

middle; a black dot in disc at $\frac{2}{3}$; an undefined apical spot of blackish irroration: cilia pale ochreous. Hindwings whitish; cilia pale whitish-ochreous.

TRANSVAAL, Donkerkoek, in October (Janse); one specimen. The facies of this species is exceptional in the genus, but the structure conforms; *punctulata* Wals., which I have not yet obtained, is clearly nearly allied, and must also belong here and not in *Gracilaria*.

Acrocercops carbunculata, n. sp.

♂. 8–11 mm. Head, palpi, and thorax dark fuscous, finely sprinkled with whitish, palpi with appressed scales. Abdomen grey. Forewings very narrowly elongate, moderately pointed; dark fuscous finely irrorated with whitish, forming more or less obscure strigulae towards costa on posterior half; a thick streak of blackish suffusion beneath costa from about $\frac{1}{4}$ to $\frac{1}{2}$; a rhomboidal blackish spot on costa beyond middle; three semioval blackish dorsal spots, sometimes distinctly margined with whitish, first at $\frac{1}{4}$ of wing, second largest, in middle of wing, third on tornus: cilia grey, round apex tinged with whitish, with two dark fuscous lines and two blackish apical hooks, on middle of termen with two dots of blackish suffusion. Hindwings rather dark grey; cilia grey.

TRANSVAAL, Pretoria, Barberton, in December, January, and May (Janse); three specimens.

Acrocercops gravissima, n. sp.

♀. 11 mm. Head white, centre of crown with a dark fuscous mark. Palpi white, second joint dark fuscous except apical portion, with very long rough projecting tuft beneath, terminal joint with three rings and extreme apex dark fuscous. Thorax white, margins suffused with dark fuscous. Abdomen dark fuscous, apex whitish. Forewings very narrowly elongate, parallel-sided, short-pointed, rather obtuse; dark purplish-fuscous, sprinkled and on costa obscurely strigulated with blackish; an irregular pointed white streak along dorsum from base to tornus, strigulated with dark fuscous; a very oblique white striga from above tornus, reaching half across wing; a white mark along lower part of termen, and another above this, separated by some black scales; two oblique blackish rhomboidal spots on costa above these, reaching half across wing, separated by a pair of short whitish costal strigulae, and followed by another pair, of which the second is continued as an oblique somewhat curved silvery-metallic line to termen above middle; a white dot on costa near apex: cilia grey, round apex whitish with a black basal shade and apparently median and apical lines. Hindwings dark fuscous; cilia grey.

TRANSVAAL, Three Sisters, in March (Janse); one specimen.

Acrocercops hyphantica, n. sp.

♀. 7–8 mm. Head ochreous-whitish, sometimes slightly sprinkled with fuscous. Palpi dark fuscous, second joint with very long projecting tuft beneath, apex white, terminal joint white, with black median ring. Antennae ochreous-whitish spotted with dark fuscous. Thorax ochreous-whitish mixed with brownish, shoulders with a dark fuscous spot. Abdomen whitish. Forewings narrowly elongate-lanceolate, apex round-pointed; brown; basal area irregularly marked with white and blackish; a slender irregular white streak running along dorsum from near base to near tornus; a pair of irregular curved white lines, each edged anteriorly with black, crossing wing at $\frac{1}{3}$; a straight white line running from middle of costa to termen above tornus, edged anteriorly on upper half by a thick black streak; a fine white oblique partially black-edged line from dorsum beyond middle running into middle of this line, followed by a parallel whitish-ochreous line; a small blackish spot on tornus; four very oblique black strigae from posterior half of costa, reaching half across wing; a somewhat curved white line crossing wing before apex; a whitish dot in apex edged beneath with black: cilia whitish-grey, round apex white with two blackish hooks. Hindwings rather dark grey; cilia light grey.

BENGAL, Pusa, in August (Fletcher); two specimens. Larva flattened, slightly tapering posteriorly, yellowish-green, head whitish-yellow; mining leaves of *Caesalpinia bonducella* (Leguminosae); pupa in a cocoon outside the mine (Fletcher).

Parectopa bathracma, n. sp.

♂ ♀. 8–9 mm. Head white, centre of crown light brownish. Palpi loosely scaled anteriorly, white, second joint grey except apex. Thorax brownish-ochreous with two white stripes. Abdomen grey. Forewings very narrowly elongate, moderately pointed; golden-bronzy-ochreous, sometimes irrorated with fuscous; markings shining white, edged with dark fuscous; four wedge-shaped streaks from costa reaching half across wing, first three outwardly oblique, first at $\frac{1}{3}$, produced along costa towards base, fourth inwardly oblique; four wedged-shaped streaks from dorsum reaching half across wing, first from base, extremely oblique, second from middle of dorsum, second and third outwardly oblique, fourth tornal, very small, inwardly oblique; an elongate black apical dot, sometimes edged with white beneath: cilia grey, at apex with a white patch containing a blackish hook. Hindwings and cilia grey.

TRANSVAAL, Pretoria, Barberton, in December and April (Janse); six specimens. The white streaks may be straight or irregular, and vary considerably; in two specimens the basal streak is extended to become confluent with apex of second dorsal. The species is very like *onychota*, but may be immediately distinguished by the first dorsal streak rising from base.

GRACILLARIIDÆ

Conopobathra carbunculata (Meyrick, 1912)
Acrocercops carbunculata Meyrick, 1912
 South Africa: Transvaal, Pretoria
 Fig.: Vári (1961), 97, pl. 10, f. 8

Conopobathra gravissima (Meyrick, 1912)
Acrocercops gravissima Meyrick, 1912
 South Africa: Transvaal
 Fig.: Vári (1961), 96, pl. 16, f. 1

Acrocercops hyphantica Meyrick, 1912
 India: Bihar, Pusa
 Host: *Caesalpinia bonducella* (Leguminosae)

Aristaea bathracma (Meyrick, 1912)
Parectopa bathracma Meyrick, 1912
 South Africa: Transvaal, Pretoria
 Fig.: Vári (1961), 59, pl. 4, f. 6

Cyphosticha caerulea, n. sp.

♂. 7 mm. Head and thorax shining whitish-fuscos, with violet-blue reflections, face whitish. Palpi whitish, terminal joint with dark fuscous supramedian band. Abdomen bluish-fuscos. Legs white, anterior and middle tibiae and femora violet-blackish. Forewings very narrow, long-pointed; light grey with strong shining violet-blue reflections, irrorated with blackish; four whitish costal spots, first at $\frac{1}{4}$, last towards apex: cilia pale grey, sprinkled with blackish towards base, at apex with two blackish lines. Hindwings grey; cilia pale grey.

BENGAL, Pusa, from April to July (Fletcher); three specimens. Larva somewhat flattened, slightly tapering posteriorly, greenish, laterally pale yellow, with subdorsal reddish dot on each segment, head flat; when full grown, becomes wholly blood-red: mining a whitish elongate blotch in leaves of *Crotalaria juncea* (Leguminosae) or a brownish blotch in leaves of *Vigna sinensis* (Leguminosae) (Fletcher).

Gracilaria citricula, n. sp.

♂. 7 mm. Head ochreous-whitish, sides and front of crown dark fuscous. Palpi loosely scaled, second joint dark fuscous, terminal joint whitish with two dark fuscous rings. Thorax fuscous, suffused anteriorly with dark fuscous. Abdomen grey, apex ochreous-whitish. Forewings very narrowly elongate, moderately pointed; purplish-fuscos irrorated with dark fuscous; three narrow rather irregular whitish-yellowish fasciae edged with black scales, first at $\frac{1}{5}$, somewhat oblique, entire, second in middle, rather oblique, not quite reaching costa, third at $\frac{2}{3}$, transverse, not reaching dorsum: cilia purplish-fuscos, with rows of black points. Hindwings and cilia grey.

TRANSVAAL, Barberton, in January (Janse); one specimen. Closely allied to the Indian *acidula* (erroneously described by me as an *Acrocercops*, but I have since received a dozen specimens from Mr. Fletcher, and find it to be a true *Gracilaria*), but differing by first fascia being entire, second rather oblique and not reaching costa. The two following species are also allied, but less closely.

Gracilaria ligata, n. sp.

♂. 8 mm. Head whitish. Palpi loosely scaled, dark fuscous, terminal joint whitish with three blackish bands. Thorax fuscous sprinkled with blackish and whitish. Abdomen grey. Middle tibiae blackish, tarsi white. Forewings very narrowly elongate, moderately pointed; purplish-fuscos irrorated with dark fuscous, with some pale scales; fine rather irregular somewhat oblique white fasciae at $\frac{1}{5}$ and middle, their margins sprinkled with black irroration; a small ochreous spot in disc at $\frac{2}{3}$; a fine transverse whitish mark at $\frac{1}{4}$, pale ochreous on costa, not reaching dorsum,

ged with some black scales; an indistinct pale ochreous transverse mark before apex: cilia purplish-fuscos with rows of black points, and a strong black median line round apex. Hindwings and cilia grey.

TRANSVAAL, Barberton, in December (Janse); one specimen.

Gracilaria filifera, n. sp.

♂. 7 mm. Head whitish, crown more or less mixed with dark fuscous. Palpi loosely scaled, whitish, obscurely ringed with grey. Thorax fuscous mixed with whitish, shoulders dark fuscous. Abdomen grey. Middle tibiae black, tarsi white with fuscous rings. Forewings very narrowly elongate, moderately pointed; brownish-ochreous, irregularly and suffusedly irrorated with dark fuscous and blackish; five fine irregular white fasciae edged with some black scales, first at $\frac{1}{5}$, transverse, not extending below fold, second rather oblique, third median, slightly curved, transverse, fourth beyond $\frac{2}{3}$, somewhat dilated on costa, not reaching dorsum, fifth praepical: indistinct whitish dots on costa at $\frac{2}{3}$ and tornus; the brownish-ochreous ground colour forms a transverse bar in disc before fourth fascia: cilia grey, round apex whitish, with rows of black points. Hindwings and cilia grey.

TRANSVAAL, Pretoria, in January (Janse); two specimens.

Gracilaria seriata, n. sp.

♂. 16 mm. Head and thorax light brownish somewhat mixed with whitish. Palpi loosely scaled, light grey sprinkled with dark fuscous, apex whitish. Abdomen light grey. Anterior and middle tibiae blackish mixed with pale scales, tarsi white. Forewings very narrow, moderately pointed, acute; light brownish; costal third suffused with whitish from base to $\frac{2}{3}$; whole wing, except dorsal area beneath submedian fold, strewn with scattered blackish scales arranged especially in groups along veins; cilia whitish-brownish, round apex sprinkled with blackish. Hindwings and cilia light grey.

TRANSVAAL, Barberton, in December (Janse); one specimen.

ADELIDÆ.

ULOMETRA, n. g.

Head rough-haired; ocelli present; tongue developed. Antennae 3, in ♂ with rather long fine ciliations (3) diminishing from base to $\frac{2}{3}$, basal joint short, stout. Labial palpi rather short, porrected, slender, pointed. Maxillary palpi moderately long, folded, porrected. Posterior tibiae with thin fine long hairs above. Forewings with 2 from angle, 7 to apex, 9 absent, 11 from before middle. Hind-

GRACILLARIIDÆ

Cyphosticha caerulea Meyrick, 1912

India: Bihar, Pusa

Host: *Crotalaria juncea*, *Vigna sinensis* (Leguminosae)

Ectropina citricula (Meyrick, 1912)

Gracilaria [sic] *citricula* Meyrick, 1912

South Africa: Transvaal, Barberton

Fig.: Vári (1961), 39, pl. 5, f. 3

Ectropina ligata (Meyrick, 1912)

Gracilaria [sic] *ligata* Meyrick, 1912

South Africa: Transvaal, Barberton

Fig.: Vári (1961), 39, pl. 5, f.

Aspilapteryx filifera (Meyrick, 1912)

Gracilaria [sic] *filifera* Meyrick, 1912

South Africa: Transvaal, Pretoria

Fig.: Vári (1961), 31, pl. 3, f. 6

Aspilapteryx seriata (Meyrick, 1912)

Gracilaria [sic] *seriata* Meyrick, 1912

South Africa: Transvaal, Barberton

Fig.: Vári (1961), 31, pl. 3, f. 5

ADELIDÆ

Uloметра Meyrick, 1912

Type-sp.: *Uloметра indigna* Meyrick, 1912

wings 1, elongate-ovate, cilia $\frac{2}{3}$; 2-7 all separate, 5 and 6 approximated towards base.

Uloetra indigna, n. sp.

♂. 14-15 mm. Head light ochreous-yellowish, face grey. Palpi grey. Antennae whitish, becoming grey on basal third. Thorax whitish, anteriorly suffused with grey. Abdomen whitish-grey. Forewings elongate, rather narrow, costa moderately arched, apex obtuse, termen very obliquely rounded; light violet-grey, obscurely strigulated throughout with dark grey; an indistinct cloudy dark fuscous dot on end of cell; a series of small indistinct whitish spots round posterior part of costa and termen: cilia grey. Hindwings light brassy-grey, obscurely darker-strigulated; cilia whitish-grey.

TRANSVAAL, Barberton, in December and January (*Janse*); two specimens.

Ceromitia nerina, n. sp.

♂ ♀. 14-16 mm. Head whitish. Antennae whitish, in ♂ ciliated ($1\frac{1}{2}$) on basal half, in ♀ ringed with grey on basal half. Labial palpi long, whitish, second joint clothed with very long rough hairs, in ♀ mixed with dark fuscous, maxillary moderate, considerably shorter than labial. Thorax whitish mixed and spotted with dark fuscous. Abdomen grey. Forewings elongate, costa moderately arched, apex obtuse, termen obliquely rounded; light purple, irregularly mixed with grey and blackish; series of fine transverse strigae of white irroration along costa and dorsum, a few scattered white scales in disc, and some strigulation towards termen: cilia white mixed with grey. Hindwings bronzy-grey; cilia pale grey.

TRANSVAAL, Three Sisters, in March (*Janse*); two specimens.

Ceromitia phaeocoma, n. sp.

♂. 18-21 mm. Head brown, back of crown whitish. Antennae whitish, ciliated on basal third (2). Labial palpi short, whitish, loosely haired; maxillary fuscous, slightly longer than labial. Thorax whitish sometimes tinged with brown, shoulders and posterior extremity brown. Abdomen pale grey. Forewings elongate, rather narrow, somewhat dilated posteriorly, costa moderately arched, apex obtuse, termen very obliquely rounded; light fuscous, much mixed or suffused with whitish, with small scattered dark fuscous dots or strigulae; more conspicuous dark fuscous dots on dorsum at $\frac{1}{3}$ and $\frac{2}{3}$ and on costa beyond middle: cilia pale fuscous somewhat mixed with whitish. Hindwings rather dark grey, with slight brassy tinge; cilia whitish-grey, with darker subbasal shade.

TRANSVAAL, Barberton, in December and January (*Janse*); six specimens.

Ceromitia ochrotricha, n. sp.

♀. 17-18 mm. Head yellow-ochreous, back of crown whitish. Palpi whitish, labial very short, second joint loosely scaled, maxillary longer than labial. Antennae white ringed with fuscous. Thorax white. Abdomen whitish. Forewings elongate, rather narrow, costa moderately arched, apex obtuse, termen very obliquely rounded; 8 and 9 stalked; white, with some irregularly scattered black scales and small dots; two black dots beneath costa at $\frac{1}{3}$ and $\frac{2}{3}$; costal edge blackish at base: cilia ochreous-white. Hindwings pale violet-grey, with brassy reflections; cilia white or grey-whitish.

TRANSVAAL, Barberton, Waterval-onder, Three Sisters, in November, January, and March (*Janse*); three specimens.

Ceromitia mellicoma, n. sp.

♂. 15-16 mm. Head dull light ochreous-yellowish. Labial palpi extremely short, maxillary short, curved, ascending. Antennae whitish, more or less infuscated towards base. Thorax yellow-whitish, shoulders grey. Abdomen grey, anal tuft and long claspers ochreous-whitish. Forewings elongate, rather narrow, slightly dilated posteriorly, costa moderately arched, apex obtuse, termen very obliquely rounded; pale whitish-ochreous suffusedly irrorated with fuscous; a very undefined basal patch and three rather broad irregular transverse fasciae of fuscous suffusion or dark fuscous irroration, all variable and very obscure; costa posteriorly and termen irregularly strigulated with dark fuscous: cilia ochreous-grey-whitish somewhat mixed with fuscous towards base. Hindwings with 5 and 6 approximated or stalked; rather dark grey, faintly purplish-tinged; cilia light grey, mixed with whitish towards tips.

TRANSVAAL, Waterval-onder, Moorddrift, in October and November (*Janse, Swierstra*); four specimens.

Ceromitia transtrifera, n. sp.

♂. 20-21 mm. Head white or ochreous-whitish, face fuscous. Antennae white, ciliations $\frac{1}{2}$. Palpi extremely short, dark fuscous. Thorax white tinged with brownish, shoulders and a central spot dark fuscous. Abdomen grey. Forewings elongate, rather narrow, posteriorly somewhat dilated, costa gently arched, apex obtuse, termen very obliquely rounded; white, strewn with small scattered dark fuscous dots and strigulae tending to unite into transverse strigae; markings dark fuscous; a thick pointed streak along basal fourth of costa; a moderate fascia from before middle of costa to $\frac{1}{3}$ of dorsum, slightly narrowed towards costa; a triangular spot on dorsum at $\frac{2}{3}$; a moderately broad rather incurved fascia from $\frac{2}{3}$ of costa to tornus, narrowed towards tornus; a transverse spot on costa just before apex, sometimes extended to reach preceding fascia below

ADELIDAE

Uloetra indigna Meyrick, 1912
South Africa: Transvaal, Barberton

Ceromitia nerina Meyrick, 1912
South Africa: Transvaal, Three Sisters

Ceromitia phaeocoma Meyrick, 1912
South Africa: Transvaal, Barberton

Agisana ochrotricha (Meyrick, 1912)
Ceromitia ochrotricha Meyrick, 1912
South Africa: Transvaal, Barberton

Agisana mellicoma (Meyrick, 1912)
Ceromitia mellicoma Meyrick, 1912
South Africa: Transvaal, Waterval-onder

Ceromitia transtrifera Meyrick, 1912
South Africa: Transvaal/Natal

middle: cilia whitish or pale fuscous, indistinctly barred with dark fuscous on basal half, above apex with a dark fuscous patch. Hindwings grey; cilia whitish-grey, with grey subbasal shade.

TRANSVAAL, Barberton, Three Sisters, from December to February (Janse); NATAL, Pinetown (Leigh); four specimens.

Nemotois gymnota, n. sp.

♂. 13 mm. Head fulvous on crown, with a few black hairs, face shining purple-grey, eyes much enlarged, nearly approximated. Antennæ white, smooth, basal joint dark purple-grey. Palpi very short, fulvous, loosely haired. Thorax metallic bronze. Abdomen dark grey. Forewings elongate, posteriorly dilated, costa moderately arched, apex obtuse, termen very obliquely rounded; bright deep purple, with some scattered coppery-golden scales, more numerous on dorsal area; a short black streak beneath costa at base; some irregularly scattered black scales in disc: cilia shining coppery-bronze. Hindwings and cilia deep bronze.

MADAGASCAR, Antananarivo; one specimen.

EUCOSMIDÆ.

Ancylis tumida, n. sp.

♂ ♀. 13-15 mm. Head and thorax brownish, face whitish. Palpi fuscous, terminal joint and hairs of second white. Abdomen grey. Forewings elongate, rather narrow, costa moderately arched, in ♂ without fold, apex round-pointed, strongly prominent, termen strongly concave below apex, rounded beneath; 7 and 8 very shortly stalked; reddish-ochreous-brown; costa dark fuscous, with pairs of oblique whitish strigulæ; a dark brown flattened-triangular patch extending along costa from before middle to near apical prominence, crossed by very oblique leaden-grey strigæ; a white (♂) or ochreous-whitish (♀) line along submedian fold throughout, dorsal area beneath suffused with dark brown or dark fuscous; two streaks of dark fuscous suffusion running from beyond cell to near apical prominence, beyond these an oblique pale leaden-metallic mark; tornal area streaked with dark fuscous suffusion; apical prominence irrorated anteriorly with blackish, edged beneath and anteriorly above by white marks; a fine black marginal line round apex and upper part of termen: cilia brownish. Hindwings with 3 and 4 coincident, tornus in ♂ rectangular, almost acute; rather dark grey, in ♂ except on margins hyaline closely strewn with blackish points; cilia grey.

CEYLON, Kandy, in September (Green), ♂ type; MADRAS, N. Coorg, 3500 feet, in August (Newcome); two specimens.

Ancylis aromatis, n. sp.

♂. 13 mm. Head and thorax ochreous-brownish, face whitish. Palpi rosy-brownish, hairs of second joint whitish. Abdomen grey. Forewings elongate, rather narrow, costa gently arched, without fold, apex round-pointed, strongly prominent, termen strongly concave below apex, rounded-prominent beneath; ochreous-brownish, with violet reflections; costal edge with oblique whitish strigulæ, irrorated with dark fuscous between these; dorsal area beneath fold and dorsal half of wing posteriorly ferruginous; two indistinct dark reddish-fuscous streaks between cell and apical prominence, beyond these an oblique pale silvery-metallic mark; apical prominence edged beneath and anteriorly above by slender white marks; a fine black marginal line round apex and upper part of termen: cilia brownish-ochreous. Hindwings with 3 and 4 coincident, tornus obtusely angulated; grey with a faint violet tinge; cilia whitish-grey, with grey subbasal shade.

MADRAS, N. Coorg, 3500 feet, in November and February (Newcome); two specimens.

Ancylis hylæa, n. sp.

♂ ♀. 13-14 mm. Head whitish-ochreous, face whitish. Palpi white, second joint externally greyish-ochreous except towards apex. Thorax pale ochreous. Abdomen grey. Forewings elongate, rather narrow, costa gently arched, in ♂ without fold, apex round-pointed, strongly prominent, termen deeply excavated below apex, rounded-prominent beneath; whitish-ochreous or pale brownish-ochreous; costa with oblique whitish strigulæ, irrorated with black between these; a narrow dark brownish patch or streak extending along costa beneath these from before middle to near apical prominence, crossed by oblique leaden-grey strigæ; a broad median streak of ochreous-whitish suffusion from base to middle, sometimes posteriorly edged with dark fuscous beneath; dorsal half of wing more or less suffused with brownish or sprinkled with dark fuscous; two parallel lines of black irroration running from end of cell to near apical prominence, above and beneath these are sometimes whitish streaks, and beyond them a pale leaden-metallic oblique mark; some blackish dots along dorsum; apical prominence brownish, sprinkled anteriorly with black, edged beneath and anteriorly above by white marks; a fine black marginal line round apex and upper part of termen: cilia whitish, above apex with a brownish patch, on upper part of termen tinged with greyish on outer half. Hindwings with 3 and 4 coincident, tornus in ♂ rectangular; grey; cilia light grey.

ASSAM, Khasis, in October and November; five specimens. This and the two preceding species are closely allied, but at present appear distinct.

ADELIDÆ

Nemophora gymnota (Meyrick, 1912)

Nemotois gymnota Meyrick, 1912

Madagascar: Antananarivo

TORTRICIDÆ

Ancylis tumida Meyrick, 1912

Sri Lanka: Kandy

Fig.: Clarke (1958), 3:295

Ancylis aromatis Meyrick, 1912

India: Karnataka, Coorg

Fig.: Clarke (1958), 3:288

Ancylis hylæa Meyrick, 1912

India: Maghalaya, Khasi Hills

Fig.: Clarke (1958), 3:292

Ancylis glycyphaga, n. sp.

♀. 15–18 mm. Head and thorax brownish-ochreous, patagia mixed with dark fuscous. Palpi brownish, second joint with broad tuft beneath, somewhat mixed with dark fuscous. Abdomen fuscous. Forewings elongate, rather narrow, costa gently arched, apex round-pointed, strongly prominent, termen deeply concave below apex, rounded beneath; greyish-ochreous sprinkled with whitish points, towards anterior half of costa suffused with whitish; costa with whitish strigulae separated by dark fuscous or blackish irroration; a broad very undefined median streak of brownish-ochreous suffusion sometimes mixed with dark fuscous running from base to apex, posteriorly sometimes streaked with blackish; posterior half of costa suffused with dull rosy, with four very oblique grey strigae; apical prominence dark fuscous, on anterior half edged above and beneath with white; tornal area tinged with grey; cilia ochreous sprinkled with whitish, at apex mixed with blackish, above and beneath this with whitish bars. Hindwings with 3 and 4 stalked; grey; cilia grey-whitish, with grey subbasal shade.

BENGAL, Pusa; ASSAM, Khasis; in January, four specimens. Larva subcylindrical, yellow, head flattened; feeds on the sugary excretion of *Phromnia marginella* (Homoptera); pupa in a white cocoon (Fletcher).

Ancylis lutescens, n. sp.

♂ ♀. 14–15 mm. Head and thorax light brown. Palpi light brownish, second joint with two grey bars and tuft mostly grey, terminal joint grey. Abdomen fuscous. Forewings elongate, rather narrow, costa gently arched, in ♂ with costal fold extending from base to middle, apex round-pointed, strongly prominent, termen deeply concave below apex, rounded beneath; brown, basal area with indistinct longitudinal lines of dark fuscous irroration; usually more or less dark fuscous or blackish irroration extending over anterior half of costal area, especially on costal fold of ♂, and in a patch connected with this occupying central portion of disc; posterior half of costa suffused with reddish-brown, with three obscure grey oblique converging strigae rising from pairs of whitish strigulae; an obscure streak of dark grey suffusion running from end of cell towards apex, sometimes edged by a pale line beneath, and some fulvous suffusion below this; a dark fuscous spot occupying apical prominence, edged beneath and on costa anteriorly by white strigulae; a fine black line round concavity of termen: cilia brownish or light ochreous sprinkled with whitish, at apex dark brown mixed with blackish, above and beneath this with whitish bars. Hindwings with 3 and 4 stalked; grey; cilia light grey, with darker subbasal shade.

BENGAL, Pusa, in March, April, July, and October (Fletcher); five specimens. This is the only species of the genus known to me as possessing a costal fold in ♂. Larva cylindrical, tapering

posteriorly, greenish, towards extremities yellowish, with short scattered whitish hairs; head rosy-yellowish; 2nd segment with shining yellow semicircular lobes at anterior angles, not meeting dorsally: in rolled leaves of *Zizyphus jujuba* (Rhamnaceae); pupa in cocoon in same position (Fletcher).

Ancylis sculpta, n. sp.

♂. 12 mm. Head pale brownish-ochreous, face whitish. Palpi ochreous-whitish, second joint light brownish-ochreous externally, with long ochreous-whitish tuft. Thorax brownish-ochreous. Abdomen whitish-ochreous. Forewings elongate, costa moderately arched, apex pointed, prominent, termen concave, rather oblique; light ochreous-brown; a broad whitish streak runs along costa from base to $\frac{2}{3}$, strigulated on costal edge with dark fuscous, thence crossing wing to $\frac{2}{3}$ of dorsum, enclosed dorsal patch suffused with deeper ochreous-brown posteriorly; from dorsal extremity of this streak an irregular whitish streak runs obliquely to near termen in middle, thence angulated and curving round to near its origin, thus forming a triangular tornal blotch enclosing a curved streak of ground-colour; two dark fuscous longitudinal lines in disc above this; four pairs of white strigulae on posterior half of costa, whence arise oblique bluish-leadens strigae converging to a white dot on termen above middle: cilia pale grey, with a white bar on supramedian dot, tornal area suffused with whitish. Hindwings with 3 and 4 stalked; pale grey; cilia pale grey, tips whitish.

KOREA, Port Hamilton, in April (Fletcher); one specimen.

Spilonota rorthia Meyr.

Larva cylindrical, slightly tapering posteriorly, bright orange; head flattened, yellow; spots yellow-whitish, with very fine white hairs; segments constricted transversely in middle: in rolled terminal portions of leaves of *Eugenia jambolana* (Myrtaceae) (Fletcher). The bred specimens received are ♀, and the species has hitherto been reared only from the allied *Psidium guava*; there is therefore a possibility of an allied species, but they are probably identical.

Eucosma stereoma, n. sp.

♂ ♀. 10–11 mm. Head and thorax fuscous mixed with dark fuscous and whitish, face whitish, in ♂ sprinkled with black. Palpi whitish-grey. Antennae in ♂ simple. Abdomen grey, in ♂ suffused with whitish on basal half. Forewings elongate, costa gently arched towards base, posteriorly nearly straight, apex obtuse, termen somewhat sinuate-indented beneath apex, nearly vertical; dark grey irrorated with ochreous-whitish; basal third of costa with a patch of flocculent white scales accompanied by two small black tufts and covered by reflexed scales from costa but

VOL. I.—October 1912.

11

TORTRICIDAE

Ancylis glycyphaga Meyrick, 1912

India: Bihar, Pusa

Fig.: Clarke (1958), 3:290

Host: assoc. with *Phromnia marginella* (Homoptera)

Ancylis lutescens Meyrick, 1912

India: Bihar, Pusa

Fig.: Clarke (1958), 3:293

Host: *Zizyphus jujuba* (Rhamnaceae)

Ancylis comptana (Frölich, 1828)

Ancylis sculpta Meyrick, 1912

Korea: "Port Hamilton"

Fig.: Clarke (1958), 3:295

Strepsicrates rorthia (Meyrick, 1910)

Spilonota rorthia Meyrick, 1910

Trans. Ent. Soc. London, 1910:368

Sri Lanka: Maskeliya

Fig.: Clarke (1958), 3:596

Host: *Eugenia jambolana*, *Psidium guajava* (Myrtaceae)

Eucosma stereoma Meyrick, 1912

India: Bihar, Pusa

Host: *Acacia* sp. (Leguminosae)

without membranous fold; several pairs of indistinct whitish strigulae on costa posteriorly; a narrow irregular suffused purplish-leadene fascia beyond middle, two subconfluent angulated strigae from $\frac{2}{3}$ of costa to termen, and a striga from $\frac{2}{3}$ of costa to termen beneath apex, space between these suffused with dark fuscous on costal half; a silvery-whitish mark along median portion of termen, preceded by two or three black dots: cilia grey irrorated with ochreous-whitish and dark fuscous. Hindwings with 3 and 4 stalked; grey, paler and thinly scaled towards base, especially in ♂, veins and terminal area suffused with dark grey; cilia whitish-grey, with grey subbasal shade.

BENGAL, Pusa, in August (Fletcher); two specimens. Larva cylindrical, greyish-yellow; head flattened, yellow; plate of second segment large, yellow; spots with longish white hairs: in rolled terminal leaves of *Acacia* sp. (Leguminosae); pupa in a white cocoon (Fletcher).

Eucosma directa, n. sp.

♂. 12 mm. Head and thorax brownish-ochreous. Abdomen grey, anal tuft pale whitish-ochreous. Forewings elongate, costa gently arched, slightly bent in middle, without fold, apex round-pointed, termen sinuate, rather oblique; brownish-ochreous mixed with fuscous, basal half suffused with fuscous; costa obliquely strigulated throughout with white and dark fuscous; an oblique white streak from before middle of costa to beyond middle of dorsum, sharply defined anteriorly, suffused posteriorly; a white strigula from middle of costa very obliquely elongated, and giving rise to a leaden-metallic line which is sharply angulated near termen beneath apex, and terminating in ocellus; ocellus represented by an undefined leaden-grey patch, anteriorly with an acute-triangular projection edged with white: cilia white, round apex and on upper half of termen leaden-grey, with two white bars at apex. Hindwings and cilia grey.

ASIA MINOR, Taurus Mts.; one specimen. Probably allied to *aspidiscana*.

Polychrosis glebifera, n. sp.

♂ ♀. 13-14 mm. Head ochreous, crown with a blackish bar. Thorax grey mixed with black, patagia mostly ochreous. Abdomen dark fuscous, anal tuft of ♂ whitish-ochreous. Forewings elongate, posteriorly dilated, costa gently arched, apex obtuse, termen rather obliquely rounded; dark grey, with scattered black strigulae; edge of basal patch formed by a curved black fascia mixed with ferruginous-ochreous in disc; a rather curved ferruginous-ochreous fascia from middle of costa to beyond middle of dorsum, mixed with black on upper half, with strong prominence on posterior edge in middle, space between this and basal patch whitish-ochreous on dorsal half; four ferruginous-ochreous spots mixed with black on posterior part of costa, alternating with pairs of

whitish strigulae; area beneath these and beyond central fascia wholly whitish-ochreous, enclosing a triangular ferruginous-ochreous tornal spot mixed with blackish, and a suboval ferruginous-ochreous blotch occupying most of the remaining area, somewhat mixed posteriorly with blackish: cilia whitish-ochreous, mixed with ferruginous-ochreous, and on upper half of termen with blackish. Hindwings dark fuscous; cilia white, with dark fuscous basal line.

ASIA MINOR, Alma Dag; two specimens. Near *bicinctana*, from which it differs by rounded edge of basal patch, pale ochreous space beyond it covering dorsal half only (in *bicinctana* it forms a fascia reaching costa), and wholly dark fuscous hindwings.

GLYPHIPTERYGIDÆ.

Mictopsichia picturata, n. sp.

♂. 14 mm. Head dark fuscous, forehead and collar mixed with fulvous-ochreous. Palpi ochreous-whitish, second and terminal joints each with basal and subapical blackish rings. Thorax dark fuscous, patagia mixed with fulvous-ochreous, with a bluish-metallic line on their inner edge. Abdomen dark fuscous, anal tuft ferruginous. Posterior legs dark fuscous, base and apex of first two tarsal joints white. Forewings elongate, posteriorly dilated, costa gently arched, apex obtuse, termen hardly sinuate, little oblique; grey; basal area partly suffused with ferruginous, and spotted with blue-metallic and blackish; a blue-metallic slender streak from dorsum at $\frac{1}{4}$, reaching fold, and a curved similar streak from beneath costa at $\frac{1}{3}$, also reaching fold; a dark fuscous patch strewn with whitish hair-scales extending along dorsum from $\frac{1}{3}$ to tornus, and reaching half across wing; an oblique blue-metallic more or less interrupted striga from beneath costa before middle, reaching half across wing; an oblique undefined streak of ferruginous suffusion spotted with blackish from middle of costa to posterior edge of dorsal patch; a blue-metallic slightly curved streak from $\frac{2}{3}$ of costa to tornus; a blue-metallic streak from costa towards apex to below middle of termen, preceded by a thicker streak of ferruginous suffusion edged anteriorly with blackish and attenuated downwards; a few blue-metallic scales at apex: cilia grey, with dark fuscous basal line, and apical and broad median patches of dark fuscous suffusion. Hindwings dark fuscous, median third transversely striated with ochreous-whitish; a black patch occupying terminal third, irregularly marked with orange-ochreous strigulae and containing a subterminal series of five small round bright leaden-metallic spots,

n 2

TORTRICIDÆ

Eucosma directa Meyrick, 1912
Turkey: Taurus Mts.

Lobesia glebifera (Meyrick, 1912)
Polychrosis glebifera Meyrick, 1912
Turkey: Alma Dag
Fig.: Clarke (1958), 3:471

Nexosa picturata (Meyrick, 1912)
Mictopsichia picturata Meyrick, 1912
India: Meghalaya, Khasi Hills
Fig.: Clarke (1969), 6:184

and a terminal series of linear bluish-silvery-metallic marks; cilia whitish, with dark fuscous subbasal line, towards apex and termen suffused with dark grey.

ASSAM, Khasi Hills, in October; one specimen.

Mictopsichia hexaphala, n. sp.

♀. 14 mm. Head, thorax, and abdomen dark fuscous, beneath white. Palpi dark grey, becoming whitish towards base. Forewings elongate-triangular (broader posteriorly than in *picturata*), costa gently arched, apex obtuse, termen sinuate-bowed, somewhat oblique; dark fuscous; basal area with some slight scattered markings of bluish-lead-metallic scales, and a few ferruginous scales on costa; a curved bluish-metallic streak from beneath $\frac{2}{3}$ of costa to tornus; a wedge-shaped bluish-metallic streak, edged posteriorly with ferruginous, from costa at $\frac{1}{4}$, reaching half across wing, whitish on costa, space between this and preceding streak pale yellowish in disc; a bluish-metallic streak from costa just before apex to middle of termen, preceded and followed by a few ferruginous scales. Hindwings white, irregularly strigulated with dark fuscous; a small dark fuscous basal patch; apical third black somewhat mixed with fuscous, with a few ferruginous scales, and containing an irregular series of six small round bright lead-metallic spots, termen also sprinkled with bright lead-metallic scales.

CEYLON, Maskeliya, in May (*de Mowbray*); one specimen, in imperfect condition, but certainly distinct from the preceding.

Hilarographa leucopyrga, n. sp.

♂. 9 mm. Head, palpi, and thorax bronzy-fuscous. Abdomen fuscous. Forewings somewhat elongate-triangular, costa towards apex moderately arched, apex obtuse, termen slightly rounded, faintly sinuate beneath apex, somewhat oblique; 7 and 8 approximated at base, 7 to apex; fulvous-orange; anterior half of costa suffused with yellow-whitish; six violet-grey streaks from costa, edged with dark fuscous, first from a white mark on base of costa through disc to above middle, second from $\frac{1}{4}$ of costa, very oblique, third and fourth less oblique, these three not reaching half across wing, fifth running from $\frac{1}{4}$ of costa to tornus, sixth to termen below middle; space between these streaks and dorsum crossed by nine irregular somewhat oblique dark fuscous lines, and an ochreous-white fasciaform antemedian blotch, which is somewhat narrowed upwards and terminated by apex of first costal streak; four small round blackish spots before termen: cilia violet-grey, with dark fuscous basal line. Hindwings rather dark fuscous; cilia whitish-grey, with dark fuscous basal line.

JAPAN, Nagasaki, in April (*T. B. Fletcher*); one specimen.

Hilarographa bellica, n. sp.

♂. 14 mm. Head and palpi pale ochreous. Antennæ dark fuscous. Thorax dull fulvous with three dark fuscous stripes. Abdomen dark fuscous. Forewings somewhat elongate-triangular, costa gently arched, apex rounded-obtuse, termen bowed, sinuate above middle, somewhat oblique; 7 and 8 separate; deep orange, extreme costal edge whitish; dorsal $\frac{2}{3}$ crossed by a network of irregular anastomosing dark purplish-fuscous oblique streaks; costal third crossed on anterior half by five dark purple-fuscous oblique streaks, last two confluent downwards; a thicker and longer oblique dark purple-fuscous streak from costa at $\frac{2}{3}$, including a short blue-metallic mark from a white costal dot; a triangular deep reddish-fulvous apical patch reaching this streak on costa, dark fuscous on costal edge, marked with a blue-metallic oblique streak running from a white dot on costa at $\frac{2}{3}$ to beneath apex, and two white wedge-shaped marks from costa before apex; two blackish dots before termen below middle. Hindwings orange; dorsal third fuscous; a præterminal dark fuscous streak on upper $\frac{2}{3}$, lower portion broken into three spots; cilia fuscous, with blackish subbasal shade.

DUTCH GUIANA, Paramaribo, in December; one specimen.

Tortyra sybaritis, n. sp.

♂. 18 mm. Head metallic green-blue. Palpi whitish-bronze, terminal joint blackish. Antennæ black, with narrow white band at $\frac{2}{3}$, apex whitish. Thorax dark bronzy-fuscous, with three metallic-green stripes. Abdomen dark fuscous. Forewings rather elongate-triangular, costa gently arched, apex rounded-obtuse, termen rounded, rather oblique; dark bronzy-fuscous; a metallic-green basal patch, enclosing an elongate patch of ground-colour above middle from base to near posterior edge; a straight transverse metallic-green streak near beyond this; a median transverse blackish streak parallel to this, edged on both sides with prismatic-purple, wing beyond this wholly coppery-purple-metallic, mixed with dark fuscous towards costa and termen: cilia grey, towards base coppery, with black basal line. Hindwings dark fuscous, tornus not prominent; a suffused light ochreous-fuscous discal streak from base to beyond middle; dorsum rather narrowly subhyaline; cilia pale grey, with dark fuscous basal line.

QUEENSLAND, Kuranda, near Cairns (*Dodd*); one specimen.

Tortyra tabularia, n. sp.

♂ ♀. 16-17 mm. Head coppery-metallic. Palpi light greyish-ochreous, terminal joint dark fuscous. Antennæ dark fuscous, with white band about $\frac{2}{3}$, in ♂ hardly at all thickened, in ♀ thickened with dark purple-fuscous scales. Thorax dark bronzy-fuscous, with three coppery-metallic streaks. Abdomen dark fuscous. Forewings rather elongate-triangular, costa gently

TORTRICIDÆ

Nexosa hexaphala (Meyrick, 1912)

Mictopsichia hexaphala Meyrick, 1912

Sri Lanka: Maskeliya

Fig.: Clarke (1969), 6:183

Thaumato-grapha leucopyrga (Meyrick, 1912)

Hilarographa leucopyrga Meyrick, 1912

Japan: Nagasaki

Fig.: Diakonoff (1986), 59, pl. 1, f. 7

Hosts: *Elaeocarpus* (Elaeocarpaceae)

Hilarographa bellica Meyrick, 1912

Surinam: Paramaribo

Fig.: Clarke (1969), 6:88

CHOREUTIDÆ

Saptha libanota (Meyrick, 1910)

Tortyra sybaritis Meyrick, 1912

Australia: Queensland: Kuranda

Saptha tabularia (Meyrick, 1912)

Tortyra tabularia Meyrick, 1912

Loyalty Is.: Lifu

arched, apex rounded-obtuse, termen slightly rounded, somewhat oblique; dark bronzy-fuscous; a purplish-coppery-metallic subcostal streak from base to beyond $\frac{1}{4}$, and broader nearly confluent similar median and subdorsal streaks; a straight transverse purplish-coppery streak near beyond these; a straight black median transverse streak parallel to this, edged with purple anteriorly; wing beyond this wholly densely irrorated with purple-coppery-golden scales with green reflections, tending to be arranged in longitudinal lines: cilia purplish-grey, with blackish basal line. Hindwings dark fuscous, tornus not prominent; a pale greyish-ochreous discal streak from base to $\frac{2}{3}$, dilated posteriorly; cilia whitish, with dark fuscous basal line.

LOYALTY ISLANDS, Lifu; two specimens.

Tortyra hyalozona, n. sp.

♂. 12 mm. Head, thorax, and abdomen dark grey, crown suffused with metallic-blue. Palpi dark grey, suffused with metallic-blue towards base. Antennae dark purple-fuscous (broken). Forewings rather elongate-triangular, costa gently arched, apex obtuse, termen sinuate-bowed, somewhat oblique; dark fuscous closely irrorated with whitish; a small bluish-silvery-metallic spot on base of costa, edged externally with blackish; a narrow slightly curved bluish-silvery-metallic antemedian fascia, somewhat widened towards costa, strongly edged on both sides with blackish; a broad terminal fascia of purplish-coppery-metallic suffusion, broadest towards tornus: cilia purplish-coppery. Hindwings dark fuscous; cilia whitish-grey, basal third grey.

COLOMBIA, Popayan; one specimen.

Jonaca nephelospila, n. sp.

♂. 18-23 mm. Head and palpi light brownish. Antennae simple. Thorax dark fuscous mixed with brownish. Abdomen dark fuscous. Forewings elongate, rather narrow, posteriorly rather dilated, costa slightly arched, apex rounded-obtuse, termen somewhat rounded, nearly vertical; dark fuscous mixed with light brownish; apical and terminal margins tinged with reddish: cilia light brown tinged with reddish, with blackish basal line, and dark fuscous tornal patch. Hindwings blackish; an obscure spot of whitish suffusion in disc before middle, and one on costa beyond middle: cilia ochreous-whitish tinged with reddish round apex, with blackish basal line.

VENEZUELA, Carupano, in December; DUTCH GUIANA, Berg-en-Daal, in April; two specimens.

Imma tetrascia, n. sp.

♂. 19-20 mm. Head, palpi, and thorax pale ochreous-yellowish, terminal joint of palpi half second. Abdomen whitish-ochreous

tinged with fuscous. Forewings elongate, posteriorly dilated, costa slightly arched, apex obtuse, termen rounded, little oblique; 7 and 8 stalked, 8 to apex; pale ochreous-yellowish; four rather irregular transverse fuscous lines or shades, first very near base, second at $\frac{1}{3}$, broken and interrupted in middle, upper portion oblique, third beyond middle, somewhat oblique, fourth from $\frac{1}{4}$ of costa to tornus, rather curved, sometimes very faint except towards costa; a slender dark fuscous streak round apex and upper portion of termen: cilia pale yellowish, on tornus tinged with pale fuscous. Hindwings rather dark fuscous; cilia ochreous-whitish tinged with grey.

QUEENSLAND, Cooktown, Geraldton (Meek); three specimens.

Imma vaticina, n. sp.

♂ ♀. 20-22 mm. Head, palpi, and thorax fuscous, terminal joint of palpi short. Antennal ciliations of ♂ 1. Abdomen dark fuscous. Anterior femora in ♂ beneath with dense rough flocculent whitish-ochreous scales, tibiae very short, tufted with whitish hairs beneath; posterior tibiae in ♂ short, densely tufted beneath with long grey and whitish hairs. Forewings elongate, posteriorly dilated, costa slightly arched, apex obtuse, termen rounded, rather oblique, less so in ♀; 7 and 8 stalked, 8 to apex; violet-fuscous; a transverse dark fuscous mark on end of cell, in ♂ connected with dorsum by a direct obscure darker shade, followed by somewhat paler suffusion: cilia fuscous. Hindwings hyaline, veins dark fuscous; a broad fuscous band along costa; a dark fuscous terminal band, broadest at apex, with an abrupt projection inwards beneath vein 2, below this abruptly narrow, then with a long wedge-shaped projection on vein 1b; dorsum slenderly suffused with fuscous; cilia pale greyish, with dark fuscous sub-basal line.

QUEENSLAND, Herberton, 3500 feet, in December (Dodd); three specimens. Allied to *penthinoides* Pag., which is stated to have whitish cilia in forewings.

Imma ancistrotia, n. sp.

♂. 18 mm. Head ochreous-whitish, crown with a bar of dark purplish-fuscous scales. Palpi grey-whitish, with a lateral line of blackish scales, basal joint rather long, second laterally compressed, bent back, terminal metamorphosed into a very fine linear acute recurved black hook. Antennal ciliations 1½. Abdomen dark grey, apex ochreous-whitish. Forewings rather elongate-triangular, costa slightly arched, apex obtuse, termen rounded, rather oblique; 7 and 8 stalked, 8 to apex; dark lilac-fuscous, markings ochreous-yellow; a spot at base; a moderate somewhat oblique fascia near beyond this, confluent with it in middle; an irregular transverse streak before middle, dilated on costa, broken inwards on fold, lower portion sinuate outwards; a dot in disc beyond middle; a

CHOREUTIDÆ

Tortyra hyalozona Meyrick, 1912

Colombia: Popayan

Fig.: Clarke (1969), 6:212

BRACHODIDÆ

Sagalassa nephelospila (Meyrick, 1912)

Jonaca nephelospila Meyrick, 1912

Surinam: Berg-en-Daal

Fig.: Clarke (1969), 6:199

IMMIDÆ

Imma tetrascia Meyrick, 1912

Australia: Queensland, Cooktown

Fig.: Clarke (1969), 6:156

Imma vaticina Meyrick, 1912

Australia: Queensland, Herberton

Fig.: Clarke (1969), 6:164

Moca ancistrotia (Meyrick, 1912)

Imma ancistrotia Meyrick, 1912

[Indonesia, Irian Jaya], New Guinea: Mafor Id.

Fig.: Clarke (1969), 6:103

narrow irregular fascia beyond this, interrupted in middle, not reaching dorsum; a subtriangular spot on costa towards apex; a fine line on submedian fold posteriorly; an ochreous-whitish line running from just before lower extremity of costal spot to tornus, twice dentate outwards, lower dentation confluent with an ochreous-yellow spot on termen above tornus; a fine ochreous-whitish terminal line. Hindwings prismatic-hyaline, veins dark fuscous; a dark fuscous band round costa and upper half of termen, broadest at apex, continued narrowly and irregularly round lower part of termen and tornus.

NEW GUINEA, Mefor Island, in June; one specimen. The structure of apical joint of palpus is wholly unique, so far as I know, but probably not found in ♀. Probably allied to *diaphana* Pag., and somewhat resembles the rough figure given, but cannot possibly be reconciled with the description.

Imma paratma, n. sp.

♂. 17-18 mm. Head fuscous, face white. Palpi white, second and terminal joints each with a dark fuscous external streak, second joint relatively short, terminal joint as long as second, stout. Antennae dark fuscous, ciliations minute. Thorax fuscous mixed with darker. Abdomen dark fuscous with a white antepical blotch. Forewings elongate, moderate, posteriorly dilated, costa slightly arched posteriorly, apex rounded-obtuse, termen rounded, somewhat oblique; 7 and 8 separate, 8 to costa; dark fuscous, irregularly finely sprinkled with ochreous-whitish, discal area anteriorly lighter and more brownish; cilia fuscous, with darker basal shade. Hindwings dark fuscous, anteriorly rather thinly scaled; undefined patches of fuscous-whitish suffusion extending over upper and lower margins of cell, veins in these dark fuscous; cilia fuscous, with dark fuscous basal line.

BRITISH GUIANA, R. Demerara; two specimens.

Imma phthorosema, n. sp.

♂. 20 mm. Head fuscous. Palpi dark fuscous, extreme apex of second and terminal joints ochreous-white, second joint rather short, terminal more than half second. Antennae dark fuscous, ciliations $\frac{1}{2}$. Thorax and abdomen dark fuscous. Forewings moderate, posteriorly dilated, costa slightly arched, apex obtuse, termen rounded, somewhat oblique; dark fuscous; some brownish-ochreous strigulation towards costa at $\frac{1}{4}$; two obscure blackish dots transversely placed in disc on end of cell; posterior $\frac{2}{5}$ of wing irregularly and suffusedly strigulated with light brownish-ochreous; an interrupted blackish terminal line: cilia fuscous mixed with darker, base obscurely dotted with whitish-ochreous. Hindwings rather dark grey; cilia pale greyish, with dark grey subbasal line, tips ochreous-whitish.

COLOMBIA, San Antonio, 5800 feet, in November; one specimen.

LASIODICTIS, n. g.

Head with appressed scales, sidetufts loosely spreading; ocelli absent; tongue developed. Antennae $\frac{3}{4}$, in ♂ clothed with long fine cilia, basal joint moderate, without pecten. Labial palpi moderate, curved, ascending, second joint with appressed scales, terminal joint shorter, slender, pointed. Maxillary palpi obsolete. Posterior tibiae roughly haired above. Forewings with 2 and 3 stalked from angle, 7 to termen, 11 from middle. Hindwings over 1, ovate, cilia $\frac{1}{4}$; 3 and 4 connate, 5 parallel, 6 and 7 short-stalked, 8 connected with cell in middle.

Lasioidictis melistoma, n. sp.

♂ ♀. 16-18 mm. Head yellow-ochreous, face in ♂ tinged with fuscous. Palpi ochreous-yellow. Antennae grey. Thorax and abdomen dark fuscous. Forewings moderate, posteriorly slightly dilated, costa gently arched, apex obtuse, termen straight, rather oblique; dark fuscous, with faint purplish tinge; cilia fuscous. Hindwings blackish-fuscous; cilia fuscous, with dark fuscous subbasal line.

ASSAM, Khasi Hills, in May, June, and September; seven specimens.

Heliolestes callispora, n. sp.

♂. 17 mm. Head deep metallic-green, with purple reflections, collar ferruginous-orange. Palpi ferruginous-orange, terminal joint rather more than half second, blackish anteriorly. Antennae dark fuscous, ciliations $\frac{1}{3}$. Thorax shining deep greenish-purple-bronze. Abdomen dark fuscous. Forewings elongate, posteriorly dilated, costa slightly arched, faintly sinuate in middle, apex obtuse, termen straight, little oblique, rounded beneath; dark indigo-fuscous, closely strewn with pale greenish-yellowish hair-scales: cilia fuscous, basal third dark fuscous mixed with deep ferruginous. Hindwings blackish; cilia fuscous, with blackish basal shade.

NEW ZEALAND, Wellington, in January (*Hudson*); one specimen.

HIERODORIS, n. g.

Head smooth; ocelli present; tongue developed. Antennae $\frac{4}{5}$, in ♂ minutely ciliated, basal joint elongate, without pecten. Labial palpi moderately long, curved, ascending, with appressed scales, terminal joint $\frac{2}{3}$ of second, pointed. Maxillary palpi obsolete. Posterior tibiae with scales somewhat rough above. Forewings with 1b furcate, 2 from towards angle, 7 absent, 11 from middle. Hindwings over 1, ovate, cilia $\frac{1}{3}$; 3 and 4 connate, 5-7 somewhat approximated towards base.

IMMIDAE

Moca paratma (Meyrick, 1912)

Imma paratma Meyrick, 1912

Guyana: Rio Demerara

Fig.: Clarke (1969), 6:144

Moca phthorosema (Meyrick, 1912)

Imma phthorosema Meyrick, 1912

Colombia: San Antonio

Fig.: Clarke (1969), 6:147

OECOPHORIDAE

Lasioidictis Meyrick, 1912

Type-sp.: *Lasioidictis melistoma* Meyrick, 1912

Lasioidictis melistoma Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1955), 2:438

Meyrick (1914), 164: pl. 2, f. 23

Heliolestes callispora Meyrick, 1912

New Zealand: Wellington

Fig.: Hudson (1928), 306, pl. 33, f. 24

Hierodoris Meyrick, 1912

Type-sp.: *Hierodoris iophanes* Meyrick, 1912

Hierodoris iophanes, n. sp.

♂. 13 mm. Head deep bluish-bronze. Palpi bronzy-fuscous. Thorax deep bronze suffused with purple. Antennae and abdomen dark fuscous. Forewings elongate, posteriorly slightly dilated, costa slightly arched, faintly sinuate in middle, apex obtuse, termen rounded, somewhat oblique; dark bronzy-fuscous; a shining purple fascia from base of costa almost to dorsum at $\frac{1}{4}$, followed by a spot of blackish suffusion beneath costa, beyond which is a short metallic-blue oblique strigula; a narrow shining purple fascia from a silvery-whitish dot beneath costa before middle to a pale ochreous spot on middle of dorsum; a pale blue-metallic linear mark on end of cell; triangular shining purple spots above and below middle beyond this, their anterior angles tending to meet in disc; an undefined shining purple spot before middle of termen: cilia deep purplish-bronze. Hindwings blackish; cilia fuscous, with blackish basal shade.

NEW ZEALAND, Wellington, in January (Hudson); one specimen.

Simaethis xanthogramma, n. sp.

♂ ♀. 11–13 mm. Head whitish-ochreous more or less mixed with blackish. Palpi whitish-ochreous, second and terminal joints with basal and subapical blackish rings. Antennae black dotted with white. Thorax blackish. Abdomen dark fuscous mixed with fulvous-orange. Posterior tibiae whitish-yellowish banded with blackish, tarsi black, base and apex of first two joints, and third joint wholly white. Forewings triangular, costa moderately arched, apex rounded-obtuse, termen rounded, somewhat oblique; blackish-fuscous; a whitish-ochreous antemedian fascia, anterior edge almost straight, sharply defined, posterior yellower, irregular; second line thick, orange, on costal edge white, very shortly angulate-looped outwards on median third, enclosing an orange transverse discal spot within the loop; a suffused triangular orange costal spot close beyond this; an undefined terminal fascia of orange suffusion: cilia grey, with black basal line. Hindwings dark fuscous; a wedge-shaped orange streak in disc from base to $\frac{2}{3}$; in ♀ an orange fascia along lower $\frac{2}{3}$ of termen, in ♂ almost or quite obsolete; cilia grey-whitish with blackish basal line, greyer towards apex and tornus.

PHILIPPINES, Mindoro, Rio Baco, in October and February (Mounsey); NEW GUINEA, Kei Is., in January; four specimens.

Simaethis anthorma, n. sp.

♀. 13 mm. Head blackish, a frontal patch and a spot on each side of face ochreous-whitish. Palpi ochreous-whitish, second and terminal joints with black basal and subapical rings. Antennae white ringed with black. Thorax blackish, anterior third ochreous-whitish. Abdomen light orange-ochreous suffusedly ringed with dark fuscous. Posterior tibiae pale yellowish banded with blackish,

tarsi black, base and apex of first two joints, and third joint except apex white. Forewings triangular, costa moderately arched, apex obtuse, termen rounded, somewhat oblique; blackish; a whitish-ochreous curved transverse line very near base; first line thick, pale ochreous, white on costa, almost straight; second line thick, pale ochreous, white on costa, straight except that it is interrupted and shortly broken inwards on fold, above middle with a slight enlargement containing an undefined transverse mark of ground-colour; a yellow-ochreous transverse spot on costa near beyond this; a transverse yellow-ochreous spot from costa just before apex, reaching half across wing; an undefined fascia of yellow-ochreous suffusion along termen, narrow or partially obsolete towards apex: cilia grey, with blackish basal line. Hindwings orange; a dark fuscous costal band; some dark fuscous suffusion on submedian fold and dorsal area towards base; a blackish line from costal band at $\frac{2}{3}$ to tornus, and another along termen; cilia grey-whitish, with dark fuscous basal line.

PHILIPPINES, Mindoro, Laguna de Naujan, in March (Mounsey); one specimen.

Simaethis trogalia, n. sp.

♂ ♀. 14–16 mm. Head dark fuscous, irrorated with whitish. Palpi white, second and terminal joints with basal and subapical dark fuscous rings. Antennae white ringed with black. Thorax dark fuscous irrorated with whitish except posteriorly. Abdomen dark fuscous mixed with fulvous. Posterior tibiae ochreous-brownish banded with dark fuscous, tarsi dark fuscous, basal half of first joint ochreous, third joint and apex of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; brown; basal area more or less whitish-sprinkled, with a small blackish spot on costa near base; a straight blackish transverse shade at $\frac{1}{3}$, followed by a pale violet shade forming a white dot on costa; an irregularly curved pale violet postmedian line, white on costa, rounded-angulated above middle and somewhat dentate below it, preceded by a fascia of blackish suffusion, and followed by a fine blackish line, beyond which is an obscure band of pale violet irroration: cilia brown with darker basal line, and apical, median, and tornal undefined patches of dark fuscous suffusion. Hindwings dull fulvous; an irregular dark fuscous band along costa; dorsal half irregularly suffused with dark fuscous from base to beyond middle; a dark fuscous subterminal streak from tornus to apex, where it forms an apical patch; cilia fuscous, with darker basal line.

ASSAM, Khasi Hills, in December and January; fifteen specimens.

Simaethis eumetra, n. sp.

♂ ♀. 13–14 mm. Head and thorax dark fuscous irrorated with greyish-ochreous. Palpi ochreous-whitish, second and terminal joints with basal and subapical dark fuscous rings. Antennae

OECOPHORIDÆ

Hierodoris iophanes Meyrick, 1912

New Zealand: Wellington

Fig.: Hudson (1928), 305, pl.33, f. 3

CHOREUTIDÆ

Choreutis xanthogramma (Meyrick, 1912)

Simaethis xanthogramma Meyrick, 1912

Philippines: Mindoro, Rio Baco

Fig.: Clarke (1969), 6:21

Diakonoff (1986), 174, pl. 7, f. 60

Choreutis anthorma (Meyrick, 1912)

Simaethis anthorma Meyrick, 1912

Philippines: Mindoro, Laguna de Naujan

Fig.: Clarke (1969), 6:3

Diakonoff, (1968), 205, f. 683

Choreutis trogalia (Meyrick, 1912)

Simaethis trogalia Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:20

Choreutis eumetra (Meyrick, 1912)

Simaethis eumetra Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:8

white ringed with black. Abdomen fuscous mixed with dull orange and sprinkled with blackish. Posterior tibiae whitish-ochreous banded with dark fuscous, tarsi blackish, first joint with a whitish-ochreous subbasal band, third joint and apex of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; dark fuscous; markings formed by yellow-ochreous or ochreous-whitish suffusion; two indistinct subconfluent transverse shades near base; two thick rather irregular shades enclosing first line, connected in disc by a bar with following pair; two shades enclosing second line, first narrower, second thick, abruptly angulated above middle and somewhat sinuate below it; a thick terminal shade, partially obsolescent on upper half: cilia pale ochreous, with dark fuscous apical, median, and tornal patches. Hindwings dark fuscous; an orange median streak from base to $\frac{2}{3}$, its apex forming a projection upwards; an orange streak along lower $\frac{2}{3}$ of termen; cilia pale orange, with a dark fuscous basal line, at apex and tornus suffused with grey.

Assam, Khasi Hills, in March; two specimens.

Simaethis antichlora, n. sp.

♀. 15 mm. Head dark fuscous suffusedly irrorated with pale greyish-ochreous. Palpi ochreous-whitish, second and terminal joints with basal and subapical dark fuscous rings. Antennae white ringed with black. Thorax dark fuscous, transversely banded with pale greyish-ochreous irroration. Abdomen dark fuscous mixed with orange. Posterior tibiae orange banded with dark fuscous, tarsi blackish, first joint with subbasal ochreous-whitish band, third joint and apex of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; two thick transverse shades near base, first whitish, second whitish-ochreous; first line nearly straight, enclosed by thick anterior shade of whitish irroration and narrower posterior whitish-ochreous shade; second line gently curved, enclosed by narrow anterior shade of whitish irroration, and somewhat thicker whitish-ochreous posterior shade; an irregular spot of whitish irroration in disc between these lines; some undefined groups of whitish-ochreous scales towards termen above middle and tornus: cilia greyish, with blackish subbasal line, and apical, median, and tornal patches of dark fuscous suffusion. Hindwings dark fuscous; an orange-fulvous median streak from base to $\frac{2}{3}$, extremity enlarged upwards into a blotch; an undefined blotch of orange-fulvous suffusion towards dorsum beyond middle; an orange-fulvous streak along lower $\frac{2}{3}$ of termen; cilia grey, with blackish subbasal line edged externally with grey-whitish.

Assam, Khasi Hills, in March; one specimen. Allied to *eumetra*, but immediately distinguished by the gently curved second line of fore wings.

Simaethis strepsidesma, n. sp.

♀. 12-13 mm. Head and thorax fulvous-brown, slightly whitish-sprinkled. Palpi ochreous irrorated with dark grey, basal joint and tips of four whorls of scales whitish. Antennae white ringed with black. Abdomen ferruginous sprinkled with dark fuscous. Posterior tibiae dark fuscous mixed with ferruginous and sprinkled with white, tarsi dark fuscous, first joint with subbasal whitish band, third joint and apex of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; ferruginous-brown, more or less mixed with blackish, especially in disc below middle, and slightly sprinkled with whitish specks; first line represented by a somewhat sinuate thick posteriorly undefined shade of whitish irroration; second line formed of whitish irroration, slender, irregularly dentate on lower $\frac{2}{3}$, angulated outwards at $\frac{1}{3}$ from costa and broken inwards at $\frac{2}{3}$, followed on upper $\frac{2}{3}$ by a shade of whitish irroration: cilia reddish-fuscous, with apical, median, and tornal patches of dark fuscous suffusion. Hindwings dark fuscous; an irregular patch of fulvous suffusion in middle of disc; a fulvous streak along lower $\frac{2}{3}$ of termen; cilia reddish-ochreous, with dark fuscous basal line, tips whitish.

Assam, Khasi Hills, in September and November; three specimens.

Simaethis cothurnata, n. sp.

♂ ♀. 14 mm. Head and thorax light ochreous, with some ferruginous suffusion behind shoulders. Palpi ochreous-whitish, second and terminal joints with basal and subapical ferruginous-ochreous rings. Antennae white ringed with black. Abdomen ochreous mixed with dark fuscous. Posterior tibiae ochreous-whitish banded with ochreous-brown, tarsi roughly tufted with scales above, blackish, first joint suffused with ochreous-brown except towards apex, second ochreous-white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; light ochreous; a small ferruginous-brown spot on base of costa; a larger ferruginous-brown spot on costa at $\frac{1}{4}$, marked with blackish on costal edge, and giving rise to a faint undefined fascia of ferruginous suffusion crossing wing; a blackish mark on middle of costa, and blackish dots before and beyond this; some broad undefined ferruginous suffusion on dorsal half beyond middle; an undefined spot of blackish suffusion on costa at $\frac{3}{4}$; a dark fuscous or reddish-fuscous quadrate spot on termen above middle, and a suffused similar patch on tornus: cilia dark reddish-fuscous, with small pale ochreous patches below apex and below middle of termen. Hindwings blackish-fuscous; an undefined narrow median streak of whitish suffusion from base to $\frac{2}{3}$, where it sometimes forms an irregular spot; an irregular partially interrupted whitish streak along lower $\frac{2}{3}$ of termen: cilia ochreous-whitish, more or

CHOREUTIDÆ

Choreutis antichlora (Meyrick, 1912)

Simaethis antichlora Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:3

Choreutis strepsidesma (Meyrick, 1912)

Simaethis strepsidesma Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:19

Choreutis cothurnata (Meyrick, 1912)

Simaethis cothurnata Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:7

less suffused with ochreous on lower third of termen, with ochreous basal line becoming dark fuscous round apex.

ASSAM, Khasi Hills, in November; two specimens.

Simaethis achyrodes, n. sp.

♂ ♀. 13–16 mm. Head dark fuscous irrorated with whitish. Palpi with eight whorls of blackish white-tipped scales, basal joint white. Antennae white ringed with black. Thorax ferruginous-brown or fuscous, sprinkled with whitish. Abdomen dark fuscous. Posterior tibiae blackish irrorated with white, tarsi blackish, third joint and base and apex of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; ferruginous-brown; markings formed by irroration of white scales with dark fuscous bases; two slight very undefined shades towards base; first line nearly straight, narrow; second line double, both portions slender, obtusely angulated above middle, twice or thrice dentate on lower portion, angulation including a discal transverse linear mark, all tending to be partially interrupted and resembling an irregular network; usually some slight irregular admixture of black scales before and beyond second line, especially towards tornus: cilia fuscous, with somewhat darker apical, median, and tornal patches, and dark ferruginous-fuscous basal line, tips whitish, on costa dark fuscous with a snow-white mark before apex. Hindwings dark fuscous; cilia reddish-brown, with dark fuscous basal line, tips grey-whitish.

ASSAM, Khasi Hills; BOMBAY, Kanara (Maxwell); S. INDIA, Coorg, 3500 feet (Newcome), Nilgiris, 3500 feet (Andrewes); CEYLON, Kandy, Maskeliya (Green, Pole, Mackwood); from May to December, sixteen specimens.

Simaethis ialeura, n. sp.

♂. 12–13 mm. Head and thorax dark fuscous irrorated with whitish. Palpi with eight whorls of blackish white-tipped scales, basal joint white. Antennae white ringed with black. Abdomen dark fuscous mixed with fulvous. Posterior tibiae blackish irrorated with white, tarsi blackish, third joint and base and apex of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, rather oblique; basal $\frac{2}{3}$ olive-brown, remainder deep ferruginous suffusedly mixed with black except along costa and termen; markings formed of violet-white irroration; a moderate basal patch; first line represented by a hardly curved shade; second line slender, acutely angulated above middle, and with a deep indentation towards dorsum, angulation including an undefined spot, this line followed by a thick shade: cilia grey, towards tips whitish, with blackish basal line, and apical, median, and tornal dark grey patches, on costa dark grey with a white mark towards apex. Hindwings dark fuscous; a more or less developed orange-ochreous triangular patch in disc extending from base to $\frac{3}{4}$; an undefined spot of orange-ochreous suffusion on tornus,

and a slender streak along median portion of termen; cilia fuscous, with dark fuscous basal line, tips whitish.

S. INDIA, Nilgiris, 3500 feet, in August (Andrewes); CEYLON, Maskeliya, in May (Pole); two specimens.

Simaethis psilachyra, n. sp.

♀. 10 mm. Head and thorax dark fuscous, slightly whitish-sprinkled, patagia fulvous. Palpi with eight whorls of blackish white-tipped scales, basal joint white. Antennae white ringed with black. Abdomen dark fuscous. Posterior tarsi blackish, third joint and basal and apical portions of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; dark fuscous suffused with orange-fulvous; two slight striae of whitish irroration towards base; first line represented by a nearly straight stria of violet-white irroration, preceded by a few black scales, forming a white dot on costa; second line black, irregular, rather curved outwards above middle and inwards below middle, followed by a few whitish specks and on costa by a snow-white dot; a black irregular line from $\frac{3}{4}$ of costa to tornus: cilia grey mixed with white above and below middle of termen, with blackish subbasal line, on costa with a snow-white mark towards apex. Hindwings dark fuscous; cilia grey, with dark fuscous subbasal line.

CEYLON, Maskeliya, in May (de Mowbray); one specimen. Not in good condition, but a distinct species.

Simaethis holachyrma, n. sp.

♂. 14 mm. Head and thorax dark fuscous irrorated with whitish. Palpi ochreous sprinkled with dark fuscous, basal joint and median and apical rings of second and terminal joints whitish. Abdomen dark fuscous. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, oblique, sinuate-indentured at $\frac{3}{4}$; dark fuscous, irrorated throughout with whitish; costal extremities of first and second lines indicated by white dots, first preceded, second preceded and followed by small blackish spots; an irregular blackish patch on costa towards apex: cilia fuscous, with blackish basal line, in sinuation indented with whitish. Hindwings dark fuscous; a cloudy orange-ochreous spot in disc beyond middle, and a streak of suffusion along lower $\frac{3}{4}$ of termen; cilia fuscous, with dark fuscous basal line, tips whitish.

ASSAM, Khasi Hills, in November; one specimen. Characterised by the peculiar sinuation of termen, and general pale irroration.

Simaethis lethaea, n. sp.

♂ ♀. 11–14 mm. Head and thorax dark fuscous slightly sprinkled with whitish. Palpi dark fuscous, basal joint whitish, second and terminal joints each with median and apical white

CHOREUTIDAE

Choreutis achyrodes (Meyrick, 1912)

Simaethis achyrodes Meyrick, 1912

India: Tamil Nadu, Nilgiri Hills

Fig.: Clarke (1969), 6:2

Diakonoff (1986), 189, pl. 8, f. 70

Choreutis ialeura (Meyrick, 1912)

Simaethis ialeura Meyrick, 1912

India: Tamil Nadu, Nilgiri Hills

Fig.: Clarke (1969), 6:10

Diakonoff (1986), 187, pl. 8, f. 69

Choreutis psilachyra (Meyrick, 1912)

Simaethis psilachyra Meyrick, 1912

Sri Lanka: Maskeliya

Fig.: Clarke (1958), 6:17

Choreutis holachyrma (Meyrick, 1912)

Simaethis holachyrma Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:10

Choreutis lethaea (Meyrick, 1912)

Simaethis lethaea Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:10

rings. Antennæ white ringed with black. Abdomen dark fuscous, somewhat tinged with fulvous. Posterior tibiae dark fuscous sprinkled with whitish, tarsi blackish, first two joints with subbasal and apical white rings, third joint white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, somewhat oblique; dark fuscous, more or less mixed with fulvous, with an irregular narrow fulvous terminal fascia; markings formed of whitish irroration; a slight shade near base; first line rather thick, slightly curved; second line slender, irregularly curved outwards above middle, curve enclosing a transverse linear mark, lower half irregular, with a strong subtriangular indentation at $\frac{3}{4}$, this line followed throughout by a thick irregular shade: cilia dark grey, mixed with ochreous-whitish above and below middle, with black basal line. Hindwings dark fuscous; a few fulvous scales on middle of termen; cilia ochreous-whitish, towards apex and tornus grey, with dark fuscous basal line.

Assam, Khasi Hills, in October and November; nine specimens.

Simaethis fulminea, n. sp.

♀. 11 mm. Head and thorax yellow-ochreous sprinkled with white. Palpi yellow-ochreous sprinkled with grey, basal joint and apex of whorls of scales white. Antennæ white ringed with black. Abdomen dark fuscous. Posterior tibiae dark fuscous sprinkled with white, tarsi blackish, base and apex of first joint white, second and third joints white. Forewings triangular, costa moderately arched, apex obtuse, termen rounded, somewhat oblique; deep ferruginous-brown, suffused with blackish except towards costa and termen; two violet-blue-metallic transverse shades towards base, and a third representing first line, margined posteriorly by a whitish-ochreous projecting spot in middle and smaller ones above and below this; an undefined violet-blue-metallic spot in disc at $\frac{2}{3}$; second line double, violet-blue-metallic, curved-angulated above middle and rather approximated to termen on median third, irregularly dentate towards termen. Hindwings dark fuscous; a short whitish mark along tornus; a few red-brown scales on middle of termen: cilia whitish, with dark reddish-brown basal line, towards apex and tornus grey.

Ceylon, Trincomali, in December (*Fletcher*); one specimen.

Simaethis dichlora, n. sp.

♂. 9 mm. Head and thorax dark fuscous mixed with ochreous-whitish. Palpi ochreous-white, second and terminal joints with basal and supramedian dark fuscous rings. Antennæ white ringed with black. Posterior tibiae ochreous-white banded with blackish (tarsi broken). Forewings triangular, costa moderately arched, apex obtuse, termen bowed, rather oblique; dark fuscous, median and terminal areas irregularly and suffusedly mixed with pale ochreous; a white transverse stria near base; an irregular white

shade nearly preceding first line; first line slender, irregular, white; a transverse white discal mark beyond middle; second line slender, white, obtusely angulated above middle, below this irregular, dentate at $\frac{3}{4}$, nearly followed by a similar slightly thicker pale ochreous line: cilia white, with blackish basal line, and dark grey apical, median, and tornal patches. Hindwings dark fuscous; cilia white, with blackish basal line, at apex and tornus tinged with grey.

China, Hainan I.; one specimen.

Simaethis diplogramma, n. sp.

♂ ♀. 12 mm. Head, thorax, and abdomen dark fuscous irrorated with pale ochreous. Palpi ochreous-whitish, second and terminal joints with dark fuscous basal and supramedian rings. Antennæ white ringed with black. Posterior tibiae white banded with black, tarsi black, subbasal ring of first and apex of first two joints white, third joint white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, rather oblique; dark fuscous; a yellowish transverse line near base, followed by some scattered yellowish scales; first line slender, rather irregular, white, nearly followed by a more irregular yellowish one; a transverse linear white discal mark beyond middle, preceded by a patch of yellowish suffusion; second line slender, white, obtusely angulated above middle, below this irregular, dentate at $\frac{3}{4}$, nearly followed by a somewhat thicker less irregular ochreous-yellowish line; some irregular ochreous-yellow irroration or scattered scales towards termen: cilia dark grey, with whitish patches above and below middle of termen, and blackish basal line. Hindwings dark fuscous; an orange transverse patch in disc beyond middle, connected with base by a slender streak of suffusion; a short suffused orange subterminal mark from tornus, reaching $\frac{1}{3}$ across wing; cilia whitish, with blackish basal line, at apex and tornus tinged with grey.

Assam, Khasi Hills, in June, September, and October; three specimens.

Simaethis itriodes, n. sp.

♂. 13 mm. Head, thorax, and abdomen dark fuscous irrorated with pale greyish-ochreous. Palpi ochreous-whitish, second and terminal joints with black basal and supramedian rings. Antennæ white ringed with black. Posterior tibiae white banded with black, tarsi black, subbasal ring of first and apex of first three joints white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, rather oblique; blackish, irrorated throughout with light greyish-ochreous; lines formed of similar irroration, first rather thick, hardly defined, second slender, right-angled above middle, followed by a somewhat thicker similar line; a transverse linear pale greyish-ochreous discal mark beyond middle: cilia blackish-grey, with blackish basal line, with a whitish patch below middle of termen and tips whitish on a patch above middle.

Vol. I.—October 1912.

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CHOREUTIDÆ

Choreutis sexfasciella (Saubert, 1902)

Simaethis fulminea Meyrick, 1912

Sri Lanka: Trincomali

Fig.: Clarke (1969), 6:9

Diakonoff, (1968), 206, fig. 689

Diakonoff (1986), 179, pl. 7, f. 63

Choreutis dichlora (Meyrick, 1912)

Simaethis dichlora Meyrick, 1912

China: Hainan Id.

Fig.: Clarke (1969), 6:6

Choreutis diplogramma (Meyrick, 1912)

Simaethis diplogramma Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:6

Choreutis itriodes (Meyrick, 1912)

Simaethis itriodes Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969),

Hindwings dark fuscous; a triangular orange patch in disc beyond middle, connected with base by a suffused streak; a short orange subterminal streak from tornus, hardly reaching $\frac{1}{2}$ across wing; cilia pale yellowish, with dark fuscous basal line, at apex and tornus grey.

Assam, Khasi Hills, in November; one specimen.

Simaethis pilaria, n. sp.

♂. 11 mm. Head and thorax dark fuscous mixed with whitish-ochreous. Palpi ochreous-whitish, second and terminal joints with basal and supramedian pale ochreous rings sprinkled with dark fuscous. Antennae white ringed with black. Abdomen dark fuscous, segmental margins mixed with whitish-ochreous. Posterior tibiae ochreous-white banded with dark fuscous, tarsi blackish, third joint and base and apex of first two white. Forewings triangular, costa moderately arched, apex obtuse, termen bowed, rather oblique; purple-blackish; a whitish transverse line near base; some whitish irroration in disc before first line; first line rather thick, whitish, nearly straight; a white transverse linear discal mark beyond middle; second line slender, white, curved-angulated above middle, beneath this irregular, sharply dentate at $\frac{3}{4}$, nearly followed throughout by a slightly thicker light ochreous-yellowish line; some ochreous-yellowish irroration towards termen: cilia white, with dark fuscous basal line, and fuscous apical, median, and tornal patches. Hindwings dark fuscous; a roundish whitish-ochreous spot in disc below middle; a whitish-ochreous subterminal streak from tornus reaching $\frac{1}{2}$ across wing; cilia whitish, with dark fuscous basal line, towards apex and tornus suffused with light grey.

Assam, Khasi Hills, in June; one specimen.

Simaethis halimora, n. sp.

♂ ♀. 11-12 mm. Head, thorax, and abdomen dark fuscous sprinkled with white points. Palpi white, second and terminal joints each with dark fuscous basal and supramedian bands. Antennae white ringed with black. Posterior tibiae dark fuscous sprinkled with white, tarsi dark fuscous, basal band of first joint and apex of first three white. Forewings elongate-triangular, costa gently arched, apex obtuse, termen bowed, oblique; blackish-fuscous; very undefined subbasal, antemedian, and subterminal fasciae of white irroration, latter two forming white dots on costa; second line fine, of white irroration, forming a white dot on costa, angulated outwards in disc and twice sinuate inwards between this and dorsum, angularly projecting outwards between sinuations: cilia dark fuscous, above apex with tips white, above and below middle of termen with patches of white intermixture. Hindwings dark fuscous; a cloudy curved white line from tornus, reaching

half across wing; cilia grey-whitish, towards apex and tornus grey, with dark fuscous basal shade.

Assam, Khasi Hills, from July to September; twenty specimens.

Brenthia luminifera, n. sp.

♂ ♀. 9-10 mm. Head, thorax, and abdomen dark bronzy-fuscous. Palpi with basal joint dark fuscous, second and terminal joints white with basal and subapical dark fuscous rings. Antennae dark fuscous dotted with whitish. Posterior tibiae white banded with dark fuscous, tarsi white, with an apical band of first joint, apex of third, and two apical joints wholly dark fuscous. Forewings elongate-triangular, costa slightly arched, apex rounded, termen rounded, little oblique; dark fuscous; a suffused white transverse streak from dorsum at $\frac{1}{4}$, reaching more than half across wing; a transverse-oval white spot on disc beyond middle; a small round white spot towards termen in middle; an almost marginal series of irregular brilliant violet-brassy-metallic dots round apex and termen: cilia fuscous with two darker shades, at apex with a white spot on tips. Hindwings dark fuscous; an undefined spot of whitish suffusion in disc before middle; a white transverse streak in disc towards termen, traversing about $\frac{1}{3}$ of wing; a slender violet-brassy-metallic streak round apex; cilia fuscous, with two darker shades, on middle of termen with an oblique patch of whitish suffusion.

Assam, Khasi Hills, in October and November; fifteen specimens. Nearly allied to *albimaculana*, but that species has the white markings more largely developed, different violet-metallic markings in hindwings, and the terminal joint of palpi with blackish anterior edge and without subapical ring.

Brenthia strophalora, n. sp.

♀. 10 mm. Head grey. Palpi white, second and terminal joints with dark fuscous basal and supramedian rings. Antennae dark fuscous dotted with white. Thorax dark fuscous somewhat mixed with grey. Abdomen dark fuscous, segmental margins mixed with whitish. Posterior tibiae white banded with dark fuscous, tarsi white, apex of first three joints, and last two wholly blackish. Forewings elongate-triangular, costa gently arched, apex rounded-obtuse, termen bowed, somewhat oblique; dark fuscous; a short oblique whitish mark from base of costa; a broad somewhat curved antemedian transverse fascia of whitish suffusion and irroration; an indistinct slight transverse-oval ring of whitish irroration in disc beyond middle, surrounded by some scattered whitish scales, and followed by a patch of whitish irroration extending to costa and terminal fascia; a white costal mark at $\frac{3}{4}$; a black marginal fascia round apex and termen, cut by pale yellowish lines into eight spots, each centred with a brilliant violet-blue-metallic dot: cilia fuscous, with two darker shades, and whitish marks at base

E 2

CHOREUTIDÆ

Choreutis dichlora (Meyrick, 1912)

Simaethis pilaria Meyrick, 1912, syn.

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:6

Prochoreutis halimora (Meyrick, 1912)

Simaethis halimora Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:9

Brenthia luminifera Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:34

Brenthia strophalora Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:38

above tornus, and on tips beneath apex. Hindwings fuscous clouded with darker; a whitish antemedian ring in disc; a rather broad light orange-ochreous terminal fascia, not reaching tornus, and becoming very narrow round apex, preceded on this narrow portion by a pale blue-metallic mark edged with some black scales posteriorly, whence a white grey-edged subterminal streak runs through middle of broader portion; cilia grey-whitish, with white antemedian and dark grey subbasal shades, outer portion suffused with dark grey on lower part of termen and a spot beneath apex.

ASSAM, Khasi Hills, in October; one specimen.

Brenthia virginalis, n. sp.

♂. 12 mm. (Head broken.) Forewings rather elongate-triangular, costa slightly arched, apex rounded, termen almost straight, little oblique; dark fuscous, irregularly irrorated with whitish; a transverse-oval whitish ring in disc beyond middle; a black terminal fascia divided into three blotches by slender whitish-fuscous bars, uppermost smallest, other two nearly equal, lowest with three and each of the others with two brilliant violet-metallic terminal dots: cilia grey, with dark fuscous subbasal shade. Hindwings dark fuscous; an oblique-oval whitish ring in disc before middle; a curved inwardly oblique violet-metallic streak from costa towards apex; an undefined lighter subterminal line, becoming white for a short distance towards middle; a violet-metallic streak along upper half of termen, and a shorter one below middle; cilia grey, with dark fuscous basal line, with oblique blackish patches at apex, middle of termen, and tornus, and oblique whitish patches between these.

NATAL, Pinetown, in February (Leigh); one specimen.

Brenthia ardens, n. sp.

♀. 10–11 mm. Head, thorax, and abdomen dark fuscous. Palpi white, second and terminal joints each with dark fuscous basal and supramedian rings. Antennæ dark fuscous dotted with white. Posterior tibiae whitish banded with dark fuscous, tarsi white, apex of three first joints and last two wholly dark fuscous. Forewings elongate-triangular, costa gently arched, apex rounded-obtuse, termen rounded, somewhat oblique; dark fuscous; irregularly sprinkled with whitish, sometimes forming undefined transverse shades and a discal ring; a marginal black fascia running round apex and termen, cut by fine pale ochreous lines into seven or eight spots, each containing a violet-blue-metallic dot: cilia fuscous with two darker shades. Hindwings dark fuscous; a white subterminal streak on discal third; a short violet-blue-metallic mark on apical margin, and a dot on costa above it; cilia greyish with two dark fuscous shades, with more or less whitish-suffused patches above and below middle of termen, and above apex.

ASSAM, Khasi Hills, in October; four specimens.

Brenthia cyanaula, n. sp.

♂ ♀. 11 mm. Head, thorax, and abdomen dark fuscous, margins of patagia with very fine white lines. Palpi white, second and terminal joints with dark fuscous basal and supramedian bands. Posterior tibiae dark fuscous ringed with white, tarsi white, first three joints with dark fuscous apical rings, two apical joints dark fuscous. Forewings elongate-triangular, costa gently arched, apex rounded-obtuse, termen rounded, somewhat oblique; dark bronzy-fuscous, irregularly irrorated with white; white dots on costa before middle and at $\frac{3}{4}$; a brown marginal fascia round apex and termen, including eight suboval black spots, each containing a violet-blue-metallic dot: cilia fuscous, with two darker shades. Hindwings dark fuscous; a small round whitish spot in middle of disc; a bright purple-blue-metallic submarginal line before termen throughout; cilia dark fuscous, with patches of whitish suffusion at apex and above and below middle of termen.

BENGAL, Calcutta, Pusa (Lefroy); S. INDIA, Coorg, 3500 feet (Newcome); in July, August, November, and February, five specimens.

Brenthia carola, n. sp.

♂ ♀. 11–12 mm. Head, thorax, and abdomen dark bronzy-fuscous. Palpi white, second and terminal joints each with basal and supramedian dark fuscous bands. Antennæ dark fuscous dotted with white. Posterior tibiae dark fuscous ringed with white, tarsi white, first three joints with apex dark fuscous, two apical joints wholly dark fuscous. Forewings elongate-triangular, costa gently arched, apex rounded-obtuse, termen rounded, somewhat oblique; dark purplish-fuscous more or less irrorated with whitish; a terminal fascia, of which upper half is brown including a blackish apical blotch marked with a violet-blue-metallic dot on upper anterior angle and another on lower margin, lower half blackish, marked with a violet-metallic dot on upper edge and another below its middle: cilia fuscous, with a dark fuscous basal line, towards middle of termen obscurely barred with whitish. Hindwings dark fuscous; an oblique white wedge-shaped mark in disc at $\frac{3}{4}$, above and beneath which are brilliant blue marks; a brilliant blue almost marginal line on upper half of termen; cilia dark fuscous, beneath middle of termen with an oblique whitish patch.

ASSAM, Khasi Hills, in October and November; sixteen specimens.

Brenthia paranympha, n. sp.

♂ ♀. 7–8 mm. Head bronzy. Palpi white, second and terminal joints with basal and supramedian dark fuscous rings. Antennæ dark fuscous dotted with white. Thorax and abdomen dark fuscous. Posterior tibiae white banded with dark fuscous, tarsi

CHOREUTIDÆ

Brenthia virginalis Meyrick, 1912
South Africa: Natal, Pinetown

Brenthia ardens Meyrick, 1912
India: Meghalaya, Khasi Hills
Fig.: Clarke (1969), 6:25
Diakonoff (1986), 76, pl. 2, f. 12

Litobrenthia cyanaula (Meyrick, 1912)
Brenthia cyanaula Meyrick, 1912
India: Tamil Nadu, Coorg, Dibidi
Fig.: Clarke (1969), 6:29

Litobrenthia carola (Meyrick, 1912)
Brenthia carola Meyrick, 1912
India: Meghalaya, Khasi Hills
Fig.: Clarke (1969), 6:25
Diakonoff (1986), 83, pl. 2, f. 16

Brenthia paranympha Meyrick, 1912
India: Meghalaya, Khasi Hills
Fig.: Clarke (1969), 6:37

white, first three joints with dark fuscous apical rings, last two wholly dark fuscous. Forewings elongate-triangular, costa gently arched, apex rounded-obtuse, termen slightly rounded, somewhat oblique; dark fuscous, irregularly and variably irrorated with whitish or pale brownish, sometimes indicating obscure transverse shades and discal ring; three irregular blackish terminal spots partially suffused and surrounded with irregular fulvous markings, first forming a streak round apex marked with two round white dots, second on middle of termen, marked posteriorly with a small violet-golden-metallic spot, third above tornus, including a golden-metallic dot: cilia ochreous-fuscous, with obscure whitish median line preceded by a darker fuscous line. Hindwings dark fuscous; an oblique grey-whitish ring in disc; a curved inwardly-oblique violet-metallic streak from costa at $\frac{3}{4}$; a violet-metallic subterminal line on lower $\frac{2}{3}$ of wing, its extremities whitish; a violet-metallic streak round apex; cilia dark fuscous, with oblique patches of whitish suffusion at apex and above and below middle.

ASSAM, Khasi Hills, from December to March; twelve specimens.

Choreutis moniligera, n. sp.

♂. 10–12 mm. Head and thorax dark fuscous sprinkled with whitish. Palpi with tuft of second joint formed of two whorls of long projecting dark fuscous white-tipped scales, terminal joint dark fuscous sprinkled with white. Antennae white ringed with black. Abdomen rather dark fuscous. Forewings rather elongate-triangular, costa moderately arched, apex rounded-obtuse, termen rounded, somewhat oblique; dark fuscous, markings formed of whitish irroration; two transverse shades towards base; first line very irregularly and strongly radiate-dentate throughout; a transverse linear mark in disc beyond middle; second line slender, forming a white dot on costa, in disc forming a quadrate loop outwards, its outer side sinuate; a very irregular subterminal shade near beyond this; terminal edge irrorated with whitish: cilia fuscous, round apex and upper half of termen with basal fourth marked with small sharp black and white chequers. Hindwings rather dark fuscous; two indistinct whitish more or less widely interrupted lines towards termen on dorsal $\frac{2}{3}$; cilia whitish-fuscous, with dark fuscous subbasal and postmedian lines.

ASSAM, Khasi Hills, in November; three specimens. Distinguished from all species of the genus by the peculiar markings at base of cilia of forewings.

Choreutis hestiaracha, n. sp.

♂ ♀. 10–12 mm. Head and thorax ochreous-bronzy. Palpi mixed with white and dark fuscous, second joint with a band of ochreous suffusion, tuft long and rough. Antennae white ringed with black, cilia in ♂ 2. Abdomen dark fuscous. Forewings

elongate-triangular, costa gently arched, apex obtuse, termen rounded, rather oblique; dark fuscous, posterior third and sometimes base more or less suffused with fulvous; an irregular indistinct pale brassy-blue-metallic transverse line towards base; first and second lines pale brassy-blue-metallic, irregular, interrupted, forming white dots on costa, first rather curved, followed by a broad irregular fascia of white irroration except towards costa, second angulated in disc; an oblique brassy-blue-metallic mark from costa at $\frac{1}{4}$; a streak of violet-silvery-metallic irroration along termen: cilia white with dark fuscous basal and postmedian shades. Hindwings dark fuscous; cilia as in forewings.

ASSAM, Khasi Hills, from July to October; six specimens.

Choreutis philonyma, n. sp.

♂. 12 mm. Head, thorax, and abdomen dark bronzy-fuscous. Palpi black sprinkled with white, second joint with long rough tuft. Antennae white ringed with black, ciliations 4. Forewings elongate, posteriorly somewhat dilated, costa slightly arched, apex obtuse, termen slightly rounded, oblique; dark bronzy-fuscous, posterior third suffused with fulvous; basal area with some scattered pale blue-metallic scales; a white dot on costa at $\frac{2}{5}$, beneath which is an elongate patch of pale blue-metallic suffusion, and between this and dorsum an irregular fascia of white irroration; two minute white dots transversely placed in disc at $\frac{2}{5}$; second line pale blue-metallic, forming a white dot on costa, angulated above middle and dentate outwards at $\frac{3}{4}$; a series of several pale blue-metallic dots before termen on upper half; some scattered whitish scales along termen: cilia white, with dark fuscous basal and postmedian shades. Hindwings dark fuscous; a short white linear mark on tornal margin; cilia as in forewings.

CEYLON, Hakgala, in February (Green); one specimen.

Choreutis argyrota, n. sp.

♂ ♀. 10–11 mm. Head and thorax dark fuscous, more or less sprinkled with white. Palpi with whorls of dark fuscous white-tipped scales, tuft of second joint short. Antennae white ringed with black. Abdomen dark fuscous, segmental margins silvery. Forewings elongate-triangular, costa gently arched, apex obtuse, termen rounded, rather oblique; dark bronzy-fuscous more or less suffusedly mixed with blackish; a silvery-metallic transverse line towards base; first line silvery-metallic, interrupted in middle, forming a white dot on costa; an irregular undefined median fascia of silvery-white irroration; second line violet-silvery-metallic, forming a white dot on costa, obtusely angulated in middle, interrupted near dorsum; an oblique violet-silvery-metallic mark from a white dot on costa at $\frac{1}{4}$; an irregular more or less interrupted or incomplete violet-silvery-metallic line before termen:

CHOREUTIDÆ

Brenthia moniligera (Meyrick, 1912)

Choreutis moniligera Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:46

Prochoreutis hestiaracha (Meyrick, 1912)

Choreutis hestiaracha Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:45

Diakonoff (1986), 140, pl. 6, f. 48

Prochoreutis sehestediana (Fabricius, 1777)

Choreutis philonyma Meyrick, 1912

Sri Lanka: Hakgala

Fig.: Clarke (1969), 6:49

Diakonoff (1986), 110, pl. 4, f. 29

Hosts: *Scutellaria* (Labiatae)

Prochoreutis argyrota (Meyrick, 1912)

Choreutis argyrota Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:44

Meyrick (1914), 164: pl. 1, f. 7

cilia white, with dark fuscous basal and postmedian lines, and apical, median, and tornal patches. Hindwings dark fuscous; cilia white, with dark fuscous basal and postmedian lines, and apical patch.

Assam, Khasi Hills, from July to November; ten specimens.

Choreutis antiptila, n. sp.

♂. 13 mm. Head and thorax rather dark fuscous, sprinkled with whitish. Palpi dark fuscous mixed with whitish, tuft of second joint moderate, terminal joint with median scale-projection posteriorly. Antennae dark fuscous spotted with white. Abdomen dark fuscous. Forewings elongate-triangular, costa moderately arched, apex obtuse, termen rounded, rather oblique; dark fuscous; three curved shades of violet-whitish irroration on basal area; first line represented by a lighter fuscous shade irrorated with whitish, sinuate, forming a white dot on costa; second line formed of violet-white irroration, very undefined, thick, obtusely angulated above middle and broken inwards towards dorsum, forming a white dot on costa; a thick shade of violet-whitish irroration from a white dot on costa at $\frac{1}{2}$ to tornus; some irregular violet-whitish irroration along termen: cilia shining greyish, with dark fuscous subbasal line, beneath apex and above tornus whitish-tinged. Hindwings dark fuscous; a streak of whitish irroration from disc at $\frac{3}{4}$ to tornus; a small patch of whitish irroration on middle of termen; cilia whitish-fuscous, with dark fuscous subbasal line.

China, Hainan I.; one specimen.

Glyphipteryx cultrata, n. sp.

♀. 10 mm. Head and thorax greyish-bronze. Palpi on second and terminal joints with four whorls of dark fuscous white-tipped scales. Forewings elongate, costa gently arched, apex obtuse, termen somewhat sinuate, oblique; rather deep greyish-ochreous-bronze; six white streaks from costa between $\frac{1}{2}$ and apex, edged with dark fuscous and terminated beneath with prismatic-silvery-metallic, first oblique, others gradually less so, first three reaching half across wing, others shorter; a broad ochreous-white oblique lunulate streak from middle of dorsum, reaching nearly to apex of second costal streak; a short violet-golden-metallic black-edged wedge-shaped streak from dorsum before tornus, and a dot beyond its apex; three violet-golden-metallic black-edged dots in a curved series before termen, lowest surmounted by a suffused blackish mark; a round black spot occupying apex: cilia whitish, basal half bronzy, limited with dark fuscous and indented with white beneath apex, above apex with a dark fuscous hook. Hindwings rather dark fuscous; cilia grey.

Assam, Khasi Hills, in April; one specimen.

Glyphipteryx stilata, n. sp.

♂. 7 mm. Head and thorax shining light bronzy-grey. Palpi with four whorls of grey white-tipped scales. Forewings elongate, rather narrow, costa gently arched, apex obtuse-pointed, termen somewhat sinuate, very oblique; shining greyish-bronze, suffused with pale dull orange-ochreous on posterior half; a strongly curved oblique white streak from middle of dorsum, reaching half across wing to disc at $\frac{2}{3}$, upper portion very slender, towards dorsum broadly dilated and suffused posteriorly, edged with dark fuscous anteriorly; five white anteriorly black-edged streaks from costa, first beyond middle, first two oblique, reaching half across wing, others very short, wedge-shaped; short silvery-whitish partially dark-edged marks from before and beyond tornus; a small black apical spot: cilia greyish, beneath apex whitish with two slender grey bars. Hindwings dark grey; cilia grey.

Ceylon, Maskeliya, in February (*Pole*); one specimen.

Glyphipteryx aerifera, n. sp.

♀. 11 mm. Head and thorax shining bronze. Palpi on basal and second joints with three whorls of black white-tipped scales, terminal joint white with black anterior and interior streaks. Abdomen grey. Forewings elongate, costa gently arched, apex tolerably pointed, termen somewhat rounded, rather strongly oblique; bright shining bronze; markings pale golden-metallic; five slender streaks from costa, first from middle, short, oblique, indistinct, others edged with a few blackish scales, second and third rather oblique, reaching half across wing, fourth and fifth short, transverse; a transverse mark from tornus, not reaching half across wing, lying between second and third costal streaks and not meeting either; small spots on termen above and below middle: cilia bronzy, on outer half grey, with pale golden-metallic basal spots on terminal markings. Hindwings rather dark grey; cilia grey, towards tips paler.

New Zealand, Mt. Ruapehu, 4500 feet, in January (*Hudson*); one specimen.

Glyphipteryx molybdora, n. sp.

♀. 18 mm. Head, palpi, thorax, and abdomen dark bronzy-fuscous; palpi very short. Forewings elongate, rather narrow, posteriorly somewhat dilated, costa slightly arched, apex rounded, termen oblique, faintly sinuate; dark bronzy-fuscous, on posterior $\frac{2}{3}$ irrorated with light yellowish; markings shining bluish-leadengrey; narrow transverse fasciae at $\frac{1}{4}$ and middle; a patch of blackish suffusion in disc beyond middle; a narrow sinuate fascia from $\frac{2}{3}$ of costa towards tornus, not reaching it; three small spots on costa posteriorly, second largest and transverse; a roundish spot on termen beneath apex; an elongate mark along lower half

CHOREUTIDAE

Choreutis antiptila Meyrick, 1912

China: Hainan Id.

Fig.: Clarke (1969), 6:41

Diakonoff (1986), 212, pl. 10, f. 83

GLYPHIPTERYGIDAE

Glyphipterix cultrata Meyrick, 1912

Glyphipterix [sic] *cultrata* Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:65

Glyphipterix stilata Meyrick, 1912

Glyphipterix [sic] *stilata* Meyrick, 1912

Sri Lanka: Maskeliya

Fig.: Clarke (1969), 6:82

Glyphipterix aerifera Meyrick, 1912

Glyphipterix [sic] *aerifera* Meyrick, 1912

New Zealand: Mt. Ruapehu

Fig.:

Carmentina molybdora (Meyrick, 1912)

Glyphipterix [sic] *molybdora* Meyrick, 1912

Sri Lanka: Pundaloya

Fig.: Clarke (1969), 6:70

of termen: cilia bronzy-greyish, with indistinct dark fuscous shade (imperfect). Hindwings dark fuscous; cilia greyish.

CEYLON, Pundaloya, in November (*Green*); one specimen, not in good condition.

Glyphipteryx tripedila, n. sp.

♂. 12 mm. Palpi short. Forewings elongate, rather dilated posteriorly, costa posteriorly moderately arched, apex obtuse, termen slightly sinuate, oblique; dark fuscous irregularly mixed with fulvous; a curved median transverse series of about six violet-lead-metallic dots edged with dark fuscous suffusion; two angulated posterior series of similar dots, second consisting of a subconfluent series from $\frac{1}{5}$ of costa to termen beneath apex, and two dots near termen below middle; apical area beyond this fulvous, enclosing a small black apical spot: cilia shining grey. Hindwings dark fuscous; cilia fuscous.

ASSAM, Khasi Hills, in April; one specimen.

Epicroesa calliteucha, n. sp.

♀. 8-9 mm. Head and thorax shining dark purple-fuscous. Palpi grey. Antennae dark grey, extreme apex whitish. Abdomen dark fuscous. Forewings elongate, costa slightly arched, apex obtuse, termen obliquely rounded; shining golden-ochreous; a shining deep purple basal patch edged with blackish, occupying nearly $\frac{1}{3}$ of wing; a narrow straight shining greyish-purple fascia slightly before middle, edged with black anteriorly, and posteriorly followed by a rather broad dark fuscous band; a curved transverse prismatic-golden-metallic black-edged streak from $\frac{2}{3}$ of costa to tornus, followed by a blackish patch on lower part of termen; two transverse violet-golden-metallic black-edged marks from costa towards apex, second almost apical: cilia bronzy, on upper part of termen whitish with a black basal line. Hindwings with 5 absent; dark fuscous; cilia rather dark fuscous.

NEW GUINEA, Tenimber Is., in July; two specimens.

Heliodines perichalca, n. sp.

♂. 11-12 mm. Head and thorax shining bronzy-grey-metallic. Palpi grey-whitish. Antennae dark grey. Abdomen orange, towards base and apex shining dark grey. Forewings elongate, very narrow, costa slightly sinuate, apex pointed, termen extremely obliquely rounded; bright deep orange; markings shining metallic violet-bronzy-grey; a slender basal fascia, dilated and centred with black on costa; a narrow sinuate transverse fascia at $\frac{1}{4}$, partially edged with some black scales; a spot on middle of costa, partially edged with black laterally; a streak from near beyond this along costa, and another from middle of dorsum along dorsum and termen,

both running to apex and meeting there: cilia fuscous. Hindwings dark grey; cilia fuscous.

NEW MEXICO, Las Vegas, in July; two specimens.

ACTINOSCELIS, n. g.

Head smooth, forehead forming a raised fillet, face retreating; ocelli absent; tongue very short. Antennae $\frac{2}{3}$, in ♂ with long fine ciliations, basal joint elongate, flatly dilated with scales. Labial palpi very short, drooping, slender, pointed. Maxillary palpi absent. Posterior tibiae smooth, with radiating whorls of extremely long fine bristles at origin of spurs, apex of long inner spurs terminating in whorls of bristles, apex of tarsal joints also with similar radiating whorls. Hindwings $\frac{1}{2}$, linear, cilia 6. Neuration not properly determinable, but may be assumed to resemble *Corsocasis* in type, perhaps with some reduction.

Actinoscelis irina, n. sp.

♂. 7 mm. Head and thorax shining violet-bronze, face bright silvery-metallic. Palpi silvery-white. Antennae dark fuscous. Abdomen dark grey, base and under surface silvery-white. Forewings very narrowly elongate, costa somewhat sinuate, apex long-pointed, acute; violet-fuscous; a moderate longitudinal grey-whitish streak in disc beyond middle, and a similar one along dorsum beneath it: cilia violet-fuscous. Hindwings dark fuscous; cilia shining violet, on costa deep indigo.

BOMBAY, Kanara, in December (*Maxwell*): one specimen.

CORSOCASIS, n. g.

Head smooth; ocelli present; tongue short. Antennae $\frac{1}{2}$, in ♂ shortly ciliated, basal joint moderate, without pecten. Labial palpi moderate, curved, ascending, second joint loosely scaled beneath, terminal joint as long as second, transversely compressed, pointed. Maxillary palpi rudimentary. Posterior tibiae with scattered bristles above, and whorls of bristly projecting scales at origin of spurs. Forewings with 2 from towards angle, 7 to termen, 9 and 10 from near 8, 11 from middle. Hindwings $\frac{3}{4}$, very elongate-ovate, cilia 2; 3 and 4 connate, 5 parallel, 6 and 7 somewhat approximated towards base.

Corsocasis coronias, n. sp.

♂ ♀. 8-12 mm. Head, palpi, antennae, thorax, and abdomen dark purplish-bronzy-grey, second joint of palpi whitish. Forewings elongate, narrow, posteriorly somewhat dilated, costa sinuate, apex obtuse-pointed, termen very obliquely rounded; dark purplish-bronzy-fuscous: cilia fuscous. Hindwings dark fuscous; cilia fuscous.

GLYPHIPTERIGIDAE

Glyphipterix tripedila Meyrick, 1912

Glyphipterix [sic] *tripedila* Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Clarke (1969), 6:85

HELIODINIDAE

Epicroesa calliteucha Meyrick, 1912

Indonesia: Tanimbar Is.

Heliodines perichalca Meyrick, 1912

USA: New Mexico, Las Vegas

Fig.: Meyrick, (1914), 165: pl. 2, f. 21

Actinoscelis Meyrick, 1912

Type-sp.: *Actinoscelis irina* Meyrick, 1912

Actinoscelis irina Meyrick, 1912

India: Bombay, Kanara

Corsocasis Meyrick, 1912

Type-sp.: *Corsocasis coronias* Meyrick, 1912

Corsocasis coronias Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Meyrick, (1914), 165: pl. 2, f. 30

ASSAM, Khasi Hills, from September to November; S. INDIA. Coorg, 3500 feet, in May (*Newcome*); CEYLON, Maskeliya, in March (*Pole*); fourteen specimens.

THRASYDOXA, n. g.

Head with appressed scales; ocelli present; tongue absent. Antennæ $\frac{4}{5}$, scaled, in ♂ simple, basal joint moderate. Labial palpi moderate, slightly curved, porrected, loosely scaled beneath, terminal joint much shorter than second, pointed. Maxillary palpi obsolete. Posterior tibiae clothed with rough hairs above. Forewings with 2 from towards angle, 6 absent, 7 to termen, 11 from beyond middle. Hindwings $\frac{2}{3}$, elongate, round-pointed, cilia $1\frac{1}{2}$; 3 and 4 remote, 5 and 6 rather approximated towards base, 7 nearly parallel.

Thrasydoxa tyrocopa, n. sp.

♂. 17 mm. Head, palpi, antennæ, thorax, and abdomen dark fuscous. Fore wings elongate, narrow, posteriorly rather dilated, costa slightly sinuate, posteriorly arched, apex obtuse, termen very obliquely rounded; dark bronzy-fuscous; a semi-oval whitish-ochreous blotch extending along dorsum from near base to beyond middle, and reaching half across wing; cilia dark fuscous. Hindwings dark fuscous; a suffused whitish-ochreous streak along termen from near base to near middle of wing; cilia rather dark fuscous.

COLOMBIA, San Antonio, 5800 feet, in November; one specimen.

AMPHICLADA, n. g.

Head smooth; ocelli absent; tongue absent. Antennæ $\frac{5}{6}$, basal joint elongate. Labial palpi moderate, almost straight, porrected, with appressed scales, terminal joint shorter than second, pointed. Maxillary palpi rudimentary. Forewings with 1 *b* furcate towards base, 1 *b* and 1 *c* anastomosing towards apex, 2 from towards angle, 4 absent, 7 to apex, 11 from $\frac{4}{5}$ of cell. Hindwings $\frac{3}{4}$, elongate-ovate, cilia $\frac{4}{5}$; 3 and 4 connate, transverse vein absent between 4 and 5, 5 and 6 approximated towards base, 7 parallel.

Amphiclada fervescens, n. sp.

♀. 14 mm. Head, thorax, abdomen, forewings, and hindwings wholly ferruginous. Palpi and antennæ greyish-ochreous.

GRENADA, St. George's, in November; one specimen. In one forewing of this example the apex of vein 1 *c* is by an abnormality furcate, so that its combination with 1 *b* appears to terminate in three branches.

Thriambeutis coryphæa, n. sp.

♀. 22 mm. Head rather dark fuscous, collar reddish-orange. Palpi orange. Antennæ dark purplish-fuscous (tip broken). Thorax reddish-orange. Abdomen blackish, two basal segments reddish-orange. Forewings elongate, very narrow, costa slightly sinuate, apex obtuse, termen very obliquely rounded; reddish-orange; a blackish line running round apical third of costa and continued round termen to middle of dorsum: cilia blackish. Hindwings blackish-fuscous; basal $\frac{2}{3}$ reddish-orange; cilia dark fuscous, with blackish basal line, on dorsum reddish-orange.

PHILIPPINES, Mindoro, Baco R., in February (*Mounsey*); one specimen.

TRICOTHYRSA, n. g.

Head smooth; ocelli present; tongue short. Antennæ nearly 1, in ♂ biciliated, with long fascicles, basal joint moderate, without pecten. Labial palpi short, slender, slightly curved, porrected, second joint loosely scaled beneath, terminal joint as long as second, pointed. Maxillary palpi rudimentary. Posterior tibiae smooth, with whorls of projecting, bristly scales at origin of spurs, and at apex of first tarsal joint. Forewings with 2 from towards angle, 7 to termen, 9 and 10 from near 8, 11 from middle. Hindwings under 1, very elongate-trapezoidal, apex obtuse, termen rounded, cilia 1; 3 and 4 connate, 5 parallel, 6 and 7 somewhat approximated towards base.

Type *T. flammivola*.

Trichothyrsa coridarcha, n. sp.

♀. 16-17 mm. Head dark purplish-bronzy; collar, thorax, and abdomen reddish-orange. Palpi orange. Antennæ dark fuscous, apical half whitish. Forewings elongate, narrow, posteriorly slightly dilated, costa sinuate, apex obtuse, termen very obliquely rounded; reddish-orange; a suffused black line round termen and posterior portion of costa and dorsum: cilia blackish-grey. Hindwings reddish-orange; a suffused black streak running along posterior $\frac{2}{3}$ of costa and round termen to before middle of wing, with projections along veins 5 and 6; cilia dark grey, round tornus and dorsum reddish-orange.

ASSAM, Khasi Hills, in September and October; six specimens.

Trichothyrsa flammivola, n. sp.

♂. 16 mm. Head, thorax, and abdomen deep reddish-orange. Palpi orange, terminal joint mixed with blackish. Antennæ dark purple-fuscous, ciliations long. Forewings elongate, very narrow, posteriorly hardly dilated, costa sinuate, apex obtuse, termen very obliquely rounded; deep reddish-orange; a very slender suffused

HELIODINIDAE

Thrasydoxa Meyrick, 1912

Type-sp.: *Thrasydoxa tyrocopa* Meyrick, 1912

Thrasydoxa tyrocopa Meyrick, 1912

Colombia: San Antonio

Fig.: Meyrick (1914), 165: pl. 2, f. 24

Amphiclada Meyrick, 1912

Type-sp.: *Amphiclada fervescens* Meyrick, 1912

Amphiclada fervescens Meyrick, 1912

Grenada: St. George's

Thriambeutis coryphæa Meyrick, 1912

Philippines: Mindoro, Rio Baco

Fig.: Meyrick (1914), 165: pl. 2, f. 27

Diakonoff (1968), 213, f. 691

Trichothyrsa Meyrick, 1912

Type-sp.: *Trichothyrsa flammivola* Meyrick, 1912

Trichothyrsa coridarcha Meyrick, 1912

India: Meghalaya, Khasi Hills

Fig.: Meyrick (1914), 165: pl. 2, f. 28

Trichothyrsa flammivola Meyrick, 1912

India: Karnataka, Coorg

blackish streak along posterior half of dorsum and termen: cilia dark grey. Hindwings reddish-orange; posterior half purple-blackish, sending projections inwards along costa and dorsum; cilia dark grey, on upper half of termen suffused with whitish, on dorsum reddish-orange.

S. INDIA, Coorg, 3500 feet, in December (Newcome); one specimen.

Trichothyrsa taedifera, n. sp.

♀. 20 mm. Head and thorax reddish-orange. Palpi ochreous, terminal joint mixed with dark fuscous. Antennae dark fuscous, towards tips whitish. Abdomen dark fuscous. Forewings elongate, very narrow, posteriorly somewhat dilated, costa sinuate, apex obtuse, termen very obliquely rounded; deep reddish-orange; costal area anteriorly irrorated with blackish, on posterior half of costa becoming a rather broad irregular blackish streak continued round termen to tornus, and forming an elongate præternal patch on dorsum, projecting inwards in disc to middle: cilia dark grey. Hindwings reddish-orange; posterior half purple-blackish, sending projections inwards along costa and dorsum; cilia dark grey.

Ceylon, Pundaloya, in November (Green); one specimen.

Trichothyrsa pyrrhocoma, n. sp.

♂. 15 mm. Head reddish-ochreous. Palpi pale ochreous, terminal joint mixed with dark fuscous. Antennae dark purple-fuscous, towards apex whitish, ciliations very long. Thorax and abdomen dark fuscous. Forewings elongate, narrow, slightly dilated posteriorly, costa somewhat sinuate, apex obtuse, termen very obliquely rounded; dark purple-fuscous: cilia grey, tips whitish. Hindwings dark fuscous; cilia as in forewings.

Ceylon, Pundaloya (Green); two specimens.

Trichothyrsa grypodes, n. sp.

♂ ♀. 14-16 mm. Head ochreous, sometimes partially infuscated. Palpi whitish-ochreous; maxillary palpi somewhat more developed than in the other species. Antennae grey, becoming pale greyish-ochreous towards base, ciliations in ♂ very long. Thorax purplish-fuscous. Abdomen ochreous. Forewings elongate, narrow, posteriorly slightly dilated, costa sinuate, apex obtuse, termen sinuate, oblique; dark purplish-fuscous, usually more or less irrorated with pale ochreous, especially round discal spot; a dark fuscous spot in disc at $\frac{2}{3}$: cilia rather dark fuscous, on median third of termen ochreous-whitish except towards base. Hindwings dark fuscous; cilia fuscous, darker towards base, on median area of termen whitish-tinged except towards base.

S. INDIA, Palni Hills, 6000 feet (Campbell); five specimens.

ELECTROGRAPHA, n. g.

Head smooth; ocelli present; tongue short. Antennae $\frac{1}{2}$, in ♂ shortly ciliated, basal joint moderate, without pecten. Labial palpi moderate, curved, ascending, transversely compressed, with whorls of scales, terminal joint shorter than second, pointed. Maxillary palpi rudimentary. Posterior tibiae smooth, spurs roughened with scales above. Forewings with 1 b simple, 2 from $\frac{3}{4}$, 3 from angle, 4 and 5 widely remote, 7 to apex, 7 and 8 closely approximated at base, 11 from before middle. Hindwings $\frac{1}{4}$, trapezoidal-ovate, cilia $\frac{3}{4}$; 3 and 4 connate, 5-7 considerably approximated towards base.

A development of *Glyphipteryx*.

Electrographa thiolychna, n. sp.

♂. 13 mm. Head and thorax dark indigo-fuscous. Palpi with whorls of blackish white-tipped scales, apex streaked with black and white. Abdomen dark fuscous. Forewings elongate, somewhat dilated posteriorly, costa gently arched, apex rounded, termen obliquely rounded; glossy dark indigo-fuscous; a hardly sinuate transverse whitish line beyond $\frac{1}{3}$, thickened and more conspicuous on dorsal half; a pale greenish-blue-metallic somewhat oblique striga from costa at $\frac{3}{4}$, not reaching half across wing; a pale greenish-blue-metallic dot on costa at $\frac{3}{4}$, and a curved striga from just beyond this to termen beneath apex: cilia dark fuscous, round apex with pale basal and median lines. Hindwings and cilia dark fuscous.

Burma, Momeit; one specimen.

EUCOSMIDÆ.

Argyroplote archimedis, n. sp.

♂ ♀. 13-15 mm. Head, palpi, and thorax light brown, thoracic crest dark red-brown. Abdomen grey, anal tuft of ♂ pale greyish-ochreous. Posterior tibiae ochreous-whitish. Forewings elongate-triangular, costa gently arched, apex obtuse, termen rounded, little oblique; rosy-ochreous strigulated with grey; costa shortly strigulated with dark fuscous, extreme edge whitish; markings deep red-brown, partially finely edged with white; a triangular blotch on dorsum about $\frac{1}{3}$, reaching more than half across wing; central fascia moderately broad, oblique, suffused anteriorly, well-defined and rather irregular posteriorly, becoming obsolete towards dorsum and only traceable on posterior edge; a rounded blotch resting on middle of termen, deepest and white-edged only on upper half: cilia brown, whitish-sprinkled, with crimson-brown basal shade on upper part of termen. Hindwings with tornus in ♂ somewhat prominent, dark grey; cilia grey, towards tips whitish, with dark grey subbasal shade.

China, Hongkong; three specimens.

HELIODINIDAE

Trichothyrsa taedifera Meyrick, 1912
Sri Lanka: Pundaloya

Trichothyrsa pyrrhocoma Meyrick, 1912
Sri Lanka: Pundaloya

Trichothyrsa grypodes Meyrick, 1912
India: Tamil Nadu, Palni Hills

GLYPHIPTERIGIDAE

Electrographa Meyrick, 1912
Type-sp.: *Electrographa thiolychna* Meyrick, 1912

Electrographa thiolychna Meyrick, 1912
Myanmar: Momeit
Fig.: Clarke (1969), 6:53

TORTRICIDAE

Olethreutes purpurissatana (Kennel, 1901)
Argyroplote archimedis Meyrick, 1912
China: Hong Kong

INDEX TO EXOTIC MICROLEPIDOPTERA, Part 1

- achyroides (Meyrick), Choreutis, 46
achyroides Meyrick, Simaethis, 46
Acleris amethystas (Meyrick), 16
Acleris dryadarcha (Meyrick), 17
Acleris enitescens (Meyrick), 16
Acleris eriopila (Meyrick), 16
Acleris hapalactis (Meyrick), 18
Acleris napaea (Meyrick), 18
Acleris nectaritis (Meyrick), 18
Acleris placata (Meyrick), 17
Acleris semitexta (Meyrick), 17
Acrocercops carbunculata Meyrick, 24
Acrocercops carcharota Meyrick, 22
Acrocercops gravissima Meyrick, 24
Acrocercops heterodoxa Meyrick, 23
Acrocercops hexalocha Meyrick, 22
Acrocercops hormophora Meyrick, 23
Acrocercops hyphantica Meyrick, 25
Acrocercops monodecta Meyrick, 23
Actinoscelis irina Meyrick, 59
Actinoscelis Meyrick, 59
 ADELIDAE, 27-30
Adoxophyes flagrans Meyrick, 3
Adoxophyes parastrophia Meyrick, 3
aerifera Meyrick, Glyphipterix, 57
aerifera Meyrick, Glyphipterix, 57
Agisana mellicoma (Meyrick), 29
Agisana ochrotirica (Meyrick), 29
albescentis Meyrick, Tortrix, 6
amethystas (Meyrick), Acleris, 16
amethystas Meyrick, Peronea, 16
Amphiclada fervescens Meyrick, 60
Amphiclada Meyrick, 60
ancistrotata (Meyrick), Moca, 39
ancistrotata Meyrick, Imma, 39
Ancylis aromatis Meyrick, 31
Ancylis comptana (Frölich), 33
Ancylis glycyphaga Meyrick, 32
Ancylis hylaea Meyrick, 31
Ancylis lutescens Meyrick, 32
Ancylis sculpta Meyrick, 33
Ancylis tumida Meyrick, 30
anthorma (Meyrick), Choreutis, 42
anthorma Meyrick, Simaethis, 42
antichlora (Meyrick), Choreutis, 44
antichlora Meyrick, Simaethis, 44
antipila Meyrick, Choreutis, 56
archimedis Meyrick, Argyploce, 63
Archips micaceana (Walker), 4
Archips salaconis (Meyrick), 5
ardens Meyrick, Brenthia, 52
Argyploce archimedis Meyrick, 63
argyrota (Meyrick), Prochoreutis, 55
argyrota Meyrick, Choreutis, 55
Aristaea bathracma (Meyrick), 25
aromatias Meyrick, Ancylis, 31
Arotrophora crustata Meyrick, 9
Aspilapteryx filifera (Meyrick), 27
Aspilapteryx seriata (Meyrick), 27
astuta Meyrick, Tymbaria, 14
Balioxena iospila Meyrick, 13
Balioxena Meyrick, 12
bathracma (Meyrick), Aristaea, 25
bathracma Meyrick, Parectopa, 25
bellica Meyrick, Hilarographa, 37
 BRACHODIDAE, 38
Brenthia ardens Meyrick, 52
Brenthia carola Meyrick, 53
Brenthia cyanaula Meyrick, 53
Brenthia luminifera Meyrick, 51
Brenthia monilifera (Meyrick), 54
Brenthia paranymphe Meyrick, 53
Brenthia strophalora Meyrick, 51
Brenthia virginalis Meyrick, 52
Cacoecia leucocymba Meyrick, 4
Cacoecia machlopi Meyrick, 4
Cacoecia salaconis Meyrick, 5
caerulea Meyrick, Cyphosticha, 26
Callibryastis Meyrick, 13
Callibryastis pachnota Meyrick, 14
callispora Meyrick, Heliostibes, 41
calliteucha Meyrick, Epicroesa, 58
capnospila (Meyrick), Chlidonia, 20
capnospila Meyrick, Phalonia, 20
Capua cornigera Meyrick, 2
Capua fabrilis Meyrick, 1
carbunculata (Meyrick), Conopobathra, 24
carbunculata Meyrick, Acrocercops, 24
carcharota (Meyrick), Dialectica, 22
carcharota Meyrick, Acrocercops, 22
Carmentina molybdora (Meyrick), 57
carola (Meyrick), Litobrenthia, 53
carola Meyrick, Brenthia, 53
Catamacta provocata Meyrick, 1
Catamacta scrutatrix Meyrick, 1
Cerace loxodes Meyrick, 19
Ceromitia mellicoma Meyrick, 29
Ceromitia nerina Meyrick, 28
Ceromitia ochrotirica Meyrick, 29
Ceromitia phaeocoma Meyrick, 28
Ceromitia transtrifera Meyrick, 29
chalcantha Meyrick, Pharmacia, 20
chalybacma Meyrick, Epicephala, 21
Chlidonia capnospila (Meyrick), 20
CHLOREUTIDAE, 37-38, 42-56
Choreutis achyroides (Meyrick), 46
Choreutis anthorma (Meyrick), 42
Choreutis antichlora (Meyrick), 44
Choreutis antipila Meyrick, 56
Choreutis argyrota Meyrick, 55
Choreutis cothurnata (Meyrick), 45
Choreutis dichlora (Meyrick), 48, 50
Choreutis diplogramma (Meyrick), 49
Choreutis eumetra (Meyrick), 43
Choreutis hestiarica Meyrick, 54
Choreutis holachyrma (Meyrick), 47
Choreutis ialeura (Meyrick), 46
Choreutis itridodes (Meyrick), 49
Choreutis lethaea (Meyrick), 47
Choreutis monilifera Meyrick, 54
Choreutis philonyma Meyrick, 55
Choreutis psilachya (Meyrick), 47
Choreutis sexfasciella (Saubert), 48
Choreutis strepsidesma (Meyrick), 45
Choreutis troglia (Meyrick), 43
Choreutis xanthogramma (Meyrick), 42
citricula (Meyrick), Ectopina, 26
citricula Meyrick, Gracilaria, 26
Cnephasia corusca Meyrick, 11
Cnephasia incepta Meyrick, 10
Cnephasia olearia Meyrick, 10
Cnephasia temulenta Meyrick, 11
comptana (Frölich), Ancylis, 33
Conopobathra gravissima (Meyrick), 24
Conopobathra carbunculata (Meyrick), 24
coridarcha Meyrick, Trichothyrsa, 61
cornigera Meyrick, Capua, 2
Cornuticlava spectralis (Meyrick), 13
coronias Meyrick, Corsocasis, 59
Corsocasis coronias Meyrick, 59
Corsocasis Meyrick, 59
corusca (Meyrick), Eulia, 11
corusca Meyrick, Cnephasia, 11
coryphaea Meyrick, Thriambeutis, 61
cothurnata (Meyrick), Choreutis, 45
cothurnata Meyrick, Simaethis, 45
crustata Meyrick, Arotrophora, 9
Cryptolectica monodecta (Meyrick), 23
cultrata Meyrick, Glyphipterix, 56
cultrata Meyrick, Glyphipterix, 56
cyanaula (Meyrick), Litobrenthia, 53
cyanaula Meyrick, Brenthia, 53
Cyphosticha caerulea Meyrick, 26
Dialectica carcharota (Meyrick), 22
dichlora (Meyrick), Choreutis, 48, 50
dichlora Meyrick, Simaethis, 48
diplogramma (Meyrick), Choreutis, 49
diplogramma Meyrick, Simaethis, 49
directa Meyrick, Eucosma, 34
dorinda (Meyrick), Phyllonorycter, 21
dorinda Meyrick, Lithocolletis, 21
dryadarcha (Meyrick), Acleris, 17
dryadarcha Meyrick, Peronea, 17
Eboda facilis Meyrick, 15
Eboda haruspex Meyrick, 15
Eboda obstinata Meyrick, 20
Ectopina citricula (Meyrick), 26
Ectopina ligata (Meyrick), 26
electrina (Meyrick), Zacorisca, 5
electrina Meyrick, Megalodoris, 5
Electrographa Meyrick, 63
Electrographa thiolychna Meyrick, 63
enitescens (Meyrick), Acleris, 16
enitescens Meyrick, Peronea, 16
Enoditis Meyrick, 2
Epicephala chalybacma Meyrick, 21
Epicephala invita Meyrick, 22
Epichorista chloradelpha Meyrick, 8
Epichorista ingenua Meyrick, 9
Epichorista perversa Meyrick, 9
Epichorista sicca Meyrick, 9
Epichorista tortuosa Meyrick, 8
Epicroesa calliteucha Meyrick, 58
eriopila (Meyrick), Acleris, 16
eriopila Meyrick, Peronea, 16
Eucosma directa Meyrick, 34
Eucosma stereoma Meyrick, 33
Eulia corusca (Meyrick), 11
Eulia smaragdita Meyrick, 11
eumetra (Meyrick), Choreutis, 43
eumetra Meyrick, Simaethis, 43
fabrilis Meyrick, Capua, 1
facilis Meyrick, Eboda, 15
fervescens Meyrick, Amphiclada, 60
filifera (Meyrick), Aspilapteryx, 27
filifera Meyrick, Gracilaria, 27
flagrans Meyrick, Adoxophyes, 3
flammivola Meyrick, Trichothyrsa, 61
fulminea Meyrick, Simaethis, 48
glebifera (Meyrick), Lobesia, 34
glebifera Meyrick, Polychrosis, 34
glycyphaga Meyrick, Ancylis, 32
GLYPHIPTERIGIDAE, 56-58, 63
Glyphipterix aerifera Meyrick, 57
Glyphipterix cultrata Meyrick, 56
Glyphipterix stilata Meyrick, 57
Glyphipterix tripedila Meyrick, 58
Glyphipterix [sic] aerifera Meyrick, 57
Glyphipterix [sic] cultrata Meyrick, 56
Glyphipterix [sic] molybdora Meyrick, 57
Glyphipterix [sic] stilata Meyrick, 57
Glyphipterix [sic] tripedila Meyrick, 58
Gracilaria [sic] citricula Meyrick, 26
Gracilaria [sic] filifera Meyrick, 27
Gracilaria [sic] ligata Meyrick, 26
Gracilaria [sic] seriata Meyrick, 27
GRACILLARIIDAE, 21-27
gravissima (Meyrick), Conopobathra, 24
gravissima Meyrick, Acrocercops, 24
grypodes Meyrick, Trichothyrsa, 62
gymnota (Meyrick), Nemophora, 30
gymnota Meyrick, Nemotois, 30
halimora (Meyrick), Prochoreutis, 50
halimora Meyrick, Simaethis, 50
hapalactis (Meyrick), Acleris, 18
hapalactis Meyrick, Peronea, 18
haruspex Meyrick, Eboda, 15
Heliodes perichalca Meyrick, 58
HELIODINIDAE, 58-62
Heliostibes callispora Meyrick, 41
hestiarica (Meyrick), Prochoreutis, 54
hestiarica Meyrick, Choreutis, 54
heterodoxa Meyrick, Acrocercops, 23
hexalocha (Meyrick), Spulerina, 22
hexalocha Meyrick, Acrocercops, 22
hexaphala (Meyrick), Nexosa, 36
hexaphala Meyrick, Mictopsichia, 36
Hierodoris iophanes Meyrick, 42
Hierodoris Meyrick, 41
Hilarographa bellica Meyrick, 37
Hilarographa leucopyrga Meyrick, 36
holachyrma (Meyrick), Choreutis, 47
holachyrma Meyrick, Simaethis, 47
Homona socialis Meyrick, 3
hormophora (Meyrick), Polydema, 23
hormophora Meyrick, Acrocercops, 23
humana Meyrick, Tortrix, 6
hyalozona Meyrick, Tortyra, 38
hylaea Meyrick, Ancylis, 31
hyphantica Meyrick, Acrocercops, 25
ialeura (Meyrick), Choreutis, 46
ialeura Meyrick, Simaethis, 46
Imma ancistrotata Meyrick, 39
Imma paratma Meyrick, 40
Imma phthorosema Meyrick, 40
Imma tetrascia Meyrick, 38
Imma vaticina Meyrick, 39
 IMMIDAE, 38-40
incepta Meyrick, Cnephasia, 10
indigna Meyrick, Ulometra, 28
ingenua Meyrick, Epichorista, 9
insincera Meyrick, Tortrix, 7
intrepida Meyrick, Tortrix, 7
invita (Meyrick), Parelectis, 22
invita Meyrick, Epicephala, 22
iophanes Meyrick, Hierodoris, 42
iospila Meyrick, Balioxena, 13
irina Meyrick, Actinoscelis, 59
itridodes (Meyrick), Choreutis, 49
itridodes Meyrick, Simaethis, 49
Jonaca nephelospila Meyrick, 38
Lasiodictis melistoma Meyrick, 41
Lasiodictis Meyrick, 41
lethaea (Meyrick), Choreutis, 47
lethaea Meyrick, Simaethis, 47
leucocymba Meyrick, Cacoecia, 4
leucopyrga (Meyrick), Thaumatocephala, 36
leucopyrga Meyrick, Hilarographa, 36
libanota (Meyrick), Saptha, 37
ligata (Meyrick), Ectopina, 26
ligata Meyrick, Gracilaria, 26
Lithocolletis dorinda Meyrick, 21
Lithocolletis melanosparta Meyrick, 21
Litobrenthia carola (Meyrick), 53
Litobrenthia cyanaula (Meyrick), 53
Lobesia glebifera (Meyrick), 34
loxodes Meyrick, Cerace, 19
luminifera Meyrick, Brenthia, 51
lutescens Meyrick, Ancylis, 32
machlopi Meyrick, Cacoecia, 4
Megalodoris electrina Meyrick, 5
Megalodoris Meyrick, 5
melanosparta (Meyrick), Phyllonorycter, 21
melanosparta Meyrick, Lithocolletis, 21
melistoma Meyrick, Lasiodictis, 41
mellicoma (Meyrick), Agisana, 29
mellicoma Meyrick, Ceromitia, 29
micaceana (Walker), Archips, 4
Mictopsichia hexaphala Meyrick, 36
Mictopsichia picturata Meyrick, 35
Moca ancistrotata (Meyrick), 39
Moca paratma (Meyrick), 40
Moca phthorosema (Meyrick), 40
molybdora (Meyrick), Carmentina, 57
molybdora Meyrick, Glyphipterix, 57
monilifera (Meyrick), Brenthia, 54
monilifera Meyrick, Choreutis, 54
monodecta (Meyrick), Cryptolectica, 23
napaea (Meyrick), Acleris, 18
napaea Meyrick, Peronea, 18
nectaritis (Meyrick), Acleris, 18
nectaritis Meyrick, Peronea, 18
Nemophora gymnota (Meyrick), 30
Nemotois gymnota Meyrick, 30
nephelospila (Meyrick), Sagalassa, 38
nephelospila Meyrick, Jonaca, 38
nerina Meyrick, Ceromitia, 28
Nexosa hexaphala (Meyrick), 36

Nexosa picturata (Meyrick), 35
 obstinata Meyrick, Eboda, 20
 ochrotirica (Meyrick), Agisana, 29
ochrotirica Meyrick, Ceromitia, 29
 OECOPHORIDAE, 41-42
 olearis Meyrick, Cnephasia, 10
 Oletreutes purpurissatana (Kennel), 63
 orbiger Meyrick, Spatalistis, 14
 Orthocomotis smaragditiis (Meyrick), 11
 pachnota Meyrick, Callibryastis, 14
 paranympha Meyrick, Brenthia, 53
 parastrophia Meyrick, Adoxophyes, 3
 paratma (Meyrick), Moca, 40
 paratma Meyrick, Imma, 40
 Parelectis invita (Meyrick), 22
Parelecta bathracma Meyrick, 25
 perichalca Meyrick, Heliodes, 58
Peronea amethystas Meyrick, 16
Peronea dryadarcha Meyrick, 17
Peronea enitescens Meyrick, 16
Peronea eriopila Meyrick, 16
Peronea hapalactis Meyrick, 18
Peronea napaea Meyrick, 18
Peronea nectaritis Meyrick, 18
Peronea petulans Meyrick, Peronea, 19
Peronea petulans Meyrick, 19
Peronea placata Meyrick, 17
Peronea semitexta Meyrick, 17
 perversa Meyrick, Epichorista, 9
 Peteliacma Meyrick, 12
 Peteliacma torrescens Meyrick, 12
 petulans (Meyrick), Phricanthes, 19
 phaeocoma Meyrick, Ceromitia, 28
Phalonia capnosipila Meyrick, 20
 Pharmacia chalcantia Meyrick, 20
 philonyma Meyrick, Choreutis, 55
 Phricanthes petulans (Meyrick), 19
 phthorosema (Meyrick), Moca, 40
 phthorosema Meyrick, Imma, 40
 Phyllonorycter dorinda (Meyrick), 21
 Phyllonorycter melanosparta (Meyrick), 21
 picturata (Meyrick), Nexosa, 35
 picturata Meyrick, Mictopsichia, 35
 pilaria Meyrick, Simaethis, 50
 placata (Meyrick), Acleris, 17
 placata Meyrick, Peronea, 17
 Planostocha Meyrick, 13
Polychrosis glebifera Meyrick, 34
 Polydema hormophora (Meyrick), 23
 Prochoreutis argyrota (Meyrick), 55
 Prochoreutis halimora (Meyrick), 50
 Prochoreutis hestiaracha (Meyrick), 54
 Prochoreutis sehestediana (Fabricius), 55
 provocata Meyrick, Catamacta, 1
 psilachyra (Meyrick), Choreutis, 47
 psilachyra Meyrick, Simaethis, 47
 purpurissatana (Kennel), Oletreutes, 63
 pyrrocoma Meyrick, Trichothyrsa, 62
 rhothia (Meyrick), Strepsicrates, 33
 rhothia Meyrick, Spilonota, 33
 Sagalassa nephelospila (Meyrick), 38
 salaconis (Meyrick), Archips, 5
 salaconis Meyrick, Cacoecia, 5
 sanidota Meyrick, Tortrix, 7
 Saptha libanota (Meyrick), 37
 Saptha tabularia (Meyrick), 37
Schoenotenes spectralis Meyrick, 13
 scrutatrix Meyrick, Catamacta, 1
 sculpia Meyrick, Ancyliis, 33
 sehestediana (Fabricius), Prochoreutis, 55
 semitexta (Meyrick), Acleris, 17
 semitexta Meyrick, Peronea, 17
 seriata (Meyrick), Aspilapteryx, 27
 seriata Meyrick, Gracilaria, 27
 sexfasciella (Sauber), Choreutis, 48
 sicca Meyrick, Epichorista, 9
Simaethis achyrodes Meyrick, 46
Simaethis anthorma Meyrick, 42
Simaethis antichlora Meyrick, 44
Simaethis cothurnata Meyrick, 45
Simaethis dichlora Meyrick, 48
Simaethis diplogramma Meyrick, 49
Simaethis eumetra Meyrick, 43
Simaethis fulminea Meyrick, 48

Simaethis halimora Meyrick, 50
Simaethis holachyrma Meyrick, 47
Simaethis ialeura Meyrick, 46
Simaethis itriodes Meyrick, 49
Simaethis lethaea Meyrick, 47
Simaethis pilaria Meyrick, 50
Simaethis psilachyra Meyrick, 47
Simaethis strepsidesma Meyrick, 45
Simaethis trogolia Meyrick, 43
Simaethis xanthogramma Meyrick, 42
 smaragditiis (Meyrick), Orthocomotis, 11
 smaragditiis Meyrick, Eulia, 11
 socialis Meyrick, Homona, 3
 Spatalistis orbiger Meyrick, 14
 Spatalistis tyrophthora Meyrick, 15
 spectralis (Meyrick), Cornuticlava, 13
 spectralis Meyrick, Schoenotenes, 13
 Spheterista Meyrick, 2
Spilonota rhothia Meyrick, 33
 Spulerina hexalocha (Meyrick), 22
 stereoma Meyrick, Eucosma, 33
 stilata Meyrick, Glyphipterix, 57
 stilata Meyrick, Glyphipteryx, 57
 Strepsicrates rhothia (Meyrick), 33
 strepsidesma (Meyrick), Choreutis, 45
 strepsidesma Meyrick, Simaethis, 45
 strophalora Meyrick, Brenthia, 51
 sybaritis Meyrick, Tortyra, 37
 tabularia (Meyrick), Saptha, 37
 tabularia Meyrick, Tortyra, 37
 taedifera Meyrick, Trichothyrsa, 62
 temulenta Meyrick, Cnephasia, 11
 tetrascia Meyrick, Imma, 38
 Thaumato-grapha leucopyrga (Meyrick), 36
 thiolychna Meyrick, Electrographa, 63
 Thrasydoxa Meyrick, 60
 Thrasydoxa tyrocopa Meyrick, 60
 Thriambeutis coryphaea Meyrick, 61
 torrescens Meyrick, Peteliacma, 12
 TORTRICIDAE, 1-20, 30-37, 63
 Tortrix albescens Meyrick, 6
 Tortrix humana Meyrick, 6
 Tortrix insincera Meyrick, 7
 Tortrix intrepida Meyrick, 7
 Tortrix sanidota Meyrick, 7
 Tortrix tricensa Meyrick, 6
 tortuosa Meyrick, Epichorista, 8
 Tortyra hyalozona Meyrick, 38
 Tortyra sybaritis Meyrick, 37
 Tortyra tabularia Meyrick, 37
 transtrifera Meyrick, Ceromitia, 29
 tricensa Meyrick, Tortrix, 6
 Trichothyrsa coridarcha Meyrick, 61
 Trichothyrsa flammivola Meyrick, 61
 Trichothyrsa grypodes Meyrick, 62
 Trichothyrsa Meyrick, 61
 Trichothyrsa pyrrocoma Meyrick, 62
 Trichothyrsa taedifera Meyrick, 62
 tripedila Meyrick, Glyphipterix, 58
 tripedila Meyrick, Glyphipteryx, 58
 trogolia (Meyrick), Choreutis, 43
 trogolia Meyrick, Simaethis, 43
 tumida Meyrick, Ancyliis, 30
 Tymbarcha astuta Meyrick, 14
 tyrocopa Meyrick, Thrasydoxa, 60
 tyrophthora Meyrick, Spatalistis, 15
 Ulometra indigna Meyrick, 28
 Ulometra Meyrick, 27
 vaticina Meyrick, Imma, 39
 virginalis Meyrick, Brenthia, 52
 xanthogramma (Meyrick), Choreutis, 42
 xanthogramma Meyrick, Simaethis, 42
 Zacorisca electrina (Meyrick), 5

LOCALITIES

Argentina, 11
 Australia, 13, 37-39
 China, 48, 56, 63
 Colombia, 38, 40, 60
 Comoro Is., 7
 French Guiana, 11
 Grenada, 60
 Guyana, 40
 Hawaii, 2
 India, 1-4, 6, 9, 14-19, 21, 25-26, 31-33, 35,
 41, 43-47, 49-56, 58-59, 61-62
 Indonesia, 39, 58
 Irian Jaya, 39
 Japan, 36
 Korea, 33
 Loyalty Is., 37
 Madagascar, 4, 9, 12-13, 30
 Myanmar, 3, 19, 63
 New Guinea, 39
 New Zealand, 41-42, 57
 Pakistan, 18
 Philippines, 1, 5, 42, 61
 South Africa, 1, 6, 8-11, 22-29, 52
 Sri Lanka, 15-16, 20-21, 30, 33, 36, 39, 47-
 48, 55, 57, 62
 Surinam, 37-38
 Turkey, 7, 20, 34
 USA, 58

HOSTS

Acacia sp. (Leguminosae), 33
Caesalpinia bonducella (Leguminosae), 25
Cardiospermum (Sapindaceae), 20
Crotalaria juncea (Leguminosae), 26
Desmodium (Leguminosae), 21
Elaeocarpus (Elaeocarpaceae), 36
Eugenia jambolana (Myrtaceae), 33
Flemingia grahamiana (Leguminosae), 21
 Homoptera (*Phromnia marginella*), 32
Lithospermum (Boraginaceae), 22
Poinciana pulcherrima (Leguminosae), 21
Psidium guajava (Myrtaceae), 33
Rhynchosia caribaea (Leguminosae), 21
Sclerocarya caffra (Anacardiaceae), 22
Scutellaria (Labiatae), 55
Vigna (Leguminosae), 21
Vigna sinensis (Leguminosae), 26
Zizyphus jujuba (Rhamnaceae), 32

ATLAS OF NORTH AMERICAN LEPIDOPTERA

Checklist: Part 1. Papilionidae

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There have been several catalogs for North American Lepidoptera, the most recent being that of Hodges *et al.* (1983). Most all such catalogs have used the Mexican border with the United States as the southern boundary, even though true Nearctic biota continues into the central plateau of Mexico: too little was known of the northern Mexican fauna to adequately add it to northern catalogs. The political boundary, thus, has been a convenient stopping point. Today, the northern Mexican fauna still remains relatively poorly surveyed. The present catalog likewise involves only the area north of Mexico, but does include stray species that will be found in the border regions from time to time. Inasmuch as parts of this new catalog to Nearctic Lepidoptera are still being finished, it should be of use to users to have parts of it available in turn until all can be combined into one publication. Thus, the present part on Papilionidae is the first installment for the butterfly volume.

The catalog section herein includes a basic index so species names can be found more easily. Unlike previous catalogs that were numbered consecutively, either starting with butterflies, or more recently with the most primitive moths, or even unnumbered as is the format preferred by some, the present catalog will have each family numbered separately as standard format for the series. Although some have criticized this numbering system, I believe their criticisms stem mainly from the lack of interest in new techniques: when using species numbers prefixed with the family number in a general index, one can then easily determine what family each belongs to merely by scanning the number for each name (this is facilitated once some of the main family numbers are remembered, like 95 for Papilionidae, etc.). We now have fairly well stabilized families in Lepidoptera (although it is still possible some new families may turn up in more remote tropical faunas), so using family numbers enhances the index: of course, in a single section where only one family is treated, as is the case here, this becomes superfluous, but once the species names are combined with those from other families in the general index, the purpose becomes obvious.

The present catalog presents our most current knowledge for the species involved. Undoubtedly many specialists will have personal preferences nonetheless, as to where certain species go or to what genera they may belong: considerable study yet remains to be done before all specialists can agree on a genuine consensus of these questions. However, I believe we are closer to such a consensus than perhaps 20 or 30 years ago. Even so, specialists also have varying opinions on what a species is and what parameters genera should have, what theory of classification one should use (phylogenetic, cladistic, even theological!, etc.), whether to arrange species alphabetically or phylogenetically to nearest relatives, and so forth: thus, these conflicts also make it difficult to have full consensus on a catalog. Hopefully, the present catalog is closer to the truth, at least as far as the species are concerned.

In my view, genera should not be split too much or else one loses the value of generic names. For example, in birds it has come to be that almost every species is in a different genus: one can do this in all groups, but the question becomes whether this is useful in understanding the evolution of the group when classified in this way. Since my specialty is with moths, I have taken the parameters of

what most taxonomists for moths think of as a genus and applied this throughout the order and, consequently, not all generic splitting currently fashionable among the butterflies is followed herein. I purposely use the word "fashionable" not in a derogatory manner, but to induce the knowledge to the reader that generic splitting and lumping, when extreme, are actually like changes in social fashions. Currently, there is considerable splitting going on that was not the case perhaps 35 years ago: not that we want to revert to classifications of 1965, just that the understanding of what a reasonable generic limit is should be adhered to for all Lepidoptera, not broadly for moths and narrowly for butterflies. For example, one can take the case of some of the "genera" adopted among the swallowtails as a case in point: some specialists use generic names that I view as "subgenera" of subgenera. The groupings in such cases among other families would be shown as well by the use of species-groups (or subgenera), rather than formal generic names, but some specialists do not like using species-group names (or subgenera), so they just subjectively elevate these groups to genera.

Classification opinions, thus, still are with us, even if the species are more clearly defined than in the past. Thus, one can understand the difficulties in having a consensus about any larger group like Papilionidae. The same is true with subspecies, where one specialist names every local population as a different subspecies and another specialist names subspecies only over very large regions and where they are truly isolated geographically (which actually is the standard definition of a subspecies: merging subspecies, or "subspecies" within the range of another subspecies, is a kind of misnomer and does not involve subspecies but only geographic forms). Herein, subspecies are retained where they are clearly in different areas, although sometimes this can involve many names when a species is distributed in a region as complex topographically as California, for example. Subspecies need not actually be named in any case and their naming should be mainly to facilitate talking about each population, although obviously these populations also differ slightly genetically and over time may diverge, eventually even becoming separate species if they lose contact with each other. In the catalog, I have tried to maintain consistency throughout. For those wishing to use every available name that could be considered a subspecies by some, various population names are listed which in past catalogs have been listed as full subspecies (more notes on this below). These questions of subspecies mainly involve butterflies, since among the moths few specialists have named subspecies even for widespread species.

After this series of part publication of the Nearctic catalog is completed, the full catalog will be combined into one book, together with a complete index and bibliography to the pertinent literature. Since studies continue daily among numerous researchers, the final version may well be altered here and there as new data (even new species) are added.

The current classification for butterflies (Papilionoidea) is shown on the following page in overview down to tribal level for the world fauna (a number of groups listed are not Nearctic). Some authorities still split away the skippers as a separate superfamily, Hesperioidea, but I find the differences between the two groups to be more accurately demonstrated by the use of the "series" category below the superfamily level, thus Hesperioformes and Papilioniformes. The family numbers from the entire Lepidoptera classification are noted, going from 94 to 100 for butterflies.

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PAPILIONOIDEA

Series Hesperiiiformes

94. HESPERIIDAE - Skipper Butterflies

Coeliadinae
Pyrrhopyginae
Pyrginae
 Eudamini
 Pyrgnini
Trapezitinae
Heteropterinae
Megathyminae
 Aegialini
 Agathymini
 Megathymini
Hesperinae

Series Papilioniformes

95. PAPILIONIDAE - Swallowtail Butterflies

Baroniinae
Parnassiinae
 Parnassiini
 Zerynthiini
Papilioninae
 Troidini
 Graphiini
 Leptocircini
 Teinopalpini
 Papilionini

96. PIERIDAE - Yellow-White Butterflies

Pseudopontiinae
Dismorphiinae
 Leptideini
 Dismorphiini
Pierinae
 Pierini
 Anthocharini
Coliadinae
 Colotini
 Coliadini
 Gonepterygini

97. LYCAENIDAE - Gossamer-Winged Butterflies

Lipteninae
 Pentilini
 Liptenini
Poritiinae
Liphyrinae
Miletinae
 Spalagini
 Lachnocnemini
 Miletini
 Curetinae
Lycaeninae
Theclinae
 Eumaeini
 Luciini
 Theclini
 Zesiini
 Amblypodini
 Aphnaeini
 Iolaini
 Horagini
Polyommatainae
 Lycaenesthinae
 Candalidini
 Zizeerini
 Lampidini
 Everini
 Lycaenopsini
 Scolitantidini
 Polyommataini

98. RIODINIDAE - Metalmark Butterflies

Styginae
Hamearinae
Euselasiinae
Corrachiinae
Riodininae
 Mesosemiini
 Eurybiini
 Riodinini
 Symmachiini
 Charitini
 Helicopini
 Emesini
 Lemoniadini
 Nymphidiini
 Stalachtini

99. LIBYTHEIDAE - Snout Butterflies

100. NYMPHALIDAE - Brush-Footed Butterflies

Group Nymphalinae
 Tellervinae
 Danainae
 Danaini
 Lycoreini
 Euploeini
 Ithomiinae
 Napaeogenini
 Godyridini
 Oleriini
 Ithomiini
 Mechanitini
 Dircennini
 Meliacini
 Tithoreini
 Methonini
 Acraeinae
 Acraeini
 Pardopsini
 Heliconiinae
 Heliconiini
 Argynnini
 Nymphalinae
 Nymphalini
 Melitacini
 Neptini
 Pseudoergolini
 Euthaliini
 Catagrammini
 Limenitidini
 Biblidini
 Aegeroniini
 Coloburini
 Marpesiini
Group Satyrinae
 Calinaginae
 Apaturinae
 Apaturini
 Charaxini
 Anaeni
 Zaretini
 Preponini
 Prothoini
 Amathusiinae
 Morphinae
 Brassolinae
 Satyrinae
 Lethini
 Satyrini
 Melanitini
 Elymniini
 Mycalesini
 Ypthimini

EXPLANATIONS OF THE CATALOG

The following notes summarize the format and systematic arrangement of the catalog:

- 1) Genera are divided into subgenera where it appears subgenera can be used, rather than dividing each group into different genera;
- 2) All synonyms are listed, including misspellings and infraspecific names (the infraspecific names are technically invalid and need not be listed, but since they are in the literature their listing is needed so users will know what these names refer to);
- 3) Type localities are abbreviated to standardized codes (see below);
- 4) Previous catalog numbers in wide usage are noted to the right for each species entry: MONA numbers (Hodges *et al.*, 1983);
- 5) Subspecies are denoted by a prefix letter (as a, b, etc.) and are listed geographically, as much as possible, from a north to south and east to west arrangement (subspecies not recognized herein are listed in the same geographic fashion, as population names, but not in boldface);
- 6) Citations to original descriptions, as well as other details and notes, can be found in Miller and Brown (1981).

Species are numbered within each family: this numbering scheme differs from what is familiar for North American catalogs but has advantages in indexing (in Europe, most catalogs list species without any numbering). The index to species, thus, indicates both the family number and the species number: e.g., "*clodius* Ménétriés, Parnassius, 95-2" indicates that the species *P. clodius* is number 2 in family 95, of genus *Parnassius* (Ménétriés is the author of the species name, in parentheses if the name has been recombined with another genus from what the original author placed it in). This numbering method has the salient feature of providing information to the user of the index, once various family numbers are remembered, like 95 being for Papilionidae.

Symbols and abbreviations used in the catalog are noted below. To conserve space, many phrases or place names are abbreviated, as for example, using 2-letter codons for states of the United States when noting type-localities (Canada and Mexico also now use 2-letter codons for their states, but as these are relatively unfamiliar to most residents of the United States, I retain the longer state abbreviations as used in the past for Canadian and Mexican states). Since many of the subspecies are within the ecological range of their type-locality, full ranges are not given. Users can consult recent works on the distribution of North American butterflies (see Opler, 1995; Stanford and Opler, 1993) to verify the full ranges of all species and subspecies.

Classification

The most current taxonomic classifications have been studied to provide the arrangement for this catalog. All major recent works on North America butterflies have been consulted and are listed in the bibliography. The higher classification follows that of recent arrangements, summarized by Heppner (1992, 1995, 1996a,b, 1998a,b): some alternate views are discussed in Kristensen *et al.* (1999). Genera are arranged in a phylogenetic order, from presumed primitive to more advanced groups. Thus, some of the arrangements will be different from what many are familiar with. For example, the Megathyminae are among the more primitive of skippers and should not be at the advanced end of Hesperidae where they have usually been found in older catalogs. Users will find many other species and genera in new places.

The catalog lists genera without a proliferation of subgenera. Some recent authors have continually split larger genera until one approaches the situation as in birds, where there is nearly one genus for every species. Some newer "genera" among butterflies have even been split off from what previously were considered only subgenera. Such continual splitting of genera is not useful for validating relationships among various species and reduces the cohesive value of the generic level.

Subspecies

The treatment of subspecies herein conforms to a more practical and worldwide approach where named subspecies should only be used for populations clearly demarcated geographically. It is a misnomer to call overlapping populations of differing phenotypes to be distinct "subspecies": these clearly are only forms of various kinds (altitudinal, ecological, hostplant dependent, etc.) and not genetically isolated populations that should be called subspecies.

In North America, the use of subspecies is often questionable for species along the eastern seaboard, where often a number of subspecies have been named over the years (or former aberrational or form names raised to subspecies level) that essentially merge together from north to south (populations in southern Florida being an exception in some cases). Something similar is often found in western species where there are altitudinal forms that have been named, although differences between populations in the cold rainforests of Washington and the deserts of southern California are usually clearly divergent. A related problem involves the proliferation of subspecies names for any phenetically differing population, even when only from various remote mountains or offshore islands: one can get to the point of having names for every major mountain range and then having dozens (perhaps even 100s) of "subspecies" for some of the western species. Clearly, the definition and practical usage of the subspecies category is often warped beyond usefulness and many of these names should be used in reference to populations and not subspecies. One can think of examples among the Parnassiinae, particularly in Europe, where nearly every mountain and valley supports a slightly different phenotype, most of which have been given names: for example, *Parnassius apollo* has perhaps 300 named forms, varieties and subspecies names applied to what is a single highly variable species (some of this naming was instigated in Europe for the commercial purposes of selling new "forms" to collectors who attempted to have complete collections of all varieties).

In the present catalog, the subspecies category is designated with a prefix letter (a, b, c, etc.) and listed generally from north to south, east to west. For those who wish to use every available name for subspecies (names for so-called subspecies generally used in some of the more recent literature), the names are indented below the subspecies level and are not in italics. Thus, the indented names below subspecies level are considered only population names herein (in Roman typeface; names in italics are synonyms). The subspecies that are listed as valid generally only involve those that are clearly geographical isolates, generally over larger regions. In a few cases there are population names listed within each subspecies as further subdivisions for those wanting to use such names. The following is a typical example for a complicated catalog entry with all categories of listed names (all names would have author and date noted):

VANESSA Fabricius, 1807 - genus name, with author and date

Cynthia Fabricius, 1807 - generic synonym

- 35 **alba** (author, date) (*Nymphalis*) MONA # VA
 - species name, with author, date, and original generic combination; MONA catalog number to the right, plus original type locality by state (Virginia in this example), and current Atlas catalog number to the left (as listed under family 100, Nymphalidae, in this example)
- a) **alba** - subspecies name (eastern and northern subspecies)
 appalachiana - population name (Eastern populations); unrecognized subspecies name listed herein as a population name
- b) **albertiana** - subspecies name (Rockies subspecies)
 coloradensis - population name (southern Rockies populations)
 ruidosalis - synonym, misspelling, or infraspecific name
- c) **arizonensis** - subspecies name (western desert subspecies)
- 36 ***beta** - an extralimital species (asterisk in front) Surinam
- a) **nearctica** - North American subspecies

Although the subspecies category is used sparingly, in a few cases names are revived as needed. For example, some southern Florida populations are given names where previously the Cuban or West Indian subspecies names were used in older catalogs: this conforms to the pattern used for other species like that of the Schaus swallowtail, which has a named Florida subspecies while the nominate populations are nearby in Cuba and may not be very much different than what is found in Florida yet are relatively isolated.

Genetics differ for each population, but subspecies names are mainly geographical handles to discern geographically isolated populations of a species. Some of these isolates may in time become sibling species or even full species, thus presenting us with a varied quilt of populations in various degrees of progression from populations to full species: this is what presents such a continual problem in naming various geographical isolates as they evolve over time.

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ABBREVIATIONS

ab.	aberration	nom. oblit.	nomen oblitum (= forgotten name; unavailable if unused in more than 99 years)
auct.	of authors (= misdetermination)	preocc.	preoccupied name (name already published by someone else within the same genus)
aut. f.	autumn form	redesc.	redescribed name (a second original description)
emend.	emendation (incorrect emendation)	repl. name	replacement name (for a preoccupied name)
f.	form	rev. stat.	revised status
gynand.	gynandromorph	[sic]	original misspelling (= lapsus calami)
hyb.	hybrid	spr. f.	spring form
incorr. spell.	incorrect original spelling (often the use of diacritic marks)	sum. f.	summer form
ICZN	International Commission on Zoological Nomenclature (and <i>International Code of Zoological Nomenclature</i>)	suppr.	suppressed (in a rejected work according to ICZN)
misid.	misidentified	teste	"verified" by expert study
mispl.	misplaced (generic assignment uncertain or incorrect)	unassoc.	unassociated female or male
missp.	misspelling	unavail.	unavailable name (by ICZN article)
n. comb.	new combination (transfer to another genus)	uncert. stat.	status uncertain
n. syn.	new synonymy (identical to an older name for the same species, thus becoming a junior name by date priority)	var.	variety
nom. dub.	nomen dubium (= identity uncertain)	wint. f.	winter form
nom. nud.	nomen nudum (= undescribed name; an invalid name according to the ICZN due to an insufficient description or lack of a description)	*	prefix for extralimital taxa (usually for species for which there are local subspecies)
			"and" (used to separate two or more localities where a lectotype has not been chosen to restrict the type locality)

CANADA

Alberta	Alb	Northwest Terr.	NWT
British Columbia	BC	Nova Scotia	NS
Labrador	Lab	Nunavut	Nun
Manitoba	Man	Prince Edward Is.	PEI
Ontario	Ont	Quebec	Que
New Brunswick	NB	Saskatchewan	Sask
Newfoundland	Nfld	Yukon	Yuk

UNITED STATES

Alabama	AL	Kentucky	KY	North Dakota	ND
Alaska	AK	Louisiana	LA	Ohio	OH
Arizona	AZ	Maine	ME	Oklahoma	OK
Arkansas	AR	Maryland	MD	Oregon	OR
California	CA	Massachusetts	MA	Pennsylvania	PA
Colorado	CO	Michigan	MI	Rhode Island	RI
Connecticut	CT	Minnesota	MN	South Carolina	SC
Delaware	DE	Mississippi	MS	South Dakota	SD
District of Columbia	DC	Missouri	MO	Tennessee	TN
Florida	FL	Montana	MT	Texas	TX
Georgia	GA	Nebraska	NE	Utah	UT
Hawaii	HI	Nevada	NV	Vermont	VT
Idaho	ID	New Hampshire	NH	Virginia	VA
Illinois	IL	New Jersey	NJ	Washington	WA
Indiana	IN	New Mexico	NM	West Virginia	WV
Iowa	IA	New York	NY	Wisconsin	WI
Kansas	KS	North Carolina	NC	Wyoming	WY

MEXICO

Aguascalientes	Agu	Guerrero	Gue	San Luis Potosi	SLP
Baja California Norte	BCN	Hidalgo	Hid	Sinaloa	Sin
Baja California Sur	BCS	Jalisco	Jal	Sonora	Son
Campeche	Cam	México	Mex	Tabasco	Tab
Chiapas	Chia	Michoacán	Mic	Tamaulipas	Tam
Chihuahua	Chih	Morelos	Mor	Tlaxcala	Tla
Coahuila	Coa	Nayarit	Nay	Veracruz	Ver
Colima	Col	Nuevo León	NL	Yucatán	Yuc
Distrito Federal	DF	Oaxaca	Oax	Zacatecas	Zac
Durango	Dur	Querétaro	Que		
Guanajuato	Gua	Quintana Roo	QR		

95. PAPILIONIDAE

PARNASSIINAE

Tribe PARNASSIINI

PARNASSIUS Latreille, 1804

Doritis Fabricius, 1807
Parnassis Hübner, [1819], missp.
Therius Billberg, 1820
Tadumia Moore, [1902]
Kailasius Moore, [1902]
Koramius Moore, [1902]
Lingamius Bryk, 1935
Eukoramius Bryk, 1935

1 **eversmanni* Ménétriés, [1851] 4153 [Russia]

Eversmann's Parnassian

– infraspecific names listed in Palearctic catalog
versmanni Bryk & Eisner, 1937, missp.

a) *thor* H. Edwards, 1881 AKab. *kohlsaati* Gunder, 1932 AKab. *ochreoocellatus* Bryk & Eisner, 1932, nom. nud.*quincunx*– Bryk & Eisner, 1934 (not Bryk, 1914)f. *desubmarginatus* Bryk, 1934, nom. nud. AKf. *meridionalis* Eisner, 1978, preocc. (Pagenstecher, 1909) Can. (BC)f. *pinkensis* Gauthier, 1984, repl. name2 *clodius* Ménétriés, 1855 4154 CA

Clodius Parnassian

a) *incredibilis* Bryk, 1932 AKb) *claudianus* Stichel, 1907 Can. (BC)ab. *baldus* Ehrmann, 1918 WAab. *kallias* Ehrmann, 1918, repl. name WAf. *excelsior* Eisner, 1957 WA

pseudogallatinus Bryk, 1913 Can. (BC)

f. *hel* Eisner, 1956 WAf. *grundi* Eisner, 1956 WA

shepardi Eisner, 1966 WA

c) *altaurus* Dyar, 1903 IDf. *flavoocellatus* Bryk, 1935, nom. nud.d) *gallatinus* Stichel, 1907 MTf. *immaculatus* Skinner, 1911 WYe) *menetriesii* H. Edwards, 1877 UTf. *medionigroocellatus* Bryk & Eisner, 1932, nom. nud.f. *nigroanalis* Bryk & Eisner, 1932, nom. nud.f. *nigroocellata* Bryk & Eisner, 1932, nom. nud.f. *ocelloconjunta* Bryk & Eisner, 1932, nom. nud.f. *albocentratus* Bryk & Eisner, 1932, nom. nud.f) *baldur* W. H. Edwards, 1877 CAab. *lorquini* Oberthür, 1891 CAf. *lusca* Stichel, 1907 CAab. *binigrimaculellus* Gunder, 1926 CAf. *primoetertiopictaetornatus* Bryk & Eisner, 1932, nom. nud.f. *medionigroocellatus*– Bryk, 1935 (not Bryk & Eisner, 1932)

sol Bryk & Eisner, 1932 [CA]

g) *clodius* Ménétriés, 1855 CAab. *castus* Bryk, 1913 ?ab. *sulfureus* Gunder, 1932 CAf. *extinctoanalis* Bryk & Eisner, 1932, nom. nud.

strobbeeni Sternitzky, 1945 CA

f. *dodgei* Gunder, 1932 CA3 **phoebus* (Fabricius, 1793) (*Papilio*) 4155 [Russia]

Phoebus Parnassian

– infraspecific names listed in Palearctic catalog

a) *apricatus* Stichel, 1906 AKf. *golovinus* Holland, 1930 AKf. *elias* Bryk, 1934 AKf. *alaskensis* Eisner, 1956 AKf. *alaskaensis* Eisner, 1957, emend.4 *smintheus* Doubleday, [1847]

Smintheus Parnassian

a) *yukonensis* Eisner, 1969 AKb) *smintheus* Doubleday, [1847] Can. [AB]f. *rocky* Grum-Grshmailo, 1890 "Rocky Mts."alt. f. *nanus* Neumoege, 1890 Can. (BC)/MTf. *minor* Verity, [1907], preocc. (Staudinger, 1881) Can. (BC)ab. *nigerrimus* Verity, 1907, preocc. (Verity, 1907) Can. (BC)f. *minusculus* Bryk, 1912, nom. nud.f. *quincunx* Bryk, 1914, nom. nud.f. *verityi* Ehrmann, 1918, repl. namef. *ernestinae* Bryk & Eisner, 1935 Can. (BC)f. *manitobaensis* Bryk & Eisner, 1935 Can. (MB)

magnus W. G. Wright, 1905 Can. (BC)

c) *olympiannus* Burdick, 1941 WAf. *olympianus* dos Passos, 1964, missp.f. *excelsior* Eisner, 1969 WAf. *guppyi* Wyatt, [1971] Can. (BC)d) *xanthus* Ehrmann, 1918 IDf. *idahoensis* Bryk & Eisner, 1931 IDf. *montanulus* Bryk & Eisner, 1935 MTf. *maximus* Bryk & Eisner, 1937 MTe) *sayii* W. H. Edwards, 1863 COf. *hermodur* H. Edwards, 1881 COab. *mendicus* Stichel, 1907 Can. (MT/BC)/COab. *pseudocorybas* Verity, 1907 COab. *mariae* Bryk, 1912 ?f. *quincunx*– Bryk, 1915 (not Bryk, 1914)f. *polus* Ehrmann, 1917 COf. *montanus* Ehrmann, 1918 COf. *utahensis* Rothschild, 1918 UTf. *fermatus* Bryk, 1921, nom. nud.f. *melanophorus* Bryk, 1921, nom. nud.f. *sordellus* Fruhstorfer, 1923 "N.Am."f. *aristion* Fruhstorfer, 1923 COf. *catullius* Fruhstorfer, 1923 COf. *pholus* Barnes & Benjamin, 1926, missp.f. *dakotaensis* Bryk & Eisner, 1935 SDf. *hollandi* Bryk & Eisner, 1935 UTf. *rotgeri* Bang-Haas, 1938 COf. *reducta* Bang-Haas, 1938 COf. *discocircumcincta* Eisner, 1955 COf. *hermador* F. M. Brown, Eff & Rotger, 1956, missp.f. *rubiana* Wyatt, 1961 NVf. *rubina* L. D. Miller & F. M. Brown, 1981, missp.f. *pseudorotgeri* Eisner, 1966 COf) *sternitzkyi* McDunnough, 1936 CA5 *behrii* W. H. Edwards, 1870 CA

Behr's Parnassian

f. *niger* W. G. Wright, 1905 CAf. *astriotes* Fruhstorfer, 1923 CA

PAPILIONINAE

Tribe TROIDINI

BATTUS Scopoli, 1777

Laertias Hübner, [1819]*Ithobalus* Hübner, [1819]*Laertiades* Doubleday, 1846, missp.6 *philenor* (Linnaeus, 1771) (*Papilio*) 4157 "Amer."

Pipevine Swallowtail

a) *philenor* (Linnaeus, 1771) (*Papilio*) "Amer."f. *astinuous* (Drury, 1773) (*Papilio*) NY/MD/VAab. *obsoleta* (Ehrmann, 1900) (*Papilio*) "Penn."ab. *wasmuthi* (Weeks, 1901) (*Papilio*) NYf. *serpentariae* (Fabricius, 1938) (*Papilio*), repl. nameb) *hirsuta* (Skinner, 1908) (*Papilio*) CA

- ab. *inghami* (Gunder, 1927) (*Papilio*) CA
acauda— auct. (not Oberthür, 1880)
nezahualcotyl— auct. (not Streckner, 1885)
corbis— auct. (not Godman & Salvin, 1889)
orsua— auct. (not Godman & Salvin, 1889)
7 **polydamas** (Linnaeus, 1758) (*Papilio*) 4158 Surinam
Polydamas Swallowtail
a) **lucayas** (Rothschild & Jordan, 1906) (*Papilio*) Bahamas
b) **polydamas** (Linnaeus, 1758) (*Papilio*) Surinam
polydamus (McDunnough, 1938) (*Papilio*), missp.
anguicidas (Fabricius, 1938) (*Papilio*), repl. name

Tribe GRAPHIINI

EURYTIDES Hübner, [1821]

Subgenus PROTOGRAPHIUM Munroe, 1951

- 8 **marcellus** (Cramer, 1777) (*Papilio*) 4184 ?
Zebra Swallowtail
ajax (Linnaeus, 1758) (*Papilio*), suppr. (Op. 286) "Amer."
telamonides (C. Felder & R. Felder, [1864]) (*Papilio*) "U.S."
f. *walshii* (W. H. Edwards, 1872) (*Papilio*) ?
ab. *abbottii* (W. H. Edwards, 1872) (*Papilio*) ?
f. *floridensis* (Holland, 1898) (*Papilio*) FL
f. *lecontei* (Rothschild & Jordan, 1906) (*Papilio*) TN
ab. *tockhorni* (Schulz, 1908) (*Papilio*) "N. Am."
cubensis (Boullet & LeCerf, 1912) (*Papilio*), nom.nud. Cuba
ab. *broweri* (Gunder, 1927) (*Papilio*) MO
ab. *carolinianus* (Holland, 1931) (*Papilio*) "Carolina"
ab. *pricei* (Field, 1936) (*Iphiclides*) KS
ab. *nigrosuffusa* (Field, 1936) (*Iphiclides*) KS
annonae (Fabricius, 1938) (*Papilio*), repl. name

Tribe PAPILIONINI

PAPILIO Linnaeus, 1758

Subgenus HERACLIDES Hübner, [1819]

- Calaidas* Hübner, [1819]
Priamides Hübner, [1819]
Troilides Hübner, [1825]
Thoas Swainson, [1833]
9 ***anchisiades** Esper, 1788 4183 Surinam
Anchisiades Swallowtail; Ruby-spotted Swallowtail
anchises— Stoll, 1780 (not Linnaeus, 1758)
hipponous (Hübner, [1819]) (*Priamides*), repl. name
archelaus Godart, [1819] "Guiana"
theramenus C. Felder & R. Felder, 1861 Venezuela
isidorus— Bates, 1861 (not Doubleday, 1846)
pompeius— W. F. Kirby, 1871 (not Fabricius, 1781)
matusiki K. Johnson & Rozycki, 1986 Venezuela
a) **idaeus** Fabricius, 1793 "Madras" [Mexico?]
f. *pandion* Bates, 1861, nom. nud.
var. *pandion* C. Felder & R. Felder, 1865 "Mexico"
pandonius Staudinger, 1894, repl. name Mex.
10 ***aristodemus** Esper, 1794 4171 Cuba
Schaus Swallowtail
chresphontinus Martyn, 1797 Cuba
cresphontinus Martyn, 1797, missp.
daphnis G. R. Gray, 1852, preocc. "West Indies"
a) **ponceanus** Schaus, 1911 FL
driophilus Clench, 1979 Bahamas
11 ***andraemon** Hübner, [1823] 4172 Cuba
Bahamian Swallowtail
hernandezi Torre, 1936 Cuba
a) **bonhoteli** E. M. Sharpe, 1900 Bahamas
12 **ornythion** Boisduval, 1836 4174 Mex. (Yuc)
Ornythion Swallowtail
13 ***astyalus** Godart, [1819] 4173 "Brazil"
Astyalus Swallowtail; Broad-banded Swallowtail
lycophron Hübner, [1823] ?
mentor Dalman, 1823 "Brazil"
pirithous Boisduval, 1836 ?
oebalus Boisduval, 1836 ?

- drepanon* G. R. Gray, 1856, nom. nud.
drepanon Fruhstorfer, 1907 Brazil
ab. *delunensis* Niepelt, 1916 Brazil
f. *paulina* R. Krüger, 1934, preocc. (Cramer, 1777) Brazil
f. *thersitoides* Rousseau-Decelle, 1943 Argentina
f. *suffusa* Rousseau-Decelle, 1943 Paraguay
a) **pallas** G. R. Gray, 1853 Mex. [Oax]
oebalus— G. R. Gray, 1853 (not Boisduval, 1836)
hozas Ehrmann, 1921 Costa Rica
14 ***andrageus** Cramer, 1775 4175 Surinam
Andrageus Swallowtail
orestes Meerburgh, [1777] ?
polycaon Cramer, 1779 Surinam
piranthus Cramer, 1779 Surinam
acanthus Gmelin, 1790, missp.
amosis Stoll, 1787 ?
andrageus W. F. Kirby, 1871, missp.
bagous Fruhstorfer, 1907 Brazil
f. *mira* Fassl, 1922 Brazil
f. *feyeri* Niepelt, 1924 Ecuador
f. *fassli* Knop, 1925 Brazil
f. *decellei* R. Krüger, 1934 Brazil
hibisci Fabricius, 1938, repl. name
altheae Fabricius, 1938, preocc. (Borkhausen, 1780)
a) **epidaurus** Godman & Salvin, 1890 ?
var. *polycaon* G. R. Gray, 1853 ?
f. *ochracea* Beutelspacher, 1976 Mexico (Chia)
15 ***thoas** Linnaeus, 1771 4169 Surinam
Thoas Swallowtail
archimedes Fabricius, 1938 ?
a) **autocles** Rothschild & Jordan, 1906 Mex. (Gue)
f. *nigro-caudata* Vázquez, 1949 Mex. (Chia/Ver)
f. *nigrimarginata* Beutelspacher, 1976 Mex. (Ver)
f. *ochracea* Beutelspacher, 1976 Mex. (Chia)
b) **oivedo** Gundlach, 1866 Cuba
epithoas Oberthür, 1897 "Mexico" [Cuba]
16 **cresphontes** Cramer, 1777 4170 NY/SC/Jamaica
Giant Swallowtail; Orange Dog
oxilus Hübner, [1819], repl. name
chresphontes Dury, 1878, missp.
ab. *lurida* Schultz, 1908 "N. Am."
ab. *luxuriosa* Reiff, 1911 MI
ab. *intacta* Strand, 1918 ?
ab. *maxwelli* Franck, 1919 ?
ab. *forsythae* Gunder, 1933 FL
f. *melanurus* Hoffmann, 1940 Mexico (Gue)
pennsylvanicus F. Chermock & R. Chermock, 1945 PA
f. *luxuriosus* Forbes, 1960, nom. nud.
Subgenus PAPILIO Linnaeus, 1758
Amaryssus Dalman, 1816
Aeronauta Berge, 1842
Achivus W. F. Kirby, 1896
17 ***machao** Linnaeus, 1758 4166 ? [Sweden]
Old World Swallowtail
— infraspecific names listed in Palearctic catalog
a) **aliaska** Scudder, 1869 AK
joannisi Verity, 1907 AK
petersii A. H. Clark, 1932 AK
kwakwapoochesi Seyer, 1977, nom. nud.
prestoni Seyer, 1977, nom. nud.
frechini Seyer, 1977, nom. nud.
b) **hudsonianus** A. H. Clark, 1932 Can. (Man)
avinoffi F. Chermock & R. Chermock, 1937 Can. (Man)
dodi McDunnough, 1939 Can. (Alb)
piki Sperling, 1987 Can. (Alb)
c) **oregonius** W. H. Edwards, 1876 OR
18 **bairdii** W. H. Edwards, 1869 4164 AZ
Baird's Swallowtail
utahensis Streckner, 1878 UT
f. *hollandii* W. H. Edwards, 1892 CO
f. *brucei* W. H. Edwards, 1895 CO
f. *hollandi* L. Miller & F. Brown, 1981, missp.

- f. *ampliata* Scott, 1981 CO
f. *comstocki* Scott, 1981, preocc. (Chermock & Chermock, 1937)
- 19 **brevicauda** Saunders, 1869 4163 Can. (Nfld)
Maritime Swallowtail; Short-tailed Swallowtail
anticostiensis Strecker, 1873 Can. (Que)
gaspeensis McDunnough, 1934 Can. (Que)
bretonensis McDunnough, 1939 Can. (NS)
- 20 **joanae** J. R. Heitzman, [1974] 4160 MO
Ozark Swallowtail; Joan's Swallowtail
- 21 ***polyxenes** Fabricius, 1775 4159 "Amer." [Cuba]
Black Swallowtail; Parsleyworm
a) **asterius** Stoll, 1782 NY/"Carolina"/VA
ampliata Ménétériés, 1857 "Amer. sept." [?Mexico]
ab. *calverleyi* Grote, 1864 NY
asterioides Reakirt, [1866] "Mexico"
f. *viridis* Cockerell, 1889 ?
f. *alunata* Skinner & Aaron, 1889 ? [?PA]
ab. *mediocauda* Eimer, 1895, emend.
ab. *semialba* Ehrmann, 1900 PA
curvifascia Skinner, 1902 NM
ab. *ehrmanni* Ehrmann, 1925 PA
ab. *streckeri* Holland, 1927 ?
ab. *gertrudis* Kruck, 1931 Mex. (Oax)
ab. *forsythae* Wood, 1937, preocc. (Gunder, 1933) FL
kahli F. Chermock & R. Chermock, 1937 Can. (Man)
ajax— McDunnough, 1938 (not Linnaeus, 1758)
graceus Fabricius, 1938 PA
f. *pseudoamericanus* F. M. Brown, 1942 IL
f. *subamplicata* Dufrane, 1946 PA
stabilis— dos Passos, 1964 (not Rothschild & Jordan, 1906)
comstocki— Scott, 1981 (not Chermock & Chermock, 1937)
b) **coloro** W. G. Wright, 1905 CA
ab. *rudkini* J. A. Comstock, 1935 CA
f. *clarki* F. Chermock & R. Chermock, 1937 CA
f. *comstocki* F. Chermock & R. Chermock, 1937 CA
chloro L. D. Miller & F. M. Brown, 1981, missp.
- 22 **zelicaon** Lucas, 1852 4167 CA
Anise Swallowtail; Zelicaon Swallowtail
a) **nitra** W. H. Edwards, 1883 MT
ab. *mcDunnoughi* Gunder, 1928 Can. (Alb)
f. *gothica* Remington, 1968 CO
f. *ampliatanitra* Scott, 1981 CO
b) **zelicaon** Lucas, 1852 CA
zolicaon Boisduval, 1852, missp.
californica Ménétériés, 1863 [CA]
ab. *impunctata* Fischer, 1908 ?
ab. *formosus* Fischer, 1908 ?
ab. *melanotaenia* Fischer, 1908 ?
comstocki— Scott, 1981 (not Chermock & Chermock, 1937)
- 23 **indra** Reakirt, 1866 4168 CO
Indra Swallowtail
a) **indra** Reakirt, 1866 CO
minori Cross, 1937 CO
b) **nevadensis** T. Emmel & J. Emmel, 1971 NV
calicicola J. Emmel & Griffin, 1998 NV
c) **shastensis** J. Emmel & T. Emmel, 1998 CA
d) **kaibabensis** Bauer, 1955 AZ
e) **phyllisae** J. Emmel, 1982 CA
f) **fordi** J. Comstock & Martin, 1955 CA
martini J. Emmel & T. Emmel, 1966 CA
panamintensis J. Emmel, 1982 CA
pygmaeus J. Emmel, T. Emmel & Griffin, 1998 CA
g) **pergamus** H. Edwards, 1875 CA
- Subgenus **PTEROURUS** Scopoli, 1777
Jasoniades Hübner, [1819]
Euphoeades Hübner, [1819]
Aernauta Berge, 1842
Pyrrhosticta Butler, 1872
- 24 **pilumnus** Boisduval, 1836 4180 "Mexico"
Three-tailed Swallowtail
- 25 **palamedes** Drury, 1773 4182 NY
Woodlands Swallowtail; Palamedes Swallowtail
chalcas Fabricius, 1775 "Amer."
flavomaculatus Goetze, 1779 ?
calchas Esper, 1800, emend.
leontis Rothschild & Jordan, 1906 Mex. (NL)
- 26 **troilus** Linnaeus, 1758 4181 "India" [USA]
Spicebush Swallowtail
ab. *radiatus* Strecker, 1900 DC
anethi Fabricius, 1938, repl. name SC
ab. *flava* Dufrane, 1946, preocc. (Müller, 1776) PA
ab. *obliterata* Dufrane, 1946 "U.S."
ab. *berioi* Dufrane, 1946 PA
ab. *addenda* Dufrane, 1946 PA
texanus Ehrmann, 1900 TX [?FL]
ilioneus J. E. Smith, 1797, preocc. (Cramer, 1775) GA
fakahatcheensis Gatliffe, 2000, n. syn. FL
- 27 **glaucus** Linnaeus, 1758 4176 "Amer. sept."
Tiger Swallowtail
antiochus Linnaeus, 1758 "Amer. sept."
turnus Linnaeus, 1771 "Amer."
alcidamas Cramer, 1775 "Jamaica" [NY]
ab. *fletcheri* Kemp, 1900 NJ
ab. *delunaris* Schultz, 1908 PA
ab. *perfulva* Schultz, 1908 "N. Am."
ab. *imperfecta* Reiff, 1911 USA [NY]
ab. *wheeleri* Reiff, 1911 USA [NY]
ab. *paupercula* Reiff, 1911 USA [NY]
ab. *niger* F. Hering, 1912, preocc. ?
f. *dietzi* Gunder, 1927 NY
f. *gerhardi* Gunder, 1927 IN
lauri Fabricius, 1938, repl. name "Amer."
ehrmanni McDunnough, 1938, preocc. (Ehrmann, 1925) ?
maynardi Gauthier, 1984, repl. name FL
australis Maynard, 1891, preocc. FL
- 28 **canadensis** Rothschild & Jordan, 1906 4176a Can. (Nfld)
Canadian Swallowtail
a) **arcticus** Skinner, 1906 AK/Can. (NWT)
borealis Boulet & LeCerf, 1912, preocc. ?
b) **canadensis** Rothschild & Jordan, 1906 Can. (Nfld)
ab. *fletcheri* Kemp, 1900 NJ
ab. *deficiens* Dufrane, 1946 "U.S."
- 29 **rutulus** Lucas, 1852 4177 CA
Western Tiger Swallowtail
a) **rutulus** Lucas, 1852 CA
rutulus Boisduval, 1852 (not Lucas, 1852) CA
var. *ammoni* Behrens, 1887 NV
ab. *hospitonina* Boulet & LeCerf, 1912 Can. (BC)
f. *fannyae* Gunder, 1927 OR
b) **arizonensis** W. H. Edwards, 1883 AZ
- 30 **eurymedon** Lucas, 1852 4179 CA
Pale Swallowtail
antinous Donovan, 1805, nom. oblit.¹ "Australia" [CA?]
eurymedon Boisduval, 1852, preocc. (Lucas, 1852) CA
albanus C. Felder & R. Felder, 1864, nom. nud. CA
albanus C. Felder & R. Felder, 1865 CA
lewisii W. F. Kirby, 1884, nom. nud. CA
ab. *subnigrata* Schultz, 1908 "N. Am."
ab. *cocklei* Gunder, 1925 Can. (BC)
f. *columbiana* Gunder, 1927 Can. (BC)
eurymeilon (de la Maza, 1987) (*Pterourus*), missp.
- 31 **multicaudatus** W. F. Kirby, 1884, repl. name 4178 "Mexico"
Two-tailed Swallowtail
daunus Boisduval, 1836, preocc. (Cramer, 1777) "Mexico"
a) **pusillus** Austin & J. Emmel, 1998 NV
b) **multicaudatus** W. F. Kirby, 1884, repl. name "Mexico"
ab. *ragani* Barnes, 1928 AZ

1. *Papilio antinous* Donovan, 1805: the ICZN (1999) clearly states that names not used in over 99 years are to be suppressed as *nomina oblita* (unknown names), rather than given priority over well-known names already in long use. Any use of this old name "*antinous*" is incorrect and against the Code (see Upton, 1985).

INDEX

- abbotti* (W. H. Edwards), Eurytides, 95-8
addenda Dufrane, Papilio (Pterourus), 95-26
berioi Dufrane, Papilio (Pterourus), 95-26
binigrimacellus Gunder, Parnassius, 95-2f
broweri (Gunder), Eurytides, 95-8
calverleyi Grote, Papilio (Papilio), 95-21a
carolinianus (Holland), Eurytides, 95-8
castus Bryk, Parnassius, 95-2g
cocklei Gunder, Papilio (Pterourus), 95-30
deficiens Dufrane, Papilio (Pterourus), 95-28b
delunaris Schultz, Papilio (Pterourus), 95-27
delunensis Niepelt, Papilio (Heraclides), 95-13
ehrmanni Ehrmann, Papilio (Papilio), 95-21a
flava Dufrane, Papilio (Pterourus), 95-26
fletcheri Kemp, Papilio (Pterourus), 95-27
fletcheri Kemp, Papilio (Pterourus), 95-28b
formosus Fischer, Papilio (Papilio), 95-22b
forsythae Gunder, Papilio (Heraclides), 95-16
forsythae Wood, Papilio (Papilio), 95-21a
gertrudis Kruck, Papilio (Papilio), 95-21a
hopitonina Boulet & LeCerf, Papilio (Pterourus), 95-29a
imperfecta Reiff, Papilio (Pterourus), 95-27
impunctata Fischer, Papilio (Papilio), 95-22b
inghami (Gunder), Battus, 95-6
intacta Strand, Papilio (Heraclides), 95-16
kohlsaati Gunder, Parnassius, 95-1a
lorquini Oberthür, Parnassius, 95-2f
lurida Schultz, Papilio (Heraclides), 95-16
luxuriosa Reiff, Papilio (Heraclides), 95-16
mariae Bryk, Parnassius, 95-4e
maxwelli Franck, Papilio (Heraclides), 95-16
mcDunnoughi Gunder, Papilio (Papilio), 95-22a
mediocauda Eimer, Papilio (Papilio), 95-21a
melanotaenia Fischer, Papilio (Papilio), 95-22b
mendicus Stichel, Parnassius, 95-4e
niger F. Hering, Papilio (Pterourus), 95-27
nigerrimus Verity, Parnassius, 95-4b
nigrosuffusa (Field), Eurytides, 95-8
obliterata Dufrane, Papilio (Pterourus), 95-26
obsoleta (Ehrmann), Battus, 95-6
ochroocellatus Bryk & Eisner, Parnassius, 95-1a
paupercula Reiff, Papilio (Pterourus), 95-27
perfulva Schultz, Papilio (Pterourus), 95-27
pricei (Field), Eurytides, 95-8
pseudocorybas Verity, Parnassius, 95-4e
radiatus Strecker, Papilio (Pterourus), 95-26
ragani Barnes, Papilio (Pterourus), 95-31b
rudikini J. A. Comstock, Papilio (Papilio), 95-21b
semliba Ehrmann, Papilio (Papilio), 95-21a
streckeri Holland, Papilio (Papilio), 95-21a
subnigrata Schultz, Papilio (Pterourus), 95-30
sulfureus Gunder, Parnassius, 95-2g
tockhorni (Schulz), Eurytides, 95-8
wasmuthi (Weeks), Battus, 95-6
wheeleri Reiff, Papilio (Pterourus), 95-27
acanthus Gmelin, Papilio (Heraclides), 95-14
acauda— auct., Battus, 95-6
ajax (Linnaeus), Eurytides, 95-8
ajax— McDunnough, Papilio (Papilio), 95-21a
alaskaensis Eisner, Parnassius, 95-3a
alaskensis Eisner, Parnassius, 95-3a
albanus C. Felder & R. Felder, Papilio (Pterourus), 95-30
albanus C. Felder & R. Felder, Papilio (Pterourus), 95-30
alcidamas Cramer, Papilio (Pterourus), 95-27
alaska Scudder, Papilio (Papilio), 95-17a
altaurus Dyar, Parnassius, 95-2c
althaeae Fabricius, Papilio (Heraclides), 95-14
amosis Stoll, Papilio (Heraclides), 95-14
ampliata Ménétériés, Papilio (Papilio), 95-21a
anchises— Stoll, Papilio (Heraclides), 95-9
anchisiades Esper, Papilio (Heraclides), 95-9
andreaemon Hübner, Papilio (Heraclides), 95-11
androgeos W. F. Kirby, Papilio (Heraclides), 95-14
androgeus Cramer, Papilio (Heraclides), 95-14
anethi Fabricius, Papilio (Pterourus), 95-26
anguicidas (Fabricius), Battus, 95-7b
annonae (Fabricius), Eurytides, 95-8
anticostiensis Strecker, Papilio (Papilio), 95-19
antiochus Linnaeus, Papilio (Pterourus), 95-27
antinous Donovan, Papilio (Pterourus), 95-30
apricatus Stichel, Parnassius, 95-3a
archelaus Godart, Papilio (Heraclides), 95-9
archimedes Fabricius, Papilio (Heraclides), 95-15
arcticus Skinner, Papilio (Pterourus), 95-28a
ariston Fruhstorfer, Parnassius, 95-4e
aristodemus Esper, Papilio (Heraclides), 95-10
arizonensis W. H. Edwards, Papilio (Pterourus), 95-29b
asterioides Reakirt, Papilio (Papilio), 95-21a
asterius Stoll, Papilio (Papilio), 95-21a
astinus (Drury), Battus, 95-6
astriotes Fruhstorfer, Parnassius, 95-5
astyalus Godart, Papilio (Heraclides), 95-13
australis Maynard, Papilio (Pterourus), 95-27
autoces Rothschild & Jordan, Papilio (Heraclides), 95-15a
avinoffi F. Chermock & R. Chermock, Papilio (Papilio), 95-17b
bagous Fruhstorfer, Papilio (Heraclides), 95-14
bairdii W. H. Edwards, Papilio (Papilio), 95-18
baldu W. H. Edwards, Parnassius, 95-2f
baldu Ehrmann, Parnassius, 95-2b
behrii W. H. Edwards, Parnassius, 95-5
bonhoti E. M. Sharpe, Papilio (Heraclides), 95-11a
borealis Boulet & LeCerf, Papilio (Pterourus), 95-28a
bretonensis McDunnough, Papilio (Papilio), 95-19
brevicauda Saunders, Papilio (Papilio), 95-19
calchas Esper, Papilio (Pterourus), 95-25
calicola J. Emmel & Griffin, Papilio (Papilio), 95-23b
californica Ménétériés, Papilio (Papilio), 95-22b
canadensis Rothschild & Jordan, Papilio (Pterourus), 95-28b
canadensis Rothschild & Jordan, Papilio (Pterourus), 95-28
catullus Fruhstorfer, Parnassius, 95-4e
chalcas Fabricius, Papilio (Pterourus), 95-25
chloro L. D. Miller & F. M. Brown, Papilio (Papilio), 95-21b
chresphontes Dury, Papilio (Heraclides), 95-16
chresphontinus Martyn, Papilio (Heraclides), 95-10
claudianus Stichel, Parnassius, 95-2b
clodius Ménétériés, Parnassius, 95-2g
clodius Ménétériés, Parnassius, 95-2
coloro W. G. Wright, Papilio (Papilio), 95-21b
comstocki— Scott, Papilio (Papilio), 95-22b
comstocki— Scott, Papilio (Papilio), 95-21a
corbis— auct., Battus, 95-6
cresphontes Cramer, Papilio (Heraclides), 95-16
cresphontinus Martyn, Papilio (Heraclides), 95-10
cubensis (Boulet & LeCerf), Eurytides, 95-8
curvisfaca Skinner, Papilio (Papilio), 95-21a
dakotaensis Bryk & Eisner, Parnassius, 95-4e
daphnis G. R. Gray, Papilio (Heraclides), 95-10
daunus Boisduval, Papilio (Pterourus), 95-31
dodi McDunnough, Papilio (Papilio), 95-17b
drepanon Fruhstorfer, Papilio (Heraclides), 95-13
drepanon G. R. Gray, Papilio (Heraclides), 95-13
driophilus Clench, Papilio (Heraclides), 95-10a
ehrmanni McDunnough, Papilio (Pterourus), 95-27
elias Bryk, Parnassius, 95-3a
epidaurus Godman & Salvin, Papilio (Heraclides), 95-14a
epithoas Oberthür, Papilio (Heraclides), 95-15b
eurymedon Boisduval, Papilio (Pterourus), 95-30
eurymedon Lucas, Papilio (Pterourus), 95-30
eurymeilon de la Maza, Papilio (Pterourus), 95-30
eversmanni Ménétériés, Parnassius, 95-1
f. albocentratus Bryk & Eisner, Parnassius, 95-2e
f. alunata Skinner & Aaron, Papilio (Papilio), 95-21a
f. ampliata Scott, Papilio (Papilio), 95-18
f. ampliata Scott, Papilio (Papilio), 95-22a
f. brucei W. H. Edwards, Papilio (Papilio), 95-18
f. clarki F. Chermock & R. Chermock, Papilio (Papilio), 95-21b
f. columbiana Gunder, Papilio (Pterourus), 95-30
f. comstocki F. Chermock & R. Chermock, Papilio (Papilio), 95-21b
f. comstocki Scott, Papilio (Papilio), 95-18
f. decellei R. Krüger, Papilio (Heraclides), 95-14
f. desubmarginatus Bryk, 95-27
f. dietzi Gunder, Papilio (Pterourus), 95-27
f. discircumcincta Eisner, Parnassius, 95-4e
f. dodgei Gunder, Parnassius, 95-2g
f. ernestinae Bryk & Eisner, Parnassius, 95-4b
f. excelior Eisner, Parnassius, 95-2b
f. excelior Eisner, Parnassius, 95-4c
f. extinctoanalis Bryk & Eisner, Parnassius, 95-2g
f. fannya Gunder, Papilio (Pterourus), 95-29a
f. fassli Knop, Papilio (Heraclides), 95-14
f. fermatus Bryk, Parnassius, 95-4e
f. feryeri Niepelt, Papilio (Heraclides), 95-14
f. flavocellatus Bryk, Parnassius, 95-2c
f. floridensis (Holland), Eurytides, 95-8
f. gerhardi Gunder, Papilio (Pterourus), 95-27
f. gothica Remington, Papilio (Papilio), 95-22a
f. grundi Eisner, Parnassius, 95-2b
f. hermodur H. Edwards, Parnassius, 95-4e
f. hollandi L. Miller & F. Brown, Papilio (Papilio), 95-18
f. hollandii W. H. Edwards, Papilio (Papilio), 95-18
f. lecontei (Rothschild & Jordan), Eurytides, 95-8
f. lusca Stichel, Parnassius, 95-2f
f. luxuriosus Forbes, Papilio (Heraclides), 95-16
f. medianigroocellatus Bryk & Eisner, Parnassius, 95-2e
f. melanophorus Bryk, Parnassius, 95-4e
f. melanurus Hoffmann, Papilio (Heraclides), 95-16
f. minor Verity, Parnassius, 95-4b
f. minusculus Bryk, Parnassius, 95-4b
f. mira Fassl, Papilio (Heraclides), 95-14
f. nanus Neumogen, Parnassius, 95-4b
f. nigrimarginata Beutelspacher, Papilio (Heraclides), 95-15a
f. nigro-caudata Vázquez, Papilio (Heraclides), 95-15a
f. nigroanalis Bryk & Eisner, Parnassius, 95-2e
f. nigroocellata Bryk & Eisner, Parnassius, 95-2e
f. ocelloconjunta Bryk & Eisner, Parnassius, 95-2e
f. ochracea Beutelspacher, Papilio (Heraclides), 95-14a
f. ochracea Beutelspacher, Papilio (Heraclides), 95-15a
f. pandion Bates, Papilio (Heraclides), 95-9a
f. paulina R. Krüger, Papilio (Heraclides), 95-13
f. primoetertiopictaetornatus Bryk & Eisner, Parnassius, 95-2f
f. pseudoamericus F. M. Brown, Papilio (Papilio), 95-21a
f. quincunx Bryk, Parnassius, 95-4b
f. reducta Bang-Haas, Parnassius, 95-4e
f. subamplicata Dufrane, Papilio (Papilio), 95-21a
f. suffusa Rousseau-Decelle, Papilio (Heraclides), 95-13
f. therstitoides Rousseau-Decelle, Papilio (Heraclides), 95-13
f. verityi Ehrmann, Parnassius, 95-4b
f. viridis Cockerell, Papilio (Papilio), 95-21a
f. walshii (W. H. Edwards), Eurytides, 95-8
fakahatcheensis Gatrell, Papilio (Pterourus), 95-26
flavomaculatus Goetze, Papilio (Pterourus), 95-25
fordi J. Comstock & Martin, Papilio (Papilio), 95-23f
frechini Seyer, Papilio (Papilio), 95-17a
gallatinus Stichel, Parnassius, 95-2d
gaspeensis McDunnough, Papilio (Papilio), 95-19
glauco Linnaeus, Papilio (Pterourus), 95-27
golovinus Holland, Parnassius, 95-3a
gracehus Fabricius, Papilio (Papilio), 95-21a
guppyi Wyatt, Parnassius, 95-4c
hel Eisner, Parnassius, 95-2b
hermador F. M. Brown, Eff & Rotger, Parnassius, 95-4e
hernandezii Torre, Papilio (Heraclides), 95-11
hibisci Fabricius, Papilio (Heraclides), 95-14
hipponous (Hübner), Papilio (Heraclides), 95-9
hirsuta (Skinner), Battus, 95-6
hollandi Bryk & Eisner, Parnassius, 95-4e
hozaus Ehrmann, Papilio (Heraclides), 95-13a
hudsonianus A. H. Clark, Papilio (Papilio), 95-17b
idaeus Fabricius, Papilio (Heraclides), 95-9a
idahoensis Bryk & Eisner, Parnassius, 95-4d
ilioneus J. E. Smith, Papilio (Pterourus), 95-26
immaculatus Skinner, Parnassius, 95-2d
incredibilis Bryk, Parnassius, 95-2a
indra Reakirt, Papilio (Papilio), 95-23
indra Reakirt, Papilio (Papilio), 95-23a
isidorus— Bates, Papilio (Heraclides), 95-9
joanae J. R. Heitzman, Papilio (Papilio), 95-20
joannisi Verity, Papilio (Papilio), 95-17a
kahli F. Chermock & R. Chermock, Papilio (Papilio), 95-21a
kaibabensis Bauer, Papilio (Papilio), 95-23d
kallias Ehrmann, Parnassius, 95-2b
kwakwapochei Seyer, Papilio (Papilio), 95-17a
lauri Fabricius, Papilio (Pterourus), 95-27
leontis Rothschild & Jordan, Papilio (Pterourus), 95-25
lewisii W. F. Kirby, Papilio (Pterourus), 95-30
lucayae (Rothschild & Jordan), Battus, 95-7a
lycophron Hübner, Papilio (Heraclides), 95-13
machaon Linnaeus, Papilio (Papilio), 95-17
magnus W. G. Wright, Parnassius, 95-4b
manitobaensis Bryk & Eisner, Parnassius, 95-4b

marcellus (Cramer), Eurytides, 95-8
 martini J. Emmel & T. Emmel, Papilio (Papilio), 95-23f
 matusiki K. Johnson & Rozycki, Papilio (Heraclides), 95-9
 maximus Bryk & Eisner, Parnassius, 95-4d
 maynardi Gauthier, Papilio (Pterourus), 95-27
 medionigrocellatus—Bryk, Parnassius, 95-2f
 menetriesii H. Edwards, Parnassius, 95-2e
 mentor Dalman, Papilio (Heraclides), 95-13
 meridionalis Eisner, Parnassius, 95-1a
 minori Cross, Papilio (Papilio), 95-23a
 montanulus Bryk & Eisner, Parnassius, 95-4d
 montanus Ehrmann, Parnassius, 95-4e
 multicaudatus W. F. Kirby, Papilio (Pterourus), 95-31b
 multicaudatus W. F. Kirby, Papilio (Pterourus), 95-31
 nevadensis T. Emmel & J. Emmel, Papilio (Papilio), 95-23b
 nezahualcotyl—auct., Battus, 95-6
 niger W. G. Wright, Parnassius, 95-5
 nitra W. H. Edwards, Papilio (Papilio), 95-22a
 oebalus Boisduval, Papilio (Heraclides), 95-13
 oebalus—G. R. Gray, Papilio (Heraclides), 95-13a
 olympianus Burdick, Parnassius, 95-4c
 olympianus dos Passos, Parnassius, 95-4c
 oregonius W. H. Edwards, Papilio (Papilio), 95-17c
 orestes Meerburgh, Papilio (Heraclides), 95-14
 ornythion Boisduval, Papilio (Heraclides), 95-12
 orsua—auct., Battus, 95-6
 oveido Gundlach, Papilio (Heraclides), 95-15b
 oxilus Hübner, Papilio (Heraclides), 95-16
 palamedes Drury, Papilio (Pterourus), 95-25
 pallas G. R. Gray Papilio (Heraclides), 95-13a
 panamintensis J. Emmel, Papilio (Papilio), 95-23f
 pandonius Staudinger, Papilio (Heraclides), 95-9a
 pennsylvanicus F. Chermock & R. Chermock, Papilio (Heraclides), 95-16
 pergamus H. Edwards, Papilio (Papilio), 95-23g
 petersii A. H. Clark, Papilio (Papilio), 95-17a
 philenor (Linnaeus), Battus, 95-6
 philenor (Linnaeus), Battus, 95-6
 phoebus (Fabricius), Parnassius, 95-3
 pholus Barnes & Benjamin, Parnassius, 95-4e
 phyllisae J. Emmel, Papilio (Papilio), 95-23e
 pikei Sperling, Papilio (Papilio), 95-17b
 pilumnus Boisduval, Papilio (Pterourus), 95-24
 pinkensis Gauthier, Parnassius, 95-1a
 piranthus Cramer, Papilio (Heraclides), 95-14
 pirithous Boisduval, Papilio (Heraclides), 95-13
 polus Ehrmann, Parnassius, 95-4e
 polycyon Cramer, Papilio (Heraclides), 95-14
 polydamas (Linnaeus), Battus, 95-7
 polydamas (Linnaeus), Battus, 95-7b
 polydamus (McDunnough), Battus, 95-7b
 polyxenes Fabricius, Papilio (Papilio), 95-21
 pompeius—W. F. Kirby, Papilio (Heraclides), 95-9
 ponceanus Schaus, Papilio (Heraclides), 95-10a
 prestoni Seyer, Papilio (Papilio), 95-17a
 pseudogallatinus Bryk, Parnassius, 95-2b
 pseudorotgeri Eisner, Parnassius, 95-4e
 pusillus Austin & J. Emmel, Papilio (Pterourus), 95-31a
 pygmaeus J. Emmel, T. Emmel & Griffin, Papilio (Papilio), 95-23f
 quincunx—Bryk & Eisner, Parnassius, 95-1a
 quincunx—Bryk, Parnassius, 95-4e
 rocky Grum-Grshmailo, Parnassius, 95-4b
 rotgeri Bang-Haas, Parnassius, 95-4e
 rubiana Wyatt, Parnassius, 95-4e
 rubina L. D. Miller & F. M. Brown, Parnassius, 95-4e
 rutulus Boisduval, Papilio (Pterourus), 95-29a
 rutulus Lucas, Papilio (Pterourus), 95-29a
 rutulus Lucas, Papilio (Pterourus), 95-29
 sayii W. H. Edwards, Parnassius, 95-4e
 serpentariae (Fabricius), Battus, 95-6
 shastensis J. Emmel & T. Emmel, Papilio (Papilio), 95-23c
 shepardii Eisner, Parnassius, 95-2b
 smintheus Doubleday, Parnassius, 95-4b
 smintheus Doubleday, Parnassius, 95-4
 sol Bryk & Eisner, Parnassius, 95-2f
 sordellus Fruhstorfer, Parnassius, 95-4e
 stabilis—dos Passos, Papilio (Papilio), 95-21a
 sternitzkyi McDunnough, Parnassius, 95-4f
 strohbeeni Sternitzky, Parnassius, 95-2g
 telamonides (C. Felder & R. Felder), Eurytides, 95-8
 texanus Ehrmann, Papilio (Pterourus), 95-26
 theramenes C. Felder & R. Felder, Papilio (Heraclides), 95-9
 thoas Linnaeus, Papilio (Heraclides), 95-15
 thor H. Edwards, Parnassius, 95-1a

troilus Linnaeus, Papilio (Pterourus), 95-26
 turnus Linnaeus, Papilio (Pterourus), 95-27
 utahensis Rothschild, Parnassius, 95-4e
 utahensis Strecker, Papilio (Papilio), 95-18
 var. ammoni Behrens, Papilio (Pterourus), 95-29a
 var. pandion C. Felder & R. Felder, Papilio (Heraclides), 95-9a
 var. polycyon G. R. Gray, Papilio (Heraclides), 95-14a
 versmanni Bryk & Eisner, Parnassius, 95-1
 xanthus Ehrmann, Parnassius, 95-4d
 yukonensis Eisner, Parnassius, 95-4a
 zelicaon Lucas, Papilio (Papilio), 95-22
 zelicaon Lucas, Papilio (Papilio), 95-22b
 zolicaon Boisduval, Papilio (Papilio), 95-22b

Achivus W. F. Kirby, 95-17
 Aernauta Berge, 95-24
 Aeronauta Berge, 95-17
 Amaryssus Dalman, 95-17
 BATTUS Scopoli, 95-6
 Calades Hübner, 95-9
 Doritis Fabricius, 95-1
 Eukoramus Bryk, 95-1
 Euphoeades Hübner, 95-24
 EURYTIDES Hübner, 95-8
 GRAPHIINI, 95-8
 HERACLIDES Hübner (subgenus), 95-9
 Ithobalus Hübner, 95-6
 Jasoniades Hübner, 95-24
 Kailasius Moore, 95-1
 Koramus Moore, 95-1
 Laertiades Doubleday, 95-6
 Laertias Hübner, 95-6
 Lingamius Bryk, 95-1
 PAPILIO Linnaeus, 95-9
 PAPILIO Linnaeus (subgenus), 95-17
 PAPILIONIDAE, 95-1
 PAPILIONINAE, 95-6
 PAPILIONINI, 95-9
 PARNASSIINAE, 95-1
 PARNASSIINI, 95-1
 Parnassis Hübner, 95-1
 PARNASSIUS Latreille, 95-1
 Priamides Hübner, 95-9
 PROTOGRAPHIUM Munroe (subgenus), 95-8
 PTEROURUS Scopoli (subgenus), 95-24
 Pyrrhosticta Butler, 95-24
 Tadmia Moore, 95-1
 Therius Billberg, 95-1
 Thoas Swainson, 95-9
 TROIDINI, 95-6
 Troilides Hübner, 95-9

Anchisiades Swallowtail (*Papilio anchisiades*), 9
 Androgeus Swallowtail (*Papilio androgeus*), 14
 Anise Swallowtail (*Papilio zelicaon*), 22
 Astyalus Swallowtail (*Papilio astyalus*), 13
 Bahamian Swallowtail (*Papilio andraemon*), 11
 Baird's Swallowtail (*Papilio bairdii*), 18
 Behr's Parnassian (*Parnassius behrii*), 5
 Black Swallowtail (*Papilio polyxenes*), 21
 Broad-banded Swallowtail (*Papilio astyalus*), 13
 Canadian Swallowtail (*Papilio canadensis*), 28
 Clodius Parnassian (*Parnassius clodius*), 2
 Eversmann's Parnassian (*Parnassius eversmanni*), 1
 Giant Swallowtail (*Papilio cressphontes*), 16
 Indra Swallowtail (*Papilio indra*), 23
 Joan's Swallowtail (*Papilio joanae*), 20
 Maritime Swallowtail (*Papilio brevicauda*), 19
 Old World Swallowtail (*Papilio machaon*), 17
 Orange Dog (*Papilio cressphontes*), 16
 Ornythion Swallowtail (*Papilio ornythion*), 12
 Ozark Swallowtail (*Papilio joanae*), 20
 Palamedes Swallowtail (*Papilio palamedes*), 25
 Pale Swallowtail (*Papilio eurymedon*), 30
 Parsleyworm (*Papilio polyxenes*), 21
 Phoebus Parnassian (*Parnassius phoebus*), 3
 Pipevine Swallowtail (*Battus philenor*), 6
 Polydamas Swallowtail (*Battus polydamas*), 7
 Ruby-spotted Swallowtail (*Papilio anchisiades*), 9
 Schaus Swallowtail (*Papilio aristodemus*), 10
 Short-tailed Swallowtail (*Papilio brevicauda*), 19
 Smintheus Parnassian (*Parnassius smintheus*), 4
 Spicebush Swallowtail (*Papilio troilus*), 26
 Thoas Swallowtail (*Papilio thoas*), 15
 Three-tailed Swallowtail (*Papilio pilumnus*), 24
 Tiger Swallowtail (*Papilio glaucus*), 27
 Two-tailed Swallowtail (*Papilio multicaudatus*), 31
 Western Tiger Swallowtail (*Papilio rutulus*), 29
 Woodlands Swallowtail (*Papilio palamedes*), 25
 Zebra Swallowtail (*Eurytides marcellus*), 8
 Zelicaon Swallowtail (*Papilio zelicaon*), 22

STRAYS

Although listed in some books, the following species are known only from single or few records, being rare strays and not part of Nearctic fauna north of Mexico (two from Florida may be erroneous records). Primary areas of collection records are noted to the right.

<i>Battus devilliers</i> (Godart) - West Indian	FL
<i>Eurytides celadon</i> (Lucas) - Cuban	FL
<i>Eurytides philolaus</i> (Boisduval) - Mexican	TX
<i>Papilio demoleus</i> Linnaeus - Asian (temporary introd.)	CA
<i>Papilio</i> (Heraclides) "pharnaces" (Doubleday) - Mex.	TX
<i>Papilio</i> (Pterourus) "victorinus" (Doubleday) - Mex.	TX
<i>Parides alopis</i> (Godman & Salvin) - Mexican	AZ
<i>Parides eurimedes</i> (Stoll) - Mexican	TX

BOOK NEWS

A GUIDE TO THE MICROLEPIDOPTERA OF EUROPE

by Umberto Parenti

2000. Museo Regionale di Scienze Naturali, Torino. 426pp (156 pl.) (17 x 24cm) cloth. Lira 150000 (ca. \$72.00). ISBN 88-86041-36-5.

This first guidebook (*Guide I*) from the Regional Museum of Natural History, in Turin, Italy, offers a superb synoptic sampling of the micro-moths of western Europe, including Pyralidae. The first 24 plates are black & white, mostly with photos taken from nature showing larval damage to hostplants. The remainder are color plates presenting enlarged photographs of museum specimens (984 species are treated); there are 4 painted plates for the smallest species (Nepticulidae and Heliozelidae). For a wider audience, the text is entirely in English but only comprises salient notes (name, size, distribution, hostplants) for each species opposite its illustration. There is a good introductory section on microlepidopteran morphology and biology, plus specialized notes on collection and study techniques for these small moths. No genitalia are illustrated or described, but the species involved may for the most part be correctly identified using this guidebook to verify their wing pattern.

ILLUSTRATED CATALOGUE OF MOTHS IN KOREA (I):

Sphingidae, Bombycoidea, Notodontidae

INSECTS OF KOREA, Series 4

edited by K.-T. Park

1999. Center for Insect Systematics, Kangwon National Univ., Chuncheon, South Korea. 358pp, 23 pl. (19 x 26cm) paper. K35000 (ca. \$55). ISBN 89-88154-06-1. Part 4 of the *Insects of Korea* series presents the first part on Korean macro-moths. The first book in the series was on butterflies and in Korean; the subsequent parts have been in English. The color plates are of museum specimens, all with excellent color. Text and figures cover 195 species, and include range maps for Korea.

DAGVLINDERS IN LIMBURG: Verspreiding en ecologie 1990-1999

by R. W. Akkermans, R. A. J. Pahlplatz, and K. Veling

2001. Stichting Natuurpublicaties Limburg, Maastricht. 381pp (17 x 24cm) cloth. Dfl. 73.50 (ca. \$48). ISBN 90-74508-18-3.

The butterflies of the Limburg region of the Netherlands are treated in this new book, based on a faunal survey from 1990-99. Each species has several color photographs of adults and immature stages, plus a distribution map for this region of Holland. Text is in Dutch. There is an excellent introduction to Limburg habitats and butterfly conservation. 72 species that have resident populations in Limburg are treated; a few of the incidental or migratory species are also mentioned.

GNORIMOSCHEMINI MOTHS OF COASTAL DUNE AND SCRUB HABITATS IN CALIFORNIA (Lepidoptera: Gelechiidae)

by Jerry A. Powell and Dalibor Povolný

2001. Assoc. Tropical Lepid., Gainesville (*Holarctic Lepid.*, 8 (Suppl. 1). 53pp (1 pl) (22 x 28cm) paper. \$18.50 (\$10 ATL members). ISSN 1070-4140.

The Gnorimoschemini tribe are small gelechiid moths that include some of the most important pest species. The present revision treats the native mostly non-pest species found in California coastal habitats, including 35 species, with 17 new species named, plus new records for 3 Palearctic species now recorded in California. All species are illustrated, including 1 color plate as a frontispiece, plus genitalia figures, and a selection of the main habitats investigated in California.

DAGVLINDERS IN FRYSLÂN: het Vluchtige Vastgelegd

by G. Bergsma, F. Nijland, S. Sinnema, K. Veling, and P. Zeinstra

2000. Friese Pers, Leeuwarden. 176pp (19 x 26cm) cloth. Dfl. 54.50 (ca. \$28). ISBN 90-330-1118-2.

This new book treats the butterflies of the Frisian region of the Netherlands. Text is in Dutch. There are detailed maps for each of the 46 species of skippers and true butterflies that are resident to the region. A few species that sometimes are found are also mentioned. The exceptional color illustrations of butterflies found in Friesland, sometimes with figures of larvae as well, makes the book well worth having. The book is the outcome of a project to inventory the Frisian butterfly fauna during the years 1990-99. The introduction has a historical section on previous researchers in this part of Holland, plus chapters on butterfly biology and conservation.

INSECTORUM MINIMORUM ANIMALIUM THEATRUM:

the Butterflies and Moths

edited by George Thomson

2000. Lochmaben, Scotland. 66pp (21 x 29cm) cloth. £70 (ca. \$115). No ISBN. This book is a facsimile reprint of Thomas Moufet's chapter on mostly British Lepidoptera, originally published in 1634 in his *Animalium Theatrum*. Thompson adds extensive notes for each species treated, plus has a new English translation of the original Latin text that accompanies the wood-cut plates. Moufet's book was the first major illustrated book on insects and was one of the main reference on insects in the 17th century. Moufet completed the manuscript already in 1589 with the help of others, but it was published until after his death. The original work is exceedingly rare and virtually unobtainable, and even the more recent facsimile reprints are hard to find, so Thompson's reprint of the Lepidoptera chapter makes this interesting work again available.

TAIWAN'S INSECTS - BUTTERFLY & MOTH SECTION

Illustrated Nature of Taiwan, 34

by Yung-Jen Chang

1999. Vacation Publ., Taipei. 239pp (11 x 19cm) paper. NT\$ 320 (ca. \$9.50). ISBN 957-623-194-9.

This field guide presents the commoner moths and butterflies of Taiwan. Illustrations are full-color taken from nature. The first half of the book treats the butterflies and the remaining pages present some of the macro-moths of the island. There are a few pages of introductory information on moths and butterflies. Text is Chinese; Latin names for species.

FIELD GUIDE TO BUTTERFLIES OF ILLINOIS

by John K. Bouseman and James G. Sternburg

2001. Illinois Nat. Hist. Survey, Champaign. 264pp (14 x 21cm). \$19.95 cloth (INHS Manual 9). ISBN 1-882932-05-6.

A full-color field guide to butterflies of Illinois. Illustrations are of both museum specimens and adults in nature, with color distribution maps and some photographs of larvae and typical Illinois habitats. The introduction to butterflies provides basic notes for the neophyte. The guidebook details 98 species recorded for Illinois. With Illinois being centrally located in the USA, the book provides a welcome addition to the growing number of state field guides for butterflies.

MEETINGS

2001 Oct 17-19
2002 Apr 6-8
Jun 1-6

Natura 2000: Pan-European Management of Butterflies, Laufen/Salzbach, Germany
Association for Tropical Lepidoptera, Gainesville, Florida, USA
Societas Europaea Lepidopterologica, Korsør, Denmark

PASSINGS

Robert J. Warren, January 16, in McAlester, Oklahoma. Charter member of ATL.

Ebbe S. Nielsen, March 2001, in Santa Barbara, California. Curator of Lepidoptera and Director of Insect Collections at CSIRO, Canberra, Australia.

David F. Hardwick, July 25, near Ontario, Canada. Retired researcher of noctuid moths (esp. heliothines); former director of Biosystematic Research Institute, Agriculture Canada, Ottawa, Ontario.

John Holoyda, September 12, in Chicago, Illinois. Specialist of Sesiidae and other diurnal moths.

CONTENTS

1 - In Memoriam
3 - Letters
11 - Heppner (ed.): Lepidoptera Museum Collections of 1929-30 by Gunder, 1-3

20 - Heppner (ed.): *Exotic Microlepidoptera* of Edward Meyrick - 1
57 - Heppner: Atlas of North American Lepidoptera. Part 1. Papilionidae
68 - Book News

28 November 2001