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DEDICATION

Dr. Charles A. Long (University of Wisconsin, Stevens Point) who first impressed me with the value of descriptive research; Dr. Henri Descimon (University of Provence, France) who first challenged me with the size of the trans-Andean Theclinae fauna; Dr. Frederick H. Rindge (American Museum of Natural History) who consistently facilitated this work as AMNH Curator of Lepidoptera.

ABSTRACT. Tailless, cryptically marked "elfin" butterflies of the tribe Eumaeini (Eliot 1973), including members of "*Thecla*" species groups of Draudt (1919) and other taxa historically clustered by superficial wing pattern similarities, are treated as an ingroup of eleven monophyletic genera based on analysis of adult wing pattern, tergal morphology and male and female genitalia. Outgroup genera are described in an appendant section.

Genera treated include *Penaincisalia* Johnson along with ten new ingroup genera (in order of treatment) *Thecloxurina*, *Pons*, *Abloxurina*, *Candora*, *Pontirama*, *Rhamma*, *Shapiroana*, *Paralustrus*, *Galba* and *Radissima*. Twelve additional genera are treated as outgroups. These include *Micandra* Staudinger, *Macusia* Kaye, *Mithras* Hübner and nine new genera. Genera treated are widely sympatric in the Andean regions of South America, with outlying populations of some groups also occurring in montane southeast Brazil and Central America. Average species number per genus is 8 (range 2 to 25). Four structural groups of the ingroup ("Clades I-IV") are noted among the genera and appear to comprise the sister group of Callophyrina butterflies.

Based on examination of type specimens, forty-four taxa originally described in eumaenine grades "*Thecla*", "*Sithon*", "*Papilio*" and "*Callophrys*" are transferred to new genera as appropriate and lectotypes designated for eight taxa. In order of treatment, generic combinations (listing **new combinations** and **new species**), are as follows. New lectotypes are parenthetically noted as (L); species numbers as ("n").

INGROUP (new infratribe "Thecloxurina").

Thecloxurina (12): **new combinations** (from *Thecla*) *loxurina* (Felder and Felder), *quindiensis* (Draudt), *fassli* (Druce), *cillutincarae* (Draudt) [*rufanalis* Hayward and *quadrufus* Hayward placed in synonymy], *atymna* (Hewitson) (L), *atymnides* (Draudt), **new species** *browni*, *eiselorum*, *truncta*, *feminina*, *costarica*, *bolivatymna*; **new subspecies** *loxurina lustra*, *loxurina astillero*.

Pons (5): **new combination** (from *Thecla*) *arcula* (Druce), **new species** *magnifica*, *vittata*, *purpurea*, *saraha*.

Abloxurina (5): **new combinations** (from *Thecla*) *amatista* (Dognin), *dissentanea* (Draudt), **new species** *contracolora*, *chiaspa*, *balzapamba*, **new subspecies** *dissentanea putreensis*.

Candora (7): **new combinations** (from *Thecla*) *jonesi* Johnson, replaces *schausa* Jones [homonym]), **new species** *fallacandor*, *cyanomediana*, *kellya*, *albalineata*, *contraloxurina*, *triangulara*.

Pontirama (7): **new species** *brunea*, *lapazensis*, *adriana*, *lorena*, *eiselei*, *tolimensis*, *coquimbiensis*.

Rhamma (26): **new combinations** (from *Thecla*) *arria* (Hewitson), *mirma* (Hewitson) (L), *mishma* (Hewitson), *bilix* (Draudt), *aurugo* (Draudt), *oxida* (Hewitson), *tyrrius* (Druce), *amethystina* (Hayward), *hybla* (Druce), *adunca* (Draudt), **new species** *austoxida*, *sabula*, *cuchoensis*, *comstocki*, *nigrasarotina*, *saroticana*, *inexpectata*, *roberti*, *tarma*, *catamarca*, *duplicata*, *creara*, *argenta*, *magenta*, *disjuncta*, *chilensis*.

Shapiroana (7): **new species** *shapiroi*, *circe*, *aurifera*, *matusikorum*, *macphersoni*, *minissima*, *herrerai*.

Paralustrus (4): **new combinations** (from *Thecla*) *commodus* (Felder and Felder) (L), *familiaris* Johnson (replaced *viridis* Lathy, [Johnson 1991]), **new species** *orosiensis*, *paccius*.

Penaincisalia Johnson (15): *culminicola* (Staudinger) (=*alatus* Druce), *aurulenta* Johnson, *caudata* Johnson, *oribata* (Weymer), *downeyi* Johnson, *anosma* (Draudt), *rawlinsi* Johnson, *pichincha* Johnson, *descimoni* Johnson, *patagonaevaga* Johnson, *penai* Johnson, *candor* (Druce), *bimediana* Johnson, **new species** *eiselei*, *planuma*.

Galba (2): **new species** *elvira*, *famosa*.

Radissima (6): **new combinations** (from *Sithon*) *umbratus* (Geyer) (including as subspecies, from *Thecla*, *parthenia* Hewitson) (L) and **new subspecies** *colombiensis*; (from *Thecla*) *catadupa* (Hewitson) (L), *chaluma* (Schaus), *dinus* (Hewitson) (L), **new species** *curitabaensis*, *esolana*.

OUTGROUPS.

Cisincisalia (2): **new combination** (from *Callophrys*) *guatemalena* Clench; **new species** *moecki*.

Variegatta (2): **new combinations** (from *Thecla*) *elongata* (Hewitson) (L), **new species** *reducta*.

Lamasa (2): **new combinations** (from *Thecla*) *calesia* (Hewitson)(L); **new species** *robbinsi*.

Tigrinota (8): **new combinations** (from *Thecla*) *ellida* (Hewitson)(L); *dolylas* (Cramer); *spurius* (Felder and Felder)(L), *pallida* (Lathy); *hypocrita* (Schaus); *binangula* (Schaus) [synonym *bolima* Schaus]; **new species** *jennifera*, *perinota*.

Ignata (3): **new combination** (from *Thecla*) *levis* Druce; **new species** *ignobilis*, *illepida*.

Arases (4): *clenchi* (replacement for *sesara* Godman and Salvin [homonym]); **new species** *aurantiaca*, *micandriana*, *colombiana*.

Solanorum (2): **new combination** (from *Thecla*) *goleta* (Hewitson); **new species** *gentilii*.

Micandra Staudinger [reviewed].

Mithras Hübner [reviewed].

Macusia Kaye [reviewed]: **new combination** (from *Thecla*) *triquetra* (Hewitson).

Denivia (4 examples): **new combinations** (from *Thecla*) *deniva* (Hewitson); *hamila* (Jones); *hemon* (Cramer); **new species** *maggae*.

Cryptaenota (2 examples): **new combinations** (from *Thecla*) *latreillii* (Hewitson); *mavors* (Hübner).

Sister group relations and geographic distributions of Neotropical elfinlike butterflies indicate the "Holarctic imprint" on the Neotropical fauna extends no farther south than Guatemala. Cryptically marked upland Neotropical elfins, superfically resembling numerous elfinlike Nearctic and Palaearctic Lycaenidae, have their relatives entirely in the lowland Neotropical fauna. Sister groups of pan-Andean elfin butterflies occur northward in disjuncts only to montane Costa Rica. The monograph describes and illustrates all the Neotropical elfinlike butterflies known to the author.

INTRODUCTION

In 1990 I published a taxonomy for the high Andean "elfin"-like butterflies, *Penaincisalia* (Theclinae, Eumaeini) (Johnson 1990a). I followed with a revision of the "elfin"-like Theclinae occurring in the Palaearctic Realm (Johnson, in press). As noted in these studies, "elfin"-like butterflies (hereafter "elfins" or "elfinlike butterflies") take their name from the American and European common usage. Contrasting "hairstreak" butterflies, which have hairlike hindwing tails and are often marked with bright bands or spots on the wing under surfaces, elfins generally are cryptically marked and either tailless or with widely lobate hindwings.

Sister groups of the primarily paramo-dwelling South American *Penaincisalia* are Neotropical elfin species of the sub-paramo "*Thecla*" "*loxurina*" and "*arria*" Groups of Draudt (1919) (Johnson 1990a). The latter groups are species rich, with many undescribed members (Descimon 1986). Because Neotropical elfin butterflies often inhabit seldom-collected upland habitats, specimens of many taxa are not widely available and samples must be assembled from many sources. In an analysis of the origins of the Andean butterfly fauna, Descimon (1986) noted the need for a study of this vast group of tailless, cryptically marked, Neotropical hairstreak butterflies. Thus, the purpose of this work is to characterize all of the elfinlike butterflies which are currently known to me.

Based on results from some one thousand specimens and genitalic dissections, I present a classification for the species included in the historical "*loxurina*" and "*arria*" Groups, dividing this large study group and additional relatives into four clades. These four clades include eleven monophyletic genera, ten of which are described as new, and appear to comprise the sister group of worldwide "callophyrine" butterflies (Johnson 1990a & in press). However, these relationships are still not precisely clear because of some other ill-studied Neotropical hairstreak groups which have elfinlike components. Two groups in particular pose a significant problem-- a scattering of poorly known and peculiar elfinlike species (which Draudt 1919 called "isolated" taxa) and a number of larger elfinlike taxa to which early workers like Hübner and Kaye applied some monotypic generic names. The latter groups pose three historical problems requiring a separate study: available names were applied only to type species and not further elaborated; curators and collectors widely used these names without reference to types or morphology; morphological analysis indicates a panoply of structural fascies in these taxa suggesting both extensive historical isolation of lineages and a lack coherence between historically used superficial wing characters and structural features. To clarify these problems (since it is likely my own classification will also be used by curators and collectors not greatly familiar with hairstreaks), I present a rather extensive (although preliminary) treatment of these elfinlike outgroups. It is limited to two goals: (1) clearly defining historical names from types and morphology, and (2) making certain new names available for structurally outstanding groups where names have historically been misapplied.

Materials and Methods

Collections. Specimens were studied from the Allyn Museum of Entomology, Florida Museum of Natural History (AME); American Museum of Natural History (AMNH); British Museum (Natural History) (BMNH); Carnegie Museum of Natural History (CMNH); Entomological Collection, Universidad Metropolitana de Ciencias de la Educación (UMCE); Field Museum of Natural History (FMNH); Instituto Zoología, Fundación Miguel Lillo (IML); Milwaukee Public Museum (MPM); Muséum National d'Histoire Naturelle (Paris) (MNNH); Museo Nacional de Historia Natural (Santiago) (MNHNC); University of California, Davis (UCD) and the Zoologische Museum der Humbolt Universität zu Berlin (ZMH). Supplementary samples, from private collections of Carmela Achohido (Lima, Peru), Henri Descimon (Marseille, France), Robert C. Eisele and Bruce MacPherson (Jujuy, Argentina), Jose Herrera G., Luis Peña and Pedro Mazry (Santiago, Chile), Arthur M. Shapiro (Davis, California) and J. Bolling Sullivan III (Beaufort, North Carolina, USA) were studied and representative specimens deposited at AMNH. Many of the taxa included in this study are known for their poor representation in collections, primarily due to their upland habitats and (in many cases) early spring occurrences. A count of specimens studied and dissected, including the outgroup taxa, numbered about one thousand. A frequent number of specimens per species was twelve and these tended to represent two or three specimens from each of the major museums listed above. Since much of this material was old, it reflected a habit of the early buyer/collectors (like Fournier at the MNHN) to assemble two or three specimens from each known species of their time. Also, some early collections of field workers (like E. and F. Pratt, Simons, etc.) were sold off in small lots or pairs, these eventually being deposited at different institutions (Johnson, in press). In cases where large series of certain taxa were available for

study, this most often resulted from recent collections by a resident lepidopterist. As is well known, few butterflies are "rare" if one can locate their microhabitat (see Johnson 1991b).

Study Group. Material examined included all the New World Theclinae (the Eumaeini *sensu* Eliot 1973) characterized by a lack of hairlike tails at the termini of veins CuA1 and/or CuA2 and with generally cryptic under surface patterns. Of these, large samples included members of the diverse "*loxurina*"- and "*arria* Groups" of Draudt 1919 (Descimon 1986) (hereafter, the "Draudt groups"). These latter, along with some relatives, appear to comprise a large sister group of the worldwide "callophryine" butterflies.

In my publication concerning high Andean elfins (*Penaincisalia* Johnson 1990a) I included a table of characters distinguishing *Penaincisalia* and the other Draudt groups from "callophryines", the latter which I also call the "Callophryina" or "callophryine butterflies" based on their titular genus *Callophrys* Billberg (Johnson 1990a, Appendix 1; present paper, Appendix 1). Consistent with these usages, I refer herein to the elfinlike sister group as "Thecloxurina" ("thecloxurines" or "thecloxurine butterflies") based on similar etymological practice using the newly described titular genus *Thecloxurina*. Other elfinlike butterflies not belonging to the core Thecloxurina ingroup, but included in the present study because of overall elfinlike appearance, are treated herein in a section called "Outgroup Diagnostics". This section also includes notes on additional groups of Eumaeini which warrant differentiation from taxa included in the present study (*e.g.*, historical names *Mithras* Hübner, *Macusia* Kaye, *Dolymorpha* Holland and *Micandra* Staudinger.

Systematics. Taxa of the ingroup are included in four clades including eleven genera, ten of which are new. Collectively, these groups are termed "Neotropical elfins" because they superficially resemble Nearctic taxa which have taken that common name (Brown 1942, Pyle 1981, Johnson 1990a & in press). Additional taxa are treated as outgroups in a subsequent section "Outgroup Diagnostics". These include *Micandra*, *Mithras*, *Macusia* and *Dolymorpha* and seven new genera applicable to diverse Neotropical Eumaeini which have some elfinlike species. Among the latter, the name *Cisincisalia* may or may not already be available, depending on the actual publication date of Johnson (in press).

Five criteria are used for genera:

(1) none is monotypic; (2) each is comprised of species sharing a number of major structural characters not present in other genera; (3) congener males and female are apparent from dissection of as many male/female pairs with duplicate collection data as possible; (4) each genus has been assessed for species diversity by study of relevant type material and a survey of undescribed entities; and (5) each genus has a geographic distribution of major biogeographic significance (e.g. New World, Neotropical, South American, Central American, Austral, Antillean etc.).

Species criteria are derived from standard taxonomic procedures involving consistent differences in characters of the wings and genitalic and tergal morphology. Presentation format and termininology are organized as outlined below.

Presentation. Many taxa and characters described herein are new to the literature. For clarity and brevity, I use a standardized format for all entries including certain abbreviations and descriptive phrases defined hereafter and illustrated in the accompanying figures.

Diagnostic Format--

For generic entries, following name and appropriate figure references:

"**Synopsis**". An introductory statement summarizing previous "common usage", since some new genera were previously known to Lepidopterists as certain of the "*Thecla*" groups of Draudt (1919) or other authors;

For all entries,

"**Diagnosis**". Style is partially telegraphic with diagnoses presented for (a) clades, (b) genera, (c) species groups, (d) species, and (e) subspecies, as follows--

(a) *for clades*: appearing as two initially boldfaced paragraphs, respectively treating characters of the **wings** and **morphology**;.

(b) *for genera*: arranged by diagnostic priority, based on my judgment of what statements best, and most succinctly, characterize the genus in relation to (i) all other thecloxurines or outgroup taxa and (ii) specific taxa of the Thecloxurina or outgroup genera which may be similar. Any additional elaboration required concerning generic diagnostics is presented in the first section of generic Remarks.

(c) *for species groups*: also arranged by diagnostic priority since, depending on the genus, quite different major characters will have been used to define these infragroups;

(d) *for species*: arranged in initially boldfaced paragraphs always in the following order-- **wings**, **male tergal morphology** and/or **genitalia**, **female tergal morphology** and/or **genitalia**. Further elaboration of diagnostic comments in non-telegraphic style is included in species Remarks.

(e) *for subspecies*: arranged similar to species but in a selective, abbreviated, style as appropriate to species characters.

"Description". Full descriptions are provided for all taxa including characters of the wing, tergal morphology and genitalia, each appropriately cross-referenced to accompanying illustrations.

"Type Species" and "Types". Generic type species are designated from previously described taxa when examination of types could be supplemented by enough additional material to allow verification of gender combinations by study of male/female series with duplicate collection data. When this could not be done, a well-documented new species is used as the type. For species and subspecies, types have been consulted whenever available at the major museum collections examined and lectotypes designated as appropriate; if types were not available, diagnosis was relegated to topotypes wherever possible.

"Distribution". Spatial and temporal distribution as noted from collection data or personal communication with field workers.

"Remarks". In generic entries, I use bolded subheadings including (i) **General** (any basic statement relevant to understanding relationships or features of the genus compared to other elfin butterflies); (ii) **Characters** (elaboration of diagnostic comments as necessary); (iii) **Nomenclature** (historical or technical comment); (iv) **Miscellaneous**. For brevity in species or subspecies entries, subheadings are not used. If remarks are appropriate to a Clade, Species Group or Assemblage entry, these are added parenthetically.

"Etymology". Provided for all new taxa and for taxa without previous commentary in the literature.

Terminology– Based on the literature cited, and compatible with elements figured and captioned in Figs. 1-3, certain abbreviations and descriptive phrases are employed in the text and keys. Generally, morphological terminology follows Johnson (1976, 1988a, 1989a,b, 1990a & in press) and Johnson & Matusik (1988) with certain modifications for various traits unique to elfinlike butterflies:

For wing pattern: Abbreviations– DFW, DHW (upper [dorsal] surface FW, hindwing], VFW, VHW (under [ventral] surface forewing, hindwing). Descriptive phrases– pattern and venation terms follow Clench (1964, 1975) (including "Thecla-spot" for the VHW marginal spot in cell CuA1 occurring in most eumaeines) except to add the CuA (cubitus anterior) vein notation for phylogenetic consistency; the words "above" and "below" [or "beneath"] are used for respective upper and lower surfaces of the wing. Consistent with Johnson (1990a & in press), VHW area basad of the medial area is referred to as the "basal disc" (fig. 1) a region often with characteristic pattern elements in elfinlike taxa. Consistent with Johnson (1990a & in press) I used the terms "iridescence" and "structural color" interchangeably as appropriate to discussion, differentiating as appropriate between the brilliant "morpho" blues or purples characterizing many males of Neotropical eumaeines and the "flat" blues or purples occurring in females or in both sexes of some oddly marked taxa. Because differences in "grain" and "hue" of structural color are readily apparent to the naked eye in some taxa, I also use certain terms to refer to the varied appearance of structural colors in some species (see genus *Rhamma*). In certain elfin genera, wing shape along the anal angle (veins 3A, 2A etc.) is distended into an elongate or lobate "tail"-like structure, analogous to that in the tribe Archopalini of the Old World (Eliot 1973). In groups where this structure is elongate, I refer to it as the "anal tail" and distinguish its components as the (1) "terminal spike" and (2) "lateral lobe" (fig. 1). In groups where only a lobate structure occurs I use the term "anal lobe" (fig. 1) consistent with Nicolay (1971) and Johnson (in press). On the male DFW in many species are clusters of androconial (=pheremonal) scales. Eliot (1973) (and many other authors, e.g.; Johnson 1990a & in press for elfins) refer to these as "brands". I use the latter term for androconial clusters of ovate or ellipsoid shape, as typifying many Eumaeini (fig. 1). However, since androconial marks in some elfin genera occur in elongate streaks across the costa (fig. 1) I refer to these as "streaks" (as in Draudt 1919).

For morphology: general terminology follows that for Eumaeini adapted to elfins by Johnson (1990a & in press) (figs. 2-3 and taxa entries). Concerning the valvae in many elfin butterflies, in which the caudal extension (fig. 2) can be variously angled caudally from the bilobed configuration (fig. 2) I often use the diagnostic statement "angled ['x'-amount] from the valval ventrum" to express degrees of this caudal angling which characterize various taxa. Since some elfins have specialized sclerotized structures of the terminal tergites, I adopt the terminology for these used widely by Field (1967a,b) and Johnson (1988; 1989a,b; 1990a & in press) "subcordate incised posterior cavity" [abbreviated *sipc*]. I use the term "brush organ" consistent with Eliot (1973) to refer to bundles of elongate microtrichia which clear to the vinculum dorsum when genitalia are removed by dissection. To further clarify morphological terminology in each of the genera of elfins, I present an explanation of terminology and format for the

tergal and genitalic illustrations of each genus in the initial morphological illustration/caption for that genus. For convenience in referring to genitalic illustrations in the text, when many congeneric genitalic illustrations show a characteristic configuration, I refer to these as "fig. [x],*f*" the italicized *f* meaning "forward" to and including all figures of that genus.

General: OD (original description), TL (type locality), N etc. (north, etc.), C (central), GP(s) (genitalic preparation [s]), LD (locality decription), ID (identified by), V,D (in captions, ventral/ dorsal).

Keys: After some consideration I decided not to include keys in the present study. As noted by Johnson (1991a), many groups of Eumaeini are so distinctive in overall wing and morphological character that workers find the informal method of "browsing" photographs and descriptions more useful for initial identification than volumous keys. Regarding the large number of taxa treated in this study, most readers will already have some familiarity with Neotropical theclines (at least the most common species represented in collections) and this can be a base for initial "browsing". Keys are particularly cumbersome in a work this size and, as most book reviewers note in studies of Rhopalocera, keys are seldom employed by readers.

Distribution Maps. A panoply of localities were included within the Material Examined in this study and, given the nature of collecting itineraries (particularly of early workers), many duplicate localities within the specimen data for species groups and genera. Previous literature includes some important regional guides to historical Lepidoptera collecting localities; considering that much old material was used in this study, it was important to include consideration from these texts as well. A method was needed to construct an informative base map suitable for figuring Pan-Neotropical elfin distributions to the page size of the present publication and to include as much historical information as possible. To accommodate this, distribution maps for Ecuador, Peru and Argentina were constructed from regional gazetteers. These were: Ecuador (Brown 1941; Lamaire and Venedictoff 1989); Peru (Pallister 1956, Vaurie 1972); Argentina (Johnson, Eisele and MacPherson 1988, 1990). As illustrated in figs. 194 and 195*f*, "master" dots corresponding to approximately a 1 geographic degree diameter were superimposed over base maps from the gazetteers. When specimens existed from localities within any of these dots, these were shaded on the master map with the appropriate taxon symbol. Considering the above, each symbol on an individual taxon's distribution map (figs. 195*f*) may include a number of closely clustered historical collecting localities (listed in Material Examined sections). For countries with no appropriate published guide to butterfly collecting localities (Bolivia, Colombia, Venezuela) and for countries with only a few scattered localities represented (Brazil, Central America) master base map dots represent individual localities from specimen data. With these some distortion was inevitable when actual sites were closely clustered and symbols superimposed or placed side by side. These localities were placed by consulting the following gazetteers and language indices: U.S.B.G.N. 1968-1968 [1961a, 1961b, 1961c, 1964, 1968] along with Lamas (1976) and Lamas and Encarnación (1976). In some cases data was limited to simple citation of a country. Because such citations sometimes included important specimens, they are noted on maps with one master dot per country accompanied by a question mark. In addition, some old label data was interpreted as representing historical collecting "trailheads", generalized locations where specimens were assembled, shipped or purchased. In such cases, when a nearby locality appeared from additional historical information as the more likely collecting site, the latter was noted with a dot, a question mark and a connecting line extending to the more probable location. An example of this problem is Brown's (1941) clarification of the meaning of the names "Riobamba" and "Rio Bamba" on some Ecudorian material (see *Thecloxurina atymna*). If geographic data was added subsequent to the preparation of the printed master base maps, these were added as additional dots in the appropriate figure. For comparative purposes concerning general biogeography, various base maps were used for the presentations of figs. 195*f*. Figures for genera in Clades I-II use a base map comprised of all localities representing an overall Pan-Andean distribution. Such distributions had few, if any, outlying non-Andean components. For Clade III, which included taxa with widely overlapping high Andean distributions, a map employing individual dots based on Johnson (1990a) was used. For Clade IV and outgroups, a base map showing a total of all localities in the study groups was used. These groups showed significant non-Andean components in both South and Central America.

Pagination. Pages of full text and explanatory figures were numbered on each page, consecutively beginning with the Introduction (p. 1); illustrations and their facing-page captions were considered one unit and numbered on the right as consecutive oddly numbered pages. Explanatory "color" captions for the photo layout were provided in full in each volume, numbered consecutively according to the pagination each volume.

TAXONOMY OF NEOTROPICAL ELFINLIKE BUTTERFLIES

Clade I (the "*loxurina* Group")

Wings. HW with prominent "anal tail" (fig. 1) formed by distension of the wing in the anal area (veins 3A, 2A etc.) to certain spikelike, fingerlike or lobate conditions (fig. 1); wing size generally large (FW 15-16 mm.) with angulate FW,HW apices causing length from FW apex to tip of HW anal tail to exceed more than 1.5 times (usually 2 times) FW length (fig. 1). DFW,DHW with structural color (usually dark blue to purple); VFW,VHW with suffusive brown ground colors (tawny to brown or red-brown) and distinctive banded pattern (FW postmedial band, HW postmedial band and/or bands on both sides of the basal disc, angled toward the anal tail, the "triangulate pattern", fig. 1).

Morphology typified in both sexes by lack of *sipc*; male genitalia robust with parabolic saccus (fig. 6*f*), small ventral spurs (fig. 6*f*) and differential occurrence of brush organs (figs. 2,6*f*), valvae with robust bases contrasted by various degrees of angling of the caudal extensions (latter characteristicly elongate, often with extremely thin or blunted termini) (figs. 2,6*f*); female genitalia with ductus bursae generally tubular, terminating in paired distal lobes separated by an elongate central fissure (figs. 3,4*f*); cervix bursae exhibiting various specialized sclerotal elements; usually a small, bilaterally symmetrical, hoodlike structure separated by a membranous tissue from which protrudes the ductus seminalis (figs. 3,4*f*).

DIVERSITY. Four diverse eumaeine groups reflect the above general habitus but differ from each other in consistent aspects of wing shape and pattern and morphological structure. I treat each of these groups as a separate genus below.

THECLOXURINA, NEW GENUS

Figs. 4-15, 100-111

Synopsis-- includes five taxa of the *Thecla* "*loxurina* Group" of Draudt (1919) and previously undescribed relatives.

DIAGNOSIS. ***Wings***. All taxa share three salient characters:

(1) HW with anal tail comprised of an elongate "terminal spike" and a varying hemispherical "lateral lobe" (figs. 1,100-111); elongation of tail causes length from FW apex to tip of anal tail to be about two-times FW length (see Remarks),

(2) FW of males with ellipsoid brands (abutting juncture of discal cell's costal and cross veins) brand length comprising only about one-fifth of discal cell length (figs. 1,100-111) (see Remarks).

(3) DFW,DHW color moderately bright to duller iridescent blue, violet, purple or orange; VFW,VHW grounds brown or red-brown patterned on HW by distinctive bands which converge in a triangulate fashion near the anal tail from respectuve origins along the costal and anal margins (the "triangulate pattern", figs. 1,100-111).

Male genitalia. Valval bases bulbous, contrasting thin caudal extensions (latter of various length and differentially angled caudad of the valval ventrum, figs. 2, 6*f*).

Female genitalia. Ductus bursae simple and tubelike, variously constricted centrally, terminating with parabolic, or slightly sculptured, quadraspherical lamellal lobes separated by a prominent central fissure (figs. 3,4*f*).

DESCRIPTION. ***Adult***. ***Male***. DFW,DHW: ground dull to moderately iridescent blue, violet, purple, orange, red or combinations thereof (either suffused across the wings or in patches); margins and apices fuscous to black. HW with distinctive anal tail described in Diagnosis. Each FW with single, parabolic to ovate, brand abutting distal end of costal vein within discal cell. VFW,VHW: grounds cryptically mottled and suffused with hues of brown and/or red-brown. Pattern elements darker brown or black, FW with postmedial band or line (sometimes with additional submarginal or medial elements), HW with two to several bands, usually convergent near the anal tail from respective origins along costal and anal margins (the "triangulate pattern"). Limbal elements vary greatly between species; the submargin of cell CuA1 lacks the "Thecla-spot" typical of many Eumaeini. Wing lengths: FW 14.0 - 16.5 mm.; FW apex/HW anal tail length generally two-times FW length. ***Female***. DFW, DHW structural color duller than male and usually basomedially restricted; VFW,VHW similar to males. Wing lengths: similar to males. ***Male Tergal Morphology and Genitalia***. Figs. 2,6-15. No *sipc*; brush organs occurring in some species. Genitalia with round to angled vincular ventrum (figs. 2,6*f*) and variously prominent vincular spurs (figs. 2,6*f*); valvae with bulbous bilobes (figs. 2,6*f*) contrasting thin, variously elongate, caudal extensions (figs. 2,6*f*), in some species directed laterally at wide angles along valval ventrum; saccus parabolic to spatulate (figs. 6*f*); aedeagus generally robust, length exceeding rest of genitalia by one-fourth up to one-third; caecum comprising one-fourth to one-third aedeagal length and caecum often displaced widely out of the plane of the

aedeagal shaft (figs. 6*f*); aedeagal terminus parabolic to pointed and always with two serrate cornuti (figs. 6*f*). ***Female Tergal Morphology and Genitalia.*** Figs. 3,4-15. No *sipc*; genitalia with ductus bursae occurring as evenly sclerotized (sometimes centrally constricted) tube, terminating caudally with paired quadraspherical lamellal lobes separated by a prominent central fissure (figs. 3,4*f*). Ductus seminalis emanating from cervix bursae, latter variously produced with specialized sclerotal elements forming a bilobate "hood" over distal end of corpus bursae (figs. 3,4*f*), "height" of hood (*sensu* Johnson 1990a) usually no more than one-fourth to one-third ductus length. Corpus bursae with two, generally spinelike, signa located on respective inner lateral margins of the bursal sac (figs. 4*f*).

TYPE SPECIES. *Thecla loxurina* Felder and Felder (1865-1875 [1865]).

DISTRIBUTION. ***Spatial.*** Figs. 194-198; throughout Andean region of South America at altitudes (noted from specimen data) 1000-3900 m.; one species occurring in montane Costa Rica, recorded from 1200 m. ***Temporal.*** Dates noted on specimens range from August to June (though majority of dated specimens are from October to March and most specimens lack collection dates).

REMARKS. *General*– This diverse genus exhibits two outstanding species groups, each comprised of distinctive subgroups. The prominent anal tail in *Thecloxurina* (most outstanding in the *loxurina* Species Group) superficially resembles the anal wing shape of the Old World lycaenid tribe Archopalini (a homoplasy, see Eliot 1973). This distended HW tip causes the wing length from FW apex to the tip of the HW anal tail to usually approximate 2-times that of the FW length.

Characters– Anal tail: among Eumaeini, the anal tail (figs. 1,100-111) contrasts hairlike tails extending from the termini of HW veins CuA1 and/or CuA2 in typical "hairstreak butterflies". Among thecloxurines, the anal tail in *Thecloxurina* contrasts less produced expressions of the anal lobe-- round lobes in *Abloxurina*, parabolic lobes in *Candora*, diminutive lobes in species of *Rhamma* and *Pontirama* (fig. 1 and individual taxon illustrations concerning these genera). In Clade I, only taxa of *Shapiroana* generally lack a produced anal wing area. FW brands: *Candora* taxa and some *Abloxurina* taxa (possibly confusable with *Thecloxurina* because of produced HW anal lobes) exhibit robust FW brands; these extend widely across the distal end of the discal cell, comprising from one-fourth to one-third of the discal cell length (fig. 1).

Nomenclature-- Formerly, the name "*Thecla loxurina*" has been used for varied groups of specimens, including many with varying DFW,DHW structural color, VFW,VHW patterns and (as discovered in this study) divergent morphological characters with differential occurrence of brush organs. As a result, although *T. loxurina*, as readily identified from its type, is represented in substantial numbers in worldwide collections, there has been a confused common usage of this name. Considering the diversity of *Thecloxurina* documented in the present paper, and the superficial similarity of some shorter-tailed non-congeners, curators and collectors with specimens under the name "*Thecla loxurina*" should reexamine these for additional diversity. There are, for instance, not only a diverse number of *Thecloxurina* species, but species of *Abloxurina* and *Candora* with elongate tails and/or prominent VHW triangulate patterns (*A. contracolora*, *C. contraloxurina*). To facilitate ready recognition of the various species of *Thecloxurina*, I divide the genus into two species groups based primarily on DFW,DHW color: the blue or violet "*loxurina*" group and the orange and brown "*atymna*" group.

SPECIES

loxurina Species Group

DFW,DHW ground dark iridescent blue to purple (one group of species with additional, red and orange, pattern elements); anal tail elongate and spikelike (one species with additional produced lateral element). Species are grouped below into two "Subgroups" based on condition of the anal tail, thereafter further subdivided into "Assemblages" based on conditions of DFW,DHW structural color. One subgroup is entirely South American; the other has one Central American member.

Subgroup 1. Lateral lobe of anal tail widely conjoined to terminal spike by an additional lateral flap.

South American species:

Thecloxurina browni,
NEW SPECIES
Figs. 4, 100

DIAGNOSIS. ***Wings.*** Much larger than *T. loxurina* (*browni* FW 17.5 mm., apex/tail tip 24.0 mm.) with broader wing shape and prominent auburn hemispherical lobe on the anal tail joining the tail's lateral lobe and terminal spike. Contrasting all congeners, DHW markings on anal tail convergent with HW ground as prominent brown chevrons. VHW ground mottled dark brown (not red-brown), hued darker brown basad of the dark FW

postmedian band and HW band and with all HW bands distinctly scalloped along their margins (not straight or undulate as in congeners).

Female genitalia. Distinctive in its severely sculptured lateral margins along the ductus bursae.

DESCRIPTION. ***Male***. Unknown. ***Female***. Basal one-half DFW,DHW ground dull gray-blue; fuscous over rest of wing with brown in anal and anal-marginal areas. Anal tail laterally lobate as noted in Diagnosis. VFW,VHW ground variously brown; FW with dark blackish-brown submarginal line crossing entire wing and lighter brown postmedial line extending from costa to cell CuA2; ground basad of band darker brown and with brown slash at end of discal cell. HW with darker brown medial, postmedial and submarginal bands forming triangulate pattern; margin of bands scalloped and with ground basad of medial line darkly suffused. FW length: 17.5 mm. [apex/tail tip 24.0] (holotype); broad wing shape with lobate and angular anal tail accounts for relatively small apex/tail tip measure compared to congeners. ***Female Genitalia***. Fig. 4. Ductus bursae greatly scupltured along lateral margins, constricted first centrally and again near bulbous cervix bursae. Lamellae with terminal margins greatly constricted to pronglike lobes separated by a prominent central fissure. Signa occurring as simple, flat, sclerotized plates.

TYPES. Holotype female (fig. 100), ECUADOR, Hda. Talahua, 3100 m., leg. F. M. Brown, 29 April 1939, deposited AMNH.

DISTRIBUTION. ***Spatial***. Fig. 194; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. Brown (1942) noted type locality as the upper limit of humid temperate forest on the Pacific slope, the forest-paramo line occurring at about 3000 m. The specimens was collected in the rainy season and, considering what is known of the habitat of other thecloxurines, appear to be from the forest/paramo margin.

ETYMOLOGY. Patronym for F. Martin Brown, who collected the type.

Thecloxurina eiseleorum
NEW SPECIES
Figs. 5, 101

DIAGNOSIS. ***Wings***. DFW,DHW ground of known female dull silvery blue contrasting black suffusion strewn across the FW costa; VFW,VHW distinctive-- ground tawny, HW crossed by very straight brown medial line separating darker (and basally black-suffused) tawny brown ground from a distally lighter ground; submargin with undulate dusky black line converging toward tawny medial line near the anal tail (see Remarks). ***Female genitalia***. Ductus bursae elongate and fluted; cervis bursae comparatively diminutive for genus.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW: ground dull iridescent silvery blue with broad brown to fuscous submargins and apices blending gradually into iridescent blue basal ground; FW costa suffused blackish. HW with anal tail rather truncate and rounded. VFW,VHW: ground dull tawny, FW with darker brown postmedial line across entire wing; HW crossed with similar line in medial area (forming slight triangulate pattern by angling to anal margin just distad of discal cell). HW otherwise marked only by meandering undulate dusky gray submarginal line and dark red-brown suffusion across the anal tail. FW length: 14.5 mm. [apex/tail tip 25.0 mm.] (holotype) broad wing shape with lobate and angular anal tail accounts for relatively small apex/tail tip measure compared to congeners. ***Female Genitalia***. fig. 5. Ductus bursae elongate and terminally fluted compared to congeners; cervix bursae with heavily sclerotized initial margin with ductus bursae followed dorso-caudally with two bilobate fanlike elements. Corpus bursae with two pronglike signa.

TYPE. Holotype female (fig. 101), ARGENTINA, Jujuy Province, Dept. Ledesma, Parque Nacional Callilegua (Rte. 83), park track km 19-20, 1500-1600 m, near "Aguada del Tigre", 18 November 1989, leg. R. C. Eisele, deposited AMNH.

DISTRIBUTION. ***Spatial***. Fig. 194; known only from type locality. ***Temporal***. Known only from type.

REMARKS. Since R. Eisele's 1989 move from Tucuman Province to La Libertador San Martin, Jujuy, he has been fortunate to live within 7 km of the virtually unexplored Parque Nacional Callilegua, which is presently traversed by only one dirt track. The number of new Argentine records and undescribed species derived from this area since Eisele's residence, and a 1991 expedition by AMNH workers, is remarkable. Over a half dozen such species are described in the present study. *Thecloxurina eisleorum* is curiously marked, the DFW dark costal color at first suggesting it is a male; the VFW,VHW markings are unique. The anal tail typical of *Thecloxurina* is clear on DHW right side where the lateral lobe is intact and the base of the terminal spike visible. Fig. 101 reconstructs the tail on the left side.

ETYMOLOGY. Named for Roberto and Barbara Eisele.

Subgroup 2. Elongate terminal spike complemented by a distinct adjacent lateral lobe.

Assemblage 1. DFW,DHW grounds iridescent purple or blue. [Note: another group of taxa has historically been confused with this group-- entities with wing shapes typical of Subgroup 2 but with additional orange or red DFW,DHW pattern elements. These taxa, all historically considered "color forms" under the broad usage of "*Thecla loxurina*" (Draudt 1919, and common usage), actually form a distinct structural group treated below as Assemblage 2].

South American species:

Thecloxurina loxurina (Felder and Felder)
NEW COMBINATION
Figs. 6, 102

Thecla loxurina Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22. Kirby 1871: 382; Draudt 1917-1924 [1919]: 758, pl. 153e; Jorgensen 1934: 60; Brown 1942: 21; Comstock and Huntington 1958-1964 [1961]: 114; Descimon 1986: 519; Johnson, MacPherson and Ingraham 1986: 7; Bridges 1988: I.201, II.107, III.42 (see Remarks).

Pseudolycaena loxurina: Hayward 1973: 149 (refers OD of *T. loxurina* to *Pseudolycaena*).

Thecla loxurina f. *atymnides* Draudt 1917-1924 [1919]: 758, pl. 153e. Comstock and Huntington 1958-1964 [1961]: 114 (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22, combination in error, see *Thecloxurina atymnides*).

Thecla loxurina f. *quindiensis* Draudt 1917-1924 [1919]: 758, pl. 153e. Comstock and Huntington 1958-1964 [1961]: 114 (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2: 261, pl. 32, f. 21,22, combination in error, see *Thecloxurina quindiensis*).

Thecla loxurina f. *cillutincarae* Draudt 1917-1924 [1919]: 758, pl. 153e. Comstock and Huntington 1958-1964 [1959]: 186 (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22, combination in error, see *Thecloxurina cillutincarae*).

Thecla loxurina f. *fassli* H. H. Druce 1912: 130, pl. 9, f.10 (= *socorrensis* Dognin, *in litt.* [Comstock and Huntington 1958-1964 [1963]: 193]): Draudt 1917-1924 [1919]: (5): 758 (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22): Comstock and Huntington 1958-1964 [1963]: 193 (combination in error, see *Thecloxurina fassli*).

Thecla loxurina f. *rufanalis* Hayward 1935: 191 [*Thecla loxurina rufanalis*: Comstock and Huntington 1958-1964 [1961]: 114] (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22, combination in error, see *Thecloxurina cillutincarae*).

Thecla loxurina ab. *quadrufus* Hayward 1935: 191 [*Thecla loxurina quadrufus*: Comstock and Huntington 1958-1964 [1961]: 114] (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22, combination in error, see *Thecloxurina cillutincarae*).

DIAGNOSIS. ***Wings.*** As summarized in schematic drawings for the genus (fig. 1), dorsal and ventral wing characters readily separate this widespread and most common of the *Thecloxurina* from its congeners (although three rather far-flung subspecies complicate too simplistic a characterization).

As shown in fig. 1, *T. loxurina* belongs to the group of congeners with *elongate anal tails tapering in contiguity* with the overall caudal slope of the HW. This contrasts several congeners with truncate or bulbous tails or, among species also violet-blue on the upper surface, the distally spiked condition of smaller south Andean congener *T. cillutincarae*.

T. loxurina DFW,DHW color in males iridescent blue to violet contrasting 2 ± mm. black to fuscous margins (which widen at the FW apex and curve around the costa). This simple pattern readily separates *T. loxurina* from numerous congeners with grounds of other colors (orange, mixed blue and orange [or red], deep magenta) or with mottled or patched combination or blue, orange and/or red [see Assemblage 2]). *T. loxurina* is generally without red or rufous coloration across the anal tail, though this area has a slight rust color in the south Andean subspecies described herein as new [see Remarks]);

T. loxurina VFW,VHW ground suffusive red-brown with *all bands continuous* and the triangulate pattern of the HW (fig. 1) sweeping toward the anal tail from both the costal and anal margins. This contrasts triangulate patterns in congeners which are discontinuous, angulate, or basally restricted. Only the south Andean subspecies shows strong undulation in the hindwing bands.

Females resemble males in all aspects except their lack of forewing brands and duller DFW,DHW ground color-- suffusive flat silvery-blue more gradually fading to

fuscous margins (these not unlike the males of *T. feminina*, however; see below).

Male genitalia. Lacking brush organs (see Remarks); valvae with bilobed areas extremely bulbous (rather "pear"-shaped compared to congeners) and caudal extensions thin and widely separated along the ventrum (somewhat less so in Ecuador/Peru subspecies). ***Female genitalia***. Ductus bursae constricted in cephalic one-third; caudal terminus tubular with terminal lamellae not notably sculptured.

DESCRIPTION. ***Male***. DFW,DHW: ground dull dark iridescent blue with broad brown to fuscous submargins and apices (ground slightly more lustrous in Ecuador/Peru subspecies, see below); FW with small (1 mm.) ovate androconial brand. HW with anal tail elongate. VFW,VHW: ground mottled red-brown over tawny (less reddish in Ecuador/Peru subspecies, see below); FW with deep red-brown postmedial line from costa to cell CuAl; HW with triangulate pattern in dark red-brown with anal elements sweeping toward the anal tail from the respective costal and anal margins. Submargin with varying occurrence of dotted or suffusive dark red-brown line. FW length: mean of 14 AMNH specimens, 15.8 mm., range 13.0-16.5 mm. [apex/tail tip of FW 16.0 = 32 mm.]. ***Female***. DFW,DHW: ground suffused with flat silvery- to gray-blue gradually fading to fuscous margins and apices. VFW,VHW similar to males. FW length, three AMNH/BMNH specimens, 12.0, 13.5, 14.0 mm. [apex/tail tip of FW 14.0 = 27 mm.]. ***Male Genitalia***. Fig. 6D-F. Vincular dorsum lacking brush organs. Genitalia with bilobed areas bulbous and rather "pear"-shaped, contrasting thin caudal extensions widely separated along the ventrum (somewhat less so in Ecuador/Peru subspecies, see below); saccus parabolic and generally wide; vincular ventrum rounded, spurs lobate; aedeagus exceeding length of entire genitalia by about one-third, caecum displaced some 30 degrees out the plane of aedeagal shaft; aedeagal terminus with two serrate cornuti. ***Female Genitalia***. Fig. 6A-C. Ductus bursae constricted in cephalic one-third; cervix bursae bulbous; caudal terminus with quadraspherical lamellal lobes separated by a prominent central fissure; corpus bursae signa spinelike.

TYPES. Holotype male, BMNH (fig. 6D), lacks locality data, labelled only "Thecla loxurina Feld", "Felder Colln.", "laxurina [sic] n.", "Type", "B.M. Type No. Rh. 596". TL: OD lists COLOMBIA, Bogota, "New Granada". Additional types of new subspecies are listed below in REMARKS section entitled "Subspecies"; types of various taxa enumerated under "Synonymy" are listed in the individual entries of those taxa.

DISTRIBUTION. ***Spatial***. Fig. 194; nominate distributed in montane Colombia, labels inlcuding altitudes 2000(±)-3200 m.; new subspecies described from Ecuador south into Peru with label data from 2300-3750 m.; new subspecies described from S Bolivia, NW Argentina with label data 1500-1600 m. ***Temporal***. Dates on specimens range from August to March; however, most specimens are old and lack dates of collection.

REMARKS. The name "*Thecla loxurina*" has been used previously for varied morphs, some of which represent distinct species (see also, Species Group Note above, subsequent taxon entries and Remarks under *Thecloxurina atymna*). The synonymy of *Thecloxurina loxurina* is complicated because historical review indicates authors used numerous binomial combinations and citations of status or rank (i) inconsistent with cited literature and (ii) without reference to types. This probably resulted from the inavailability of some literature, the citing of secondary sources, reliance on personal communications, and use of binomial combinations from museum identification labels.

Inspite of frequent historical misidentification, *T. loxurina* remains the most common species of *Thecloxurina* in collections and is readily recognized. A rather lengthy Diagnosis has been presented in this revision to (i) distinguish the species consistent with the type and (ii) summarize the variation in the recognized subspecies. When one is familiar with the characteristic anal tail, simple upper surface pattern, and charactistic VHW triangulate pattern, *T. loxurina* is readily distinguishable from congeners. As noted below in "Subspecies" entries, nominate *T. loxurina* is the dullest in color. Workers appear more familiar with, and collections more include, specimens from Ecuador and Peru. These show a more lustrous DFW,DHW and valval caudal extensions less widely angled from the valval ventrum. A poorly known population of *T. loxurina* occurs in southern Bolivia and extreme northern Argentina. It exhibits some brown suffusion across the DHW anal tail and a more undulate VHW pattern. However, it is structurally typical of *T. loxurina*. This south Andean population is regionally sympatric with a small (FW 10.0-13.0 mm.) southern congener, *Thecloxurina cillutincarae*, today more well known because of extensive recent sampling by Argentine lepidopterists R. Eisele and B. MacPherson. To clarify identification of *T. loxurina* south of Colombia, two new subspecies are described below. One includes the more dorsally lustrous populations characterizing Ecuador southward through Peru. The other represents the little

known population from southern Bolivia and northern Argentina whose identification has been confused by several short descriptions published by K. Hayward (1936, 1973).

Examination of Haywards (1936) *loxurina* "forms" *quadrufus* and *rufanalis* (TL Tucuman Prov., Argentina) show them to be conspecific with *T. cillutincarae*, the prominent thecloxurine occurring in the subtropical to temperate mesic forests of Tucuman Province, Argentina. This species shows an elongate anal tail which, in fresh specimens, is angled extremely distad from the HW margins. The species also exhibits brilliant red completely surrounding the DHW area of the anal tail. *Thecloxurina cillutincarae* (*Thecla cillutincarae* Draudt, a name with which Hayward appears to have been unfamiliar) is one of the "red-tailed" *Thecloxurina* (see Assemblage 3, below). The latter is a group of widespread species in which the HW shapes, patches of red color, and structural characters are all distinctive. Hayward's use of the name "*Thecla loxurina*" for all Argentine specimens has confused some workers. *T. loxurina* (new subspecies *astillero* below) does occur in southern Bolivia and in the upland mesic forests of tropical Jujuy Province, Argentina. It shows the typical under surface, spiked tail, and structural features though the VHW band is more undulate and there is a slight rust-colored suffusion crossing the anal tail. At least in Parque Nacional Callilegua, Jujuy Province, upland *T. loxurina* appears parapatric with more lowland *T. cillutincarae*. All the specimens I have seen from (or collected in) Tucuman Province, along with all of Hayward's IML specimens, are the latter species (which extends southward into Catamarca Province as well).

SUBSPECIES

Arranged north to south:

NOMINATE: ***T. loxurina loxurina***. Refer to species entry. Generally duller blue in DFW,DHW structural color than subspecies below and with VHW distal margin of triangulate pattern straighter and sweeping more toward the anal tail. I figure a male and female from Rio Poureca, Colombia (AMNH) (fig. 102 AB). Male genitalia with valval caudal extensions widely angled from valval ventrum (fig. 6AD). Otherwise like *T. loxurina lustra* (below) in general structural characters (particularly the lack of brush organs). Distributed through the montane Colombian region eastward to the Cordillera de Merida in Venezuela, with August to January collection dates undoubtedly indicating only a fraction of the flight period since most specimens lack date notations.

Material Examined [for consistency with printed labels, diacriticals purposely omitted]. COLOMBIA. "Colombia", coll. Druce, 1 male (BMNH); "Colombia", coll. Staudinger, 1 male (CMNH); "Colombia", coll. Brabant, 1 male (MNHN); "Colombia", coll. Fruhstorfer, 1 male (MNHN); "Colombia", coll. Felder, 1 female (MNHN); "Columbi", 1 male (MNHN); "Colombie", 1 male (MNHN); "Colombia", leg. Felipe Ovalle, 2 males, 1 female (AMNH); Bogota, 1 female (MNHN); 2 males (BMNH); Bogota, 2800 m., 1910, leg. Fassl, 1 male (MNHN); Bogota, 3200 m., leg. Fassl, 1 male (MNHN); Alto de Carrizal [sic], leg. Fassl, 1 female (MNHN); Frontino Antioquia, 1 male (BMNH); Mountains of Bogota, 3 males (CMNH); Pereira, 1 male (BMNH); Manizales, 1 male (BMNH); Coachi, 1 male (BMNH); Briceno, 1 male (BMNH); Rio Aguacatal, 1 female (MNHN); Torne, Cauca Valley, 1 male (MNHN); Villavicencio, 1 male (AME); Antioquia, Rio Penderisco, 2500-2600 m., 27 August 1948, 3 males (AMNH); Rio "Poureca" [Porueca?], 1 males, 1 female (AMNH); Rio Penderisco, Antioquia, 1 male (AMNH); Cali District, Western Cordillera, 6500 ft., 24 January 1935, coll. E. A. Huntington, 1 male (AMNH); Muzo, June 1915, 1 male (AMNH); Rio Corcona, 1 male (AMNH). VENEZUELA. Merida, 1 male (BMNH).

Thecloxurina loxurina lustra, NEW SUBSPECIES

Figs. 6BE; 102CD

Diagnosis. Wings. Similar to nominate but DFW,DHW (particularly DHW) structural color more lustrous and hued more bluish than violet; VHW with margin of triangulate pattern slightly undulate and less distally angled toward the anal tail. ***Male genitalia.*** Valval caudal extensions more closely aligned than in nominate.

Description. Male. DFW,DHW with lustrous blue iridescence occurring basad crisp fuscous apices and margins. VFW,VHW ground red-brown with pattern like nominate. ***Female.*** Differing from nominate in same manner as male. ***Male Genitalia.*** Fig. 6E. Differing from nominate in more robust and ovate vinculum and valval caudal extensions less widely angled from valval ventrum. ***Female Genitalia.*** Fig. 6D. Differing from nominate only in slightly more elliptical shape of ductus bursae; cervix bursae somewhat less expansive than nominate in most specimens.

Types. Holotype male (fig. 102C, 16.0 mm. [apex/tail tip 32.0 mm.), allotype female (fig. 102D, 14.0 mm. [apex/tail tip 27.0 mm.), ECUADOR, Baños, Tungurahua, 2500 m., leg. F. M. Brown, respectively 7 March

1939 and March 1939 [sic]. ***Paratypes***. AMNH: ECUADOR, "Ecuador", leg. Fields, 1 male; Carmen, December, 1 female; Baños, Tungurahua, 2500 m., leg. F. M. Brown, January 1939, 1 female; Runtun Hills, Baños, 2300 m., leg. F. M. Brown, 9 March 1939, 3 males; Seville de Oro, Azuay, 2500 m., leg. F. M. Brown, 15 February 1939, 1 male; Zamora, Chinchipa, 36 km. NW Zamora, 2730 m., 29 October 1987, scrub cloud forest, subparamo, leg. Rawlins, Young and Davidson, 1 male (CMNH).

Distribution. Spatial. Fig. 194; Andes from Ecuador southward through at least central Peru, altitudes noted on specimens ranging from 2300-3750 m. ***Temporal.*** Dates on specimens include February and March but many specimens are undated.

Remarks. I describe this subspecies mainly to prevent misidentification of Ecuador/Peru specimens of *T. loxurina* which are more lustrous in DFW,DHW than the nominate and can therefore possibly be confused with various central Andean congeners. The break in the distribution of the nominate and *l. lustra* appears to be the montane areas which headwater the Rio Putumayo; however, few Colombian specimens of the brighter subspecies are known.

Additional Material Examined. In addition to Types, above: COLOMBIA. Monte Chiles, Carchi, 1 female (AME). ECUADOR. "Ecuador", leg. Fassl, 1 female (MNHN); "Ecuador", 1 male (BMNH); "Ecuador", leg. R. de Lafebre, 9 males, 6 females (AME); Imbabura, Cotacachi, 3750 m., leg. R. de Lafebre, 6 males (AME); Napo, Papillecto, 1 female (AME); Nieb'i Pichincha, 1 female (AME); Villonaco, 1 male (AME). PERU. "Peru", Pampas, 1 male (MNHN); Rio Huallagra, 1 male (AMNH).

Thecloxurina loxurina astillero, NEW SUBSPECIES

Figs. 6CF, 102EF

Diagnosis. Wings. DFW,DHW dull violet blue, base of anal tail with slight rusty suffusion; VFW,VHW triangulate pattern typical of the species but with distal margin rather undulate and submarginal spots emphatic. ***Male genitalia.*** Valval bilobes elliptic and ventrally flat; caudal extensions elongate (latter widely angled from the valval ventrum as in nominate) (see Remarks).

Description. Male. DFW,DHW dull iridescent purplish blue occurring basad crisp fuscous apices and margins. VFW,VHW ground red-brown with pattern like nominate except less sharply angled toward the anal margin basad of the anal tail, with distal margins rather undulate and submarginal spots often emphatic. ***Female.*** Differing from nominate in same manner as male. ***Male Genitalia.*** Fig. 6F. Bilobed areas more elliptic and ventrally flat than other subspecies; caudal extensions elongate and directed radically proxad the valval ventrum; saccus parabolic, rather thick; spurs diminutive; aedeagus exceeding length of entire genitalia by about one-third, caecum not greatly displaced out of shaft plane; terminus of ventrum parabolic with slightly pointed end, two terminal cornuti. ***Female Genitalia.*** Fig. 6C. Ductus bursae generally elliptic as in *l. lustra* and thus somewhat like regional congener *T. cillutincarae* (see subsequent entry); differing from latter species in elongate nature of ductus bursae, bilobate form of cervix bursae, and smooth margins along the fissure which separates the terminal lamellae (all characteristic of the *loxurina* complex [fig. 6A-C]); *T. cillutincarae*'s ductus is ellipitic but diminutive and shows serrate margins along the fissure (fig. 12B).

Types. Holotype male, allotype female (figs. 6CF, 102EF, FW 15.0 mm. [apex/tail tip 28.0 mm.], 13.5 mm. [25.0 mm.]) ARGENTINA, Jujuy Province, Dept. Capital, Cucho [see locality description Johnson et al., 1988a, #5A], 2500 m., leg. B. MacPherson, 16 January 1987, deposited (AMNH). *Paratypes*. RCE: ARGENTINA, Jujuy Prov., Dept. Ledesma, Parque Nacional Calilegua (Rte. 83), park track 5.5-7.5 km W. of Rt. 34, 1500-1600 m, near "Aguada del Tigre", leg. R. C. Eisele, 26 May 1990, 1 female; same data but 26 January 1989, 1 female. AMNH: same data as last entry except dirt track at 11-13 km. 2500 m., upland mesic forest, leg. K. Johnson and D. Kroenlein, 14 February 1991, 1 male, 1 female. For BOLIVIA see Additional Material Examined.

Distribution. Spatial. Fig. 194; Andes of southern Bolivia and extreme NW Argentina (upland mesic forests, Jujuy Prov.); altitudes noted on Argentine specimens include 1750-1900 m. (Parque Nacional Calilegua). ***Temporal.*** In Argentina known from January to May.

Remarks. Specimens representing this taxon are few (though several are from as recent as the 1991 AMNH Argentine expedition). I originally named this subspecies from a few types designated by me at the BMNH. However, the recent material had more exact data, and it was also possible to determine that Hayward's IML series of "*loxurina*" were all from the Tucuman region and represented the small congener *T. cillutincarae*. For labelling consistency, I retain the original name "*astillero*" from the Bolivian material. Compared to southern Andean congener *T. cillutincarae*, S Bolivian/NW Argentina *loxurina* retain the anal tail and basic structural characters typical

of their northern counterparts and differ only in a more undulate band and some rust suffusion across the anal tail. This upland southern subspecies of *loxurina* appears parapatric with lowland *T. cillutincarae* in tropical forests of northern Jujuy Province. Hayward listed "*loxurina*" (and his "*loxurina*" forms *rufanalis* and *quadrufus*) from Tucuman Province but, consistent with the red markings on these latter "forms", all specimens known to me from Tucuman Province are *T. cillutincarae*, also readily diagnosed in fresh specimens by the distally angled anal tail.

ADDITIONAL MATERIAL EXAMINED. BOLIVIA, Porco to Astillero, S. Bolivia, 1 male (BMNH); Costa Rica, 1 male (MNHN) (see Remarks).

***Thecloxurina truncta*,**
NEW SPECIES
Figs. 7, 103

DIAGNOSIS. ***Wings***. Large (FW 16.0-16.5 mm.) with DFW,DHW rather flat violet-blue, distended HW; anal tail with blunt, laterally directed terminal spike about one-half length of that common to *T. loxurina*, complemented by anally directed lateral lobe of about equal length (figs. 1,103); VFW,VHW with basal areas of triangulate pattern extremely dark brown, contrasting lighter red-brown distal ground; distal margin of VHW triangulate pattern extending nearly to anal tail.

Male genitalia. Brush organs prominent; valvae with bilobes parabolic, contrasting elongate caudal extensions positioned closely aligned along the valval ventrum (see Remarks).

DESCRIPTION. ***Male***. DFW,DHW: ground lustrous iridescent azure blue; apices and margins black. FW with small (1 ± mm.) parabolic brand. VFW,VHW: ground color red-brown distad of wing bands, very dark brown basad. VFW postmedial band very straight, extending across entire wing; VHW with triangulate pattern widely distended toward anal tail, borders of elements very straight. FW length: holotype 16.5 mm. [apex/tail tip 32.0 mm.], paratype 16.0 mm. ***Female***. Unknown. ***Male Genitalia***. Fig. 7. Brush organs prominent. Genitalia with bilobed areas parabolic and caudal extensions elongate and closely aligned along the valval ventrum; saccus parabolic and wide; vincular ventrum generally rounded, spurs diminutive; aedeagus exceeding length of entire genitalia by about one-third, caecum displaced some 30 degrees out of plane of aedeagal shaft; aedeagal terminus with two serrate cornuti.

TYPES. Holotype male (fig. 103), PERU, "Cord[illera] Blanca, 1894", deposited MNHN. *Paratype*. MNHN: Same data as primary type, 1 male.

DISTRIBUTION. ***Spatial***. Fig. 196; to date known only from generalized type locality. ***Temporal***. Known only from the type data.

REMARKS. The distincive type specimens attest to the diversity in this group; they are, however, in poor condition and attempts to remount them for photography did not improve the matter. Though the specimens are worn, the short anal tails (particularly on DHW right side) appear intact, finer fringe noted around them being typical of an undamaged condition. The general type locality is the same as in a distinctive high Andean elfin *Penaincisalia aurulenta* Johnson (1990a) also currently known only from the Cordillera Blanca. Considering *T. truncta*'s large size, broad wings and prominent brush organs, it is possible it may be a sister species of *T. fassli* (see below).

ETYMOLOGY. From Latin "*trunctus*" referring to the short anal tail compared to the broad wings of this species.

***Thecloxurina feminina*,**
NEW SPECIES
Figs. 8, 104

DIAGNOSIS. ***Wings***. Males easily recognized by DFW,DHW coloration similarity to females of *T. loxurina* but still duller, ground brownish gray with only slight suffusion of blue, if any, and generally indistinguishable from fuscous wing borders; FW with black-suffused ovate brand located distally in discal cell. Female differing only in being somewhat more silvery blue at wing bases; VFW with postmedial band extending only to cell M3; VHW with triangulate pattern distended to anal tail and paralleled by dark postbasal and submarginal lines.

Male genitalia. Robust brush organs; valvae marked by greatly produced, triangular, bilobes (length comprising two-thirds of valvae length) contrasting short, pronglike, caudal extensions.

Female genitalia. Ductus bursae extremely robust with widely fluted juncture to cervix burse; terminal lamellae with widely separated lobes.

DESCRIPTION. ***Male***. DFW,DHW: ground dull slate gray-brown with slight blue overcast in some specimens; FW with ovate brand located distally in discal cell. VFW,VHW: ground color brown, slightly suffused reddish; FW with dark brown postmedian line, costa to cell M3 (or slightly invading cell CuA1); HW with triangulate pattern greatly distended towards anal tail and

paralleled with bold postbasal and submarginal lines. FW length: 13.5 mm. (holotype), 11.0, 13.5 mm. (paratypes). ***Female***. Similar to male but with basal DFW,DHW iridescence more flat silvery-blue. FW length: 12.0 mm. (allotype). ***Male Genitalia***. Fig. 8A. Brush organs prominent. Genitalia with bilobed areas greatly produced, triangular in shape; caudal extensions thin, length about one-third that of bilobes; saccus prominent and square in shape; vincular ventrum robust, angled toward saccus, spurs lobate; aedeagus exceeding length of rest of genitalia by about one-third, caecum comprising over one-third aedeagal length and not displaced out of plane of aedeagal shaft; aedeagal terminus with two serrate cornuti. ***Female Genitalia***. Fig. 8B. Ductus bursae a robust tube, terminating in widely separated bilobate lamellae and fluted widely to juncture with cervix bursae; cervix bursae hood relatively elongate with prominent convex ridges flanking the membranous attachment of ductus seminalis; signa with widely sclerotized base.

TYPES. Holotype male (fig. 104A), COLOMBIA, "Calamar, Uuapes, 1915" (see Remarks), *Paratypes*. AMNH: Same data as primary type (3 males).

DISTRIBUTION. ***Spatial***. Fig. 196; known only from the types (see Remarks). ***Temporal***. Known only from the type data.

REMARKS. Males of *T. feminina* have formerly been identifed as females of *T. loxurina* (though FW brands on the former are apparent and dissection confirms this diagnosis). Johnson (1981, 1990b, 1991abc & in press) noted numerous other examples of Eumaeini in which males have been misconstrued as females because of dull DFW,DHW coloration and/or failure of workers to notice scent brands. Misdiagnosis of the sexes in certain type specimens has led to numerous erroneous synonymies (Bridges 1988).

The locality data is somewhat intriguing and raises questions. Many old specimens were often labelled with the name of a "headwater locality" where collections by early workers were usually assembled for shipment, including specimens brought in by locals for sale. The occurrence of a *Thecloxurina* at Calamar, *per se*, would seem unlikely. However, this location is bordered immediately on three sides by uplands 1-2000 ft. higher than the Uuapes River, including the Mesa de Yambi to the east and the Snia de la Macarena to the west. Within 50 kilometers of Calamar stands Co. Otaré reaching 2986 ft., and by 100 km. the Snia de la Marena, jutting out from the Cordillera Oriental, reaches 5000 ft., altitudes not incompatible with data on the genus (see *T. cillutincarae*) and sister elfin genera. There is little doubt the specimens are distinctive and it is interesting that there are four of them; the actual locality of populations representing such specimens remains to be resolved.

Central American species:

Thecloxurina costarica,
NEW SPECIES
Figs. 9, 105

DIAGNOSIS. ***Wings***. DFW,DHW structural color restricted centrally, wing shape very distended along HW anal margin (e.g. anal tail shorter than any congener except *T. truncta* but FW/apex-tail tip length exceeding any congener except *T. fassli*, see Remarks), anal tail suffused heavily with red-brown. VFW with postmedial band angled distally in cells M3 and CuA1, VHW with triangulate pattern restricted basally and paralleled in the submargins by a row of black dashes.

Male genitalia. Bilobes pronounced, comprising about three-fourths valval length and laterally sculptured with elongate basal and lateral lobes; caudal extensions of valvae short and thin, separated from bilobes by a ventral hump covered with elongate microtrichia.

DESCRIPTION. ***Male***. DFW,DHW: Ground fuscous except for central patches of dull iridescent blue on both wings. Anal tails and surrounding anal HW cells suffused red-brown. VFW,VHW ground red-brown; FW with black dot in discal cell and darker brown postmedial line across entire wing, angled distally in cells M3 and CuA1; HW with brown triangulate pattern restricted basally nearly to the medial area and paralleled in the submargin by a row of black dashes extending extending from the costa to the anal tail. FW length: 12.5 mm. [apex/tail tip 26.0 mm] (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 9. Vincular dorsum lacking brush organs. Genitalia with bilobed areas comprising three-fourths of valval length and basally and laterally produced; caudal extensions short and thin, separated from bilobes by ventral hump covered by elongate microtrichia; saccus elongate and parabolic; vincular ventrum robust and angled, spurs diminutive; aedeagus exceeding length of rest of genitalia by about one-third, caecum displaced some 30 degrees out of the plane of aedeagal shaft; aedeagal terminus with two serrate cornuti as typical of genus.

TYPE. Holotype male (fig. 105), COSTA RICA, Orosi, 1200 m., [undated], leg. Fassl, C. S. Larsen Collection, deposited MNHN.

DISTRIBUTION. *Spatial.* Fig. 195; known only from the type locality. *Temporal.* Known only from the type data.

REMARKS. According to P. J. deVries (pers. comm.), Fassl's early fieldwork in Costa Rica is well-documented and data on Fassl specimens considered reliable. Unique Fassl material at the MNHN is from C. S. Larsen's Collection, purchased by Madame Fournier. Draudt (1919) also described numerous taxa from early Fassl material. Some of this material was deposited at the MNHN but specimens remaining in Draudt's personal collection have been reported lost in World War II (Kiriakoff, 1948; Johnson 1991a) (see Remarks under *T. quindiensis*). The overall wing shape of *T. costarica* is distinctive-- the short anal tail should decrease the ratio of FW length to apex/tail tip length; instead that latter measure exceeds the norm for the genus. Only the red-tailed species *T. fassli*, with an elongate anal tail, exceeds the apex/tail tip ratio of *T. costarica*.

ETYMOLOGY. A noun in apposition referring to the general area of occurrence.

Assemblage 3. Taxa with red and/or orange DFW,DHW colors contrasting iridescent blue or purple grounds.

South American species:

***Thecloxurina quindiensis* (Draudt), NEW COMBINATION**
Figs. 10, 106

Thecla loxurina f. *quindiensis* Draudt 1917-1924 [1919]: 758,pl. 153e. Bridges 1988: I.297, II. 107, III. 27.

Thecla loxurina quindiensis: Comstock and Huntington 1958-1964 [1962]: 179 (combination in error, see *Thecloxurina quindiensis*).

Thecla quindiensis: Johnson, MacPherson and Ingraham 1986: 7.

DIAGNOSIS. *Wings.* DFW,DHW ground with iridescent purple and/or blue mottled throughout by orange and red-brown; lateral lobe of anal tail often suffused brightly gray. VFW,VHW ground reddish brown, FW postmedial line angulate distally in cells M3 and CuA1, HW triangulate pattern straight to slightly undulate but always framing highly mottled or darkly suffused basal ground color (often with prominent postbasal line) and sweeping in distended fashion toward the anal tail.

Male genitalia. Elliptical shape of vincular arc and adjacent valval ventrum markedly more slender than congeners; valval caudal extensions greatly elongate.

Female genitalia. Ductus bursae elliptical in terminal one-half and with greatly tapered lamellae; anterior one-half slender, contrasting a widely ovate cervix bursae.

DESCRIPTION. ***Male.*** DFW,DHW: ground deep iridescent purple suffused with orange and red-brown along veins in distal half of both wings and with prominent subapical orange patch on FW distad of FW brand; HW anal tail moderate in length (2-2.5 mm.), slightly blunt, often with heavy gray suffusion along lateral lobe. VFW,VHW ground red-brown; FW postmedian line crossing entire wing, angulate distally in cells M3 and CuA1; HW with margins of triangulate patterm straight to slightly undulate, basal disc highly mottled or darkly suffused and usually marked with prominently darker brown postbasal line; distal areas basically concolorous. FW length: mean of 12 AMNH specimens 12.8 mm., range 11.0-14.0 mm. [apex/tail tip of FW 12.4 = 24.0 mm.]. ***Female.*** DFW,DHW generally suffused light silvery blue bordered distinctly by wide brown apices and submargins; VFW, VHW similar to males, usually showing extreme contrast of distal ground and dark triangulate pattern sweeping toward the anal tail. FW length: mean of 4 AMNH, BMNH, MNHN specimens 13.0 mm., range 12.5-14.5 mm. ***Male Genitalia.*** Fig. 10A. Vincular dorsum lacking brush organs; genitalia with bilobes parabolic and basally distended, caudal extensions elongate and aligned closely along valval ventrum; vinculum ventrally diminutive with spurs hardly notable, saccus parabolic and rather elongate, extending from distended vincular base; vinculum ventrally diminutive with spurs hardly notable; aedeagus exceeding length of rest of genitalia by about one-third, caecum comparatively small, comprising less than one-third aedeagal length and not much displaced out of the plane of aedeagal shaft; aedeagal terminus with two serrate cornuti. ***Female Genitalia.*** Fig. 10B. Ductus bursae elliptic in the terminal one-half with anterior half slender; terminal lamellae resembling *T. browni* more than *T. loxurina*, with lamellae tapered to pronglike termini separated by a prominent central fissure; slender anterior area of ductus bursae with robust juncture to bulbous cervix bursae; signa occurring as elongate spines with cephalically directed prong.

TYPES. Originally in Draudt Collection, for many years considered destroyed in World War II (Kiriakoff 1948, Johnson 1991a). Comstock and Huntington (1958-1964) and Bridges (1988) reported some Draudt types had been deposited at the Naturhistorisches Museum,

Basel, Switzerland but such specimens were never located (Johnson 1991a). Johnson (1991a) authenticated four Draudt types from the MNHN (Paris), originally purchased by Madame Fournier from the C. S. Larsen Collection. Three lectotypes were designated from this material (Johnson 1991a). Subsequently, Gerardo Lamas (pers. comm. and ms., in prep.) rediscovered numerous Draudt types in Germany but at the time of this writing these remain unlisted and it is not possible to verify whether those of *Thecla quindiensis* are included. The TL of *T. quindiensis* was Quindiu Pass, Colombia. Numerous topotypical specimens are extant and are the basis for the present identification.

DISTRIBUTION. ***Spatial.*** Fig. 196; Andes of Colombia and Ecuador. ***Temporal.*** Dates on specimen labels range from October through April but many specimens lack date notations.

REMARKS. Prior to the list presented by Johnson, MacPherson and Ingraham (1986) this taxon was considered a color form of *T. loxurina* occurring at Quindiu Pass, Colombia (Draudt 1919). However, its morphology is distinct and it actual geographic range extensive. I associate the sexes based on VFW, VHW pattern and the occurrence of males and females with duplicate data, particularly in the long series taken by F. M. Brown (AMNH) from which I figure a male and female (figs. 106AB).

MATERIAL EXAMINED [for consistency with label data, diacriticals are purposely omitted]. COLOMBIA. LaLinea, 1 male (AME); Paso de Quindiu, 3500 m., 3 males (MNHN); Paso de Quindiu, 3800 m., 1 male, 1 female (MNHN); Tolima, 1 male (AME); Bogota, leg. Child, 1 male, 1 female (BMNH). ECUADOR. Im[b]abura, 1 male (AME); Cotopaxi, 1 male (AME); Majanda, 1 male (AME); Pinchincha, La Comana, 2800 m., leg. d'Lafebre, April 1969, 1 male (CMNH); Villonaco, 1 male (AME); La Nassa, 1 male (AME); Paramo Pasochoa, 3300 m., leg. F. M. Brown, 12 October 1938, 1 male (AMNH); Cuicocha, Imbabura, 3300 m., leg. F. M. Brown, 30 May 1939, 1 male (AMNH); Hda. Talahua, Prov. Bolivar, 3100 m., leg. F. M. Brown, 30 April 1939, 28 April 1939, 4 May 1939, 3 males (AMNH); Hda. San Rafael, Rio San Pedro, 2700 m., leg. F. M. Brown, 8 November 1939, 1 male, 1 female; Ugambiche, 2700 m., leg. F. M. Brown, 7 November 1938, 2 males, 9 November 1938, 1 male (AMNH); Hacienda la Mascota, Rio Topo, 4500 ft., leg. W. J. Coxey, 2 males (CMNH); San Gabriel, leg. Dr. G. Rivet, 1901, 1 male (MNHN).

Thecloxurina fassli (H. H. Druce),
NEW COMBINATION
Figs. 11, 107

Thecla fassli H. H. Druce 1912: 130, pl. 9, f. 10. Bridges 1988, I.131. Comstock and Huntington 1958-1964 [1960]: 106.

Thecla socorrensis Draudt 1917-1924 [1919]: (5): 758 [= *socorrensis* Dognin, *in litt.* (Comstock and Huntington 1958-1964 [1963]: 193). Comstock and Huntington 1958-1964 [1960]: 106; [1963]: 193.

Thecla loxurina f. *fassli* [not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: Draudt 1917-1924 [1919]: (5): 758 (synonymy in error).

DIAGNOSIS. ***Wings.*** HW anal area greatly distended (FW apex/HW tail tip length 28.0 mm. compared to FW 12.5 mm.); anal tail short, it and surrounding costal and anal/postmedial areas colored deep red; FW apex slightly falcate. DFW,DHW lustrous violet greatly contrasting red of DHW postmedial areas. VFW with dashed postmedial line, HW triangulate pattern distended toward anal tails and with suffussive gray-brown along anal angle.

Male genitalia. Brush organs prominent; valvae laterally angled (see Remarks).

DESCRIPTION. ***Male.*** DFW,DHW: FW apex slightly falcate, ground deep iridescent violet from base to wide brown apices and submargins; ovate brand at distal end of discal cell; HW distended as noted in Diagnosis, anal tail short with lateral lobe diminutive compared to congeners, HW color bright red in cells surrounding discal cell (cell M1 caudad) and across wing to black-bordered anal tail. VFW,VHW ground dark red-brown; FW with postmedial row of black or brown dashes: HW with margins of triangulate pattern rather straight and distended toward anal tail, suffused gray-brown along anal angle. FW length: 1 male (AMNH) 12.5 mm. [apex/tail tip 28.0 mm.]; 1 male (MNHN) 13.0 mm. (see Types). ***Female.*** Unknown to me (see Remarks). ***Male Genitalia.*** Fig. 11. Brush organs prominent. Genitalia with all features robust, vincular ventrum rather ovate, spurs lobate, saccus relatively short; valvae with bilobed area somewhat basally distended and laterally produced, the caudal extensions slightly shorter than the bilobes and somewhat recurvate; aedeagus robust, exceeding length of rest of genitalia by about one-third, caecum displaced some 30 degrees out of plane of aedeagal shaft; aedeagal terminus with two serrate cornuti.

TYPES. Holotype male, BMNH (fig. 11) labelled "Thecla fassli H. H. Druce TYPE", "Monte W. Colombi[margin of label unclear], 4800 m., Fassl.",

"type", "B.M. Type No. Rh. 597". TL Monte Socorro, Colombia. Regarding type of *Thecla socorroensis* Draudt, see Methods and Materials and Types under *Thecloxurina quindiensis*.

DISTRIBUTION. ***Spatial.*** Fig. 196; Andes of Colombia and Ecuador. ***Temporal.*** Known specimens lack collection dates.

REMARKS. Morphological distinction of this species is interesting since its occurrence has previously been construed as a color form of *T. loxurina* (Draudt 1919). Marginal notes by W. H. Comstock in AMNH copy of Draudt (1919) indicate he concluded *fassli* was distinct, apparently from the Paramba, Ecuador specimen I illustrate in fig. 107. Comstock and Huntington 1958-1964 [1960] followed this view, as did Bridges (1988). Bright violet DFW,DHW color in *T. truncta*, wing shape and prominent genital brush organs may indicate it and *T. fassli* are sister species. However, it is noteworthy that *T. cillutincarae* (Bolivia/ Argentina Andes), with red coloration across the DHW anal and anal tail, lacks brush organs.

MATERIAL EXAMINED. COLOMBIA. Monte Socorro, Colombia, W. Cordillera, 3500 m., leg. Fassl, 2 males (MNHN); ECUADOR. Paramba, 1 male (AMNH).

Thecloxurina cillutincarae (Draudt)
NEW COMBINATION, REVISED STATUS
Figs. 12, 108

Thecla loxurina f. *cillutinarae* Draudt 1917-1924 [1919]: 758, pl. 153e (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22). Comstock and Huntington 1958-1964 [1959]: 186. Bridges 1988: I.81.

Thecla loxurina f. *rufanalis* (not *loxurina* Felder and Felder 1865-1875 [1865, vol. 2]: 261, pl. 32, f. 21,22). Hayward 1935: 191. **NEW SYNONYMY.**

Thecla loxurina rufanalis: Comstock and Huntington 1958-1964 [1961]: 114.

Thecla loxurina ab. *quadrufus* (not *loxurina* Felder and Felder 1865-1875 [1865, vol]: 261, pl. 32, f. 21,22). Hayward 1935: 191. **NEW SYNONYMY.**

Thecla loxurina quadrufus: Comstock and Huntington 1958-1964 [1961]: 114.

DIAGNOSIS. ***Wings.*** Small (FW 10-13.0 mm.), DFW,DHW concolorous iridescent dark violet in males, dull blue in females, bordered by wide black margins and apices and with prominent brick red surrounding and covering the anal tail; anal tail (when undamaged) elongate (2-3 mm.), of rather even width, and oriented distally (±70 degree angle) from margin of cell CuA2 (figs. 1,108) (not extending in spikelike fashion contiguous with distended anal margin as in *T. loxurina*, figs. 1,102). Anal tail and adjacent cells CuA1 and CuA2 colored brilliant red (fresh specimens) or rufous (when worn), latter coloration sometimes also occurring distally in FW cell CuA2 (see Remarks). VFW postmedial line extending only to cell M3, HW margins of triangulate pattern basally restricted and greatly undulate.

Male genitalia. Valval bilobes widely ovate terminating in robust, elongate, caudal extensions quite untypical of genus (see Remarks).

Female genitalia. Ductus bursae thinly elliptic, anterior end somewhat tapered; terminal lamellae serrate along inner margin of central fissure.

DESCRIPTION. ***Male.*** DFW,DHW: FW ground deep violet blue in basal two thirds, apices and submargins fuscous; cells CuA1 and CuA2 with with submarginal orange patches in some specimens; androconial brand ovate. HW with brilliant brick red across elongate anal tail and in adjacent cells CuA1 and CuA2. VFW, VHW ground deep red-brown; FW postmedial dark brown band, costa to cell M3; HW triangulate pattern basally restricted and with margins undulate, distal areas of wing concolorous red-brown. FW length: mean of 9 Argentine specimens (AMNH, REC) 12.3 mm, range 10.0 - 13.0 mm. ***Female.*** DFW,DHW ground dull suffusive silvery blue; apices and submargins widely fuscous; HW anal area suffused red-orange. VFW,VHW similar to male. FW length: mean of 6 Argentine specimens (AMNH, REC) 12.0 mm., range 10.0 mm. - 13.5 mm. ***Male Genitalia.*** Fig. 12A. Vincular dorsum lacking brush organs. Genitalia with bilobed areas extremely ovate for genus and surrounded by thickened sclerotized lateral margins; caudal extensions robust and elongate; vincular ventrum angled, spurs angled, saccus parabolic and rather elongate; aedeagus robust, length exceeding rest of genitalia by about one-third, caecum prominent, length equalling one-third of shaft length and displaced some 45 degrees out of the plane of aedeagal shaft; aedeagal terminus with two serrate cornuti. ***Female Genitalia.*** Fig. 12B. Ductus bursae elliptic with anterior somewhat tapered toward cervix bursae; terminal lamellae greatly tapered and serrate along the central fissure separating the paired lobes; cervix bursae less prominent than in most other congeners; corpus bursae with two pronglike signa, more robust than in most congeners.

TYPES. Apparently in Draudt's personal collection reported destroyed in World War II (see

remarks in Materials and Methods and under Types of *Thecloxurina quindiensis*). Additional early material, from same sources as Draudt, extant at MNHN; TL: "Bolivia". Types of Hayward's "forms" *rufanalis* and *quadrufus* historically listed as "Breyer Collection" (probably extant at the La Plata, Argentina, museum, R. C. Eisele, pers. comm. but not confirmable there by correspondence). I use topotypical specimens identified by Hayward as *quadrufus* and *rufanalis* at IML as basis for identification and synonymy here.

DISTRIBUTION. *Spatial.* Fig. 196; known from a few localities in southeastern Bolivia; recently more widely collected in northwestern Argentina, particularly in lowland tropical (Jujuy) and subtropical (Tucuman) forest, 1000-1500 m. *Temporal.* Recent Argentine collections range from Janaury to May.

REMARKS. I identify this species based on the OD, a few old topotypical specimens (MNHN), Hayward's specimens, and recent series collected by Eisele and MacPherson throughout montane northwestern Argentina. Although *T. loxurina astillero* also occurs in the region, the OD and accompanying illustration of *T. cillutincarae* clearly suggest the latter name applies to the dark blue, red-tailed, thecloxurine of the region. Some specimens, particularly those of Hayward at the IML, and from which he named the "*loxurina*" "form" *quadrufus*, show orange also occurring in the DFW CuA cells. Male genitalia of this species are unusual for the genus, with the bulbous bilobes and robust terminally tapered caudal extensions somewhat resembling *Radissima catadupa* (e.g. *Thecla catadupa* Hewitson) (see genus *Radissima*, of subsequent entry).

MATERIAL EXAMINED [for consistency with label data,. diacriticals are purposely omitted]. BOLIVIA. Santa Cruz, E. Bolivia, leg. Steinbach, 1 male (BMNH); "Bolivie", 1 male, 1 female (MNHN). ARGENTINA. Prov. Jujuy, Dept. Ledesma, Parque Nacional Callilegua, park track at 5.5-7.5 W Rt. 34 nr. entrance to park, 1600 m., mesic forest along river, leg. K. Johnson et al. 13 February 1991 (1 male) (AMNH); same data but 14 February 1991, (1 female) (AMNH); Prov. Tucuman, Dept. Yerba Buena, to Anta Marta Rt. 338, 1 km. S of Summit Hotel, Cumbres de San Javier, 1250 m., high ridge margin of mesic forest and xeric savannah, leg. K. Johnson, 9 February 1991 (2 males) (AMNH). Prov. Tucuman, Villa Nougues, leg. K. Hayward, 26 December 1928, 2 males, 1 female [marked as form *quadrufus*], 3 males, 2 females [marked as form *rufanalis*] (IML). Prov. Salta, Dept. Caldera, Rt. 9, km. 1637-38, "Alto de la Sierra", "La Cornisa, mixed rain forest", 1450 m., leg. R. Eisele, 26 May 1985, 1 female (RCE); same data but km. 1642, "wet forest" 12 May 1985 (RCE).

atymna Species Group

DFW,DHW orange, bronze or red-brown (generally lacking structural color except basally in some females); VFW, VHW tawny to buff with pattern comprised of various brown or red-brown suffused bands; anal tails elongate, lacking additional lateral element.

Thecloxurina atymna (Hewitson)
NEW COMBINATION
Figs. 13, 109.

Thecla atymna Hewitson 1869-1877 (1870): (4) 59; 1874 (1): 174, (2): pl. 68, figs. 499, 500, 501. Kirby 1871: 382; Draudt 1917-1924 [1919]: 759, pl. 150g; Comstock and Huntington 1958-1964 [1959]: 83; Johnson, MacPherson and Ingraham 1986: 7; Bridges 1988: I.39, II.105, III.69.

DIAGNOSIS. ***Wings.*** DFW,DHW of both sexes bright non-iridescent orange with bold submarginal black or blackish-brown borders (see Remarks). VFW,VHW tawny, appearing to be crossed by many concentric thin red-brown bands (resulting, compared to congeners, from prominence of red-brown suffusive lines crossing FW and HW postbasally, medially, submarginally and marginally). HW with triangulate pattern typical of genus but with medial band undulate and not appearing much more prominent than the many other bands (see Remarks).

Male genitalia. Valval bilobed area and caudal extensions both robust (contrasting *T. atymnides*, see Remarks).

Female genitalia. Ductus bursae generally elliptic with anterior one-third constricted (more like *T. quindiensis* and *T. loxurina* than other orange congeners *T. atymnides* or *T. bolivatymna* of subsequent entry, see Remarks under these species).

DESCRIPTION. ***Male.*** DFW,DHW: ground bright non-iridescent orange except for narrow marginal to submarginal black or blackish-brown borders and distal spots along base of ellipsoidal FW brand; HW anal tail very elongate. VFW,VHW: ground tawny, crossed with heavily suffused red-brown bands postbasally (sometimes reduced to prominent slash), medially, submarginally and marginally, on HW reducing prominence of triangulate pattern typical of genus. Submarginal line boldly brown and undulate; ground color lighter tawny to yellowish basad the medial-postbasal bands and between anal portion

of postmedial band and the anal tail. This pattern accounts for the three bands on each wing figured by Draudt (1919), see Remarks. FW length: mean of 7 specimens (Types and Material Examined) 12.8 mm., range 11.0 - 13.5 mm. [apex/tail tip of FW 13.0 mm. = 24 mm.]. ***Female***. DFW,DHW marked similar to male but without androconial brand. Suffused blue-gray, if at all, only in the basal areas (see Remarks). VFW,VHW as on male. FW length: two females (MNHN) 12.5 mm., 13.5 mm. ***Male Genitalia***. Fig. 13A. Vincular dorsum lacking brush organs. Genitalia with valval bilobes robust and steeply shouldered; caudal extensions robust, centrally curvate and only of moderate length (tips extending approximately to midpoint of falces' arch or lateral lobe of labides); vincular ventrum inclined steeply to spatulate saccus, spurs diminutive to lacking; aedeagus length exceeding rest of genitalia by about two-fifths, caecum comprising two-fifths of aedeagal length and displaced radically out of the plane of aedeagal shaft, aedeagal terminus with two serrate cornuti. ***Female Genitalia***. Fig. 13B. Ductus bursae generally elliptic but constricted in cephalic one-third and then tapered to a blunt juncture with the greatly produced cervix bursae; terminal lamellae thin and slightly pointed, separated by a prominent central fissure.

TYPES. Lectotype female, BMNH (fig. 13B) labelled "Ecuador, Hewitson Coll. 79-69, Thecla atymna Hew. (1)", "TYPE" and (added by me "Lectotype designated by K. Johnson 1992" (see Remarks). Four paralectotype males labelled as above and as "Thecla atymna Hew. (1), (3), (4) and (5)", respectively, except for one (#1, fig. 13A) which also has the label "B.M. Type No. Rh. 600" (see Remarks). TL: "Riobamba", Ecuador (see Remarks concerning confusion about exact collection locality of early specimens with these data).

DISTRIBUTION. ***Spatial***. Fig. 197; known from Colombia (general data) and several montane localities in Ecuador and Peru (see Remarks). ***Temporal***. Label dates range from April to June.

REMARKS. Draudts (1919) figures are simplified and somewhat misleading, particularly in regard to females. As noted above, the VFW,VHW "striped" appearance of this species is attributable to the boldness of red-brown bands which, in contrast to congeners, are prominent postbasally, medially, submarginally and along the margin. Females of numerous *Thecloxurina* have suffusive DFW,DHW colors and particularly those with additional hues of red and/or orange show differing degrees of these colors in distal areas of the wing. Of these, however, *T. atymna* females are boldly orange as in the males, contrary to Draudt's figure, and suffused blue-gray (if at all) only in the most basal area of the wings. This latter trait appears more prominent on worn specimens and may be due as much to effects of wear on the orange ground as to any original blackish basal overscaling. Consequently, from among the several syntypes of *T. atymna* at the BMNH, I make the orange syntype female the lectotype. The under surface of this specimen also typifies the "striped" appearance of the species. Draudt's figure (150g [female], which shows a specimen mottled with DFW,DHW blue and violet, appears to represent the Bolivia/ NW Argentina population described herein as *Thecloxurina bolivatymna*. The mottled characters of females in this latter taxon, along with distinctive structural characters, distinguish it from *T. atymna* whose females appear consistently concolorous orange on the DFW,DHW. I figure a topotypical male of *T. atymna* from MNHN and pristine female from CMNH.

The genitalia of *T. atymna* are very interesting regarding the overall diversity of *Thecloxurina*, resembling more the blue and purple congeners *T. loxurina* and *T. quindiensis* than orange congeners *T. atymnides* and *T. bolivatymna*. In isolation, such a pattern of resemblance might not appear significant; indeed, many of these taxa were historically considered localized color forms of an omnibus "*Thecla loxurina*" represented by very few specimens and with and no general pattern apparent regarding the varying dorsal colors. Study of the larger samples assembled in this study, however, indicates widespread distributions for the various "forms" of historical "*Thecla loxurina*" with sympatry apparent in widely overlapping areas and concomitant, consistent, structural differences. This situation parallels the demonstrable diversity in sister groups with similar geographic distributions (see the many taxa and species groups apparent from the scent brand, wing pattern, and morphological character differences in Draudt's *Thecla* "arria-Group", treated herein as the genus *Rhamma*). A modern interpretation of the historical *Thecla* "loxurina-Group" requires a similar delineation of diverse and widespread taxa.

Brown (1941) noted that early material historically labelled "Riobamba" (or "Rio Bamba" as in BMNH types) may not necessarily refer to the modern-day "Riobamba" (a xeric montane Ecuadorian locale) but to a cluster of localities including tropical lowlands of the Rio Pastaza drainage. Brown became interested in the problem when comparing historical material with his own collections in Ecuador during the 1930's and 1940's. Brown reviewed historical evidence concerning the itineraries of early

collectors, how these various collectors labelled their material, and how these localities eventually appear on labels at various museums. Brown conclusions concerning the ambiguity of label data "Riobamba" or "Rio Bamba" may explain why only certain specimens appear conspecific with the BMNH types while others (including modern-day Riobamba) represent another species-- *Thecla atymnides* Draudt. Such character disparity between lowland *T. atymna* and upland *T. atymnides* is not atypical of the genus; the lowland species *T. feminina* is also very distinctive.

MATERIAL EXAMINED. COLOMBIA. "Colombe", C. Parzudaki, 1840 (2 males, 1 female) (MNHN). ECUADOR. Rio Bamba [sic], 2 males, 1 female (BMNH); Riobamba [sic], 3 males, 2 females (MNHN). Quito, 29 April 1930, 1 female (MNHN). See also, Types, above. PERU. Cajamarca, 2625 m., leg. Woytkowski, 31 May 1936, 1 female (CMNH); Aguala[ni?], 2 June 1894, 1 female (MNHN).

Thecloxurina atymnides (Draudt)
NEW COMBINATION, REVISED STATUS
Figs. 14, 110

Thecla loxurina f. *atymnides* Draudt 1917-1924 [1919]: 758, pl. 153e. Comstock and Huntington 1958-1964 [1959]: 83; Bridges 1988: I.40, II.107, III.27.

Thecla atymnides: Johnson, MacPherson and Ingraham 1986: 7.

DIAGNOSIS. ***Wings.*** DFW,DHW in both sexes dull bronze fading to darker brown fuscous margins and apices; VFW,VHW with triangulate pattern similar to blue-violet species *T. loxurina*, not concentricly banded like *T. atymna*-- instead, VFW dark suffusions appearing to run thickly down the wing from the costa to about cell M3 or CuA1, VHW with darker brown basal ground within triangulate pattern dominating overall appearance (see Remarks).

Male genitalia. Bilobes of valvae robust and triangular like *T. feminina* but, contrasting this species, with caudal extensions greatly elongate and without brush organs.

Female genitalia. Posterior two-thirds of ductus bursae rather thin and "bullet"-shaped, contrasting widely fluted anterior portion adjoining cervix bursae.

DESCRIPTION. ***Male.*** DFW,DHW ground dull bronze fading to dark brown along the margins and apices; FW brand ovate. VFW,VHW ground red-brown to tawny brown; FW with dark brown-suffused postmedial band from costa to cell M3 or CuA1; HW with triangulate pattern suffused basally darker brown, distal margin suffusive dark brown and undulate, generally sweeping toward anal tail, anal tail suffused tawny to yellowish. FW length: mean of BMNH, MNHN specimens 14.2 mm., range 12.0 - 15.0 mm. ***Female.*** Marked similar to male but DFW,DHW ground duller orange-brown. FW length: BMNH, 14.5 mm. ***Male Genitalia.*** Fig. 14A. Vincular dorsum lacking brush organs; valvae with extremely robust and laterally lobate bilobes contrasting thin caudal extensions, vincular ventrum distended cephalically by peculiar valvae shape, spurs robust and lobate; saccus robust, varying from rectangular to slightly parabolic; aedeagus with length exceeding that of rest of genitalia by about two-fifths to one-third, caecum and aedeagus terminus both robust, caecum comprising about two-fifths to one-third aedeagus length, displaced about 30 degrees laterad from plane of aedeagal shaft, aedeagal terminus with two serrate cornuti. ***Female Genitalia.*** Fig. 14B. Posterior two-thirds of ductus bursae rather thinly elliptic (consequently rather "bullet"-shaped) including shape of terminal lamellae; anterior one-third widely fluted (maximal width exceeding that of posterior by about .25); cervix bursae robust and greatly angled to plane of ductus; corpus bursae with two pronglike signa.

TYPES. Evidently attributable to the historical material of Draudt's personal collection reported destroyed in World War II (see remarks in Method and Materials and Types under *Thecloxurina quindiensis*); I have been unable to confirm if *atymnides* type material is among that recently rediscovered by G. Lamas. TL: COLOMBIA, Quindiu Pass, Colombian Central Cordillera. There are large numbers of specimens fitting the description of the type, including old topotypical specimens at the MNHN. This material is the basis for identification here.

DISTRIBUTION. ***Spatial.*** Fig. 198; Andes from Colombia to [probably NW] Bolivia (see Remarks). ***Temporal.*** Dated specimens known to me are from April and May but many specimens lack a collection date.

REMARKS. Specimens examined by me are generally larger than those of the bright orange congener *T. atymna*. Referring only to male specimens, Draudt named *atymnides* as a color form of *Thecla loxurina* from Quindiu Pass, Colombia (Draudt 1919). Examination of more widely distributed samples suggests Draudt's taxon is a distinctive, widespread, species with dull orange to bronze males *and* females (fig. 111A,B). The status of the type of *Thecla atymnides* is not known (see Remarks under *T. quindiensis*) but, considering the many orangish male and female specimens from Quindui Pass and elsewhere (which differ as a group from *T. atymna*), it

where (which differ as a group from *T. atymna*), it appears prudent to apply the name *atymnides* to these. The other alternative, to describe the second group as a new species, does not appear advisable; I also avoided this procedure in dealing with some ambiguous names in *Penaincisalia* (Johnson 1990a). Particularly since topotypical *T. atymnides* is readily identified I use the name here for the widespread specimens of similar facies. For comparative purposes I figure a female from "Bolivia" which differs negligably from the MNHN topotypical male (fig. 110). I construe the "Bolivia" data from Smith (BMNH) as probably represently NW Bolivia (see Johnson 1990a) since the species has not been taken by Eisele and MacPherson in NW Argentina. Their collections are usually representative of the S Bolivia and NW Argentine fauna and, indeed, the generally orange entity collected in these latter regions (and represented in the IML as far south as Catamarca Province, Argentina) represents a smaller, undescribed species of this orange *Thecloxurina* group (see subsequent species entry).

MATERIAL EXAMINED [for consistency with label data, diacriticals are purposely omitted]. BOLIVIA. "Bolivia", leg. Smith, 1 female (BMNH). COLOMBIA. Quindiu Pass, 1 male (MNHN); ECUADOR. "Ecuador", coll. Joicey, 2 males, 1 female; "Ecuador", 1 male (BMNH); Quito, 29 April 1930, 1 male, 1 female (MNHN); El Oro, Bellavista, 1 male (AME); Imbabura, Cerro Cusin, 3900 m., 1 male (AME); Paramo [sic], 1 male (AME); Cuxliche, 1 male (AME); Napo, El Reventador, 1 male (AME); Loja, Villonach, 3600 m., 1 male (AME); Pichincha, La Comuna, 2800 m., 1 male; La Toma, 1 male (BMNH); Quito, leg. Smith, 1 male (BMNH); Quito, 4 males (BMNH); Covamba, 9000 ft., 1 male (BMNH); Rio Bamba, 2 males (BMNH); Rio Mulatos, 3800 m., 1 male (AME). PERU. Limbani, Carabaya, dry deason, 9500 ft., leg. G. Ockenden, May 1904, 2 males (BMNH); Pichis Road, 4800 ft., leg. C. Watkins, 1 male (MNHN).

Thecloxurina bolivatymna, NEW SPECIES

Figs. 15, 111

DIAGNOSIS. ***Wings.*** Male DFW,DHW with orange ground color duller than *T. atymna* but brighter than in *T. atymnides* and extending nearly to margins; female with prominent silver blue color basomedial on FW and HW alternating with patches of orange to tawny centrally on FW and in anal/limbal area of HW; VFW beige with brown suffusion basal of suffused medial band; VHW with the triangulate pattern oriented basally, suffused mostly along the wing base and the medial line and not much extending past the anal area, anal tail, suffused yellowish.

Male genitalia. Anterior of vincular ventrum distended (though not as extreme as in *Abloxurina* taxa); valval bilobes triangulate, contrasting thin and elongate caudal extensions.

Female genitalia. Ductus bursae terminally fluted as in no other congener.

DESCRIPTION. ***Male.*** DFW,DHW dull orange with thin fuscous FW apices and margins, and HW with orange encompassing entire anal area and anal tail. VFW, VHW ground beige suffused on FW with red-brown basad of medial line; HW with basal area of triangulate pattern suffused brown, particularly darker along wing base and basad of the medial line; basal disc area of triangulate pattern fading out in anal area. Entire area from anal tail along anal margins suffused with golden-yellow. FW length: 13.0 mm. [apex/tail tip 24.0 mm.] (holotype). ***Female.*** DFW,DHW dull suffused silvery blue from medial area to base on both wing and with prominent patches of orange to tawny occurring centrally on FW and in limbal/anal area of HW. VFW,VHW as on male. FW length: 13.0 mm. [apex/tail damaged] (allotype). ***Male Genitalia.*** Fig. 15A. Brush organs absent. Genitalia with anterior of vincular ventrum distended relative to congeners, but not as extremely as typifying *Abloxurina* taxa; vincular spurs more widely shouldered than congeners; valvae with bilobes widely shouldered (producing rather triangulate configuration) contrasting elongate and thin caudal extensions (particularly notable in lateral view); aedeagus with caecum comprising about one-third aedeagus length and displaced some 30 degrees out of the plane of the ductal shaft. ***Female Genitalia.*** Fig. 15B. Ductus with caudal terminus widely fluted as in no other congener, lamellae varying from triangular to more terminally flattened; cervix bursae ventrum rather diminutive, dorsum modified to prominent bilobate hood over distal end of corpus bursae, signa with robust base and inwardly directed single spine.

TYPES. Holotype female (Figs 15B, 111B), allotype male (figs. 15A, 111A), ARGENTINA, Catamarca Province, El Suricho, 18 January 1952, leg. R. Golbach, deposited IML. *Paratypes.* RCE: ARGENTINA. Jujuy Province, Dept. Ledesma, Parque Nacional Calilegua, park track 5.5-7.5 km W. of Rt. 34, 1500-1600 m, near "Aguada del Tigre", leg. R. C. Eisele, 26 May 1990 (1 female). AMNH: same data as previous entry but park track at 11-13 km. W. of Rt. 34, mesic

forest, 2500 m., leg. D. Kroenlein, 14 February 1991. BMNH: BOLIVIA, Oruro Dept., 1918, Coll. 1920-1932, Coll. L. and J. De Joannis (1 female).

DISTRIBUTION. Fig. 198. ***Spatial.*** To date known from Oruro Dept., Bolivia and adjacent Andes of NW Argentina. ***Temporal.*** Argentine collections include January and February dates.

REMARKS. This taxon is curious since, if the anal tail was not typical of *Thecloxurina*, the female genitalia and aspects of the basal disc markings on the VHW might suggest the species belonged in *Candora* (see below). I suspect that when more is known of this species, it may prove to be quite plesiotypic, a view consistent both with the lack of structural color in the *atymna* Group and the various other resemblances to *Candora*.

ETYMOLOGY. Arbitrary euphonious combination attaching name of generalized area of occurrence that of superficially similar taxon *T. atymna*.

PONS,
NEW GENUS
Figs. 16-20, 112-116

Synopsis-- includes previously undescribed species, along with the divergently marked taxon *Thecla arcula* Druce.

DIAGNOSIS. ***Wings.*** Anal tail occurring only as a blunt, spatulate lobe; DFW,DHW grounds brilliant iridescent blue to duller purple; VFW,VHW grounds cryptic and mottled in various brown hues, FW,HW striped brown or red-brown, HW striped brown or red-brown and with additional lunulate orange or "dead leaf mimic" patterns in some species.

Male genitalia. Valval lateral margins greatly sculptured and vincular ventrum distended to diminutive saccus (see Remarks).

Female genitalia. Ductus bursae occurring as a simple, unsculptured but fully sclerotized, tube terminating in greatly fluted terminal lobes separated by a prominent central fissure or transparent suture line; cervix bursae showing only slight additional sclerotinal elements compared to other thecloxurines (see Remarks).

DESCRIPTION. ***Adult. Male.*** DFW,DHW: grounds brilliant iridescent to dull purple with fuscous submarginal and apical borders; FW with a prominent, ovate to elliptical, androconial brand at distal end of discal cell; HW with anal veins widely spaced, forming produced spatulate anal lobe. VFW,VHW: ground colors various mottled with cryptic hues brown to tawny, FW with postmedial line or band from costa to cell M3, CuA1 or CuA2; HW with bands ranging from a curvate outline of basal disc to triangulate patterns converging on the anal area from respective origins at the costal and anal margins; anal and limbal areas adjacent the anal lobe marked with varied pattern elements including orange lunules or mottled brown "dead leaf mimic" patterns. FW length: 12.0 - 16.0 mm. [apex/tail tip usually about two-times FW length except in *P. arcula*]. ***Female.*** DFW, DHW with structural color duller than male and no androconial elements; VFW,VHW marked similar to males. FW length: similar to males. ***Male Tergal Morphology and Genitalia.*** Figs. 112-116. With one exception, *sipc* and brush organs absent. Genitalia with vincular ventrum parabolic and thin with prominent, inwardly directed, spurs; saccus short (usually comprising no more than one-sixth of genital length); valvae with ventrum of bilobed area usually narrow and prominently sculptured along the outer margins, caudal extensions usually equalling bilobes in length and also greatly sculptured along their margins and with a prominent ventral keel at their juncture; aedeagus generally robust with length exceeding rest of genitalia by one-third to one-fourth, caecum comprising two-fifths to one-third of aedeagus length and radically displaced out of the plane of the aedeagal shaft, aedeagal terminus parabolic to pointed and showing two serrate cornuti. ***Female Tergal Morphology and Genitalia.*** Figs. 112-116. *Sipc* absent. Genitalia with ductus bursae a simple, unsculptured, fully sclerotized tube terminating in fluted lamellal lobes separated by a prominent central fissure or a transparent suture line; cervix bursae with limited sclerotinal elements, at most forming a slightly fluted hood over distal end of corpus bursae at the juncture of the ductus seminalis; corpus bursae with two, usually spinelike, signa, one occurring on each inner marginal wall of the bursal sac.

TYPE SPECIES. *Pons magnifica*, new species (see Remarks).

DISTRIBUTION. ***Spatial.*** Fig. 199; Andes from Colombia south to central Argentina. Except for one species in Argentina, the genus appears to occur at higher altitides [3000 m. upwards] than other Clade I members. ***Temporal.*** Dated specimens from north of Argentina include December to March; more well-known Argentine congener includes dates as early as November.

REMARKS. *General*-- Species of this genus are poorly represented in collections though nearly every depository consulted had some specimens. The only previously described taxon, *P. arcula*, is extremely divergent for the genus and therefore not used as the type species (see Remarks under *P. arcula*).

Characters-- Because female genitalia of *Pons* exhibit a simple ductal tube terminating with fluted lamellae and only minor morphological innovation at the cervix bursae, *Pons* females structurally resemble taxa of the sister infratribe Callophryina (hence the generic name). Simplified structures of the ductus bursae, terminal lamellae and cervix bursae appear to be primitive in callophryines as well as thecloxurines. Apomorphy in both groups shows extreme modification of the ductus bursae, terminal lamellae, and cervix bursae along with the occurrence of additional components (Johnson 1981, Eliot 1973). *Pons* is one of two thecloxurine genera showing the distended vincular ventrum in the male genitalia. *Abloxurina* exhibits an extreme vincular distension with the adjacent valvae reduced to a short "bullet"-shaped configuration terminating in elongate microtrichia. By contrast, valvae in *Pons* (like other thecloxurines) are not reduced and terminate with a complete caudal extension. All taxa of *Pons* show a ventral keel at the juncture of the valval bilobes and caudal extensions. Similar structures only appear as autapomorphies in occasional taxa of other thecloxurine genera.

Nomenclature-- I divide *Pons* into two species groups based on DFW,DHW structural colors.

ETYMOLOGY. Appropriate to the Remarks above, the feminized Latin name means "connecting".

magnifica Species Group

DFW,DHW structural color blue, not purple as is subsequent species group.

***Pons magnifica*,**
NEW SPECIES
Figs. 16, 112

DIAGNOSIS. ***Wings***. Male large (FW 16.0 mm. [apex/tail tip 33.0 mm.]) with DFW,DHW brilliant irisdescent sky blue like no other congener or thecloxurine; female light less lustrous blue. VHW anal area surrounding anal tail patterned in unique "dead leaf-mimic" pattern made up of gray and brown suffusion.

Male genitalia. Lateral margins of valval bilobes and adjoining vincular arc deeply indented caudad of the valval base.

Female genitalia. Ductus bursae robust and tubular, posterior with rather ovate, unfused, quadrasperhical lamellae, posterior with a bulbous cervix bursae.

DESCRIPTION. ***Male***. DFW,DHW brilliant iridescent sky blue bordered by black apices and submargins. FW with rather rectangular black androconial brand at distal end of discal cell. VFW,VHW ground warm brown distally, chocolate basad of blackish FW postmedial and HW medial bands. Basal ground mottled to appear dull and cryptic; ground in anal areas assuming a leaflike appearance as in no other congener. Anal lobe thick, suffused in "dead leaf"-like pattern. FW length: FW 16.0 mm. [apex/tail tip 33.0 mm.) (holotype). ***Female***. DFW,DHW dull lustrous silvery blue with wide black apical and submarginal borders. VFW,VHW as on male. FW length: 15.5 mm. [apex/tail tip 31.0 mm.] (allotype). ***Male Genitalia***. Fig. 16A. Vincular dorsum lacking brush organs. Genitalia with bilobed areas sculptured by emphatic lateral indention of margins caudad of the valval base. Ventrum of vinculum basally distended and laterally indented adjacent a small, parabolic saccus; vincular spurs lobate. Aedeagus robust, length exceeding rest of genitalia by less than one-third, caecum comprising about one-third aedeagal length, displaced about 30 degrees out of the plane of the aedeagal shaft, aedeagal terminus with two serrate cornuti. ***Female Genitalia***. Fig. 16B. Ductus bursae simple, evenly sclerotized, unsculptured tube terminating in fluted quadraspherical lamellae separated by a thin central fissure; cervix bursae forming fluted, triangulate hood over distal end of corpus bursae; corpus bursae with two spinelike signa attached on a sclerotized base.

TYPES. Holotype male (fig. 112), COLOMBIA, Bogota, La Calera, 3100 m., subparamo, leg. L. Richter, December 1945, deposited AMNH; allotype female (photograph not available), COLOMBIA ["Colombie"], Bogota, no other data, deposited MNHN.

DISTRIBUTION. ***Spatial***. Fig. 199; presently known from the area of Bogota in Colombia. ***Temporal***. Currently known only from December.

REMARKS. As far as I know, this is the only Neotropical thecline with a very exact "leaf-mimic" on the wing under surfaces. It will be interesting to ascertain if this spectacular species is represented in any South American based collection.

ETYMOLOGY. Latin name refers to the magnificent blue coloration of this striking species.

***Pons vittata*,**
NEW SPECIES
Figs. 17, 113

DIAGNOSIS. ***Wings***. VFW,VHW with ground brown, crossed by profuse black stripes; FW short (12.0

mm.) with distinct triangulate shape (perpendicular line from apex intersects inner margin at outer one-third of its length); DFW,DHW lustrous deep azure basad of wide fuscous apices and margins.

Male genitalia. Most similar to *P. purpurea* but with vincular ventrum much more ovate and valvae very truncate and less ventrally sculptured at juncture of bilobes and caudal extensions.

DESCRIPTION. ***Male***. DFW,DHW ground dull purple suffused into dark brown apices and submargins; FW shape very triangulate (perpendicular line from apex intersects inner margin at outer one-third of its length) with rather square black-suffused androconial brand in distal area of discal cell; HW lobate anal tail evenly rounded (see Remarks). VFW,VHW with black stripes over brown ground, FW with submarginal, postmedial and postbasal bands; HW with triangulate bands surrounding basal disc, extending over postbasal area, and occurring as broken blotches in submargin (all greatly angled toward anal lobe). FW length: 12.0 mm. [apex/tail tip 24.0 mm.] (holotype). ***Male Genitalia***. Fig. 17. Vincular dorsum lacking brush organs. Genitalia with rounded vincular ventrum, lobate spurs and widely lobate saccus. Valvae distinctly triangulate (isoseles) with bilobed areas parabolic at base, caudal extensions more elongately tapered to thin, fingerlike, termini. Ventrum of valvae sculptured as typical of genus with convex keel occurring near at midline of each caudal extension. Aedeagus length exceeding rest of genitalia by about two-fifths, caecum comprising about one-third aedeagus length and displaced about 25 degrees out of plane of aedeagal shapt, terminus of aedeagus with two slender, marginally serrate cornuti.

TYPES. Holotype male (fig. 113), ECUADOR, Pichincha, Niebli, NW slope, Volcan Pichincha, 3500 m., 1972, R. de Lafebre, deposited AME. *Paratype*. AME: ECUADOR, Imbabura, Cotacachi, 3750 m., leg. R. de Lafebre, November 1971, 1 male.

DISTRIBUTION. ***Spatial***. Fig. 199; known from two montane localities in Ecuador. ***Temporal***. Currently known only from November.

REMARKS. Compared to congeners, the generally concolorous brown VFW,VHW ground of *P. vittata* is most like *P. purpurea* and *P. saraha*. The species differ, however, both in both in wing shape and VFW,VHW pattern. *P. purpurea* and *P. saraha* have short distal projections from one or another side of the spatulate HW anal lobe; only *P. vittata* has the distinctive triangulate FW shape. On the VHW, *P. purpurea* and *P. saraha* show triangulate VHW patterns more typical of *Thecloxurina* species, not profuse stripes. *P. purpurea*, though it resembles *P. vittata* most in the genitalia, is a relatively large butterfly (FW 13.5 mm. [apex/tail tip 23.5 mm.]) and purple on the DFW,DHW; *P. saraha* is similarly large (FW 13.5 mm. [apex/tail tip 24.0 mm.]) with DFW,DHW azure blue like *P. vittata*. These diverse species all appear to have been collected in dense wet forests, which may account for their poor representation in collections (Johnson and Descimon 1988).

ETYMOLOGY. Latin name refers to distinctive striped VFW,VHW in this species.

Pons arcula (H. H. Druce),
NEW COMBINATION
Figs. 18, 114

Thecla arcula H. H. Druce 1907: 629, pl. 36, f. 27. Bridges 1988: I.29, II.105, III.29. Draudt 1917-1924 [1919]: 809, p.149h. Comstock and Huntington 1958-1964 [1959]: 75; Hayward 1973: 162.

DIAGNOSIS. ***Wings***. Small for genus (FW 11.0 -13.5 mm.) with the HW anal lobes diminutive and blunt. Color and pattern contrasting all congeners-- FW brown (male dominated by prominent ellipsoidal brand extending over distal two-fifths of discal cell); HW with iridescence restricted to lustrous violet blue occurring caudad of cell RS or M1; VFW,VHW ground tawny with basal disc concolorous darker brown to red-brown and outlineed by thin blackish distal line.

Male genitalia. Unique occurrence of *sipc*; genitalia with brush organs and truncate valvae.

Female genitalia. Ductus bursae short, contrasting widely fluted terminal lamellae (width of latter exceeding length of former); terminal lobes separated by only a thin transparent suture line (see Remarks).

DESCRIPTION. ***Male***. DFW ground brown, parabolic FW brand encompassing distal two fifths of discal cell. DHW brown cephalad of cell RS or M1, lustrous violet blue caudad. VFW,VHW rather patternless, suffused slightly reddish brown along FW submargin and with light postmedial line; HW with dark brown or red-brown suffusion confined in the basal disc and basal disc outlined by thin black or brownish black margin. FW length: mean of 7 specimens (AMNH, RCE, IML), 12.0 mm., range 11.0-13.0 mm. [apex/tail tip FW 11.5 mm. = 19.0 mm.]. ***Female***. Similar to males but DFW,DHW structural color limited to slight blue suffusion. FW length: mean of 4 specimens (AMNH, RCE, IML), 12.5 mm., range 11.5-13.5 mm. [apex/tail tip FW

11.5 mm. = 19.0 mm.]. *Male Genitalia*. Fig. 18A. *Sipc* present, dorsum of eighth tergite with thickened sclerotization extending subcordate beneath seventh tergite; dorsum of *sipc* with terminal microtrichia abutting prominent brush organs occurring along the dorso-lateral margin of genitalic vinculum. Vincular ventrum lacking vincular spurs, saccus diminutive and parabolic; valvae sculptured along lateral margins, caudal extensions with dense microtrichia; aedeagus exceeding length of rest of genitalia by only about two-fifths, caecum comprising over one-third aedeagal length and displaced at least 30 degrees out of the plane of the aedeagal shaft. *Female Genitalia*. Fig. 18B. Ductus bursae and terminal lamellae robust, overall lamellal width about equalling ductus length; lamellae widely fluted and separated only by a thin transparent suture line; cervix bursae without prominent sclerotinal elements; corpus bursae with small blunt signa.

TYPE. Holotype male, BMNH (fig. 18A), labelled "Thecla arcula TYPE H. H. Druce", "Tucuman, Argentine [sic], W. Reeve", "ex coll. Hamilton Druce, 1919", "Type", "B.M. Type No. Rh. 1046". TL: "Tucuman" [Tucumán], Argentina (see Remarks).

DISTRIBUTION. *Spatial*. Fig. 199; known from numerous localities in NW and central Argentina. *Temporal*. Argentine collections range from November to February.

REMARKS. The morphology of this small species has been unelucidated heretofore. The peculiar wing facies led some to consider it akin to the genus *Strymon* Hübner (Draudt 1919) with which it shares no structural affinity. Association with *Strymon* probably resulted because of the DFW,DHW azure blue patches, prominent scent brands, and suffusion of the HW basal disc (resembling an obsolescent *Strymon* pattern). *T. arcula* has been poorly known and is well-represented only in local Argentine collections. Johnson (1990b) and Johnson, Eisele and MacPherson (1988, 1990) note other Argentine and Chilean Eumaeini which diverge greatly from their congeners. Generally, though identifiable by generic synapomorphies, such species also exhibit peculiar combinations of primitive and autapomorphic characters. This may result from long isolation of certain temperate and austral biomes. I figure a male and female from the generalized type locality "Tucuman" (e.g. Cumbres de San Javier west of Tucumán city). One can guess that the type most likely came from dense damp woods or swamplands similar to where the species has been recently collected in the "San Javiers" (extending through the Lules and Yerba Beuna departments, Tucumán Province). In Rivadavia Department, Salta, where R. C. Eisele has also frequently taken the species, his field notes say "swampland". Often, these swamps are of limited extent along quebrada bottoms but afford rich habitat for many butterfly species.

MATERIAL EXAMINED [for consistency with label data, diacriticals are purposely omitted]. ARGENTINA. Prov. Jujuy, Dept. Santa Barbara, El Fuerte, 1400 m., 15 January 1968, leg. R. C. Eisele, 1 male (IML); Prov. La Rioja, La Rioja, 1 male (IML); Prov. Cordoba, Cordoba, 1 male (IML); Prov. Salta, Dept. Rivadavia, Santa Maria, 9 km. E. on Rio Pilcamayo, 5 November 1974, leg. R. C. Eisele, 1 female (IML); same data but 6 November 1974, 1 male, 3 females [noted as "swampland"] (RCE); Prov. Salta, Dept. Chicoana, Quebrada de Escoipe, 10 February 1991, AMNH expedition, quebrada bottom swampland, 1 male, 2 females (AMNH); Tucuman Prov., Dept. Yerba Buena, rt. 338, "El Paraiso", Cumbres de San Javier, 8 February 1991, AMNH expedition, riparian slope bordering wet woodland, 2 males, 1 female (AMNH).

purpurea Species Group

Species with DFW,DHW ground purple, not blue as in group immediately above.

Pons purpurea,
NEW SPECIES
Figs. 19, 115

DIAGNOSIS. *Wings*. Large (FW 13.5 mm.), with DFW,DHW dull iridescent purple and widely spatulate HW anal lobe showing short (0.5 mm.), distally-directed spike. Further differing from less lustrous congeners *P. vittata* and *P. saraha* by VFW,VHW pattern--chocolate colored (i) FW postmedial band and (ii) square HW basal disc (*P. vittata* with concentric brown VFW, VHW bands; *P. saraha* with golden-orange lunulate submarginal band).

Male genitalia. Extremely large elliptic valval bilobes contrasting very short caudal extensions, with sculptured ventral keel along their juncture.

DESCRIPTION. *Male*. DFW,DHW dull purple suffused into wide brown apical and submarginal borders; FW with rather square black androconial brand at distal end of discal cell; HW with robust anal lobe. VFW,VHW ground basally chocolate brown, distally lighter dark brown; FW with black-suffused submarginal line and deep brown medial band; HW with square, chocolate brown,

basal disc, colored black along its distal edge, angulate in cells M3 and CuA1 adjacent the anal lobe and with slight darker brown or black suffusion in the distal areas. FW length: 13.5 mm. [apex/tail tip 23.5 mm.] (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 19. Vincular dorsum lacking brush organs. Genitalia with bilobed area and caudal extension of about equal length, juncture heavily sculptured along valval with a dorsally directed, slightly serrate, ridge and then laterally directed humps slanted basally to the valval base. Vincular ventrum thin and parabolic with prominent inwardly-directed spurs; aedeagus robust, length exceeding rest of genitalia by less than one-third, caecum comprising about one-third aedeagal length and displaced radically out of the plane of the aedeagal shaft, aedeagal terminus with two serrate cornuti.

TYPES. Holotype male (fig. 115), PERU, Agualani, S.E. Peru, 9000 ft, March 1904, leg. Ockenden, deposited BMNH.

DISTRIBUTION. ***Spatial***. Fig. 199; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. Notes under *P. vittata* pertain.

ETYMOLOGY. The latinized name refers to the purple DFW,DHW coloration.

Pons saraha,
NEW SPECIES
Figs. 20, 116

DIAGNOSIS. ***Wings***. Relatively large (FW 13.0 mm.), DHW with orange-colored, anally-directed lobe occurring on bulbous anal tail (see Remarks); VHW with orange lunulate submarginal band flanking dark brown triangulate basal disc. HW outer margins rounded and anal lobe less severely angled than in congeners; DFW,DHW purple like *P. vittata* (but this species exhibits profusely black-striped VFW,VHW pattern).

Male genitalia. Valval bilobes robust and parabolic, contrasted by thin, elongate, caudal extensions.

DESCRIPTION. ***Male***. DFW,DHW purple with wide dark brown apices and margins. FW with small, dull, ovate brand in distal area of discal cell. Shape of HW more rounded and with less severely angled anal lobe than congeners. VFW,VHW ground deep brown; FW with single postmedial line and darkly suffused wing base; VHW with dark triangulate basal disc complemented distally by a wide lunulate submarginal band formed by bright golden-orange orbs occurring in each cell. FW length: 13.0 mm. [apex/ tail tip 23.0 mm.]. ***Female***. Unknown. ***Male Genitalia***. Fig. 20. Vincular dorsum without brush organs. Arc of vinculum robust, spurs small and lobate, saccus parabolic; falces arched and elongate. Valvae with robust, parabolic bilobes marked by wide sclerotized lateral rim and elongate caudal extensions; aedeagus length exceeding rest of genitalia by only about one-fourth, caecum comprising a third or more of aedeagal length and displaced radically out of plane of aedeagal shaft, aedeagal terminus with two serrate cornuti.

TYPES. Holotype male (fig. 116), ECUADOR, Carchi, vicinity Tufino, 3500 m., leg. R. de Lafebre, deposited AME.

DISTRIBUTION. ***Spatial***. Fig. 119; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. The appearance of this distinctive species suggests the diversity and poor sampling typifying this genus to date.

ETYMOLOGY. At the request of her parents, patronym for Sarah Foran Schmidt.

ABLOXURINA,
NEW GENUS
Figs. 21-25, 117-121

Synopsis-- includes *Thecla amatista* and undescribed relatives.

DIAGNOSIS. ***Male genitalia***. Valval short and "bullet"-shaped (length hardly exceeding basal arch of falces), terminating with elongate microtrichia (not with fully sclerotized caudal extensions as in other thecloxurines). Adjacent vinculum accommodating short valvae by extreme anterior distension and diminutive saccus structure.

Female genitalia. Ductus bursae divided into posterior and anterior sclerotized elements separated by a transparent neck.

Wings. HW anal area distended into anal tail, somewhat elongate (1-2 mm.) and generally elliptic (not of severely spike-shaped with complementary lateral lobes as in anal tail of *Thecloxurina* or spatulate lobe of *Pons*); male DFW brands extremely large, extending over one-third to one-half of discal cell. DFW,DHW colors iridescent dull purple to blue; VFW,VHW grounds mottled brown, buff and/or tawny, FW with postmedial band, HW with medial and/or postbasal bands (or these areas covered over with concentric dark suffusions) (see Remarks below and under *Candora*).

DESCRIPTION. ***Adult. Male.*** DFW,DHW with dull blue or purple structural color covering wings basad of fuscous apical and submarginal borders (at times with structural color confined to particular patches on wings). Male FW with large brand (extending over one-third to one-half discal cell length and often suffused with dark scales). HW with anal lobe prominent (in one case elongate) but without anal venation forming specialized anal tail or spatulate lobe. VFW,VHW with grounds mottled brown, buff and/or tawny; FW with brown or red-brown postmedial line or band from costa to cells M3, CuA1 or CuA2; HW similar bands located medial and postbasal and with occasional additional submarginal bands or dots and, in some species, whole areas of the band suffused over with concentric dark ground colors. FW length: 9.5 mm.-12.0 mm. [apex/tail tip generally .20-.25 less than two-times FW length]. ***Female.*** Marked similar to males but with wider, broader, wing shapes, duller DFW, DHW structurally color and no androconial elements. FW length: 10.0 mm.-12.5 mm. [apex/tail tip similar to males]. ***Male Tergal Morphology and Genitalia.*** Figs. 117-121. *Sipc* and brush organs absent in known species. Genitalia with vincular ventrum greatly distended to diminutive saccus and valvae extremely short and "bullet"-shaped (bilobes distended basally and conjoined terminally with diminutive caudal extensions covered with elongate microtrichia); falces widely arched; aedeagus relatively elongate, length usually exceeding rest of genitalia by more than two-fifths to one-third; caecum relatively small (comprising two-fifths to one-fourth length of aedeagal shaft) and variously displaced out of the shaft plane; aedeagal terminus rounded or parabolic and always with two serrate cornuti. ***Female Tergal Morphology and Genitalia.*** Fig. 117-121. *Sipc* absent. Genitalia with ductus bursae divided into posterior and anterior sclerotized tubular elements separated by a transparent neck; ductal element variously sculptured, posterior element terminating with parabolic lamellal lobes separated by a prominent central fissure, cephalic element only slightly produced at area of cervix bursae, forming small distal hood or shield on corpus bursae; corpus bursae with two spinelike signa.

TYPE SPECIES. *Thecla amatista* Dognin 1895.

DISTRIBUTION. ***Spatial.*** Fig. 200; Andes of South America from Colombia south to northern Chile and, in addition, with a disjunct species occurring in montane Costa Rica. ***Temporal.*** Dates on specimens range from September to April.

REMARKS. *General--* *Abloxurina* is one of only four thecloxurine genera including montane-restricted entities occurring in both South and Central America. Such groups appear to be the oldest of the thecloxurines, their ancestral distributions perhaps predating those of eumaeines which show only lowland dispersions across the Panamanian isthmus into southern Central America. Of these, *Abloxurina* and *Rhamma* show congeners extending from nuclear Central American southward to northern Chile.

Characters-- VFW,VHW patterns superficially resemble small species of the new genus *Candora* (of subsequent entry). *Candora* taxa differ, however, not only in their generic structural characters but by exhibiting very small, ellipsoid, male DFW brands (occurring distally in, and comprising only one-fourth to one-fifth of, the discal cell).

Nomenclature-- I divide *Abloxurina* into two species groups, each with a distinctive ground plan of DFW,DHW color and VFW,VHW pattern. The first contains the type species and relatives; the second contains the divergent *Thecla dissentanea* Draudt and a new species. The latter shares some of the peculiar VHW features of *dissentanea* and unites it structurally with the rest of the genus.

ETYMOLOGY. The name, considered feminine, adds the Latin prefix *ab-* ("off" or "away") to the commonly used name for many South American elfin butterflies (*"loxurina"*, e.g. *"Thecla loxurina"*). The name refers to the extremely divergent structural characters of congeners compared to the those of the somewhat superficially similar genus *Thecloxurina*.

amatista species Group

DFW,DHW structural color dull purple or blue, VFW,VHW pattern striped.

South American species:

Abloxurina amatista (Dognin)
NEW COMBINATION
Figs. 21, 117

Thecla amatista Dognin 1895: 106. Bridges 1988: I.18, II.104, III. 26. Johnson 1990a: 120. Comstock and Huntington 1958-1964 [1959]: 67; Ureta 1949: 101. Johnson, MacPherson and Ingraham 1986: 7.

Thecla candor [not *candor* Druce 1907: 578, pl. 33, f. 1]: Druce 1909: 433; Bridges 1988: I.69, II.104

(synonymy in error) [*T. candor* placed in *Penaincisalia* Johnson 1990a].

DIAGNOSIS. ***Wings.*** Though confusable with noncongeners of *Candora* and the "*candor* Species Group" of *Penaincisalia* (because of moderate size [FW to 14.0 mm.], pronounced anal lobe and dull DFW,DHW purple colors), easily distinguished by the single large and diffusive brand occurring on each DFW forewing in males (*Penaincisalia* shows two small brands per forewing; *Candora* exhibits a single small elliptic brand per forewing, see Remarks). As noted in Remarks, superficial similarity in some *A. amatista* specimens to VHW mottling in *Candora fallacandor* (particularly when worn) is readily distinguished by the very different genitalia.

Male Genitalia. Anterior of valvae with distended bilobes comprising nearly four-fifths valval length.

Female Genitalia. Respective posterior and anterior elements of ductus bursae elliptic; latter somewhat less than one-half length of former.

DESCRIPTION. ***Male.*** DFW,DHW ground dark purple, (sometimes suffused lustrous blue) with brown to blackish margins and apices; FW brands black-suffused and rectangular, covering at least distal one-half of discal cell (suffusive expanse diminishing with wear in some specimens); HW anal lobe prominent, colored dull brown to slightly rufous. VFW, VHW ground grizzled tawny to brown and marked with reddish suffusion; FW with darker, red-brown, postmedial line from costa to cell M3 or CuAl and with red-brown blotches along the submargin; HW with brown bands located postbasally, postmedially and in blotches or spots along the submargin, cell interspaces between these bands sometimes variously suffused brown or red-brown. FW length: mean of six AMNH, BMNH specimens 12.2 mm., range 10.0 mm. - 14.0 mm. [apex/tail tip FW 11.0 = 18.5 mm.]. ***Female.*** DFW,DHW with wing shape more robust and less angled; DFW,DHW with higher incidence of bluish suffusion and no androconial elements; VFW, VHW marked similar to male. FW length: 11.0 mm. (AMNH) [apex/tail tip similar to male]; 11.5 mm. (BMNH). ***Male Genitalia.*** Fig. 21A. Vincular and valval bases greatly distended, length of valval bilobes five times that of diminutive caudal extensions. Caudal extensions anchoring elongate microtrichia. Falces generally arched and laterally directed; saccus spatulate. Aedeagus elongate, length exceeding rest of genitalia by more than one-third, caecum comprising about one-third aedeagal length, not much displaced from plane of aedeagal shaft. ***Female Genitalia.*** Fig. 21B. Posterior element of ductus bursae terminating in parabolic to slightly triangular lamellae; cephalic element slightly less than one-half size of former and dorsally inclined; cervix bursae slightly modified to small bilobate hood surrounding ductus seminalis; signa spinelike, each protruding from a partially sclerotized base.

TYPES. Holotype male, BMNH (fig. 21A) labelled "Type", "Thecla amatista Dgn. Type" "LOJA Equateur", "B.M. Type No. Rh. 599" (see Remarks). TL: ECUADOR, El Monje, Loja.

DISTRIBUTION. ***Spatial.*** Fig. 200; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. As noted by Johnson (1990a) and the Diagnosis above, this species has been frequently misidentified in many collections, most often as "*Thecla candor* Druce", less so as "*Thecla loxurina* Felder and Felder". In addition, many of the new species of *Abloxurina* and *Candora* described herein are often misidentified under the name "*Thecla amatista* Dognin". Most confusing among these are members of *Candora* and *Penaincisalia candor*. Of great interest here is that the structural features of the three genera *Abloxurina*, *Candora*, and *Penaincisalia* differ so dramatically (contrast genitalic figures 21-26, 27-33, 73-87 in entries for each of these genera). Superficially, the DFW brands in males are diagnostic-- *A. amatista* with broad rectangular, suffusive, black brands covering over half of discal cell (black suffusive outline fading with wear to somewhat less this expanse in the cell), *Candora* with crisp elliptic brown or tawny brands occupying only the distal one-fourth or one-fifth of discal cell, and *Penaincisalia candor* with two brands per forewing as characteristic of that genus. The type of *amatista* (FW 11.0 mm.) is somewhat diminutive compared to other specimens of the species but does display the mottled VHW ground basad of the medial area which typifies most specimens. The genitalia, of course, fix the identity of this species vis-a-vis variation in mottled under surfaces of both *Abloxurina* and *Candora* taxa-- an important observation since *Candora fallacandor* can appear superficially like *A. amatista* in the VHW of some specimens but is completely different in its structural characters (contrast figs. 21 and 27).

The structural characters of *Abloxurina* are unmistakable and, as noted in recent revisionary comments in Johnson (1990a), well typify the problem with historical common usages concerning the Neotropical elfin butterflies. Numerous taxa previously clustered by superficial wing pattern resemblance differ drastically in structural character and/or androconia. I figure a male and female

from F. M. Brown's AMNH series along with the genitalia of the BMNH type.

MATERIAL EXAMINED. ECUADOR. "Ecuador", 1 male (BMNH); Pinchincha, Niebli, northwest slope, 3800 m., leg. de Lafebre, 1 male (AME); Imbabura, Catacachi, 3750 m., leg. de Lafebre, 1 male (AME); Hda. Talahua, Prov. Bolivar, 3100 m., leg. F. M. Brown, 30 April 1939 (1 male), 29 April 1939 (6 males, 1 female) (AMNH); "env. [sic; probably = "region"] pres Loja, Equateur (4 males, 2 females) (MNHN).

***Abloxurina contracolora*,**
NEW SPECIES
Figs. 22, 118

DIAGNOSIS. ***Wings***. Easily recognized by elongate anal lobes somewhat resembling those of *Thecloxurina* and restricted DFW,DHW structural colors on an otherwise fuscous ground-- purplish blue in FW medial and basal area, bright silvery-blue in HW medial area (female with light silvery-blue more extensive over entire wings except apices and submargins); VFW,VHW ground gray-brown with radically angulate slate gray bands.

Male genitalia. Juncture of bilobes and caudal extension exhibiting ventrally-directed sculpturing.

Female genitalia. Posterior element of ductus bursae about same size as anterior but with elongate, tapering terminal lamellae.

DESCRIPTION. ***Male***. DFW,DHW fuscous with dull purplish iridescence confined basad of FW medial area; HW with bright silvery blue confined in medial area; FW distal area of discal cell with small ellipsoid brand. VFW,VHW gray-brown; FW with light black-suffused submarginal dashes and black medial line crossing wing; HW with thin, radically triangulate pattern, formed by brownish-black bands proceeding respectively from the costo-medial and anal margins and converging at the base of the anal lobe. In addition there is a smaller triangulate element inside the basal disc and the submargins are marked with dark blackish-brown blotches. FW length: 13.5 mm. [apex /tail tip 25.0 mm.] (holotype). ***Female***. DFW,DHW with structural color dull silvery blue and suffused wider in the medial and basal areas of the wings; FW lacking androconial elements; VFW,VHW marked similar to male. FW length: 13.5 mm. [apex /tail tip similar to male] (allotype). ***Male Genitalia***. Fig. 22A. Vincular dorsum lacking brush organs. Vincular ventrum distended to small and parabolic saccus; valvae with bilobed areas ellipsoidal and slightly angled along their inner margins, caudal extensions somewhat undulate and terminally blunt, juncture of bilobes and caudal extension with slight ventral sculpturing. Aedeagus elongate, length exceeding rest of genitalia by more than two-fifths; caecum comprising about one-third aedeagal length, displaced about 30 degrees out of plane of aedeagal shaft, aedeagal terminus with two terminally serrate cornuti. ***Female Genitalia***. Fig. 22B. Darkly sclerotized portions of respective posterior and anterior elements of about equal length, former with elongate tapered lamellae about doubling basal length of posterior element; anterior element inclined toward cervix bursae; cervix bursae with small bilobate hood surrounding ductus seminalis; signa occurring as two thick spines protruding from a partially sclerotized base.

TYPES. Holotype male (fig. 118A), COLOMBIA, Bogota, Crowley Bequest, 1901 BM; allotype female (fig. 118B), COLOMBIA, Frontino, Antioquia, leg. T. K. Salmon, coll. Godman and Salvin, deposited BMNH. *Paratype*. Same data as primary type, one male (BMNH).

DISTRIBUTION. ***Spatial***. Fig. 200; currently known from two localities in Colombia. ***Temporal***. Known only from the type data.

REMARKS. The elongate anal lobes on this species resemble those of *Thecloxurina*, the VFW,VHW and structural characters thus coming as some surprise when specimens are studied in more detail. In regard to *Thecloxurina*, however, there is no species in which brilliant blue structural color occurs only in small medial FW and HW patches as on *A. contracolora*.

ETYMOLOGY. Euphonious combination referring to the contrasting and limited DFW,DHW iridescent colors in this species.

Central American species:

***Abloxurina chiaspa*,**
NEW SPECIES
Figs. 23, 119

DIAGNOSIS. ***Wings***. Distinctive in DFW,DHW blue-suffused, VFW,VHW with simple beige-brown suffusive stripes [known from a single specimen, poor HW condition making it impossible to ascertain the exact shape of anal area].

Male genitalia. Valvae widely bifurcate at the terminus; brush organs prominent along the dorso-lateral edge of the distended vinculum (see Remarks).

DESCRIPTION. ***Male***. DFW,DHW: ground suffusive silvery blue blending to fuscous apices and

submargins; FW with black-suffused ellipsoidal androconial brand, HW of known specimen damaged in anal area making shape uncertain. VFW,VHW: ground beige, suffused heavily with tawny to red-brown in a rather concentric pattern; FW with suffusive brown postmedial line, costa to cell CuAl; HW heavily suffused brown over tawny, most heavily forming a medial band, a slight postbasal band and suffusive brown submarginal markings at least from cells RS to M2 (rest of wing damaged). FW length: 15.5 mm. [apex/tail tip not measurable due to wing damage] (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 23. Vincular dorsum lacking brush organs. Vincular ventrum distended rather ellipticly, saccus parabolic; valvae with bilobes greatly shouldered giving a nearly bifurcate form to the area of attachment of the terminal microtrichia. Aedeagus elongate, exceeding rest of genitalia by over one-third, both shaft and caecum curvate, caecum comprising about one-third aedeagal length, length exceeding rest of genitalia by about one-fourth; caecum comprising about two-fifths aedeagal length, displaced about 30 degrees out of plane of aedeagal shaft, aedeagal terminus with two marginally serrate cornuti.

TYPES. Holotype male (fig. 119), COSTA RICA, Orosi, 1200 m., [undated], leg. Fassl, C. S. Larsen Collection, deposited MNHN.

DISTRIBUTION. ***Spatial***. Fig. 200; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. Remarks under *Thecloxurina costarica*, *Rhamma disjuncta* and *Paralustrus orosiensis* pertain. All represent disjuncts in genera with otherwise generally pan-Andean distributions. The holotype of *A. chiaspa* was among specimens in poor condition, including not only the wing area surrounding the HW anal tail but also the abdomen, where the genitalia were partially crushed inside the abdominal integument. However, the relevant genitalic parts are identifiable and have been placed in fig. 23 as if intact.

ETYMOLOGY. Taken from Latin *chius* ("island" [Greek origin *chiaspa*, meaning disjunct or inverted]).

dissentanea Species Group--

VHW with basal disc shaped laterally in a distinctively, bilateral, "half of an hour-glass" configuration.

Abloxurina balzapamba,
NEW SPECIES
Figs. 24, 120

DIAGNOSIS. ***Wings***. Resembles no other congener because of DFW,DHW purple color, elongate HW lobe, and VHW basal disc with basal one-half marked black over tawny in the shape of the lateral one-half of an "hour-glass" (a pattern otherwise occurring only in *A. dissentanea* which is gray-blue above and gray white beneath in the nominate).

Male genitalia. Typifying shorted valval condition of genus but with terminal margin greatly serrate beneath elongate microtrichia (*A. dissentanea* atypical, valval caudal extension elongate and terminally hooked) (see Remarks and *A. dissentanea*, below).

DESCRIPTION. ***Male***. DFW,DHW ground deep magenta-purple fading into dark brown apices and submargins; FW with small ovate brand in discal area of discal cell; HW with elongate anal lobe. VFW,VHW ground tawny; FW with wavy brown-suffused postmedial line and brown dashes along submargin, from costa to vein CuA1; HW with brown-suffused dashes along submargin and surrounding the anal lobe; basal disc black, outlined by undulate margin in shape resembling the lateral one-half of an "hour-glass"; basal disc only slightly lighter-suffused toward base of wing. FW length: 12.0 mm. [apex/tail tip 21.0 mm.] (holotype, paratype). ***Male Genitalia***. Fig. 24. Vincular dorsum lacking brush organs. Vincular ventrum distended rather elliptically, saccus parabolic; valvae with bilobes elliptic and terminating in greatly serrate base for terminal microtrichia typifying genus. Aedeagus very elongate, length exceeding rest of genitalia by about one-third, caecum comprising about one-third aedeagal length, terminus with two marginally serrate cornuti.

TYPES. Holotype male (Fig. 120), ECUADOR, Balzapamba, 3400 m., leg. Descimon, deposited AMNH. *Paratype*. ECUADOR, Hda. Talahua, 3100 m., 29 April 1939, leg. F. M. Brown, 1 male (AMNH).

DISTRIBUTION. ***Spatial***. Fig. 200; currently known only from type locality. ***Temporal***. Known only from the April data of a paratype.

REMARKS. The initial discovery of this species in material supplied by H. Descimon is particularly important because, though the genitalic features of *A. dissentanea* are in most ways typical of *Abloxurina*, its peculiar VFW,VHW markings have previously appeared unique among Eumaeines. Later an additional specimen of *A. balzapamba* came to light in unmounted material of F. M. Brown at the AMNH. Placing *dissentanea* with

Abloxurina appears more reasonable given the under surface features of *A. balzapamba*. Without this similarity, one might conclude that *Thecla dissentanea* belongs either in a monotypic genus or it, and its brown Chilean form (to date known from few specimens), are sister species in such a genus. It is curious and informative regarding *Abloxurina* and *Candora* that some species of the latter genus show darkening of the VHW basal areas suggestive of the markings in *A. amatista*, *A. balzapamba* and *A. dissentanea* but differ so strikingly in the genitalia, particularly in males. If no morphological study accompanied work on similar specimens of *Abloxurina* or *Candora*, such specimens might simply be called "*Thecla amatista*" or "*Thecla candor*". Yet, nothing could be more distinctive than the reduced valvae and distended vincula in *Abloxurina* or the dual FW scent brands of *Penaincisalia* (in which the "*Thecla*" *candor* of the types resides).

ETYMOLOGY. Noun used in apposition, referring to the type locality.

Abloxurina dissentanea (Draudt)
NEW COMBINATION (see Remarks)
Figs 25-26, 121

Thecla dissentanea Draudt 1917-1924 [1919]: (5) 758, pl. 153e. Ureta 1949: 97, 1964: 103; Comstock and Huntington 1958-1964 [1959]: 208; Descimon 1986: 519; Bridges 1988 I. 108, II.106, III.27. See **Note Added in Proof** (end of Remarks) concerning priority of *Thecla muela* Dyar 1913).

DIAGNOSIS. ***Wings***. DFW,DHW greatly angulate, FW brown, HW variously blue-suffused (brown in Chile) with prominent anal lobe; VHW with concentric gray and white undulate bands forming distinctive "half hour-glass" shape in basal portion of VHW disc (similar only to *A. balzapamba* which has this portion of disc black over tawny and is, otherwise, larger (FW 11.0-12.0 mm., compared to 9.0-11.0 mm. for *A. dissentanea*) and purple on upper wing surface).

Male genitalia. Atypical of genus in valval caudal extension, which is elongate and terminally hooked.

Female genitalia. Posterior and anterior ductal elements separated not by transparent neck but by sclerotized collar.

DESCRIPTION. ***Male***. DFW,DHW: FW ground brown, suffused slightly silvery-blue, small elliptic brand in distal area of discal cell; HW with bright silvery-blue confined basad of brown submargins (Chilean form concolorous brown, see REMARKS). VFW,VHW with distinctive pattern-- FW basad of the postmedial line and HW, in concentric medial and postmedial bands, shaped like the lateral one-half of an "hour-glass". Pattern colored concentricly gray (basal) and white (distal) in nominate, dark brown and without much distal pattern Chile (see REMARKS). FW length: 9.0 mm. [apex/tail tip 14.0 mm.] (AMMH). ***Female***. Similar to males but wings broader and less angulate, lacking FW androconial elements and with HW structural color limited to silvery-blue suffusion (Chilean females unknown). FW length: 11.0 mm. [apex/tail tip 11.0 mm. [apex/tail tip 19 mm.] (AMNH). ***Male Genitalia***. Figs. 25A,26. Vincular dorsum lacking brush organs. Arc of vinculum ventrum cephalically distended to parabolic saccus as typical of genus, falces arched. Valvae elongate, parabolic in the bilobed area with caudal extensions departing from blunt, shortened termini of congeners and, instead, marked with a curvate, hooklike, habitus. Aedeagus robust, length exceeding rest of genitalia by about two-fifths to one-third, and with a heavily sclerotized and sculptured triangulate-shaped terminus; caecum robust, comprising at least one-third of the aedeagus length and angled 30-45 degrees out of the plane of the aededagal shaft (see Remarks regarding conditions in subspecies and a somewhat similar terminal configuration in *Chlorostrymon* Clench [Johnson, 1989a]). ***Female Genitalia***. Fig. 25B. *Sipc* absent. Genitalia with ductus bursae robust and rather bullet-shaped, terminating caudally in widely parabolic lamellae separated by a prominent central fissure, constricted in cephalic one-fourth by a highly sclerotized and sculptured "neck" and with cervix bursae robust and laterally flared. Cervix bursae hood robust and oblongate with heavily sclerotized hemispherical element adjacent a sclerotized bulb from which emanates the ductus seminalis.

TYPES. Described from two males in the Fassl Collection, not documented in Fassl material at MNHN (Paris) (Johnson 1991a), apparently among specimens from Draudt's personal collection reported as lost in World War II (see remarks in Materials and Methods and Types under *Thecloxurina quindiensis*; not yet documented as among Draudt types recently rediscovered by Gerardo Lamas). An unambiguous species, dissection of numerous examples being basis of identification here. TL: Cuzco, PERU.

DISTRIBUTION. ***Spatial***. Fig. 200; Andes of Peru south to northern Chile. ***Temporal***. Dates on specimens range from September to May.

REMARKS. Note Remarks under *A, balzapamba*. It is possible that the poorly known Chilean population resembling *Thecla dissentanea* is a separate species.

However, since only a few specimens are known I describe it below as a subspecies of *A. dissentanea*.

SUBSPECIES

NOMINATE: ***A. dissentanea dissentanea***

Refer to species entry. Differing from Chilean subspecies described below which is concolorous brown on DFW, DHW and with "hour-glass" pattern limited to contrasting brown suffusion on VHW (figs. 121A-C). Differing structural from Chilean subspecies in more robust and less-sculptured valvae and stout aedeagus with caecum sculptured to an anterior knob in known specimens (fig. 25 (25i,ii)). Distributed from Peru southward probably through Bolivia and perhaps NW Argentina (fig. 200).

MATERIAL EXAMINED. BOLIVIA. Porco to Astillero, S. Bolivia, 1 male (BMNH). ECUADOR. Rio Ulba, 1600 m., 8 September 1936, 1 female (AMNH); Cuicocha, 3300 m., 30 May 1939, 1 male (AMNH). PERU. Cuzco [no other data], 1 male, 1 female (MNHN).

***Abloxurina dissentanea putreensis*,**
NEW SUBSPECIES
Figs. 26, 121CD

Diagnosis. Wings. DFW,DHW concolorous brown; VFW,VHW with vividly contrasting brown and yellow ground colors forming simple half "hour-glass" pattern basad of medial area on HW (not concentricly gray and white as in nominate).

Male genitalia with valval bilobes laterally sculptured, caudal extensions narrower than nominate; aedeagus with caecum relatively larger than nominate but less sculptured and without an anterior knob (figs. (25i,ii) (26i)).

Description. Male. DFW,DHW concolorus brown, FW with small ovate brand at distal end of discal cell. VFW ground dark tawny with suffusive brown postmedial line, costa to cell CuA2; HW with half "hour-glass"-shaped basal disc blackish brown, ground distad light tawney. FW length: 9.5 mm. [apex/tail tip 16.0 mm.] (holotype). ***Female.*** Unknown. ***Male Genitalia.*** Fig. 26. Genitalia differing from nominate in sculptured lateral aspect of the valvae and narrower valval caudal extension; aedeagus less robust than nominate, lacking sculptured lateral aspect and anterior knob on caecum, but with caecum longer, comprising at least one-third of aedeagal length and more stout throughout.

Types. Holotype male, CHILE, Putre, Arica State, Prov. Parinacota, 4000 m., ex. coll. A. M. Shapiro, deposited AMNH. *Paratypes* [added at proof]. AMNH: Chapiquira, Tarapacá State, 3370 m., 24 November 1966, leg. L. Peña, 1 female; FMNH: Noasa, Iquique, Tarap.[acá], 10 November 1951, leg. L. Peña, 1 female.

Distribution. Spatial. Fig. 200; known from high montane scrub-steppe in northern Chile. ***Temporal.*** Known only from November data.

Remarks. When more specimens are known representing this taxon, it might be construed as a species distinct from *A. dissentanea*. The additional, recently acquired, Chilean specimens (fig. 121D) are even more extreme than the first. A number of distinctive Eumaeini occur in xeric regions along South America'a Pacific coastline from Ecuador south to northern Arica State, Chile, and thereafter, in scattered biomes southward into Tarapacá State (Robbins 1991, Rindge 1987, Johnson and Miller 1991). A number of these representatives are relatively knew to the known Chilean fauna, either only recently collected or discovered in recent examination of poorly known old Chilean material in European museums. Such specimens indicate that south of northern Arica State, in disjunct montane quebradas breaking Chile's northern desert regions, occur numerous isolates from the Eumaeini. These relicts probably represent formerly more widespread mesic and perhumid biomes and only add to the number of unique Chilean species already known from the Coquimbo region (Ureta 1964) or, as noted herein under *Rhamma* and *Pontirama* and in Johnson (1989a, 1991d), high montane regions of Chile abutting Bolivia and Argentina. An effort is being made to assemble as much of this material as possible for study phylogenetic and faunal affinity. The number of eumaeine groups for which such southern isolates occur appears to be much higher than anticipated (see, for instance, recent addition in *Reports* number following the second volume of this work).

Etymology. The name is taken from the type locality.

Note Added in Proof: Chilean reviewers provided advance copy of these results noted that *Thecla muela* Dyar 1913 (TL Cotahuasi, Peru) has priority over *Thecla dissentanea* Draudt since they represent the same species. I have not been able to examine the type of *T. muela* (National Museum of Natural History, USA) but assume the veracity of this view and this latter name should be considered as substituted herein throughout.
It is also my feeling, since examining additional specimens of *A. muela* mentioned above that the Chilean population is probably best considered an allopatric subspecies.

CANDORA,
NEW GENUS
Figs. 27-33 , 122-128

Synopsis-- includes *Thecla schausa* Jones and undescribed relatives.

DIAGNOSIS. *Wings*. Generally small (FW 9.0-11.0 mm.), DFW,DHW purple to magenta, FW with compact elliptic brand (about [="±"] 1 mm.), HW with elliptic anal lobe smaller than other members of Clade I (± 1 mm., see Remarks); VFW,VHW with generally concentric patterns of mottled tawny to brown (latter two traits confusing *Candora* with "*penai* Group" of *Penaincisalia* and some *Abloxurina* taxa, see Remarks).

Male genitalia. Vinculum robust, not anteriorly distended at saccus; valvae with slim and variously elongate caudal extensions protruding from robust valval base, juncture of base and caudal extension typified by (i) cluster of lateral ridges (fig. 27A,x) and (ii) ventrally directed keel (fig. 27A,y).

Female genitalia. Ductus bursae terminally fluted and exceedingly robust, widths at base of terminal lamella one-half or more that of ductus bursae length; cervix bursae robustly bilobate with a steep dorsal inclination (see Remarks).

DESCRIPTION. ***Adult***. ***Male***. DFW,DHW: ground dull purple to magenta; FW with small (± 1 mm.) elliptic brand covering distal one-fourth to one-fifth of discal cell; hindwing with short (± 1 mm.) elliptic anal lobe. VFW,VHW ground mottled tawny and darker browns; FW with darker brown to blackish FW postmedial line, costa to cells M3 to CuA2; HW patterned with darker brown, red-brown or blackish bands usually located postbally and medially but sometimes with additional distal elements. Shortness of HW anal lobe generally reducing apex/tail tip widths compared to other members of Clade I (commonly between .25 and .30 less than two-times FW length). FW length: 9.0 mm.-11.0 mm. (some females to 12.0 mm.) [apex/tail tips from FW 11.0 = 22.0 mm. to FW 10.0 mm. = 16.5 mm.]. ***Female***. Marked similar to males, differing only in broader, less angulate wing shape, tendency toward blue suffusion on DFW,DHW and lack of androconial elements. FW lengths and apex/tail tip similar to males, females usually slightly larger than companion males. ***Male Tergal Morphology and Genitalia***. Figs. 122-128. *Sipc* absent. Brush organs occurring only as restricted cluster in one species. Genitalia with vincular ventrum robust and of parabolic shape, not distended toward the saccus and with widely lobate spurs; saccus prominent (length circa one-half length of bilobed area), variously parabolic to pointed. Valvae distinctive-- caudal extensions variously elongate and slim, protruding from robust bilobed base and always with juncture of caudal extensions and bilobes typified by clusters of lateral ridges and a ventrally directed keel. Aedeagus robust compared to *Abloxurina*, but not as robust as in other members of Clade I-- length usually exceeding rest of genitalia by a third or less, caecum generally comprising two-fifths to one-fourth aedeagal length and variously oriented toward the plane of the aedeagal shaft; aedeagal terminus parabolic to pointed and exhibiting two marginally serrate cornuti. ***Female Tergal Morphology and Genitalia***. Figs. 122-128. *Sipc* absent. Genitalia with ductus bursae a continuously sclerotized, exceedingly robust and generally fluted tube (length usually less than two times maximal width at base of lamellae), with lamellae diminutive and separated by a prominent central fissure. Cervix bursae robustly bilobate, inclined dorsally and with a narrow membranous central fissure from which extends the ductus seminalis; corpus bursae with two, generally robust signa, each with a prominent inwardly directed spine.

TYPE SPECIES. *Candora fallacandor*, new species (see Remarks).

DISTRIBUTION. ***Spatial***. Fig. 201; Andes from Ecuador south to northern Argentina and with one species in montane southern Brazil. ***Temporal***. Specimen dates range from February to June.

REMARKS. *General*-- Though frequent in collections, most *Candora* species have been previously misidentified as one or two taxa of "*Thecla*" which differ greatly in male FW brands and do not belong in *Candora*-- (1) "*Thecla amatista*" (herein ***Abloxurina amatista*** with large oblongate brands) and (2) "*Thecla candor*" (herein ***Penaincisalia candor*** with two brands per forewing). Historically, *Candora* taxa appear to have gone unrecognized because of their rather simple wing patterns, which cause most of the species to look somewhat alike in a cursory view. Actually, only moderate scrutiny is needed to reveal the major differences of wing pattern placement which characterize the various *Candora* species, and these make sense of the very different structural characters which typify the group. Since, except for the rather poorly known species "*Thecla*" *schausa* Jones, *Candora* has generally gone unrecognized hitherto, I summarize some of its outstanding characters viz-a-viz sister groups in the entry below.

Characters-- Because of small size, short elliptic anal lobe and simple wing patterns (often relied upon by early workers), *Candora* species have been confused with taxa of the "*penai* Group" of *Penaincisalia* and some

smaller *Abloxurina* taxa. *Candora* species differ markedly from these in both the male FW brand and the structural characters of both sexes. In *Candora*, the male FW brand is small (± 1 mm), colored beige or gray, and extends over the distal one-fourth to one-fifth of FW discal cell. This contrasts the two FW brands on each male FW (distal and of discal call and along vein M3) in *Penaincisalia* and the elongate single brands of *Abloxurina* which cover the distal one-third to one-half of the discal cell and are often darkly suffused.

In the genitalia, contrasting the somewhat similarly patterned species *Penaincisalia* and *Abloxurina*, males of *Candora* exhibit a robust vinculum and robust, terminally elongate, valvae— structures more like those of sister genus *Thecloxurina* (whose taxa, as noted heretofore, superficially stand out by their elongate, spikelike, anal tails). Likewise, females of *Candora* are structurally outstanding, the exceedingly robust ductus bursae separating *Candora* females readily from the more diminutive female structures of *Penaincisalia* and the paired posterior and anterior ductal elements which characterize the females of *Abloxurina*.

Once *Candora* is recognized the distinctive characters in many of its species become readily apparent. For instance, compared to members of *Thecloxurina*, HW undersurface bands in *Candora* do not medially angle toward the anal margin but, instead, continue across the wing to the anal lobe. Contrasting the concentric outlines of cryptic ventral coloration typifying many species of *Penaincisalia*, ventral bands in *Candora* are well defined. There are significant superficial interspecific differences between *Candora* species once their wing patterns are noted in detail. As an example, various *Candora* species often are found together in mixed mis- or unidentified series at most museums. Of these, representatives of two taxa described herein (the type species and *C. cyanomediana*, which differ strikingly in the genitalia) can also be readily identified by an outstanding DFW trait. The black FW borders in the type species are arched widely around the area of the radial veins, leaving ample purple ground color distad of FW discal cell (and male FW brand); in *C. cyanomediana* the borders cut directly through the area immediatedly distad of the discal cell, covering the entire radial area of the FW with fuscous or black. Also, *C. fallacandor* shows bright rufous surround the HW anal lobe in a chevron shape; this area in *C. cyanomediana* is only slightly suffused brown at the base of the anal lobe.

Nomenclature— There is only one previously described species: *Thecla schausa* Jones 1912: 898, pl. 97, f. 5 [invalid homonym of *Thecla schausi* Godman & Salvin 1879-1901 [1877]: 98, p. 58, f. 22,23]. Since this species is known only from its syntype series and a few other specimens I do not make it the type species. I also do not chose *C. cyanomediana*, the new species most well-represented in collections; its small size and VHW pattern make it easily confusable with *Penaincisalia candor* unless male FW brands are examined with care. I choose new species *C. fallacandor* as the type species because it occurs in most collections and is readily identified by its large size and distinctive dorsal and ventral markings.

Based on wing pattern criteria, I divide the genus into three species groups-- the first includes the type species and relatives (the *fallacandor* Group), the second *Thecla shausa* Jones and relatives (the *jonesi* Group) and the third a suite of new species (the *contraloxurina* Group).

ETYMOLOGY. A euphonious feminization of the commonly used grade name "*candor*" (e.g. "*Thecla candor*"). Because of superficial wing coloration, the many species of *Candora* have been widely misidentified as "*Thecla candor*" (see below under *C. fallacandor* and Remarks in Johnson 1990a).

fallacandor Species Group

Taxa of this group are small to medium-sized (FW 9.0-11.5 mm.) have brighter DFW,DHW structural color than congeners and markedly angled anal lobes on the HW. Although these taxa exhibit a single brand on each male FW, some have been widely misidentified as *Thecla candor* H. H. Druce (placed in *Penaincisalia* [Johnson 1990a] based on examination of the type).

Candora fallacandor,
NEW SPECIES
Figs. 27, 122

DIAGNOSIS. *Wings*. DFW,DHW deep purple, black apical borders arched widely around FW radial area, HW with bright rufous surrounding anal lobe in a chevron shape; male FW with single small androconial brand distad in discal cell; VFW,VHW ground tawny suffused with red-brown, marked with short submarginal and postmedian FW streaks or dashed lines from costa to cell M1 or M2 and on HW darker suffused basal disc with *distinctive lighter tawny blotch* (sometimes very wide) extending costad from center of discal cell to the costal margin (see Remarks below, under generic entry, and *Abloxurina amatista*).

Male genitalia. Caudal extensions extremely elongate and often angled widely apart at terminus; bilobes shouldered, these and adjacent ventral vincular surfaces very robust compared to congeners.

Female genitalia. Ductus bursae extremely robust, length less than one and one-half maximal width and centrally constricted; cervix bursae widely bilobate.

DESCRIPTION. ***Male***. DFW,DHW: DFW, DHW deep purple bordered with black, FW black borders arching widely around radial area, male FW with tawny elliptic brand at distal end of discal cell; HW with elongate anal lobe surrounded by bright rufous in a chevron shape. VFW,VHW ground tawny suffused with red-brown; FW with short submarginal and postmedian streaks or dashed lines, costa to cell M1 or M2; HW grounds suffused darker brown in the basal disc and marked with a lighter tawny blotch (sometimes very wide) extending costad from center of discal cell to costal margin. FW length: mean of 6 specimens (AMNH,BMNH) 11.0 mm., range 10.5 mm. - 12.0 mm. [apex/tail tip FW 11.0 mm. = 20.0 mm.]. ***Female***. Marked similar to males but lacking androconial elements. FW length: 11.5 mm. (allotype). ***Male Genitalia***. Fig. 27A. Vincular dorsum lacking brush organs. Vincular ventrum robust and tapered to lobate succus; vincular spurs extremely lobate, wide at base. Valvae extremely elongate in a gradually tapered fashion (often angled widely from each other at their termini, fig. 27A,b1); bilobes shouldered, marked by rounded and ventrally produced keel. Aedeagus length exceeding rest of genitalia by about one-third, caecum comprising about one-third aedeagal length, terminus with two marginally serrate cornuti. ***Female Genitalia***. Fig. 27B. Ductus bursae robust, length less that one and one-half times maximal width and centrally constricted; terminal lamellae diminutive and ovate, separated by narrow ventral fissure; anterior of ductus bursae fluted widely to cervix bursae; cervix bursae with widely bilobate sclerotized shield surrounding ductus seminalis; corpus bursae with two pronglike signa.

TYPES. Holotype male, allotype (figs. 122 A,B), ECUADOR, Seville de Oro, Azuay, 2500 m., leg. F. M. Brown, 15 February 1939, deposited AMNH. *Paratypes*. BMNH: ECUADOR. Env. Pres. [sic] Loja, 1893 (1 male); "Ecuador", coll. J. Joicey (1 male); "Ecuador", coll. J. J. Joicey, ex. coll. Grosse Smith (1 male); Environs de Loja, Equateur, 1893, 14 February, [label note, in German, "What?" [regarding identification], ex. Dognin Collection (see Remarks) (1 male), "Ecuador", Hewitson Collection [no other data] (1 male), "Peru" [no other data], Rothschild Bequest (1 male). MNHN: Quito, 29 April 1930 (2 males, 2 females). AMNH: Cuicocha, Imbabura, 3300 m., leg. F. M. Brown, 30 May 1939 (one male).

DISTRIBUTION. ***Spatial***. Fig. 201; known from several montane localities in Andes of Ecuador. ***Temporal***. Dates on specimen labels range from February to May.

REMARKS. This species and the subsequent one have been often misidentified as "*Thecla candor*" (see below and *Penaincisalia candor* of subsequent entry) or "*Thecla amatista*". Indeed, given the DFW,DHW purple color and the mottled red-brown VFW,VHW (which can vary particularly with wear) this problem can be confusing without dissection or attention the male FW brands. Both *Candora fallacandor* and *C. cyanomediana* have the single forewing brands typical of the genus, *Penaincisalia* species have two brands per forewing, and *Abloxurina amatista* has more diffusive, rectangular brands. Fortunately the genitalia of these insects are so different that structural diagnosis poses no problem. Superficial wing similarities in these species simply typify a problem that plagues superficial identification of Neotropical Theclinae. Workers are used to this in differentiating Neotropical papilionids like *Protesilaus* and *Heraclides* and will just have to learn to be as patient with theclines. The specimens making up the type series were scattered across a number of collections, identified as *Thecla loxurina*, *Thecla amatista* and/or *Thecla candor*. Each of these species belongs to a different genus, attesting the general confusion concerning Andean elfin identification hitherto. The note on one specimen attributed to the Dognin collection ["What?", in German] is interesting. If the note was by Dognin, it suggests he did not consider this specimen identifiable as his *Thecla amatista*. This is probably because the latter species is unmistakable with its large suffusive male FW brand and more mottled and less striped VFW,VHW pattern.

Workers will need to follow the description of the subsequent taxon *C. cyanomediana*. This species, which is sympatric with *C. fallacandor*, differs in both the genitalic and FW traits. The latter shows a broad black apex intersecting with the distal edge of the male scent brand. Sympatry of superficially similar sister taxa has been noted previously in *Penaincisalia* (Johnson 1990a).

ETYMOLOGY. The Latin name adds the prefix *falla-* (false or deceitful) to the species name *candor* (e.g. *Thecla candor* [placed in *Penaincisalia* by Johnson 1990a). This refers to the common misidentification of *C. fallacandor* as "*Thecla candor*".

Candora cyanomediana,
NEW SPECIES
Figs. 28, 123

DIAGNOSIS. *Wings.* Reminiscent of *C. fallacandor*, but smaller (FW 10.5 - 11.5 mm.) and with black FW apical border covering entire radial area of wings (in male from FW brand distad) and with only a slight suffusion of brown at the base of the anal lobe. Also superficially like small, blue-hued, noncongener *Abloxurina amatista* (*"Thecla amatista"* of historical common usage with which *C. cyanomediana* is widely sympatric) but differing from this noncongener by small FW brand in males and generic structural characters.

Male genitalia. Juncture of valval bilobes and caudal extensions not tapered; rather, with drastic contrast between thin elongate caudal extensions and very robust bilobes, latter not shouldered but steeply tapered towards the saccus.

Female genitalia. Ductus bursae elliptic, terminating in prominent lobate lamellae, lobes of latter separated by a wide central fissure.

DESCRIPTION. *Male.* DFW,DHW: ground purple suffused variously with blue to violet hue, FW with black borders covering entire radial area (abutting scent brand), HW anal lobe with slight suffusion of brown at base; FW with dark, elliptic brand at distal end of discal cell; HW with rounded anal lobe. VFW, VHW ground tawny; FW with brown postmedial line, costa to cell CuAl; HW with light postbasal, and darker medial, bands with ground variously suffused red-brown between the bands and occasional brown suffusion along the submargin. FW length: mean of 10 specimens (AMNH, BMNH) 10.8 mm., range 10.5 mm. - 11.5 mm. [apex/tail tip FW 10.5 mm. = 16.0 mm.]. ***Female.*** Marked similar to males but with more blue DFW,DHW suffusion and no androconial elements. FW length: 10.5 mm. (allotype) [apex/tail tip as on male]. ***Male Genitalia.*** Fig. 28A. Brush organs occurring as elongate tufts of microtrichia abutting dorsum of vinculum. Genitalia with angled vincular ventrum and parabolic saccus; vincular spurs lobate. Valvae with widely parabolic bilobes, steeply angled at base and constricted drastically caudad before thin, elongate caudal extensions. Aedeagus straight, length exceeding rest of genitalia by about two fifths, caecum comprising about two-fifths of aedeagal length and terminating with two marginally serrate cornuti. ***Female Genitalia.*** Fig. 28B. Ductus bursae robust and elliptic terminating in prominent lamellae separated by a wide central fissure; anterior portion of ductus bursae slightly fluted before juncture with cervix bursae; cervix bursae quite ovate, divided into two hemispherical sclerotized hood surrounding the origin of the ductus seminalis; corpus bursae with two toothlike signa.

TYPES. Holotype male, allotype female (figs. 123A,B), ECUADOR, Hda. Talahua, Prov. Bolivar, 3100 m., leg. F. M. Brown, 29 June 1939. *Paratypes.* AMNH: Same data as primary types, except 4 May 1939 (1 male), 30 April 1939 (1 male), 29 April 1939 (1 male), 2 May 1939 (1 male), 3 May 1939 (1 male); Cuicocha, Imbabura, 3300 m., 30 May 1939 (1 male). See Additional Material Examined below for specimens with vague data omitted from the type series.

DISTRIBUTION. ***Spatial.*** Fig. 201; currently known from several localities in Andes of Ecuador and Peru. ***Temporal.*** Dates on specimens range from April to June.

REMARKS. As noted under the generic entry, this species and *C. fallacandor* differ greatly in the genitalia but, at first glance, appear rather similar in wing pattern. Upon closer scrutiny, differences are consistent in the the DFW,DHW and VHW patterns. Concerning these consistent differences, it is also notable that the relative small size and "shortness" of the HW also stand out in *C. cyanomediana*, attested by a much smaller apex/tail tip/FW ratio than in the type species. As noted in Johnson 1990a, one male of this series was originally identified as the allotype male of *Penaincisalia bimediana* Johnson in Johnson (1981). This was before dual male FW brands were noted as an autapomorphy defining *Penaincisalia* and before the numerous specimens of *Candora* assembled in the present work further defined the varieties of wing pattern characterizing *Candora* species. Types in Johnson 1981 (unpublished for nomenclatural purpose) had no standing under the ICZN Code. Thereafter, Johnson (1990a) published the name *P. bimediana* designating as holotype female the same specimen listed as primary type in Johnson (1981).

Candora cyanomediana appears locally sympatric with *C. fallacandor* at least at Cuicocha (leg. F. M. Brown) in Ecuador and specimens of these species also appear with duplicate, though vague, "Ecuador" data in Grosse Smith material at the BMNH.

ETYMOLOGY. The name is a euphonious combination of two Latin roots referring respectively to the bluish DFW,DHW coloration (*"cyano"*) and the medial band of the VHW (*"mediana"*).

ADDITIONAL MATERIAL EXAMINED. ECUADOR. "Ecuador", coll. J. J. Joicey, ex. coll. Grose Smith, 1 male (BMNH). PERU. "Peru, 1894" [no other data], 1 male (MNHN).

Candora kellya,
NEW SPECIES
Figs. 29, 124

DIAGNOSIS. *Wings*. Known specimens small (9.0 mm.) with DFW,DHW brown and hued by violet overcast (particularly on FW) and with contrast of iridescent ground and dark borders indistinct. Contrasting congeners, VFW with very short postmedial and submarginal bands (extending only to cell M1) contrasting tawny ground and HW with a prominent, basally restricted, dark brown-suffused basal disc contrasting unmarked and generally concolorous rusty suffusion covering the rest of the wing.

Male genitalia. Caudal extensions extremely short and robust compared to congeners; bilobes with widely ovate, greatly bulbous, ventrum (see Remarks).

DESCRIPTION. *Male*. DFW,DHW ground dark, brown with hue of violet, especially on FW, FW brand small and ovate in distal one-fifth of discal cell; ground color contrast indistinct between iridescent ground and darker borders; HW with pointed anal lobe. VFW,VHW: ground tawny; FW with short, darkly suffused, postmedial and submarginal bands from costa to cell M1. HW with darkly suffused, basally restricted, medial band contrasting generally unmarked, concolorous rust color over the rest of the wing. FW length: 9.0 mm. (holotype) [apex/tail tip 15.5 mm.]. *Female*. Unknown. *Male Genitalia*. Fig. 29. Vincular dorsum lacking brush organs. Vincular ventrum typical of genus but saccus rather square and spurs lobate. Valvae distinctively short with bilobes rather ovate, each with greatly convex ventrum, caudal extensions robust with length not much exceeding the arch of the falces. Length of aedeagus exceeding that of rest of genitalia by about two-fifths; caecum comprising about two-fifths aedeagal length, terminating with two marginally serrate cornuti.

TYPES. Holotype male, PERU, Arequipa, Yuraviejo, 2700 m., 14 June 1971, leg. J. Herrera, deposited CECUC. *Paratype*. Same data as primary type, 1 male (CECUC) (see Remarks).

DISTRIBUTION. *Spatial*. Fig. 201; known only from the type locality. *Temporal*. Known only from the type data.

REMARKS. Superficially reminiscent of *Penaincisalia*, male genitalia of *C. kellya* exhibit a robust, rounded, vincular ventrum and robust valvae with short valvae compared to congeners. The second MNHN specimen has simple data duplicating that of the primary type, but its VFW,VHW is very rubbed. I include it as a paratype based on the genitalic features, which also show the notably short valval caudal extensions of the type.

ETYMOLOGY. Patronym for Kelly Powers.

jonesi Species Group

Taxa large (11.5-13.5 mm.), broad winged and marked on VFW,VHW with various additional pattern elements.

Candora jonesi Johnson
REPLACEMENT NAME
Figs. 30, 125

Thecla schausa Jones 1912: 898, pl. 97, f. 5 (INVALID HOMONYM of *Thecla schausi* Godman & Salvin 1879-1901 [1877]: 98, p. 58, f. 22,23). Draudt 1917-1924 [1919]: 759, pl. 153f; [omitted in Comstock and Huntington 1958-1964 [1963] by printing error] (Johnson, 1991); Bridges 1988: I.312, II.108, III.75.

DIAGNOSIS. *Wings*. Differing from congeners by presence of two prominent HW bands of dark magenta brown, sometimes broken into chevron-shapes along the VHW margin. Otherwise with DFW,DHW purple to magenta bordered by dark brown apices and margins. The arc of VHW crescent-like markings superficially resembles VHW of noncongeners *Pontirama lorena*, new species (a large, high Andean species), and less so the smaller taxon *Rhamma mishma* Hewitson).

Male genitalia. Differing from all congeners by elongate saccus and valval bilobes each with a distally directed keel.

Female genitalia. Ductus bursae more elongate and terminally parabolic than any congener.

DESCRIPTION. *Male*. DFW,DHW: ground purple to magenta with brown apices and margins, FW with small (l mm.) ellipsoid brand at distal edge of discal cell; HW with a prominent, rounded, anal lobe. VFW, VHW: ground tawny, both wings often with suffusive chevron-like markings in each cell along margin; FW with brown-suffused postmedial line, costa to cell CuAl; HW with magenta-suffused postbasal and medial bands (latter most prominent) and with distal ground lighter tawny to the margin. FW length: 12.5 mm. (holotype). *Female*. Similar to male but wings broader, less angulate and without androconial elements. FW length: 12.5 mm. (BMNH topotype). *Male Genitalia*. Fig. 30A. Vincular dorsum lacking brush organs. Vincular ventrum differing from congeners principally by an elongate saccus and

diminutive spurs. Valvae typical of genus but with shouldered area of bilobes extreme, with each lobe showing a distally directed keel; caudal extensions elongate, tapered from the sharp shoulder adjacent the bilobes. Aedeagus length exceeding rest of genitalia by about one-fifth, terminating two marginally serrate cornuti; caecum comprising about two-fifths aedeagal length and displaced some 30 degrees out of plane of aedeagal shaft. ***Female Genitalia***. Fig. 30B. *Sipc* absent. Genitalia with the ductus bursae constricted centrally, terminating caudally in lobate lamellae separated by a prominent central fissure, extending cephalically in an elongate, fluted fashion to a ovate cervix bursae forming a lightly sclerotized bilobate distal hood over the corpus bursae at the point of emergence of the ductus seminalis. Corpus bursae with two pronglike signa.

TYPES. Lectotype male, BMNH (fig. 30A), no locality data, otherwise labelled "Thecla schausa Type [male] D. Jones", "Type H.T.", "E.D. Jones Coll. Brit. Mus. 1919-295.", "B.M. Type No. Rh. 1081" and paralectotype female labelled "S. Paulo, S.E. Brazil.", "Thecla schausa Type [female] D. Jones", "Type H.T.", "E.D. Jones Coll. Brit. Mus. 1919-295". There is also another specimen, which I do not consider a type because it was not so marked by BM personnel or labels, which is topotypical, labelled "Sao Paulo, S.E. Brazil, 2300 ft., E. D. Jones.", "E.D. Jones Coll. Brit. Mus. 1919-295". Many such specimens were often included in the "World War II reference collection" which was moved outside of London during the War and is, to a large extent, intact and segregated from the rest of the BMNH main and/ or type collections. As I have heretofore noted (Johnson 1990b, 1991b) when searching for BMNH types, one is referred to each of the general, "type" and "World War II reference collection". However, (1) not all specimens in the latter are types and (2) not all types are in the "type" collection. Accordingly, there is yet another specimen attributed to type material of *Thecla schausa* from the "World War II reference collection" which is neither a type, nor *Thecla shausa*. This specimen, originally placed with a syntype of *Thecla schausa* and bearing the locality labels "Agualani, S.E. Peru, 9000 ft., III. 04. (Ockenden), Rothschild Bequest B.M. 1939-1.", represents a female of new species *Rhamma nigrasarotina* described herein, its specimen data matching that of a number of paratypes of this latter species. This erroneous "syntype" of *T. shausa* has now been moved by BMNH personnel to *Rhamma* but requires documentation here since photos and/or slides of it are still included in the permanent record "type photofiles" which have been distributed from the BMNH to other institutions. Workers keeping such files will need to note this change. TL: OD states BRAZIL, Castro, Paraná and São Paulo.

DISTRIBUTION. ***Spatial***. Fig. 201; known only from montane southeastern Brazil. ***Temporal***. Specimens known to me are undated.

REMARKS. I suspect *A. jonesi* has a very limited niche. There are old specimens in the MNHN, but the extensive SE Brazilian material at the MPM does not contain any examples. Examination of the type of *Thecla schausi* Godman and Salvin, BMNH, indicates it has a spiral ductus and may belong in the genus *Strymon* Hübner.

MATERIAL EXAMINED [for consistency with label data, diacriticals purposely omitted]. BRAZIL. Castro, Parana, 2 males, 1 female (MNHN). See also, Types, above.

Candora albalineata,
NEW SPECIES
Figs. 31, 126

DIAGNOSIS. ***Wings***. DFW,DHW colored rich magenta-purple as in *C. jonesi* but VFW,VHW ground yellow, mottled with fine lines of red-brown and posterior of FW and entire HW traversed by distinctive medial suffusive white band.

Male genitalia. Bilobes with expansive lateral lobes surrounding convex ventral keel, aedeagus robust.

DESCRIPTION. ***Male***. DFW,DHW: ground rich magenta-purple; FW with small (±1 mm.) ovate and tawny-hued brand at distal end of discal cell; FW with rather pointed anal lobe. VFW,VHW ground yellowish, HW mottled with fine, meandering, suffusions of red-brown; FW with postmedial band, costa to cell CuA2; HW with basal disc ground suffused more profusely with red-brown than distal area of wing; posterior area of FW and entire HW with bright white-suffused medial band. FW length: 13.5 mm. [apex/tail tip 25.5 mm.] (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 26. Vincular dorsum lacking brush organs. Vincular ventrum differing from congeners principally by being quite narrow and sculptured in surrounding the large valvae. Valvae with expansive, widely rimmed, bilobes marked by a convex ventral keel, tapering to elongate and straight caudal extensions. Aedeagus robust, length exceeding rest of genitalia by about one-sixth, caecum comprising almost half of aedeagal length posterior of the fluted termini and displaced some 30 degrees out of the plane of the aedeagal shaft; terminus with two marginally serrate cornuti.

TYPES. Holotype male (fig. 126), ARGENTINA, Jujuy Province, Dept. Ledesma, Parque Nacional Callilegua, park track 11-13 km. W. of Rt. 34, upland mesic forest, leg. Kurt Johnson, 14 February 1991, deposited AMNH.

DISTRIBUTION. *Spatial.* Fig. 201; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. This distinctive species, known only from the type, significantly expands the range of the *jonesi* species Group. Comments under *Thecloxurina eiseleorum* pertain. Parque Nacional Callilegua is one of several northern Jujuy areas where the rain forests "selva subtropical Andina" and its partitions "selva subtropical de montaña" and "selva tucumano-boliviana" (A.P.N., 1987) intrude into northern Argentina. The area where this specimen was taken was particular dense humid forest, one of the areas in the park where *Morpho*, various charaxids and brassolids, and other tropical species were most commonly collected.

ETYMOLOGY. The name combines Latin roots for "white" and "line", referring to the white VHW lunulate band.

contraloxurina Species Group

Taxa with more elongate anal lobe, nearly tail-like and VFW,VHW marked with gray-brown grounds and widely banded patterns on HW with bands usually on either side of the basal disc. Male genitalia with extremely bulbous bilobes contrasting short, elongate, caudal extensions.

Candora contraloxurina,
NEW SPECIES
Figs. 32, 127

DIAGNOSIS. *Wings.* HW anal lobe extremely elongate (reminiscent of *Thecloxurina*) but without the lateral lobe characterizing this latter genus. Males DFW,DHW dull flat purple fading to brown apices and margins. VFW,VHW tawny to buff with emphatic suffusion of red-brown or dark-brown ground creating a rather *striped* appearance on both wings—FW postbasal, postmedial and submarginal; HW with dark-suffused baso-medial area "sweeping" to the anal lobe, much like the "triangulate pattern" of *Thecloxurina* (see Remarks).

Male genitalia. Bilobes less robust than congeners and of rather simple, shouldered shape; juncture to caudal extension at first bulbous then abruptly tapered to short, thin, termini. Aedeagus robust but straight.

Female genitalia. Ductus bursae fluted widely in the posterior two thirds, opening to diminutive lamellal lips; cervix bursae with diminutive bilobate shield surrounding ductus seminalis.

DESCRIPTION. ***Male.*** DFW,DHW flat purple fading to brown margins and apices; FW brand parabolic and tawny colored; HW with very elongate anal lobe. VFW,VHW ground tawny to buff; FW with prominently striped appearance caused by concentric suffusive brown bands in the postbasal, postmedial and submarginal areas generally crossing entire wing (submarginal band often very red-brown in fresh specimens). HW with baso-medial area suffused heavily red-brown and "sweeping" toward anal lobe in a distended fashion much like in *Thecloxurina*; submargin of HW often marked with distinctive red-brown suffusion in fresh specimens; depending on specimen, basal disc sometimes intersected by parallel lighter brown or tawny band proceeding baso-costad to inner margin of cells CuA2 and 2A. Latter increases striped appearance in these specimens. FW length: 11.0 mm. (holotype) [apex/tail tip 20.0 mm.]. ***Female.*** DFW, DHW similar to male but duller and lacking FW brand; VFW,VHW similar to male. Wing shape slightly broader, and less distended in the HW, compared to males. FW length: 12.0 mm. (allotype) [apex/tail tip 20.0 mm.]. ***Male Genitalia.*** Fig. 32. Vincular dorsum lacking brush organs. Genitalia with bilobed areas and caudal extensions very robust and of about equal length; bilobes slightly angled laterally and distended ventrally, caudal extensions with abruptly thin termini following a thick taper for over two-thirds of caudal extension length; vincular ventrum angled, saccus spatulate; aedeagus robust, length exceeding rest of genitalia by only about two-fifths, caecum comprising over one-third aedeagal length, not displaced out of plane of aedeagal shaft. ***Female Genitalia.*** Fig. 32B. Posterior of ductus bursae widely fluted toward terminus and with lamellae lips rather diminutive and separated by a thin central fissure; posterior of ductus bursae constricted in the last one-third and then fluted toward the cervix bursae; cervix bursae with paired narrow lobes framing attachment of the ductus seminalis; corpus bursae with two small pronglike signa.

TYPES. Holotype male, allotype female (Fig. 127A,B), COLOMBIA, Antioquia, Rio Penderisco, 2600 m., 27 August 1948, deposited AMNH (see Remarks).

DISTRIBUTION. *Spatial.* Fig. 201; known Known from the February and April data on the type specimens.

REMARKS. The VHW pattern of this species is suggestive of the genus *Thecloxurina*, particularly since among *Candora* species, *C. contraloxurina* exhibits a very elongate anal lobe. However, such resemblance is only superficial; the HW bands do not angle out of the medial area toward the anal margin as in most *Thecloxurina* and, instead, proceed across the wing to, and into, the anal lobe. Certainly, the broad wing-shape of *Candora* species like *contraloxurina* (particularly in the female) and *C. triangulara* stands out. It is worth mentioning that when one looks at a black and white photo of these species (like fig. 127B) one is curiously reminded of Antillean Satyridae of the genus *Calisto*.

ETYMOLOGY. A Latin root *contra* (meaning "against") is added to *loxurina* and refers to the VHW shape and pattern which somewhat resemble taxa of the *loxurina* Species Group of *Thecloxurina*.

Candora triangulara,
NEW SPECIES
Figs. 33, 128

DIAGNOSIS. *Wings*. Male DFW brand black and surrounded by triangulate black suffusion extending along the costal margin; VFW,VHW ground light buff, HW basal disc surrounded by two suffusive brown-black postmedial bands, one extending from costal margin to anal area and one from anal margin to anal area.

Male genitalia. Bilobes with extremely produced lateral lobes and thin caudal extensions; saccus laterally distended.

DESCRIPTION. *Male*. DFW,DHW ground flat purple; FW with velvetine black brand surrounded by suffusive triangulate black patch extending along costal margin; HW with very elongate anal lobe colored somewhat rufous. VFW,VHW ground buff with gray to black suffusion; FW with short brown postmedial band from costa to cell M3; VHW with brown slash at end of discal cell and basal disc surrounded by two suffusive brown-black postmedial bands, one extending from costal margin to anal area and one from anal margin to anal area. Both bands converge near the anal lobe. FW length: 12.0 mm. [apex/tail tip 20.5 mm.] (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 33. Vincular dorsum lacking brush organs. Genitalia with bilobed area greatly produced along lateral margin and with ventral hump; caudal extensions thin and elongate; saccus laterally distended; vincular ventrum angled, spurs prominent and angled; aedeagus exceeding length rest of genitalia by about one-third, caecum comprising about two-fifths of aedeagal length and displaced some 30 degrees out of shaft plane; aedeagal terminus with two serrate cornuti.

TYPES. Holotype male (fig. 128), ECUADOR, Cotopaxi, Milimbanco, 3900 m., leg. R. de Lafebre, deposited AME.

DISTRIBUTION. *Spatial*. Fig. 201; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. Comments under *C. contraloxurina* pertain.

ETYMOLOGY. Arbitrary euphonious Latinization referring to the black, triangulate, patch surrounding the male FW brand in this species.

Clade II (the "*arria*" Group)

Wings generally small (FW 9.0 - 12.0 mm.); FW,HW apices not extremely angulate; male FW androconia absent or present as brands or streaks (fig. 1); HW anal lobe absent to slightly (1/2 mm.) or moderately (1 mm.) distended (figs. 129-167). DFW,DHW with structural colors including bright blue, blue-green, purple, violet or orange; VFW,VHW grounds including brown, red-brown, gray, or yellow (often greatly suffused) generally patterned by discontinuous, undulate, bands formed by spots or dashes in the FW postmedial and HW postbasal, medial or postmedial areas. ***Morphology*** typified by female *sipc* comprised of (1) dorsal element (figs. 3, 34-72), encompassing dorsum of eighth tergite, extending laterally to and/or surrounding eighth abdominal spiracle and intruding subcordate beneath the seventh tergite, and (2) ventral element (hereafter, "ventral element", figs. 3, 34-72) abutting lateral surface of eighth tergite dorsum and curving beneath, and attached laterally to, the distal edge of the genital's lamella antevaginalis. *Male genitalia* with vincular dorsum showing differential occurrence of brush organs; vincular ventrum with stout saccus and robust vincular arc, latter with ventro-lateral spurs intersecting the midpoint of the valvae (figs. 2, 34-71); valvae comprised of lobate anterior and posterior elements (respectively, the "bilobes" and "caudal extensions" typical of eumaeines) separated by a constricted neck (figs. 2, 34-71). *Female genitalia* with ductus bursae comprised of heavily sclerotized paired lateral ridges (hereafter, the "paired lateral ridges") joined by flatter, transparent, sclerotin (hereafter, collectively, a "ridged ductus bursae") (figs. 3, 34-72) terminus composed of membranous lamella antevaginalis connected laterally to the *sipc* by a much more heavily

sclerotized lobe (figs. 3, 34-72) and by a more heavily sclerotized and expansive lamellae postvaginalis varying in terminal structure depending on the genus (figs. 3, 34-72). Cervix bursae prominent from both the ventral and dorsal views, dorsum with widely bilobate "hood" (figs. 3, 34-72) abutting distal end of corpus bursae, often with an intervening sclerotized element (usually of triagulate shape, figs. 3, and various 34-72) just dorsad of the insertion of the ductus seminalis. Corpus bursae with two lateral signa, each exhibiting prominent dendritic sclerotizations extending outward from a basal plate or keel (figs. 3, 41B).

DIVERSITY. There are four diverse eumaeine groups displaying characters based on this ground plan. I recognize each of these groups as genera. The first (*Pontirama*, described immediately below) appears the most plesiotypic. The other three (*Rhamma*, *Shapiroana* and *Paralustrus*, described in sequence thereafter) appear relatively apomorphic with the latter two showing numerous autapormorphies in the form of additional components. Autapomorphies in *Paralustrus* make it less superficially comparable to the other genera. Accordingly, and for brevity, in Diagnosis sections below I initially compare salient characters in *Pontirama*, *Rhamma* and *Shapiroana*. Divergent *Paralustrus* is treated subsequently.

PONTIRAMA, NEW GENUS

Figs. 34-40, 129-135

Synopsis-- includes previously undescribed taxa.

DIAGNOSIS. Distinctive because the wing characters resemble Clade I but morphology typifies Clade II (see Remarks).

Wings. Angulate in shape (due to prominence of HW anal lobe) but DFW,DHW of both sexes always lacking structural color and thus contrasting bright DFW,DHW structural colors of Clade I and Clade II (of latter, *Rhamma* also with FW expanse smaller and HW less angulate, *Shapiroana* with FW to 15.0 mm. and HW lacking produced anal lobe); males with suffusive ovate FW androconial brands.

Morphology. Female *sipc* with the ventral element diminutive. ***Female genitalia***. Lamella postvaginalis with single pair of robust, terminally-directed teeth (contrasting multi-toothed termini in *Rhamma*, asymmetical, variously spined condition in *Shapiroana*). ***Male genitalia***. Valvae robust, each posterior lobe with thickened inner-lateral ridge on each of the valval lobes (contrasting highly sculptured posterior and anterior elements in valvae of *Rhamma*, robust but nonangulate posterior element in *Shapiroana*; see Remarks).

DESCRIPTION. ***Adult***. ***Male***. DFW,DHW without structural color, generally concolorous brown, red-brown or fuscous; wings angulate with expanse relatively large (FW's generally 11.0 - 13.0 mm.), FW with prominent ovate (sometimes suffusive) androconial brand in distal one-fourth to one-fifth of discal cell; HW with prominent anal lobe [apex/tail tip measure usually .25 less than twice FW length]. VFW,VHW ground brown, tawny or ochre, FW with postmedial band, HW with mottled patterns centered around discal cell or in bands occurring postbasally, medially, and/or postmedially. FW length: generally 11.0 - 13.0 mm. but one species very small, known specimen 8.5 mm. ***Female***. Similar to males except for lack of androconial elements and some taxa with medial orange patches on FW and/or HW. FW length: ***Male Tergal Morphology and Genitalia***. Figs. 34-40. *Sipc* and brush organs absent in known species. Genitalia with robust posterior and anterior elements separated by a prominent central constriction; posterior element of valvae with thickened sclerotized ridge on inner-lateral edge of each valval lobe; vinculum robust and often with sculptures ventro-laterally and along the saccus, spurs elongate and thin, sometimes ventrally declined; saccus robust, parabolic to spatulate; aedeagus robust and short, usually exceeding genitalic length from tip of saccus to tip of labides by only one-fourth to two-fifths, caecum usually comprising over one-third aedeagal length and not displaced outside plane of aedeagal shaft; aedeagus terminus often widely parabolic or angled, terminating with two somewhat spatulate and serrate cornuti. ***Female Tergal Morphology and Genitalia***. Figs. 34-40. *Sipc* with dorsum oblongate, extending cephalically beneath margin of seventh tergite, terminating caudally with marginal microtrichia, and extending laterally in various lobate structures framing the terminal spiracular opening and with ventral element encompassing the baso-lateral margin of the lamella antevaginalis (figs. 2,34*f*). Genitalia with ridged ductus bursae usually shorter than breadth of lamella postvaginalis; lamella postvaginalis prominent, distally produced to a pair of robust, terminally directed teeth; lamella antevaginalis membranous except at sclerotized lateral juncture with ventral element of *sipc*; cervix bursae diminutive in ventral view compared to *Rhamma* and *Shapiroana*, dorsum with variously produced and modified sclerotinal elements, including bilobate "hood"- or "shield"-like structures covering the distal end of corpus bursae with an intervening sclerotized element dorsad the insertion of the ductus seminalis; corpus bursae

with each inner lateral wall marked by a dendritic signum (formed by central keel flanked by anastomozing sclerotinal elements extending widely laterad).

TYPE SPECIES. *Pontirama brunea*, new species.

DISTRIBUTION. *Spatial.* Fig. 202; Andes from Colombia to Argentina and Chile (in the northern Andes generally associated with higher altitudes, 3000 m. upwards). ***Temporal.*** Dates on specimens range from October to January, with some specimens also noted as August.

REMARKS. *Characters--* *Pontirama* and *Shapiroana/ Rhamma /Paralustrus* (described in subsequent generic entries) appear to be respective plesiotypic and apotypic sister groups. Consequently, I construe the simple paired distal teeth of the female genital lamellae in *Pontirama* to be the primitive condition compared to elaborate distal spines of *Rhamma*, the varied asymmetrical spines of *Shapiroana*, and serrate terminus and additional components of *Paralustrus*. I take a similar view of the rather diminutive cervix bursae ventrum in *Pontirama* compared to the robust and complexly sclerotized structures in this area of the female genitalia in the other genera. Such polarity is also supported by the lack of structural color in *Pontirama* species. Wing shape in *Pontirama* is angulate because of an outstanding HW anal lobe (thus resembling *Abloxurina* and *Candora*) with the basal stem relationship to more primitive members of Clade I further supported by the strong VFW,VHW pattern resemblance to Clade I genus *Candora*. In *Candora* taxa too, the FW postmedial band and HW mottled markings or bands are located postbasally, medially and/or postmedially. To summarize, generally primitive features appear to predominate throughout in this dull-colored elfin group.

Nomenclature-- *Pontirama* is divided into two species groups, one (the *brunea* Group) characterized by mottled VFW, VHW patterns, the other (the *lorena* Group) by striped markings. Typical of polarity in thecloxuries, the noncomplex group appears primitive.

ETYMOLOGY. Considered feminine, combines the Latin prefix *pont-* ["bridge"] to *rama* (from *ramus*, meaning "branched"). Latter refers to the distinctive antler-like shape of the female terminal lamellae in the entire "arria Group" with prefix indicating the single paired distal teeth of the terminal lamellae which appear to "bridge" the morphological hiatus between complex distal teeth occurring in the genera *Rhamma*, *Shapiroana* and *Paralustrus* (see below) and distal horns of ventral complexifications of subsequent genus *Radissima*, which appears to be the outgroup.

brunea Species Group

Wing shape very angulate, HW with anal lobe elongate; VHW marked not with bands but mottled markings centered in the areas of the discal cell.

Pontirama brunea,
NEW SPECIES
Figs. 34, 129

DIAGNOSIS. ***Wings.*** HW marked with mottled, oblongate yellowish brown to tawny "inflorescent"-like markings encompassing the basal disc (contrasting bright golden or yellowish brown suffusion covering entire VHW from discal and M2 cells to anal lobe in sister species *P. lapazensis*, below). *P. brunea* with male DFW,DHW dull brown above, female bright amber across medial areas.

Male genitalia. Valvae very elongate, overall shape appearing terminally tapered from widely shouldered, basally indented, bilobes to steeply inclined caudal extensions.

Female genitalia. Ductus bursae short (about one-half size of elongate ductus of *P. lapazensis* relative to respective terminal lamellae); lamella postvaginalis with greatly produced terminal teeth (*P. lapazensis* terminally entire except for short disto-terminal spines).

DESCRIPTION. ***Male.*** DFW,DHW: ground dull dusky brown; FW with diffuse ovate brand in distal area of discal cell; HW with prominent anal lobe. VFW, VHW ground dull tawny to buff; FW with fuscous postmedial line, costa to cell CuA1; HW with basal disc darker brown than rest of wing, margin of disc in area surrounding discal cell marked with variously oblongate inflorescenses of darker brown, yellow-brown or red-brown suffusive color; distal ground generally immaculate buff. FW length: 11.0 mm. [apex/tail tip 18 mm.] (allotype), two paratypes 10.5, 11.0 mm. ***Female.*** DFW,DHW with medial areas suffused yellow-orange; VFW,VHW marked similar to males but with ground often lighter tawny. FW length: 11.0 mm. [apex/tail tip 18.5 mm.] (holotype), mean six paratypes 11.2 mm., range 10.5 - 13.0 mm. ***Male Genitalia.*** Fig. 34A. Vincular dorsum lacking brush organs; vincular ventrum robust, spurs elongate and caudally directed, saccus wide and parabolic. Valvae elongate and with swollen caudal extensions very pronounced, terminating in a rather elliptic taper; bilobes rounded laterally and somewhat distended toward the saccus. Aedeagus relatively thin and elongate for genus with length exceeding rest of genitalia by about one-sixth,

caecum comprising nearly half of aedeagus length and not displaced outside of the plane of the aedeagal shaft. ***Female Tergal Morphology and Genitalia***. Fig. 34B. *Sipc* with ventral element comprising about one-third lateral expanse of terminal tergite and widely extending, in angulate fashion, around base of the lamella postvaginalis— latter spade-shaped with the terminal prongs deeply incised along their intervening margin and with the latter raised centrally into a small serrate protrusion. Paired lateral ridges robust, short and widely arched. Cervix bursae ventrally robust; hood with widely bilobate elements heavily sclerotized along their basal margins. Signa markedly dendritic as typical of genus.

TYPES. Holotype male, allotype female, ARGENTINA, Prov. Salta, Dept. La Caldera, La Caldera to Jujuy border, on Rt. 9, "Corniza" road, km. posts 1641, 1642 at "La Cargadera:, on SE slopes of Alto de las Sauces, 1450 m., "upland hydric woodland, very distinct from lower altitude woodland" (R. Eisele, pers. comm.), leg. R. Eisele, 19 July 1987. CRE: ARGENTINA, same data as primary types (one male, one female). AMNH: ARGENTINA, Jujuy Prov., Dept. Capital, Cucho, 2500 m., leg. B. MacPherson, 16 January 1987 (one female); BOLIVIA. LaPaz, Bolivia (one female). IML: ARGENTINA, Prov. Tucumán, Dept. Tafi del Valle, Hda. Carapurica, December 1932, 2500 m. (one female); Tafi del Valle, 4 January 1966, leg. H. Tawnei, (one female); El Infernillo, 6 December 1947, 3000 m., leg. R. Golbach (three females); Prov. Catamarca, El Suricho, 18 January 1952, leg. R. Golbach (one female). UCD: ARGENTINA, Salta Prov., Valle Encantado, 22 January 1986, leg. A. M. Shapiro (one female).

DISTRIBUTION. ***Spatial***. Fig. 203; Andes from central Bolivia southward through northwestern Argentina. ***Temporal***. Dates on specimens appear from both the summer months January and February and the winter month of July.

REMARKS. The female is made holotype to conform to the gender of the primary type in the sister species. For workers who have not seen this well-represented species, attention should again be called to the bright amber to yellow (in more worn specimens) coloration of the female. It does not resemble any other elfin butterfly from the pan-Andean region and caused K. J. Hayward to write on the labels of the IML series: "What? Incisalia? Nothing like it in the British Museum". The species has since been taken in all of the northwestern Argentine provinces where dense wet upland forests occur. The specimen from La Paz, Bolivia, forms the basis of considering *P. brunea* and the subsequent species (with dark fuscous females) sympatric.

ETYMOLOGY. The Latin name refers to the dull brown dorsal and ventral color of this species.

Pontirama lapazensis,
NEW SPECIES
Figs. 35, 130

DIAGNOSIS. ***Wings***. Both sexes concolorous dull fuscous on DFW,DHW (female of sympatric *P. brunea* yellow-orange); VHW with bright golden and yellowish brown suffusions from discal and M2 cells to the anal lobe. Also, larger than *P. brunea* (11.0 mm., male - 12.3 mm., female) and with more elongate anal lobe.

Male genitalia. Valvae angulate with bilobed areas widely shouldered cephalad of the central constriction, caudal extension with strongly angulate lateral margins, then a steep taper to pointed termini.

Female genitalia. Ductus bursae elongate (exceeding twice relative length of *P. brunea*); lamellae terminally smooth except for two distoterminal spines.

DESCRIPTION. ***Male***. DFW,DHW: ground color dull fuscous; FW with diffuse ovate brand in distal one-fourth of discal cell; HW with elongate (but not pointed) anal lobe. VFW,VHW: ground dull buff with slightly darker suffusion across basal disc; distal area of wing from discal and M2 cells across wing to anal lobe suffused golden in fresh specimens (faded to yellow-brown with wear). FW length: 13.0 mm. (holotype). ***Female***. Marked like male, differing only in lack of androconial elements and slightly larger size. FW length: 13.5 mm. (allotype). ***Male Genitalia***. Fig. 35A. Vincular dorsum lacking brush organs; vincular ventrum angulate, lateral margins thinly tapered to elongate spurs, saccus truncate and with a somewhat knobbed end. Valvae angulate with bilobed areas widely shouldered cephalad of the central constriction, caudal extension with strongly angulate lateral margins, then a steep taper to pointed termini. Aedeagus robust and rather elongate for genus, length exceeding rest of genitalia by up to one-third, caecum comprising about two-fifths of aedeagal length and not displaced out of plane of ductal shaft. ***Female Tergal Morphology and Genitalia***. Fig. 35B. *Sipc* with anterolateral margin rounded. Genitalia with paired lateral ridges of ductus bursae thin and widely arched, cervix bursae ventrum thin; lamella postvaginalis spade-shaped with widely separated distal teeth, intervening margin concave; cervix bursal hood widely bilobate, with robust central sclerotization at attachment of the ductus seminalis.

TYPES. Holotype male, allotype female (fig. 130A,B), BOLIVIA, LaPaz, 12,500 ft., 24 February 1959, leg. R. Walsh, deposited AMNH. *Paratype*. Same data as primary types but 15 May 1958, 1 male (AMNH).

DISTRIBUTION. ***Spatial***. Fig. 202; currently known only the vicinity of La Paz, Bolivia. ***Temporal***. Known only from the type data.

REMARKS. Apparently sympatric with *P. brunea* at least at the type locality.

ETYMOLOGY. Named for the type locality.

Pontirama adriana,
NEW SPECIES
Figs. 36, 131

DIAGNOSIS. ***Wings***. Known female very small for genus (FW 8.5 mm.) with well-defined brilliant orange patches in the medial areas of FW,HW. VFW,VHW ground light ochre with the HW pattern limited to darker brown suffusion of a basally confined disc, latter marked by (i) a thin, darker brown postbasal line and (ii) dark brown distal edge distally directed in cells M3 and CuA1. Both wings angulate; HW with prominent anal lobe.

Female genitalia. Terminal margin of lamella postvaginalis concave, bordered with fine serrate teeth; cervix bursae hood with extremely elongate dorsum, hood height about equal to length of lamella postvaginalis.

DESCRIPTION. ***Male***. Unknown. ***Female***. Wings angulate, HW with prominent anal lobe. DFW, DHW medial areas with brilliant orange patches surrounded by broad black borders in submargins and apices. VFW,VHW ground light ochre heavily grizzled with rust color; FW with dark brown basal suffusion and suffusive rust-colored postmedial and submarginal bands. Hindwing basal disc suffused dark brown, crossed in discal area by darker slash; distal edge of disc suffusive dark brown and distended in cells M3 and CuA1; submargin with slight rust-colored line. FW length: 8.5 mm. [apex/tail tip 12.5 mm.]. ***Female Tergal Morphology and Genitalia***. Fig. 36. *Sipc* with ventral element very small, comprising only about one-sixth of lateral expanse of terminal tergite and not continuing laterally around base of lamella postvaginalis. Latter rather spade-shaped with terminal margins concave and bordered with fine serrate teeth, those at distal edges most prominent. Ductus bursae's paired lateral ridges rather elongate, exceeding length of lamella postvaginalis, cervix bursae ventrum arched. Cervix bursae hood with its dorsal expanse extremely produced compared to that of the ductus bursae, dorsal height of hood about equal to length of lamella postvaginalis and with sclerotized elements consequently dorsally distended.

TYPE. Holotype female (fig. 131), PERU, Cusco, Road from Cusco to Pisac summit nr 4000 m., 18 October 1983, leg. A. M. Shapiro, deposited AMNH.

DISTRIBUTION. ***Spatial***. Fig. 202; known only from the type locality. ***Temporal***. Known only from the October type data.

REMARKS. This is a very distinctive species; the fact that no other specimens have been located may correspond to the altitude. Similarly, this species is very small, as is tyical of the three species of "arria Group" also known from either very high altitudes or austral areas (*P. coquimbiensis*, *Shapiroana minissima* and *Rhamma chilensis*).

ETYMOLOGY. At the request of Dr. A. M. Shapiro, named for his wife Adriene.

lorena Species Group.

Wing shape less, HW with anal lobe present but not produced; VHW with postbasal, medial and/or postmedial bands.

Pontirama lorena,
NEW SPECIES
Figs. 37, 131

DIAGNOSIS. ***Wings***. Large (FW 13.5 mm.); DFW,DHW tawny crossed by meandering brown marginal line; VFW,VHW ground tawny, marked with four meandering purplish red-suffused wing bands: postmedial on FW, submarginal, postmedian and postbasal on HW; HW margin crenate and with frilly fringe (see Remarks).

Female genitalia. Lamella postvaginalis spade-shaped with lateral margins greatly arched and paired terminal prongs thin and more incised compared to congeners.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW ground tawny, HW with frilly fringe and crenate outer margin marked by undulate brown marginal line. FW with slightly darker brown suffusion along the apices and submargins. VFW,VHW ground tawny, marked with a prominent banded pattern as follows: FW with undulate postmedial line from costa to vein CuA1 colored basally brown, distally white, then a purplish red band across submargin and apex followed by a dark red-brown band along the margin; HW marked basally brown with wide purplish red bands across (1) postmedial area

from costa to vein CuA2, (2) postbasal area to the base of the discal cell, (3) submargin from costa to cell CuA1. FW length: 13.5 mm. [apex/tail tip 18.0 mm.]. ***Female Tergal Morphology and Genitalia***. Fig. 37. *Sipc* with anterior margin laterally angulate. Lamella postvaginalis spade-shaped with lateral margins greatly arched and paired terminal prongs thin and incised compared to congeners; intervening margin irregular. Ductus with paired lateral ridges robust at attachment to lamella postvaginalis then thinly separated and extending to arched cervix bursae ventrum; inner margins of paired lateral ridges and cervix bursae ventrum marked with slightly serrate edges. Cervix bursae hood robust and ovate, lateral hemispherical lobes paralleling paired lobes dorsad of the ductus seminalis.

TYPES. Holotype female (fig. 132), BOLIVIA, "Sierra Paramo" [sic, see Remarks], 4500 m., August 1901, leg. Simons, deposited BMNH.

DISTRIBUTION. ***Spatial***. Fig. 202; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. Superficially on DFW,DHW this species somewhat resembles noncongener *Candora jonesi* [the familiar *Thecla schausa* Jones (unfortunately for ready name recognition, a homonym), see below]. It is interesting that the type was located in a small box of unincorporated BMNH material labelled "Mostly Undescribed Species". It is not known who assembled this material or why it was never placed into the BMNH main collection; I suspect that some early worker separated out odd specimens and, since names were not available, the assemblage was eventually relegated back to the unsorted boxes of specimens. I doubt the label data "Sierra Paramo" means anything more than a habitat notation but perhaps some knowledge of Simons' Bolivian itineraries would enlighten this.

ETYMOLOGY. Patronym for Loren F. Selznick.

Pontirama eiselei,
NEW SPECIES
Figs. 38, 133

DIAGNOSIS. *Wings*. VHW with yellow ground marked with peculiar lunular postmedial band, first "teardrop"-shaped in discal cell and then extending as suffusive brown band to costa and with each cell of submargin marked with brown triangulate patch (somewhat reminiscent of *Candora jonesi*). Also with distinctive rich brown DFW,DHW ground framed by thin black apices and margins.

Male genitalia. Valvae robust with bilobed and caudal extensions about same size (both steeply tapered, former angulate at base, latter with very blunt termini).

DESCRIPTION. ***Male***. DFW,DHW: ground deep rich brown framed by thin black apices and margins; FW with diffuse black ovate brand in distal area of discal cell; HW anal lobe prominent. VFW,VHW: ground suffusive yellow, slightly hued chartreuse; FW with brown postmedial line from costa to cell CuA1, paralleled by light suffusive band in submargin; HW with lunular postmedial band first "tear-drop"-shaped in discal cell and then extending as suffusive band to costa and with each cell of submargin marked with brown triangulate patch. FW length: 12.5 mm. [apex/tail tip 18.0 mm.] (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 38. Vincular dorsum lacking brush organs; genitalia with the vincular ventrum robust and thickly rimmed as typical of genus, ventral spurs lobate, saccus widely parabolic. Valvae robust with bilobed and caudal extensions of about same size-- former steeply tapered at base and laterally directed basad of the central constriction, latter steeply sloping to rather blunt termini. Aedeagus robust, length exceeding rest of genitalia by only about one-fourth, caecum comprising nearly one-half aedeagal length, terminus with two broadly serrate cornuti.

TYPE. Holotype male (fig. 133), ARGENTINA, Prov. Salta, Dept. Caldera, La Caldera to Jujuy Prov. border on Rt. 9, km. post 1642, 1450 m., "La Cargadera", section of road known as "La Corniza", 20 km. N of La Caldera, 6.3 km. from Jujuy border, "moist upland forest very distinct from lower altitude forest", 12 May 1985, leg. R. Eisele, deposited AMNH.

DISTRIBUTION. ***Spatial***. Fig. 202; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. This uniquely marked species is from a locality only recently sampled by Eisele, though it was visited again in 1991 (in February) by the AMNH expedition. The brown DFW,DHW color of the holotype led Eisele to consider the specimen a female. Of course, it is now known that this color is typical of both males and females in *Pontirama*. The type locality represents one of the peculiar wet upland forests which extend much like a "necklace" along the eastern face of the Andes in Argentina. In Salta particularly, transition between subtropical and temporate wet forest biomes involves a complex interplay between factors of latitude and altitude.

ETYMOLOGY. Named for Robert Eisele, who collected the type.

Pontirama tolimensis,
NEW SPECIES
Figs. 39, 134

DIAGNOSIS. ***Wings.*** Differs from all congeners by showing an undulate white medial VHW line around a brown basal disc followed distally by undulately mottled suffusive brown and then black at the prominent anal lobe.

Female genitalia. Extremely robust in the paired terminal spines, each with adjoining ventral keel; cervix bursae very expansive.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW ground dark brown, slightly lighter on the sharp anal lobe. VFW,VHW ground dingy brown, FW with white postmedial line, costa to cell M2; HW with dark brown basal disc edged distally by undulate white line, distally with finely undulate brown ground and then black on the prominent anal lobe. ***Female Tergal Morphology and Genitalia.*** Fig. 39. *Sipc* ventral element comprising about two-thirds of the lateral expanse of the terminal tergite and widely arched about the lamella postvaginalis base. Lamella postvaginalis with robust paired terminal prongs, intervening margin exhibiting a raised keel alongside each distal prong. Ductus bursae's paired lateral ridges short compared to extremely robust cervix bursae ventrum, hood of latter robust and ovate; signa with central element robust and heavily sclerotized compared to congeners.

TYPES. Holotype female (fig. 134), COLOMBIA, Monte Tolima, Central Cordillera, 3800 m., Fassl Collection, deposited MNHN.

DISTRIBUTION. ***Spatial.*** Fig. 202; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. A number of unusual species are in Fassl material from Monte Tolima at the MNHN (Johnson 1990a, 1992).

ETYMOLOGY. Named for the type locality.

Pontirama coquimbiensis,
NEW SPECIES
Figs. 40, 135

DIAGNOSIS. ***Wings.*** Known specimen small (FW 7.5 mm.), DFW,DHW fuscous, anal lobe diminutive; VFW immaculate brown; VHW with chocolate colored medial band bordered (i) basally by tawny lunular markings in each cell and thereafter by lighter basal ground, (ii) distally by tawny ground extending to small black dots along the outer margin. As notable in species figure (fig. 135), dark brown banding on HW much more outstanding than in any of the other banded congeners.

Female genitalia. Lamella postvaginalis extremely oblongate relative to ductus, paired terminal spines extremely elongate and inwardly directed.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW ground dark fuscous brown throughout, only slightly lighter near the anal lobe. VFW generally colored immaculate tawny (vague evidence of white-suffused postmedial line costa to cell M2); HW with dark brown basal disc edged distally with prominent chocolate band edged basally with white lunular markings in each cell; distad of band ground color tawny to margin, latter with small black dots in cells from M1 to the costa; anal lobe with prominent rust suffusion. ***Female Tergal Morphology and Genitalia.*** Fig. 40. *Sipc* with ventral element rather small, comprising less than one-fifth lateral expanse of terminal tergite. Genitalia with lamella postvaginalis extremely oblongate (width exceeding twice ductal length) and with paired terminal prongs very elongate and inwardly directed (intervening margin of generally entire but centrally indented). Ductus with paired lateral ridges short, about same length as lamella postvaginalis. Cervix bursae ventrum very diminutive and scalloped along anterior margin; hood with bilobate elements oblongate, area surrounding ductus seminalis quite heavily sclerotized.

TYPE. Holotype female (fig. 135), Tongoy, Coquimbo, Chile, 1 January 1958, leg. P. Mazry, deposited UMCE.

DISTRIBUTION. ***Spatial.*** Fig. 202; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. This specimen was among papered material including *Eiseliana bicolor* (Phillipi), the extremely rare *Thecla wagenknechti* (Ureta) and various taxa of *Itylos* sens. lat. forwarded to me by the kindness of Rick Rozycki (Chicago, Illinois).

RHAMMA,
NEW GENUS
Figs. 41-65, 136-160

Synopsis-- includes taxa of the *Thecla arria* Group of Draudt (1919) and undescribed relatives.

DIAGNOSIS. ***Morphology.*** Typifying the "arria Group" (figs. 2,3) but *female genitalia* with highly sculptured genital plates terminating in complexly serrate and/or multi-pronged configurations and *male genitalia* with valvae and vinculum variously sculptured, mostly along lateral margins and in the valvae caudal extensions (figs. 136-160 and Remarks). ***Wings.*** DFW,DHW with a

variety of prominent structural colors surrounded by dark borders of varying width (structural color in some taxa showing salient differences in "grain" or "hue" in different patches); males with differential occurrence of androconia, depending on the species, and with androconia appearing not only as brands but as an elongate "streak" bordering the costal vein of the discal cell; HW with differential prominence of anal lobe, varying from prominent or angulate to diminutive, depending on the species (fig. 1) (see Remarks).

DESCRIPTION. ***Adult. Male.*** DFW,DHW: ground colors light blue, silvery or greenish blue, purple or violet, fading to variously wide fuscous or black submargins and apices (structural iridescence in some taxa showing salient differences in "grain" or "hue" in different patches, probably indicating differing UV diffraction patterns); male FW with androconial elements absent or appearing as brands or elongate streaks; HW without tails [termini veins CuA1, CuA2 as typical of many eumaeines] but anal lobe variously produced (ranging from diminutive to 1 mm. long). VFW,VHW: ground colors variously grizzled and variegated brown, tawny, gray, yellow, or yellow-green and patterned with generally discontinuous, undulate, bands comprised of spots or dashes occurring postmedially on FW and postbasally, medially and/or postmedially on HW. HW often with areas basad of medial band (the basal disc) darkly suffused, submargins and margins sometimes with additional pattern elements. ***Female.*** DFW, DHW: varying in degree of sexual dimorphism, some taxa much like males, others with much more limited DFW, DHW structural colors; androconial elements absent. VFW, VHW: marked similar to that of males. ***Male Tergal Morphology and Genitalia.*** Figs. 41-59. No *sipc*. Brush organs present in only a few species. Genitalia with valvae, viewed ventrally, divided into lobate elements of the respective bilobed area and caudal extensions connected by a constricted neck (either or both elements variously sculptured). Vinculum ventrum angled to variously prominent saccus, latter shaped parabolic to pointed; vincular spurs elongate, pointed or angled and always overlapping the constricted central area of each valval lobe; aedeagus short, length usually exceeding rest of genitalia only one-fourth to one-third, caecum usually comprising two-fifths to one-third of aedeagal length, aedeagal terminus often bell-shaped and always with two cornuti, variously serrate or spinelike but usually with a paired spinelike "upper" cornutus and serrate "lower" cornutus. ***Female Tergal Morphology and Genitalia.*** Figs. 41-65. Eighth tergite modified to *sipc* typfied by an oblongate dorsum extending cephalically under the seventh tergite, laterally framing the terminal spiracular opening, and terminating caudally with elongate microtrichia; *sipc* baso-laterally exhibiting a sclerotized ventral element conjoined membranously to the baso-lateral margin of the lamella antevaginalis of the genitalia (figs. 41*f*). Genitalia with ductus bursae formed by paired lateral ridges typical of "arria Group", ductus length and shape various, often sculptured and terminating anteriorly with prominent cervix bursae; lamella postvaginalis prominent and expansive, terminating with variously serrate structures (in "fan"- or "antler"-like shapes); lamella antevaginalis membranous and conjoining laterally with sclerotized ventral element of the *sipc*. Cervix bursae with heavily sclerotized and variously sculptured dorsal "hood", often with serrate marginal elements; corpus bursae ovate, each inner lateral wall with a dendritic signum formed by a central keel flanked by anastomozing sclerotinal elements extending widely laterad.

TYPE SPECIES. *Thecla oxida* Hewitson 1869-1877 [1870].

DISTRIBUTION. ***Spatial.*** Figs. 203-207; the Andes of South America from Colombia southward to central Argentina; one congener occurring in montane Costa Rica. ***Temporal.*** Dates on specimens include every month of the year except September, this latter probably resulting from sampling error. This suggests that *Rhamma* species (like high Andean *Penaincisalia* Johnson [1990a and of subsequent entry]) are probably seasonal fliers with different taxa of this species rich group occurring in various seasons (see, for instance, seasonal notes on data under *R. nigrasarotina* and *R. saroticana*). As noted in Johnson (1990a) and by many field workers, some paramo and subparamo grassland environs across the neotropics show a marked variation in seasonal moisture while others remain "cold and damp" year round.

REMARKS. *General*– Descimon (1986), referring only to a list of historical names then attributable to Draudt's *Thecla* "arria- Group" noted the tremendous species diversity apparent in this Andean assemblage. His list contained no members of the sister groups *Pontirama* and *Shapiroana* (all of which have been undescribed) and there was little knowledge at the time of the diagnostics of the available names in the "arria-Group". When one studies large numbers of specimens, the diversity is astonishing because traditional taxonomic usages have not considered either (1) the differential occurrence of external secondary sexual characters or (2) the structural characters.

Initial reviews of museum-identified specimens indicated that, based on some generalized wing characters,

available historical names had been applied indiscriminately to mixtures of males with and without forewing scent "brands" or "streaks". Males lacking androconial marks were largely identified as females. With sexes properly sorted by genitalic diagnosis, it became further apparent that traditional views of dorsal color and gender were also incorrect: many specimens which lacked prominent dorsal iridesence were, in fact, males; many females actually exhibited bright and expansive iridescence, etc. Thus, the only way to proceed was to separate out all the specimens first by proper sexing, then according to differential occurrence of brands in males and, finally, by analysis of the ventral wing patterns and structural characters.

Results indicate that very general characters, often used historically to identify the various "species" of the "arria-Group", often embraced numerous sister taxa differing dramatically in occurrence of secondary sexual characters, upper surface structural color, and sexual dimorphism. The task then remained to associate the type specimens to these facies and reorganize the usage of names. Fortunately, Draudt (1919) had noted the occurrence of external secondary sexual characters in the species he listed; however, any worker not paying attention to these comments (or properly sexing) still misidentified taxa and such misidentified series often became the source of new taxa described herein. There were about as many undescribed species misidentified in collections as new species to be described from formerly uncurated or new materials.

One is tempted to be historically "consistent" and use *Thecla arria* Hewitson as the type species of any genus containing members of Draudt's "arria-Group". However, there are very compelling reasons not to do so. Of all *Rhamma* species, members of the "*arria* Species Group" (as defined herein) are somewhat atypical of the genus with their short HW anal lobes, dull structural color, simple VFW,VHW pattern and lack of androconial brands in males. On the other hand, if one desires a type species much more typical of the majority of the genus, one thinks immediately of *Thecla oxida* Hewitson— rounded wing shape with prominent anal lobe, bold in structural color, male with prominent FW androconial streak, VFW,VHW mottled but colorful.

Characters-- Even in the most superficial view, the many small and richly-colored species of *Rhamma* stand out from members of both sister genera *Pontirama* and *Shapiroana*. Taxa of *Pontirama* are larger, angulate-winged and brown; taxa of *Shapiroana* are also larger but brilliantly iridescent and with rounded hindwings looking much like large Polyomatinnae. The differences between the three groups are equally apparent in the structural characters, *Rhamma* taxa all exhibiting highly sculptured sclerotal elements (and occasional additional components) in the genitalia of both sexes. By contrast, structural features in *Pontirama* are simple, and those of *Shapiroana* characterized by many peculiar features and frequent asymmetry. As noted in Remarks under *Pontirama*, it appears this latter genus is relatively primitive. By contrast, many peculiar features of *Shapiroana* and *Paralustrus* suggest these latter genera are largely autapotypic compared to *Rhamma*. *Shapiroana* taxa are also characterized by extremely high altitude occurrences, rivaling or exceeding those of the hign Andean *Penaincisalia* (Johnson 1990a).

I have previously mentioned (see "wing pattern" under "Terminology" in Material and Methods) that two kinds of distinctions concerning wing color become important in describing members of *Rhamma*.

1. *Conditions of "course"- and "fine"-grained structural color*. Some species show a "course-grained" structural color occurring as grainy concentrations of flecks or suffusions. Others show brilliant "fine-grained" structural color occurring with a "slick" appearance of dense, lustrous, color. Unfortunately, given the diversity of the genus, the occurrence of these different kinds of structural color appears indiscriminate of gender. Thus, I refer to all structural color as "iridescent" (as in most males) and to non-iridescent color as "dull" or "flat" (as in the gray-blue or gray-violet of many females). I use statements about "course-grained" or "fine-grained" colors in the introductory sections concerning each Species Group. In subsequent descriptive texts of species entries, I differentiate course-grained iridescence as either "flecked" or "suffused" and refer to fine-grained iridescence primarily as "brilliant" or, secondarily, as "lustrous". Unfortunately, with black and white photography some of the most brilliant dark blue dorsal iridescence in *Rhamma* appears nearly black in photographs (see *R. inexpectata* and *R. comstocki*), a situation also common in photographs of *Shapiroana* species (see *S. shapiroi*).

2. *Conditions of hue suggesting differential UV diffraction patterns*. I summarize the occurrence of these, as appropriate, in the introductory statements concerning Species Groups, referring to dorsal iridescence as either "concolorous" or "with certain patches varying in texture and hue". Concerning the latter, in the descriptive texts of species entries I note the location of differently colored patches and describe their salient appearance ("darker azure", "light green" etc.). It will be undoubtedly worthwhile for someone to study such patches of varying color

with the aid of UV reflectance photography. I do not have access to equipment for this kind of analysis.

Nomenclature– I divide *Rhamma* into four species groups, two of which are consistent with a suite of salient characters separating taxa of the genus, one of which includes some very poorly known taxa, and another which includes distinctive taxa known only from a single sex (and therefore not groupable with certainty). Because of the species diversity, I further divide the major species groups into numerous subgroups based on differential occurrence of secondary sexual characters, dorsal structural coloration, and conditions of the HW anal lobe. Readers will immediately note the numerous sister species which became apparent from comparing type specimens with longer series of historically misidentified specimens. A major character separating most such new sister taxa is the presence or absence of FW brands or streaks in males. However, in all these instances, once presence or absence of forewing androconia was noted as distinctive, other characters (including wing pattern elements and genital structures) also became apparent to corroborate such taxa. Sexual dimorphic patterns also proved important in differentiating such taxa since, in many cases, males and females had been confused in the historical common usage. In instances of larger sample sizes, widely overlapping distributions and sympatry of many of the new taxa are also apparent.

There is little doubt that the species diversity of *Rhamma* is startling, even more so when one considers that, in a cursory view, all the species of *Pontirama* and *Shapiroana* would have formerly been considered members of Draudt's "*Thecla*" *arria* Group as well.

arria Species Group

DFW,DHW with course-grained structural color differentially occurring on either of the FW and/or HW and confined basad of wide marginal, submarginal and/or apical fuscous borders.

There are four subgroups (all with South American members, one with an additional Central American member) defined by dorsal structural color pattern, differential occurrence of male scent brands and prominence of the anal lobe.

arria Subgroup (including *R. arria*, *R. cuchoensis*): DFW,DHW structural color limited (to parts of FW,HW or either of FW or HW) and, where present, concolorous; anal lobe slightly produced; androconial elements present in males.

Rhamma arria (Hewitson)
NEW COMBINATION
Figs. 41, 136

Thecla arria Hewitson 1869-1877 [1870]: 68; 1878: (1), 21, (2), pl. 85, figs. 729,730. Kirby 1871: 399; Draudt 1917-1924 [1919]: 758, pl. 153f; Comstock and Huntington 1958-1964 [1959]: 79; Johnson, MacPherson and Ingraham 1986: 6-7; Bridges 1988: I.35, II.105, III.69.

DIAGNOSIS. ***Wings***. Both sexes with DFW, DHW dull gray-brown, male with fine-grained silvery-blue structural color extending from just below costa of DHW to the HW margin, female with this area flat gray-blue. Both sexes with VHW basal disc slightly darker gray than rest of wing, with yellow-brown to gray-brown outer margin, latter slightly dentate (particularly in males). Females superfically similar to brandless *R. mirma* (but distinguished by latters more profusely colored VHW pattern and silver-gray ground extending well into the DFW postmedial area, as well as structural characters) (see below).

Male genitalia. Valval bilobes robust and prominently shouldered (width nearly a third of remaining valval length); caudal extensions sloping to curvate finger-like termini.

Female genitalia. Lamellae postvaginalis oblongate, each lateral lobe with irregularly serrate terminal margin composed of three terminal teeth each of about equal length.

DESCRIPTION. ***Male***. DFW generally dull gray-brown, elongate androconial streak along distal margin of discal cell; DHW with fine-grained iridescent silvery to azure blue extending from just below costa to the margins. VHW,VFW ground whitish to tawny; FW dusted basally dark blue and with gray to yellow-brown postmedial line from costa to cell M3 or CuA1; HW with basal disc dusted slightly darker than rest of wing and with dentate yellow-brown to gray medial line, sometimes completed by tawney or brown basal suffusion and/or a light postbasal stripe. FW length: mean of 7 specimens AMNH, BMNH 11.5 mm., range 11.0 - 12.5 mm. [apex/tail tip 12.5 mm. = 19.0 mm.]. ***Female***. Similar to male but with DHW coloration flat silvery-gray and without FW androconial streak. FW length: mean of 5 specimens AMNH, BMNH, MNHN 12.7 mm., range 12.5 - 13.0 mm. [apex/tail tip 12.5 mm. = 19.0 mm.]. ***Male Genitalia***. Fig. 41A. Vincular dorsum lacking brush organs;

genitalia with vincular ventrum typical of genus, ventral spurs elongate, thin and angled ventrally, saccus robust and parabolic. Valvae with bilobes robust and shouldered, caudal extensions robust but only about two-thirds the width of the bilobes; caudal extensions terminating in sigmoid-like taper to thin, finger-like, termini. Aedeagus robust, length exceeding rest of genitalia by about one-fourth, shaft rather straight; caecum, comprising over one-third aedeagal length, and arched. Aedeagus terminus with one thin and one rather spatulate cornuti. ***Female Tergal Morphology and Genitalia***. Fig. 41B. *Sipc* with large, irregularly shaped, ventral element, extending around basal margin of lamella postvaginalis. Latter oblongate in shape, each lateral lobe with irregularly serrate terminal margin, usually composed of three terminal teeth each of about equal length. Ductus bursae's paired lateral ridges short, no longer than length of lamella postvaginalis. Cervix bursae with ventrum very robust, length equalling that of lamella postvaginalis; hood oblongate with partially sclerotized lateral lobes each widely separated centrally by a membranous juncture. Signa with central keel marked by notable, caudally directed, spur.

TYPES. Holotype male (fig. 41A), BMNH, labelled "Ecuador, Hewitson Coll. 79-69., Thecla arria. 1." "Type", "B.M. Type No. Rh. 602". TL: OD states Canelos, ECUADOR.

DISTRIBUTION. ***Spatial***. Fig. 203; Andes from Colombia south to southeastern Peru; altitudes noted on specimens range from 600-3750 m. ***Temporal***. Dates on specimens range from October to March.

REMARKS. The identification of this species has been confused by Draudt's (1919) figures, though his text is clearer. Draudt's figure of *Thecla arria* (pl. 153f), though meaning to represent the dentate medial band of that species, appears instead to resemble the irregular golden patches of *T. mishma* Hewitson (Subgroup 3, below) mentioned by Draudt in his text. Workers referring only to the figure of *T. arria* appears to have perpetuated misidentification of this species and confused it with *T. mishma*. I figure a male and female with generalized "Colombia" data (AMNH), the only "pair" with duplicate historical labels available to me at the time photographs were prepared. Others were subsequently located.

MATERIAL EXAMINED [for consistency with label data, diacriticals purposely omitted]. COLOMBIA. "Colombia", leg. Felipe Ovalle, 1 male, 1 female (AMNH); Bogota, Usaquen, 10 February 1948, 2800 m., 1 male, 1 female (AMNH); Caucatal, 600 m. 1 female (MNHN); Bogota, 1 male (BMNH). ECUADOR. Quito, 1 female, (BMNH); Cotabachi, 3750 m., 1971, 1 male (AME). PERU. Agualani, 9000 ft. October, 1 male, March 1904, 1 female (BMNH); Limbani Agualani, 2 males, 1 female (BMNH).

Rhamma cuchoensis,
NEW SPECIES
Figs. 42, 137

DIAGNOSIS. ***Wings***. Currently known from single male (NW Argentina) with elongate ellipsoid androconia; DFW,DHW marked silvery white, VFW, VHW light cream with arched, undulate, distal border to slightly gray-suffused basal disc.

Male genitalia. Valvae with margin of bilobes and caudal extensions greatly undulate, latter diminutive relative *R. arria*; vincular ventrum very narrow, vincular spurs thin, saccus short and parabolic.

DESCRIPTION. ***Male***. DFW,DHW ground dull silver-white, basally suffused more with gray; elongate ellipsoid androconial brand along distal margin of discal cell. VHW,VFW cream white; FW with slight gray postmedian line from costa to cell M3; HW ground cream, basal disc suffused slightly grayer and with distal margin undulate and suffused darker gray. FW length: 12.5 mm. [apex/tail tip 18.5 mm.] (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 42. Vincular dorsum lacking brush organs; genitalia with vincular ventrum not robust, rather thin from pointed spurs to short, parabolic saccus. Valvae with bilobes widely ellipsoid, contrasting diminutive, laterally convex caudal extensions, latter sloping in steep sigmoid fashion to finger-like termini. Aedeagus short, length exceeding rest of genitalia by only about one-fourth, caecum comprising over one-third of the aedeagal length and not displaced outside of place of aedeagal shaft.

TYPE. Holotype male (fig. 137), ARGENTINA, Prov. Salta, Dept. Ledesma, 5 mi. N of Cucho, 29 December 1986, leg. B. MacPherson, deposited AMNH.

DISTRIBUTION. ***Spatial***. Fig. 203; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. There are numerous poorly known Theclinae from the type locality; in 1991 many of the species known only from Cucho were also collected in the provincially adjacent forests of the Parque Nacional Callilegua. Both of these areas are noted for southerly occurrence of mesic/hydric rain forest more typical of the Bolivian yungas region. The Argentina locale "Agua Blanca" (see locality description #24A, Johnson, Eisele

and MacPherson 1988) also typifies these biomes but in 1991 could not be reached for sampling because of weather-related road destruction. These isolated areas of northern Jujuy Province appear to have a distinctly endemic fauna. The type of *R. cuchoensis* is worn; however, particularly on the left FW, the long ellipsoid brand is still visible. This distinction, along with other wing pattern elements and structural characters, supports the species status.

ETYMOLOGY. Named for the type locality.

mirma Subgroup (including, at present, only *R. mirma*): DFW,DHW structural color limited [to parts of FW,HW or either of FW or HW] and, where present (see Remarks under *R. mirma*), concolorous; anal lobe only slightly apparent; males without androconial elements.

Rhamma mirma (Hewitson)
NEW COMBINATION
Figs. 43, 138

Thecla mirma Hewitson 1863-1878 [1878, vol. 1]: 212, pl. 85, f. 719,720. Draudt 1917-1924 [1919]: 759, pl. 153f. Comstock and Huntington 1958-1964 [1959]: 170; Johnson, MacPherson and Ingraham 1986: 6; Bridges 1988: I.229, II.107, III.68.

DIAGNOSIS. ***Wings***. DFW,DHW marked somewhat similar to *R. arria* but male without androconia and both sexes with gray-white extending wider across DFW and both wings generally devoid of structural color (basal FW and medial to basal HW suffused silver gray). VHW with basal disc suffused prominently gray or gray-brown, its marginad medial line more prominent but generally less dentate than in *R. arria*; distal areas of both FW and HW with small gray or brown crescent-shaped marks in cells along the margin.

Male genitalia. Valvae with bilobes and caudal extensions of about equal length, constricted area between bilobed configuration and caudal extension elongate.

Female genitalia. Lamella postvaginalis with terminal prongs not always notable; paired lateral ridges of ductus thin and inwardly directed, length not much exceeding that of lamella postvaginalis and adjacent robust cervix bursae.

DESCRIPTION. ***Male***. Anal lobe hardly apparent; DFW,DHW ground marginally and apically fuscous with silvery-gray suffusion from the wing base through the medial area; without FW androconial elements. VFW,VHW ground grizzled gray to tawny; FW darker gray to gray-green basad of a suffused to indistinct postmedian line extending from costa to cell CuA1, darker gray-brown distally with thin gray-black crescent-like marks forming a marginal line; HW wing basal disc grizzled dark gray to brown, marked with indistinct darker postbasal suffusion and ringed marginad with darker, slightly dentate, distal edge; ground distad of disc much lighter gray, faintly dusted with darker gray or gray-green toward margin often forming crescent-like elements in each cell; limbal area with slight mottled suffusions of darker gray or gray-green. FW length: mean of 5 specimens AMNH, BMNH, MNHN 11.2 mm., range 9.0 mm. - 12.0 mm. [apex/tail tip 9.0 mm. = 15.0 mm.]. ***Female***. Similar to male, DHW suffused slightly lighter gray. FW length: females in Material Examined duplicate measures of males. ***Male Genitalia***. Fig. 43A. Vincular dorsum lacking brush organs. Vincular ventrum thin and angled to steep saccus, vincular spurs elongate and thin. Valvae with bilobes and caudal extensions of about equal length, former shouldered, latter gradually tapered to rather blunt termini, constricted area between bilobed configuration and caudal extension elongate. Aedeagus short and bowed, length exceeding rest of genitalia by about one-fifth, the caecum comprising nearly one-half of the aedeagal length. ***Female Tergal Morphology and Genitalia***. Fig. 43B. *Sipc* with crescent-shaped ventral element, laterally extending around base of lamella postvaginalis. Latter with bilobate, oblongate shape and only slightly dentate terminal margin (precise prongs not always notable). Paired lateral ridges of ductus thin and inwardly directed, length not much exceeding that of lamella postvaginalis and adjacent robust cervix bursae. Latter with widely tapering lateral margins, hood widely bilobate, more widely sclerotized than other group members. Signa markedly dendritic as typical of genus.

TYPES. Lectotype male, BMNH, labelled "Thecla mirma. 1.", "Godman-Salvin Coll. 1911.-93.", "Venezuela. Moritz.", "Druce Coll. ex Kaden Coll.", "male [symbol]", "Type", "B.M. Type No. Rh. 604" and [added by me] "designated lectotype by K. Johnson, 1992"; four paralectotype females, labelled as above but numbered "Thecla mirma" "2," "3", "4", and "5". TL: Venezuela.

DISTRIBUTION. ***Spatial***. Fig. 203; the Andes of Colombia eastward into montane Venezuela; altitudes reported on specimen labels range from 1700 - 2800 m. ***Temporal***. Dates noted on specimens range from August to April.

REMARKS. I figure a male and female (figs. 138A,B) labelled as "highlands near Merida", Venezuela (AMNH).

MATERIAL EXAMINED [for consistency with label data, diacriticals are purposely omitted]. COLOMBIA. Interior of Colombia, leg. Wheeler, 3 males, 2 females (BMNH); Bogota, coll. Felder, 1 male (BMNH). VENEZUELA. "Venezuela", 1 male (MNHN); "Venezuela", 1 male (BMNH); "highlands near Merida", October 1942-February 1943, 1 male, 1 female (AMNH); Tachira, Paramo la Negra, 2800 m., leg. R. Lichy, 15 August 1942, 1 male (AME); Fed. District, El Junquito, km. 22-23 on Caracas-Colonia "Tovar" road, 1870-2000 m., leg. R. Lichy, 4 April 1942, 1 female, 5 April 1942, 1 female, 19 March 1940, 1 female (AME); Fed. District, El Junquito, km. 22-23 on Caracas-Colonia, "Aoqua Negra", 1700 m., 2 March 1946, 2 females (AME).

mishma Subgroup (including *R. mishma*, *R. bilix*, *R. aurogo*, *R. sabula*): DFW,DHW structural colors concolorous and extending distally through the postmedial areas; HW anal lobe produced; males without androconial elements.

Rhamma mishma (Hewitson)
NEW COMBINATION
Figs. 44, 139

Thecla mishma Hewitson 1863-1878 [1878, vol. 1]: 213, pl. 85, f. 724, 725. Draudt 1917-1924 [1919]: 759, pl. 153f; Comstock and Huntington 1958-1964 [1959]: 170; Bridges 1988: I.230, II.107, III.68.

DIAGNOSIS. ***Wings***. Superficially similar to *R. arria* and *R. mirma* because of DFW,DHW blue-gray structural coloration but, in both sexes, with iridescence prominent across medial areas of both FW and HW and with VHW tawny yellow lunulate markings forming prominent medial and postmedial bands (not dentate lines as in *R. arria* and *R. mirma*) (see Remarks). Male without androconial elements.

Male genitalia. Valval ventrum robust in both the bilobes and caudal extensions (giving short, stout appearance compared to congeners) (see Remarks).

Female genitalia. Lamella postvaginalis of hemi-rectangular shape, each lateral lobe with three short teeth.

DESCRIPTION. ***Male***. DFW,DHW iridescent blue-gray from submargins to base contrasting dark, brown to blackish, borders; FW without androconial elements. Anal lobes prominent though not exaggerated. VFW,VHW ground gray to tawny, variously grizzled brown; FW with yellow-brown postmedian line (costa to cell CuAl, variously thickened as more lustrous golden brown patches) and grizzled dark along margin; HW with basal disc more tawny than rest of wing and with medial and postbasal bands formed by irregularly placed patches of yellow or golden brown. Ground distad of disc variously grizzled, particularly with chevron-like marks occurring along the submargins. FW length: three males (AMNH) 12.0, 13.0, 13.5 mm. ***Female***. Marked similar to male but with DFW,DHW with more extensive dull gray ground. FW length: two females (AMNH) 13.0, 14.0 mm. ***Male Genitalia***. Fig. 44A. Generally robust with valval ventrum stout in both the caudal extension and bilobes; saccus robust and parabolic, vincular spurs elongate. Aedeagus stout and short, exceeding length of rest of genitalia by only caecum length; terminus of aedeagus widely fluted and with two robust, rather spatulate and marginally serrate, cornuti. ***Female Tergal Morphology and Genitalia***. Fig. 44B. *Sipc* with large, irregularly shaped, ventral element, extending widely around base of lamella postvaginalis. Latter with hemi-rectangular shape, each lateral lobe with three short teeth. Ductus bursae's paired lateral ridges short, not much longer than length of lamella postvaginalis and widely arched to robust, oblongate, cervix bursae ventrum. Hood widely oblongate with partially sclerotized lateral lobes wide, separated centrally by membranous juncture. Signa with central keel marked by a notable, caudally directed, spur.

TYPE. Reputedly a male (OD) in the personal collection of Staudinger (Bridges 1988), therefore probably at the ZMH but not confirmed there by my correspondence or by L. Miller (see Johnson 1990a, p. 110). TL: Sierra Nevada, Colombia.

DISTRIBUTION. ***Spatial***. Fig. 204; Andes of Colombia and Ecuador; altitudes recorded on specimens include 2700-3300 m. ***Temporal***. Dates on specimens range from November to February.

REMARKS. See Remarks under *R. arria*. Draudt's (1919) figure of *R. arria* has led to confusion about this species and *R. mishma* because of the manner of figuring the VHW medial band. Draudt's text is much clearer and I construe it as being consistent with the type, which he had seen. The species appear easy to identify once the OD is matched with the right contemporaneous specimens. As noted below in the Material Examined, there is a fair number of specimens with the distinctive lunulate yellow to yellow gold VHW markings typifying this species (I figure a male and female from San Antonio

and Cuicocha, Ecuador, respectively [AMNH, figs. 139A,B]) so there should be little trouble with identification of this species hereafter. The male genitalia of *R. mishma* are very stout in the valval ventrum. In fact, if it were not for the extreme short valvae in *R. comstocki*, this trait might be considered quite unique for the genus.

MATERIAL EXAMINED [for consistency with label data, diacriticals are purposely omitted]. ECUADOR. San Antonia Tung [urahua] January, 1 male (AMNH); Cuicocha Imbabura, 3300 m., leg. F. M. Brown, 30 May 1939, 1 female (AMNH); Hda. San Rafael, Rio San Pedro, 2700 m., leg. F. M. Brown, 8 November 1938, 1 female, 13 November 1938, 1 female (AMNH); Banos, leg. F. M. Brown, February 1939, 1 male (AMNH).

Rhamma bilix (Draudt)
NEW COMBINATION
Figs. 45, 140

Thecla bilix Draudt 1917-1924 [1919]: 759, pl. 153g. Comstock and Huntington 1958-1964 [1959]: 164; Bridges 1988: I.53, II.105, III.27.

DIAGNOSIS. ***Wings.*** DFW,DHW dark iridescent azure, small (FW 11.0 mm.) with HW profusely fringed and a tufted tail appearing at terminus of cell CuA2. VFW,VHW ground dark brown (to chocolate) with basal disc mottled very darkly, uneven along its edge, and with a prominent black serrate line curving about the HW submargin.

Male genitalia. Features of valval ventrum and vinculum very angulate compared to congeners with valval caudal extensions and bilobes both sharply tapered to their termini.

Female genitalia. Lamella postvaginalis margins very angulate compared to congeners, terminal margin distally produced to extremely robust teeth with intervening margin consequently short.

DESCRIPTION. ***Male.*** DFW,DHW iridescent dark silvery blue from bases to prominently wide and dark brown submarginal and apical borders. HW with prominent anal lobe and elongate wing fringe forming tuft-like tail at terminus of vein CuA2. No FW androconial elements. VFW,VHW with grizzled gray-brown ground; FW with wavy postmedian and submarginal bands and brown suffusion along margin; HW with wavy medial and submarginal lines framing generally grizzled light brown basal disc and lighter distal ground. FW length: 11.0 mm. [apex/tail tip 18.0 mm. (MNHN). ***Female.*** Similar to male but with FW dark edges appearing even wider, limiting scattered iridescent blue to baso-medial areas. FW length: 11.0 mm. [apex/tail tip 18.5 mm.] (AMNH). ***Male Genitalia.*** Fig. 45A. Vincular ventrum and valvae both very angulate, former with heavily sclerotized angled margins, elongate spurs, and pointed saccus. Valvae with both caudal extensions and bilobes tapered sharply to pointed termini. Aedeagus rather elongate, shaft length itself exceeding length of rest of genitalia; caecum of aedeagus comprising about two fifths aedeagus length and with prominent anterior knob, terminus of aedeagus with one spatulate and one pointed cornutus. ***Female Tergal Morphology and Genitalia.*** Fig. 45B. *Sipc* with ventral element comprising about one-third length of terminal tergite. Lamella postvaginalis with margins very angulate compared to congeners; terminal margin distally produced to extremely robust teeth, causing intervening margin to be quite short. Ductus bursae with paired lateral ridges robust and angled laterally before bending back to join robust cervix bursae ventrum, latter also with greatly angular margins. Cervix bursae hood widely bilobate with intervening area marked by cluster of sclerotization at the ductus seminalis.

TYPES. Originally in Draudt collection (see Remarks under *Thecloxurina quindiensis*) described from Fassl Collection material (see Remarks). TL: COLOMBIA. Rio Aguaca Valley, Colombia.

DISTRIBUTION. ***Spatial.*** Fig. 204; Andes of Colombia, Ecuador and Peru; altitudes recorded on specimens include 1100-3000m. ***Temporal.*** Dates on specimens range from August to March.

REMARKS. This species is not well represented in collections but is distinctive. The fact that Draudt (1919) mentions tails for this species does not appear unusual considering the differential occurrence of these in some species of *Penaincisalia* (Johnson 1990a) and in high montane members of *Strymon* sens. lat. (Johnson, Eisele and MacPherson 1990). However, I have not noted a specimen, among those identifiable as *R. bilix*, with a completely intact tail. Rather, a tufted condition, as Johnson, Eisele and MacPherson (1990) noted in some high Andean and austral *Strymon* appears as the norm. As noted under several other entries concerning Draudt material, the MNHN often has additional Fassl material of many of the species originally described from that collection by Draudt. I figure a female (fig. 140) from Rio Corcorna, Colombia (AMNH).

MATERIAL EXAMINED [for consistency with label data, diacriticals used only as on specimen labels]. COLOMBIA. Rio Cocorna, Antioquia, 1100 m. 21-28

399; Draudt 1917-1924 [1919]: 759, pl. 153f; Comstock and Huntington 1958-1964 [1962]: 46; Johnson, MacPherson and Ingraham 1986: 6; Bridges 1988: I.262, II.108, III.69.

DIAGNOSIS. ***Wings.*** Distinctive both dorsally and ventrally. VHW,VFW with yellowish to yellow-green ground marked by distinctive brown postbasal and medial lines *often conjoined costad* by a brown costo-marginal line. Otherwise similar only to *R. austoxida*: DFW,DHW vivid iridescent azure blue in male only (*R. austoxida* in both sexes) and with DHW blue iridescence contrasted between distinctively dark navy blue costad of the discal cell and azure basally and marginally; DFW with wide brown apical and marginal borders (thin in *R. austoxida* male, wide in female). *R. austoxida* lacks androconial marks.

Male genitalia. Valvae with constricted area between bilobes and caudal extensions widely concave, bilobes robustly parabolic at base, caudal extensions lobate with curvate, hooklike, termini (making lateral view of valvae extremely elongate for genus).

Female genitalia. Lamella postvaginalis rather spade-shaped with two prominent terminal prongs, each flanked in the intervening margin by several shorter serrate teeth.

DESCRIPTION. ***Male.*** DFW,DHW ground iridescent blue, HW iridescence contrasted deep navy blue costad of the discal cell and azure basally and marginally; FW with wide apical and submarginal brown borders, HW borders thin. FW with elongate androconial streak along costal edge of discal cell; HW with slight anal lobe. VFW,VHW ground yellowish to yellow-green or tawny, variously grizzled with light brown; FW with basal areas suffused bluish-black, submargin with line of light ground bordered basally by suffused brown from costa to cell CuA1; HW ground overlaid by suffused light brown, generally forming postbasal and medial bands often distinctly conjoined along the costa by a costo-marginal line. This pattern results in distinctive light ground centered in the basal disc; HW distal areas marked with brown spots in each cell of submargin and wavy suffusive brown marginal line. FW length: mean of 8 specimens (AMNH, BMNH) 11.0 mm., range 10.0 - 12.0 mm. [apex tail/tip 11.0 mm. = 18.0 mm.] ***Female.*** DFW, DHW dull flat bluish brown and without androconial elements; VFW,VHW marked as males. FW length: mean of 5 specimens (AMNH, BMNH) same as males above. ***Male Genitalia.*** Fig. 48A. Vincular dorsum lacking brush organs. Vincular ventrum robust and rather square in overall shape due to thickened elements angled respectively to ventrally directed, caudal vincular spurs and rather short, parabolic saccus. Valvae with constricted area between bilobed area and caudal extension widely concave, bilobed area robust and parabolic at base, caudal extensions lobate with curvate, hooklike, termini (making lateral view of valvae extremely elongate for genus). Aedeagus rather elongate for genus with length exceeding rest of genitalia by up to one-third, caecum comprising about two fifths aedeagal length and hardly, if at all, displaced out of plane of aedeagal shaft. ***Female Tergal Morphology and Genitalia.*** Fig. 48B. Lamella postvaginalis rather oblongate and, although somewhat variable in detail across range, always with a robust lateral tooth on each side of the terminal margin variously adjoined by one or two shorter, robust, teeth. Ductus with paired lateral ridges rather short and thin compared to robust ventrum of cervix bursae; bursal hood widely bilobate.

TYPES. Lectotype male, BMNH, labelled "Ecuador. Hewitson Coll. 79-69., Thecla oxida 3.", "Type" "B.M. Type No. Rh. 606" (see Remarks); two paralectotype females labelled similarly except "Thecla oxida '1' and '2'". TL: OD states ECUADOR, Jorge.

DISTRIBUTION. ***Spatial.*** Fig. 205; Andes of Colombia, Ecuador and Peru; altitudes recorded on specimens range from 1500-3800 m. ***Temporal.*** Dates on specimens range from February to June.

REMARKS. This is one of the more commonly represented species of *Rhamma* in collections and I therefore select it as the type species. However, because *oxida* has been one of the few names available for species of the *arria* Group, it has also been widely confused with numerous other species it slightly resembles. These include, in collections I have examined, *Thecla aurugo* and *T. tyrrius* , a confusion which results more from the previously lack of diagnostic literature than to similarities in the species themselves (see Remarks under *R. aurugo*). Similarly, it is likely that museums with specimens of *R. inexpectata* also have these placed under *Thecla oxida* because both have scent streaks. Among other characters, *R. oxida* never approaches the brilliant DFW,DHW blue of *R. inexpectata*. The lectotype of *Thecla oxida* typifies the VHW markings noted in the Diagnosis where a large area of the basal disc is framed by brown postbasal and medial lines appearing conjoined across the costal margin. The types show greatly contrasting ground colors, not untypical of most museum samples, but with the VFW submargin suffused lighter than most *R. oxida* representatives I have examined.

MATERIAL EXAMINED [for consistency with label data, diacriticals purposely omitted]. COLOMBIA.

Bogota, leg. Frere Apollinaire-Marie, 1 male, 1 female (BMNH); Bogota, 1 male (BMNH); Bogota, 3200 m., leg. Fassl, 1 female (MNHN); Cauca Valley, 2 males (BMNH); Villavincencio, 1 male (BMNH). ECUADOR. "Ecuador", coll. Hewitson ([syntype] 1), 1 male (BMNH); Pichincha, La Kennedy, 1 male (AME); La Toma, 1 male (AME); Niebli, northwest slope, 3800 m., leg. de Lafebre, 1 female (AME); Canar, Tipococha, 3625 m., 1 female (AME); Banos, Tungurahua, 1800 m., leg. W. C. Macintyre, 10 January 1939, 1 male (AMNH); Banos, leg. F. M. Brown, February 1939, 1 male (AMNH); Banos, 1800 m., leg. W. C. Macintyre, October 1938, 1 male (AMNH); Cuicocha, Imbabura, 3300 m., leg. F. M. Brown, 25 May 1939, 1 male, 1 female (AMNH). PERU. Dept. Cajamarca, 2625 m., leg. Woytkowski, 1 male (CMNH); Llangua, Llangua River, Dept. Cajamarca, 1500-2000 m., leg. Woytkowski, 13 June 1936, 2 males (CMNH); Pichis Road, 4800 ft., leg. C. Watkins, 1 female (MNHN); [arbitrarily placed] "Ecuador/Peru", 1 male (MNHN); Ccapana, Ocongate, 11 April 1947, leg. J. Pallister, 5 males (AMNH).

Rhamma austoxida,
NEW SPECIES
Figs. 49, 144

DIAGNOSIS. ***Wings.*** Male DFW,DHW brilliant blue (far brighter than in *R. oxida*) and with thin apical and marginal brown borders, lacking androconia. Female similarly marked but with expanse of bright blue iridescence limited by brown wing borders covering two-fifths to one-half the wing (more like males of *R. oxida*). VHW, contrasting *R. oxida*, with dark suffusion occurring in postbasal, medial and postmedial area, not framing wide area of light ground in the medial area of the discal cell.

Male genitalia. Bilobed area and caudal extensions both widely shouldered, differentiating a very concave margin at their juncture.

Female genitalia. Lamella postvaginalis with spade-shaped habitus, terminating with elongate distal prongs flanked by shorter prongs along the intervening margin.

DESCRIPTION. ***Male.*** DFW,DHW brilliant blue with thin brown apical and marginal borders; FW without androconial elements; HW with anal lobe only slightly produced. VHW,VHW ground yellowish to tawny suffused with light brown; FW with postmedial line from costa to cell CuA1, companion mottling along the submargin; HW with dark brown-suffused lines occurring rather concentricly in postbasal, medial and submarginal area, former two lines framing only slightly darker ground in the basal disc and not conjoined across the costa as in *R. oxida*. In most specimens, area between submarginal and medial lines across the limbal area also highly mottled with concentric dentate light tawny suffusions. FW length: mean of type series specimens 11.0 mm. (holotype), range 10.5 - 12.5 mm. [apex/tail tip 11.0 = 18.0 mm.]. ***Female.*** DFW,DHW marked similarly to males but with very wide brown borders and without androconial elements. VFW,VHW marked similar to males. FW length: mean of type series specimens 10.5 mm. (also the allotype), range 10.0 - 12.0 mm. [apex/tail tip as on males]. ***Male Genitalia.*** Fig. 49A. Vincular dorsum lacking brush organs. Vincular ventrum thin and parabolic in overall shape, spurs elongate and thin, saccus parabolic. Valvae with bilobed area and caudal extensions both greatly shouldered with constricted area between consequently widely concave. Aedeagus with length exceeding rest of genitalia by only about one-fourth, caecum comprising about two fifths aedeagal length and not displaced out of plane of aedeagal shaft; one pointed and one spatulate cornutus. ***Female Tergal Morphology and Genitalia.*** Fig. 49B. *Sipc* laterally quite oblongate, with ventral element small, comprising only about one-fourth lateral expanse of terminal tergite. Genitalia with lamella postvaginalis spade-shaped with elongate terminal prongs quite inwardly-directed and with companion, shorter, prongs along their inner margin, width of intervening terminal margin consequently very small. Ductus bursae's paired lateral ridges thin and rather elongate, length equalling that of lamella postvaginalis including the terminal prongs. Cervix bursae ventrally thin, hood with prominent bilobate elements.

TYPES. Holotype male, allotype female (fig. 144A,B), ARGENTINA, Jujuy Prov., Dept. Ledesma, 5 km. N. Cucho, 1500 m, dense damp woods, 19 December 1986, leg. B. MacPherson, deposited. *Paratypes.* AMNH: Jujuy Prov., Dept. Ledesma, 10 km. NW Cucho by Rio Tacanas, dense damp woods, 1400 m., 30 December 1980, leg. B. MacPherson (1 female); Jujuy Prov., Dept. Ledesma, El Fuerte, 1800 m., 16 January 1968, leg. R. Eisele (1 male); Jujuy Prov., Dept. Ledesma, Parque Nacional Callilegua, leg. K. Johnson and D. Kroenlein, 14 February 1991 (1 female).

DISTRIBUTION. ***Spatial.*** Fig. 205; known from isolated upland mesic forest in Jujuy Prov., NW Argentina. ***Temporal.*** Specimens have been collected from December to February.

REMARKS. Species status of this isolated congener is based several factors: curious lack of scent

streaks in males, VHW pattern, structural characters of both sexes and the extreme sexual dimorphism when compared to *R. oxida*.

ETYMOLOGY. Combines the Latin root for "southern" with the name of the sister species, *oxida*.

tyrrius Species Group.

DFW,DHW with fine-grained structural color, generally occurring on both FW and HW and extending to or through postmedial area to distinct black or fuscous borders.

There are two Subgroups (both with South American members, one very diverse) defined by dorsal structural color pattern, differential occurrence of male scent brands and prominence of the anal lobe.

tyrrius Subgroup (including *R. tyrrius*, *R. amethystina*, *R. comstocki*, *R. nigrasarotina*, *R. saroticana*, *R. inexpectata*, *R. roberti*): DFW,DFW structural color extending to or through postmedial areas and with certain patches varying in texture and hue; HW with prominent anal lobe; male FW with androconial streaks or brands.

Rhamma tyrrius (H. H. Druce)
NEW COMBINATION
Figs. 50, 145

Thecla tyrrius H. H. Druce 1907: 578, pl. 33, f. 3; 1909: 437. Draudt 1917-1924 [1919]: 759, pl. 153f,g; Comstock and Huntington 1958-1964 [1964]: 178; Johnson, MacPherson and Ingraham 1986: 6; Bridges 1988: I.356, II.109, III.30.

DIAGNOSIS. *Wings*. Stands out by greenish blue DFW,DHW which is usually restricted to the basal two thirds of the wings with rest fuscous brown; anal lobe prominent. Male with elongate, but rather ellipsoid, androconial brand along costal vein of discal cell distinctly color bipartite in color (white above, brown beneath in fresh specimens). VFW,VHW gray-brown suffused with wavy red-brown lines crossing the wings along edge of basal disc and in the submarginal area. *R. tyrrius* somewhat resembles *R. sabula* in wing pattern the latter has no FW androconial elements in males (as noted in Remarks under *R. aurugo* and *R. oxida*) *R. tyrrius* has been historically confused with these former species in some museum curations due to lack of previous diagnostic literature.

Male genitalia. Valvae caudal extensions with robust and rather hooklike, inwardly directed, termini; bilobes laterally shouldered, then tapered to a parabolic and indented base (see Remarks).

Female genitalia. Lamella postvaginalis rather rectangular with robust, rather inwardly directed, terminal lobes at each distal margin; intervening terminal margin arched and showing small irregularly serrate teeth.

DESCRIPTION. *Male*. DFW,DHW ground iridescent blue-green from base to wide fuscous apices and submargins; anal lobe prominent. FW with an elongate, ellipsoidal, androconial scent brand marked by bipartite coloration (white above, brown beneath) in fresh specimens (wear flattens and selectively removes some of the elongate androconial wing scales). VFW,VHW ground gray-brown to somewhat yellowish; FW with suffusive, wavy, red-brown postmedial line and red-brown suffusion along the submargin, HW with similarly suffused wavy lines usually centered along distal edge of basal disc and, less empatically, along the submargin. FW length: mean of 5 males (AMNH, BMNH) 10.2 mm., range 10.0 - 10.5 mm. [apex/tail tip 10.0 = 19.0 mm.]. *Female*. Differing from male only in lack of DFW androconial brands and in duller drab purplish-brown DFW,DHW coloration. FW length: mean of 5 females (AMNH, BMNH) 10.5 mm., range 10.0 - 11.0 [apex/tail tip 10.0 = 18.5 mm]. *Male Genitalia*. Fig. 50A. Vincular dorsum lacking brush organs. Vincular ventrum rather narrow, with elongate spurs and parabolic saccus. Valvae with caudal extensions prominent relative to bilobed areas and with extension termini robust and somewhat inwardly hooked (see Remarks); bilobes laterally shouldered, then tapered to parabolic and indented base. Aedeagus with length exceeding rest of genitalia by about one-fourth; caecum comprising nearly one-third aedeagal length and displaced 30-45 degrees out of the plane of the aedeagal shaft. *Female Tergal Morphology and Genitalia*. Fig. 50B. *Sipc* with ventral element comprising only about one-fifth lateral expanse of terminal tergite. Genitalia with lamella postvaginalis quite elongate and of wide breadth; terminal prongs robust, inwardly-directed, and with lateral margins generally contiguous with outer margin of plate. Intervening margin somewhat arched and occasionally with a small irregular tooth at the distal edge adjacent the terminal prong. Ductus bursae's paired lateral ridges rather thin and widely arched. Cervix bursae ventrally robust; hood with widely bilobate elements, and heavily

Text continues in Vol. II, p. 136; enumerated hereafter as pages 57-135 are figures 1-50, 107-192 and 193-205 as appropriate to Vol. I. text.

Figure 1

General Characteristics of the Wings in Thecloxurina

A. Wing venation terminology used in text, based on wing shape of generalized "elfin" butterfly typifying New World or Old World (note produced HW anal lobe [between 2A and 3A] and lack of tails at CuA1 and CuA2 compared to E, below).

B. Generalized terms used for "elfinlike" patterns (used also for Old World in Johnson, in press, b): a, FW postmedial line or band; b, androconial brand (as typical of Clades I, IV and a few members of Clade II); c, basal disc with c2, postbasal pattern (in present), c1, disc margin (often marked with lunulate, lineal or suffusive elements); d, postmedial elements (if present may include line, bands or crescents); e, limbal area (may show suffusive or lunulate elements (particular at e1, the "Thecla spot", if present); f, anal lobe, highly modified in various taxa (see C-L).

C. Schematic of New World elfin showing elongate HW "anal tail" (1, terminal spike; 2, lateral lobe) as occurs homoplesiously in some Old World Theclinae. Drawing typifies historical "*Thecla loxurina*" and on FW shows small elliptic brand typifying many taxa of Clades I and IV.

D. Above, schematic of FW showing paired brands of Clade III; below, schematic of FW showing elongate androconial streak occurring commonly in taxa of Clade II.

E-F. Modification of HW shape typifying certain groups or genera. E, 1,2 location of "normal" hairlike tails of "hairstreak butterflies" (sometimes appearing in a taxon also showing produced anal lobes, see *Galba* and Group 4 of Outgroups); F, produced lateral lobe of anal tail contiguous with spike as in *browni* Group of *Thecloxurina*; G, fingerlike anal tail as in *Thecloxurina cillutincarae*; H, bulbous lobate anal tail of *Pons*; I, slightly elongate anal lobe as in *Candora* and occasional taxa of other genera; J, produced anal lobe as common in *Rhamma*; K, lobeless HW as typical of *Shapiroana* and many *Penaincisalia*; L, robust anal lobe as typical of *Variegatta* and some other outgroups.

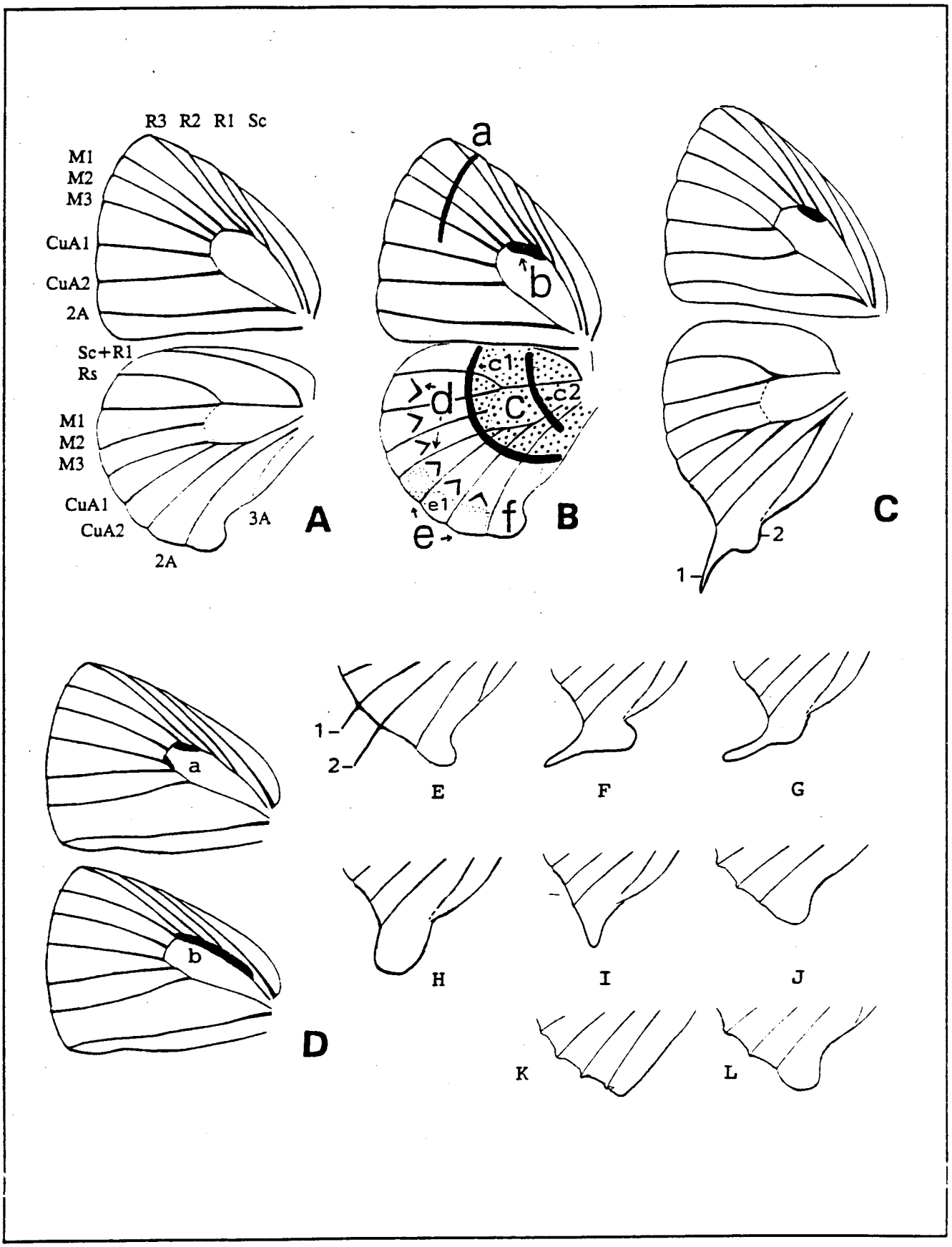

R3 R2 R1 Sc
M1
M2
M3
CuA1
CuA2
2A
Sc+R1
Rs
M1
M2
M3
CuA1
CuA2
3A
2A
A
a
b
c1
c2
d
c
e1
e
f
B
1
2
C
a
b
D
1
2
E
F
G
H
I
J
K
L

Figure 2

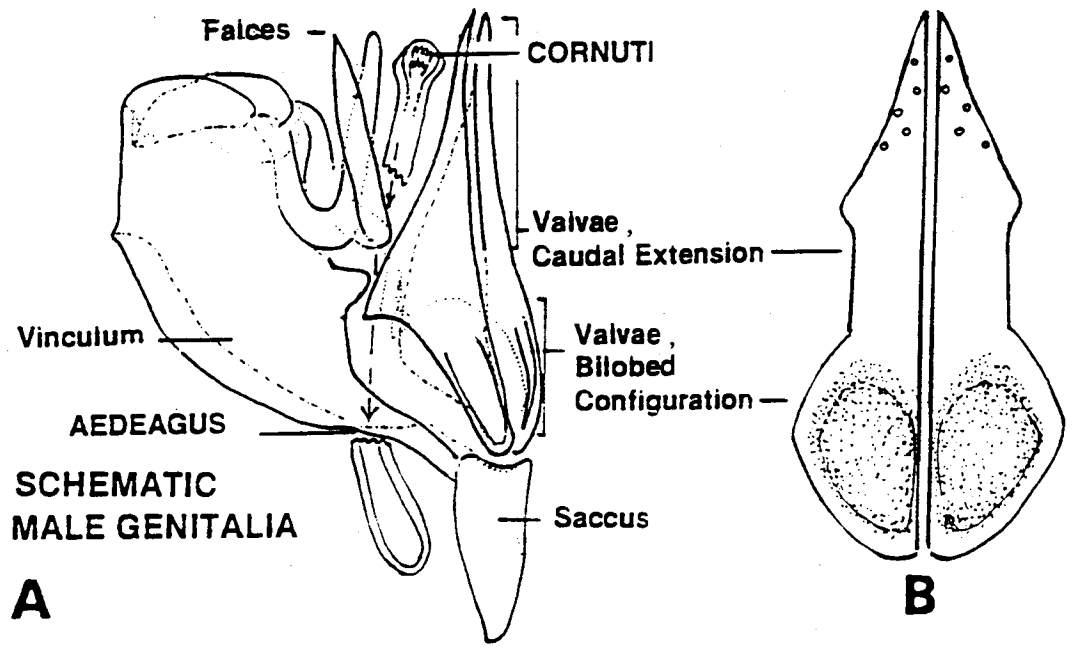
Male Morphological Features of Thecloxurina

A. Schematic male genitalia, lateral view (slightly rotated toward ventral view) showing location of structures and terminology used. B. Ventral view of schematically drawn valvae, showing paired valval lobes separated by transparent sclerotin, darkly sclerotized (e.g. stipples) and most often convex "bilobed configuration" and sculptured "caudal extension".

C. Example of male of Clade I, ventral view, aedeagus removed (generally applicable to Clades III and IV) indicating subset letters used for structures discussed in text: a, brush organs as figured schematically (line indicates general length and location, carot indicates point of abutment); b, brush organs more as they actually appear (as bundles of elongate microtrichia); c, "angle" of tapered valvae caudal extensions (often varying diagnostically in some taxa of Clade I): d, vincular spurs, lobate variety; e, valvae, lateral view, letter located adjacent area showing sculptured keel, if present; f, aedeagus, lateral view, letter placed adjacent "shaft"; g, aedeagus, caecum; h, aedeagus terminus of parabolic variety showing paired, generally serrate, cornuti; i, saccus of parabolic variety.

D. Example of male of Clade II, ventral view, all structures from C applicable as to general location but emphasizing j, swollen caudal extensions typifying clade and contrasting elongate parabolic bilobes, k, elongate vincular spurs overlapping centrally constricted area of valvae; l, aedeagus terminus of flared variety showing paired, pronged and serrate, cornuti; m, area referred to as "vincular ventrum" throughout (e.g. vinculum in ventral view from base of falces to saccus).

As noted, male genitalia of Clade IV depart from general habitus by showing extremely sculptured components along with additional elements.


Falces
CORNUTI
Valvae,
Caudal Extension
Vinculum
Valvae,
Bilobed
Configuration
AEDEAGUS
SCHEMATIC
MALE GENITALIA
Saccus
A
B

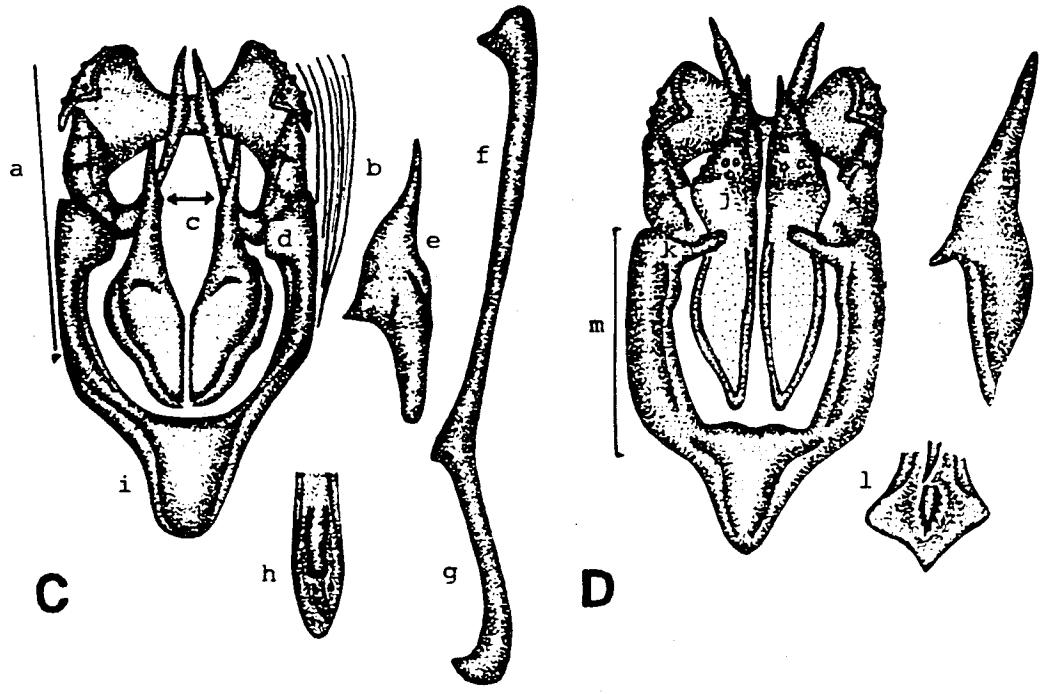

a
b
c
d
e
f
g
h
i
j
k
l
m
C
D

Figure 3

Female Morphological Features of Thecloxurina

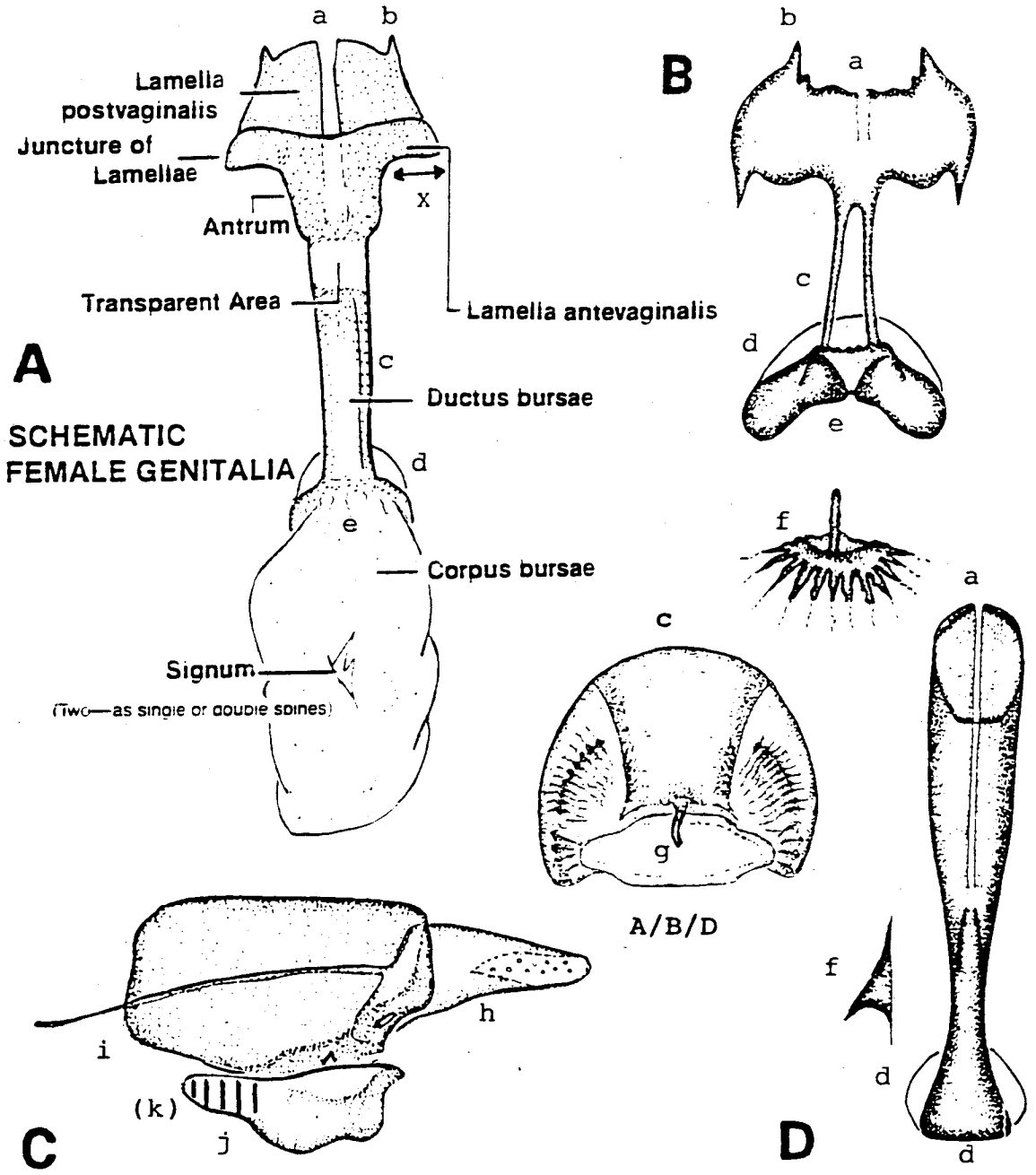
A. Schematic female genitalia, ventral view showing location of structures and terminology used. Schematic is drawn to resemble Clade IV genitalia, representing "bridge" between structures in Clades I,III (D) and Clade II (B). Subset letters under A for comparison with same structures in B and D include: a, dorsal fissure; b, distal prong, tooth or horn along margin of lamella postvaginalis; c, ductus bursae paired lateral ridge (shown on one side only); d, hood of cervix bursae (shown schematically in full terminal view for A/B/D under c, center); e, cervix bursae ventrum.

B. Schematic female genitalia of Clade II, ventral view. Subset letters for comparison with same structures in A and D include: a, dorsal fissure, b, distal prong or tooth along distal margin of lamella postvaginalis; c, paired lateral ridges of ductus bursae; d, cervix bursae hood (A/B/D at c, center, in schematic terminal view); e, cervix bursae ventrum; f, dendritic, antlerlike, signum of corpus bursae (dorsal view).

C. Female *sipc* (subcordate incised posterior cavity, lateral view) as it occurs in Clade II, including h, papillae anales with attached apophyses; i, modified and highly sclerotized terminal tergite; j, ventral element curving beneath lamella postvaginalis of genitalia; (k) vertical shading of ventral element used in illustrations.

D. Schematic female genitalia of Clade I (also applies generally to Clade III), ventral view. Subset letters under D for comparison with same structures in A and B include: a, dorsal fissure at terminus of tubular habitus, d, cervix bursae hood and ventrum (A/B/D at c, center, in schematic terminal view), f, pronglike signum of corpus bursae (lateral view).

Center (c), as hitherto noted, terminal view of cervix bursae hood generally schematic for A, B and D- g, entry point of ductus seminalis.


a
b
Lamella postvaginalis
Juncture of Lamellae
Antrum
Transparent Area
Lamella antevaginalis
x
c
Ductus bursae
d
e
Corpus bursae
Signum
(Two—as single or double spines)
A
SCHEMATIC FEMALE GENITALIA
B
b
a
c
d
e
f
a
c
g
A/B/D
f
d
d
D
h
i
(k)
j
C

Figures 4-6

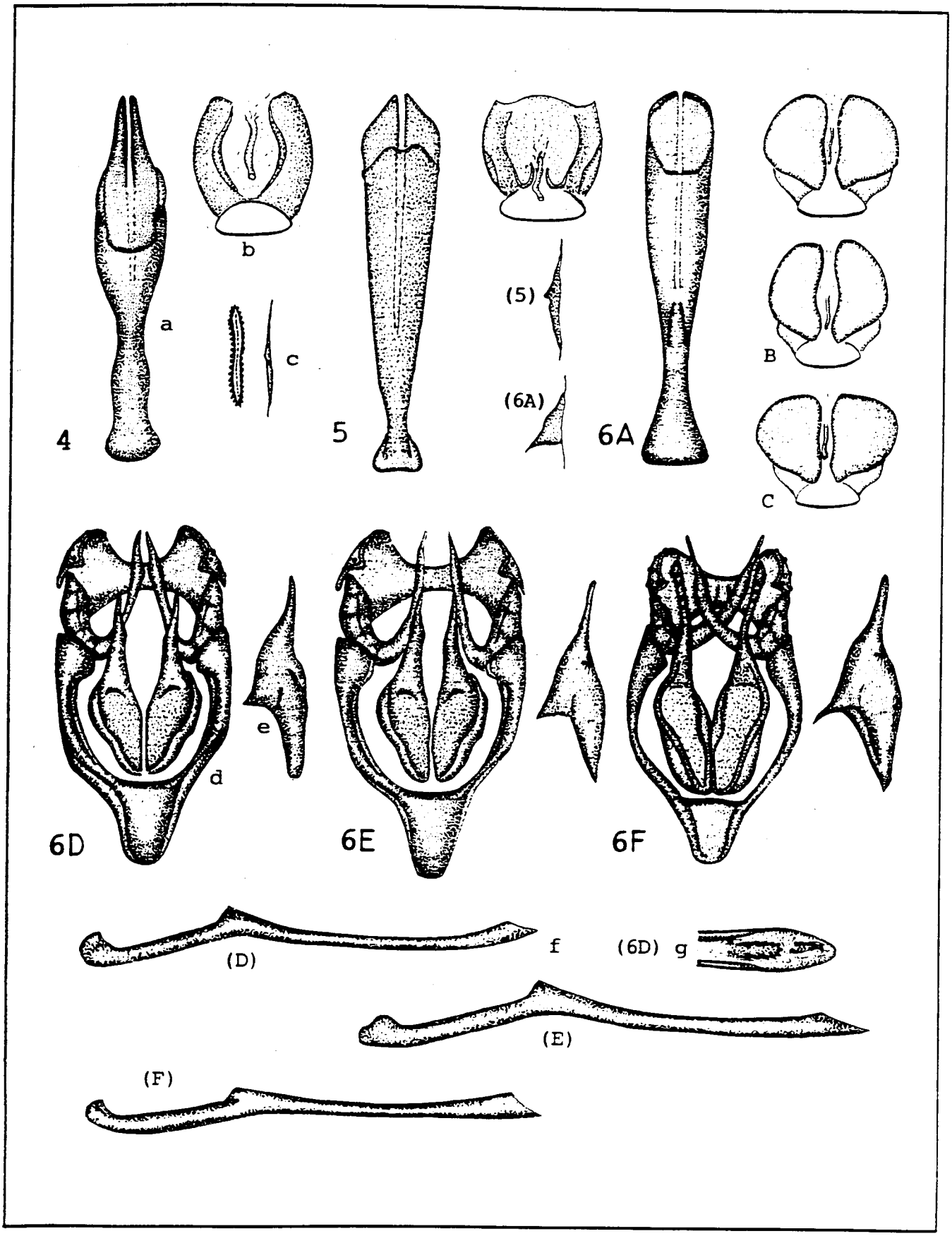
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters on the initial fig. 4, female of *Thecloxurina browni*, indicate the display format used in remaining females of genus. Small letters on fig. 6D, nominate male of *Thecloxurina loxurina*, indicate format used for remaining males of genus. This display format is as follows.

Display format for ***Thecloxurina***: female (4)-- a, ductus bursae, ventral view; b, cervix bursae shield, terminal view; c, corpus bursae signa, lateral (right), ventral (left) [lateral view only for taxa of Fig. 6; ventral view shown below in Figs. 12,13]; male (6D)-- d, genitalia with aedeagus removed, ventral view; e, valvae, lateral view; f, aedeagus, lateral view; g, aedeagus terminus with cornuti, dorsal view.

Fig. 4. *Thecloxurina browni*, holotype.

Fig. 5. *Thecloxurina eiseleorum*, holotype.

Fig. 6. *Thecloxurina loxurina*, A. *T. l. loxurina*, proximate ("New Granada", BMNH) topotypical female (right, above, cervix bursae hood of nominate, then B, *T. l. lustra*, allotype, C, *T. l. astillero*, allotype; D, *T. l. loxurina*, holotype male, E, *T. l. lustra*, holotype, F, *T. l. astillero*, holotype. Aedeagii placed below, as labelled D-F, terminus shown only for nominate holotype.


4
a
b
c
5
(5)
(6A)
6A
B
C
6D
d
e
6E
6F
f
(D)
(6D) g
(E)
(F)

Figures 7-10

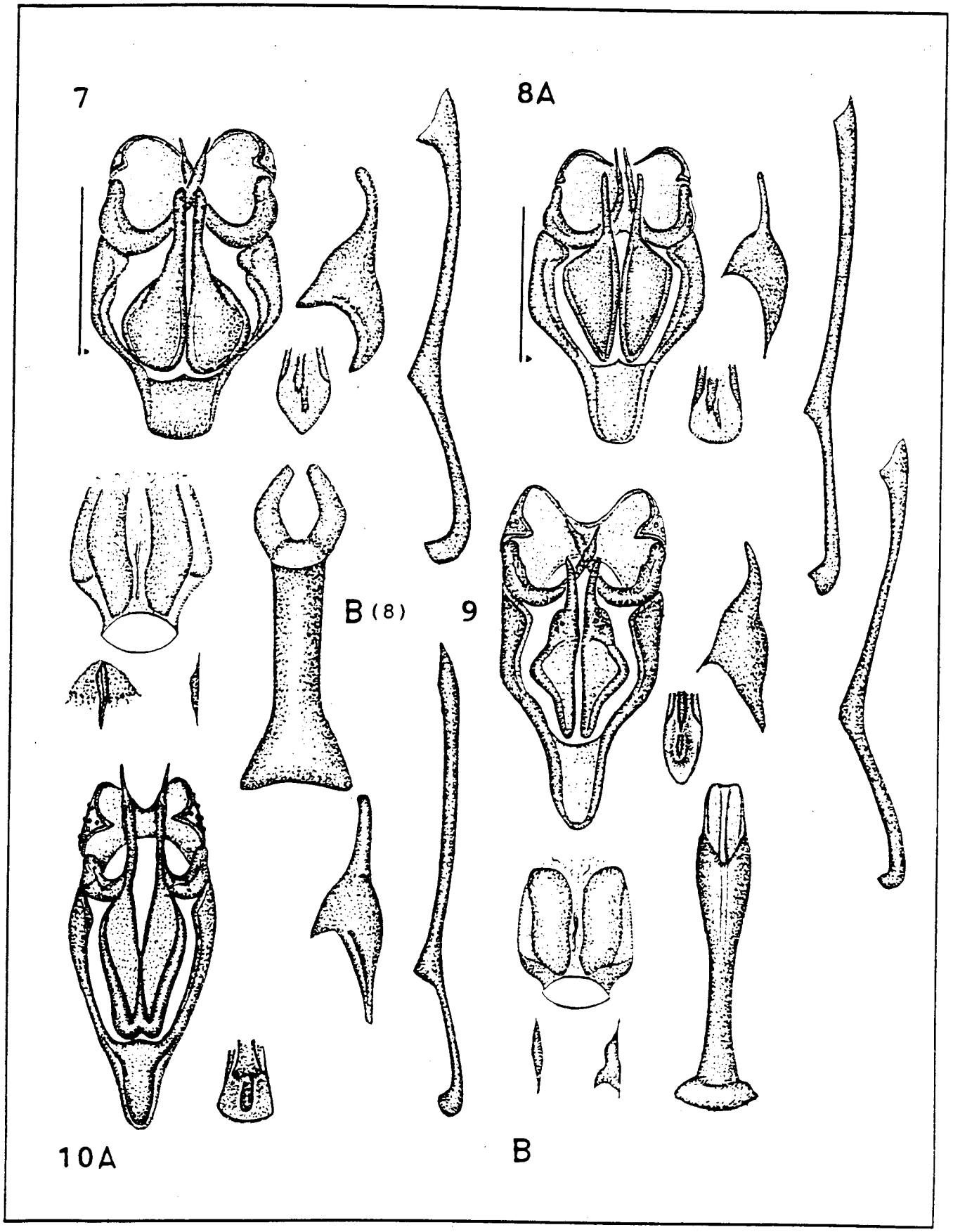
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Black line and carot, respectively, denote expanse and locus of abutment of brush organs, when present.

Fig. 7. *Thecloxurina truncta*, holotype.

Fig. 8. *Thecloxurina feminina*, holotype.

Fig. 9. *Thecloxurina costarica*, holotype.

Fig. 10. *Thecloxurina quindiensis*, topotypes (MNHN).


7
8A
B (8)
9
10A
B

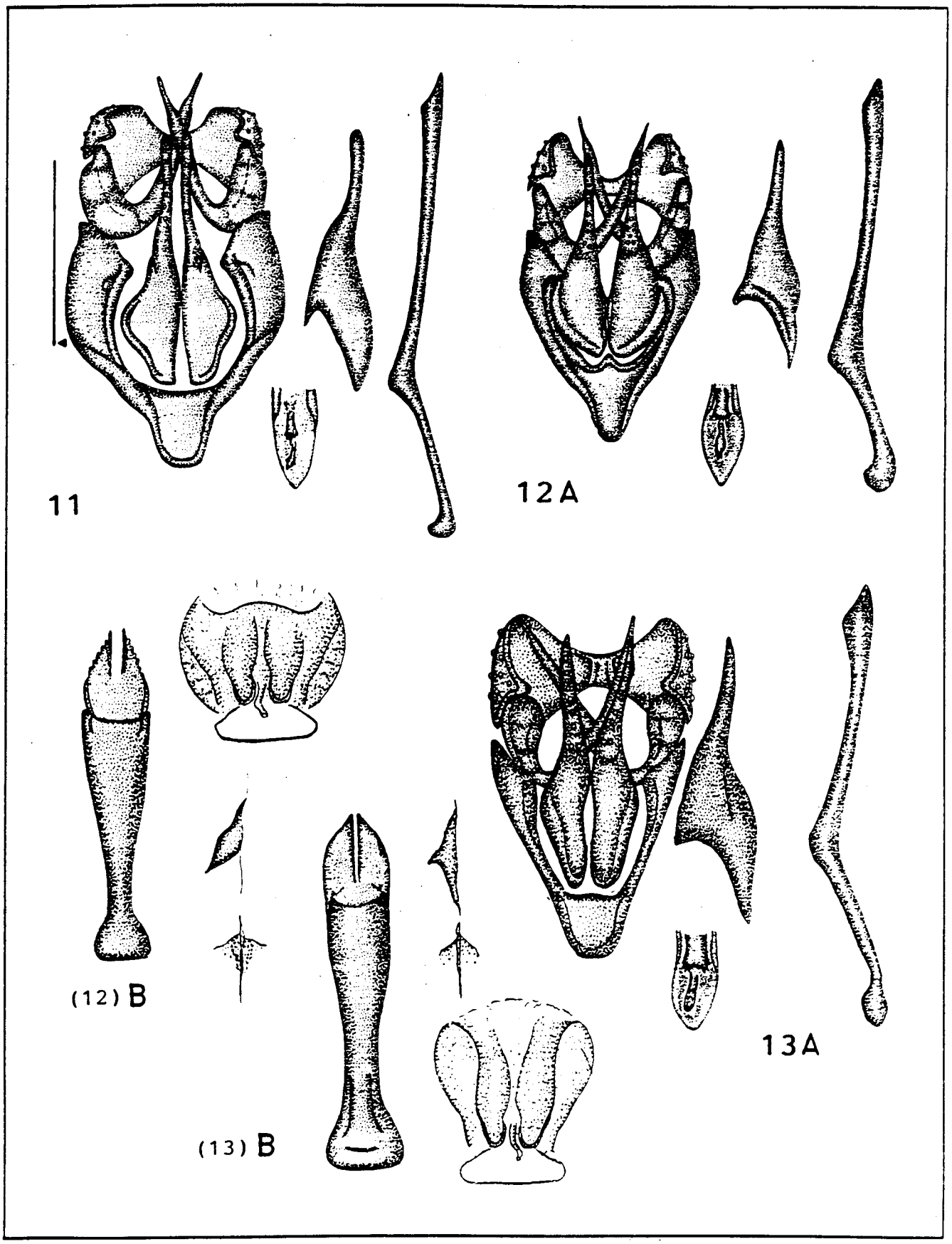
Figures 11-13

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Black line and carot, respectively, denote expanse and locus of abutment of brush organs, when present.

Fig. 11. *Thecloxurina fassli*, holotype.

Fig. 12. *Thecloxurina cillutincarae*, A, proximate topotype ("Bolivia" MNHN), B, Cumbres San Javier, Tucuman, Argentina (AMNH).

Fig. 13. *Thecloxurina atymna*, A, lectotype, B, topotype (BMNH).


11
12A
(12) B
(13) B
13A

Figures 14-16

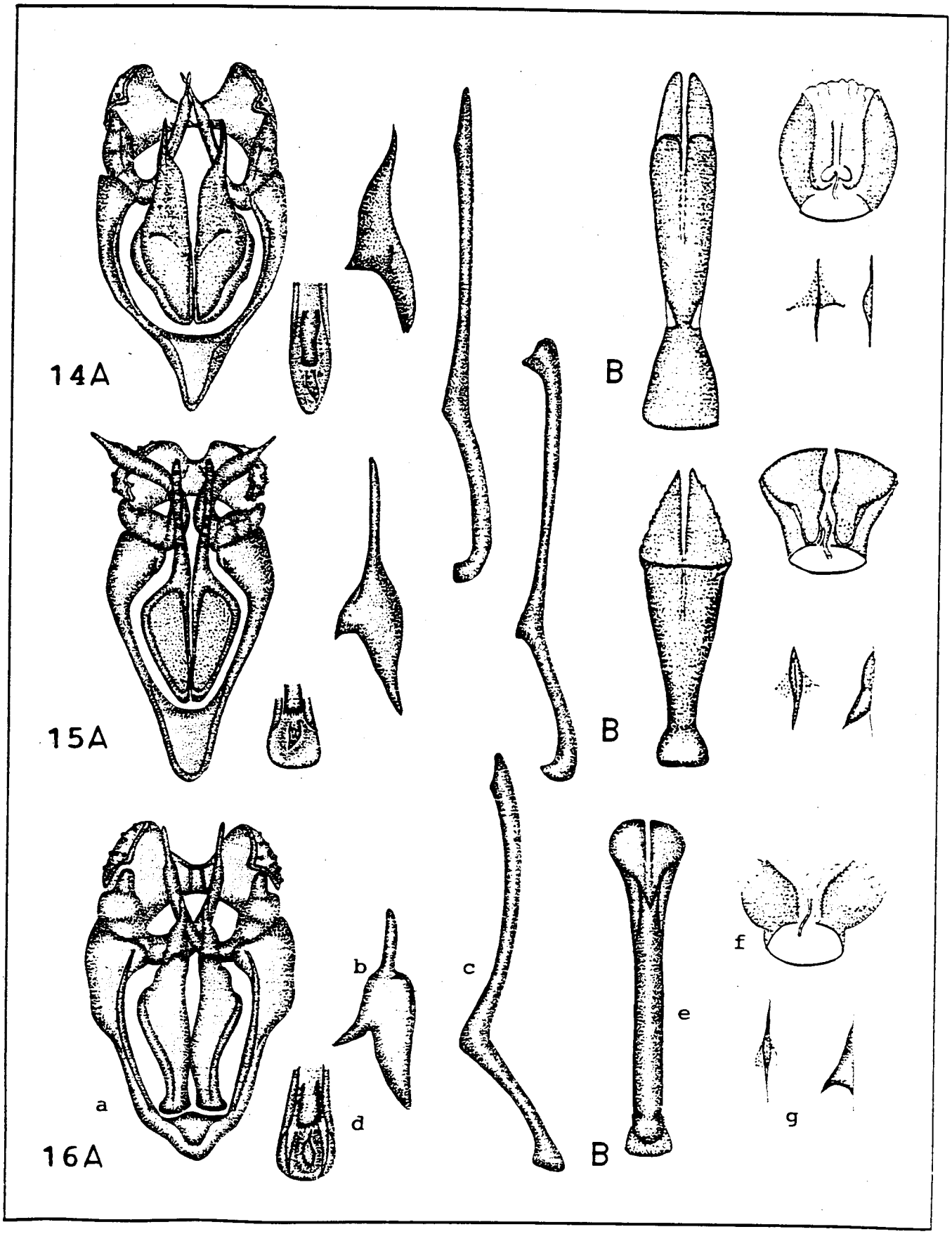
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters of fig. 16, type species of *Pons*, give display format used for all congeners.

Fig. 14. *Thecloxurina atymnides*, topotypes (MNHN).

Fig. 15. *Thecloxurina bolivarymna*, A, holotype, B, allotype.

Display format for ***Pons***: male (16A)-- a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; female (16B)-- e, ductus bursae, ventral view; f, cervix bursae hood, terminal view; g, corpus bursae signa, lateral (right), ventral (left).

Fig. 16. *Pons magnifica*, A, holotype, B, allotype.


14A
B
15A
B
a
b
c
d
e
f
g
16A
B

Figures 17-20

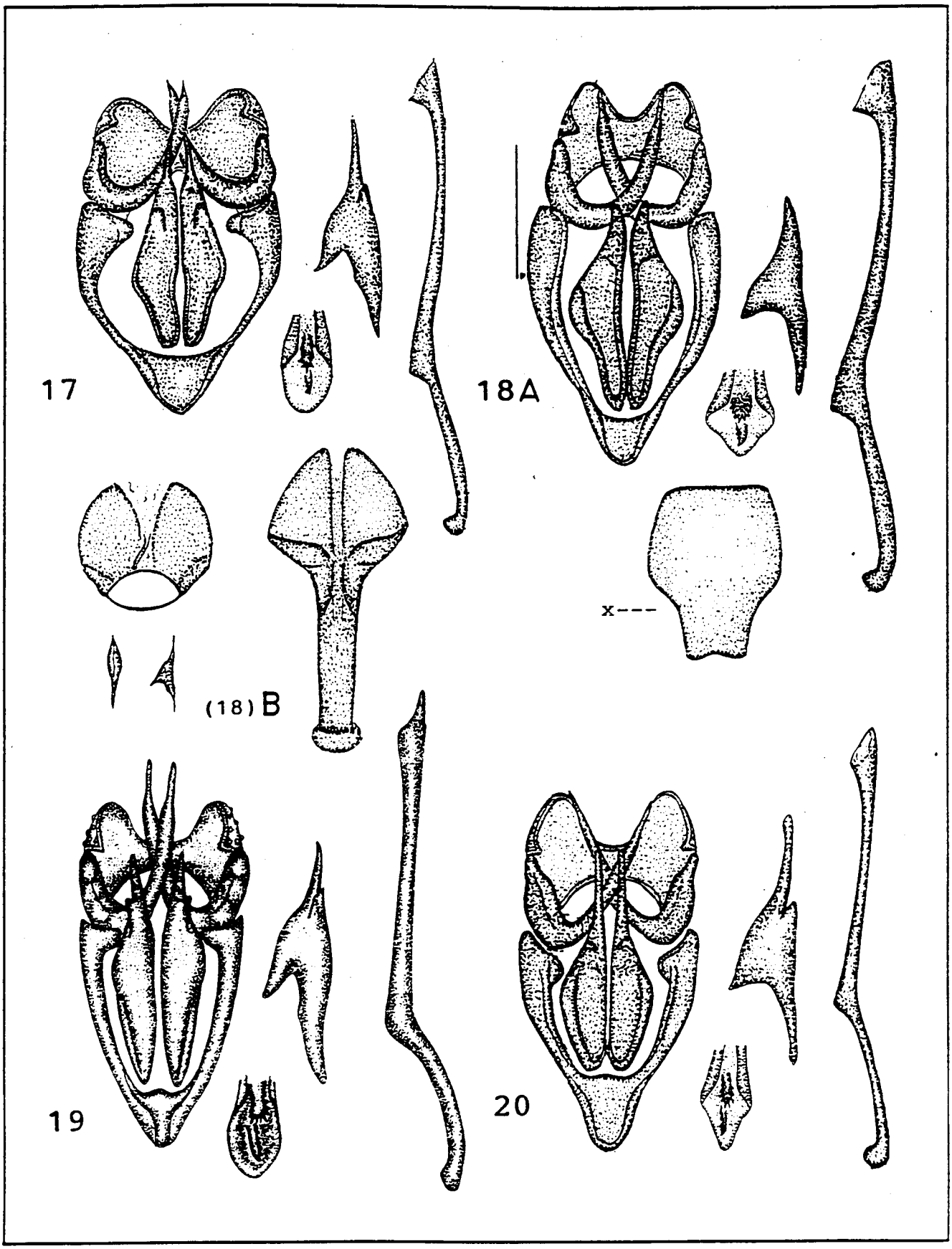
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Black line and carot, respectively, denote expanse and locus of abutment of brush organs, when present; small letters are as noted in individual entries.

Fig. 17. *Pons vittata*, holotype.

Fig. 18. *Pons arcula*, A, holotype, B, topotype
x denotes dorsum of *sipc* in male.

Fig. 19. *Pons purpurea*, holotype.

Fig. 20. *Pons saraha*, holotype.


17
18A
x---
(18) B
19
20

Figures 21-24

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters on initial taxon, the type species of *Abloxurina*, give display format used for all congeners.

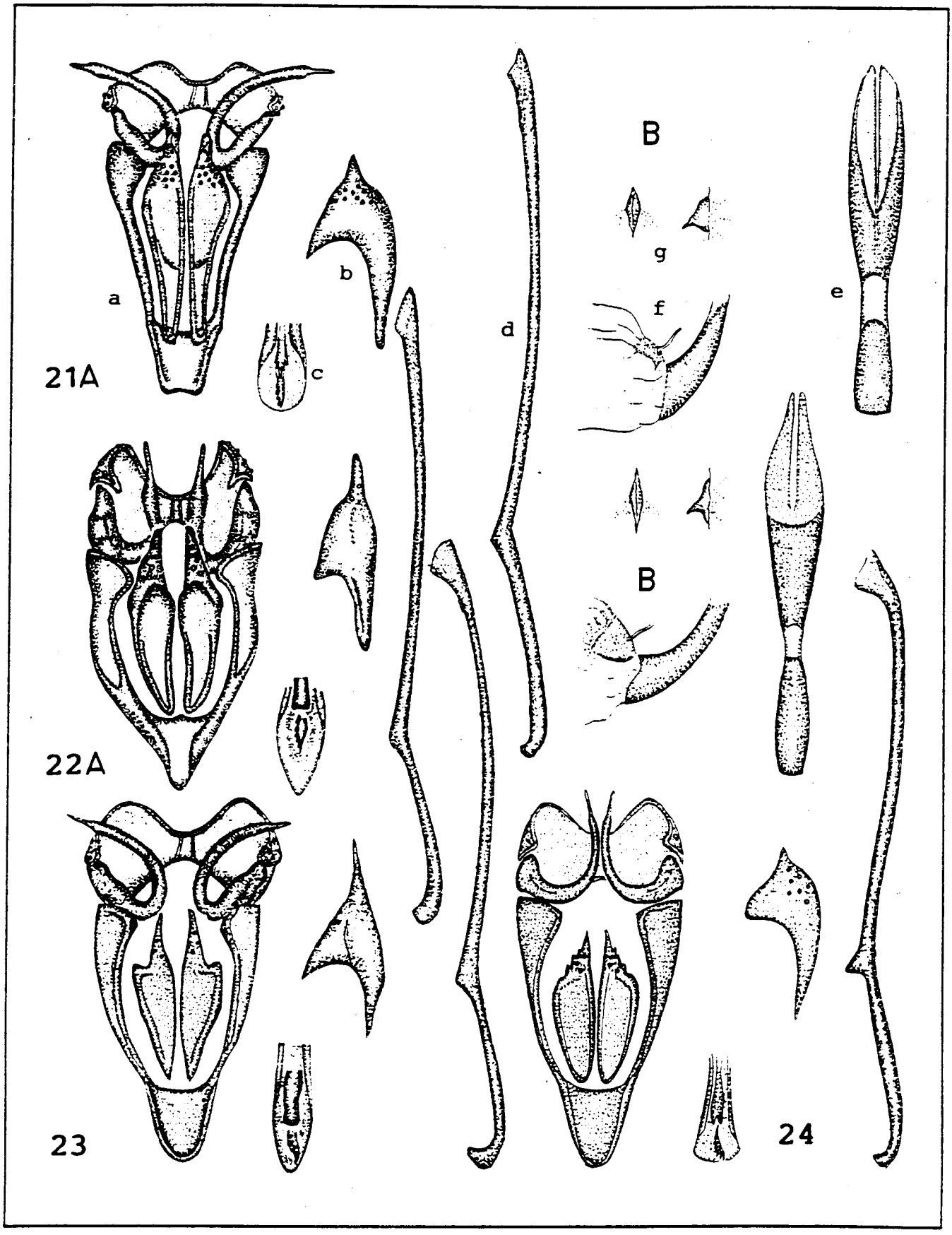
Display format for *Abloxurina*: male (21A)– a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; c, aedeagus terminus with cornuti, dorsal view, d, aedeagus, lateral view; female (21B)– e, ductus bursae, ventral view; f, anterior element of ductus bursae and cervix bursae shield, lateral view; g, corpus bursae signa, lateral (right), ventral (left).

Fig. 21. *Abloxurina amatista*, A, holotype, B, topotype.

Fig. 22. *Abloxurina contracolora*, A, holotype, B, allotype.

Fig. 23. *Abloxurina chiapa*, holotype.

Fig. 24. *Abloxurina balzapamba*, holotype.

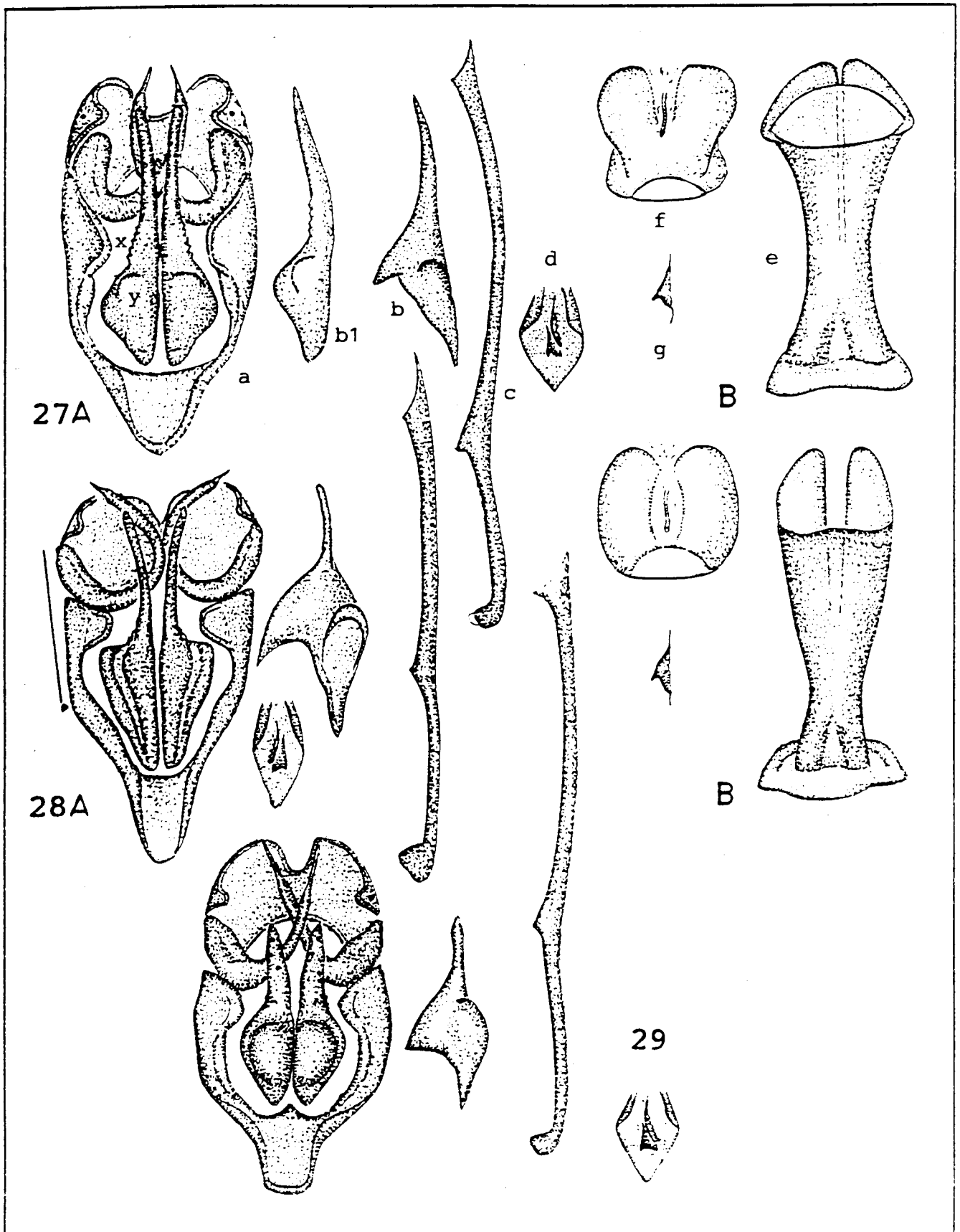

a
b
c
d
B
g
f
e
21A
B
22A
23
24

Figures 25-26

Large numerals denote figures cited in text; small letters denote structures peculiar to the *dissentanea* complex detailed in entries below (remaining figure elements are arranged as in congener Figs. 21-24, except aedeagus of *dissentanea* subspecies are placed below right (25) and (26).

Fig. 25. *Abloxurina dissentanea dissentanea*, male holotype; female topotype; x, female cervix bursae, terminal view (above), lateral view aside ductus bursae (below), i, sclerotized ductal collar, ventral view, ii, same, lateral view and attached ductus seminalis; regarding aedeagus, (25) below right, i, lateral view of angled caecum, ii, dorsal view.

Fig. 26. *Abloxurina dissentanea putreensis*, holotype.


x
y
a
b1
b
c
d
f
g
e
B
27A
28A
29

Figures 30-33

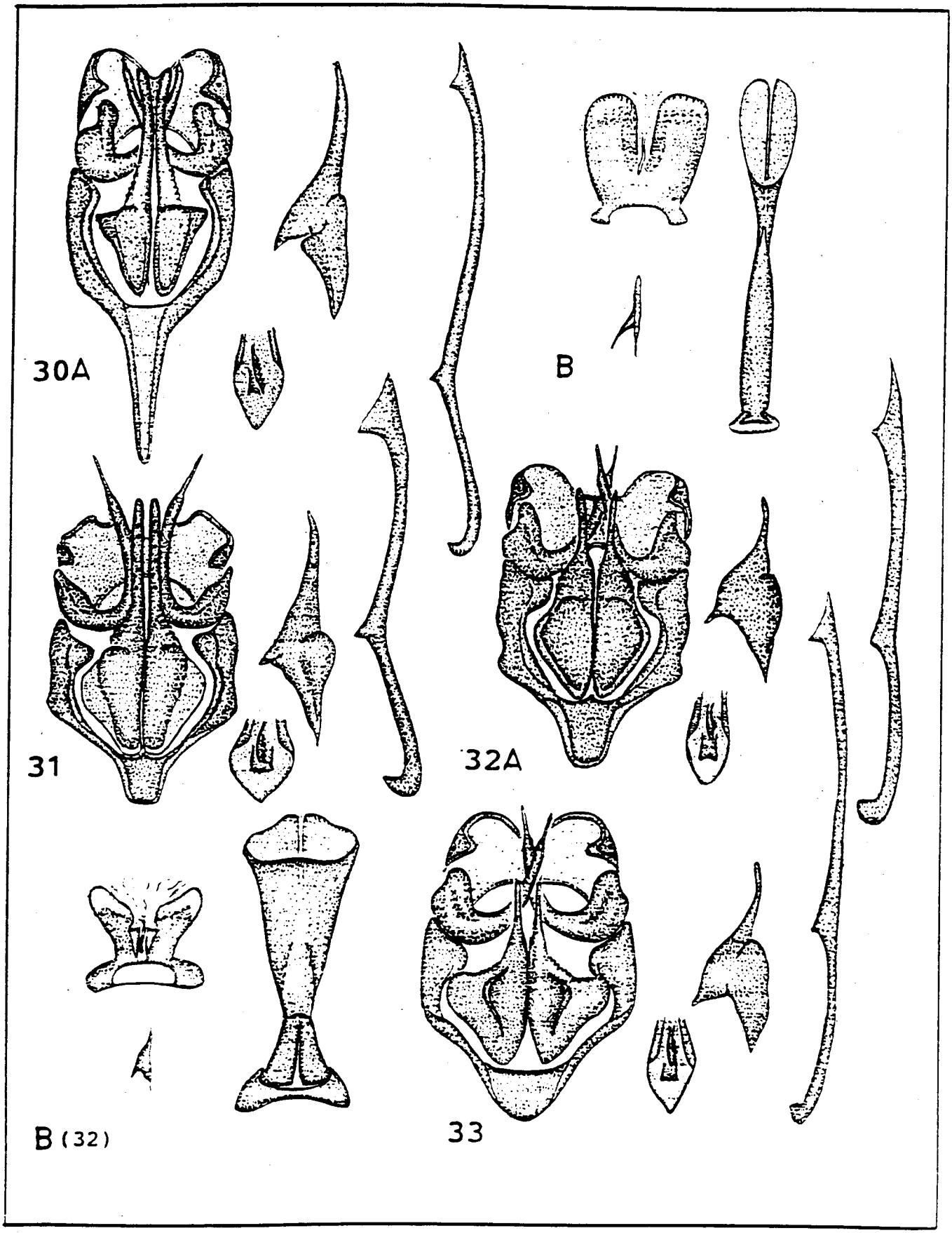
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text.

Fig. 30. *Candora jonesi* [formerly *Thecla shausa*], A, holotype, B, allotype.

Fig. 31. *Candora albalineata*, holotype.

Fig. 32. *Candora contraloxurina*, A, holotype, B, allotype.

Fig. 33. *Candora triangulara*, holotype.


30A
B
31
32A
B (32)
33

Figures 34-37

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters (a-g) on initial taxon, the type species of *Pontirama*, give display format used for all congeners; special letters (f1,g1) denote certain features detailed in entries below; black line and carot, respectively, denote expanse and locus of abutment of brush organs, when present.

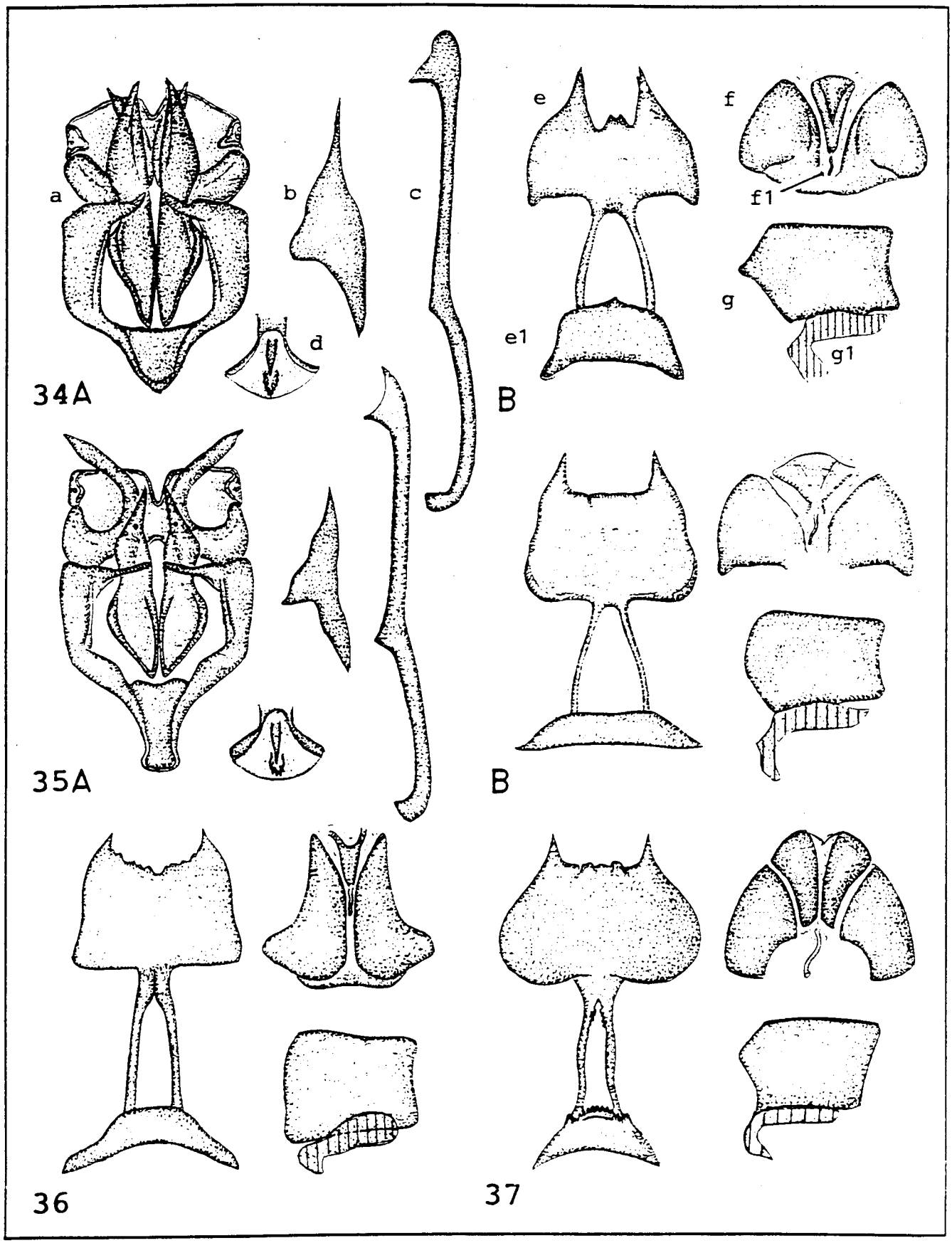
Display format for ***Pontirama***: male (34A)-- a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; d, aedeagus, lateral view; c, aedeagus terminus with cornuti, dorsal view; female (34B)-- e, female "genital plate" comprised of terminal lamella postvaginalis (near e) and, between e and e1, the paired lateral ridges of the ductus bursae; e1 cervix bursae ventrum; f, cervix bursae hood, terminal view (f1, ductus seminalus); g, sipc, lateral view (g1, ventral element of sipc).

Fig. 34. *Pontirama brunea*, A, holotype, B, allotype.

Fig. 35. *Pontirama lapazensis*, A, holotype, B, allotype.

Fig. 36. *Pontirama adriana*, holotype.

Fig. 37. *Pontirama lorena*, holotype.


a
b
c
d
34A
e
e1
f
f1
g
g1
B
35A
B
36
37

Figures 38-41

Large numerals and accompanying letters denote figures cited in text. Small letters of fig. 41, type species of *Rhamma*, give display format used for all congeners.

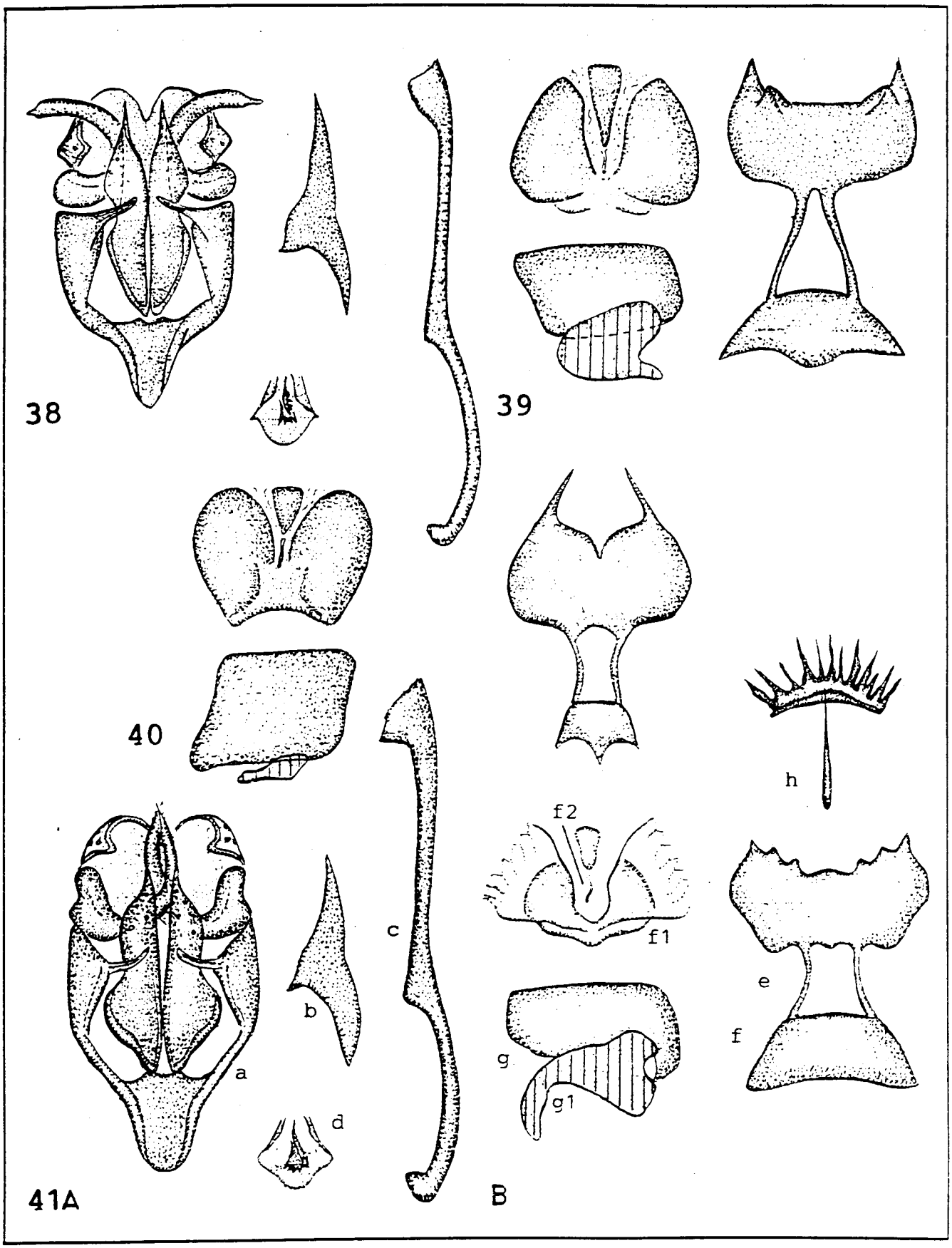
Fig. 38. *Pontirama eiselei*, holotype.

Fig. 39. *Pontirama tolimensis*, holotype.

Fig. 40. *Pontirama coquimbiensis*, holotype.

Display format for ***Rhamma***: male (41A)– a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; female (41B)– e, "genital plate" comprised of serrate lamella postvaginalis (above) and paired lateral ridges of ductus bursae (below), ventral view; f, cervix bursae, ventrum; f1, cervix bursae hood, terminal view (f2, ductus seminalis); g, sipc, lateral view with (g1) lateral lobe; signum of corpus bursae (one of two), external view, showing dendritic shape typical of *arria* Group and the many species of *Rhamma*.

Fig. 41. *Rhamma arria*, A, holotype, B, female, Quito, Ecuador (BMNH).


38
39
40
41A
B
a
b
c
d
e
f
f1
f2
g
g1
h

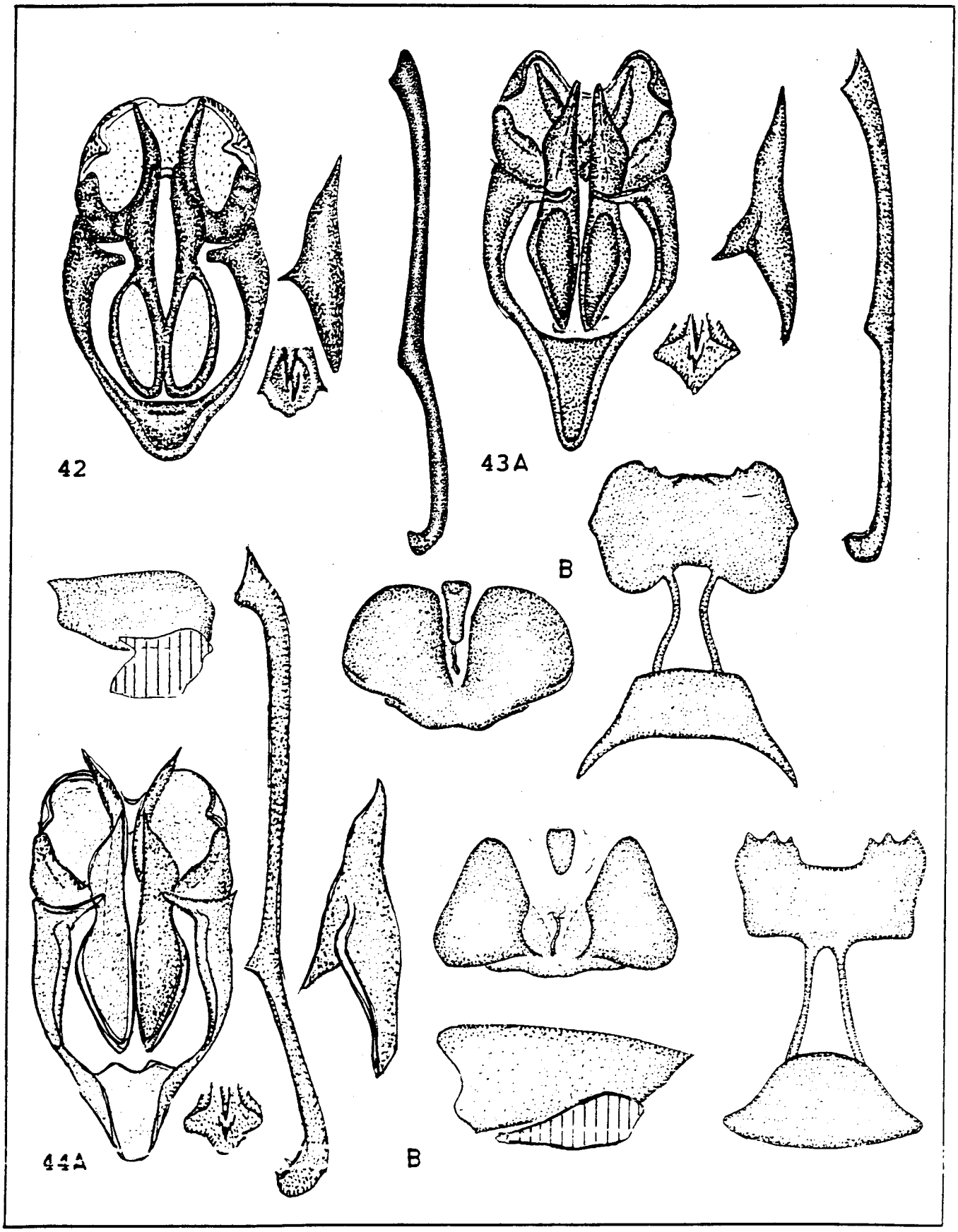
Figures 42-44

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text.

Fig. 42. *Rhamma cuchoensis*, holotype.

Fig. 43. *Rhamma mirma*, A, lectotype, B, paralectotype.

Fig. 44. *Rhamma mishma*, A, San Antonia, Ecuador (AMNH), B, Cuicocha, Ecuador (AMNH).


42
43A
B
44A
B

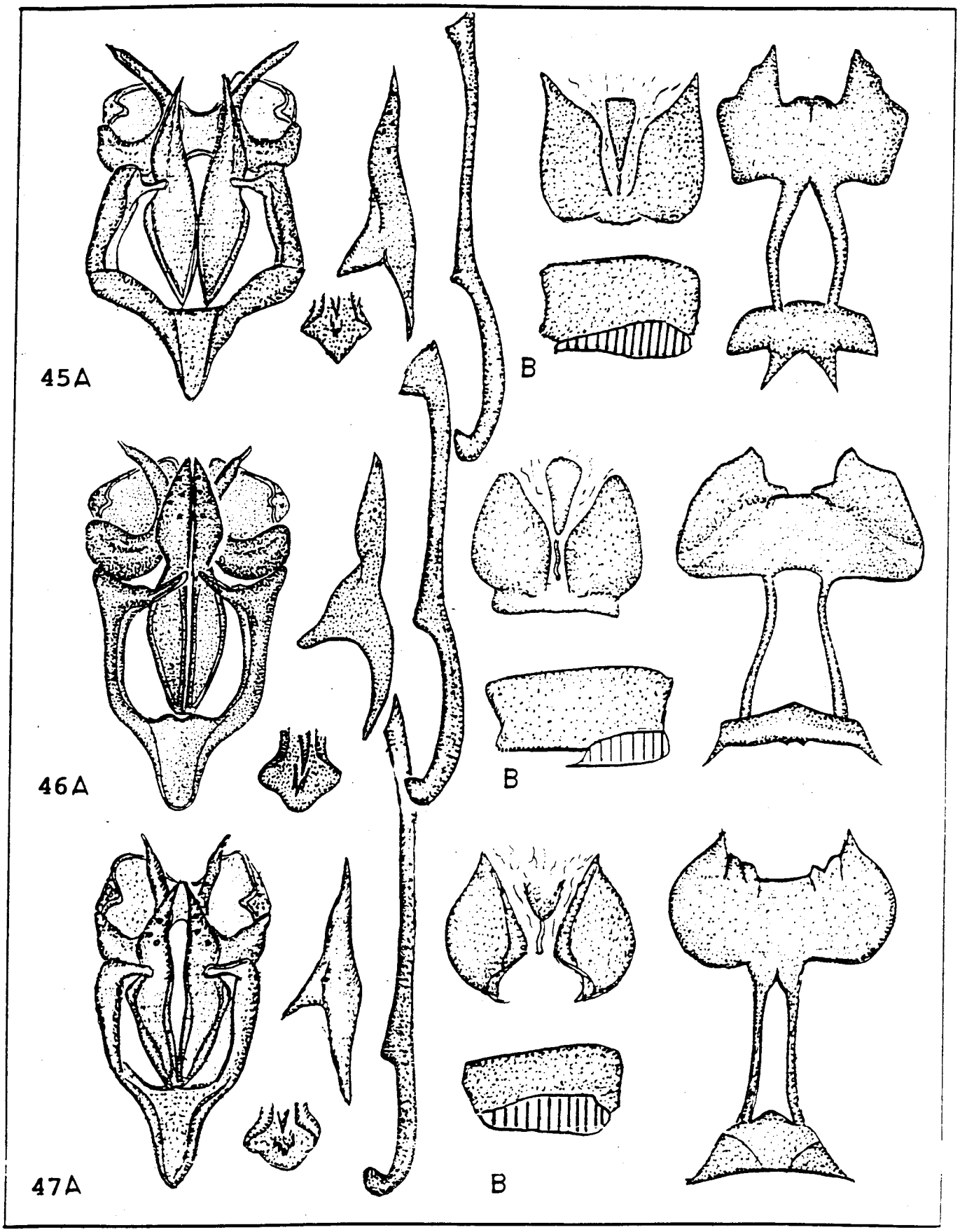
Figures 45-47

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Black line and carot, respectively, denote expanse and locus of abutment of brush organs, when present.

Fig. 45. *Rhamma bilix*, A,B, Rio Aguaca (MNHN).

Fig. 46. *Rhamma aurugo*, A,B, Cuicocha, Ecuador (AMNH).

Fig. 47. *Rhamma sabula*, A, holotype, B, allotype.


45A
B
46A
B
47A
B

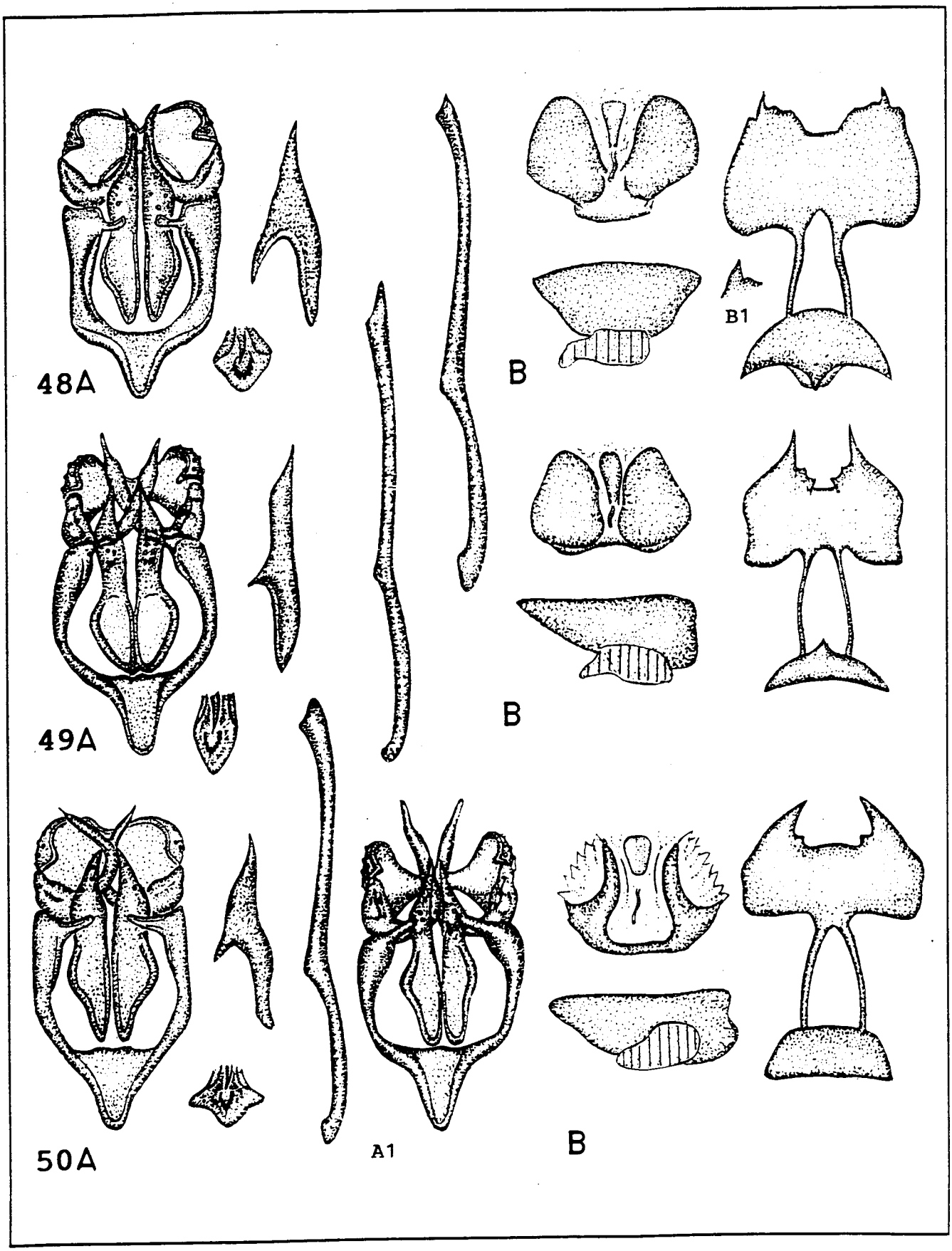
Figures 48-50

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Black line and carot, respectively, denote expanse and locus of abutment of brush organs, when present.

Fig. 48. *Rhamma axida*, A, lectotype, B, paralectotype.

Fig. 49. *Rhamma austoxida*, A, holotype, B, allotype.

Fig. 50. *Rhamma tyrrius*, A, holotype, A1 male, B, Cuicocha, Ecuador (AMNH).


48A
B
B1
49A
B
50A
A1
B

Index to Photographs of Adults and Diagnostic Markings

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

For rapid reference, the index is provided fully in both volumes although photographs are divided between the two as appropriate to the text.

Fig. 100. *Thecloxurina browni*, holotype female (a, marginal lobe on anal tail, b, ground color chocolate brown, c, HW bands chevroned and scalloped).

Fig. 101. *Thecloxurina eiseleorum*, holotype female (a, anal tail rounded, b, ground color tawny, c, FW,HW crossed by brown medial line, d, dusky black crenate submarginal line).

Fig. 102. *Thecloxurina loxurina loxurina*, A,B Rio Poureca, Colombia (AMNH) (a, structural color dull blue, b, triangulate pattern rather straight and sweeping toward anal tail); C,D *Thecloxurina loxurina lustra*, holotype male, allotype female (a, structural color lustrous, b, triangulate pattern undulate and angled toward anal tail); E,F *Thecloxurina loxurina astillero*, holotype male, allotype female (a, structural color dull violet, b, base of anal tail suffused brown, c, triangulate pattern straight toward anal tail, angled anally).

Fig. 103. *Thecloxurina truncta*, holotype male (a, anal tail truncate, laterally directed, b, dark basal brown ground contrasting lighter distal ground, c, triangulate pattern sweeping to anal tail).

Fig. 104. *Thecloxurina feminina*, A, holotype male, B, allotype female (a, male and female alike above, structural color dull gray-brown, b, male with brand, c, triangulate pattern distended, paralleled by postbasal and submarginal lines).

Fig. 105. *Thecloxurina costarica*, holotype male (a, structural color restricted centrally, b, anal margin distended relative to short anal tail, tail suffused red-brown, c, triangulate pattern restricted basally, d, submargin with row of black dashes).

Fig. 106. *Thecloxurina quindiensis*, A,B Hda. San Rafael, Ecuador (AMNH) (a, structural blue color mottled with orange, b, anal tail suffused gray, c, triangulate pattern undulate, framing mottled basal ground and postbasal line).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

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Fig. 107. *Thecloxurina fassli*, male, Paramba, Ecuador (AMNH) (a, anal area very distended, colored deep red, anal tail short, b, structural color deep violet with contrasting postmedial red, c, triangulate pattern distended, suffused gray near anal angle, d, dashed postmedial line).

Fig. 108. *Thecloxurina cillutincarae*, A,B Cerro San Javier, Argentina (AMNH) (a, red anal tail fingerlike and laterally directed, b, black margins very wide, c, triangulate pattern basally restricted, undulate).

Fig. 109. *Thecloxurina atymna*, A, lectotype, B, topotype (a, both sexes bright orange above, b, female suffused basally bluish, c, ground tawny crossed by concentric red-brown suffusive lines, postbasal, medial, postmedial, submarginal).

Fig. 110. *Thecloxurina atymnides*, female, "Bolivia" (BMNH) (a, both sexes bronze above, b, triangulate pattern resembling *Thecloxurina loxurina*, limited to medial division of ground color, sweeping toward anal tail).

Fig. 111. *Thecloxurina bolivatymna*, A, holotype male, B, allotype female (a, male dull orange above, b, female strewn with blue, c, triangulate pattern oriented basally, suffused very dark, distended toward anal tail).

Fig. 112. *Pons magnifica*, holotype male (a, male structural color brilliant blue, female lustrous silvery blue, b, marked with cryptic "dead twig" resemblance pattern, c, anal tail blunt, spatulate).

Fig. 113. *Pons vittata*, holotype male (a, structural color deep azure, b, FW triangulate shape, c, ground brown crossed with profuse black stripes, d, anal tail blunt, spatulate).

Fig. 114. *Pons arcula*, A,B Cumbres San Javier, Argentina (a, small, anal lobes blunt, b, large brand, c, violet structural color restricted basally, d, ground tawny to brown marked with darker basal disc).

Fig. 115. *Pons purpurea*, holotype male (a, structural color dull purple, b, spatulate anal tail with short distally directed spike, c, ground brown, chocolate postmedial band, d, chocolate basal disc).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

For rapid reference, the index is provided fully in both volumes although photographs are divided between the two as appropriate to the text.

Fig. 116. *Pons saraha*, holotype male (a, structural color purple, b, bulbous anal tail with orange anally-directed lobe, c, ground brown, orange lunulate submarginal band flanking chocolate triangulate basal disc).

Fig. 117. *Abloxurina amatista*, A,B Hda. Talahua, Ecuador (AMNH) (a, structural color purple, b, male brand huge, c, ground grizzled tawny with reddish suffusion, generally occurring as concentric undulate hues from postbasal to submarginal areas).

Fig. 118. *Abloxurina contracolora*, A, holotype male, B, allotype female (a, anal lobes elongate (much like *Thecloxurina*), b, FW medial purplish blue, c, HW medial silvery blue in male, baso-medial in female, d, ground gray-brown with angulate slate gray bands).

Fig. 119. *Abloxurina chiapa*, holotype male (a, strewn with blue structural color, b, concentric suffusive red-brown stripes).

Fig. 120. *Abloxurina balzabamba*, holotype male (a, structural color deep purple, b, anal lobe elongate, b, FW,HW basal pattern in chocolate "hour-glass" configuration as only in *Abloxurina dissentanea* below).

Fig. 121. *Abloxurina dissentanea dissentanea*, A,B Cuzco, Peru (AMNH) (a, both sexes baso-medial structural color silvery blue, b, markings contrasting shades of white and gray to gray-brown); C,D *Abloxurina dissentanea putreensis* (a, ground brown, b, markings contrasted brown and yellow).

Fig. 122. *Candora fallacandor*, holotype male (a, structural color dark purple, black borders thin, arched widely around purple radial area, b, brand small, c, bright rufous surrounding anal lobe, d, ground tawney with suffusive red-brown markings, e, light blotch extending from discal cell toward costal margin).

Fig. 123. *Candora cyanomediana*, A, holotype male, B, allotype female (a, structural color dark purple, black borders wide, extending to discal area and male brand, b, brand small, c, base of anal lobe hardly suffused, d, ground and suffusive markings more concolorous).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

For rapid reference, the index is provided fully in both volumes although photographs are divided between the two as appropriate to the text.

Fig. 124. *Candora kellya*, holotype male (a, lacking contrast between barely perceptable structural color and dark borders, b, brand minute, c, FW postmedial and submarginal bands short, d, basal disc dark suffused, HW otherwise concolorous red-brown).

Fig. 125. *Candora jonesi*, holotype male of *Thecla shausa* (unavailable homonym) (a, dark magenta, b, ground finely mottled dark red-brown, c, prominent band of dark brown chevroned markings complementing other markings typical of genus).

Fig. 126. *Candora albalineata*, holotype male (a, ground magenta purple, b, suffusive white medial band across wing).

Fig. 127. *Candora contraloxurina*, A, holotype male, B, allotype female (a, anal lobe elongate, b, ground dull purple, c, ground gray-brown, dark suffusive red-brown basad of medial line sweeping toward anal lobe and converging with dashed or lineal submarginal line at base of anal lobe, much like "triangulate pattern" of *Thecloxurina*).

Fig. 128. *Candora triangulara*, holotype male (a, brand surrounded by triangulate black patch, b, ground beige, basal disc surrounded by two suffusive brown bands, converging near anal lobe from respective costal and anal margins).

Fig. 129. *Pontirama brunea*, A, holotype male, B, allotype female (a, dorsal ground concolorous dull brown in male, b, basal disc with brown, yellow-brown and tawny inflorescent markings, c, dorsal ground bright yellow-orange in female).

Fig. 130. *Pontirama lapazensis*, A, holotype male, B, allotype female (a, dorsal ground concolorous dull brown in both sexes, b, suffused bright yellow-gold from discal and M2 cells to anal margin).

Fig. 131. *Pontirama adriana*, holotype female (a, medial orange patches, b, ground light ochre with dark brown basal disc, margin of which is distended distally from the cell).

Fig. 132. *Pontirama lorena*, holotype female (a, ground tawny, HW crossed by meandering brown marginal line, b, ground tawny with four meadering purplish-red bands, c, HW crenate).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

For rapid reference, the index is provided fully in both volumes although photographs are divided between the two as appropriate to the text.

Fig. 133. *Pontirama eiselei*, holotype female (a, ground rich brown framed by black borders, b, ground yellow with distinctive darker "tear-drop" marking).

Fig. 134. *Pontirama tolimensis*, holotype female (a, anal lobe broad, b, ground concolorous dark brown, c, basal disc outlined by wide white border followed by d, caudo-distal brown and e, yellow-gold suffusion around anal lobe).

Fig. 135. *Pontirama coquimbiensis*, holotype female (a, ground brown, anal lobe diminutive, b, wide chocolate medial band bordered by dark lunular marks basal and distal).

Fig. 136. *Rhamma arria*, A,B "Colombia" (AMMH) (a, elongate androconial streak, b, silvery-blue structural color limited to HW but bright, HW margin slightly dentate, c, basal disc with slightly dentate gray or brown outer margin, d, ground dull gray-brown).

Fig. 137. *Rhamma cuchoensis*, holotype male (a, FW falcate, b, robust androconial streak, c, no structural color, ground silver-white, d, ground gray-white, markings indistinct).

Fig. 138. *Rhamma mirma*, A,B Federal District, Venezuela (AME) (a, male without androconia, b, both sexes dorsally dull silver-gray, latter well into FW postmedial area, c, basal disc gray-suffused, edge undulate, d, margin with crescent-like marks in most cells).

Fig. 139. *Rhamma mishma*, A, Banos, Ecuador (AMNH), B, Cuicocha, Ecuador (AMNH) (a, male without androconia, b, both sexes with blue-gray structural color prominent to discal area, c, lunulate yellow markings forming medial and postmedial bands).

Fig. 140. *Rhamma bilix*, female, Rio Cocorna, Colombia (AMNH) (a, HW profusely fringed and with tuft-like tail, b, structural color prominent dull azure blue [male without androconia], c, basal disc dark brown with indistinct wavy markings crossing postbasal area and disc margin).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

For rapid reference, the index is provided fully in both volumes although photographs are divided between the two as appropriate to the text.

Fig. 141. *Rhamma aurugo*, A,B Ccapana, Peru (AMNH), C,D Cuicocha, Ecuador (AMNH) (a, structural color deep blue to blue-violet in male, no androconia, b, female flat violet, c, ground yellow-green to yellow-brown, with dark medial and/or postbasal suffusions varying to lines or bands).

Fig. 142. *Rhamma sabula*, A, holotype male, B, allotype female (a, both sexes structural color suffusive light blue to light blue-green, brown borders moderately wide, b, male without androconia, c, ground sandy colored, crossed with thick, meandering lines of buff brown in disc and again profusely along submargins, d, FW discal area concolorous light ochre).

Fig. 143. *Rhamma oxida*, A,B Cuicocha, Ecuador (AMNH) (a, male with elongate androconial streak, b, structural color vivid azure blue, c, patch of navy blue costad of discal cell, d, FW brown borders wide, HW brown borders thin, e, ground yellowish, f, brown postbasal and medial lines often costo-marginally conjoined).

Fig. 144. *Rhamma austoxida*, A, holotype male, B, allotype female (a, male structural color brilliant blue, b, FW,HW brown borders thin, c, male without androconia, d, female structural color bright blue but FW brown borders wide, e, ground buff to tawny, dark suffusions crossing wing in postbasal, medial and postmedial area).

Fig. 145. *Rhamma tyrrius*, A,B Cuicocha, Ecuador (AMNH) (a, structural color, both sexes greenish blue, borders widely brown, b, male with bipartite brown and white ellipsoid androconial streak, c, anal lobe prominent, d, ground gray-brown, fine red-brown suffusion crossing wing at basal disc and submargin, sometime coalescing into bandlike outlines).

Fig. 146. *Rhamma amethystina*, A,B Cerro San Javier, Argentina (AMNH) (a, male structural color bright violet, b, elongate androconial streak, c, female flat purplish, d, ground grizzled red-brown with variously prominent, parallel dark brown postbasal and medial bands).

Fig. 147. *Rhamma comstocki*, A, holotype male, B, allotype female (a, male structural color brilliant sky blue, b, contrasting patch of iridescent green, c, elongate androconial streak, d, female structural color duller, dark borders wider, e, basal areas suffused deep azure blue, f, rest of ground greatly mottled gray, brown or yellowish, framed in postbasal, medial and submarginal areas by prominent red-brown meandering or dentate lines).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

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Fig. 148. *Rhamma nigrasarotina*, A, holotype male, B, allotype female (a, male androconial brand ovate, b, FW apices rounded, c, structural color deep steel blue, d, ground ochre, e, black dashes alternating medially and postmedially in cells at basal disc margin and along wing submargin).

Fig. 149. *Rhamma saroticana*, A, holotype male, B, allotype female (a, male androconial elongate and ellipsoid, b, structural color suffusive dull sky blue over brown, c, brown borders wide, d, ground mottled tawny, e, basal disc with serrate black margin).

Fig. 150. *Rhamma inexpectata*, A, holotype male, B, allotype female (a, male brilliant concolorous dark azure, b, elongate androconial streak, c, females duller azure with wider dark borders, d, ground rich buff crossed with discontinuous arcs of crisp red to cinnamon spots and dashes).

Fig. 151. *Rhamma roberti*, holotype male (a, concolorous steel blue except for black FW apices, b, elongate gray androconial streak, c, ground gray, d, basal disc slate gray with reddish-black margin and two light gray postbasal spots).

Fig. 152. *A, Rhamma tarma*, holotype male (a, structural color sky blue contrasted by b, deep azure patches distad on FW, costad on HW, c, no androconia, d, FW apex angled, e, VFW blue-black flush, f, ground tawny, g, dark brown basal disc edged marginally black, distended at discal cell and with dark discal slash).
B, Rhamma catamarca, holotype male (a, structural color sky blue contrasting black borders, b, no androconia, c, ground grizzled gray-brown, HW with brilliant magenta-red suffusive spots, peppered across disc and in each cell of submargin).
[additional entry 152B added in proof]

Fig. 153. *Rhamma hybla*, holotype male (large, a, structural color deep greenish, b, no androconia, c, anal lobe produced, d, ground tawny, FW with suffusive light yellowish wavy submarginal band, e, HW with mottled disc edged by dark serrate margin and light tawny-yellow distal suffusion).

Fig. 154. *Rhamma adunca*, female from Draudt 1919 (large, a, structural color bold violet blue, b, anal area of HW expansive, c, ground yellow-green, d, suffusive gray postmedial band, e, suffusive gray postmedial and medial bands over mottled ground).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

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Fig. 155. *Rhamma chilensis*, holotype female (a, ground dull brown, structural color limited to blue HW sheen, b, wings heavily fringed, anal lobe diminutive, c, ground suffusive tawny crossed by successive mottled reddish lines).

Fig. 156. *Rhamma duplicata*, holotype female (a, ground dark brown, structural color limited suffusive blue sheen basad on both wings, b, ground mottled yellow and ochre, c, HW with bold parallel brown postbasal and medial bands distended at end of discal cell).

Fig. 157. *Rhamma creara*, holotype female (a, anal lobe produced, b, structural color blue-green basad of wide fuscous apices and margins, c, fluted, triangulate brown band from edge of discal cell to base of anal lobe).

Fig. 158. *Rhamma argenta*, holotype female (a, HW shape broadly ovate and without anal lobe, b, structural color flecked bright silvery blue basad of broad fuscous borders, c, ground suffusive gray, overscaled with suffusive gold, d, HW with elongate, meandering gray-brown submarginal and medial bands forming ellipsoid pattern around medial area and then angled toward anal margin).

Fig. 159. *Rhamma magenta*, holotype female (a, ground blackish, flecked with dark blue structural color, b, ground deep magenta, c, apical white suffusion, d, rather straight medial black band).

Fig. 160. *Rhamma disjuncta*, holotype female (a, ground baso-medially suffused silvery blue on both wings, b, anal lobe diminutive, c, ground tawny, d, FW,HW submarginal cells with dark blotches, e, basal disc grizzled red-brown, f, anal area cryptic, "leaflike", g, blue iridescent cast across HW submargin).

Fig. 161. *Shapiroana shapiroi*, A, holotype male, B, allotype female (a, male structural color brilliant azure blue to margins, b, female structural color silvery blue, c, ground powdery gray, d, basal disc with suffusive black dashes across postbasal area and along disc margin).

Index to Photographs of Adults and Diagnostic Markings (continued)

Numerals and accompanying letters (A, male, B, female, except as specified) denote figures as numbered in the text and arranged hereafter on successive pages. Photographs are arranged (left to right) upper surface first, under surface second, with whole or half sides as appropriate to identification and photograph availability. Small "pointer" letters (a, b, etc.) indicate characters of the wing described in each entry.

Fig. 162. *Shapiroana circe*, holotype female (a, wing shape angulate, b, structural color silvery blue with broad black borders, c, ground powdery gray, generally concolorous, basal disc and adjoining areas only slightly dark-suffused).

Fig. 163. *A, Shapiroana aurifera*, holotype female (a, FW distally black, basally gray, b, HW gray, strewn with basal blue iridescence, c, ground gray, d, radically dentate golden postmedial band).
B, Shapiroana matusikorum, holotype female (a, ground brilliant orange, b, ground grizzled ochre and brown, c, lunulate brown and black medial band, d, postmedial arc of white crescents).
C, Shapiroana macphersoni, A, holotype male, B, allotype female (a, male ground dull gray-brown, b, male with ellipsoid androconial mark, c, female ground silvery-gray with dark borders, d, ground soft gray, e, medial area with arc of suffusive, nearly continuous, yellow dashes, f, submarginal arc of light crescents).
D, Shapiroana minissima, holotype female (a, extremely small, b, ground brown, HW with basal silvery blue, c, anal lobe prominent, d, ground mottled tawny and brown, e, FW with brown band and costal marks, f, HW with thin suffusive red-brown medial band).
[additional entries 163B-D added in proof].

Fig. 164. *Paralustrus commodus*, A,B Hda. San Rafael, Ecuador (AMNH) (a, structural color lustrous blue to blue-green, b, FW costal area and marginal borders generally concolorous fuscous, costa with slight iridescent sheen, c, anal lobe rounded, d, mottled with green, ochre and brown, edges of markings suffusive and more indistinct compared to *familiaris*, d, green to ochre costal patch generally narrower than on congeners below).

Fig. 165. *Paralustrus orosiensis*, holotype female (structural color basally restricted, b, anal lobe small, c, mottled yellow-green grounds boldly contrasting dark brown outlines, especially on both sides of HW costal patch and along wing margins).

Fig. 166. *Paralustrus familiaris*, A,B Ccapana, Peru (AMNH) (a, male with bold black costal patch contrasting lustrous blue FW structural color, b, edges of mottled markings crisp, these and pattern elements along margin often outlined with succinct white or blue, c, anal lobe blunt).

Fig. 167. *Paralustrus paccius*, holotype female (a, structural color lavender, on HW extending nearly to margin, b, anal lobe diminutive, c, ground grizzled gray, HW costal patch wide and colored bronze brown).

Index to Photographs of Adults and Diagnostic Markings (continued)

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Fig. 168. *Penaincisalia culminicola*, A, holotype male, B, topotype female [labelled properly in Johnson 1990a, fig. 1 (fig. added at proof), mislabelled in fig. 2 (photo mistakenly not removed at proof) (a, male FW double-branded, structural color lavender blue, b, female brown with blue hue, ground varying ochre to gray, d, basal disc ringed with lunulate band of brown or black spots).

Fig. 169. *Penaincisalia aurulenta*, A, holotype male, B, allotype female (a, male FW double branded, structural color brilliant orange, b, female flat orange to yellow-orange, c, FW discal area bright orange, d, hoary patterns mottled yellow and orange).

Fig. 170. *Penaincisalia caudata*, holotype male (a, male FW double branded, structural color lilac blue, wide black borders, b, short tail, c, basal areas of FW and HW suffused dark brown over tan ground).

Fig. 171. *Penaincisalia oribata*, female, Corque, Bolivia (AMNH) (a, ground brown, b, ground mottled grayish, c, dark submarginal spots).

Fig. 172. *Penaincisalia downeyi*, holotype male (a, FW double-branded, structural color dark violet-blue, wide dark borders, b, medial band nearly straght, dividing very dark brown basal ground lighter ochre distal ground).

Fig. 173. *Penaincisalia anosma*, female, El Tabano, Colombia (a, ground warm auburn with wide black borders, b, basal disc chocolate edged with black medial band, distal ground lighter brown).

Fig. 174. *Penaincisalia rawlinsi*, A, holotype male, B, allotype female (a, FW double-branded, structural color bronze, wide fuscous borders, b, ground light ochre strewn with disordered dark patches and dots).

Fig. 175. *Penaincisalia pichincha*, holotype female (a, ground unicolorous dark brown, b, ground dark brown, basal disc with suffusive darker hue).

Fig. 176. *Penaincisalia descimoni*, holotype male (a, FW double-branded encompassed by apical fuscous, b, structural color dull lilac basal on FW,HW, c, ground gray with darker gray mottled basal disc).

Index to Photographs of Adults and Diagnostic Markings (continued)

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Fig. 177. *Penaincisalia patagonaevaga*, holotype male (a, FW double-branded, b, bright lavender violet structural color on entire FW, cephalad of discal cell on HW, c, dark brown basal disc extending to postmedial area).

Fig. 178. *Penaincisalia eiselei*, holotype male (a, FW double-branded, b, ground tawny, c, ground yellow-brown, d, dark-suffused distally distended basal disc).

Fig. 179. *Penaincisalia planuma*, holotype female (a, FW ground brown, b, HW with violet medial structural color, c, tail tuft at CuA2, d, ground generally concolorous brown, strewn with thin white dashes around margin of basal disc).

Fig. 180. *Penaincisalia penai*, A, holotype male, B, allotype female (a, rufous limbal patch, b, male FW double-branded, structural color dark purple, c, female ground brown, d, anal lobe diminutive, e, ground brown, basal disc darker and with very irregular edge).

Fig. 181. *Penaincisalia candor*, A, Cuicocha, Ecuador (AMNH), B, El Tabano, Colombia (AMNH) (a, anal lobe produced, no rufous limbal patch, b, male FW double-branded, structural color violet red, c, female ground flat purple, c, ground mottled brown and red-brown, d, single elongate medial band extending rather straight across wing).

Fig. 182. *Penaincisalia bimediana*, holotype female (a, ground brown, b, anal lobe elongate, c, ground tawny, each wing with two stripes, FW postmedial and submarginal, HW medial and submarginal).

Fig. 183. *Galba elvira*, A, holotype male, B, allotype female (a, ground cream, b, tuft-like tail, c, male FW with single ellipsoid brand, d, ground cream, e, FW red-brown postmedial, marginal bands, f, basc mottled red-brown, edged medially by white dashes; brown postmedial band bordered by undulate white marginal line).

Fig. 184. *Galba fumosa*, holotype female (a, ground light tawny, b, borders suffusive brown, c, ground tawny, FW with suffusive brown postmedial band, d, ground tawny, basal disc suffused darker brown and crossed with postbasal brown streak, outlined only slightly by white).

Index to Photographs of Adults and Diagnostic Markings (continued)

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For rapid reference, the index is provided fully in both volumes although photographs are divided between the two as appropriate to the text.

Fig. 185. *Radissima umbratus umbratus*, A,B topotypes (AMNH) (a, anal lobe and curvate HW tail, b, structural color bright silvery blue, wide dark borders, c, ground green-hued, d, medial band basally incised near discal marking in cells M1 and M2); C,D *Radissima umbratus parthenia*, A,B topotypes (AMNH) (a, anal lobe and curvate HW tail, b, structural color bright silvery blue, wide dark borders, c, ground brown to ochre, d, medial band entire); E,F *Radissima umbratus colombiensis*, holotype (a, ground pallid cream, d, markings obsolescent, medial band broken, colored beige).

Fig. 186. *Radissima catadupa*, A,B Cuicocha, Ecuador (AMNH) (a, thick recurvate tail, b, structural color lustrous silvery blue with crisp black borders, c, ground gray to tawny marked with concentric undulate brown bands).

Fig. 187. *Radissima dinus*, female from Draudt 1919 (a, robust anal lobe, b, structural color bright silvery blue with wide dark borders, c, ground brown and yellow, d, dark postmedial patch, e, mottled brown over basal disc, suffusive cream and yellow distal markings).

Fig. 188. *Radissima curitabaensis*, holotype female (a, structural color violet fading to brown margins, b, ground grizzled tawny with c, lighter ochre FW postmedial band, d, light ochre basal markings, e, brown undulate postmedial band).

Fig. 189. *Radissima esolana*, holotype female (a, structural color bright azure, b, ground dark brown, c, black discal spot and postmedial band, wing base flushed with blue sheen, d, dentate black medial band complementing black postbasal slashes).

Adults of Outgroup Taxa

Fig. 190. *Adults of Mexican/Central American Callophryine Elfins: A, Cisincisalia guatemalena*, topotype male (CMNH) (a, short HW tail, b, structural color bold steel blue, c, FW discal marks, d, HW basal disc expansive, concentric red-brown dentate pattern lavish to postmedial area). *B, Cisincisalia moecki*, holotype male (a, no tail, b, structural color dull steel blue, c, FW discal area concolorous, d, HW basal disc basally restricted, dentate markings only along disc margin).

Index to Photographs of Adults and Diagnostic Markings (continued)

Fig. 191. *Adults of Outgroups with Elfinlike Components: VARIEGATTA: A, Variegatta elongata*, male, Hdn. San Rafael, Ecuador (AMNH) (a, large ovate androconial brand, b, blue iridescence exceeding medial area).
B, Variegatta reducta, holotype male (a, brand diminutive and black suffused, b, iridescence limited to areas of flecked blue.

LAMASA: C, Lamasa calesia, male, female, San Ramon, Peru (AMNH) (a, ground greatly mottled, b, blue lineal markings extensive).
D, Lamasa robbinsi, holotype male (a, ground mainly unicolorous, b, blue lineal markings few).

TIGRINOTA: E, Trigrinota ellida, Annaburg, Brazil (AMNH) (a, four yellow-brown wing bars, b, basal dark patch, rest of wing generally unbanded, mottled with lighter cryptic yellow, brown, ochre).
F, Tigrinota jennifera, holotype male, allotype female (a, five dark orange-brown wing bars, b, dark basal color repeated distally throughout).
G, Tigrinota perinota, holotype male (a, five dark orange-brown wing bars, b, orange bands crossing medial area and margin).
H, Tigrinota dolylas, male, female, St. Laurent, French Guiana (AMNH) (a, brand ovate and black, b, three yellow-brown wing bars, c, HW tail).
I, Tigrinota pallida, male, Curipito, Venezuela, female, Trinidad (AMNH) (a, HW white nearly to margin, b, brand distally ovate and black, basally brown, c, HW tail).
J, Tigrinota spurius, male, Cauca, Colombia (AMNH) (a, brand rectangulate brown, b, blue iridescence extended distally, c, no HW tail).
K, Tigrinota hypocrita, Presidio, Mexico (AMNH) (a, blue iridescence extended distally to margin, b, no HW tail, c, HW banded with orange).
L, Tigrinota biangula, Quebrada de Escoipe, Argentina (AMNH) (a, angulate tail, b, iridescent submarginal blue in patches, c, ground mottled tawny-gray, marked with concentric crptic elements, greenish, ochre and brown).
M, [for comparative purposes] *Dolymorpha jada*, Blumenau, Brazil (AMNH) (a, wings striped ochre to brown).

IGNATA: N, Ignata ignobilis, holotype (a, brown above, b, ground ochre, cryptic brown pattern along postmedial area).
O, Ignata illepida, holotype (a, grounds red brown, b, cryptic marks along entire basal disc, postmedial area).

ARASES: P, Arases clenchi, male, female, Ochuc (Chiapas), Mexico (AMNH) (a, HW basally blue in both sexes, b, submargin dashed brown).
Q, Arases aurantiaca, holotype, allotype (a, male brown, c, female with oblique iridescent blue patches, c, submargin with orange band).
R, Arases micandriana, holotype (a, band broken by intruding discal element, c, markings edged with bright blue).

Index to Photographs of Adults and Diagnostic Markings (continued)

S, Arases colombiana, holotype (a, blue-green iridescence intruding the postmedial areas, b, pattern cryptic).

Fig. 192. *Adults of Large Elfinlike "Thecla" Species: MICANDRA: T, Micandra sappho*, as figured by Draudt 1919 (a, broad white wing bar, b, V ground mottled with spots and blotches of blue and blue-green, reminiscent of *Eumaeus*).

MITHRAS: U, Mithras nautes, male, Iquitos, Peru (AMNH) (a, D structural color dark iridescent blue, b, ovate black brand, c, yellow-suffused lateral stripe, d, V with bands of dull lunulate blue to blue-green).

MACUSIA: V, Macusia satyroides, male, female, Blumenau, Brazil (AMNH) (a, broad anal lobe orange, b, D structural color bold steel blue, c, V ground gray to beige, d, brown postmedial, submarginal stripes, e, yellow HW margin and submargin).

W, Macusia triquetra, male, female, St. Laurent, French Guiana (a, D structural color deep blue, b, anal lobe black, c, V ground beige with brown medial, postmedial, submarginal bands).

DENIVIA: X, Denivia deniva, female, Blumenau, Brazil (AMNH) (a, laterally directed anal tail, b, lunulate mark at anal lobe, c, V ground extensively mottled and suffused black over dark brown in concentric medial, postmedial and submarginal patterns).

Y, Denivia maggae, holotype female (a, tail truncate, b, V ground beige dominated on HW by dark postbasal disc).

Z, Denivia hamilla, male, female, Castro, Brazil (AMNH) (a, male D structural color bright blue, female brown, b, V ground mottled concentrically with steel blue and green, c, suffusive black submedial stripe).

Aa, Denivia hemon, male, female, St. Laurent, French Guiana (AMNH) (a, male D structural color bright blue, female brown, b, brand broadly suffused black, c, V ground beige, d, HW medial, postmedial bands angulate, converging toward anal margin).

CRYPTAENOTA: Ab, Cryptaenota latreillei, male, female, St. Catarina, Brazil (AMNH) (a, anal lobe angulate offsetting two HW tails, b, male D structural color azure blue, female brown, c, V ground beige, angulate medial and additional postmedial, submarginal bands suffusive orange to brown).

Ac, Cryptaenota mavors, male, female, Cauca, Colombia (AMNH) (a, anal lobe angulate but small, offsetting two HW tails, b, male D structural color dull suffusive greenish blue, female dark brown, c, V ground suffusive steel green crossed by black medial and submarginal stripes).

FORMAT NOTATIONS

Since illustrations are black and white, color notations are included in a listing of major characters of the wing typifying each species (notations "a", "b", etc.). In most cases full upper (D= dorsal) and under (V= ventral) surfaces are illustrated for each species. For purposes of format clarity, location arrows for the characters listed "a", "b", etc., have been placed on the photographs only for the most outstanding of the diagnostic traits.

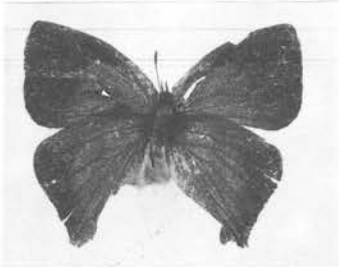
Ingroup illustrations are numbered 100-189 according to the order in the text, males and females respectively noted as "A" and "B" when figured in pairs. Along with the figure numbers, running captions beneath the photos readily identify each taxon (genus written out at left margin and repeated as an abbreviation thereafter; subspecies with terminal name written out and binomens abbreviated).

Outgroup illustrations are numbered 190-192, arranged as the respective groups in the text, with individual taxa lettered "A" through "Z" and then "Aa", "Ab", etc. Diagnostic characters listed for these species are more abbreviated than for those of the ingroup. Illustrations for the addended paper are added subsequent to the entries of Fig. 192.

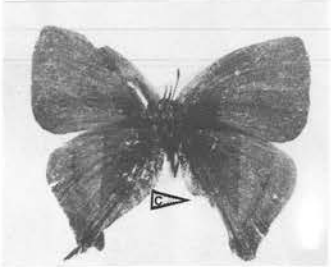
Some darker photographs result from transposition of color slides; some very bright iridescent upper surfaces photograph nearly black. For diagnostic purposes in some cases, an "idealized" silhouette of the hindwing tail has been added in black ink if a particular specimen photographed showed damage to one side of the wings. For clarity, such silhouettes are detached from the photographed wing surface by a short space.

THECLOXURINA: 100. *T. BROWNI* FEMALE D

T. BROWNI FEMALE V



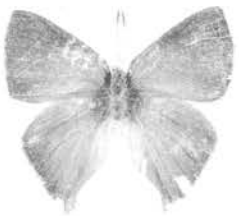
101. *T. EISELEORUM* FEMALE D



T. EISELEORUM FEMALE V

THECLOXURINA: 102A. *T. L. LOXURINA* MALE D

T. L. LOXURINA MALE V



B. *T. L. LOXURINA* FEMALE D

T. L. LOXURINA FEMALE V

THECLOXURINA: 102C. *T. L. LUSTRA* MALE V

T. L. LUSTRA MALE D

D. *T. L. LUSTRA* FEMALE D

T. L. LUSTRA FEMALE V

THECLOXURINA: 102E. *T. L. ASTILLERO* MALE D

T. L. ASTILLERO MALE V

F. *T. L. ASTILLERO* FEMALE D

T. L. ASTILLERO FEMALE V

THECLOXURINA: 103. *T. TRUNCTA* MALE D

T. TRUNCTA MALE V

104A. *T. FEMININA* MALE D

T. FEMININA MALE V

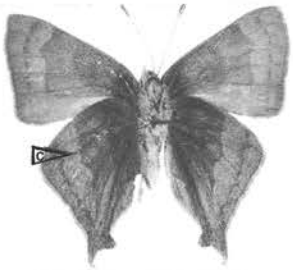
THECLOXURINA: B. *T. FEMININA* FEMALE D

T. FEMININA FEMALE V

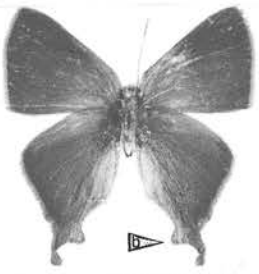
105. *T. COSTARICA* MALE D

T. COSTARICA MALE V

THECLOXURINA: **106A.** *T. QUINDIENSIS* MALE D



T. QUINDIENSIS MALE V



B. *T. QUINDIENSIS* FEMALE D

T. QUINDIENSIS FEMALE V

THECLOXURINA: **107.** *T. FASSLI* MALE D

T. FASSLI MALE V

108A. *T. CILLUTINCARAE* MALE D

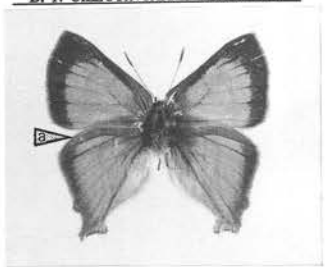
T. CILLUTINCARAE MALE V

B. *T. CILLUTINCARAE* FEMALE D

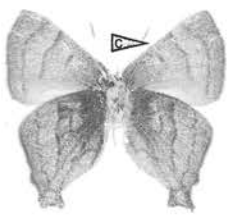
T. CILLUTINCARAE FEMALE V

109A. *T. ATYMNA* MALE D

T. ATYMNA MALE V



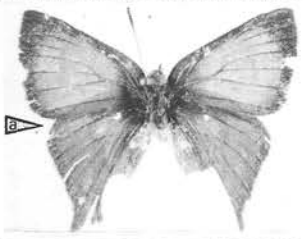
THECLOXURINA: **B.** *T. ATYMNA* FEMALE D



T. ATYMNA FEMALE V

110A. *T. ATYMNIDES* MALE D

T. ATYMNIDES MALE V



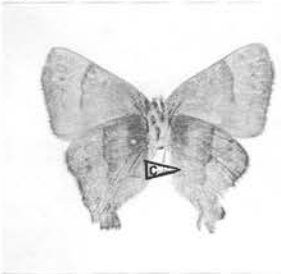
THECLOXURINA: **B.** *T. ATYMNIDES* FEMALE D

T. ATYMNIDES FEMALE V

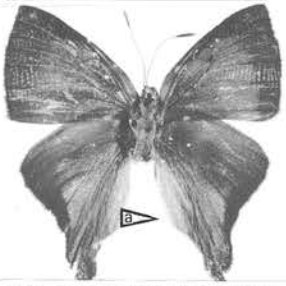
111A. *T. BOLIVATYMNA* MALE D

T. BOLIVATYMNA MALE V

THECLOXURINA: **B.** *T. BOLIVATYMNA* FEMALE D



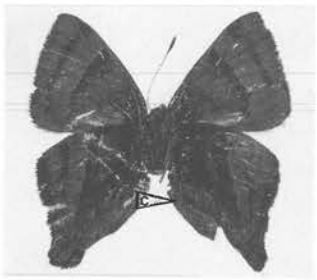
T. BOLIVATYMNA FEMALE V



'ONS: **112.** *P. MAGNIFICA* MALE D

P. MAGNIFICA MALE V

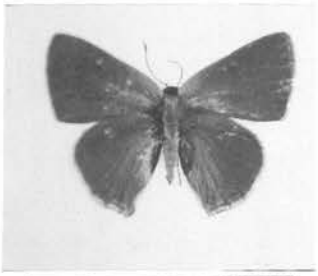
PONS: 113. *P. VITTATA* MALE D



P. VITTATA MALE V

114A. *P. ARCULA* MALE D

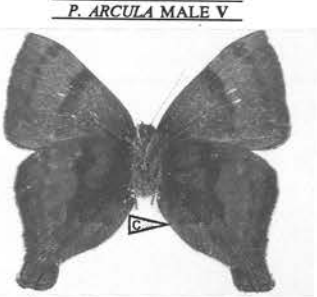
P. ARCULA MALE V



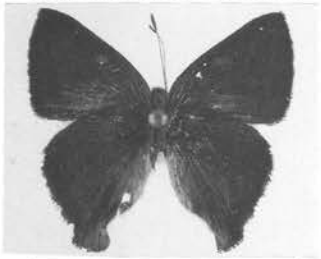
PONS: B. *P. ARCULA* FEMALE D

P. ARCULA FEMALE V

115. *P. PURPUREA* MALE D



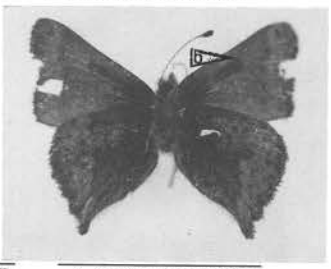
P. PURPUREA MALE V



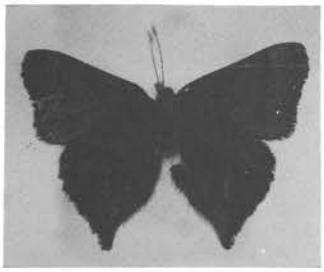
PONS: 116. *P. SARAHA* MALE D

P. SARAHA MALE V

ABLOXURINA: 117A. *A. AMATISTA* MALE D



A. AMATISTA MALE V



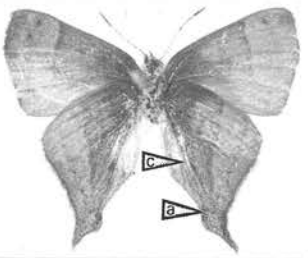
ABLOXURINA: B. *A. AMATISTA* FEMALE D

A. AMATISTA FEMALE V

118A. *A. CONTRACOLORA* MALE D

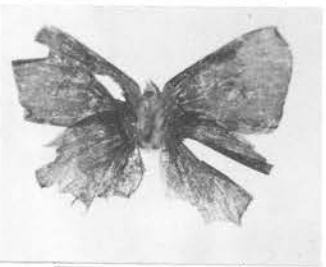
A. CONTRACOLORA MALE V

ABLOXURINA: B. *A. CONTRACOLORA* FEMALE D



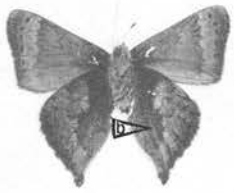
A. CONTRACOLORA FEMALE V

119. *A. CHIASPA* MALE D



A. CHIASPA MALE V

ABLOXURINA: 120. *A. BALZAPAMBA* MALE D

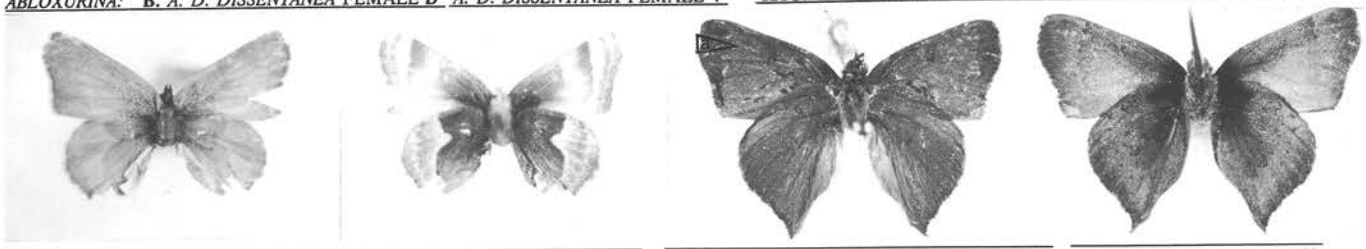


A. BALZAPAMBA MALE V

121A. *A. D. DISSENTANEA* MALE D

A. D. DISSENTANEA MALE V

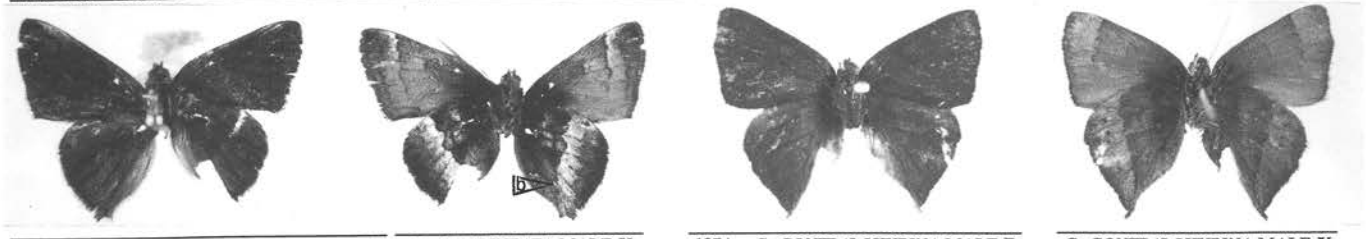
ABLOXURINA: **B.** *A. D. DISSENTANEA* FEMALE **D** | *A. D. DISSENTANEA* FEMALE **V** | **121C.** *A. D. PUTREENSIS* MALE **D** | *A. D. PUTREENSIS* MALE **V**



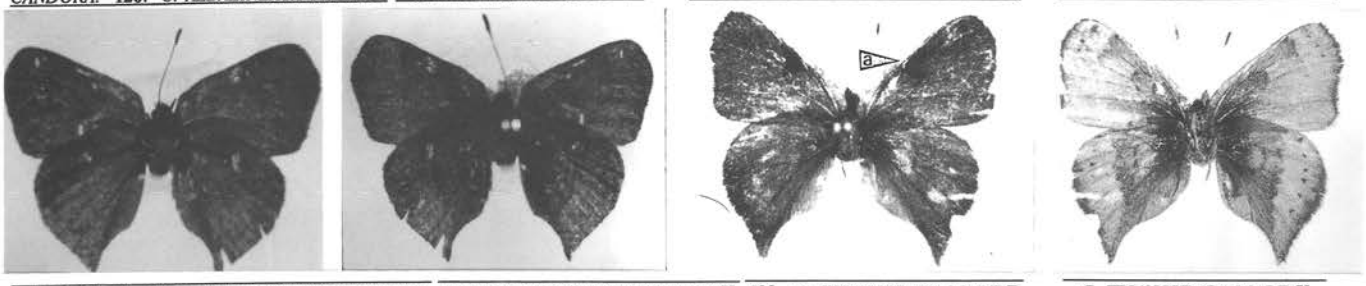
D. *A. D. PUTREENSIS* FEMALE **D** | *A. D. PUTREENSIS* FEMALE **V** | *CANDORA:* **122.** *C. FALLACANDOR* MALE **D** | *C. FALLACANDOR* MALE **V**

CANDORA: **124.** *C. KELLYA* MALE **D** | *C. KELLYA* MALE **V** | **125.** *C. JONESI* MALE **D** | *C. JONESI* MALE **V**

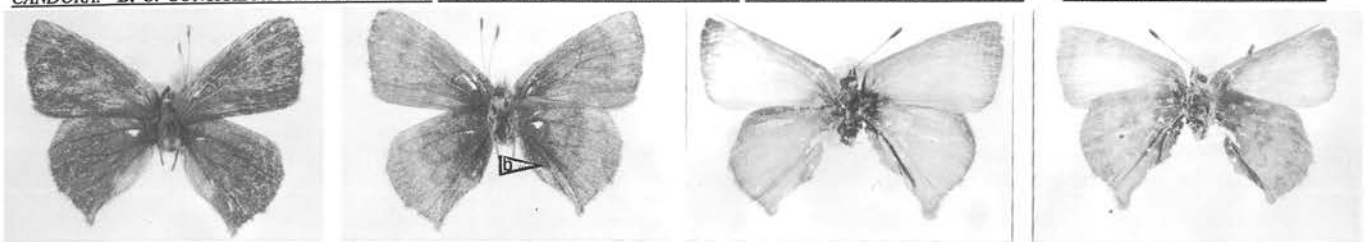
CANDORA: **123A.** *C. CYANOMEDIANA* MALE **D** | *C. CYANOMEDIANA* MALE **V** | **B.** *C. CYANOMEDIANA* FEMALE **D** | *C. CYANOMEDIANA* FEMALE **V**



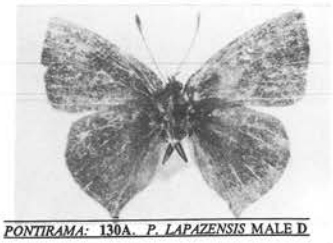
CANDORA: **126.** *C. ALBALINEATA* MALE **D** | *C. ALBALINEATA* MALE **V** | **127A.** *C. CONTRALOXURINA* MALE **D** | *C. CONTRALOXURINA* MALE **V**



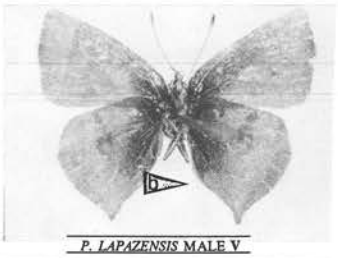
CANDORA: **B.** *C. CONTRALOXURINA* FEMALE **D** | *C. CONTRALOXURINA* FEMALE **V** | **128.** *C. TRIANGULARA* MALE **D** | *C. TRIANGULARA* MALE **V**



PONTIRAMA: **129A.** *P. BRUNEA* MALE **D** | *P. BRUNEA* MALE **V** | **B.** *P. BRUNEA* FEMALE **D** | *P. BRUNEA* FEMALE **V**



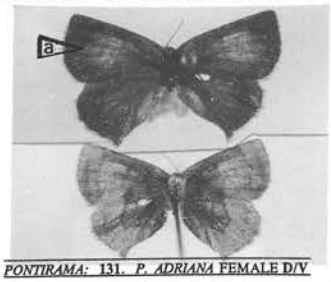
PONTIRAMA: 130A. *P. LAPAZENSIS* MALE D



P. LAPAZENSIS MALE V

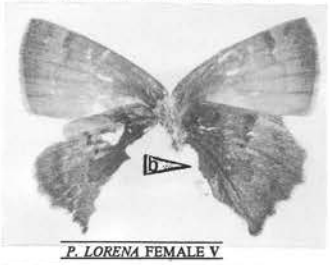
B. *P. LAPAZENSIS* FEMALE D

P. LAPAZENSIS FEMALE V



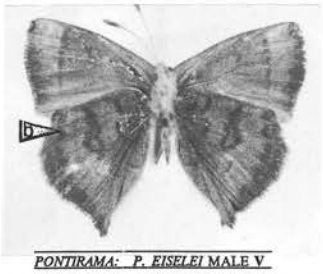
PONTIRAMA: 131. *P. ADRIANA* FEMALE D/V

132. *P. LORENA* FEMALE D



P. LORENA FEMALE V

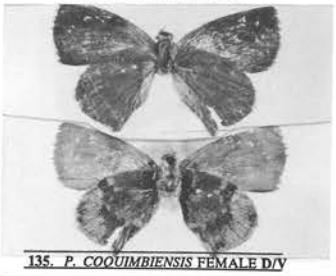
133. *P. EISELEI* MALE D



PONTIRAMA: *P. EISELEI* MALE V

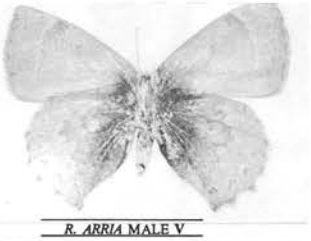
134. *P. TOLIMENSIS* FEMALE D

P. TOLIMENSIS FEMALE V

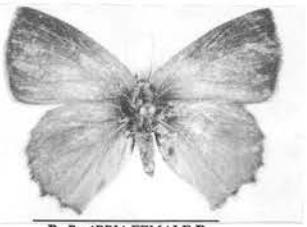


135. *P. COQUIMBIENSIS* FEMALE D/V

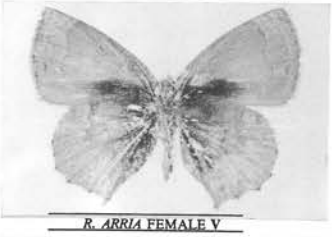
RHAMMA: 136A. *R. ARRIA* MALE D



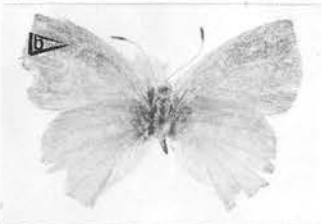
R. ARRIA MALE V



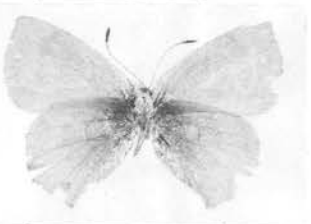
B. *R. ARRIA* FEMALE D



R. ARRIA FEMALE V



RHAMMA: 137. *R. CUCHOENSIS* MALE D

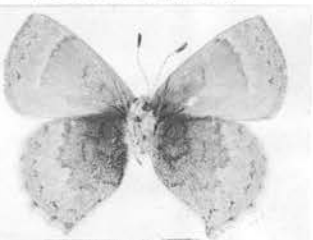


R. CUCHOENSIS MALE V

138A. *R. MIRMA* MALE D

R. MIRMA MALE V

RHAMMA: B. *R. MIRMA* FEMALE D

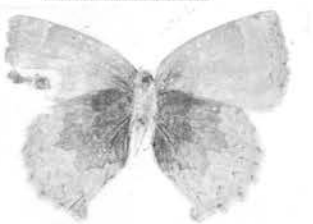


R. MIRMA FEMALE V

139A. *R. MISHMA* MALE D

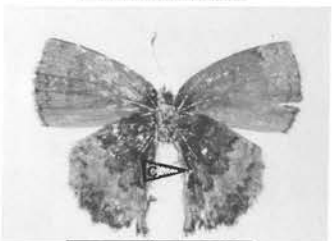
R. MISHMA MALE V

RHAMMA: B. *R. MISHMA* FEMALE D



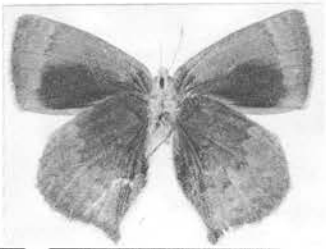
R. MISHMA FEMALE V

140. *R. BILIX* FEMALE D



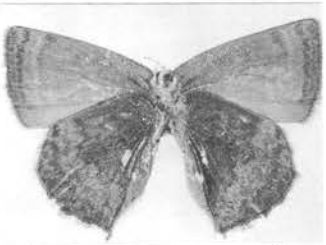
R. BILIX FEMALE V

RHAMMA: **141A.** *R. AURUGO* MALE D



R. AURUGO MALE V

B. *R. AURUGO* FEMALE D



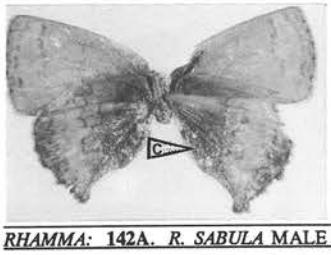
R. AURUGO FEMALE V

RHAMMA: **141C.** *R. AURUGO* MALE D

R. AURUGO MALE V

D. *R. AURUGO* FEMALE D

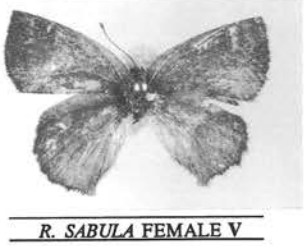
R. AURUGO FEMALE V



RHAMMA: **142A.** *R. SABULA* MALE D

R. SABULA MALE V

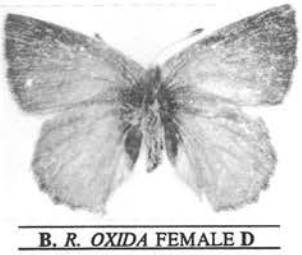
B. *R. SABULA* FEMALE D



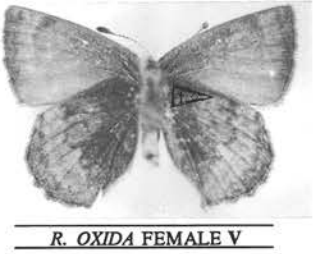
R. SABULA FEMALE V

RHAMMA: **143A.** *R. OXIDA* MALE D

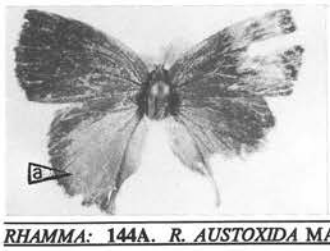
R. OXIDA MALE V



B. *R. OXIDA* FEMALE D

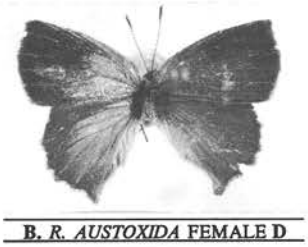


R. OXIDA FEMALE V



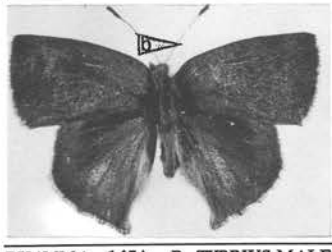
RHAMMA: **144A.** *R. AUSTOXIDA* MALE D

R. AUSTOXIDA MALE V



B. *R. AUSTOXIDA* FEMALE D

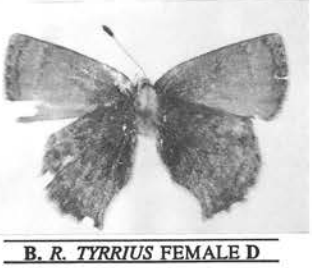
R. AUSTOXIDA FEMALE V



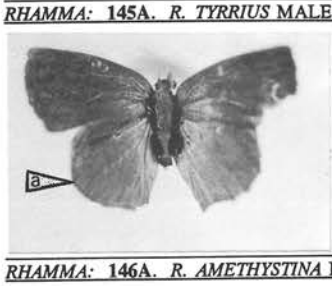
RHAMMA: **145A.** *R. TYRRIUS* MALE D

R. TYRRIUS MALE V

R. TYRRIUS FEMALE V



B. *R. TYRRIUS* FEMALE D



RHAMMA: **146A.** *R. AMETHYSTINA* MALE D

R. AMETHYSTINA MALE V

B. *R. AMETHYSTINA* FEMALE D

R. AMETHYSTINA FEMALE V

Distribution Maps for Taxa of Volume I

Figures 193-205, arranged hereafter as pages 114-135, follow the formats indicated in the Materials and Methods section. Symbol captions are placed on the facing pages and generally arranged according to the Genera and Species Groups defined in the revisionary text pages 5-57. Figures for taxa included in Volume II are similarly arranged at the conclusion of that volume with the base map varying as specified in the Materials and Methods section included in Volume I.

Figure 193

Relationship of Base Map Localities of this Study and Historical Localities Listed in Brown (1941), Vaurie (1972) and Johnson, Eisele and MacPherson (1990) for Ecuador, Peru and Northwestern Argentina, Respectively.

Above, Left. Fig. 1 from Brown (1941) showing 9 areas (2-10) covered by his regional locality maps (Brown 1941 figs. 2-10) and included in master dots of the present study (each equalling a diameter of about 1 geographic degree). Master dots (large circles) correspond to dots used herein (figs. 195, forward) for Ecuador.

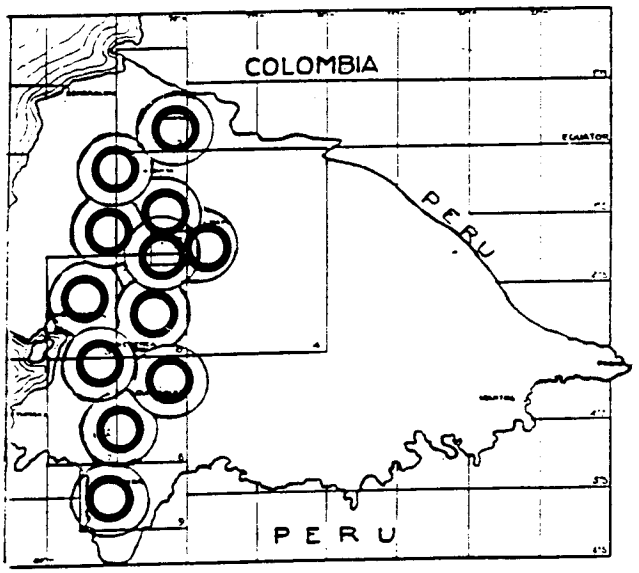
Above, Right. Fig. 1 from Vaurie (1972) showing Departments of Peru and location of master dots of the present study (each equalling a diameter of about 1 geographic degree) used to include localities listed and/or figured by Vaurie (1972) and Pallister (1956). Master dots (large circles) correspond to dots used herein (figs. 195, forward) for Peru.

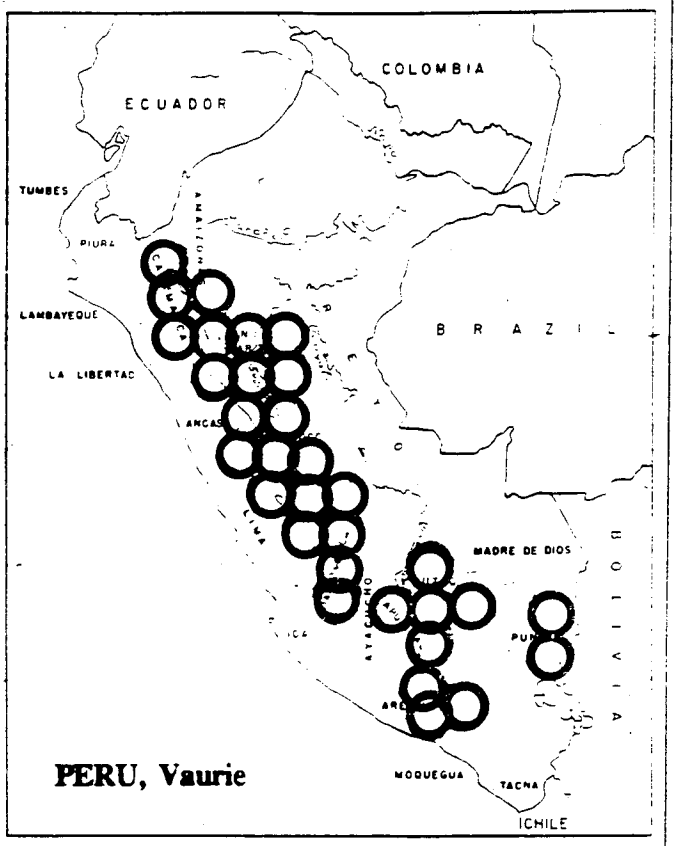
Below, Left. Fig. 1 from Johnson, Eisele and MacPherson (1990) showing numbered collection sites indexed in Johnson, Eisele and MacPherson (1988, 1990) for northwestern Argentina.

Below, Right. Master dots (large circles) (each equalling a diameter of about 1 geographic degree) showing Argentine collection sites of Johnson, Eisele and MacPherson including elfin data in the present study. Master dots correspond to dots used herein (figs. 195, forward) for Argentina.

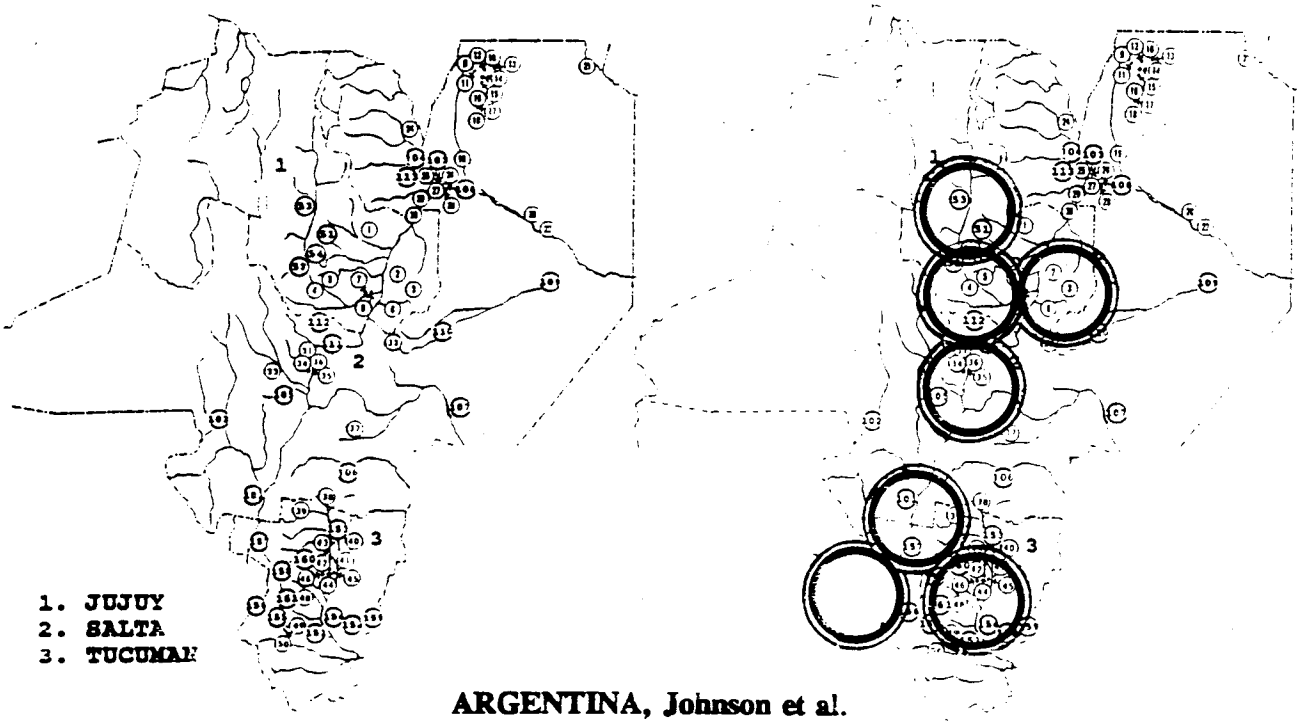
Localities in other countries were placed on a "one by one" basis as noted in the text Materials and Methods.

ECUADOR, Brown





PERU, Vaurie



ARGENTINA, Johnson et al.

Figure 194

Geographic distribution of *Thecloxurina*, *loxurina Species Group*, *T. browni* to *T. loxurina*.

Display format for ***Thecloxurina***:

■ *Thecloxurina browni*

◘ *Thecloxurina eiseleorum*

Thecloxurina loxurina

● *T. l. loxurina*

◐ *T. l. lustra*

⊕ *T. l. astillero*

Figures 195-196

Geographic distributions of *Thecloxurina*, Central American *T. costarica* and South American *T. truncta* to *T. cillutincarae*.

Fig. 195 Display format for Central America:

▲ *Thecloxurina costarica*

Fig. 196 Display format for South America:

◘ *Thecloxurina truncta*

■ *Thecloxurina feminina*

● *Thecloxurina quindiensis*

⊕ *Thecloxurina fassli*

◐ *Thecloxurina cillutincarae*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Figures 197-198

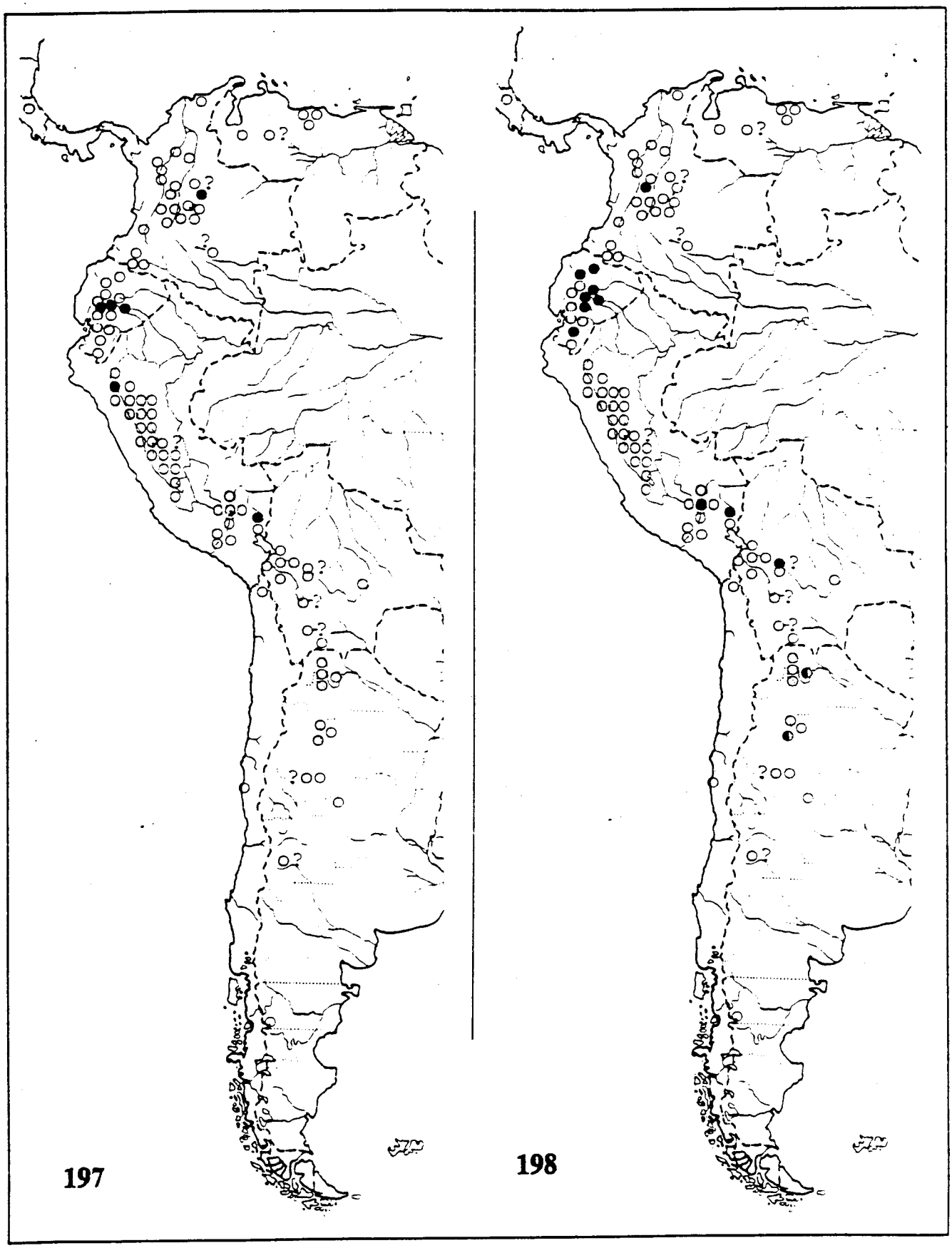
Geographic distribution of *Thecloxurina, atymna Species Group*.

Display format for ***Thecloxurina***:

Fig. 197 ● *Thecloxurina atymna*

Fig. 198 ● *Thecloxurina atymnides*

◐ *Thecloxurina bolivatymna*



197

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Figure 199

Geographic distribution of *Pons*, *magnifica Species Group*, *purpurera Species Group*.

Display format for ***Pons***:

◐ *Pons magnifica*

⊙ *Pons vittata*

● *Pons arcula*

■ *Pons purpurea*

◨ *Pons saraha*

Figure 200

Geographic distribution of *Abloxurina*, *amatista Species Group*, *dissentanea Species Group*.

Display format for ***Abloxurina***:

● *Abloxurina amatista*

▲ *Abloxurina contracolora*

▼ *Abloxurina chiaspa*

◐ *Abloxurina balzapamba*

Abloruxina dissentanea

◧ *A. d. dissentanea*

■ *A. d. putreensis*

Figure 201

Geographic distribution of *Candora*, *fallacandor Species Group*, *jonesi Species Group*, *contraloxurina Species Group*.

Display format for ***Candora***:

● *Candora fallacandor*

■ *Candora cyanomediana*

▼ *Candora kellya*

◨ *Candora jonesi*

⊕ *Candora albalineata*

⊙ *Candora contraloxurina*

▲ *Candora triangulara*

Figure 202

Geographic distribution of *Pontirama*, *brunea Species Group*, *lorena Species Group*.

Display format for ***Pontirama***:

- ● *Pontirama brunea*
- ◐ *Pontirama lapazensis*
- ⊕ *Pontirama adriana*
- ■ *Pontirama lorena*
- ◧ *Pontirama eiselei*
- ▼ *Pontirama tomlimensis*
- ▲ *Pontirama coquimbiensis*

Figure 203

Geographic distribution of *Rhamma*, *arria Species Group*, *arria Subgroup*, *mirma Subgroup*.

Display format for ***Rhamma***:

● *Rhamma arria*

⊙ *Rhamma cuchoensis*

◐ *Rhamma mirma*

Figure 204

Geographic distribution of *Rhamma, arria Species Group, mishma Subgroup.*

Display format for ***Rhamma***:

◐ *Rhamma mishma*

◑ *Rhamma bilix*

● *Rhamma aurugo*

⊙ *Rhamma sabula*

Figure 205

Geographic distribution of *Rhamma, arria Species Group, oxida Subgroup.*

⊕ *Rhamma oxida*

■ *Rhamma austoxida*