size of *S. isthmiella*. The only difference seems to be the more clearly defined costal geminate spots, the lighter underside of the wing, and the lighter colored abdomen of *S. minimella*, all of which might be variation only. Such extreme variation in size, however, is not normal within this genus, and it is clearly obligatory, as well as undoubtedly correct, to consider them distinct.

*Alar expanse*.—14–17 mm.

*Habitat*.—Porto Bello, Panama, March.

*Type-specimen*.—Cat. No. 16770, U.S.N.M.

## Family ACROLOPHIDÆ.

## Genus ACROLOPHUS Poey.

*Type*.—*Acrolophus vitellus* Poey.

## ACROLOPHUS PANAMÆ, new species.

*Male*.—Labial palpi reaching vertex; first joint long and curved; second and third joints short, erect; first and second joints thickened with appressed scales, slightly projecting at apex, light ochreous gray on their inner side and at apex, dark brown exteriorly; terminal joint flattened, tolerably pointed, blackish brown with extreme tip light ochreous. Face and head light ochreous brown mixed with gray and white scales. Thorax ochreous brown. Forewing light ochreous brown mixed with white, dark brown, and black scales; pattern very poorly defined, but a broad, oblique, dark brown streak may be made out from the middle of the fold to costa just before apex, adjoining the base of which is a large, blackish-brown spot on the lower edge of the cell; a series of well defined, blackish brown costal spots and some diffused marginal brown spots on terminal edge. Hindwings dark brownish fuscous. Abdomen dark brown with light ochreous underside and anal tuft. Uncus and lateral claspers slender, curved downward and inward at tip. Legs ochreous on their inner side, dark brown exteriorly; tarsal joints blackish brown with narrow ochreous annulation. On the underside of the thorax just under the forewing is a large, dense tuft of ochreous gray hairs, which can be erected so as to obscure the sides of the head and the base of the forewings.

*Alar expanse*.—10–12 mm.

The females which were repeatedly taken in copulation with the males are considerably larger and with more pointed wings and rather lighter in general color. The labial palpi are hardly as long as in the males and more porrected. They have no thoracic tufts.

*Alar expanse*.—17–21 mm.

*Habitat*.—Alhajuela, Cabima, Trinidad River, Tabernilla, Paraiso, and Corozal, Panama. April, May and June.

*Type-specimen*.—Cat. No. 16771, U.S.N.M.

In a series of more than sixty males, hardly two are quite alike and the different state of preservation adds much to the variation, but the general habitus, as well as the structural characters, makes it easy to place the species, which appears to be close to *A. ridicula* Meyrick, described from a unique male from Dutch Guiana.

## ACROLOPHUS BIFURCATA, new species.

Labial palpi dark grayish brown, very long, slender, overarching the head but held rather erect; each joint thickened with scales toward the tip; in the third joint these apical scales form a small free brush,

giving the joint the appearance of being bifurcate. Head and thorax ochreous brown. Forewings dark grayish brown dusted with black and with numerous short, transverse, blackish streaks; two faint, light ochreous, longitudinal streaks, one through the middle of the wing from base to the end of the cell, the other along the fold; at basal fourth just above the fold is a small, reddish brown, black edged spot; cilia ochreous brown dusted with black. Hindwings dark brown. Abdomen dark brown above, dark ochreous on the underside. Legs dark ochreous, broadly barred with blackish brown.

*Alar expanse*.—14–17 mm.

*Habitat*.—Corozal, La Chorrera, and Alhajuella, Panama. April, May.

*Type-specimen*.—Cat. No. 16772, U.S.N.M.

Recognized among the small sized species described in the genus by the long, slender, peculiarly tufted palpi.

ACROLOPHUS BACTRA, new species.

Labial palpi light ochreous mottled with black exteriorly, long, slender, compressed, overarching thorax; two first joints somewhat thickened with appressed scales; terminal joint with large, rounded, compressed tuft. Face light ochreous. Head and thorax dark brownish fuscous. Forewing unusually narrow and pointed, of the same size and shape as the *Tortricid* genus *Bactra*; light ochreous brown, overlaid with darker brown and black scales; a series of equidistant, blackish brown, costal spots; a large, blackish blotch at the end of the cell and a blackish, oblique streak on the base of the cell; a blackish brown marginal line along termen; cilia ochreous dusted with black. Hindwings light fuscous. Abdomen dark brown with lighter brown underside and ochreous anal tuft. Legs light ochreous brown.

*Alar expanse*.—15–16 mm.

*Habitat*.—Alhajuella, Panama.

*Type-specimen*.—Cat. No. 16773, U.S.N.M.

The type-specimen has veins 7 and 8 stalked, 9 free; another specimen has vein 9 out of 7+8.

The pointed forewings single out this species among the small Acrolophidæ.