Genera and Species of the Neotropical "Elfin"-like Hairstreak Butterflies (Lepidoptera, Lycaenidae, Theclinae)

By Kurt Johnson

REPORTS of the
Museum of Natural History, University of Wisconsin
Stevens Point.

No. 22 (Vol. II): ***Rhamma (cont.), Shapiroana, Paralustrus, Penaincisalia, Galba, Radissima & Outgroup Genera*** *(Cisincisalia, Variegatta, Lamasa, Tigrinota, Ignata, Arases, Micandra, Mithras, Macusia, Denivia, Cryptaenota & Solanorum)*

No. 23 Taxonomic Additions to Recent Studies of Neotropical Butterflies

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sclerotized only along the inner margin surrounding the ductus seminalis.

TYPES. Holotype male BMNH (fig. 50A) labelled "Ecuador. Hewitson Coll. 79-69. Thecla", "[mark appearing as a "J", but most likely a cursive "T"] tyrrius [male symbol], H. H. Druce Type", "Type", "B.M. Type No. Rh. 605". TL: ECUADOR. "Ecuador".

DISTRIBUTION. ***Spatial.*** Fig. 206; Andes of Ecuador; altitudes recorded on specimens include 2700-3300 m. ***Temporal.*** Dates on specimen range from November to May.

REMARKS. This species is superficially like *R. austoxida* (which lacks male FW androconial elements). This resemblance is typical of the kind of diversity and homoplasy apparent in *Rhamma*. I figure a male and female (fig. 145A,B) from Cuicocha, Ecuador (AMNH). This species is rather frequent in collections and there is some consequent variation in the genitalia. This has been noted in several Theclinae groups with widely scattered montane populations occurring in Ecuador (*Chlorostrymon* [Johnson 1989a, 1991d]; *Penaincisalia* [Johnson 1990a]). Since the robust, terminally hooklike, caudal extension is typical of the species, I figure (along with the type male), a specimen from Cuicocha (AMNH) showing another extreme of this useful character.

MATERIAL EXAMINED [for consistency with label data, diacriticals are purposely omitted]. ECUADOR. "Ecuador", 1 male (BMNH); Quito, 1 male (BMNH); Cuicocha, Imbabura, 3300 m., leg. F. M. Brown, 31 May 1939, 1 female, 29 May 1939, 1 male, 27 May 1939, 2 males (AMNH); Ugambiche, 2700 m., leg. F. M. Brown, 9 November 1938, 1 female, 13 November 1938, 1 female (AMNH); Pichincha, San Bartolo, 2800 m., leg. R. de LaFebre, February 1969, 1 male (AME).

Rhamma amethystina (Hayward)
NEW COMBINATION
Figs. 51, 146

Thecla amethystina Hayward 1949: 567, f. 3. Comstock and Huntington 1958-1964 [1959]: 68; Hayward 1973: 149; Bridges 1988: I.18, II.105, III.62.

DIAGNOSIS. ***Wings.*** DFW,DHW bright violet in male, dull purplish-brown in female, both with apical and marginal dark border very thin but markedly dark along costa; VFW,VHW grizzled red-brown, FW postmedial area and HW postmedial and medial areas with profuse deep red-brown suffusion often coalescing into angulate bands (appearing particularly concentric on the HW). The major variation in the VHW of the species involves the clarity of these bands versus the amount of general suffusion.

Male genitalia. Valvae with the posterior and anterior elements both prominently ellipsoidal, caudal extensions robust and long compared to most congeners.

Female genitalia. Lamella postvaginalis appearing widely bilobate because of a central fissure, each lateral lobe distended distally to an elongate, inwardly directed, prong.

DESCRIPTION. ***Male.*** DFW,DHW bright iridescent blue-violet with thin apical and submarginal fuscous borders; FW dark costal border and androconial streak along costal vein of discal cell; HW anal lobe prominent. VFW,VHW suffused red-brown, FW generally concolorous except for darker suffusive postmedial band; HW with darkly suffused brown postbasal and medial bands variously apparent over lighter, brown to red-brown, suffusive ground. FW length: mean of 10 specimens (AMNH, RCE, IML) 10.5 mm., range 9.5 - 11.0 mm. (holotype) [apex/tail tip 11.0 = 18.0 mm.]. ***Female.*** DFW,DHW dull purplish brown and without androconial elements. VFW,VHW marked similar to males. FW length: mean of 7 specimens (AMNH, RCE, IML) 11.0 mm., range 10.5 - 11.5 mm [apex/tail tip 10.5 = 17.5 mm.]. ***Male Genitalia.*** Fig. 51A. Vincular dorsum lacking brush organs. Vincular ventrum ovate, thin and steeply tapered from elongate spurs to parabolic saccus. Valvae with both bilobed areas and caudal extensions robust and ellipsoid, latter robust and long compared to most congeners. Aedeagus length exceeding rest of genitalia by about two-fifth, caecum relatively short, comprising about two-fifths of aedeagus length and generally not displaced out of the plane of the aedeagal shaft. ***Female Tergal Morphology and Genitalia.*** Fig. 51B. *Sipc* with ventral element diminutive, comprising only about one-fifth lateral expanse of terminal tergite. Lamella postvaginalis appearing widely bilobate because of a central fissure, each lateral lobe distended distally to elongate, somewhat recurvate, inwardly directed prongs. Ductus bursae's paired lateral ridges thin and angled, extending to angulate cervix bursae base. Cervix bursae ventrum sculptured; hood with bilobate elements ellipsoid compared to most congeners.

TYPES. Holotype male (fig., 146A), IML with the labels "Villa Nougues, 21 Enero 1931", "Thecla amethystina Hayw. Holotipo, male, K. J. Hayward Det.",

"Type", "Holotipo", "Preparacion genitalia male No. 400, K. J. Hayward", "Coleccion Inst. Fund. M. Lillo (400), S. M. Tucuman, Tucuman, Argentina". Allotype female, same data and labels except dated "I.1929" (see Remarks, regarding genitalia of the types). TL: ARGENTINA, Villa Nougues, Tucumán Province.

DISTRIBUTION. ***Spatial.*** Fig. 206; known from numerous localities in the NW Argentine Andes, particularly those characterized by wet upland forest. ***Temporal.*** Recorded from January to May.

REMARKS. There has been some confusion about the identity of this species because Hayward's Spanish OD was short, there was no illustration of the adult, and more than one species of *Rhamma* occurs in NW Argentina. Based on the types and additional material, *R. amethystina* clearly represents the Argentine species with the variously emphatic suffusive double band on the VHW. I figure the holotype male and a fresh topotypical female (AMNH) (fig. 146A,B) and, in the genitalic figures, topotypes of both sexes since the genitalic slide mounts borrowed from the IML are in poor condition. Samples of *Rhamma* at the IML indicate Hayward knew only of *R. amethystina* and had not seen specimens of the several new species collected in recent years by Eisele and MacPherson or represented in material either not prepared or properly sorted at the IML (see *R. roberti*, *R. austoxida*, *R. cuchoensis*); this appears to have resulted from Hayward's concentration of much of his local collecting on the Cumbres San Javier near his home in Tucumán Province (see Remarks under *Thecloxurina cillutincarae*) and his leaving study of "Thecla" until the years shortly before his death (see Discussion section of Johnson, Eisele and MacPherson 1990). A distant sister species relationship appears to account for a much more emphatic double band, distally distended in the limbal area and over yellow-brown ground, in the species *R. duplicata* from Mendoza Province, Argentina.

MATERIAL EXAMINED [diacriticals used only as appearing on actual labels]. ARGENTINA. "Argentina", 1 female (BMNH); Tucuman, 13 May 1922, 1 male (BMNH); Tucuman, 5 March 1922, 2 females (BMNH); Tucuman, 1100 m., leg. Steinbach, Jan-February, 1 female (BMNH); Tucuman, 13 May 1922, 1 female (BMNH); Tucuman Prov., Villa Nougues, January 1929, 1 female (IML); Jujuy Prov., El Fuerte, 1900 m., leg. R. C. Eisele, 24 January 1968, 1 female (IML); Tucuman Prov., Villa Nougues, leg. K. J. Hayward, December 1928, 2 males (IML); Tucuman Prov., Cerro Monos, Tafi del Valle, 3000 m., February 1954, leg. R. E. Golbach (IML); Jujuy Prov., Dept. Ledesma, 2 km. N Cucho, 29 December 1986, leg. B. MacPherson, 1 female (AMNH); Prov. Tucumán, Dept. Yerba Buena, 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 et al., 9 February 1991 (1 male, 2 females) (AMNH).

Rhamma comstocki,
NEW SPECIES
Figs. 52, 147

DIAGNOSIS. ***Wings.*** Male DFW,DHW brilliant iridescent sky blue with contrasting green iridescence occurring in the HW discal area; FW with black apical and marginal borders and elongate androconial streak along costal vein of discal cell; HW wholely iridescent (female DFW,DHW less brightly iridescent, FW apical and marginal borders slightly wider than on the male). VFW,VHW of both sexes with dark iridescent blue suffusion across both wings from medial area basad; VHW otherwise marked with very mottled hues of gray, brown or yellowish, framed in postbasal, medial and submarginal areas by prominent red-brown meandering or dentate lines.

Male genitalia. Valval caudal extensions extremely diminutive compared to all congeners, equalling only about one-half the length of the adjacent bilobes.

Female genitalia. Lamella postvaginalis of great breadth, equalling twice the length of the adjoining ductus bursae's paired lateral ridges, and with caudal prongs basally lobate tapering to comparatively short termini.

DESCRIPTION. ***Male.*** DFW,DHW ground brilliant iridescent sky blue, with contrasting green iridescent in HW discal cell; FW with black apical and marginal borders; HW wholely iridescent and with anal lobe pronounced. VFW,VHW basal disc of HW and baso-medial area of FW dominated by deep azure blue suffusion; FW otherwise with gray ground, grizzled distally with red-brown but without further noticeable pattern; HW ground gray, dominated with highly mottled hues of darker gray, brown or yellowish, framed in postbasal, medial and submarginal areas by prominent red-brown meandering or dentate lines. FW length: 9.5 mm. (holotype), mean of paratypes 9.6 mm., range 9.5 - 10.5 mm. [apex/tail tip 9.5 = 16.0 mm.]. ***Female.*** DFW, DHW fully iridescent inside wide fuscous to black borders but not with brilliance of males and with slight greenish hue; lacking androconial brands; VFW,VHW marked

similar to males. FW length: 11.0 mm. (allotype), mean of paratypes 10.5 mm., range 10.0 - 11.0 mm. [apex/tail tip 10.0 = 17.5 mm.]. ***Male Genitalia.*** Fig. 52A. Vincular dorsum lacking brush organs. Vincular ventrum robust and steeply tapered from elongate spurs to funnel-shaped saccus. Valvae with bilobed areas robust and notably larger than caudal extensions, former convex and shouldered in the lateral two thirds, latter about only half width of former and steeply tapering to blunt termini. Aedeagus short, length exceeding rest of genitalia by about one-sixth, caecum short, comprising about two-fifths of aedeagus length and displaced about 30 degrees out of the plane of the aedeagal shaft. ***Female Tergal Morphology and Genitalia.*** Fig. 52B. *Sipc* ventral element comprising about one-third lateral expanse of terminal tergite. Lamella postvaginalis of great breadth, equalling twice the length of the adjoining ductus bursae's paired lateral ridges, and with caudal prongs basally lobate tapering to comparatively short termini. Cervix bursae rather diminutive, entire ventral width equalling only about one-half of the lamella postvaginalis breadth. Signa markedly dendritic as typical of genus.

TYPES. Holotype male, allotype female (figs. 147A,B) [diacriticals as on original labels], COLOMBIA, Bogota, La Calera, subparamo, 3100 m., leg. L. Richter, December 1945, deposited AMNH. *Paratypes*. AMNH: "Colombia", leg. Felipe Ovalle, 4 males, 2 females; Bogota, Usaquen, 3000 m., 13 February 1948, 1 male, 9 February 1948, 1 female; Usaquen, 2950 m., leg. L. Richter, 7 March 1946, 1 female; Bogota, 2900 m., 16 January 1948, 1 male, 1 female; Bogota, paramo, 3780 m., "6/7/47" [6 July or 7 June, 1947], 1 male; Rio Corcorna, Antioquia, 800-1100 m., leg. L. Richter, 21-28 August 1945, 3 females.

DISTRIBUTION. ***Spatial.*** Fig. 206; Andes of Colombia; altitudes recorded on specimens include 800-3780 m. ***Temporal.*** Dates on specimens range from December to August.

REMARKS. W. P. Comstock labelled a single specimen of this taxon as an undescribed species at the AMNH. Unmounted AMNH material contained much larger series. This suggests that other museums may well have specimens of this species as yet unidentified. The wider range of occurrence indicated by additional specimens also suggest a range outside of Colombia may well be possible. I have not myself discovered additional specimens outside the AMNH.

ETYMOLOGY. Named for W. P. Comstock, who first noted the distinction of this species.

Rhamma nigrasarotina,
NEW SPECIES
Figs. 53, 148

DIAGNOSIS. ***Wings.*** Differs from all congeners by prominent, widely ellipsoid, androconial brand at distal end of discal cell in male and greatly rounded FW apex in both sexes. Otherwise distinctive in deep steel blue coloration covering basal area of FW and entire HW (latter as only in *R. roberti*, new species, this Subgroup) and, on VFW,VHW with distinctive deep ochre ground accented on HW by black dashes alternating medially and postmedially in the cells along the edge of the basal disc and in the submargin.

Male genitalia. Valvae with lateral margins appearing rather undulate due to combination of shouldered bilobed configuration, central constriction and steep tapering from wide lateral production in the caudal extensions.

Female genitalia. Lamella postvaginalis rather "mallet"-shaped, comprised of rather roundly lobate lateral edges and a distinctive central knob.

DESCRIPTION. ***Male.*** DFW generally black, with dark iridescent steel blue basally along cell CuA2 and with tawny, robustly ellipsoid, androconial brand at distal end of discal cell. DHW completely iridescent steel blue and with prominent anal lobe. VFW,VHW ground deep ochre with all bands typical of genus distinctly broken into black dashes and dots; FW postmedial line from costa to cell CuAl, black near costa, then suffusive to obsolescent thereafter; FW base suffused iridescent blue-black; HW with prominent arc of black spots alternating between the medial and postmedial areas of each cell along the edge of the basal disc; submargin with large black spots in each cell; margin with suffused black line. FW length: mean of type series specimens 9.5 mm. (holotype), range 9.0 - 10.5 mm. [apex/tail tip 9.5 mm. = 16.5 mm.]. ***Female.*** Similar to male but on DFW,DHW dull flat blue-black and without androconial element on FW. FW length: mean of type series specimens 10.0 mm. (allotype), range 9.5 - 11.0 mm. [apex/tail tip 9.5 mm. as on male]. ***Male Genitalia.*** Fig. 53A. Vincular dorsum lacking brush organs. Vincular ventrum rather square, saccus somewhat triangulate, vincular spurs elongate, thin, and caudally directed. Compared to congeners, valvae with lateral margins appearing rather undulate due to combination of shouldered bilobed configuration, central constriction and steep tapering from wide lateral production in the caudal extensions. Bilobes basally parabolic and indented, caudal extensions exceeding length of bilobes by about one-fourth and with termini steeply tapered to sharp points. Aedeagus robust and elongate, length exceeding rest of genitalia

by one-third or more, caecum comprising about one-third of aedeagus length and not displaced from the plane of the aedeagal shaft. ***Female Tergal Morphology and Genitalia***. Fig. 53B. *Sipc* with ventral element comprising about one-fourth expanse of terminal tergite. Lamella postvaginalis peculiarly "mallet"-shaped with a roundly lobate lateral margin and a distinctive central knob opposite the juncture with the paired ductal ridges. Paired ductal ridges arched but separately only a short distance before juncture with extremely bulbous cervix bursae ventrum. Cervix bursae hood with narrow and widely bilobate elements separated by a large area of membranous tissue surrounding the ductus seminalis.

TYPES. Holotype male, allotype female (figs. 148A,B), PERU, Limbani, Carabaya, dry season, 9500 ft., leg. G. Ockenden, deposited BMNH. Paratypes. BMNH: PERU, Limbani, Carabaya, dry season, 9500 ft., leg. G. Ockenden, 10 males, 1 female; "Peru", coll. ex. Fruhstorfer, 5 males, 1 female; Limbani, Carabaya, March, 1 male; Rio Limbani, Inambari, S.E. Peru, March 1904, 1 female, 1 male; Limbani, Caribana, 9000 ft., March 1904, 5 males, May 1904, 2 males; Agualani, 9000 ft. S.E. Peru, March 1904, 2 males, 1 female. AMNH: PERU, Limbani, Carabaya, dry season, 9500 ft., leg. G. Ockenden, 2 males.

DISTRIBUTION. ***Spatial***. Fig. 206; known from several localities in the Peruvian Andes; altitudes recorded on specimens are all approximately 3000-3200 m. ***Temporal***. Dates on specimens range from March to May and many indicate the local "dry season".

REMARKS. This is one of the most distinctive of the many new species of *Rhamma* described in this monograph.

ETYMOLOGY. The name combines Latin roots for "black" and "serrate" referring the black-spotted under surface pattern.

MATERIAL EXAMINED. See Types section, above.

***Rhamma saroticana*,**
NEW SPECIES
Figs. 54, 149

DIAGNOSIS. ***Wings***. Stands out by elongate FW androconial streak in males which proceeds along nearly the entire distal two-thirds of the FW discal cell. Also with distinctive pattern-- both sexes DFW,DHW suffused dull iridescent sky blue over brown, blending to fuscous apices and margins (female slightly less iridescent); VFW,VHW ground mottled tawny with HW basal disc dark, suffused with dark brown mottling and edged with serrate black edge; FW with postmedial line prominently undulate.

Male genitalia. Brush organs occurring along vincular dorsum; elements of genital valvae both robust, caudal extensions abruptly tapered in their terminal one-half.

Female genitalia. Lamella postvaginalis with a winglike appearance caused by its overall "spade"-shape being broken in center by a deep, produced, and centrally pronged indentation separating two robust and steeply tapered paired distal prongs.

DESCRIPTION. ***Male***. DFW,DHW ground dull iridescent sky blue over brown, blending distally to fuscous apices and margins. FW with elongate androconial streak along distal two-thirds of discal cell; HW anal lobe moderately prominent. VFW,VHW ground dull tawny to golden-brown; FW with wavy postmedial line, costa to cell CuAl; HW with ground tawny, basal disc suffused darker brown and edged with continuous, serrate, suffusive black band; distal ground lighter, marked with dark brown chevron-like marks across the submargin. FW length: 9.5 mm. (holotype and paratype) [apex/tail tip 16.0 mm.]. ***Female***. Similar to male but with DFW, DHW dark margins wider and without FW androconial elements. FW length: 9.5 mm. (allotype), paratypes 9.5 - 11.0 mm. [apex/tail tip of 10.0 mm. = 16.0 mm.]. ***Male Genitalia***. Fig. 54A. Vincular dorsum with brush organs extending from vinculum adjacent saccus to base of the labides. Genitalia with vincular ventrum robust adjacent the spurs, then thinly tapered to parabolic saccus; valvae with both elements robust and of about equal length, caudal extensions abruptly tapered in their caudal one-half to elongate, pointed, termini. Aedeagus robust and very curvate, length exceeding rest of genitalia by about two-fifth, caecum robust and also curvate, comprising between one-third and one-half of aedeagal length. ***Female Tergal Morphology and Genitalia***. Fig. 54B. *Sipc* with ventral element comprising only about one-fifth expanse of the terminal tergite. Lamella postvaginalis with a winglike appearance caused by it overall "spade"-shape being broken in center by a deep, produced, and centrally pronged indentation separating two robust and steeply tapered paired distal prongs. Ductus bursae's paired lateral ridges thin and arched to angulate cervix bursae ventru. Cervix bursae hood with oblongate paired lobes flanking central sclerotized area from the base of which extends the ductus seminalis.

TYPES. Holotype male, allotype female (figs. 149A,B), PERU, Limbani, Carabaya, 9000 ft. March

1904, wet season, leg. G. Ockenden. Paratypes. BMNH: PERU. Limbari, Carabaya, March 1904, dry season, 1 female; Limbari, 9500 ft., leg. Ockenden, May 1904, 1 female; Agualani, SE Peru, 9000 ft., leg. Ockenden, March 1904, 1 male.

DISTRIBUTION. ***Spatial.*** Fig. 206; known from localities in the Peruvian Andes; altitudes recorded on specimens include generally 3000-3200 m. ***Temporal.*** Dates recorded on specimens range from March to May.

REMARKS. The apparent sympatry, but allochrony, of this species vis-a-vis *R. nigrasarotina* is interest concerning diversity in this genus. If cursorily construed, one might think the two species were seasonal forms of the same species. But, the differences apparent in wing pattern are even more strongly complemented by the very different male FW androconial elements and the structural characters of both sexes.

ETYMOLOGY. Euphonious combination of Latin roots referring to "serrate" and "channeled", describing the VHW serrate medial line that marks this species.

Rhamma inexpectata,
NEW SPECIES
Figs. 55, 150

DIAGNOSIS. ***Wings.*** Specimens have been confused historically with brandless species *R. aurugo*. Both species are brilliant concolorous iridescent azure blue with fuscous apices and margins and have prominent anal lobes. However, *R. inexpectata* has a FW androconial streak, males brighter blue with thinner dark DFW, DHW margins and females only slightly less iridescent than the males. On the VFW, VHW contrasting *R. aurugo*'s generally yellowish hue, *R. inexpectata* is rich buff and crossed with distinuous arcs of crisp reddish to cinnamon spots and dashes (see Remarks). In the genitalia, *R. inexpectata* is one of the few congeners with brush organs.

Male genitalia. Brush organs present along vincular dorsum; valvae elongate and thin, bilobes and caudal extensions of about equal size and shape.

Female genitalia. Lamella postvaginalis robust and spade-shaped, terminal margin with paired, widely tapered, blunt teeth.

DESCRIPTION. ***Male.*** DFW,DHW brilliant concolorous iridescent azure blue bordered by thin fuscous apices and margins (see Remarks); FW with androconial streak along costal vein of discal cell; HW with prominent anal lobe. VFW,VHW rich buff, FW with concentric cinnamon brown postmedial and submarginal arcs extending from the costa to cells M1 or CuA1, HW with rich buff ground crossed in the postbasal, medial and submarginal areas with distinuous arcs of crisp reddish to cinnamon spots and dashes. FW length: 12.0 mm. (holotype and paratypes) [apex/tail tip 19.0 mm.]. ***Female.*** Similar to male but with DFW,DHW ground less iridescent and without FW androconial elements. FW length: 12.0 mm. (allotype and paratypes). ***Male Genitalia.*** Fig. 55A. Brush organs present along vincular dorsum; genitalia with vincular ventrum typical of genus, ventral spurs elongate and thin, saccus parabolic. Valvae elongate and thin, bilobes and caudal extensions of about equal size and shape. Aedeagus elongate and thin for genus; length exceeding rest of genitalia by a third to a fourth, caecum comprising about one-third aedeagal length and not displaced from plane aedeagal shaft. ***Female Tergal Morphology and Genitalia.*** Fig. 55B. *Sipc* with ventral element basally expansive but comprising only about one-fifth of expanse of terminal tergite. Genitalia with lamella postvaginalis robust and shovel-shaped, terminal margin with a rather V-shaped indention fluting to paired wide distal blunt teeth, intervening margin quite serrate. Ductus bursae's paired lateral ridges thin and widely arched. Cervix bursae ventrum arc-shaped, hood robust with widely bilobate elements flanking the ductus seminalis, latter with distinct sclerotized element directly above it.

TYPES. Holotype male (fig. 150A) Rio Inambari to Limbani, S.E. Peru, March 1904, leg. G. Ockenden, allotype female (fig. 150B), Limbani, Carabaya, 9000 ft., wet season, March 1904, leg. G. Ockenden, deposited BMNH. *Paratypes.* Same data as holotype, 2 males (BMNH); same data as allotype, 2 females (BMNH).

DISTRIBUTION. ***Spatial.*** Fig. 206; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. This species is the bluest of all congeners (though *R. comstocki* is brilliant, it is of a lighter blue hue). As noted in the generic Remarks, black and white photographs of this deep blue iridescence turn out nearly black. As noted heretofore (see *R. aurugo*), confusion of specimens of this new species with the latter is a good example of the frequent misidentifications which have complicated a full understanding of the *Thecla* "arria-Group". Once the FW brand is noted, numerous other characters stand out and easily differentiate this species from series of *R. aurugo*.

ETYMOLOGY. Arbitrary euphonious combination referring the unexpected discovery of this species which resembles *R. aurugo* but has scent brands.

Rhamma roberti,
NEW SPECIES
Figs. 56, 151

DIAGNOSIS. ***Wings.*** Black distal DFW contrasting concolorous steel blue over the rest of the DFW,DHW and elongate, gray, FW androconial streak in male distinguish this species. On VFW,VHW the ground is dull gray with HW basal disc slate gray highlighted by reddish black distal margin and with two light gray postbasal spots.

Male genitalia. Valvae with prominent caudal extensions, exceeding size of bilobes-- latter steeply angled at base, former tapering steeply to elongate, pointed termini.

DESCRIPTION. ***Male.*** DFW blackish with elongate, gray, androconial streak along costal vein of discal cell and medial area of cell CuA2 flushed with iridescent steel blue. DHW brilliant deep steel blue with crisp black marginal line encompassing produced anal lobe. VFW,VHW ground gray; FW with basal area streaked bluish black and with short, dark gray, postmedial line from costa to cell M3; HW basal disc slate gray highlighted by irregular reddish black distal margin and two prominent light gray postbasal spots. FW length: 11.5 mm. [apex/tail tip 18.0 mm.] (holotype). ***Female.*** Unknown. ***Male Genitalia.*** Fig. 56. Vincular dorsum lacking brush organs; genitalia with vincular ventrum typical of genus, ventral spurs thin, elongate and caudally directed, saccus parabolic. Valvae with prominent caudal extensions, exceeding size of bilobes-- latter steeply angled at base, former tapering steeply to elongate and pointed termini. Aedeagus robust and short, length exceeding rest of genitalia by slightly over one-fourth; caecum robust and curvate, comprising over one-third aedeagal length; aedeagus terminus bulbous and membranous.

TYPE. Holotype male (fig. 151), ARGENTINA, Jujuy Prov., Dept. La Caldera, La Caldera to Jujuy border on Rt. 9, "Corniza" road, km. posts 1641, 1642 at "La Cargadera:, on SE slopes Alto de las Sauces, 1450 m., "hydric woodland very distinct from lower altitude woodland", 13 July 1987, leg. R. Eisele, deposited AMNH.

DISTRIBUTION. ***Spatial.*** Fig. 206; known only from the type locality. ***Temporal.*** Known only from the type data which is in the NW Argentine "winter".

REMARKS. This distictive species is from an area only recently collected by Eisele and, contrasting most "summertime" collecting by lepidopterists in the Neotropics, from July.

ETYMOLOGY. At request of R. Eisele, who collected the type, named for his son Robert, Jr.

tarma Subgroup (including *R. tarma* and *R. catamarca*): DFW, DHW with structural color extending over entire wings except for thin margins and with texture and hue varying in discrete patches; HW anal lobe prominent; male FW without androconial elements.

Rhamma tarma,
NEW SPECIES
Figs. 57, 152

DIAGNOSIS. ***Wings.*** DFW,DHW with distinctive intense iridescent blue divided into contrasting deep azure (distad of the cell on FW and in costal area on HW) and silvery blue (basal areas of the wing). FW with angled apex, nearly straight outer margin, and marked with black apex and margins; no androconial elements. VFW,VHW ground tawny, lacking FW markings (save bluish black basal flush) and with HW markings limited to dark brown basal disc over tawny ground, disc margin rather straight from costa to cell CuA1, then indented in that cell and angled toward anal margin.

Male genitalia. Vincular ventrum square-shaped; valval bilobes prominent relative to caudal extensions and tapered parabolicly to an indented base, caudal extension steeply tapared and elongate.

DESCRIPTION. ***Male.*** DFW,DHW with distinctive, intense, iridescent blue divided into contrasting deep azure (distad of the cell on FW and in HW costal area) and silvery-blue (basal wing areas); FW lacking androconial elements, wing apex angled, outer margin very straight, these and thin marginal line colored black; HW completely iridescent blue. VFW,VHW ground tawny; FW with basal to medial area suffused bluish black and with no distal bands or lines: HW ground tawny with ground much darker brown between postbasal and postmedial areas of basal disc; disc marked with brownish black spot at end of discal cell and edged with dark brown to black medial band rather straight from margin, then indented at cell CuA1 and angled to the anal margin; distal grounds light ochre, with light brown spots in cells along submargin. FW length: 9.5 mm. (holotype) [apex/tail tip 15.0 mm.]. ***Female.*** Unknown. ***Male Genitalia.*** Fig. 59A. Vincular dorsum lacking brush organs. Vincular ventrum rather square, saccus small and parabolic, spurs elongate. Valvae with bilobes prominent relative to caudal extensions, maximal width of former about one-third more than latter and tapered parabolicly to an indented base, latter steeply tapered to elongate termini. Aedeagus

robust, length exceeding rest of genitalia by about one-fourth, caecum comprising about two-fifths of aedeagal length and not displaced out of the plane of the aedeagal shaft.

TYPES. Holotype male (fig. 154), PERU, Tarma, Hoffman Collection, deposited BMNH.

DISTRIBUTION. ***Spatial.*** Fig. 207; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. See Types, above.

ETYMOLOGY. Noun used in the appositive, indicating the type locality.

Rhamma catamarca,
NEW SPECIES
Figs. 57C, 152C

DIAGNOSIS. ***Wings.*** DFW,DHW with bright iridescent powder blue framed by crisp blackish brown margins and apices (structural color on hindwing with darker azure hue costad); no androconial elements. VFW,VHW ground tawny-gray on FW, more grizzled gray on HW; latter marked distinctly with bright suffusive magenta to red spots across the basal disc and in a bright arc across the submargin.

Male genitalia. Vincular ventrum extremely angulate, spurs very elongate; valval bilobes prominent and elliptic, caudal extensions tapered steeply with termini very pointed.

DESCRIPTION. ***Male.*** DFW,DHW with distinctive, intense, powder blue ground contrasting blackish-brown margins and apices; HW with structural color marked more azure near the costa. VFW ground tawny gray, postmedial and submarginal area with suffusive magenta to red bands from costa to cells M3 or CuA1; VHW ground grizzled gray marked with bright suffusive magenta-red spots across the basal disc and in a bright arc across the submargin (see Remarks). FW length: 9.5 mm. (holotype) [apex/tail tip 15.5 mm.]. ***Female.*** Unknown. ***Male Genitalia.*** Fig. 59C. Vincular dorsum lacking brush organs. Vincular ventrum angulate, saccus sculptured nearly to a knob, spurs very elongate. Valvae with bilobes prominently elliptic, caudal extensions steeply tapered to very pointed termini. Aedeagus nonrobust, length exceeding rest of genitalia by about one-third and with caecum very narrow and comprising nearly one-half of aedeagal length; aedeagal terminus widely fluted and with two serrate cornuti.

TYPE. Holotype male (fig. 154C), ARGENTINA, Catamarca Province, El Suricho, 18 January 1952, leg. R. Golbach, deposited IML (from unmounted material conveyed by Golbach and Willink to AMNH, 1991, see Remarks).

DISTRIBUTION. ***Spatial.*** Fig. 207; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. In 1991, IML personnel passed on to me their unmounted Theclinae backlog for study and preparation. As noted under *Thecloxurina bolivatymna* and *T. cillutincarae*, there were some more southerly samples of elfins, from mesic forests in Catamarca Province (consistent also with Hayward's 1973 report of "*T. loxurina*" from that province). The type of *Rhamma catamarca* was with a large series of unmounted *Ministrymon sanguinalis* Burmeister, a insular "Monte" species known for its profuse magenta-red suffusions across the HW. Since *M. sanguinalis* is brown above (some congeners show faint blue or white on the DHW), this species of *Rhamma* stood out immediately when it was prepared. As would be expected, data on this specimen matches that of other Catamarca Province elfins, not that of the *Ministrymon* specimens. The latter typify more xeric "Monte" biomes (data e.g. Cafayate, Salta Prov.; Santa María, San José Catamarca Prov.).

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

hybla Species Group

Large taxa (FW 14.0 - 16.0 mm.) with widely lobate HW anal angle, structural color prominent on at least FW's or HW's, highly mottled VFW,VHW patterns and no androconial elements in males. Containing only *R. hybla*, *R. adunca*; not divided into subgroups.

Rhamma hybla (H. H. Druce)
NEW COMBINATION
Figs. 58, 153

Thecla hybla H. H. Druce 1907: 578, pl. 33, f. 4. Draudt 1917-1924 [1919]: 758, pl. 153e,f; Comstock and Huntington 1958-1964 [1960]: 185; Johnson, MacPherson and Ingraham 1986: 6; Bridges 1988: I.161, II.106, III.29.

DIAGNOSIS. ***Wings.*** Very large (FW 15.0 - 16.0 mm.) with widely lobate HW and green-hued iridescence basad of medial areas of both wings; VFW,VHW ground tawny with extremely serrate medial black HW band separating darker ground of basal disc from lighter distal ground (particularly yellowish suffusion, submarginal on the FW and postmedial on the HW); HW

postbasal area with dark postbasal slashes crossing from costa through discal cell.

Male genitalia. Vincular dorsum with brush organs; vincular ventrum generally more robust than in congeners except *R. adunca*, bilobes and caudal extensions robust but steeply tapered, latter with very pointed termini.

Female genitalia. Robust along the terminodorsal margins, each lobate edge terminating in a somewhat bifurcate set of distal teeth.

DESCRIPTION. ***Male.*** DFW,DHW: ground with deep green iridescence basad of medial area, bordered by wide fuscous apices and submargins; FW without androconial elements; HW with widely lobate anal angle. VFW,VHW ground tawny; FW with slight flush of silvery blue at base and suffusive lighter tawny band from costa to cell CuA2, bordered distally by brown spots and a wavy band along the margin; HW with ground of basal disc slightly darker than distal areas, with black and brown serrate medial line extending around the disc; postbasal area with brown slashes extending from costa through the discal cell. Both FW and HW with light yellowish suffusions distad of the wing bands, submarginal on FW, postmedial on HW. FW length: Material Examined males 15.0 mm., 16.0 mm. [apex/tail tip 15.0 = 23.5 mm.]. ***Female.*** Marked similar to males but with lighter green DFW,DHW iridescence. FW length: 15.5 mm. [apex/tail tip 24.0 mm.] (MNHN). ***Male Genitalia.*** Fig. 57A. Vincular dorsum with brush organs; vincular ventrum robust, spurs robust at base, saccus widely parabolic. Valvae robust but with both bilobes and caudal extension steeply tapered, latter especially with steep termini. Aedeagus also robust, length exceeding rest of genitalia by about two-fifths and with caecum prominent and recurvate. Aedeagus terminus greatly fluted and with one pointed and one rather lobate cornutus. ***Female Tergal Morphology and Genitalia.*** Fig. 57B. *Sipc* with ventral element rather robust compared to congeners. Lamella postvaginalis with disto-terminal margins robust and edged with a slightly bifurcate stout tooth. Paired lateral ridges of ductus widely flared to robust cervix bursae ventrum. Cervix bursae hood widely lobate and heavily sclerotized along the juncture area of attachment of the ductus seminalis.

TYPE. Holotype male (fig. 153A), BMNH, labelled "Ecuador. Hewitson Coll., 79-69. Thecla", "T. [see Type under *R. tyrrius*] hybla [male symbol] type H. H. Druce", "Type", "B.M. Type No. Rh. 603". TL: ECUADOR. "Ecuador".

DISTRIBUTION. ***Spatial.*** Fig. 207; known from a few localities in Ecuadorian Andes; only recorded altitude is 3800 m. ***Temporal.*** None of the specimens known to me is dated.

REMARKS. I figure the type as transposed from a color slide a (fig. 152A). This species is extremely poorly known.

MATERIAL EXAMINED. ECUADOR. "Ecuador", 1 male (BMNH); Pichincha, Niebli, northwest slope, 3800 m., leg. de Lafebre, 1 male (AME); "Equateur" Quito, 1 female (MNHN).

Rhamma adunca (Draudt)
NEW COMBINATION
Figs. 59, 154

Thecla adunca Draudt 1917-1924 [1919]: 759, pl. 153.
Comstock and Huntington 1958-1964 [1959]: 62; Bridges 1988: I.4, II.29, III.27.

DIAGNOSIS. ***Wings.*** Of generally large size (14.0 -15.0 mm.) with boldly violet-blue DFW,DHW framed within wide (female) to thin (male) black borders, HW appearing abnormally large compared to FW; VFW, VHW of yellow-green hued marked with lighter gray-suffused FW postmedial band and HW postbasal and medial bands over highly mottled grounds (see Remarks).

Male genitalia. Vincular dorsum with brush organs; vincular ventrum robust. Valvae robust but with both bilobes and caudal extensions steeply tapered, latter somewhat recurvate. Aedeagus stout.

Female genitalia. Unknown to me (see Remarks).

DESCRIPTION. [Described from the female (unknown to me) but known to me from a worn male]. ***Male.*** DFW,DHW, single worn male known to me, brilliant purplish blue to thin fuscous borders. FW without androconial elements. VFW,VHW assumed to be as on female (below); known rubbed male (fig. 154, left) with yellow-green ground color still very apparent. ***Female.*** DFW,DHW: HW appearing abnormally large compared to FW, HW with elongate, somewhat curvate, anal lobe; ground bright violet-blue with a broad blackish distal border on both wings; FW without androconial elements. VFW,VHW: ground color yellow-green on basal two thirds of FW, tawny distad; dark suffused brown-black submarginal line crossing entire wing, a similar postmedian line suffused lighter gray extending from costa to vein M3. HW ground grizzled tawny to greenish, marked with brown-black grizzled postbasal band suffused basally with lighter gray and slight, darkly grizzled, medial band bordered with lighter gray suffusion. Distally, costa to

limbal area, colored with light yellow-white ground, limbal area with black blotches in each cell. FW length: generalized from OD and male known to me; (14.5 mm.; apex/tail tip 25.0 mm., MNHN). ***Male Genitalia***. Fig. 58. Vincular dorsum with brush organs but not in as broad bundles as *R. hybla* known to me. Vincular ventrum robust, spurs narrow and slightly recurvate, saccus parabolic with juncture to vinculum less robust than area near spurs. Valvae with bilobes and caudal extensions both robust and steeply tapered, former with somewhat lobate ends, termini of latter steeply pointed and somewhat recurvate. Aedeagus stout and rather straight, length of shaft not exceeding rest of genitalia and caecum narrow and straight— making up close to one-half of aedeagal length. Aedeagus terminus fluted and with one pointed and one rather lobate cornutus. ***Female Tergal Morphology and Genitalia***. Unknown to me (see Remarks below regarding Fassl material).

TYPES. Described originally from Draudt's collection (see Types and Remarks under *Thecloxurina quindiensis*). TL: COLOMBIA, Monte Tolima, 3200 m. (see Remarks).

DISTRIBUTION. ***Spatial***. Fig. 207; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. It is noteworthy that the type of this distinctive species came from the same Fassl sample that included the types of *Penaincisalia downeyi* Johnson 1990a and, herein, *Pontirama tolimensis* (types MNHN). I do not know the exact time that such specimens were incorporated into the Paris collection but all have in common, compared to the Fassl material apparently used by Draudt for his original descriptions, rather poor condition. These taxa do not appear to represented in any other collection except Draudt's original material and some MNHN topotypes (see Remarks under *Thecloxurina quindiensis*). Thus, it has appeared that only the female of *R. adunca* was known. However, the worn specimen in the MNHN Fassl material appears to be readily identified as this species, particularly since it is topotypical. Having only the worn MNHN male, I also figure VFW,VHW from the original Draudt plate.

MATERIAL EXAMINED. COLOMBIA. Monte Tolima, 3200 m., leg. Fassl, 1 male (MNHN).

Taxa of Uncertain Species Group Affinity

Distinctive species known only from females and, therefore, not certainly associated with any foregoing group. If certain characters suggest a species group, I note these in Remarks. Includes *R. chilensis*, *R. duplicata*, *R. creara*, *R. argenta*, *R. magenta*.

Rhamma chilensis, NEW SPECIES

Figs. 60, 155

DIAGNOSIS. ***Wings***. DFW,DHW dull brown except for slight silvery-blue HW iridescence; both wings heavily fringed, HW with anal lobe not much longer than adjacent fringe; VFW,VHW generally unmarked except by thin mottled reddish lines proceeding across tawny ground, approaching stripes only postmedially on FW and medially and submarginally on HW (see Remarks).

Female genitalia: Lamella postvaginalis diminutive and spade-shaped compared to robust and produced cervix bursae ventrum; terminus of lamella postvaginalis with paired blunt lateral teeth and a serrate intervening margin.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW dull brown; HW with slight silvery blue HW sheen distad of basal area; FW,HW heavily fringed, HW with anal lobe not much longer than adjacent fringe. VFW,VHW ground dull mottled tawny, traversed by suffusive and thin mottled reddish lines comprising somewhat visible bands postmedially on FW and medially and submarginally on HW. FW length: 9.5 mm. (holotype). ***Female Tergal Morphology and Genitalia***. Fig. 60. *Sipc* with ventral element diminutive. Genitalia with lamella postvaginalis rather diminutive compared to robust cervix bursae ventrum (see below), former spade-shaped and terminating in two blunt distal teeth widely separated by a serrate intervening margin. Paired ductal ridges robust and separating widely before the cervix bursae; cervix bursae ventrally robust, dorsally with widely bilobate hood separated by relatively wide membranous margin compared to congeners.

TYPES. Holotype female, Quebrada de Timae, 3400 m., NE of Codpa, Tarapacá State, Chile, leg. L. Peña, assumed as 12 November 1983 (see Remarks).

REMARKS. As similarly noted in Johnson, Eisele and MacPherson (1990), this specimen was forwarded to F. H. Rindge as a geometrid and it is uncertain if it was day-collected or taken at light, though the latter appears more likely. Light collections have frequently occurred in Andean and Austral regions in the thecline species *Strymon eurytulus* (Johnson, Eisele and MacPherson 1990). I assume the date of catch from the group of specimens from which Rindge forwarded the specimen to me with the note "Your group? Not a geometrid". The

specimen's tawny undersurface, marked with fine red-suffused lines and heavy fringe, certainly appears geometroid. Rindge noted the silvery blue upper surface coloration and that the specimen antennae indicated it was not a moth; he also described a locally endemic geometrid *Eupithecia tarapaca* from the same specimen lot (Rindge 1987). Nothing else is known about this species species of *Rhamma*.

ETYMOLOGY. Named for the general area of occurrence, this being the only Chilean congener known, though a Chilean endemic also occurs in the sister genus *Pontirama*. Both taxa are uninterestingly marked and poorly known. Further efforts need to be made for their collection.

***Rhamma duplicata*,**
NEW SPECIES
Figs. 61 ,156

DIAGNOSIS. ***Wings***. Currently known only from montane central Argentina, VFW,VHW distinctive with dark brown bands over mottled yellow and ochre ground; FW with outstanding submarginal band; HW with parallel postbasal and medial brown bands, latter angled distally in cell CuA1 toward the outer margin.

Female genitalia. Lamella postvaginalis oblongate with disto-terminal areas highlighted by only two slight terminal teeth separated by a long, irregular to occasionally serrate, intervening margin.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW slightly suffused silvery-blue over FW base and base to medial area of HW, with remaining wide borders broadly fuscous. HW with short anal lobe. VFW,VHW ground, yellow and brown in varying patches; FW with thick brown submarginal line, costa to cell CuA2 with distal ground golden and reddish marginal suffusion, prominent in cells M2-CuA2. HW with red-brown postbasal and medial bands framing golden ground between; medial band displaced distad in square configuration in cells M3 and cells CuA1, margin suffused reddish brown. FW length: 10.0 mm. (holotype) [apex/tail tip 17.0 mm.]. ***Female Tergal Morphology and Genitalia***. Fig. 61. *Sipc* with rather small ventral element; genitalia with lamella postvaginalis oblongate and marked along terminal margin by two very diminutive distal teeth and an irregular, sometimes finely serrate, intervening margin. Paired ductal ridges short and widely arched toward diminutive cervix bursae ventrum; cervix bursae hood widely bilobate.

TYPES. Holotype female, ARGENTINA, "Mendoza" (see Remarks), C. S. Larsen Collection, deposited MNHN.

DISTRIBUTION. ***Spatial***. Fig. 207; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. VFW,VHW and DHW characters suggest this species may belong in the *tyrrius* Subgroup. As noted by Johnson, Eisele and MacPherson (1990) MNHN Larsen Collection labels note an archaic usage of "Mendoza". When locality sites are more particularly noted, these include sites from as far north as La Rioja Province and as far south as Rio Negro Province on modern maps.

ETYMOLOGY. The Latin name refers to the prominent parallel postmedial and medial VHW bands.

***Rhamma creara*,**
NEW SPECIES
Figs. 62, 157

DIAGNOSIS. ***Wings***. VHW with fluted, triangulate, brown band extending across wing from distal end of discal cell to base of anal lobe. DFW,DHW with blue-green iridescence basad of wide fuscous apices and submargins.

Female genitalia. Distal lobes of lamella postvaginalis with elongate tooth flanked inwardly by shorter serrations, terminus also centrally produced; *sipc* with slight baso-anterior apodeme.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW: ground suffused iridescent blue-green basad of wide fuscous apices and submargins; HW with prominent anal lobe. VFW,VHW ground ochre suffused with brown flecks; FW with thin brown postmedial line from costa to cell M3 paralleled by shorter submarginal brown line; HW with basal disc more darkly suffused brown than rest of wing and with brown suffusion coalescing into fluted, triangulate, brown band extending from distal end of discal cell to base of anal lobe. FW length: 11.0 mm. [apex/tail tip 17.5 mm.] (holotype). ***Female Tergal Morphology and Genitalia***. Fig. 62. *Sipc* rather rectangular and with baso-anterior margin marked by a slightly apodeme. Genitalia with lamella postvaginalis marked with very elongate distal teeth, flanked inwardly by additional serration and a produced central area. The paired ductal ridges are flared widely to robust cervix bursae ventrum; cervix bursae hood widely bilobate, each lobe rather angulate dorsally. Signa with prominent central keel.

TYPES. Holotype female (fig. 157), ARGENTINA, La Rioja Prov., C. S. Larsen Collection, deposited

MNHN (see Remarks below and notes in Johnson, Eisele and MacPherson 1990 regarding La Rioja material sources).

DISTRIBUTION. ***Spatial.*** Fig. 207; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. VFW,VHW along with DHW characters suggest this species belongs in the *tyrrius* Subgroup of the *tyrrius* Group. Additional notes under *R. duplicata*, above also pertain. As noted by Johnson, Eisele and MacPherson (1990), it is apparent that significant early La Rioja material from Giacomelli was traded off in lots to various collections. It is not certain whether Fournier purchased any of this material but later, in the 20th Century, Comstock and Huntington at the AMNH came into possession of some of it and early Giacomelli material was located by me in unsorted samples at the BMNH. Still, little is known about the localities in which Giacomelli collected and Hayward (1973) professed little knowledge of some of the taxa that Giacomelli described. Yet, the early Giacomelli material has become a source for discovery of numerous undescribed Andean and Austral Theclinae.

ETYMOLOGY. The name is taken from the Latin *creare*, meaning "crescent" or "slash" and referring to the prominently fluted mark on the HW.

Rhamma argenta,
NEW SPECIES
Figs. 63, 158

DIAGNOSIS. ***Wings.*** Entire DFW,DHW flecked bright silvery blue basad of very broad fuscous submargins and apices; HW shape broadly ovate without anal lobe. VFW,VHW with peculiar pattern--gray-suffused ground powdered with golden yellow flecks and HW with elongate and meandering submarginal and medial gray-brown bands forming an ellipsoid pattern around the medial area and angled distinctly toward the anal margin.

Female genitalia. Lamella postvaginalis widely oblongate, relatively diminutive with terminal margin generally irregular and with distal area showing only two very short teeth.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW suffused with brilliant silvery blue flecks basad of wide fuscous submargins and apices; HW shape broadly rounded and with no anal lobe. VFW, VHW ground gray, suffused with yellow to golden-brown flecks; FW with elongate brown submarginal and postmedial bands (costa to cells CuA1 and CuA2) suffused basally with golden brown, FW base flushed bluish black; HW with prominent, continuous to dashed, submarginal and medial gray to reddish brown bands forming ellipsoid pattern around the medial area and angled distinctly toward anal margin; remaining HW ground flecked with golden suffusion. FW length: 11.0 mm. (holotype) [apex/tail tip 17.5 mm.]. ***Female Tergal Morphology and Genitalia.*** Fig. 62. *Sipc* rectangulate, ventral element comparatively diminutive. Genitalia with lamella postvaginalis widely oblongate, relatively diminutive (overall size not much exceeding that of cervix bursae ventrum) and with terminal margin lacking produced distal prongs; rather, terminal margin generally irregular and with distal area showing only two very short teeth. Ductus bursae's paired lateral ridges widely arched to robust, oblongate cervix bursae. Cervix bursae hood with elements oblongate.

TYPES. Holotype female (fig. 158), PERU, W. Slope Andes, N. Peru, 10,000 ft. leg. Pratt, June 1912, deposited BMNH.

DISTRIBUTION. ***Spatial.*** Fig. 207; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. The type specimen is so divergent it is difficult to speculate about the species groups to which this taxon may belong. This distinctive species has the same specimen data as on the distinctive *Rhamma sabula* described herein.

ETYMOLOGY. The Latin root means "golden" and refers to the prominent gold suffusion of the VFW,VHW.

Rhamma magenta,
NEW SPECIES
Figs. 64, 159

DIAGNOSIS. ***Wings.*** DFW,DHW with dark blue flecks suffused over blackish ground contrasting deep magenta VFW,VHW ground accented by apical white FW suffusion and a medial black band extending rather straight across the HW.

Female genitalia. Lamellae postvaginalis serrate over nearly entire distal margins, culminating in a more produced distal tooth on each side; intervening margin centrally folded.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW ground fuscous flecked with deep iridescent blue fading to wide fuscous submargins and apices; HW anal lobe rich magenta. VFW,VHW ground deep magenta; FW with distinctive white suffusion across apex and black postmedial line from costa to cell CuA2; HW with

black-suffused medial band extending rather straight from costa to anal lobe and with dark suffusion basad in the basal disc and distad the outer margins. FW length: 10.0 mm. (holotype) [apex/tail tip 17.0 mm.]. ***Female Tergal Morphology and Genitalia.*** Fig. 64. *Sipc* rectangulate with ventral element very small, comprising only about one-forth lateral expanse of terminal tergite. Genitalia with lamella postvaginalis finely serrate along the entire distal margin, disto-terminally culminating in one prominent tooth flanked by shorter serrations; intervening margin convoluted. Paired ductal ridges widely flared to robust cervix bursae. Cervix bursae hood with robust bilobate elements, closely junctured to sclerotized point of attachment of the ductus seminalis.

TYPES. Holotype female (fig. 159), PERU, Huancabamba, Cerro de Pasco, leg. E. Boettger, deposited BMNH.

DISTRIBUTION. ***Spatial.*** Fig. 207; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. The type specimen is so divergent it is difficult to speculate about the species group to which this taxon may belong.

ETYMOLOGY. The Latin name refers to the magenta coloration distinctive in the species.

Central American species:

Rhamma disjuncta,
NEW SPECIES
Figs. 65, 160

DIAGNOSIS. Known only from Costa Rica and the only Central American *Rhamma* species known to date. ***Wings.*** DFW,DHW of known female fuscous with basal suffusions of silvery-blue. VFW,VHW rather devoid of markings compared to congeners, FW with elongate suffusive brown submarginal band (costa to cell CuA2) and lighter postmedial line (costa to cell CuA1); HW with brown-suffused basal disc lacking emphatic distal border, rest of HW marked only by suffusive dashed to lunulate marks along the submargin.

Female genitalia. Lamella postvaginalis hemi-rectangular, basally with slight distal production, laterally convex and terminating with prominent disto-lateral teeth flanked by two smaller proximal teeth.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW: ground silvery-blue in basal one-half of FW and anal two-thirds of HW from subcostal area; HW with short knoblike anal lobe. VHW,VFW rather devoid of pattern, FW with elongate brown-suffused submarginal band from costa to cell CuA2 and a lighter postmedial line from costa to cell CuA1; HW with brown-suffused basal disc devoid of crisp border and with distal areas marked only by suffusive dashed to lunulate marks along the submargin. FW length: 11.0 mm. (holotype) [apex/tail tip 16.5 mm.]. ***Female Tergal Morphology and Genitalia.*** Fig. 65. *Sipc* with ventral element comprising about one-fourth lateral expanse of terminal tergite and extending along most of the tergite ventrum. Lamella postvaginalis with overall shape rather hemi-rectangular but with distal margins rounded and the disto-terminal teeth the most prominent of the terminally directed elements (area along intervening margin also showing slight teeth). Ductus bursae's paired lateral ridges not much longer than caudal expanse of lamellae and arched to a rather hemispherical cervix bursae ventrum. Cervix bursae hood robust and widely bilobate (see Remarks).

TYPES. Holotype female (fig. 160), COSTA RICA, "Vulkan Irazu", 1200 m., ex. Fassl Collection, deposited MNHN.

DISTRIBUTION. ***Spatial.*** Fig. 207; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. This specimen is one of four Fassl specimens at the MNHN representing undescribed species from montane areas of Costa Rica. According to P. De Vries (pers. comm.), Fassl's work in Costa Rica is well documented and specimen data from his collection reliable. It appears that the areas from which these specimens come— Volcan Irazu and Volcan Orosi, located respectively in Central Cordillera/N Cordillera Talamanca and Cordillera Guanacaste— confront modernday collectors with two problems: (i) relative inaccessibility by vehicle to the upland habitats indicated by these specimens and (ii) long term habitat destruction by locals since the time of Fassl's work. However, it is extremely important to document these old collections and investigate whether additional material may exist in other early depositions.

I drew the original of the female genitalia from glycerin on the camera lucida at BMNH (which produces a relatively small image). In rechecking the specimen before returning it to MNHN I noted that under the binocular scope in alcohol the lamella postvaginalis can appear a bit more rounded and toothed along the respective disto-terminal edges compared to the overall shape of the postvaginal lobe. This might be kept in mind in locating other specimens or comparing them to the type in Paris.

ETYMOLOGY. The name is a euphonious Latinization referring to the disjunct geographic occurrence of this unique Central American congener.

SHAPIROANA, NEW GENUS

Figs. 66-68C, 161-163C and Appendix

Synopsis-- includes previously undescribed taxa.

DIAGNOSIS. ***Morphology.*** Typifying the "arria Group" but ventral element of *sipc* particularly produced and often caudally incised; *female genitalia* with robust, often asymmetrical, genital plates terminating in greatly elongate and/or asymmetric prongs, also with modification of the cervix bursae hood not seen in other genera (see below); *male genitalia* with valvae and vinculum extremely robust, valvae laterally divided into respective ventral and dorsal darkly sclerotized surfaces broken by a wide transparent suture (fig. 66) (see Remarks). ***Wings.*** Large (FW to 16.0 mm., though normally around 14.0 mm. [one exceptionally small species at 7.5 mm.]), DFW,DHW concolorous with brilliant fine-grained structural color bordered only by thin black or fuscous edges; HW without prominent anal lobe (see Remarks); VHW pattern occurring as suffused lunulate bands in the medial and postmedial areas (more like *Penaincisalia* of Clade III than other Clade II taxa) and often with patches or highly iridescent overscaling.

DESCRIPTION. ***Adult. Male.*** DFW,DHW: ground colors fine-grained brilliant blue, silvery-blue or orange distinctly junctured by thin black or fuscous margins and apices; male FW generally without androconial elements; HW without tails [e.g. as on termini of veins CuA1, CuA2 in many eumaeine "hairstreaks"] and without pronouncement of anal lobe. VFW,VHW: ground colors variously grizzled and gray to tawny, patterned with generally continuous lunulate bands primary occurring in the medial and postmedial area, latter often as arcs of crescents, less often with a companion band in the postbasal area. VFW,VHW often with patches of iridescence oversaling, intense in some taxa. FW length: 12.5 - 16.0 mm. [one exception, see above]. ***Female.*** DFW,DHW: Varying in degree of superficial sexual dimorphism: some taxa with females as brilliant as males, others with brilliant iridescence limited only to basal-postmedial areas, the single orange taxon showing only flat orange in the female; androconial elements absent. VFW, VHW: marked similar to males. FW length: similar to males except for one exceptionally small (7.5 mm.) species. ***Male Tergal Morphology and Genitalia.*** Figs. 66-68C. *Sipc* and brush organs absent in known taxa. Genitalia with extremely robust vincular ventrum and overall valval configuration. Robust vinculum marked with parabolic to pointed saccus and elongate spurs; valvae robust in both the posterior and anterior structural elements, anterior elements greatly shouldered, posterior elements with produced, pronglike, termini; laterally, valvae divided into respective ventral and dorsal darkly-sclerotized surfaces broken by a wide transparent suture. Aedeagus robust, caecum comprising one-third to two-fifths aedeagal length and only slightly, if at all, inclined from the plane of the aedeagal shaft; aedeagus terminus with two cornuti, one spatulate the other generally pronglike. ***Female Tergal Morphology and Genitalia.*** Figs. 66-68C. Eighth tergite modified to *sipc* typified by oblongate dorsum extending cephalically under the seventh tergite, terminating caudally with marginal microtrichia, and extending laterally in a widely lobate ventral element surrounding disto-terminal edges of the genital's lamella antevaginalis; lobate element often caudally incised. Genitalia with paired ridges of ductus bursae robust and angulate,sometimes assymetrical, with elements at juncture with cervix bursae often sculptured or serrate. Lamella postvaginalis prominent and caudally expansive, sometimes asymmetrical in shape and terminating in variously elongate, and/or assymetrical terminally-directed prongs. Cervix bursae ventrally produced; dorsally, contrasting *Rhamma* and *Pontirama*, with bilobate elements of hood usually conjoined by sclerotization at the base beneath the ductus seminalis and with ductus seminalis protruding from a much smaller sclerotized area than in *Rhamma* or *Pontirama*. Corpus bursae inner lateral walls each with a robust dendritic signum formed by anastomozing sclerotizations extending laterally from a central keel.

TYPE SPECIES. *Shapiroana shapiroi*, new species.

DISTRIBUTION. ***Spatial.*** Figs. 208; high Andes of South America from Colombia southward to northern Argentina. ***Temporal.*** Dates on specimens range from November to July.

REMARKS. *General*-- This group is composed completely of previously undescribed species. The type species was first brought to my attention by Dr. Arthur M. Shapiro from his collections in the Sierra de Santa Marta in Colombia. Among South American elfins these specimens appeared very odd, but my concept of them representing a group of separate generic worth developed only after the eventual discovery of additional pan-Andean elements. Alone, Shapiro's entity generally suggested the genus *Rhamma*, but with many autapomorphies. When I

visited Argentina to collect in 1991, I was aware of Shapiro's undescribed entity and a series of singleton specimens from several other, high pan-Andean, areas which shared its unusual characters. When the 1991 AMNH Argentine expedition collected *S. matusikorum* at an isolated high Andean oasis in Jujuy Province, my opinions were further reinforced about the unique characters of this group. *Shapiroana matusikorum* was first "easily" identified as a *Penaincisalia* (Clade III) from external characters of the female. Its upper surface was *orange*, indicating conspecificity or sister species relationship with the unique orange *Penaincisalia aurulenta* from the Cordillera Blanca of Peru. However, when dissected, the orange Argentine elfin showed characters not of *Penaincisalia* but those of the genital ground plan of Clade II, including the autapomorphies of the Colombian Santa Marta entity. Once a species as extreme as *S. matusikorum* became known, it was necessary to reassess the array of characters from which all of these specimens differed from the genus *Rhamma*. In addition, the very small species, *S. minissima*, also came to my attention. It too shared the robust, assymetrical, female characters typifying this group. With six very different entities, extending in distribution from Colombia to northern Argentina, it was apparent this monophyletic group was as worthy of generic status as any other high Andean eumaeine assemblage.

Characters-- Though obviously built off the ground plan of Clade II, wing and structural characters of *Shapiroana* differ from *Rhamma* and *Pontirama* in the numerous ways summarized in the generic diagnosis above and Remarks under each of the latter named genera. Given the high Andean distribution of *Shapiroana*, and the uniqueness of characters that typify it, I suspect that most of its odd structural traits are autapomorphic. This view appears particularly compelling considering the rather simple ground plan of characters apparent in *Pontirama*. Considering all the Thecloxurina, other eumaeines or lycaenids in general (Eliot 1973), these latter simple ground plans are generally construed as primitive. Based on such a view, it is also compatible to consider the outgroup of the entire *arria* Group assemblage as the widely Pan-Neotropical genus *Paralustrus*, which is described subsequently.

ETYMOLOGY. Patronym for Dr. Arthur M. Shapiro (University of California, Davis) who has published widely on high Andean and Austral South American butterflies and initially collected the type species.

***Shapiroana shapiroi*,**
NEW SPECIES
Figs. 66, 161

DIAGNOSIS. *Wings*. DFW,DHW brilliant azure blue over entire wings of males; marked silvery blue in females with thin black apices and margins. VFW, VHW with ground powdery gray, strewn with iridescent bluish black along FW base and with HW basal disc outlined by black-suffused dashes along the distal edge and in postbasal area (see Remarks).

Male genitalia. Valvae with central constriction prominent, bilobed area parabolic, caudal extensions tapered gradually to blunt termini.

Female genitalia. *Sipc* with ventral element extremely large; lamella postvaginalis hemi-rectangular with extremely elongate paired distal prongs flanked by one or two much shorter teeth, often of varying length and asymmetrical shape.

DESCRIPTION. ***Male***. DFW,DHW: ground bright iridescent deep blue except for thin fuscous marginal borders; FW without androconial elements, HW with short fuscous anal lobe. VFW,VHW: ground tawny gray [as in allotype fig. 161B] to blacker gray [as in holotype fig. 161A]. FW with dark brown postmedial line (costa to cell CuA2), light submarginal spots (costa to cell CuA2); distal area of discal cell with dark brown slash; wing base to postmedial area suffused deep iridescent blue [all above markings reduced on specimens that are darkly grizzled with smokey gray overcast]. HW with wide discontinuous postbasal and medial bands comprised of bipartite dark brown and lighter brown edged basally with distinctly deep iridescent blue; distal end of discal cell with dark brown slash; submargin with light brown spots in the cells. FW length: 13.0 mm. (holotype) [apex/tail tip 20.0 mm.] mean of paratypes 14.7 mm., range 14.5 - 15.0 mm. ***Female***. DFW,DHW: ground iridescent silver blue except for wide fuscous to gray submarginal and apical borders. VFW,VHW: As on males but with fewer iridescent blue highlights. FW length: 14.0 mm. (allotype), paratype 13.5 mm. ***Male Genitalia***. Fig. 66A. Vincular dorsum lacking brush organs; vincular ventrum angled, saccus parabolic, spurs and adjacent area of vinculum robust. Valvae with central constriction prominent, bilobed area parabolic, caudal extensions tapered gradually to blunt termini. Aedeagus short, length exceeding rest of genitalia by about one-fifth, caecum comprising almost half of aedeagal length and not displaced out of the plane of the aedeagal shaft; aedeagal terminus with two serrate cornuti. ***Female Tergal Morphology and Genitalia***. Fig. 66B. *Sipc* with ventral element extremely large, comprising over one-half of

lateral expanse of terminal tergite and extending laterally around base of lamella antevaginalis. Latter rather hemi-rectangular with extremely elongate paired distal prongs flanked by one or two much shorter teeth, often of varying length and asymmetical shape. Ductus bursae's paired lateral ridges robust and directed quite straight to arched cervix bursae ventrum; cervix bursae hood widely bilobate with sclerotized hemispheres widely separated by membranous areas supporting the ductus seminalis.

TYPES. Holotype male, allotype female (fig. 161A,B), COLOMBIA, Headwaters of Rio Cambirumelna, S slope Cerro Kachu, 4000-4400 m., Sierra Nevada de Santa Marta, Depto. Cesar, 10 degrees 45' N 73 degrees 34', 18-22 January 1977, leg. A. M. and A. R. Shapiro, deposited AMNH. *Paratypes*. UCD: 18 km. E of San Pedro, 3550 m., Depto. Magdalena, 10 degrees 54'N, 73 degrees 53'W, 19 December 1973, leg. P. Ward, 1 female, 3650 m., 21 December 1972, 1 male, 3850 m., 18 December 1973, 1 male, 17 December 1973, 1 male, 16 km. E. at 3700 m., 16 November 1973, 1 male/1 female in copula.

DISTRIBUTION. ***Spatial.*** Fig. 208; known only from very high altitudes in the Sierra Nevada de Santa Marta of Colombia, 3650-4400 m. ***Temporal.*** Collected from November to January.

REMARKS. Males of two subsequently described sister species of *R. shapiroi* are unknown. It is suspected they may also be brilliantly iridescent on DFW,DHW.

ETYMOLOGY. Named for Dr. Arthur M. Shapiro who collected the primary types and provided the type series for study.

Shapiroana circe,
NEW SPECIES
Figs. 67, 162

DIAGNOSIS. ***Wings.*** DFW,DHW of known female with angulate wings and bright silvery blue color surrounded by more crisp and wide black apical (2-3 mm.) and submarginal (2 mm.) bands compared to *S. shapiroi* and *S. aurifera*. VFW,VHW somewhat like *S. shapiroi* but markings in and around basal disc only slightly more dusty gray than ground, not prominently dashed with black as in former species. Each lobe of genital plate margin in females with two terminally directed processes (see Remarks).

Female genitalia. Lamella postvaginalis widely lobate, terminal margin of each lateral lobe with two prominent prongs— the most distal elongate (but hardly as pronounced as in *S. shapiroi*) and that adjacent to it one-third as long; intervening margin arched and generally entire.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW margins angulate (fig. 162), colored bright silvery blue with wide black apices and submargins. DFW,DHW ground powdery gray, faint trace of slightly darker gray postmedial FW line, costa to cell CuA2, HW with slightly darker gray margin around basal disc. ***Female Tergal Morphology and Genitalia.*** Fig. 67A. *Sipc* with robust and caudally incised ventral lobe typical of genus. Genitalia with lamella postvaginalis widely lobate, rather hemi-rectangular, with terminal margin of each lateral lobe showing a broadly tapered distal prong and, about halfway to the juncture of the lobes a second, shorter and toothlike, prong (see Remarks). Ductus bursae's paired lateral ridges thin and fluted widely toward cervix bursae; cervix bursae thin and elongate in ventral view, hood with rather ovate paired lobes surrounding the ductus seminalis.

TYPE. Holotype female (fig. 162), VENEZUELA, "highlands of Merida", "I" [January?], deposited BMNH.

DISTRIBUTION. ***Spatial.*** Fig. 208; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. This species appears to be an upland Venezuelan sister species of *S. shapiroi* and, if not for the dorsal wing pattern and divergent termini of the female genitalia, might be considered the same species. This character hiatus is typical of disjunct high montane forms and poses some problems for alpha taxonomy regarding application of the species category. Strongly supporting the latter in this case is the peculiar DFW, DHW pattern which is remarkably reminiscent of females of the Palaearctic elfin *Ahlbergia circe* (Leech) though the under surface is very different. Given this DFW,DHW pattern it appears certain *S. shapiroi* and *S. circe* would be readily distinguished if sympatric. It thus appears likely that the Sierra Nevada de Santa Marta/ Cordillera de Merida disjunction has resulted in a vicariant sister species relationship. Adams (1973) discussed the biogeographic relationship of these two mountain regions. The occurrence of two notable distal prongs on either side of the lamellae postvaginalis in this species and the one of subsequent entry appears to result from modification of the intervening terminal margin which, in other species like *S. macphersoni* and *S. matusikorum*, occurs in a serrate condition.

ETYMOLOGY. The name is taken from the Palaearctic elfin *A. circe* which looks superficially similar

to *R. circe* on the VFW,VHW but, as typical of some Old World elfins is completely brown above.

Shapiroana aurifera,
NEW SPECIES
Figs. 68A, 163A

DIAGNOSIS. ***Wings.*** Known female with DFW basally gray, distally blackish, DHW light gray strewn with blue iridescence in basal areas; VHW with radically dentate postmedial band colored with golden iridescence and VFW lacking postmedial band.

Female genitalia. *Sipc* with ventral element comprising less than one-sixth of lateral expanse of terminal tergite but greatly incised caudad and extending widely around base of lamella antevaginalis; lamella postvaginalis "spade"-shaped, sloping terminally to thinly pointed, paired, distal prongs separated by a short intervening margin marked on each side by a proximal tooth.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW: FW ground iridescent gray in basal one-half, blackish in distal one-half; HW ground iridescent blue in basal one-half, gray in distal one-half; anal lobe short. VFW,VHW: ground gray white; FW lacking postmedial band, instead with dentate suffusive gray submarginal elements paralleled by gray suffusion along the marginal cells. HW gray-suffused basal disc with faint postbasal gray-brown line, prominent brown discal spot, and a medial slash from costa to vein M1 or M2, then bordered along its edge by an outstanding dentate band colored distally dark gray-brown and basally with iridescent gold. Distally, submargin with dark gray chevrons filling each marginal cell. FW length: 13.5 mm. (holotype) [apex/tail tip 21.5 mm.]. ***Female Tergal Morphology and Genitalia.*** Fig. 68. *Sipc* with ventral element comprising less than one-sixth of lateral expanse of terminal tergite and extending laterally around base of lamella antevaginalis. Latter "spade"-shaped, sloping terminally to thinly pointed, paired, distal prongs, separated by a short intervening margin marked on each side by a proximal tooth; ductus bursae's paired lateral ridges robust and widely arched to angulate cervix bursae ventrum. Cervix bursae hood quite ovate, with heavily sclerotized hemisperes occurring on either side of the ductus seminalis, juncture of which is also heavily sclerotized.

TYPES. Holotype female (fig. 163), COLOMBIA, El Tabano, 6000 ft., May, Holland Collection, deposited CMNH.

DISTRIBUTION. ***Spatial.*** Fig. 208; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. It is noteworthy that the only recent specimen of the little known high Andean elfin *Penaincisalia anosma* (Draudt) is from El Tabano at 3300 m.

Shapiroana matusikorum,
NEW SPECIES
Figs. 68B, 163B

DIAGNOSIS. ***Wings.*** DFW,DHW of known female brilliant orange like no other congener and thus resembling males of *Penaincisalia aurulenta* (Clade III). VFW lacking postmedial band; VHW with lunulate brown and black medial band flanked by postmedial arc of white crescents.

Female genitalia. Greatly assymtrical in all parts, including the lamella postvaginalis shape, terminally directed prongs (those of respective edges varying greatly in length and placement) and shape of lateral ridges of ductus bursae.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** Head, thorax, abdomen and palpi typical of genus. DFW, DHW ground color bright orange, forewing costal, marginal and submarginal borders fuscous, hindwing margin crenate along the limbal area, outlined by fuscous marginal border becoming wider along border with FW. VFW ground yellow-orange bordered by fuscous with slight white dashes in each cell along margin; VHW ground suffused finely brown and orange, basal disc not much darker than rest of wing, postbasal area with two white crescents; postmedial area and submargins each with arc of white crescents; margin mottled with jagged pattern of brown and orange. FW length: 13.5 mm. (holotype) [apex/tail tip 21.0 mm.]. ***Female Tergal Morphology and Genitalia.*** Fig. 68B. *Sipc* irregularly shaped in lateral aspect, ventral element caudally incised as typical of the genus. Genitalia with paired lateral ridges of ductus bursae quite asymmetrical relative to juncture with cervix bursae. Lamella postvaginalis with extremely expansive, rather trapezoidal, ventrum marked with a terminally-directed elongate and hooked prong at one distal edge and a terminally directed and very short and hooklike prong at the other. Cervix bursae with ventrum robust, hood widely bilobate and more elongate dorsally than congeners.

TYPE. Holotype female, ARGENTINA, Jujuy Prov., Dept. Tilcara, Quebrada de las Cruces (Remarks below and Johnson 1991) 3600 m., 2 February 1991, D. Matusik and K. Borsuk Matusik (see Remarks and Johnson 1992 for description of site ecology).

DISTRIBUTION. ***Spatial.*** Fig. 208. Currently known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. Currently known single female collected at an extemely isolated high montane oasis in northern Argentina. The type was collected at approximately 1145 hours at a spring-fed oasis occurring in otherwise xeric and unvegetated terrain at about km. 9 [unmarked] on the "Abra de las Cruces" footpath (known to most local residents and originating from the road leading south from the east end of the Rio Grande River Bridge within the village of Huacalera [2700 m., see site description #53A in Johnson, Eisele and MacPherson 1990]). From about km. 8-10 on this footpath, between 3500-3650 m., in an area extending about 2 km. by 30 m. occur shallow spring-fed rivelets supporting a dense and rather lush vegetation (including small trees) starkly contrasting unvegetated terrain surrounding the area for many miles. To date, three other undescribed species of butterflies, two lycaenidae and one Satyridae (of uncertain generic assignment) are know only from this isolated locality and according to Argentine lepidopterist R. Eisele, lepidopterists have visited the site only twice.

ETYMOLOGY. Named for David and Kathy Borsuk who collected the holotype.

Shapiroana macphersoni,
NEW SPECIES
Figs. 68C, 163C

DIAGNOSIS. ***Wings.*** Currently known male and female (NW Argentina) differing from all other congeners by showing an elongate and ellipsoidal androconial brand in the male, falcate FW in female and tuft-like tip on HW anal lobe; VHW with soft gray ground marked through the medial area by an arc of rather continuous yellow-suffused dark gray dashes (more dentate in male) and a parallel arc of small crescent-like markings or spots surrounding the submargin; FW with prominent postmedial line in male.

Male genitalia. Vincular ventrum extremely robust with rather short spurs; valvae extremely robust with bilobes widely shouldered and basally indented, caudal extension sloping in steep sigmoid fashion to finger-like termini.

Female genitalia. Margin of lamella postvaginalis terminating in two elongate, asymmetrically-toothed, prongs along distal margin, intervening area strewn with short serrate prongs of varying length.

DESCRIPTION. ***Male.*** DFW,DHW distally dull gray-brown throughout; elongate ellipsoidal androconial brand along distal margin of discal cell; HW anal lobe area with heavy tufted fringe. VHW,VFW tawny white; FW dusted basally dark blue and with yellow brown postmedial line extending from costa across entire wing; HW with basal disc mottled smokey gray and edged distally with an irregular, angulate, yellow-brown medial band complemented distally by small gray-suffused chevrons and spots along the submargin. FW length: 12.0 mm. (holotype) [apex/tail tip 19.0 mm.]. ***Female.*** DFW falcate, ground silvery blue from base to medial area, thereafter with well-defined wide black border and apex; HW with iridescent blue proceeding to postmedial area. VFW without postmedial elements lighter, basically limited to suffusion, VHW similar to males but with markings more suffusive gray, less defined along the medial edge of the basal disc but more defined as chevrons along the submargin. FW length: 12.5 mm. (allotype). ***Male Genitalia.*** Fig. 42. Vincular dorsum lacking brush organs; genitalia with vincular ventrum extremely robust adjacent rather short spurs, robust also in the falces and in widely lobate saccus. Valvae very robust, bilobes widely shouldered and basally indented, caudal extension sloping in steep sigmoid fashion to finger-like termini. Aedeagus very robust, length exceeding rest of genitalia by only about one-fourth, caecum comprising over one-third of aedeagal length and not displaced outside the plane of aedeagal shaft. ***Female Tergal Morphology and Genitalia.*** *Sipc* rather square and small compared to extremely produced and caudally incised ventral element. Genitalia with lamella postvaginalis angulate, terminating in elongate, asymmetrically-toothed, distal prongs with intervening area covered by variously serrate shorter teeth. Paired ductal ridges fluted widely to cervix bursae; cervix bursae bilaterally concave along ventrum, dorsally with bursae hood widely bilobate.

TYPE. Holotype male (fig. 137), ARGENTINA, Jujuy Province, 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. As noted hitherto, the relatively undisturbed tropical forests at Cucho and in the Parque Nacional Callilegua eastward harbor a species rich and extremely insular fauna. It is important to increase the samples of the many unique taxa that have been collected in these two Jujuy locales. It is likely that the more northern tropical forests near Agua Blanca (see Johnson, Eisele and MacPherson 1988, 1990) along the Bolivian

border also share numerous species with the type locality of *S. macphersoni*.

ETYMOLOGY. Patronym for Bruce MacPherson who collected the types; MacPherson keeps a field cabin at Cucho and his collections there have produced many undescribed species.

***Shapiroana minissima*,**
NEW SPECIES
Figs. 68D, 163D

DIAGNOSIS. ***Wings***. Known specimen extremely small (FW 7.5 mm.); DFW,DHW concolorous brown except for suffusion of silvery blue over HW base; HW anal lobe prominent. VFW,VHW ground dull mottled tawny and brown, with VHW generally concolorous except for a thin red-brown suffused medial band extending from costa to anal lobe; FW with prominent dark brown marks along the costa and with a rather wide brown band from costa to cell M1 in the postmedial area.

Female genitalia. Lamella postvaginalis robust and rather oblongate with two, centrally located, terminally hooklike projections, asymmetrical in the known specimen.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW concolorous brown except for silvery blue suffusion at base of HW; anal lobe prominent. VFW, VHW: ground dull mottled tawny, FW marked with darker chocolate brown along costa and in wider postmedial band extending narrowly from costa to cell M1. VHW generally concolorous except for slightly darker-suffused basal disc; disc bordered distally by a thin suffusive red-brown medial line extending from the costa to the anal lobe. FW length: 7.5 mm. [apex/tail tip 13.0 mm.] (holotype). *Female Tergal Morphology and Genitalia*. Fig. 68D. *Sipc* with greatly incised ventral element. Genitalia with lamella postvaginalis robust and widely oblongate, marked by thin rim of sclerotization along basal margin; terminal margin with paired, centrally located, hooklike teeth (asymmetrical in known specimen); intervening margin entire. Ductus bursae's paired lateral ridges elongate, spreading widely near juncture with cervix bursae; cervix bursae widely bilobate.

TYPES. Holotype female (fig. 155), COLOMBIA, Bogota, paramo, 3780 m., "6/7/47" [June 7 or July 6, 1947], deposited AMNH.

DISTRIBUTION. ***Spatial***. Fig. 207; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. As typical of the genus this small species is reported from very high altitudes. The type specimen derives from the same unmounted specimens lot containing eventual paratypes of *Rhamma comstocki*, a lot which appears attributable to L. Richter. The "paramo" note is taken from the specimen envelope. Since none of the other specimens in this lot (including *R. comstocki*) had a similar notation, it can perhaps be inferred that the collector was noting a unique habitat for this specimen compared to others in the lot.

ETYMOLOGY. The name is taken from the Latin *minimus*, referring to the small size of this species.

***PARALUSTRUS*,**
NEW GENUS
Figs. 69-72, 164-167

Synopsis-- includes *Thecla commodus* Felder and Felder and undescribed relatives.

DIAGNOSIS. ***Wings***. All species with distinctive baso-medial VHW pattern (hitherto associated with *T. commodus*)-- (i) mottled basal patch extending from the wing base to the postbasal areas of cell SC+R1, discal cell and cell CuA2; (ii) companion mottled patch located medially in cells CuA1 and CuA2; interspecific wing pattern differences pertain to markings in the HW limbal and FW postmedial areas. As well known for the large species *T. commodus*, FW expanses relatively large for elfin butterflies (FW 14 - 16 mm.) and DFW, DHW's brilliantly iridescent blue and bluish green in the basomedial areas; males with greatly expansive lunulate androconial brands.

Male genitalia. Reflecting ground plan of Clade II but, compared to three genera aforementioned, vinculum more angulate and structures of valvae and aedeagus more robust and angulate, valvae typically with prominent central constriction greatly contrasted by truncate posterior and anterior valval elements (figs. 164-167, as appropriate).

Female genitalia. Reflecting ground plan of Clade II but, compared to three genera aforementioned, with paired ridges of ductus bursae far more elongate relative to size of the cervix bursae and terminal lamellae (figs. 164-167); in addition, lamellae are terminally edged with ragged lobes, prongs or serrations as well as marked basally with additional heavily sclerotized elements (hereafter, the "basal elements", fig. 164A) not known in the other genera of the Clade. Signa of corpus bursae with widely sclerotized base; cervix bursal hood varying interspecifically in far-flung taxa but generally characterized by a robust bilobate hood framing a separate sclerotized lobe

from which extends the ductus seminalis, variously surrounded by sclerotization depending on the species.

DESCRIPTION. ***Adult. Male.*** DFW,DHW ground brilliant lustrous blue to blue-green, FW with greatly expansive lunular androconial brand in most well known congener, smaller in others; hindwing of some species with prominently rounded anal lobe often colored centrally with orange. VFW,VHW pattern comprised of greatly mottled patches and adjacent pattern elements colored gold, ochre, green, or brown. On the FW these comprise primarily a FW postmedial band; on the HW they include a mottled basal patch extending from the wing base to the postbasal area of cell SC+R1, the discal cell and cell CuA2, and a companion mottled patch occurring medially in cells CuA1 and CuA2. Color combinations, and distal and limbal patterns, vary with the species, but all have lavishly mottled costal and limbal elements. ***Female.*** DFW,DHW in known females differing from males in generally lighter and flatter iridescence, usually more expansive on the wings and often with more greenish in hue. VFW,VHW similar to males. ***Male Tergal Morphology and Genitalia.*** Figs. 69-71. *Sipc* and brush organs absent in known species. Vincular ventrum robust and rather square, marked by widely parabolic saccus, robust vincular margins and elongate or lobate spurs. Valvae robust with swollen bilobed area and caudal extensions more exaggeratedly swollen than in *Rhamma*, *Pontirama* and *Shapiroana*. Aedeagus robust, length exceeding rest of genitalia by one-fourth to one-fifth and with a prominent caecum making up two-fifths to one-third of aedeagal length, usually not displaced from the plane of the aedeagal shaft and showing a widely spatulate terminus enclosing two, pronged or serrate, cornuti generally more robust than in the sister genera. ***Female Tergal Morphology and Genitalia.*** Figs. 164-172. *Sipc* with ventral element diminutive compared to terminal tergite and with base not surrounding that of lamella postvaginalis. Latter ovate to spade-shaped with irregular lateral margins, terminal extensions composed of variously serrate prongs and intervening terminal margin with various additional, serrate and incised, elements. Ductus bursae's paired lateral ridges generally robust; cervix bursae diminutive compared to sister genera, with hood oblongate. Corpus bursae with signa robust, usually with a heavily sclerotized basal plate and prominent central keel, but with caudal dendritic elements generally less prominent than in sister genera.

TYPE SPECIES. *Thecla commodus* Felder and Felder 1865-1875 [1865].

DISTRIBUTION. ***Spatial.*** Fig. 209; distributed throughout the Andean region from Venezuela to Bolivia, with a disjunct in northern montane Costa Rica. ***Temporal.*** Dates on specimens are sparse but include both "summer" and "winter" months. I suspect from the paucity of data but the large numbers of specimens of some of the species in museums that the genus may occur in every month of the year.

REMARKS. *General*-- Hitherto, the distinctive Neotropical taxon *Thecla commodus* has been considered rather unusual among Neotropical hairstreak butterflies and typified by a western Andean distribution. However, a southwestern Andean taxon, *Thecla viridis* (described much later by Lathy 1930 [a homonym replaced by the name *Thecla familiaris* Johnson 1991]) was less well known and, if not ignored by authors, considered by them as either a synoynym, subspecies, or sister species of *T. commodus*. Morphological study, and additional distribution records, clearly suggest the latter and examination of Fassl material at the MNHN discovered a montane Costa Rican entity related to the above taxa and herein described as a new Central American species. Further, a single specimen of a previously undescribed Bolivian entity in this group was also located in this study. This Bolivian representative exhibits the VHW basal wing pattern historically attributed to *T. commodus* but differs radically is adjacent markings, anal lobe and structural characters. The overall distinction of structural characters in this assemblage, and its Pan-Neotropical range, clearly suggest a group of generic worth. Morphological characters reflect the ground plan of Clade II and phylogenetic position as the most apotypic of the clade including *Pontirama*, *Rhamma* and *Shapiroana*.

ETYMOLOGY. The Latin name, considered masculine, combines roots for "aside" and "color" and refers to the characteristic DFW,DHW/ VFW,VHW markings which mark this genus.

Paralustrus commodus (Felder and Felder)
NEW COMBINATION
Figs. 69, 164

Thecla commodus Felder and Felder 1865-1875 [1865, vol. 2]: 262, pl. 32, f. 19,20. Kirby 1871: 400; Draudt 1917-1924 [1919]: 759, pl. 153g; Comstock and Huntington 1958-1964 [1959]: 192; Johnson, MacPherson and Ingraham 1986: 6; Bridges 1988: I.86, II.105, III.41.

Thecla commodus viridis Lathy [not *viridis* Lathy 1930: 135 (invalid homonym of *Thecla viridis* Edwards 1982 [*Thecla familiaris* Johnson 1990 (replaces

Thecla viridis Lathy)]): Comstock and Huntington 1958-1964 [1964]: 184; Bridges 1988: I.368 (combination in error, see *P. familiaris*).

DIAGNOSIS. ***Wings.*** DFW,DHW lustrous blue to bluish green; VHW anal lobe prominently rounded. VFW,VHW with lavish mottled patterns of distinctively green, ochre and brown contrasting a bold patch of concolorous green to ochre along the costa in the medial area (see Description). DFW male brand diffuse and ovate but not appearing as vividly black against iridescent ground as in *P. familiaris*.

Male genitalia. Valvae bilobed area and adjacent central constriction with greatly rounded shoulders; bilobes tapered to prominent basal indention, caudal extensions robust and tapered in curvate fashion to pointed termini.

Female genitalia. Terminal margin of lamella postvaginalis generally more ovate than in *P. familiaris* and ductus generally more fluted than arched. With fewer ventral and inner-directed innovations than congeners and lacking the great concavity (with inner-directed serrations) of the Central American entity.

DESCRIPTION. ***Male.*** DFW,DHW: ground bright light iridescent sky blue in the basal two-thirds, submargins and apices fuscous black, FW with androconial brand diffuse and ovate but generally concolorous with the wing compared to *P. familiaris* (figs. 164A, 166 dorsals shot at slower shutter speed to show difference), HW without tail but with prominent anal lobe colored centrally with orange. VFW,VHW: ground generally ochre, FW with black postmedial line from costa to cell CuA2 and submarginal line from costa to cell CuA1 or CuA2; HW ground variegated ochre and darker brown with bright grizzled gray-white in the limbal area; ground broken by blackish meandering line in costal half of postbasal area and in medial area from costa to discal cell (a parallel discal streak also occurring basally) and from anal margin to discal cell. Limbal area usually more concolorous gray to green as opposed to mottled or broken by blue or blue-white edgings as in congeners. FW length: mean of seven males (AMNH, BMNH) 15.4 mm., range 14.5 - 16.2 mm. [apex/tail tip 15.5 mm. = 28.5 mm.]. ***Female.*** DFW,DHW: Wing generally appearing rounder than males, dorsal color flat blue-gray, green-gray or violet-gray usually confined basad of medial areas; no androconial elements. Anal lobe usually appearing brighter yellow orange than on males. VFW,VHW as on males but with VHW often appearing more mottled. FW length: mean of five females (AMNH, BMNH) 15.3 mm., range 14.0-15.8 mm. [apex/ tail tip 15.5 mm. = 28.0 mm.]. ***Male Genitalia.*** Fig. 69A. Vincular ventrum laterally robust with elongate, thin, and ventrally-directed spurs bent narrowly around the constricted area of the valvae; saccus widely parabolic. Valvae with area of bilobes adjacent the central constriction extremely shouldered and then tapered cephalad to prominent basal indentions; caudal extensions robust, tapering rather uniformly to pointed termini. Aedeagus robust, exceeding length of rest of genitalia by about one-fourth and with shaft generally straight, caecum more curvate; terminus with two robust and marginally serrate cornuti. ***Female Tergal Morphology and Genitalia.*** Fig. 69B. *Sipc* laterally rather hemispherical, ventral element extending along nearly entire ventrum. Genitalia with lamella postvaginalis quite ovate, bordered along basal hemisphere by margin of the antevaginalis and with terminal border generally strewn with terminally directed serrations varying somewhat across the range of the species (see Diagnosis). Ductus bursae paired laterally ridges generally more fluted towared the cervix bursae than arched, cervix bursae ventrum crescent to hemispherical in shape; cervix bursae hood widely bilobate with the paired lobed elements robust and flanking a central sclerotized area to which is attached the ductus seminalis.

TYPES. Lectotype male (fig. 69A), BMNH, labelled "Bogota, Lindig, type", "Rothschild Bequest B.M. 1939-1.", "Commodus n.", "Felder Colln.", "Type", "B.M. Type No. Rh. 607"; two paralectotype females, same data but lacking a B.M. Type # as on the label of the lectotype. TL: COLOMBIA, "Bogota, New Grenada".

DISTRIBUTION. ***Spatial.*** Fig. 209; Andes of Colombia, adjacent highlands of Venezuela and southward in Andes through Ecuador; altitudes reported on specimens include 1300-3000 m. ***Temporal.*** Dates on specimens include September, November and February, but most specimens are undated.

REMARKS. I illustrate a male and female (fig. 164A,B) from Hda. San Rafael Ecuador (AMNH). The species distinction of *P. commodus* is based on a reassessment of five entities considered here as comprising *Paralustrus*. Of these, *P. commodus* and the disjunct Costa Rican entity might be considered conspecific if judged by wing pattern alone. They are obviously sister taxa. Considering this, and the expanded knowledge of *Thecla familiaris*, it appears clearly prudent to consider the latter as a distinct and regionally sympatric species. *Paralustrus paccius* is a peculiar species attesting both to the diversity of the group but the usual oddity of entities occurring southward in the Bolivian/Argentine region.

MATERIAL EXAMINED [for consistency with label data, diacriticals included only as on labels]: COLOMBIA. "Colombia", 1 female (BMNH); "Colombia, leg. Filipe Ovalle, 1 female (AMNH); Bogota, leg. Frere Apollinaire-Marie, 1 male (BMNH); Bogota, leg. Frere Apollinaire-Marie, 1918, 15 males, 7 females (BMNH); Bogota, 1 male (BMNH); Bogota, 8 females (MNHN); Mountains of Bogota, 1 male, 1 female (CMNH); New Granada, 1 male (BMNH); Villavicencio, 1 male (BMNH); Bogota, 1915, 1 male (AMNH). ECUADOR. "Ecuador", 1 female (MNHN); Loja, Villonaco, 1 male (AME); Canar, Milimbanco, 1 male (AME); Cotapaxi, Rio Mulatos, 1 male (AME); Imbabura, Paramo Cuvliche, 1 male (AME); Cotacachi, 1 male (AME); Ugambiche, 2700 m., leg. F. M. Brown, 9 November 1938, 1 male, 1 female (AMNH); Hda. San Rafael, Rio San Pedro, leg. F. M. Brown, 2700 m., 5 November 1938, 1 male, one female (AMNH); San Francisco, 1300 m., leg. F. M. Brown, 20 September 1938, 1 male (AMNH); Usaquen, 3000 m., leg. F. M. Brown, 12 February 1948, 1 male (AMNH); Baños, ex. Huntington Coll., 1 male (AMNH). VENEZUELA. "Venezuela", 3 females (BMNH); "Venezuela", ex. coll. Moritz, 1 female (BMNH).

Paralustrus orosiensis,
NEW SPECIES
Figs. 70, 165

DIAGNOSIS. ***Wings.*** Most similar to *P. commodus* but known female differing on the VHW by more radically widened concolorous medio-costal patch and by extreme mottling along the anal margin (see Remarks).

Female genitalia. Differing from *P. commodus* by extreme concavity of lamella postvaginalis ventrum with its laterally curvate and terminally serrate ("jaw"-like) inner margin.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW: ground fuscous brown strewn with violet-gray along the baso-medial areas. HW crenate along limbal cells and with anal lobe suffused yellow-orange. VFW,VHW: ground yellow-green, FW marked with suffusive greenish brown postmedian and submarginal bands from costa to cell CuA2; HW greatly mottled with brown over greenish yellow, open in a wide concolorous yellow-white medio-costal patch and thereafter greatly mottled with brown and greenish suffusions, particularly along the anal margin. FW length: 13.0 mm. [apex/tail tip 20.0 mm.] (holotype).

Female Tergal Morphology and Genitalia. Fig. 70. *Sipc* ventral element diminutive, comprising less than an eighth of lateral expanse of terminal tergite. Genitalia with lamella postvaginalis greatly concave along the ventrum and marked with extreme, inwardly directed, serrations along the entire intervening margin (in a rather "jaw"-like fashion). Ductus bursae with paired lateral ridges elongate and greatly fluted toward rather crescent-shaped cervix bursae ventrum. Cervix bursae hood with bilobate elements dorsally fluted, contrasting rather succinct central sclerotized area to which attaches the ductus seminalis.

TYPES. Holotype female (fig. 165), COSTA RICA. Orosi, Costa Rica, 1200 m., Fassl Coll., deposited MNHN.

DISTRIBUTION. ***Spatial.*** Fig. 209; known only from the type locality. ***Temporal.*** Known only from the type data.

REMARKS. This is one of four species represented only in old MNHN Fassl material that appears to represent an ancient vicariance between the Andean region and montane Central America (see Remarks under *Thecloxurina costarica, Abloxurina chiaspa* and *Rhamma disjuncta*). As noted in the Remarks under the generic entry and *P. commodus,* the wing pattern of the Costa Rican entity is not impressively different from *P. commodus* considering variation in the latter species. The differences in structural characters carry weight but it is still quite arbitrary deciding the status of this disjunct population. Of the four pan-Andean entities with disjuncts in Costa Rica, *P. orosiensis* differs the least in wing pattern from its Andean counterpart.

ETYMOLOGY. Named for the type locality.

Paralustrus familiaris (Johnson)
NEW COMBINATION, REVISED STATUS
Figs. 71, 166

Thecla viridis Lathy 1930: 135 (invalid homonym of Thecla viridis Edwards 1862: 223): Comstock and Huntington 1958-1964 [1964]: 184; Bridges 1988: I.368, II.105, III.80.

Thecla commodus viridis: Comstock and Huntington 1958-1964 [1964]: 184.

Thecla commodus [not *commodus* Felder and Felder 1865-1875 [1865, vol. 2]: 262, pl. 32, f. 19,20]. Bridges 1988: I.368, II.105 (synonymy in error).

Thecla familiaris Johnson 1990 (replacement name).

DIAGNOSIS. ***Wings.*** Male with area surrounding FW androconial brand widely ovate and suffusively black, contrasting iridescent azure FW base. VFW,VHW

with margins of the bands and mottled patches (particularly around the HW medio-costal patch) edged with bright white and blue-white fringes and highlights.

Male genitalia. Vincular ventrum with all elements less robust and more angulate than in congeners; valvae with bilobes and caudal extensions each extremely shouldered and angulate (central constriction narrow) but breadth of caudal extensions only about one-half that of the maximal breadth of the shouldered area of the bilobes.

Female genitalia. Lamella postvaginalis with terminal margin undulate with basal area covered by complex invaginations. Margins of above sculpturings replete with fine, sharp, serrations particularly bold on the distal and basal edges of the postvaginal surface.

DESCRIPTION. ***Male.*** DFW,DHW: FW ground dominated by contrast between widely ovate and suffusive black area surrounding androconial elements and azure blue base of wing. HW with medial and basal areas azure, rest of wing fuscous; anal lobe usually taking blue gray cast of HW. VFW, VHW: overall arrangement of pattern typical of that of genus (see generic entry) but differing throughout by the propensity of black and brown grounds (as opposed to ochre and green) and with all elements edged by bright white and bluish white highlights. FW length: mean of six males (MNHN, BMNH) 15.6 mm., range 14.8 mm. - 16.2 mm. [apex/tail tip 16.0 mm. = 30.0 mm.]. ***Female.*** DFW,DHW: ground from base to medial areas flat gray-blue, gray-green or gray-violet, rest of wing fuscous; anal lobes suffused brown to somewhat yellowish. VFW,VHW: pattern elements as on male, differing only in general appearance of being more mottled. FW length: mean of five females (MNHN, BMNH) 15.3 mm., range 14.5 mm.-16.0 mm. [apex/tail tip 15.5 mm. = 29.5 mm.]. ***Male Genitalia.*** Fig. 71. Vincular dorsum lacking brush organs. Compared to *P. commodus*, vincular ventrum much less robust; saccus parabolic, vincular spurs elongate and ventrally directed. Valvae with bilobes nearly triangulate due to highly angled shoulder basad of the central constriction; caudal extensions similarly angulate and steepling inclined to sharp termini (overall valval shape compared to congeners consequently with bilobes appearing very enlarged, caudal extension more diminutive and steeply declined). Aedeagus rather long for genus, length exceeding rest of genitalia by about two-fifths, shaft comprising well over three-fifths of aedeagal length with caecum not displaced from its plane; aedeagus terminus widely fluted and with two rather spatulate, but marginally serrate cornuti.

Female Tergal Morphology and Genitalia. Fig. 71B. *Sipc* laterally rather hemispherical with ventral element extending along most of ventrum. Compared to congeners, genitalia with lamella postvaginalis highly sculptured by serrate sclerotized elements-- along terminal margin, inwardly directed curvate prongs greatly serrate elong their entire inner margins from the middle of the plate to the termini, latter often curled and recurvate, depending on individual specimens. Base of lamella postvaginalis with additional sclerotized platelike elements adjacent the ductus bursae's paired lateral ridges. Ductus bursae's paired lateral ridges thin, arched cephalically to robust cervix bursae. Cervix bursae with hood widely bilobate, sclerotized flanks separated by large membranous area adjoining the ductus seminalis.

TYPES. As noted in Johnson 1991a, holotype male (fig. 71A), MNHN, labelled "Specimen Typicum, Thecla viridis", "ex. Coll. Monteiro". There is no locality label. TL: OD suggests TL as "Bolivia" as also surmised by Comstock and Huntington (1964).

DISTRIBUTION. ***Spatial.*** Fig. 209; Andes from Ecuador south through Peru to Bolivia; altitudes recorded on specimens indicate generally 1800-3300 m. ***Temporal.*** Dates on specimens range from March to June but many specimens are undated.

REMARKS. I illustrate a male from Ccapana, Peru (AMNH) taken by Pallister (1956). This taxon has been poorly known. Like other taxa unknown to Draudt (1920) "*viridis*" received little report in the subsequent literature. The problem of its homonymy was not dealt with until 1991 (Johnson, 1991a). The new status here is based on examination of the type and additional specimens. The frequency of specimens from Peruvian localities in the BMNH suggests that the insect in locally isolated but no uncommon. Likewise, Pallister (1956) noted that butterflies were not immensely common at Ccapana, Peru but that Pieridae and Theclinae were among the most often collected. His series included *P. familiaris* and *Rhamma tyrrius*.

MATERIAL EXAMINED [for consistency with label data, diacriticals purposely omitted]. ECUADOR. Amato, 1 female (BMNH); Quito, 2 females (BMNH); Loja, 1995, 3220 m., 1 male (BMNH); Loja, W. slope of Andes, 10,000 ft., leg. Pratt, June 1912, 2 males (BMNH); Zamora, 1885, 1 male (BMNH); Banos, Rio Pastaza, 5-7000 ft. 1 female (BMNH); Limbani Carabaya, 9000 ft., March 1904, 1 female, May 1904, 1 female, dry season, 2 males (BMNH). PERU. W. Slopes of Andes, North Peru, leg. Pratt, 1912, 1 male (BMNH); Yuracchuasi, Ayachucho, 2 females (BMNH); Ccapana, Cuzco, 11,000 ft., 6-12 April 1947, leg. J. C. Pallister, 1 male (AMNH).

***Paralustrus paccius*,**
NEW SPECIES
Figs. 72, 167

DIAGNOSIS. ***Wings.*** VHW colors limited to gold and gray, gold occurring as concolorous patch in the basal disc from the costa to base of discal cell, replaced beneath cell by suffusive gray patch in cells CuA1-3A (see Remarks). DFW,DHW lustrous lilac blue; anal lobe not pronounced.

Female genitalia. Lamella postvaginalis with pronged and invaginated elements clustered closely about the centro-terminal margin, not greatly concave or undulate as in congeners.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW brilliant silvery lilac blue, apices and margins light fuscous, HW with anal lobe diminutive. VFW,VHW ground light sandalwood to buff; FW with lunulate gold elements in postmedial area from costa to cell CuA2; VHW with concolorous golden patch in basal disc from the costa to base of discal cell, replaced beneath cell by suffusive gray patch in cells CuA1-3A, submargin with light gray spots in each cell. FW length: 13.0 mm. [apex/tail tip 19.0 mm.] (holotype). ***Female Tergal Morphology and Genitalia.*** Fig. 72. *Sipc* laterally rather hemispherical, ventral element robust and extending along *sipc* ventrum. Lamella postvaginalis rather "spade"-shaped, lateral margins irregular and terminus with robust paired serrate prongs flanked centrally by additional, incised and sclerotized, components as typical of the genus. Ductus bursae's paired lateral ridges robust, somewhat longer than lamella postvaginalis. Cervix bursae relatively thin ventrally, with hood oblongate and with heavily sclerotized components. Entire base of signa heavily sclerotized and central element a raised keel, lacking prominent dentritic elements.

TYPE. Holotype female (fig. 167), Coc[h?]-abamba, Bolivie, 1889, deposited MNHN (see Remarks).

DISTRIBUTION. ***Spatial.*** Fig. 209; known only from the type locality. ***Temporal.*** Known only from the type data (see below).

REMARKS. The discovery of this species was important relative to the status and diversity of the genus. The VFW,VHW patterning includes the basal location of patches typical of the genus. However, although these wing areas are lavishly colored and mottled in *P. commodus* and *P. familiaris*, in this new species they are very simply and succintly marked and without additional lavish elements in the limbal areas. The DFW, DHW are lustrous as typical of the genus and as compared to *Rhamma*. However, the anal lobe, though slightly more produced than in *Rhamma* species, is not as prominent as in *P. commodus* or *P. familiaris*. It is notable that the date noted for collection corresponds to those of P. Germain at Cochabamba. It is possible, as in so many other cases, that Fournier bought from the same lots that also provided specimens to the BMNH.

ETYMOLOGY. Referring to the VHW, taken from Italian dialect (*paccio*), modified from the original Latin as a colloquial for a person covered with patches.

Clade III (the "*culminicola* Group")

This is a high Andean component of the thecloxurines. It includes the genus *Penaincisalia* elucidated by Johnson (1990a) and a new genus comprised completely of previously undescribed species. Female structural characters somewhat resemble Clade I but the male structural habitus is unique. This, diffential occurrence of HW hairstreak-like tails, and the high Andean distributions of the group, cause it to be treated here as a separate clade.

Wing expanse small (FW 10-13 mm. though some taxa to 15 mm.), HW anal lobe seldom produced, one genus with differential occurrence of short hairstreak-like HW tail, other with all members tailed; VFW, VHW patterns elfinlike, comprised of cryptic and mottled grounds patterned around a dark basal disc edged with a linear or lunular medial band and sometimes companion postbasal marks or bands. One genus with uniquely bipartite FW brands in males.

Female genitalia somewhat like Clade I, with ductus bursae simple and tubular but cervix bursae extremely produced relative to ductus, hood height comprising up to two-thirds ductal length.

Male genitalia with parts diminutive compared to other thecloxurines— vincular shapes thin, saccus small, valvae length usually not much exceeding base of falces (and caudal extension length not much exceeding that of the bilobes).

PENAINCISALIA Johnson
Figs. 73-87, 168-182

Penaincisalia Johnson 1990: 99.

Penaincisalia Johnson: Bridges 1988: I.9 (*nomen nudum* citation referring to ms. of Johnson 1990).

DIAGNOSIS. ***Wings.*** Each male DFW with two androconial brands (one at distal juncture of costal and crossvein of discal cell; another abutting juncture of crossvein and vein M3); HW anal lobe lacking in most

species, though conspicuous in a few. VFW,VHW grounds more grizzled than on most thecloxurines, with the pattern elements very simple, occurring as suffusive outlines of the basal disc and/or lineal markings in postbasal or postmedial areas (much like Nearctic *Incisalia* or Palaearctic *Ahlbergia* with which *Penaincisalia* has historically been confused, see Remarks).

Male genitalia. Cephaloventral area of vinculum thin and often distended, terminating in a very small saccus (expanse not exceeding ventral valval width); valvae very reduced compared to most other thecloxurines (save Clade III sister *Galba* and the odd truncated condition typifying *Abloxurina*).

Female genitalia. Ductus bursae resembling the simple tubular shape of *Thecloxurina* and *Candora* but stout and closely junctured to elaborately sculptured distal hood on the cervix bursae, latter which can rival the expanse of the ductal components themselves.

DESCRIPTION. See Johnson 1990a: 99.

TYPE SPECIES. *Thecla culminicola* Staudinger (1894) (figs. 73, 168) [junior synonym *T. alatus* Druce (1907), fig. 73, see Remarks] by original designation.

DISTRIBUTION. ***Spatial.*** Fig. 210; generally in paramo habitats of high Andes (to 5150 m) in disjunct populations from Colombia south to Argentina (in Patagonia at altitudes ranging down to 700 m). ***Temporal.*** Generalized flight period of at least October through July, along with marked synchrony, is recognizable from sparse specimen data but seasonality is often undiscernable. When data differentiate wet or dry seasons, or note occurrence in particularly nonseasonal biomes, these are noted under Distribution with available dates.

REMARKS. *General--* As noted by Johnson (1990a) *Penaincisalia* constitutes a high Andean, primarily paramo-dwelling, element of the Thecloxurina. Species are even more cryptically marked than other thecloxurines and most lack tails or a pronounced anal lobe. Known records extend from the Central Cordillera of Colombia southward through the northern Andes of Argentina, where recent addition of species to the genus suggests that the distributional hiatus between these and the Patagonian records probably indicates insufficient collecting. As with various thecloxurines, the occurrence of many sympatric *Penaincisalia* in relatively small samples suggests that many species with low density typify the genus. This may appear surprising to some workers. Though one must take into account that "lumping" and "splitting" in methods of alpha taxonomy are to an extent arbitrary, when one considers the entire array of taxa delineated in this study in many of the high Andean groups, one must be struck by the fact that my approach is at least fairly conservative. If one wants to "lump", one must always ask "with what objective criteria?". The situation does create a dilemma for students of high Andean and Austral taxonony because the array of taxa is impressive. Also outstanding is the fact that many of the taxa are represented by small samples— typical of the situation concerning sparse high Andean collecting, but nonetheless intriguing regarding diversity. I note here particularly such spectacular taxa as those of *Shapiroana* and *Galba* along with the many *Penaincisalia*. One observation is helpful— that Theclinae are notorious for restriction to microhabitats and if one considers this in light of Andean ecological stratification the potential is clear. Having observed first hand the meager habitat of such peculiar taxa as *Shapiroana matusikorum*, I am not surprised at the occurrence of such apparently insular taxa as *Penaincisalia descimoni* or *P. downeyi* which I have not seen in the field. One must simply note that as the list of such taxa mounts, so mounts the list of species associated with certain high Andean genera— to levels some workers want to consider, *a priori*, too high for high Andean biota. When one considers the number of taxa described in the present study, one must simply conclude that many of these taxa (including the many sitting in drawers at various museums) have simply not been seen before or, if seen, simply not had names. It appears that the only prudent way to proceed, regarding this fact and questions of high Andean biodiversity, is to describe the many entities and then wait for workers to try to become more familiar with these entities in the field. One situation comes to mind in Austral regions. In 1990, Arthur M. Shapiro collected a large and spectacular new hairstreak in Chubut, Argentina, so spectacular that southern workers were surprised it had never been seen before. However, within a year, Luis Peña had also collected the species in Aysen, southern Chile, and now this taxon is considered "well known". I suspect the same may eventually prove true of many of the other entities treated in the present work. However, there will likely be others that will remain poorly known.

Characters-- As noted by Johnson (1990a), and here supported in the context of all the thecloxurines, characters of *Penaincisalia* show clearly that these high Andean elfins are not immediate relatives of Nearctic *Incisalia* or Palaearctic *Ahlbergia* as thought by early workers (Brown 1942, Gillham 1956). I recently reinforced this conclusion in my monograph of the Palaearctic elfin butterflies (Johnson, in press).

Nomenclature-- As can be noted from the longer synonymies concerning *Penaincisalia* below, this group has been the one historically most noted as representing South American "elfins". As shown in Johnson (1990a), the most "familiar" of *Penaincisalia*, the so-called species *alatus* Druce, proved to be a synonym of *Thecla culminicola* Staudinger when types were examined. Thus, one of the most familiar of the high Andean elfins needed to take a new name— *P. penai*. For workers who have not studied Johnson 1990a closely, but have "*alatus*" in their collections, this initial comment may be helpful here. In further treating the genus below, I use the species groups from Johnson (1990a).

culminicola Species Group.

Hindwing anal margin rounded (without prominent anal lobe); DFW,DHW structural colors blue, violet or orange (all species lacking rufous limbal coloration characterizing certain taxa of *penai* Group); mottled VFW,VHW patterns with generally lunular or patchlike elements (lineal in *penai* Group); male and female genitalia less robust than in *penai* Group (see below).

Penaincisalia culminicola (Staudinger)
Figs. 73, 168

Thecla culminicola Staudinger 1894: 80, pl.2, fig. 6. Weeks 1905: 28. Draudt 1919: 760, pl. 153, fig. g; Comstock & Huntington 1958-1964 [959]: 198; Lamas 1970: 71 (as "*Thecla*"); Bridges 1988: II.109.

[*Incisalia*] *culminicola*: Brown 1942: 1 (included categorically taxa of Draudt's *culminicola* Group in *Incisalia*); Gillham 1956: 145 (regarded *Incisalia* as Holarctic).

[*Penaincisalia*] *culminicola*: Bridges 1988: I.95 (nonbinomial combination used in index, genus as *nomen nudum*).

Thecla alatus Druce 1907: 579, 1909: 434, pl. 11, fig. 13. Draudt 1919: 760, pl. 153, fig. g; Comstock & Huntington 1958-1964 [1959]: 65; Lamas 1977: 71 (as "*Thecla*"); Bridges 1988: II.109.

[*Incisalia*] *alatus*: Brown 1942: 1 (included categorically taxa of Draudt's *culminicola* Group in *Incisalia*); Gillham 1956: 145 (regarded *Incisalia* as Holarctic).

[*Penaincisalia*] *alatus*: Bridges 1988: I.95 (nonbinomial combination in index, genus as *nomen nudum*).

Penaincisalia culminicola: Johnson 1990a: 108.

DIAGNOSIS. ***Wings.*** Males iridescent lavender blue over entire wing DFW,DHW, margins fuscous; females dull brown throughout, flushed with blue. VFW, VHW hoary, distinctly brown to yellow in cast, dark basal disc on HW ringed distally with a lunular band of brown or black spots.

Male genitalia. Valvae robust with both the caudal extensions and bilobes rather evenly tapered (lacking the sculpturing of many congeners).

Female genitalia. Tubular habitus of ductus bursae ellipsoidal; cervix bursae hood hemispherical and about one-third ductal length.

DESCRIPTION. Johnson 1990a: 110. ***Male Genitalia.*** Fig. 73A,C. ***Female Genitalia.*** Fig. 73B,D.

TYPES. *Lectotype*, male (fig. 168A), two paralectotype males (ZMH) designated by Johnson 1990a; *Thecla alatus*, holotype male (BMNH) (fig. 168C). TL: nominate-BOLIVIA. Huallatani, 4-5000 m; *T. alatus*-PERU. Cajamarca Province (northern Peru) 3800 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; disjunct in high Andean localities from southern Ecuador to Peru and northwest Bolivia. ***Temporal.*** October to July.

REMARKS. Johnson (1990a) showed that in spite of long historical common usage distinguishing two divergent and familiar species of *Penaincisalia*, *alatus* and *culminicola* (see Draudt 1919; Brown 1942), examination types indicated *Thecla culminicola* and *T. alatus* indicated were the same species and share the facies historically attributed only to *alatus*. Consequently, the name *culminicola* subsumes the historical usage of *alatus* and Johnson (1990a) described *Penaincisalia penai* to apply to specimens historically called "*culminicola*" by many workers.

MATERIAL EXAMINED. BOLIVIA. Cochabamba, Yunga del Espiritu Santo, leg. P. Germain, 1888-89, 1 female (BMNH); Huallatani, 4-5000 m., 1 female (ZMH); Illimani, 5150 m, leg. O. Garlepp, 4 males (BMNH). ECUADOR. Andes of Ecuador, leg. E. Whymper, 1 male (BMNH). PERU. Callanga, Cuzco, 1500 m., 1898, leg. O. Garlepp, 2 males (ZMH); Abra Malaga, Cuzco, 4200 m., leg. H. Descimon, 14 October 1983, 1 male (AMNH); Abra Malaga, Cusco [sic], leg. S. Courtney and P. Stern, 3 July 1984, 1 female (UCD); [34 mi] E of La Aroyo [sic, =Oroya?] on road to Tarma, 4200 m., leg. P. Ehrlich, 22 January 1975, 1 female (AMNH); Oroya, [12,178 ft.], leg. H. Parrish, 19 July 1914, 3 males (AMNH); Oroya, leg. H. Parrish, 28 July 1914, 1 female (AMNH); Sacsayhuaman, Cuzco, leg. J.

Herrera, 12 April 1971, 6 males, 5 females (AME), same data, five males (AMNH); Callanga, Cuzco, Paramo, 1500 m., leg. O. Garlepp, 1899, 1 male (BMNH); San Mateo, 3600-4000 m., leg. Simons, 30 November 1898, dry season, 1 male (BMNH); Orongo, 22 July 1914, 1 female (BMNH); Catamarca [sic, =Cajamarca?], 3485 m., 1 male (BMNH); Cordillera Blanca, Cajamarca, 1 male, 1 female (MNHN). See also, Types, above.

Penaincisalia aurulenta Johnson
Figs. 74, 169
Penaincisalia aurulenta Johnson 1990a: 111.

DIAGNOSIS. ***Wings.*** DFW,DHW on both sexes brilliant orange (iridescent in the males, flat in the females) except for fuscous margins and apices. Lower surface with mottled and hoary patterns much like *P. culminicola* but with suffusions distinctly overcast with yellow and orange and FW discal area brightly orange.

Male genitalia. Valvae with both bilobes and caudal extensions laterally sculptured and, in addition, longer than in most congeners.

Female genitalia. Tubular area of ductus bursae caudally fluted; cervix bursae hood arched and equalling about one-third ductal length.

DESCRIPTION. See Johnson 1990a: 111. ***Male Genitalia.*** Fig. 74A. ***Female Genitalia.*** Fig. 74B.

TYPES. Holotype male, allotype female (figs. 169A,B) deposited AMNH. TL: PERU. Carhuas, Cordillera Blanca, 4900 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; high montane localities in the Cordillera Blanca of Peru. ***Temporal.*** Late November to early August; one specimen is marked "dry season".

REMARKS. As noted in Johnson (1990a), a dermestid infestation at the BMNH destroyed much of the BMNH type series. However, it is gratifying that the species has been readily collected again by workers in the Cordillera Blanca.

MATERIAL EXAMINED. PERU. Laguna Peron, Cordillera Blanca, nr. Caraz, 1850 m., leg. H. Descimon, 28 July 1980 (AMNH); Huancayo, leg. H. Descimon, 4 August 1973, 4 males, 2 females (AMNH); Paramo, Corongo, 30 November 1899, 1 male (BMNH); Quebrada Monda Base Camp, Ancash Province, 9 July 1979, Gibby and Barrett, 1 male (BMNH); Paramoa [sic], at snow line, 4200 m, leg. Simons, 4 December 1899, 1 male (BMNH); Paramo, Adams Bequest, 1 male (BMNH); Paramo, Coronga Prov., 3600-4000 m, leg. Simons, dry season, 30 Nov 1898, 1 male (BMNH). See also, Types, above.

Penaincisalia caudata Johnson
Figs. 75, 170
Penaincisalia caudata Johnson 1990a: 112.

DIAGNOSIS. ***Wings.*** Differs from all other *Penaincisalia* by having a short tail at terminus of the CuA2 vein of the HW (see Remarks). If the tails are broken, *P. caudata* can be distinguished by the DFW, DHWs of wings in males, which are iridescent lilac blue but with much wider fuscous borders than *P. culminicola* and *P. aurulenta*. The lower wing surfaces are most like these species but differ with a dark suffusion over a tan ground color, and a much darker area basad of the FW postmedial line and the HW medial band.

Male genitalia. Valvae robust and blunt, bilobes slightly shouldered, caudal extensions thick until tapered abruptly to knobby termini.

DESCRIPTION. See Johnson 1990a: 112. ***Male Genitalia.*** Fig. 75.

TYPES. Holotype male (fig. 170) deposited BMNH, labelled "Hewitson Coll. 79-69, Thecla". TL: PERU. Cajamarca, 2800 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; known only from type locality. ***Temporal.*** Unknown.

REMARKS. Consistent with the description and notes in Johnson (1990a) I have drawn in the tails on the wings appearing in fig. 170.

MATERIAL EXAMINED. PERU. Cajamarca, 3800 m, leg. O. Baron, ex. coll. Hamilton Druce Collection, 1 male (in poor condition, tails broken off) (BMNH). See also, Type, above.

Penaincisalia oribata (Weymer)
Figs. 76, 171

Thecla oribata Weymer 1890: 123, pl 4. Comstock & Huntington 1958-1964 [1962]: 43. Bridges 1988: II.109.

Thecla anosma [not *anosma* Draudt, 1919,see Remarks]: Draudt 1921: 823; Comstock & Huntington 1958-1964 [1962]: 43, [1959]: 72 (synonymy in error).

[*Incisalia*] *oribata*: Brown 1942: 1 (included categorically taxa of Draudt's *culminicola* Group in *Incisalia*); Gillham 1956: 145 (regarded *Incisalia* as Holarctic).

[*Penaincisalia*] *oribata*: Bridges 1988:I.95 (non binomial combination in index, genus as *nomen nudum*).

Penaincisalia oribata: Johnson 1990s: 113.

DIAGNOSIS. ***Wings.*** Somewhat resembles *P. culminicola* but VFW,VHW of wings are grayer with reduced mottled markings and submargins marked with black dots in each cell. The DFW,DHW on the female is brown, not blue-hued.

Female genitalia. Tubular habitus of ductus bursae robust and "bullet"-shaped, with terminal lamellae widely parabolic; cervix bursae hood very ovate and equalling one-half of ductus length.

DESCRIPTION. See Johnson 1990a: 113. *Female Genitalia.* 76.

TYPE. Holotype female (ZMH). TL: CHILE. Tacora, Bolivia [sic] (see Johnson 1990a: 114).

DISTRIBUTION. ***Spatial.*** Fig. 210; known from two localities in extreme northern Chile and west central Bolivia. ***Temporal.*** Unknown.

MATERIAL EXAMINED. BOLIVIA. Corque [west of Lake Poopo (south of Lake Titicaca) about 175 km SE of type locality], 1 female (AMNH) (fig. 171).

Penaincisalia downeyi Johnson
Figs. 77, 172

Penaincisalia downeyi Johnson 1990a: 114.

DIAGNOSIS. ***Wings.*** On the VFW,VHW of the HW the basal disc margin and adjacent medial band are nearly straight (perpendicular to inner wing margin and extending from costa to limbal area) and divide dark brown suffused basal ground from lighter ochre distal ground; the DFW,DHW is dark iridescent blue violet with wide fuscous borders completely surrounding the FW androconial brands.

Male genitalia. Valvae caudal extensions narrower than on most congeners and widely disjunct; saccus broadly oblong.

DESCRIPTION. See Johnson 1990a: 114. *Male Genitalia.* Fig. 77.

TYPE. Holotype male (fig. 172), MNHN. TL: COLOMBIA, Monte Tolima, Central Cordillera, 4200 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; known only from type locality. ***Temporal.*** Unknown.

REMARKS. As noted under previous generic entries (see e.g. *Pontirama tolimensis*), Fassl material from Monte Tolima has been the source of a number of undescribed species located during this study. Such material also was used by Draudt for some of his descriptions of unique taxa (see *Rhamma adunca*). I suspect that there is additional material of some of these poorly known species elsewhere in European museums since, at Paris, samples were limited to a "pair"—the size of specimen purchase usually typifying Madame Fournier.

MATERIAL EXAMINED. COLOMBIA. Monte Tolima, Central Cordillera, 4500 m., coll. Brabant, 1920, 1 male (MNHN). See also, Type, above.

Penaincisalia anosma (Draudt)
Figs. 3B, 5D

Thecla anosma Draudt 1919: 760, pl. 153, fig. h; Comstock & Huntington 1958-1964 [1959]: 72. Bridges 1988: II.109.

Thecla oribata [not *oribata* Weymer, 1890]: Draudt 1921: 823; Comstock & Huntington 1958-1964 [1959]: 72, [1962]: 43 (synonymy in error, see Remarks).

[*Incisalia*] *anosma*: Brown 1942: 1 (included categorically taxa of Draudt's *culminicola* Group in *Incisalia*); Gillham 1956: 145 (regarded *Incisalia* as Holarctic).

[*Penaincisalia*] *anosma*: Bridges 1988: I.95 (non-binomial combination in index, genus as *nomen nudum*).

Penaincisalia anosma: Johnson 1990a: 114 (see Remarks).

DIAGNOSIS. ***Wings.*** DFW, DHW on both sexes warm auburn framed by wide (2 mm.) black borders; VHW basal disc chocolate brown edged by black medial band and light brown distal ground. Female superficially resembles only *P. pichincha* but latter distinguished by diminutive genital plate (ductus bursae length nearly equal to height of cervix bursae hood).

Female genitalia. Tubular area of ductus bursae quite constricted centrally with component consequently tapering anteriorly much more diminutive than the posterior one (which terminates in rather pointed lamellae). Cervix bursae ventrum with unique, anteriorly directed, lobes; hood prominently ovate.

DESCRIPTION. See Johnson 1990a: 115.

TYPE. Holotype male, reported deposited at Museum of Natural History, Basel, Switzerland (MNHB) (Comstock & Huntington 1958-1964 [1959]) but not locatable there by Johnson (1990a); subsequently apparently recovered by Gerardo Lamas (see Remarks under *Thecloxurina quindiensis* and below). TL: COLOMBIA. Bogota, 3000 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; known only from two disjunct high montane areas of Colombia. ***Temporal.*** Apparently July.

REMARKS. In Johnson (1990a) I mentioned that, particularly considering questions about the OD and the lack of a type specimen, the identity of *Thecla anosma* was unclear. I noted, however, that it was more prudent to try to identify possibly topotypical material as *Thecla anosma* then erect new species names for such material. In early 1992 I had a brief conversation with Gerardo Lamas concerning his recent discovery of extant Draudt types in European museums. This followed on his review of my paper concerning Draudt types at the MNHN in Paris. Dr. Lamas mentioned that among the types he had located was the type of *Thecla anosma* and that it appeared it may not be a *Penaincisalia* (I had mentioned that there was uncertainty in the OD's notation of scent brands because of the frequent misidentification of sexes in some of the old literature). I noted several examples of misdiagnosis of gender in historical type material (Johnson 1991a, 1991b & in press). It therefore does not surprise me that concerning situations like *Thecla anosma*, once a type is discovered the problem of identity could "go either way". If indeed the type of *Thecla anosma* is a male and lacks scent brands, the material herein listed as that species would need yet another name. This will have to be resolved once a list of extant Draudt types is published and such material available for examination. Note under Remarks in *Shapiroana matusikorum* that it was not possible to determine the generic identity of this orange species until it was dissected. Superficially, its identity as a female of *Penaincisalia* appeared assured. However, since its structural identity was clearly in Clade II (hardly any of the structural habitus is in common between Clade II and Clades I and III!) it is certain that a male of *S. matusikorum* would indeed not have double scents brands on the FW. Taking this as a guide, if the type of *Thecla anosma* is a male and is brown, it may well prove to be a species of *Pontirama*. I have tried to be very conservative in matters of using available names because of the reputation of being a "splitter". However, the above case of *Thecla anosma* may show I would have been better off following a less conservative approach. It appears that following on this seminal revision of the Andean elfin butterflies a number of historical problems of types and names will eventually be resolved. Some lepidopterists have been reluctant to take the first step in this murky process. However, there appears to be no other way than to just "jump in" and offer a starting point from which such an eventual taxonomy can be worked out with the details required to be considered accurate and complete.

MATERIAL EXAMINED. COLOMBIA. El Tabano, Putumayo, 3300 m., leg. J. Sullivan, 1 July 1981, 1 female (AMNH).

Penaincisalia rawlinsi Johnson
Figs. 79, 174
Penaincisalia rawlinsi Johnson 1990a: 115.

DIAGNOSIS. Wing DFW,DHWs iridescent bronze, slightly hued blue (not bright orange like *P. aurulenta* or lavender-blue like *P. culminicola*), with wide (1.5 mm) fuscous borders and pronounced costal androconial brand. Lower surface ground color light ochre, strewn with disordered dark patches and dots in FW discal cell and HW basal disc and submargin.

Male genitalia. Bilobed area highly sculptured with ventral keel beneath juncture to caudal extensions; caudal extensions short and toothlike.

Female genitalia. Tubular habitus of ductus very narrow compared to produced cervix bursae; cervix bursae hood ovate with two prominent central ridges.

DESCRIPTION. See Johnson 1990a: 116. *Male Genitalia.* Fig. 79A. *Female Genitalia.* Fig. 79B.

TYPES. Holotype male (fig. 174), allotype female, BMNH. TL: PERU. Pecapampa, Recuay, 3500 m, wet season.

DISTRIBUTION. ***Spatial.*** Fig. 210; known from two disjunct high montane localities, respectively in Ecuador and Peru. ***Temporal.*** Collection dates are October and December, holotype noted as "wet season"; Johnson (1990) noted Ecuador habitat as swampy grass/sedge biome with cold, damp conditions year round.

MATERIAL EXAMINED. ECUADOR. Pichincha, Napo Pass, 10 km NW Papallacta, 3980 m., leg. Rawlins, Young and Davidson, 10 October 1987, paramo habitat, 1 male (CMNH). See also, Types, above.

Penaincisalia pichincha Johnson
Figs. 80, 175
Penaincisalia pichincha Johnson 1990a: 116.

DIAGNOSIS. ***Wings.*** This species and *P. anosma* dark brown on the wing DFW, DHWs but *P. pichincha* uniformly dark brown, *P. anosma* with a light auburn hue framed by wide black borders. Both species without DFW,DHW rufous limbal coloration typifying dull fuscous females of *P. penai.*

Female genitalia. *P. anosma* and *P. pichincha* differ radically in genitalia, *P. anosma* with ductus bursae length twice height of ventrally pronged cervix bursae hood, *P. pichincha* with uniquely short ductus bursae,

length barely exceeding height of ovate cervix bursae hood.

DESCRIPTION. See Johnson 1990a: 116. *Female Genitalia.* Fig. 80.

TYPE. Holotype female (figs. 3D,6C), CMNH. TL: ECUADOR. Pichincha, Napo Pass, 10 km NW Papallacta, 3980 m, paramo habitat.

DISTRIBUTION. ***Spatial.*** Fig. 210; known only from type locality. ***Temporal.*** known only from October type data and same, nonseasonal, biome as *P. rawlinsi*.

MATERIAL EXAMINED. See Type, above.

Penaincisalia descimoni Johnson
Figs. 81, 176
Penaincisalia descimoni Johnson 1990a: 117.

DIAGNOSIS. ***Wings.*** DFW,DHW iridescence on male limited to dull lilac color across the HW and at the FW base; FW fuscous encompassing both androconial brands. VFW,VHW ground color dusty gray, devoid of pattern except for darker gray mottling in the HW basal disc.

Male genitalia. Valvae oblongate and narrow compared to congeners; saccus margin anteriorly concave.

DESCRIPTION. See Johnson 1990a: 117. *Male Genitalia.* Fig. 81.

TYPES. Holotype male (fig. 176), AMNH. TL: PERU. Quebrada Pachaesto, nr Catac, Cordillera Blanca, 4200 m., elfin forest.

DISTRIBUTION. ***Spatial.*** Fig. 210; known only from type locality, which occurs in an elfin forest characterized by relict Bromeliaceae (Johnson 1990). ***Temporal.*** Known only from July type data.

REMARKS. Remarks under the generic entry pertain. Descimon's description of the habitat of this unique species (pers. comm. and Johnson 1990a) is reminiscent of that reviewed by me herein under *Shapiroana matusikorum.* The frequency of unique taxa known, at least to date, from extremely limited biomes suggests similar situations may pertain to some of the old unique type material. Lepidopterists may have to face the fact that in certain Andean and Austral groups there are significant numbers of unique isolates which, showing no objective basis for taxonomic lumping with known taxa, must be recognized as species. The relevant question concerning taxa like *P. descimoni* is "where else does elfin forest support this taxon?" and, in *S. matusikorum*, "are there any other small high Andean oases in the vicinity of the Cumbres de las Cruces which support the unique taxa to date known only from the thin strip of spring-fed vegetation occurring in that single miniscule quebrada?". It is a compelling question when one can look for tens of miles in every direction and see no other significant vegetation. Small patches of elfin forest raise the same question.

MATERIAL EXAMINED. See Type, above.

Penaincisalia patagonaevaga Johnson
Figs. 82, 177
Penaincisalia patagonaevaga Johnson 1990a: 117.

DIAGNOSIS. ***Wings.*** Upper surface iridescence and under surface basal disc unique among *Penaincisalia*: former occurring as bright lavender on entire FW and cephalad of discal cell on HW, latter concolorous brown extending distally to the HW postmedial area.

Male genitalia. Vinculum ventrally distended; valvae narrow and with steep basal inclination and thin termini.

DESCRIPTION. See Johnson 1990a: 118. *Male Genitalia.* Fig. 82.

TYPES. Holotype male (fig. 177), CECUC. TL: ARGENTINA. 40 km N Rio Mayo, Chubut Prov. (Patagonia), nr. 700 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; known only from type locality. ***Temporal.*** Known only from November type data.

REMARKS. Considering my generic Remarks and those under *P. descimoni* above, it is worth mentioning Arthur M. Shapiro's comments (pers. comm.) concerning collecting at the above type locality. When visited by Shapiro the weather was poor it was hard to imagine the vicinity as productive. However, Herrera's series from this locality included a significant series of another undescribed genus and species of Theclinae which Shapiro himself had collected in numbers elsewhere in Chubut and Rio Negro. The relevant point is that Austral collecting is fortuitous and this may well explain the haphazard historical records of such species as *Chlorostrymon patagonia* Johnson, *Strymon rhaptos* Johnson, Eisele and MacPherson (known from small recently collected series) and taxa like *Strymon cyanofusca* Johnson, Eisele and MacPherson, *Strymon nivnix* Johnson, Eisele and MacPherson, *Nesiostrymon australivaga* Johnson, among others (known only from early small series or singleton specimens). New genera and species collected by Shapiro, being described in forthcoming issues of *Acta Entomologia Chilena*, again attest to this tendency toward diversity but extremely haphazard sampling. One is reminded of this point again and again as one looks at taxa in various

genera of this monograph. On the 1991 AMNH Argentine expedition a high Andean new species of *Terra* (Johnson 1992a) was also collected. Such discoveries lead one to ask how many Neotropical thecline genera have temperate and austral components which have, hitherto, simply been unsuspected.

MATERIAL EXAMINED. See Type, above.

Penaincisalia eiselei,
NEW SPECIES
Figs. 83, 178

DIAGNOSIS. ***Wings.*** Currently known from single male labelled Villazon, Bolivia (see below), extremely bright tawny on the DFW,DHW, FW brands consequently outstanding as on *P. aurulenta*; VFW with a simple brown-suffused postmedial line, VHW with a dark basal disc contrasting bright tawny distal areas.

Male genitalia. Vinculum atypical in showing ventral spurs; valvae extremely diminutive, each valve with small parabolic bilobed area and narrow caudal extension of about half bilobe length.

DESCRIPTION. ***Male.*** Head, thorax, abdomen and palpi typical of genus. DFW, DHW ground color tawny marked only by darker brown-suffused marginal band and dark FW scent brands. VFW, VHW generally concolorous tawny, broken on FW by more brown-suffused postmedial line from costa to vein CuA2 and on HW with dark chocolate basal disc generally too dark to be marked with any additional pattern components. FW length: 10.5 mm. [apex/tail tip 14.5 mm.] (holotype). ***Female.*** Unknown. ***Male Genitalia.*** Fig. 83. Vinculum atypical of genus, showing ventral spurs, otherwise with distended anterior juncture to saccus as typical of species group. Valvae very diminutive, comprised of short parabolic bilobes and thin caudal extensions about one-half length of former. Aedeagus typical of genus with caecum comprising about one third aedeagus length and diaplaced some thirty degree out of the plane of the aedeagal shaft; terminus with one thin and one serrate cornutus.

TYPE. Holotype male (fig. 178), BOLIVIA, Villazon (see Remarks) deposited IML.

DISTRIBUTION. ***Spatial.*** Fig. 210. Currently known only from the type locality (see Remarks). ***Temporal.*** Unknown.

REMARKS. At hitherto noted, in 1991 staff of IML allowed R. Eisele, D. Matusik and me to short through their entire unmounted backlog of butterflies and remove the Lycaenidae for study. This included some damaged material (apparently from storage weight) as well as material with poor or obliterated data (by water or chemicals). There appeared to be a tendency to more poorly label the envelopes of material more distant from Tucumán, though this may have resulted simply because more details were known concerning the sites near Tucumán which could be jotted down. Thus, as with material from Cafayate, Argentina, which was labelled in bulk, Bolivian material was also often labelled in bulk and I read "Villazon" as that town immediately across the border from Argentina (Jujuy Prov.) which is readily accessible both by the railroad that skirts the Rio Grande River and by Argentine Highway 9. It is very likely that workers from the IML ventured there, after the 1940's and 50's when Hayward's work favored the region around the Cumbres de San Javier. For certain, IML workers frequently went far west on the road through Tafi del Valle into western Salta and northward. Much of the data on such samples (when present) notes collections by Cabrera, Willink and Golbach usually dating from 1950 onward. The majority of this material had never been mounted or even sorted to family. It is worth noting for other lepidopterists that moths as well as butterflies are present in these unprepared backlogs.

ETYMOLOGY. Named for Robert Eisele, who facilitated our sorting of the IML backlog material at Tucumán in 1991.

penai Species Group.

Hindwing anal lobes pronounced, fringes concolorous red brown; DFW,DHW structural colors violet red to maroon, HW with rufous limbal patch in titular species; VFW,VHW ground color generally mottled red brown with lineal pattern elements. Genitalia more robust than in *culminicola* Group, particularly in male valvae and vinculum and female ductus bursae.

Penaincisalia planuma,
NEW SPECIES
Figs. 84, 179

DIAGNOSIS. ***Wings.*** Currently known from single Argentine female, resembling *P. penai* somewhat except without rufous HW patch, with appearance of tufted tail at HW vein CuA2, and with the VFW,VHW ground dark brown so as to make any darker margin on FW or basal disc on VHW undiscernable; instead, medial area and submarginal area uniquely marked with arcs of white dashes.

Female genitalia. Tubular habitus of ductus bursae narrowly elliptic but robust in the midsection compared to many congeners that show constriction here; cervix bursae ventrum robust, hood hemispherical with convoluted dorsal lobes.

DESCRIPTION. *Male*. Unknown. *Female*. Head, thorax, abdomen and palpi typical of genus. DFW,DHW: ground color dark brown but with sheen of violet blue extending over the HW; HW showing tufted tail at terminus of vein CuA2. VFW,VHW: ground very dark brown, obscuring pattern distinctions, particularly on the darkened basal disc. Distal areas lighter and showing an arc of white dashes along the submargin. No rufous patch on DHW limbal area, compared to dark violet congener *P. penai*. ***Female Genitalia***. Fig. 84. Ductus bursae narrowly elliptic but robust throughout the midsection, showing no central constriction. Cervix bursae very robust and thickly connected to the base of ductus bursae; hood hemispherical but showing marked ridgelike convolutions.

TYPE. Holotype female, ARGENTINA, Prov. Tucuman, Dept. Tafi del Valle, El Infierniello, 3000 m., 6 December 1947, leg. R. Golbach, deposited IML.

DISTRIBUTION. Fig. 179. Currently known only from the type locality.

REMARKS. This was another interesting specimen in the IML backlog and occurred with an undescribed species of *Hylephila* (Hesperiidae) (C. D. MacNeill, pers. comm.) and an undescribed species of *Parachilades* (*sensu* Nabokov 1945) (Lycaenidae). There were at least four specimens of these other undescribed taxa though only a singleton of *P. planuma*. Shapiro (1989 [1991]) has commented in depth concerning the biogeographic significance of the type locality. It should be noted that *Pontirama brunea* is well recorded at this locale as well.

ETYMOLOGY. The name is taken from the Latin planum, meaning "plain" and referred to the simple markings of this species.

Penaincisalia penai Johnson
Figs. 86, 180

Thecla culminicola [not Staudinger 1894]: 80, pl.2, fig. 6. Weeks, 1905: 28. Draudt 1919: 760, pl. 153, fig. g; Comstock & Huntington 1958-1964 [959]: 198; Lamas 1977: 71 (as "*Thecla*"); Bridges 1988: II.109.

[*Incisalia*] *culminicola* [not Staudinger 1894]: Brown 1942: 1 (included categorically taxa of Draudt's *culminicola* Group in *Incisalia*); Gillham 1956: 145 (regarded *Incisalia* as Holarctic).

[*Penaincisalia*] *culminicola* [not Staudinger 1894]: Bridges 1988: I.95 (nonbinomial combination in index, genus as *nomen nudum*).

Penaincisalia penai Johnson 1990a: 118 (named following documentation that *Thecla culminicola* Staudinger 1894 = *Thecla alatus* Druce 1907 and historical usage above referred to an unnamed species).

DIAGNOSIS. ***Wings***. Differs from all other *Penaincisalia* by a bright rufous limbal patch on the HW DFW,DHW; DFW,DHW ground otherwise dark iridescent purple in males, brown in females. Compared to other group members, HW anal lobe less prominent and VHW basal disc with more irregular distal margin; *P. planuma* is a similar hue of purple on the HW but lacks the rufous patch and shows deep brown on the VHW obscuring nearly all other markings.

Male genitalia. Vinculum robust and oblongate compared to culminicola Group members; valvae robust and rather elliptic over entire habitus.

Female genitalia. Tubular habitus of ductus bursae robustly fluted from a moderate constriction along the posterior one-third of its length; terminal lamellae rather flat compared to congeners. Cervix bursae hood with angulate margin and rather diminutive, comprising a third or less ductus length.

DESCRIPTION. See Johnson 1990a: 119. ***Male Genitalia***. Fig. 86A. ***Female Genitalia***. Fig. 86B.

TYPES. Holotype male, allotype female (fig. 180A,B) AMNH. TL: ECUADOR. Cuicocha, Imbabura, 3100-3500 m.

DISTRIBUTION. ***Spatial***. Fig 210; known from high montane localities in Colombia, Ecuador, Peru and Bolivia. ***Temporal***. Specimen dates range from October to late May.

MATERIAL EXAMINED. BOLIVIA. "Bolivie", 2 males, 1 female (MNHN); "Bolivie", 1 male (BMNH). ECUADOR. Cuicocha, Imbabura, 3100-3500 m., leg. F. M. Brown, 29 April 1939 to 31 May 1939, 12 males, 1 female (AMNH); Hda. Talahua, Bolivar, 3100 m., leg. F. M. Brown, 4 May 1939, 1 male, 1 female (AMNH); Paramo Tinpulla, Cotapaxi, 3500 m., leg. F. M. Brown, 6 Nov 1938, 1 male, 1 female (AMNH); Hda. San Rafael, Rio San Pedro, 2700 m., leg. F. M. Brown, 5 November 1938, 1 male; Paramo Pasochoa, 3300 m., leg. F. M. Brown, 12 Nov 1938, 1 male, 1 female (AMNH); Andes of Ecuador, leg. E. Whymper, 1 male, 1 female (BMNH); see also, Types, above. PERU.

Cuzco, 1 male, 1 female (MNHN); Cordillera Occidental, Andes, N Peru, 2 males (MNHN); Cayuma Puente, Huanuco, leg. J. Pallister, 23 October 1946, 1 male (AMNH); Ccapana Hacienda, Ocongate, Cuzco, 3333 m., leg. J. Pallister, 6-12 April 1947, 1 male (AMNH).

Penaincisalia candor (Druce)
Figs. 85, 181

Thecla candor Druce 1907: 578, pl.33, fig.1. Comstock & Huntington 1958-1964 [1959]: 174; Bridges 1988: I.69.

Thecla candar [sic]: Dyar 1913: 636 (misspelling).

Thecla amatista [not *amatista* Dognin 1895]: Druce 1909: 433; Bridges 1988: I.69, II.104 (synonymy in error, see Remarks).

Penaincisalia candor: Johnson 1990a: 120.

DIAGNOSIS. ***Wings.*** HW anal lobes markedly elongate, male DFW,DHW darker iridescent red-violet. Compared to other group members: both sexes lacking DFW,DHW rufous patch of *P. penai*, females dull iridescent violet (not brown), VHW of wings with single, elongate, medial band directed straight from inner margin to anal area (not rounded about basal disc as in *P. penai* and *P. planuma* or with two bands as in *P. bimediana*).

Compared to superficially similar taxa of *Abloxurina* and *Candora* (particularly *A. amatista* with which it has been formerly wrongly synonymized), males of *Abloxurina* and *Candora* with single androconial brand on each FW (apex of costal vein of the discal cell) and distinctive morphologies as detailed in generic entries above.

Male genitalia. Vinculum more robust and oblongate than *culminicola* Group members; valvae robust, rather triangulate and sculptured along the ventrum.

Female genitalia. Ductus bursae greatly constricted in the midsection, then abruptly fluted to the cervix bursae anteriorly and widely lobate lamellae posteriorly; cervix bursae robust and ovate, comprising about one-half the ductus length.

DESCRIPTION. See Johnson 1990a: 120. ***Male Genitalia.*** Fig. 85A. ***Female Genitalia.*** Fig. 85B.

TYPE. Holotype male, BMNH (fig. 85A). TL: PERU. Huancabamba, 1818-3030 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; known from several high montane localities from Colombia southward through Ecuador and Peru (see Remarks). ***Temporal.*** Specimen dates range from January to July but there is little available data concerning seasonality.

MATERIAL EXAMINED. COLOMBIA. Quasca, 1 male (BMNH); Quasca, Cordillera Oriental, 2900-3300 m., 30 January 1946, 1 male (AMNH); Cordillera Oriental, 1 male (BMNH); El Tabano, Putumayo, 3300 m., 1 July 1981, leg. J. Sullivan 1 female (AMNH). ECUADOR. Cuicocha, Imbabura, 3800 m., 31 May 1939, leg. F. M. Brown, 1 male (AMNH); West Slope of Andes, leg. E. Whymper, 3 males (BMNH); El Monjepres [=near] Loja, 1 male MNHN). PERU. Huancachamba, 1818-3030 m. 2 amels (BMNH); Huancabamba [sic], Cerro de Pasco, 1818-3030 m., leg. Bottger, 2 males (BMNH); Ccapana Hacienda, Ocongate, Cuzco, 3333 m., 6-12 April 1947, leg. J. Pallister, 1 female (AMNH); se also, Type, above.

Penincisalia bimediana Johnson
Figs. 87, 182

Penaincisalia bimediana Johnson 1990a: 121.

DIAGNOSIS. ***Wings.*** Differs from all other *penai* Group members by brown DFW,DHW of wings and elongate HW lobes and, on the VHW, prominence of two stripes, postmedial and submarginal on FW, medial and submarginal on HW (see Remarks).

Female genitalia. Tubular habitus of ductus bursae generally fluted and antrum-like, with only slight constriction in the anterior one-third before the cervix bursae. Cervix bursae hood widely ovate and comprising half the ductus length, dorsum covered with fine convolutions.

DESCRIPTION. See Johnson 1990a: 121.

TYPES. Holotype female (figs. 7E,9A), AMNH. TL: ECUADOR. Cuicocha, Imbabura, 3800 m.

DISTRIBUTION. ***Spatial.*** Fig. 210; known only from type locality. ***Temporal.*** Known only from May type data.

MATERIAL EXAMINED. See Type, above.

GALBA,
NEW GENUS
Figs. 88-89, 183-184

Synopsis-- includes previously undescribed species.

DIAGNOSIS. ***Wings.*** Known members with short HW tail tuft at terminus vein CuA2, VHW pattern characterized by prominent brown or black mottled color in basal disc, separated by much lighter distal color and broken lineal medial band; DFW,DHW colors uniquely cream in one species, tawny in another.

Male genitalia. Vincular components diminutive; valvae short with bilobes and caudal extension of about equal length, latter inwardly curvate and serrate along their inner lateral margins.

Female genitalia. Ductus bursae elongate, separated into fluted posterior and anterior elements separated by a short transparent neck and terminating in parabolic lamellae separated by a prominent central fissure; cervix bursae knoblike, bursae hood widely sclerotized from the bilobate area across the juncture of the ductus seminalis.

DESCRIPTION. ***Adult***. ***Male***. DFW,DHW ground concolorous white to tawny, generally lacking fuscous margins, FW with small ellipsoid androconial brand at distal end of discal cell, HW with short tuft at terminus of vein CuA2. VFW,VHW with ground white to brighter tawny; FW with postmedial line or band, costa to cell M3 or CuA1, HW with basal disc variously suffused with red-brown or gray and outlined with distinctive undulate white margin. Limbal areas various suffused to concolorous. ***Female***. Similar to males except for lack of DFW androconial elements. ***Male Tergal Morphology and Genitalia***. Figs. 88-89. *Sipc* and brush organs absent in known species. Genitalia with vincular ventrum of parabolic shape and without spurs, ventrum of bilobed area of valvae smooth, opague and parabolic, caudal extension constricted with termini curvate or hooklike and serrate along inner margin; saccus of moderate length (circa one-half length of bilobed area), variously parabolic; aedeagus with length exceeding rest of genitalia by one-fourth to one-third, caecum from two-fifths to one-fourth length of shaft and sharply angled from plane of aedeagal shaft; terminus with two cornuti, pointed and serrate. ***Female Tergal Morphology and Genitalia***. Figs. 88-89. *Sipc* absent in known species. Genitalia with ductus bursae of two fluted tubal components, connected by a constricted juncture of transparent sclerotin; posterior component fluted to closely aligned parabolic lamellae lobes separated by a central fissure; anterior element more elongate and fluted to juncture with (for the Clade) a generally diminutive cervix bursae more of knoblike shape; cervix bursae hood comprized of bilobate shield over dorsum of corpus bursae, generally with more contiguous sclerotization of these lobes and the juncture with the ductus seminalis than in sister genera. Corpus bursae with two rather hooklike signa.

TYPE SPECIES. *Galba elvira*, new species.

DISTRIBUTION. ***Spatial***. Fig. 211; to date known from disjunctive areas of the Peruvian Andes. ***Temporal***. Dates on specimens include December and June, those from the former note "dry season".

REMARKS. The BMNH and MNHN have good series of the types species, which stands out from all other Andean Eumaeini by its cream colored DFW,DHW. The only other known species exhibits the basic pattern of the type species but is colored brighter tawny. Like *Penaincisalia*, there appear to be many autapomorphic characters in taxa of *Galba*. Since xeric high montane areas are indicated as the known habitats, it is probable that additional species will be discovered which are attributable to this genus.

ETYMOLOGY. The Latin name, considered feminine, refers to the distinctive creamy white coloration of the DFW,DHW in the type species.

Galba elvira,
NEW SPECIES
Figs. 88, 183

DIAGNOSIS. ***Wings***. Amongst Thecloxurines unmistakable by it cream-yellow DFW,DHW; in Eumaeini, dorsum similar only to the white species of genus *Arawacus* Kaye (which have vividly black-striped undersurfaces) and the few bluish-white species of *Ministrymon* (which show prominent red or orange stripes or lunules beneath). VFW,VHW pattern elements of *G. elvira* limited to hoary red-brown VHW basal disc and grizzled brown postmedial band, latter outlined by an undulate white distal band.

Male genitalia. Genitalia with rather square vincular ventrum; valvae with angulate base and short, curvate, inwardly directed caudal extensions markedly serrate along their lateral margins.

Female genitalia. Ductus bursae with distinctive fluted antrum caudad of constricted central area, antrum terminating in parabolic lamellae lips.

DESCRIPTION. ***Male***. DFW,DHW: ground bright cream colore, FW with slight darkly suffused marginal border and ellipsoid androconial brand located distally in discal cell; HW with short, tufted tail at vein CuA2 terminus. VFW,VHW: ground pale cream; FW with red-brown suffused submarginal border across entire wing and red-brown postmedial line, costa to cell CuAl, HW with basal disc suffused red-brown and marked distally with an undulate white border. FW length, mean of type series 13.6 mm., range 13.0 - 14.0 mm. [apex/tail tip, 13.5 = 19.0 mm.]. ***Female***. Similar to male but lacking DFW androconial elements, thus being brightly cream white. FW length, mean of type series 13.8 mm., reange 13.5 - 14.5 mm. [apex/tail tip, 13.5 mm. = 19.0

mm.]. ***Male Genitalia***. Fig. 88A. Vincular dorsum lacking brush organs. Genitalia with rather square vincular ventrum, lacking vincular spurs and with rather robust, parabolic, saccus. Valvae with angulate base and short, curvate, inwardly directed caudal extensions markedly serrate along their lateral margins. Aedeagus appearing rather elongate because of small caecum size, latter comprising only about one-fourth of aedeagal length and displaced some 45 degrees out of the plane of the aedeagal shaft. ***Female Genitalia***. Fig. 88B. Ductus bursae with distinctive fluted antrum caudad of constricted central area, antrum terminating in parabolic lamellae separated centrally by a prominent dorsal fissure; cephalad of central constriction, ductus bursae conjoined to bulbous cervix bursae. Cervix bursae hood prominently sclerotized, extending from bilobate lateral elements through and across the area junctured to the ductus seminalis. Corpus bursae signa with heavily sclerotized base and raised central keel, base showing more dendritic caudally directed sclerotizations than congener.

TYPES. Holotype male, allotype female, PERU. Carohas [handwritten resembles almost "Carobas" but =Carhuas *sensu* Simons, Ancash], 2500 m., December 1899, deposited BMNH. Paratypes. BMNH: PERU. [Cerro] Marca, 3000 m., leg. Simons, 1 female (BMNH); Carohas, 2500 m., December 1899, 1 female (BMNH); [Cerro Marca], 2500 m., dry country, leg. Simons, 2 males (BMNH). MNHN: PERU, Carobas, 1 male, 1 female (see Remarks).

DISTRIBUTION. ***Spatial***. Fig. 211; known only from high (2500-3000 m.) xeric habitats in Peru. ***Temporal***. Specimens are from December and June.

REMARKS. See Remarks under generic entry and *G. fumosa*, below. The duplicate specimens at the MNHN (which do not note collector) appear once again to indicate that Fournier oftened purchased from the same small specimen lots that eventually reached the BMNH.

ETYMOLOGY. Patronym for Elvira Pratsch.

Galba fumosa,
NEW SPECIES
Figs. 89, 184

DIAGNOSIS. ***Wings***. DFW,DHW light yellow-auburn with thin (1 mm.) brown apices and margins, VFW,VHW same ground, basal disc suffused darker brown, postbasal area crossed by a meandering brown line and with the disc edge formed less by a recognizable spot band than in white congener *G. elvira*; VFW with postmedial line suffusive brown and extending through cell CuA2, paralleled distally by a similarly brown marginal band. FW length: 13.5 mm. [apex/tail tip 18.5 mm. (damaged)] (holotype).

Female genitalia. Caudal element of ductus bursae shorter and narrower than in congener, anterior element about twice length of former and gradually fluted to knoblike cervix bursae. Cervix bursae hood rather contiguous across dorsum of corpus bursae.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW light yellow-auburn bordered by thin (1 mm.) brown margins and apices. VFW,VHW ground yellow-auburn; FW with suffusive brown postmedial band from costa to cell CuA2, paralleled by brown marginal band. HW with basal disc grizzled brown, crossed in postbasal areas by a meandering brown band; edge of basal disc defined more by suffusive brown line than by lunulate marks in congener, distal areas immaculate, margin suffused dark brown. ***Female Genitalia***. Fig. 89. Ductus bursae with posterior element short, gradually fluted and terminating with parabolic lamellae; anterior element about twice length of former and slightly fluted to a knoblike cervix bursae ventrum. Cervix bursae hood extending about two-fifths ductus length and rather contiguously sclerotized from bilobate elements across the area of juncture of the ductus seminalis. Corpus bursae signa broadly based and showing inwardly directed hooklike extensions.

TYPE. Holotype female (fig. 184), PERU, Arequipa, Yura Viejo, 2700 m., leg. J. Herrera, 14 June 1971, deposited UMCE.

DISTRIBUTION. ***Spatial***. Fig. 211; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. It is noteworthy that even though *G. elvira* is cream colored on both surfaces, its pattern markings are suffusive brown with some white lunulate markings; the pattern markings of *G. fumosa* are similar but grounds are yellow-auburn and with occurrence of lunulate white about the basal disc not as noticeable. It is unfortunate that due to the long illness which preceded his passing (in January of 1992), Dr. Herrera and I were never able to complete correspondence concerning the habitat of this species. However, as of December 1991, Dr. Herrera had forwarded, either directly or through the AME, all the Theclinae specimens about which he had questions. The last of these received pertained to the search for the identity of *Thecla rojasi* Ureta, types of which Herrera had reported destroyed in a fire in Santiago (Herrera to Johnson, in lit., 1991). As noted in the

addended paper, *Reports* No. 23, these last shipments still contained Chilean Theclinae requiring specific names. I am happy I was able to name the last of these, *Shapiroana herrerai,* in Dr. Herrera's honor.

Clade IV (the "umbratus Group")

This group contains species comprising the most divergent group of thecloxurines (above Clades I-IV) with structural features still recognizable as apparently homologous with the rest of this infratribe. Outside of these, remaining elfinlike Neotropical butterflies (like those treated in the subsequent Outgroup Diagnostics section) diverge variously from the structural ground plan held in common by taxa of Clades I-IV.

Wings generally lustrous iridescent blue or silvery blue on DFW,DHW; VHW characterized by an extremely jagged medial band comprised of lunulate markings usually paralleled with a jagged or lunulate discal mark and additional postbasal lunules or suffusion.

Morphology typified in the males by highly sculptured configurations of the vinculum and valvae (including sclerotinal innovations like ridges, keels and other extruding elements); in females by a tubular ductus bursae terminating in a oblongate lamella postvaginalis exhibiting paired hornlike elements along the distal edge.

RADISSIMA, NEW GENUS

Figs. 90-95, 185-189

Synopsis-- includes taxa of Draudt's (1919) *umbratus* Group and undescribed relatives.

DIAGNOSIS. ***Wings.*** HW with wide, often heavily fringed and caudally curvate, tail extending from terminus of cell CuA2 and VHW with cryptic brown to ochre grounds marked with a dark (often blackish) dentate medial band of lunulate elements, an angled or lunulate discal element, and additional dark lunulate markings or suffusions in the postbasal area. DFW,DHW grounds usually of brilliant iridescent blue (often silvery) and with fuscous apical and marginal borders; FW with small (1-2 mm.) ellipsoid androconial brand located distally in discal cell.

Morphology characterized by in ***female genitalia*** by generally elongate tubular ductus bursae marked by paired lateral ridges inside a membranous sheath and terminating in a oblongate lamella postvaginalis exhibiting paired hornlike elements along the distal edge; ***male genitalia*** greatly sculptured in both the vincular ventrum and the valvae, some species showing some of the most remarkable sclerotinal sculpturing of the Eumaeini.

DESCRIPTION. ***Adult. Male.*** DFW, DHW grounds usually of brilliant iridescent blue (often silvery) with apices and margins or submargins fuscous; FW with small (1-2 mm.) ellipsoid androconial brand located distally in discal cell. HW with wide, often heavily fringed and caudally curvate, tail extending from terminus of cell CuA2. VFW,VHW with generally cryptic brown, green-brown or ochre grounds marked with dark dentate medial band of black or brown lunulate elements accompanied by a dark, angled or lunulate, discal element and additional dark lunulate markings or suffusion in the postbasal areas. Distal areas with cryptic grounds occassonally bordered in the submarginal and limbal areas by crescent-shaped or blotchy pattern elements. ***Female.*** DFW,DHW with iridescent more limited and patchy in appearance; FW without androconial elements. VFW,VHW marked similar to males. ***Male Tergal Morphology and Genitalia.*** Figs. 90-93. *Sipc* absent in known species; brush organs of differential occurrence. Genitalia showing all elements more sculptured than in other genera of the thecloxurines (e.g. approached only by *Pons*). Vinculum with entire ventrum variously sculptured, including the area abutting the spurs and also the saccus. Valvae similarly sculptured along the ventral and lateral margins with extensions, keels, and other extruding components preceeding a generally tapered and sharp terminus. Aedeagus generally elongate, length exceeding rest of genitalia by a fourth to a third and with the caecum comparatively more diminutive than in other thecloxurines; features of the aedeagus often sculptured, particularly along the caecum or at the fluted terminus, latter is marked by prominent spikelike to serrate cornuti. ***Female Tergal Morphology and Genitalia.*** Figs. 90-95. *Sipc* absent in known species. Genitalia with ductus bursae robust and tubular to flat (some species with raised lateral margins, other with ductus divided into caudal and cephalic sclerotized elements), terminating in an oblongate lamella postvaginalis exhibiting paired hornlike distal elements. Cervix bursae generally diminutive compared to other thecloxurines, ranging from bulbous to knobby. Corpus bursae with a less well-defined shield or hood than members of Clades I-III (but to an extent because of the elongate ductal habitus characterizing most species of the group), dorsum of the corpus bursae variously sclerotized depending on the species. Signa prominent, displaying the basal dendritic elements typifying taxa of the infratribe, and sometimes with a keel or inwardly directed barb.

TYPE SPECIES. *Sithon umbratus* (Geyer) 1832-1837 [1837]: (5), 83, pl. 164, figs. 955, 956 (a subspecies is *Thecla parthenia* Hewitson 1863-1878 [1874]: (1), 174, (2) pl. 68, figs. 502, 503).

DISTRIBUTION. ***Spatial.*** Fig. 211; extending from Mexico to Bolivia and with disjuncts in SE Brazil. ***Temporal.*** There is a paucity of dates on specimen labels except in the types species, for which dates span from September to May.

REMARKS. *General*-- This genus has been made more comprehensible by inclusion of the undescribed entities. Without these, members have appeared to comprise a far-flung assemblage of uniques often represented by one or a few specimens.

Characters-- As above noted, the elongate ductus bursae with paired lateral ridges covered by a more transparently sclerotized to membranous sheeth, along with the oblongate postvaginal lamella showing distal horns, shows a general ground plan akin to that of Clade II. The more elongate and tubular nature of this habitus in *Radissima* and its terminal lamellae, compared to conditions in Clade I taxa like *Pons* and *Abloxurina*, suggest that the ground plan of Clade IV may well be the precursor (or primitive condition) of that showing great innovation in Clade II. As such, the Clade IV morphology becomes a bridge (or basal stem connection) between the elements of Clades I and II, and II and IV, which comprise the Thecloxurina. The construction of rooted trees based on such characters really requires a detailed inclusion of characters from the sister group Callophryina. The recent monograph of Palaearctic elfins (Johnson, in press) makes a step towared having a taxonomy for many of these taxa. However, concerning the Neotropical Callophryina completion is required of the preliminary considerations made by Johnson (1981). Particularly, one must consider characters of such "bridge" groups as the "brown *Cyanophrys*" (Thecla "*fusius*" Group) and taxa of *Sandia* and *Xamia* (*sensu* Clench 1961). There appears little doubt about the homogeneity of the basic ground plan of thecloxurines (including the habitus of Clade IV as extremely innovated in Clade II and the habitus of Clade I as extremely innovated in Clade III). However, such general consideration are not the same as completion of rooted trees based on a sound numerical method. This effort must follow after completion of the basic alpha taxonomies for these groups.

Nomenclature-- I divide the genus into three species groups, the *umbratus* Group (including the tailed type species and its farflung subpopulations) which show the more robust terminus of the ductus bursae, the *catadupa* Group (including relatives restricted to South America) which show more enhancement of the ductal terminal prongs) and the tailless *dinus* Group (also restricted to South America).

ETYMOLOGY. Considered feminine, the Latin name adds the superlative to the root for "radiant" and refers to the brilliant DFW,DHW colors associated with these congeners.

umbratus Species Group

HW with tail-like elements included robust, pointed, anal lobe, and wide curvate tail at vein CuA2 terminus; female genitalia with more robust and less hornlike termini and with expansive lateral element at the cervix bursae.

Radissima umbratus **(Geyer)**
NEW COMBINATION
Figs. 90, 185

Sithon umbratus (Geyer) 1832-1837 [1837]: (5), 83, pl. 164, figs. 955, 956. Comstock and Huntington 1958-1964 [1964]: 178; Bridges 1988: I.358, II.109, III.53.

Thecla umbratus: Kirby 1871: 385; Hoffman 1940: 706; Bridges 1988: I.358, II.109, III.53.

Thecla parthenia Hewitson 1863-1878 [1874]: (1) 174 (2) pl. 68, f. 502,503. Godman and Salvin 1879-1901 [1887]: 29, t.LI, figs. 17,18; Hoffman 1940: 707; Comstock and Huntington 1958-1964 [1962]: 103; Johnson, MacPherson and Ingraham 1986: 6 [as "*pathenia*"]; Bridges, 1988: I.268. Martinez, Vargas Fernandez and Llorente Bousquets, 1991a, 39.

Thecla umbratus parthenia **REVISED STATUS** (see below).

DIAGNOSIS. ***Wings.*** HW with tail-like elements included robust, pointed, anal lobe, and wide curvate tail at vein CuA2 terminus. DFW,DHW with bright silver blue in medial areas bordered by well-defined black apices and submargins. VFW,VHW ground with distinct green hue in Yucatan nominate, dark gray to somewhat brownish elsewhere; FW with deep brown postmedial band, marginal line and discal slash; HW with dentate band comprised of black or brown lunulate elements intersecting an angled discal element in cells M1 or M2 and with suffused to lineal brown markings in postbasal area (see Remarks).

Male genitalia. Generally of thecloxurine habitus but showing numerous additional components in the form

of sculptured egdes, keels and knobs along vincular ventrum, lateral margin and tip of saccus and lateral and ventral surfaces of the valvae.

Female genitalia. Ductus habitus extremely sculptured along the paired lateral ridges of the ductus bursae; postvaginal lamellae robust with hornlike elements less protrusive than congeners.

DESCRIPTION. ***Male***. DFW,DHW brilliant silvery blue from basal to medial areas of both wings, bordered by crisp fuscous submargins and apices; FW with ellipsoid androconial mark (usually about 2 mm. in length) across discal area of discal cell; HW with wide curvate tail at vein CuA2 terminus. VFW, VHW ground distinctly green-hued brown in nominate, brown to ochre elsewhere; FW with prominent black or brown postmedial line, costa to cell M3 or CuA1, paralleled by lighter submarginal to marginal line: HW with dentate medial line of brown or black lunulate elements intersecting an elongate angled discal mark in cells M1 and M2 (this juncture basally indented in nominate, relatively entire elsewhere); medial band paralleled by postbasal line of varying intensity. FW length: mean of AMNH specimens 15.5 mm., range 14.8 - 16.2 mm. [since species has conventional tails, apex/anal tail tip figures hereafter not included]. ***Female***. DFW,DHW with iridescent areas more basally restricted than on male and often patchy on HW; no FW androconial element. VFW,VHW similar to male. ***Male Genitalia***. Fig. 90A,C,E. Vincular ventrum robust but distinctly angulate due to numerous sclerotal sculpturings along the areas of the spurs to juncture of saccus; saccus tapered with laterally sculpturing, culminating in an angulate knob. Valvae with sharp lateral sculpturing marking otherwise distended, parabolic bilobes; caudal extension sharply tapered to pointed termini. Aedeagus robust, exceeding rest of genitalia by one-fourth or less, shaft straight, caecum comprising one-fourth to two-fifths aedeagal length and slightly displaced from place of aedeagal shaft; terminus with two sharply angled cornuti. ***Female Genitalia***. Fig. 90B,D. Ductus habitus sculptured along the paired ductal ridges and showing constiction near the midsection flanked by undulate lateral margins extending anteriorly to knoblike cervix bursae from which emanates fanlike lateral projections; hood tonguelike as typical of genus. Lamella postvaginalis robust with disto-lateral terminally directed horns not greatly elongate and, compared to congeners, more obviously connected across the terminal margin by a membranous sheeth. Corpus bursae with sclerotized shield surrounding the point of juncture of the ductus seminalis; signa with broad sclerotized bases and inwardly directed spines.

TYPES. Location of Geyer type unknown (Comstock and Huntington, 1958-1964 [1954]; Bridges, 1988) but its identity from Yucatan type locality is unambiguous. Syntypes of *Thecla parthenia* (BMNH) (fig. 90A,B) (TL Chontales, Nicaragua) are extant from which I fix a lectotype male as the specimen labelled "Nicaragua. Hewitson Coll. 79-69. Thecla parthenia, Hew (1)", "Type", "B.M. Type No. Rh. 594". Two paralectotype males, same data, labelled "Thecla parthenia, Hew (2) and (3)".

DISTRIBUTION. ***Spatial***. Fig. 211; Central America to far northwestern South America; nominate occurring on Yucatan peninsula of Mexico, additional subspecies occurring from central Mexico southward through Central America to a poorly known population indicated in northwestern Colombia. ***Temporal***. Dates on specimens range from September to May.

REMARKS. Hitherto, common curatorial usage has suggested that *Sithon umbratus* and *Thecla parthenia* are conspecific, the former representing a distinctive green-hued morph occurring in Yucatan. The literature, however, has not reflected this and Draudt (1919) and Bridges (1988) considered them distinct. It is prudent to consider the taxa as subspecies since the wing morphs differ radically in ground color hue, and in markings along the HW medial band. In addition, I describe a subspecies from extreme northwestern Colombia. However, this entity is known from a single specimen and investigation is required concerning the veracity of this taxon.

SUBSPECIES

NOMINATE. ***R. umbratus umbratus***. The nominate has been amptly described in the species entry. ***Wings***. VFW,VHW ground green-hued and with distal margin of VHW medial band at juncture with angulate discal marking in cells M1 and M2 basally incised. ***Genitalia*** generally indistinctive from subspecies below but differing somewhat in showing more elongate saccus and robust valvae in male and more hornlike lamella postvaginalis in females. I illustrate a male and female, dorsal and ventral (fig. 185A,B) from Yucatan included in the AMNH Hoffman material.

Distribution. ***Spatial***. Fig. 211; generally typifying the species in the Yucatan peninsula of Mexico and adjacent Belize. ***Temporal***. The only dated specimens are noted as May.

MATERIAL EXAMINED. BELIZE. Belize, "British Honduras [sic]", 2 males (BMNH). MEXICO.

"Yucatan" ex. coll. Hoffman, "v" [taken as May], 1949, 1 male, 1 female (AMNH). Merida, Yucatan, 1 male, 2 females (BMNH).

R. umbratus parthenia (Hewitson)
Figs. 90CD, 185CD

Thecla parthenia Hewitson (see species entry).

Diagnosis. Wings. Differing from nominate in brown to ochre VFW,VHW ground color and generally entire VHW medial band at juncture with angulate discal marking in cells M1 and M2. ***Genitalia*** differing little from general nominate habitus but showing less elongate saccus and more elongate valval caudal extensions; females with slightly more truncate ductus habitus and with distal horns of the postvaginal plate less protrusive.

Types. Lectotype (FW 15.0 mm.) male designated at BMNH as noted in species entry.

Distribution. Spatial. Fig. 211; Central Mexico west of the Yucatan peninsula southward in Central America to at least Costa Rica. ***Temporal.*** Dates on specimens range from September to May.

Remarks. I illustrate a male (fig. 185C,D), one dorsal, one ventral from Nagarote, Nicaragua (AMNH). This locality is only slightly to the west of the type locality of the OD.

MATERIAL EXAMINED. GUATEMALA. Polochic Valley, 1 male (BMNH). HONDURAS. San Pedro Sula, 2 males, 1 female (BMNH). MEXICO. Sierra Madre Oriental, 1 male (BMNH), Orizaba, 1 male (BMNH); Palitla, San Luis Petosi, 7 May 1977, leg. W. Howe, 1 female (AMNH); Presidio, Vera Cruz, July 1940, leg. Hoffman, 1 female (AMNH), Nayarit, 24 September 1932, 2 males (AMNH), 20 October 1932, 1 male (AMNH); Tepic, Nayarit, leg. Hoffman, 8 September 1934, 1 female (AMNH). NICARAGUA. Chontales, 1 male (BMNH); Nagarote, 1 male, 1 female (AMNH).

R. umbratus colombiensis,
NEW SUBSPECIES
Figs. 90E, 185EF

Diagnosis. Wings. Known specimen small (FW 13.8 mm.) DFW,DHW dull violet. VFW,VHW ground very light cream, marked only with diminutive FW and HW markings typical of species but, especially on HW reduced to basic elements of the medial band, with little adjacent mottling, if at all. ***Genitalia.*** Known female with terminus of postvaginal lamella very robust and hardly hornlike along the distal egdes; also, with constriction of tubular element of ductus bursae located more anterior than in other subspecies treated herein.

Description. Male. Unknown. ***Female.*** DFW, DHW dull violet in iridescence with fuscous apical and submarginal bands. VFW,VHW ground cream with a tawny hew, FW with darker brown to tawny lunulate band, costa to cell CuA2. HW with medial elements typical of species reduced lunulate tawny brown elements edged with finer dark brown or black suffusion. FW length: 13.8 mm. (holotype). ***Female Genitalia.*** Fig. 90E. General habitus typical of species but with known female showing terminus of lamella postvaginalis very robust and hardly hornlike along the distal edges; in the ductus bursae, tubular habitus of ductus bursae constricted more anterior than in the other subspecies.

Type. Holotype female, COLOMBIA, Antioquia, Rio Penderisco, 2500-2600 m., 27 August 1948, ex. coll. Comstock and Huntington, deposited AMNH.

Distribution. Spatial: Fig. 211; known only from the type locality. ***Temporal:*** Known only from the type data.

Remarks. There may be some question about the veracity of this taxon given that, traditionally, "*Thecla umbratus*" has not been reported south of the Panamanian isthmus. However, there is little ecological difference between the areas immediately abutting the Panamanian isthmus and large numbers of Theclinae species show distributions that span Panama (these apparently the result of dispersion since the Pliocene). Workers like Robbins and Small (1981) have made much about the movement of Theclinae by outright dispersal in the Panamanian region. There are numerous examples of range extensions in the present work and no apparent reason, *a priori*, to doubt specimen from the Comstock and Huntington AMNH backlog. It should be a priority to determine if additional specimens of a Colombian *R. umbratus* population can be located. In evaluating the holotype above and determining subspecies status, the divergence of the female genital habitus was compelling.

Etymology. Named for the general area of reputed occurrence.

catadupa Species Group

HW with tail-like elements less protrusive than in *umbratus* Group; female genitalia with terminal hornlike elements very protrusive and less connected along their entire length by the terminal membranous sheeth; male genitalia, if known, showing vincular, saccal and valval elements of much more even contour than congeners.

Radissima catadupa (Hewitson)
NEW COMBINATION
Figs. 91, 186

Thecla catadupa Hewitson 1863-1878 [1869] (1) 117, (2) pl 47 f. 219,220. Kirby, 1871: 385; Draudt 1917-1924 [1919]: 757, pl. 153e; Comstock and Huntington 1958-1964 [1959]: Johnson, MacPherson and Ingraham 1986: 6; Bridges 1988: I.72, II.105, III.67.

DIAGNOSIS. ***Wings.*** DFW,DHW lustrous silvery blue framed by crisp black submargins and apices, HW with thick recurvate tail at vein CuA2 terminus. VFW,VHW ground gray to tawny marked with concentric undulate brown bands (wide brown postmedial FW band and undulate brown HW bands in the postmedial, medial areas and (though light) along the submargin).

Male genitalia. With prominent brush organs; valvae with ovate bases and thin caudal extensions remarkably similar to *Thecloxurina cillutincarae* (see Remarks).

Female genitalia. Highly sculptured, including a broadly spatulate lamella postvaginalis with elongate distal horns and ductus bursae constricted in the anterior one-half.

DESCRIPTION. ***Male.*** DFW,DHW ground lustrous iridescent silvery blue from base to postmedial area bordered by crisp black apices and submargins; FW with small (1 mm.) brand; hindwing with thick curvate tail at vein CuA2 terminus. VFW, VHW grounds tawny on FW, darker brown on HW; FW with thick, dark brown, postmedial band from costa to cell CuA1; HW with thick brown postbasal and medial bands (some specimens also with blotchlike markings postmedially in cells M1 or M2) and a somewhat lighter brown submarginal band continguous with brown ground color suffusing the tail. FW length: 12.0 mm. (lectotype). ***Female.*** DFW,DHW with more restricted iridescence; FW without androconial element. VFW, VHW similar to males. FW length: 12.5 mm. (MNHN, see below). ***Male Genitalia.*** Fig. 91A. Thick bundles of brush organs prominent along dorsal vincular margin. Vincular ventrum robust, saccus robust and parabolic, vincular spurs elongate. Valvae with wide-rimmed parabolic bilobes contrasting elongate, thin, caudal extensions, latter slightly curvate and inwardly directed. Aedeagus exceeding length of entire genitalia by about one-third, caecum comprising about two-fifths aedeagal length and not displaced out of shaft plane; terminus ventrum parabolic with slightly pointed end, two terminal corunuti. ***Female Genitalia.*** Fig. 91B. From the MNHN specimen known to me, ductus and terminal lamellae habitus the most sculptured of the genus— lamella postvaginalis laterally expansive and "spade"-shaped with elongate distal horns; ventrum of lamellae with contours joining the paired ductal ridges of the ductus bursae; ductus bursae constricted at about midpoint between base of lamellae and cervix bursae; cervix bursae ventrum knoblike, hood with robust tongue-like distal sclerotization as typical of genus; signa broad based and with inwardly directed spines.

TYPES. Lectotype male, BMNH (fig. 91A), labelled "Ecuador., Hewitson Coll. 79-69. Thecla catadupa Hew. (3.)", "Type", "B.M. Type No. Rh. 595".; two paralectotype males, same data but noted as Thecla catadupa Hew. "(1.)" and "(2.)". TL: OD states ECUADOR.

DISTRIBUTION. ***Spatial.*** Fig. 2ll; known from old Ecuadorian specimens. ***Temporal.*** None of the known specimens is dated.

REMARKS. *Thecla catadupa* has often been discussed in relation to taxa of Draudt's (1919) "*umbratus* Group". Morphological study shows Draudt's group to be homogeneous and to also include a few distinctive undescribed species. *Radissima catadupa* is poorly known and I therefore reillustrate the specimens figured by Draudt (1919) [black and white tranposition of BMNH color slide is too dark]. Male genitalia of *T. catadupa* are interestingly like those of *Thecloxurina cillutincarae*; female genitalia are typical of the generic characters which, in the ductus bursae and lamella postvaginalis show an affinity to the characters which become extreme in *Paralustrus*, *Pontirama* and *Rhamma*. *Radissima catadupa* is Andean in range but most similar to *R. curitibaensis* described below from Brazilian coastal forest (latter concolorous on DFW,DHW and lacking prominent VHW bands). *Radissima catadupa* and *R. curitibaensis* make up the South American tailed contingent of the genus.

MATERIAL EXAMINED. ECUADOR. Abbe Ganjon, 1885, 1 female (MNHN); Loja, 1 male (MNHN), 1 male (BMNH) "Ecuador", 3 males (BMNH).

Radissima chaluma (Schaus)
NEW COMBINATION
Fig. 92

Thecla chaluma Schaus 1902: 414 [see Remarks concerning identity of this species from BMNH specimen presently available]. Bridges 1988: I.77, II.105, III.103.

DIAGNOSIS. ***Wings.*** FW with three variously broad white-suffused bands paralleling margin distad of

postmedial area; HW with dark brown medial suffusion across the medial area, particularly produced in discal cell, paralleled in postmedial to submarginal area by a suffusive crescent-like band.

Female genitalia. Ductus bursae paired lateral ridges prominent; lamella postvaginalis paired hemispherical lobes separated by a prominent dorsal fissure, terminal margins with short paired distal teeth.

DESCRIPTION. ***Male***. Unknown to me. ***Female***. DFW,DHW dull iridescent violet blue in baso-postmedial areas, bordered by wide fuscous to black apices and margins, HW with black marginal line fringed with white and adjoining broad angulate tail at vein CuA2. VFW, VHW ground dull gray-brown, FW with three variously broad white-suffused bands paralleling the margin from the postmedial outward; HW dark brown in baso-medial area, with darker brown suffusions proceeding bandlike across the medial area and expansive at the discal cell, suffused slightly whitish along the distal edges and paralleled in the postmedial to submarginal area by white-suffused markings in a crescent-like shape; submargin and margin with suffused brown band become wider and gray-suffused alongside the anal lobe and HW tail. Length of forewing: 15.5 mm. (BMNH). ***Female Genitalia***. Fig. 92. Genitalia with elongate ductus bursae rather flat and bordered laterally by marked paired lateral ridges as typical of Clades II and IV, less sculptured than in other congeners. Lamella postvaginalis with widely hemispherical lobes separated by a prominent dorsal fissure, plate with prominent but short paired distal horns. Cervix bursae ventrum angulate and rather small, expanse not much exceeding ductus bursae width; cervix bursae hood with paired lobate sclerotized lobes flanking the tongue-like sclerotizations from which emanate the ductus seminalis.

TYPE. Holotype, NMNH. TL: St. Catherina, Brazil.

DISTRIBUTION. ***Spatial***. Fig. 211; currently known only from the type locality and from a BMNH specimen indicating Bolivia (see Remarks). ***Temporal***. Known only from the type data.

REMARKS. There is a potential problem regarding indentification of this species as treated here. The only specimen available to me, although it fits the overall description, is labelled from Bolivia and may therefore not represent the same population as the type material. The species must be poorly represented in collections since the large SE Brazil holdings at the MPM do not contain any specimens. It is well known that numerous larger and vagile butterflies shown clinal relations from southern Bolivia to various SE Brazilian populations. This has been well documented in the Charaxini and Heliconini, for instance. However, I have been doubtful about the strength of this generalization in Theclinae where there is so much specificity to microhabitat. There does not seem to be a coherent pattern in that some Theclinae, like "*Thecla*" *tarania* Hewitson - *atrana* Schaus assemblage, show such clines while numerous others, as noted in the present study, show clear distinctions between the Bolivian, Argentine and Brazilian populations. The key appears to be niche-related, in that typical deep rain forest dwellers of the "Yungas" biomes appear clinal from SE Bolivia through Corrientes Province, Argentina and (originally) into the Brazilian coastal forests. However, any group with taxa interdigitating into chaco biomes, stratified Andean biomes of lowland and upland wet or mesic forests, or temperate biomes tend to show clear distinctions. *Strymon*, *Cyanophrys* and taxa of the *Calycopis/Calystryma* grade (*sensu* Johnson 1991c) obviously show the latter pattern. Concerning *R. chaluma* type material and outlying populations, more specimens are needed.

MATERIAL EXAMINED. BOLIVIA. "Bolivie" (one female), BMNH.

Radissima curitabaensis,
NEW SPECIES
Figs. 94, 188

DIAGNOSIS. ***Wings***. VFW,VHW with grizzled tawny ground overlaid with *lighter* ochre markings occurring as postmedial FW band (costa to cell CuA1) and, on HW, a medial slash along anal margin followed by orbicular medial marking costad in the discal, RS and SC + R1 cells; *darker* brown undulate band in postmedial area. Female with DFW,DHW iridescent violet gradually fading to brown toward margin.

Female genitalia. Terminal lamellae more reduced relative to ductus size compared to *R. catadupa* and distal horns more robust. Tubular habitus of ductus bursae highly sculptured and with transparent, nearly membranous, constriction near the midpoint from lamellae base to cervix bursae.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW iridescent violet fading to brown along margins. VFW,VHW with grizzled tawny ground overlaid with lighter ochre markings occurring as postmedial FW band (costa to cell CuA1). HW with medial slash along anal margin followed by orbicular medial marking costad in the discal, RS and SC + R1 cells and a darker brown undulate band in postmedial area; margin with somewhat

lighter ground in each cell interspace. ***Female Genitalia***. Fig. 94A. Lamella postvaginalis, relative to ductus bursae length, comprising only about one-fifth genital length but terminating in robust distal horns and sculptured ventrum. Ductus bursae sculptured along the paired lateral ridges and constricted in a nearly membranous neck at about midpoint between base of lamellae and knoblike cervix bursae. Area of ductus bursae anterior the constriction also sculptured and conjoined to knoblike cervix bursae ventrum; cervix bursal hood limited to tongue-like sclerotizations surrounding the ductus seminalis.

TYPE. Holotype female, BRAZIL, Curitiba (read from "Curitaba" on labels, see Remarks and Etymology), Paraná State, deposited MNHN.

DISTRIBUTION. ***Spatial***. Fig. 211; known only from the type locality. ***Temporal***. Unknown.

REMARKS. The type has a number of MNHN labels written longhand in French; "Curitaba" is set off alone, with an initial capital letter, and from the remaining Brazilian data, I read it as Curitiba but retain it in the species name and etymology.

ETYMOLOGY. Named for the locality noted on the holotype, read by me as indicating Curitiba, Paraná State, Brazil.

dinus Species Group

HW with only elongate, fingerlike, extension of anal lobe apparent as "tail", VFW,VHW patterns less linular than mottled. Wing habitus unites this group but each species is known from an opposite sex.

Radissima dinus (Hewitson)
NEW COMBINATION
Figs. 93, 187

Thecla dinus Hewitson 1863-1878 [1867]: (1) 114, (2) pl. 43, f. 174, 175. Kirby 1871: 392; Zool. Record 1957 [1953]: 386; Bridges 1988: I.106, II.106, III.66.

DIAGNOSIS. ***Wings***. HW with tail-like elements limited to robust anal lobe. DFW,DHW with bright silver blue in medial areas bordered by well-defined black apices and submargins. VFW,VHW ground brown and yellow brown marked on FW with deep brown postmedial patch at end of discal cell and spots or dashes along submargin, on HW with ragged streaks of brown crossing medial area and contrasting yellow-cream and bright yellow suffusions along the submargin and margin near the anal lobe.

Female genitalia. Terminus less distally expansive then in congeners with horned elements more closely adjacent each other and with serrate inner margins.

DESCRIPTION. ***Male***. Not known to me. ***Female***. DFW,DHW ground bright silver blue from base to medial areas, bordered by well-defined black apices and submargins; HW with prominent, rounded, anal lobe but no tail at vein CuA2 terminus. VFW,VHW ground brown and yellowish brown; FW with deep brown postmedial patch at end of discal cell and spots or dashes along submargin; HW with ragged streaks of brown crossing medial area and contrasting yellow-cream and bright yellow suffusions along the submargin and margin near the anal lobe. ***Female Genitalia***. Fig. 93. Genitalia with ductus bursae elongate and continuously sclerotized and of rather even controur along the sheath and paired lateral ridges; lamella postvaginalis robust and oblongate, marked with thin, but relatively elongate, distal horns. Cervix bursae terminally swollen and showing some of the sclerotized flanks that characterize the genus, along with the tongue-like sclerotizations surrounding the ductus seminalis.

TYPE. Lectotype female, BMNH, labelled "Dinus, Brasil", "Dinus [+ illegible]", "ex Musaeo Dr. Boisduval", "Ex Oberthur Coll. Brit. Mus. 1927-3." "B.M. Type No. Rhop. 616", "Type".

DISTRIBUTION. ***Spatial***. Fig. 211; known only from the type locality. ***Temporal***. Known only from the type data.

REMARKS. This species is poorly known. Perhaps it inclusion herein will lead to location of further specimens.

MATERIAL EXAMINED. See Type, above.

Radissima esolana,
NEW SPECIES
Figs. 95, 189

DIAGNOSIS. ***Wings***. Known male DFW,DHW bright iridescent azure blue (probably duller in female) contrasting dark brown VFW,VHW ground. VFW with black discal spot and postmedial line contrasting brilliant brlue sheen along border with HW; VHW with dentate black medial band, angulate black slash in cells M1 and M2 and light brown postbasal line.

Male genitalia. Interesting regarding overall unity of genus— valvae greatly sculptured as in the *umbratus* Group but vinculum of rather even contour as in the *catadupa* Group. Valvae marked winglike sculpturing laterad on the bilobes; vincular ventrum marked by broadly parabolic saccus.

DESCRIPTION. ***Male.*** VFW,VHW dark iridescent azure bordered by wide black apices and submargins. VFW,VHW ground dark brown suffused with black scales; FW with bold black discal slash and postmedial band (costa to cell CuA1) and with blue sheen across entire wing adjacent HW; HW with bold dentate black medial band and submedial slash in cells M1 and M2, postbasal area with brown lineal band, submargins with small black spot in each cell interspace. ***Female.*** Unknown. ***Male Genitalia.*** Fig. 95. Vincular dorsum lacking brush organs; vincular ventrum of rather oblongate shape and smooth contour except for elongate, triangular, vincular spurs; saccus very broadly parabolic. Valvae highly sculptured, with bilobes showing laterally expansive wing-like projections, caudal extensions elongate but narrowing abruptly in the terminal one-third to sharp points. Aedeagus robust and short, length exceeding rest of genitalia by only about one-half length of caecum; shaft and caecum uniplanar; terminus with one prong-like and one parabolic and laterally serrate cornutus.

TYPE. Holotype male (fig. 190), BRAZIL, Morro d'Martha, Rio de Janeiro State, February 1939 [in pencil II-39 if correctly read] (see Remarks), leg. Gagarin, deposited MPM.

DISTRIBUTION. ***Spatial.*** Fig. 211; known only from the type locality (see Remarks). ***Temporal.*** Known only from the type label data.

REMARKS. As hitherto noted (Johnson 1989b, 1990b) the MPM Gagarin Collection contains many uniques and also long series of SE Brazilian Theclinae otherwise poorly represented in collections. I have described several other new species from this material, including those with labels indicating the type locality of *R. esolana*. Dr. Keith S. Brown, Jr. (Universidade Estadual de Campinas, Brazil) informs me that this locality was originally dense primary forest but has since been destroyed. He also noted that Gagarin, though he was generally unfamiliar with the primitive Theclinae nomenclature of the time, always noted the capture of unique specimens. When he captured an entity he had not seen before, he would return to the locality again and again to try to increase his samples. This may explain why in some cases (see Johnson 1989a) Gagarin's series outnumber total specimen numbers in world depositories by as much as a factor of fifty. The size of such samples, however, is also instructive concerning the number of unique specimens in the Gagarin material. Indeed, when his collections include only a single specimen and it is the only one known in world collections to date, one can surmise it extremely unlikely that such an entity will be readily located again. It is worth mentioning here that among the groups with the largest numbers of uniques or small series are those of the *Nesiostrymon/Terra* outgroups listed by me in Johnson 1991c and 1992a. Regarding these, Gargarin was extremely careful in his preservation of small specimens, many often with wingspans of 10 mm. or less.

ETYMOLOGY. Patronym for Elizabeth Solano.

OUTGROUP DIAGNOSTICS

There are numerous groups within the as yet unrevised Eumaeini which are both poorly known and possibly confusable with the more familiar and well-represented elfins of the Thecloxurina. These outgroup taxa deserve attention not only because of the need to distinguish them from thecloxurines and callophryines, but because they too are far more diverse than was expected. Also, there are a number of binomials standing from old monotypic generic descriptions which need to be distinguished. These names, simply because they have existed, have been widely misused. One cannot understand outgroups of the Callophryina and Thecloxurina, or remaining elfinlike eumaeines, without distinguishing these widely misused old names from other groups of entities for which one finds (after the study of types) no names actually available.

To address this problem I divide this Outgroup Diagnostic section into three parts-- 1: delineation of poorly known Neotropical callophryine elfins; 2: previously undescribed elfinlike groups of generic worth which require distinction from callophryine and thecloxurine elfins and 3: previously undescribed elfinlike groups of generic worth which involve the problem of old names and their misuse. In the latter case I redefine all the old names and provide new generic names for the taxa that cannot be properly included under the old names. All of these species have cryptic undersurface colors and show either tailless hindwings, short hindwing tails or extended anal lobes. The genera delineated in this outgroup section include those listed parenthetically on the cover of Volume 2 of this work. Format already established for the ingroup is followed for taxonomic treatments, including genitalic figures. However, since these sections have been prepared in support of definition of the ingroup, full survey of geographic distributions indicated by collections studied for the ingroup was not possible. Thus, to avoid misleading presentations, distributions are generalized from the literature and AMNH collection and maps not provided.

GROUP 1

Poorly Known Central American Callopyhrine Elfins

The genus below has been described in appendices to a monograph of the Palaearctic elfins by Johnson (in press, b). However, depending on publication dates, the full description of taxa below may have priority.

CISINCISALIA, NEW GENUS

Figs. 190, 212

DIAGNOSIS. *Wings*. Readily recognized by VFW,VHW patterns similar to Nearctic *Incisalia*--jagged red-brown arcs crossing the VHW in the postmedial area distad of a red-brown basal disc and complemented by jagged, crescent-like pattern along the submargins (reminiscent of *Incisalia eryphon* Boisduval, *niphon* Hübner and *lanoraensis* Sheppard but not brown in the DFW,DHW; rather, steel blue) tailed in the type species but not in the additional congener (see Remarks regarding photo figures).

Morphology. Typical of Callophryina (Johnson 1990, Appendix 1) compared to thecloxurines of this study. *Male genitalia*. Valvae robust, bilobes opaque and covered with dense microtrichia, caudal extensions broadly tapered to thick termini. *Female genitalia*. Ductus bursae a simple robust tube terminating in fluted, variously convoluted, lamellae (ductus width more than one-half breadth of lamellae). Cervix bursae hood limited to a slight sclerotized shield.

DESCRIPTION. Adult. Male. DFW,DHW slightly iridescent steel blue bordered by 1 - 2 mm. brown to fuscous apices and margins. HW tailed or untailed depending on species; anal lobe not prominent compared to Thecloxurines. VFW,VHW ground color mottled red-brown, depending on species FW with discal, postmedial and submarginal blotches or lines; HW with darker brown-suffused basal disc and variously jagged bands occurring concentrically along the disc margin and in the postmedial and submarginal areas. Typical of callophryines with small lunulate *Thecla*-spot along margin in cell CuA1, distally black, centrally red-orange. FW length: 12.0 to 14.0 mm. *Female*. Similar to males but with broader wing shape and duller DFW,DHW coloration. FW length: 12.0 mm. to 14.0 mm. *Male Tergal Morphology and Genitalia*. Fig. 212A. *Sipc* lacking; thick bundles of brush organs located along dorso-cephalic margin of genital vinculum. Genitalia characteristic of primitive morphotype of Callophryina (see Johnson in press, b)—valvae robust, bilobed areas opaque and covered with dense microtrichia, valvae tapered to thick terminus, aedeagus robust but elongate (2.7 times length of valvae), cornuti broad and spatulate. *Female Tergal Morphology and Genitalia*. Fig. 212B. *Sipc* lacking. Genitalia typifying primitive condition of Callophyrina— ductus bursae robust, tubular terminating in fluted, variously convuluted lamellae (ductus width more than one-half breath of terminal lamellae). Cervix bursae limited to small sclerotized hood surrounding point of attachment of ductus seminalis; corpus bursae signa each a single elongate spine with a wide central bifurcation.

TYPE SPECIES. *Cisincialia moecki*, new species (fig. 190B, see Remarks regarding partial graphics error on photo plate).

DISTRIBUTION. *Spatial*: One species known from Guatemala and Oaxaca State, Mexico, at relatively low altitudes (type locality 1350 m.); another from montane central Mexico near Mexico City at 10 - 11,500 ft. *Temporal:* Specimens are dated from July to mid-November.

REMARKS. This genus was simultaneously described in the monograph of Palaearctic elfins butterflies in which an appendix presented a synonymic list of worldwide callophryine elfins. However, because of uncertain publication dates, the present work may have priority. The genus is included here because, though it belongs to the callophryine clade, it is an elfin-like group which co-occurs with Neotropical thecloxurines, the additional Mexican congener has hitherto been undescribed and species of the genus not included in a recent list of Oaxaca butterflies (Martinez, Vargas Fernandez and Llorente Bousquets, 1991). The morphology of *Cisincisalia* species indicate the genus is a primitive callophryine lineage as was anticipated in comments by Clench (1981). Structures closely resemble two primitive Palaearctic groups which form a clade with Nearctic *Incisalia*, the latter being the most apotypic of the lot (Johnson in press, b). Species of *Cisincisalia* are therefore not placeable, *sensu stricto*, in either of the Palaearctic groups or the Nearctic *Incisalia*; nor can they be placed phylogenetically in *Callophrys* or *Mitoura*. The Central American species comprising *Cisincisalia* form a separate lineage which is one stem of the overall worldwide elfin-like callophryine clade and are therefore recognized here in a separate genus.

As noted above, one species of *Cisincisalia* is tailed and the other not. Clench (1944) noted the frequency of this alternation in some species pairs of the

Theclinae and Johnson, Eisele and MacPherson (1990) have noted some high Andean and Austral taxa in which tailed conditions appear to vary within far-flung species. Since photo figures for the present work were prepared early in the progress of the publication, it is possible to note here that in Fig. 190 technicians reversed the dorsal and ventral surfaces of the two congeners-- showing a tailed and untailed wing pair for each species. The tailless dorsal surface of *C. moecki* was placed as the dorsal surface of *C. guatemalena* (figure correctly showing a tailed ventral surface). The matter is easily obviated, *C. moecki* being those surfaces without tails and *C. guatemalena* those with the hindwing tail.

ETYMOLOGY. The Latin prefix *cis*, "primitive" or "ancestral", is added to the Nearctic name *Incisalia*, referring to the primitive characters of these Central American callophryine elfins and considered feminine.

Cisincisalia guatemalena (Clench)
NEW COMBINATION
Fig. 190A, right; 190B, left.

DIAGNOSIS. ***Wings***. Compared to sister species, tailed and more bright blue on DFW, DHW; VFW, VHW pattern elements markedly more lavish—FW with submarginal spots from costa to vein CuA2 (lacking in congener), HW with basal disc emphatic and marked with serrate margin and postbasal streak, oriented medially an closely abutting lavish serrate markings in the limbal and submarginal areas (in congener, all markings restricted, HW basal disc directed basally, patterns not heavy along margin and distal serrate markings restricted to limbal area).

Male genitalia. Valvae less robust than congener, caudal extensions laterally undulate, bilobes rounded (not greatly shouldered); aedeagus far shorter relative to rest of genitalia.

Female genitalia. Ductus bursae less robust than congener with ductus much narrower at base of lamellae; apophyses papillae anales shorter.

DESCRIPTION. ***Male***. DFW,DHW ground dull steel blue, fading to fuscous margins and apices. FW brand small, obtusely triangular with wider end extending from discal cell along the radial veins. HW with short tail at vein CuA2 terminus, heavily fringed along its base and around anal lobe, second short tail at vein CuA1 terminus. VFW,VHW ground variegated red-brown; FW with dark brown slash across central area of discal cell, dark brown postmedian line from costa to vein 2A followed distally by light ground color and six or seven brownish submarginal lunulate blotches extending from costa to cell CuA1; HW with light postbasal slash extending from cell SC + R1 to discal cell, distally a (i) wide, lighter brown jagged pattern extending along the dical cell from cell SC + R1 to the anal margin and (ii) lighter medial slash extending caudally to cell RS followed by a continuous light brown postmedian line cross entire wing from vein SC + R1 to the anal margin. Outer margin with band of lighter brown and blackish crescent framing cell CuA1. FW length: 13.5 mm. (holotype). ***Female***. Marked similar to males but with steel blue less emphatic, no FW brand, HW tail at vein CuA2 longer and VHW pattern with medial jagged patterns more invading the adjacent submarginal and limbal areas. FW length: 13.5 mm. (CMNH paratype). ***Male Genitalia***. See Clench 1981. Valvae with bilobed area generally opague, outlined with rims of moderate width, basally parabolic and indented. Caudal extensions tapered in rather undulate fashion from bilobed area and with blunt termini. Vinculum laterally and ventrally (inluding saccus) less robust than in congener. Aedeagus with caecum flat and comprising nearly one-half aedeagal length, length relative to other genitalia much shorter than in congener. ***Female Genitalia***. See Clench 1981. Ductus width comprising about one-third that of lamellae (nearly to one-half in congener), later more greatly expanded distally from ductal terminus than in congener. Apophyses of papillae anales shorter than in congener and extending only about midway along ductus length.

TYPES. Holotype male, paratype female (among others), deposited CMNH (see Remarks). TL: Baleu, 1350 m., Mpio. San Cristobal Verapaz, Alta Verapaz, Guatemala.

DISTRIBUTION. ***Spatial***: Known from the type locality northward to Oaxaca and Chiapas States, Mexico. ***Temporal***: Dates on specimens range from July to mid-October.

REMARKS. This species was described in a posthumous publication (Clench 1981) and all the original type material was not located. In 1987 I found the remaining specimens and these have been curated with the CMNH paratypes and one returned to the AMNH which had been on loan.

Cisincisalia moecki,
NEW SPECIES [see Remarks]
Figs. 190A, left; 190B, right.

DIAGNOSIS. ***Wings***. Differs from *C. guatemalena* by being untailed, lighter and duller blue on the

DFW,DHW and, on the VFW,VHW (i) lacking FW discal mark and submarginal spot row in the females and (ii) HW basal disc restricted basally followed distally by wider beige submarginal area marked indistinctly with jagged patterns along the margin.

Male genitalia. Bilobed area comprising only about one-third valval length and distinctly shouldered; aedeagus elongate, caecum itself equalling length of rest of genitalia.

Female genitalia. Ductus bursae robust, ductal width equalling over one-half that of the terminal lips of the lamellae; apophyses of papillae anales elongate, length equally that of entire ductus bursae.

DESCRIPTION. *Male*. DFW,DHW: Ground color dull with slight blue hue fading to fuscous margins and apices. Distal area of FW cell with small obtusely triangular brand. HW with margin entire and lacking tails but with prominent fringe along the outer margins of limbal area; fringes white near anal lobe. VFW,VHW: Ground color beige with FW marked by continuous dark brown postmedial line extending from costa to vein 2A departing darker basal ground from lighter distal ground. HW with basal disc basally resticted and colored deep brown, followed distally by prominent lighter beige ground over which, in the submarginal area, occurs a jagged red-brown pattern formed by adjacent crescents in each cell along the margin paralleling red-brown slashes at the margins and an orangish yellow *Thecla*-spot marginad in cell CuA1. FW length: 12.0 mm. (holotype). ***Female***. Similar to male but differing in lack of FW brands, lack of submarginal VFW spot row, and more emphatic jagged pattern on VHW. FW length: 13.0 mm. (allotype), 12.5 mm. (paratype). ***Male Genitalia***. Fig. 212A. Valvae bilobed areas generally opaque and laterally shouldered; latter prominent relative to evenly tapered valvae and also diminutive, comprising only about one-third valval length; lateral and ventral aspects of vinculum and saccus robust compared to the type species; aedeagus elongate, caecum equalling length of rest of genitalia (from labides to base of saccus tip). ***Female Genitalia***. Fig. 212B. Ductus bursae robust, ductal width equalling over one-half that of the terminal lamellae. Apophyses of papillae anales notably elongate, their length from anterior margin of papillae anales equalling entire length of the ductus bursae.

TYPES. Holotype male, Highway 190 on Continental Divide near Rio Frio at 10,500 ft., on road from Mexico City to Puebla, 16 July 1952; allotype female, Highway 190 on Continental Divide near Rio Frio at 11,000 ft., 17 July 1937), leg. A. H. Moeck; deposited MPM. Paratype: same data as primary type, 1 female (AMNH).

DISTRIBUTION. ***Spatial***: Known only from the type locality at altitudes indicated. ***Temporal***: Known only from mid-July.

REMARKS. Moeck collected the types at nearly the same place some twenty years apart. There are no other records of this species known to me. The high altitudes are exceptional compared to known data on *C. guatemalena*. Moeck placed these specimens in his collection labelled as an undescribed *Incisalia*; he apparently never forwarded the specimens to Clench (who was considered the authority on these groups at the time). Later these specimens were found by me and Ms. Susan Borkin (MPM) in unsorted MPM materials donated by Moeck. Moeck's field notes (Archives, MPM) treat the 1952 specimens in entries 18,347 and 18,348; he mentions them as "undet. - nr. *irus-fotis* group". No journal entry treats the 1937 specimen.

In a monograph of Palaearctic elfin butterflies (Johnson, in press, b) this species was also described and used as the type species of *Cisincisalia*. Depending on date of publication the above description of the species may have priority. If not, the present description would not constitue a new species but should read *Cisincisalia moecki* Johnson.

ETYMOLOGY. Patronym for Arthur H. Moeck.

GROUP 2

New Genera of Eumaeini (described here in fully revised format for purposes of further distinguishing eumaeine genera of the Callophryina and Thecloxurina)

VARIEGATTA, NEW GENUS

Figs. 191, 213-214

Synopsis-- contains *Thecla elongata* Hewitson and previously undescribed relatives.

DIAGNOSIS. ***Wings***. HW without tail but with pronounced anal lobe. VHW with multi-colored variegated patterns over dark brown ground unlike any other Eumaeini-- HW submargin and marginal area with three concentric, closely aligned, undulate gray to tawny bands; basad these, medial margin of basal disc apparent as meandering light gray to tawny line with ground of basal disc variously variegated with complexes of gray, tawny and/or yellow lines. DFW,DHW with iridescent blue or

blue/green generally restricted basad of medial areas; FW of type species males with extremely large oval androconial brand (structure conspicuously reduced in additional congener).

Morphology. Structurally known only from males--general ground plan somewhat reminiscent of *loxurina* Group but with far more diminutive vincular ventrum causing relative size of valvae to appear quite narrow; falces similarly elongate and thin, caudal extensions of valvae inwardly curvate and serrate in one species.

DESCRIPTION. ***Adult. Male***. HW without tail but with pronounced anal lobe. VHW with multicolored variegated patterns over dark brown ground unlike any other Eumaeini--HW submargin and marginal area with three concentric, closely aligned, undulate gray to tawny bands; basad these, medial margin of basal disc apparent as meandering light gray to tawny line with ground of basal disc variously variegated with complexes of gray, tawny and/or yellow lines. DFW,DHW with iridescent blue or blue/green generally restricted basad of medial areas; FW of type species males with extremely large oval androconial brand. FW length: 14.0 - 16.0 mm. ***Female***. Unknown to me. ***Male Tergal Morphology and Genitalia***. Figs. 213, 214. *Sipc* not present but elongate bundles of brush organs occurring along the vincular dorsum. Vincular ventrum widely oblongate, a condition appearing visually more extreme because the rims of the vincular arc are comparatively narrow compared to thecloxurines, the saccus small and the breadth of the valvae also small. Saccus parabolic to pointed; valvae with parabolic bilobes (swollen in a convex keel in type species), caudal extensions elongate, narrow and somewhat inwardly curvate. Aedeagus robust length exceeding rest of genitalia by about length of caecum, latter comprising about one-third aedeagal length and variously displaced from plane of aedeagal shaft depending on the species; aedeagus terminus with two cornuti, one lobate the other appearing as a serrate arc.

TYPE SPECIES. *Thecla elongata* Hewitson 1869-1877 [1870]: (4) 60.

DISTRIBUTION. ***Spatial:*** Andes of Colombia and adjacent highlands of Venezuela southward through Peru and Bolivia (altitudes recorded on specimens including 1500-3500 m.); an outlying population indicated in SE Brazil known from a single specimen. ***Temporal***: The scattering of data across many months of the year (see Material Examined under the type species) suggest species of the genus probably fly throughout the year (the few missing months are not clustered in any one season).

REMARKS. *General*– *Thecla elongata* is familiar in collections and wide-ranging, yet I have been unable to locate any females. Specimens identified as females have always been males when dissected, including the species described as a congener which, to all salient appearances, certainly appeared as the female might be expected. Some other collections have identified females of *Thecla calesia* (see *Lamasa calesia*, below) as *T. elongata*. Perhaps someone will point out to me some obvious mistake I have made in searching for females of the latter species. Also peculiar to this situation has been the occurrence in the Gagarin material of a specimen, most certainly thought by me to be the first female I had seen, which appears to represent an outlying population of the ancestral pool of this group and which I consider here a congener of species rank. I find it of interest that of the Gargarin specimens, this singleton dates from some of his most early collections (1931) (see *V. reducta*, below).

Characters– As noted hitherto, the male genitalia somewhat resemble some of the *Thecloxurina* with more diminutive vincular structures. However, without females it is impossible to determine whether their ground plan is of the very different Clade I/III or II/IV variety. Perhaps this will be eventually resolved.

ETYMOLOGY. The name, considered feminine, is from the Latin "variegtus" referring to the VFW,VHW pattern.

Variegatta elongata **(Hewitson)**
NEW COMBINATION
Figs. 191A, 212

Thecla elongata Hewitson 1869-1877 [1870]: (4) 60. Kirby 1871: 392; Draudt 1917-1924 [1919]: 759, pl. 150, fig. f; Comstock and Huntington 1958-1964 [1960]: 62; Johnson, MacPherson and Ingraham 1986: 5; Bridges, 1988: I.117, II.106, III.69.

DIAGNOSIS. ***Wings***. Male differs from congener below by prominent oval androconial brand (often rubbed glossy brown on older specimens) encompassing up to the distal one-third of the FW discal cell, by DFW, DHW iridescent blue extending generally from base to at least medial areas of both wing and by conspicuous variegated pattern in the baso-anal area of the VHW basal disc. In addition wing shape is generally rounded (SE Brazil congener appears to have very angulate wings, particularly in the HW).

Male genitalia. Valvae differing from congener in prominently convex "keel"-like shape of bilobe ventrum

and much more robust vinculum and saccus; also, caecum of aedeagus displaced out of plane of aedeagal shaft.

DESCRIPTION. ***Male.*** HW without tail but with pronounced anal lobe. VHW with multi-colored variegated patterns over dark brown ground unlike any other Eumaeini except congener below. HW submarginal and marginal areas with three concentric, closely aligned, undulate gray to tawny bands; basad these, medial margin of basal disc apparent as a meandering light gray to tawny line with ground of basal disc variously variegated with complexes of gray, tawny and/or yellow lines. DFW, DHW with iridescent blue or blue/green generally restricted basad of the medial areas; FW of males with extremely large oval androconial brand, growing lighter with wear. FW length: mean of 10 specimens (AMNH, BMNH, MNHN) 14.4 mm., range 13.8 mm. - 16.0 mm. ***Female.*** Unknown to me (see entry below). ***Male Genitalia.*** Fig. 213. Vincular dorsum with elongate bundle of brush organs; vincular ventrum relatively robust and somewhat anteriorly distended to parabolic saccus, spurs only slightly lobate. Valvae bilobed area laterally angled, basally parabolic and indented and ventrally very convex; caudal extensions robust and elongate, slightly inwardly curvate. Aedeagus robust, length exceeding rest of genitalia rest of genitalia by two-fifths to one-third, caecum comprising about two-fifths of aedeagal length and displaced about 20 degrees out of plane of aedeagal shaft; terminus of aedeagus with arc-shaped cornutus more prominent than in congener below.

TYPES. Lectotype male, BMNH, labelled "Ecuador, Hewitson Coll. 79-69. Thecla elongata, Hew (4)", "Type", "B.M. Type No. Rh. 608"; four paralectotype males, same data, but labelled "Hew (1), (2), (3) and (5)".

DISTRIBUTION. ***Spatial:*** Andes of Colombia and adjacent highlands of Venezuela southward through Peru and Bolivia; altitudes recorded on specimens include 1500-3500 m. ***Temporal:*** Dates on specimens range from August to June but many specimens are undated.

REMARKS. Despite the large number of specimens at many museums representing males of this species, the female is unknown to me. In the museum collections examined herein all specimens labelled as females have proven to be males when dissected (the misdiagnosis resulting from either more limited DFW, DHW blue or unrubbed FW brands). When the type of the congener described below was discovered, I was quite certain that it was a female and also interested in the SE Brazil collection data. The latter in itself would not have surprised me, considering the distributions of *Candora* and *Radissima*. I dissected this specimen with relish, expecting it to reveal the female characters of this familiar taxon. However, it too proved to be a male (see *V. reducta* of subsequent entry).

MATERIAL EXAMINED [for consistency with label data, diacriticals uses only as on labels]. BOLIVIA. "Bolivia", Smith 4 males (BMNH); "Bolivia", Hewitson, 1 male (BMNH); "Bolivia" 3 males (BMNH); Cochabamba, 2 males (BMNH); San Jacinto, 6-8000 ft.; 1 male (BMNH); Chulumani, 1 male (BMNH); Rio Unduawe, 2 males (BMNH); San Jacinto, 2 males (BMNH). COLOMBIA. "Colombia, 2 males (BMNH); Bogota, 4 males (BMNH). ECUADOR. Rio Blanco, nr. Baños, 1800 m., leg. F. Brown, 8 May 1939, 1 male (AMNH); Banos, Tungurahua, 1800 m., leg. F. Brown, May 1936, 1 male (AMNH); Rio Bamba, 1 male (AMNH); Banos, Rio Pastaza, leg. F. Brown, 30 April 1936, 1 male (AMNH); Chichin Grande, Tungurahua, 1400 m., December 1920, 1 male (AMNH); Ambato, 1 male (BMNH); Baños, Rio Pastaza, E. Ecuador, 2 males (BMNH); Bolivar, 1 male (AME); Frontino Antioquia, 3 males (BMNH); "Ecuador", 3 males (BMNH); Loja, 1 male (BMNH); Rio Pastaza, E. Ecuador, 2 males (BMNH); Talahua, 1 male (AME). PERU. Cerro de Pasco, 2 males (BMNH); Cushi, Huanuco, 1800m., April to June 1901, 3 males (BMNH); Oroya, Inambari, 3500 m., November 1901, 3 males (BMNH); Dept. Amazonas, 3 males (BMNH); San Ramon, Central Peru. August-October 1981, 1 male (BMNH); Chanchamayo, Central Peru, 3 males (BMNH); Cuzco/Callange, 1500 m., 1 male (BMNH); Rio Tabaconas, 8000 ft., 1912 1 male (BMNH); Huayabamba, S.E. of Chachapoya, 1 male (BMNH); Huancabamba, Cerro de Pasco, 6000ft., 2 males (BMNH); Tingo Maria, 1 male (AME). VENEZUELA. Merida, 4 males (BMNH); Montane Sierra, Merida 3000m., 1 male (BMNH).

Variegatta reducta,
NEW SPECIES
Figs. 191B, 214

DIAGNOSIS. ***Wings.*** DFW lacking prominent appearance of brand, latter apparent under microscope as black ellipsoid element along distal end of discal cell (see Remarks). DFW with iridescent blue occurring only as bright flecks in postbasal area of HW, through discal cell of FW and in basal and postbasal areas of cells CuA2 and 2A. HW with baso-anal area of basal disc concolorous blackish brown, not highly variegated as in *V. elongata.* Margins of FW, and particularly HW very angulate.

Male genitalia. Vincular ventrum very narrow and widely oblongate; valvae with diminutive parabolic bilobes not greatly convex in the ventrum; caudal extensions narrower and more inwardly curvate than in *V. elongata*.

DESCRIPTION. ***Male***. DFW lacking prominent appearance of brand, latter apparent under microscope as black ellipsoid element along distal end of discal cell (see Remarks). DFW with iridescent blue occurring only as bright flecks in postbasal area of HW, through discal cell of FW and in basal and postbasal areas of cells CuA2 and 2A. HW submargin and marginal area with three concentric, closely aligned, undulate gray to tawny bands; basad these, medial margin of basal disc apparent as meandering light gray to tawny line; baso-anal area of basal disc concolorous blackish brown. FW length: 14.0 mm. (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 214. Vincular dorsum with elongate bundle of brush organs. Vincular ventrum narrow and widely oblongate, saccus small and rather pointed; falces narrow. Valvae with bilobes rather narrowly parabolic and not greatly convex at the ventrum as in congener; caudal extensions narrow and inwardly curvate. Aedeagus robust, length exceeding rest of genitalia by about one-fourth, caecum comprising about two-fifths of aedeagal length and hardly displaced from plane of aedeagal shaft; aedeagus terminus with arc-shaped cornutus relatively diminutive.

TYPE. Holotype male, BRAZIL, "Parque Viacatie", Petropolis, 1 August 1931, leg. Gagarin, deposited MPM.

DISTRIBUTION. ***Spatial***: Known only from the type locality. ***Temporal***: Known only from the type data.

REMARKS. At the MPM, a fresh but dull Gagarin singleton, appearing to lack FW brands, was considered by me as the first female I had located of *V. elongata*. I dissected this specimen with great interest, expecting it to reveal the female characters of this latter species. I proved to be a male but displayed a morphology which, along with the distributional data, suggested the presence of an outlying congener in the "*Thecla*" *elongata* complex. I have not located a similar specimen in any other museum but, as noted under *Radissima esolana*, it is not unusual for the Gagarin material to contain the only known member(s) of a taxon. Workers with SE Brazilian material not examined in this study should search for this species.

ETYMOLOGY. The Latin name refers to the reduced appearance of the FW androconial brand.

LAMASA, NEW GENUS

Figs. 191CD, 215-216

Synopsis– includes *Thecla calesia* Hewitson and, to date, one undescribed relative.

DIAGNOSIS. ***Wings***. Wing shape broad and HW with two stout tails (vein termini CuA1 and CuA2) and rounded HW lobe. VFW,VHW pattern formed of crypticly mottled shapes of brown overlaid with meandering lineal marks of bright blue or blue-white (typical only of species of *Micandra*, marked with elongate anal tails, and some taxa of *Arases*, with angulate "hairstreak"-like wing).

Male Genitalia. Marked by highly sculptured, irregularly shaped, valvae in which elongate and laterally serrate caudal extensions extend from a robust and sculptured base, the latter typified by laterally extending lobate elements and/or convexly sculptured ventral elements.

Female Genitalia. Divided into three salient components-- tapered ductus forming two angulate "struts" at terminus, lamellae composed of a dorsal "genital plate" covering the above-named struts, and cervix bursae with a dome of sclerotin covering the attachment of the ductus seminalis.

DESCRIPTION. ***Adult***. ***Male***. Wing shape broad, HW with short stubby tails at both vein CuA1 and CuA2, anal lobe rounded. DFW,DHW with light blue iridescent color at least in basal two-thirds, FW with elliptic androconial brand. VFW,VHW grounds mottled or grizzled ground prominently displaying a patchwork of greatly mottled browns in a cryptic fashion but these overlaid by outlines of dashes, meandering lines, etc. of brilliant powder-blue contrasting the crytic ground. FW length: 13.5 mm. - 14.5 mm. ***Female***. Very similar to males, differing mainly only in the lack of the FW brands. FW length: 13.5 mm. - 14.5 mm. ***Male Tergal Morphology and Genitalia***. Figs. 215-216. No *sipc*, brush organs not apparent in known species. Valval vinculum oblongate, saccus parabolic to pointed. Valvae with extremely robust base, showing prominent sculptured components along the lateral or ventral surfaces depending on the species; caudal extensions elongate and thin, proceeding from the center of this base and showing serration along the outer lateral margins. Aedeagus thin with arched shaft, not appearing as long because of elongate vinculum, caecum comprising about one-fourth of aedeagal length, terminus with two cornuti, one oblongate with serrate edges, the other pronglike. ***Female Tergal Morphology and Genitalia***. Figs. 215. *Sipc* present comprised of heavily sclerotized terminal tergite variously sculptured along the cephalic or lateral edges and flanked by a "ventral element" (*sensu*

usage herein for "*arria* Group" taxa but not homologous) extending about the ventrum of the ductus bursae terminus. Genitalia with three prominent structural components: (1) an elongate and fluted ductus bursae terminating in spikelike struts, latter which support (2) a prominent platelike lamella postvaginalis and (3) cervix bursae occurring as a sclerotized dome over the point of attachment of the ductus seminalis (see Remarks).

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

DISTRIBUTION. ***Spatial:*** At present two species, one extending across the Andean region and one known only from montane Colombia. ***Temporal:*** Indeterminate from data studied herein (outgroup taxa studied only from the AMNH) but type species indicated throughout the South American summer.

REMARKS. The genitalia of this genus have a remarkable resemblance to *Ministrymon* (see Johnson and Miller 1991), though homology is highly questionable.

ETYMOLOGY. This genus and its species honor two other workers pursuing organization of neotropical Lycaenidae. The genus is a patronym for Gerardo Lamas Muller, Director of the Museo de Historia Natural (Lima, Peru) and considered feminine.

Lamasa calesia **(Hewitson)**
NEW COMBINATION
Figs. 191C, 215

DIAGNOSIS. ***Wings.*** Compared to all other eumaeines marked by broad wing shape, DFW, DHW blue to the medial or postmedial wing areas and, on the VFW,VHW pattern of mottled browns overlaid by beautiful lineal to reticulate lines of powder-blue, extending basal, medial and postmedial on FW and, on HW, outlining postbasal, medial, and anal-limbal areas.

Congener below shows dorsal blue in angulate patches, VFW,VHW grizzled golden brown with lineal powder-blue outlines limited to postmedial FW line and outline of basal disc as a thin medial line.

Male Genitalia. Valvae with prominent lobate lateral extensions and bulbous paired ventral elements, both lacking in congener.

Female Genitalia. Ductus bursae terminally fluted to paired struts covered dorsally by a platelike lamella postvaginalis.

DESCRIPTION. ***Male.*** DFW,DHW black distad of postmedial area, suffusive iridescent sky blue basad, FW with rather round black androconial brand. VFW,VHW with strongly contrasting mottled brown grounds, FW crossed in postbasal, medial and postmedial area with line of bright powder-blue, and latter with line from costa to cells CuA1 or CuA2; VHW patterned with mottled brown, darker in the basal disc and distended distalling in cells CuA1 to CuA2, disc overlaid and outlined by lineal to reticulate lines of white and blue. FW length: mean of AMNH specimens 14.2 mm., range 13.5 - 14.8 mm. ***Female.*** DFW,DHW very similar to male except lacking androconial brands. VFW,VHW similar to male. FW length: mean of AMNH specimens 14.5 mm., range 13.8 - 15.5 mm. ***Male Genitalia.*** Fig. 215A. Vincular ventrum oblongate, slight spur along ventro-terminal margin, saccus parabolic. Valvae with robust base marked by protruding lateral lobes and paired convex ventral keels beneath elongate caudal extensions serrate along their lateral margins. Aedeagus robust, length exceeding rest of genitalia by length of caecum, shaft arched, terminating in two cornuti typical of genus. ***Female Genitalia.*** Fig. 215B. *Sipc* with lateral surface of terminal tergite heavily sclerotized, joined to elliptic ventral element curving ventrally around terminus of genitalia. Genitalia with ductus bursae terminally fluted to paired struts covered dorsally by a platelike lamella postvaginalis. Cervix bursae marked by a sclerotized dome from which emanates the ductus seminalis.

TYPE. Lectotype male, BMNH, labelled "Ecuador. Hewitson Coll. 79-69. calesia Hew (1.)", "Type" (see Remarks). TL: Curaray, Ecuador.

DISTRIBUTION. ***Spatial***: From data presently assembled, known from Andes of Colombia south to NW Argentina. ***Temporal***: Indeterminate from small AMNH samples but at least through South American summer.

REMARKS. As hitherto noted (Johnson 1990b) since Hewitson syntypes are numbered sequentially "(1), (2)" or "1.", "2.", etc., and lack a terminal notation, it is sometimes difficult to ascertain if all BMNH material has been located. Usually, in study of an ingroup I will search both the general, "type", and World War II reference collections for types. However, when outgroups become apparent only after the body of a study, it is not always possible to do so and one must rely on correspondence or the material initially viewed without a complete search (at least one syntype has usually been segregated by early BMNH workers in one of the above three locations and is thus readily locatable). My understanding is that type 1 of *T. calesia* is not only type since one must bear the B.M. Type No. arbitrarily assigned by early BMNH curators. It is possible, however, that if there has been a BMNH curating error, the type listed

above might be a unique. Also, in the description above I depart from the general practice herein and have hyphenated "powder-blue" (but not "sky blue"). English speakers are familiar with the modern colloquial "powder blue", a vivid bright light blue. However, others might confuse this usage of "powder" if left unhyphenated.

As noted under **Type Species** of the generic entry, the original description of this species was *Thecla calesia* Hewitson 1869-1877 [1870]. Since samples of outgroups were limited to AMNH material, it was not possible for synoymic purposes to determine the regional literature usages for all species in the remaining outgroup genera. Thus, to consistently alter synonymic format from this entry on, all future entries will list the original description citation as an initial synonymic notation but no further citations will follow (see *Tigrinota ellida*, below).

MATERIAL EXAMINED [for consistency with label data, diacriticals used only as on labels]. COLOMBIA. "Colombia" leg. Felipe Ovalle, 1 male (AMNH). ECUADOR. Curaray, 1 male (AMNH); Cuicocha, Imbabura, leg. F. M. Brown, 27 May 1939, 1 male, 1 female (AMNH); Baños, Tungurahua, 2500 m., leg. F. M. Brown, January 1929, 1 male (AMNH). PERU. San Ramon, 1 female (AMNH). ARGENTINA. Tucuman Prov., Dept. Yerba Buena, 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, 1 male, 1 female (AMNH). 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 male, 1 female (RCE), same data but km. 1642, "wet forest" 12 May 1985 (RCE) [there are more specimens in RCE Collection (Jujuy, Argentina) but he has provided only a synoptic for identification at AMNH].

***Lamasa robbinsi*,**
NEW SPECIES
Figs. 191D, 216

DIAGNOSIS. *Wings*. Dorsal blue covering entire HW and on FW in angulate pattern crossing the wing basad of the androconial brands. VFW lacking bold mottling and prominent lineal powder-blue of type species; rather, from FW base to postmedial area concolorous grizzled golden brown; HW grizzled golden brown broken with weblike darker brown markings and slight lineal powder-blue limited to thin postbasal and medial lines with limbal and marginal areas generally golden.

Male Genitalia. Lacking prominent sculptured components, valvae base laterally rounded, sculptured only by slightly raised keel at juncture with elongate caudal extensions.

DESCRIPTION. *Male*. DFW black over submargins and apices basad to black elliptic androconial brand, rest of wing iridescent sky blue in angulate patch extending from wing base and beneath brand to margin at cell M3; DHW completely blue except for an incised submarginal brown patch above vein CuA1 and black suffusion along the margins. VFW ground grizzled with golden brown from base to postmedial area, latter with light black and white line from costa to cell CuA2 and, toward the apex, patches first of white and then of brown. HW ground grizzled golden brown intermixed with numerous weblike markings of darker brown and marked by thin lineal powder blue in postbasal and medial areas. Distal areas generally concolorous golden with brown streaks along the vines (especially in anal area) giving a rather cryptic appearance. FW length: 13.8 mm. (holotype). *Female*. Unknown. *Male Genitalia*. Fig. 216. Vincular ventrum oblongate, saccus spatulate; valvae with robust base contrasting elongate and narrow caudal extensions, latter serrate along lateral margins, former lacking prominent sculptured structures of *L. celasia* (sculpturing limited to slight ventral keel at base of juncture of bilobes and caudal extension). Aedeagus thin but comparatively short, length exceeding rest of genitalia by only length of caecum, latter comprising one-fourth aedeagal length. Cornuti as typical of genus.

TYPE. Holotype male, COLOMBIA, "Colombia", Filipe Ovalle [no other data], deposited AMNH (see Remarks).

DISTRIBUTION. *Spatial*: Known only from the type data. *Temporal*: Unknown.

REMARKS. Comstock and Huntington (AMNH) were the first to note the holotype as an undescribed species near *T. calesia*. Workers with access to Colombian material should look for this species.

ETYMOLOGY. Patronym for Robert K. Robbins, lycaenid specialist at the United States National Museum.

***TIGRINOTA*,**
NEW GENUS
Figs. 191E-L, 217-224
Synopsis-- contains certain species of the *Thecla dolylas*-Group of Draudt (1919) and relatives.

DIAGNOSIS. ***Wings.*** Ventrum with cryptically striped appearance, FW crossed by three to five bright orange, brown or yellow stripes over lighter ground (usually white or yellow), HW with concentric bands of mottled or cryptic color usually of alternating yellow, white and or brown. This, robust wing shape (with HW often angulate), upper surface blue to violet iridescence, prominent ovate brands, and single robust tail at vein CuA2 make most species of the genus readily recognizable.

Male Genitalia. Ventrally, valvae appearing as paired and rather smoothly sclerotized oblongate lobes separated by a thin transparent fissure which, at each end, shows sclerotized ridges forming (1) prominent rims about the bilobed area and (2) caudo-lateral sculptures of the valval terminus from which emerge clusters of robust microtrichia (see Remarks).

Female Tergal Morphology and Genitalia. Divided into elongate anterior and robust posterior elements joined by a transparent neck, posterior element widely fluted at the ductal terminus and flanked by prominent and variously angulate lamellae; lamellae joined laterally by a sclerotized flap connecting to a modified terminal tergite (*Sipc*).

DESCRIPTION. ***Male.*** Wing shape appearing somewhat angulate, especially in the hindwing, latter marked by a single robust tail at terminus of vein CuA2. DFW,DHW with blue to violet structural color encompassing basal half of FW and nearly all of HW except for the submargins and costa, rest of wing pattern comprised of dark borders variously patterned with alternating hues of blue along the HW submargin. VFW, VHW with striped appearance; FW with two to five brown to orange bands alterating with white or yellow ground color; HW also banded but more with concentric rings of cryptic coloration occurring in the basal and medial areas and, otherwise, highly mottled. FW length: 10.0 mm. - 14.0 mm. ***Female.*** Similar to males but without DFW, DHW structural color and no androconial brands. FW length: 10.0 mm. - 14.5 mm. ***Male Tergal Morphology and Genitalia.*** Figs. 217-224. No *sipc*. Vincular ventrum oblongate in species with tear-shaped saccus (*ellida* Group), more angulate in species with parabolic or pointed saccus (*dolylas* Group, *biangula* Group). Valvae typified in ventral view by generally robust and paired oblongate lobes, differing between the species groups (and/or species) in the shape of sculptured rims along the valval base and/or valvae terminus, latter with sculpturing which supporting clusters of robust microtrichia. Aedeagus arched and generally robust, length usually not exceeding rest of genitalia by more than length of caecum, caecum comprising one-fourth to one-third of aedeagus length. Aedeagus with single cornutus, arched to a club-like and serrate end. ***Female Tergal Morphology and Genitalia.*** Figs. 217-224. *Sipc* comprised of angulate sclerotization of the terminal tergite, sometimes with produced additional elements and always with the lateral margin (abutting genital ductus bursae) strongly connected by membranous sheath to the juncture of the postvaginal and antevaginal lamellae. Genitalia comprised of broadly angulate lamellae connected to a robust ductus bursae by a transparent neck; area posterior to neck often appearing as a swollen "antrum" (*sensu* Klots 1956). Cervix bursae robust, forming a very large and sclerotized structure in conjunction with the point of attachment of the ductus seminalis (varying in breadth and length with the species groups). Corpus bursae with two signa, each with sclerotized base and variously elongate, inwardly directed, keel or spine.

TYPE SPECIES. *Thecla ellida* Hewitson 1863-1887 [1867].

DISTRIBUTION. *Spatial*: Pan-Neotropical (excluding Antilles) extending from Mexico southward to Argentina. *Temporal*: Generally indicated as occurring throughout the year, local seasonality being determinate.

REMARKS. I describe this genus in the present monograph because it contains the very elfinlike species *Thecla biangula* Schaus and diverse striped forms, numerous of the latter requiring new species level descriptions. I divide the group into three species groups: the *ellida* Group, *dolylas* Group and *biangula* Group, based on characters of the genitalia and general VFW, VHW wing pattern.

ETYMOLOGY. From the Latin *tigris* ("tiger") adding *nota* ("mark"), indicating the highly striped appearance of these species. It is considered feminine.

ellida Species Group. VFW with five prominent stripes, male brands small and elliptic; male genitalia with tear-drop shaped saccus; female genitalia with the structural innovation surrounding the ductus seminalis very extreme.

Tigrinota ellida **(Hewitson)**
NEW COMBINATION
Figs. 191E, 217
Thecla ellida Hewitson 1863-1887 [1867].

DIAGNOSIS. **Wings.** VFW with four prominent orange-brown stripes flanked distally by a fifth

lighter brown to tawny stripe; VHW with dark orange brown in patch at base followed distally by more cryptic markings all of a *lighter* hue and only appearing bandlike as a medial cream or yellow line, if at all, in the anal and costal areas (congeners of *ellida* Group all with five equally dark orange or orange-brown VFW bands and VHW dark basal color repeated as one or two bands distally on the HW; some with females lacking dorsal structural color).

DESCRIPTION. ***Male.*** DFW rather flat violet blue in basal one half, fuscous to black from oblongate FW brand to apex and margins; DHW violet to dark submargin; HW with robust, heavily fringed tail at terminus of vein CuA2. VFW with four variously brown stripes (basal, postbasal, medial and postmedial) followed by fifth strip of much lighter tawny along submargin (in some specimens most basal two stripes nearly conjoined or separated only by a thin white line [as in type]); VHW with dark brown of FW repeated in prominent basal patch, distally followed by suffusive shades of various brown to ochre covering the medial areas; anal and costal areas adjacent the medial area sometimes with markings again appearing somewhat as a thin band; limbal area suffused somewhat lighter yellow to ochre. FW length: mean of AMNH specimens 12.8 mm., range 11.5 mm. - 14.2 mm. ***Female.*** DFW, DHW similar to male except FW lacking the androconial brands and HW with dark marginal border broken into patches. FW length: mean of AMNH specimens 13.1 mm., range 11.5 mm. - 14.4 mm. ***Male Genitalia.*** Fig. 217A. Saccus widely teardrop-shaped. Valvae oblong and elongate, varying from this shape only at the terminus (which shows a heavily serrate lobe supporting robust microtrichia). Aedeagus arched, length exceeding rest of genitalia by the length of caecum; caecum comprising one-fourth of aedeagus length. ***Female Genitalia.*** Fig. 217B. Posterior ductus bursae element robust and tapered caudally to thin transparent juncture with spatulate lamellae, latter with robust lamella postvaginalis, diminutive liplike lamellae antevaginalis; attachment of ductus seminalis robust and partially sclerotized, extending completely to base of lamellae.

TYPE. Lectotype male, labelled "Venezuela? [sic] Hewitson Coll. 79-69 Thecla (2) ellida Hew.", "Type", "B.M. Type No. Rh. 613". Undetermined number of remaining syntypes assumed to be locatable in BMNH collection.

DISTRIBUTION. *Spatial:* Indeterminate to the extent that this present study indicates several distinctive (but apparently insular) congeners occurring within the previously acknowledged South American range of *T. ellida*. Below, the indication of Brazilian material is of interest and it is of interest here the Hayward (1973) reported the species from Corrientes Province in Argentina while Eisele and MacPherson have taken it is the west. *Temporal*: Indeterminate from AMNH material alone; general ranges suggest occurrence in every month of the year, local seasonality being the moderator.

REMARKS. Previous concepts of *"Thecla" ellida* require reworking once there is further elucidation of distribution data based on new taxa described below. It is worth pointing out that all the new taxa included herein in *Tigrinota* had been separated by Comstock and Huntington, noted as distinct species, and separated within the collection. I am not sure how many other workers had seen these specimens. Once larger samples are studied, the ranges of all these taxa can be more understood.

MATERIAL EXAMINED [for consistency with label data, diacriticals used only as on labels]. ARGENTINA. 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 male, 1 female (RCE), same data but km. 1642, "wet forest" 12 May 1985 (RCE); Salta Province, Quebrada de Escoipe, deep wet bottomland bordering marsh, leg. K. Johnson, 10 February 1991, 1 male (AMNH). BRAZIL. Annaburg, St. Catarina, ex. Huntington Coll., 1 male (AMNH). COLOMBIA. "Colombia" Filipe Ovalle, 1 male, 1 female (AMNH); Rio Corcona, 1 male (AMNH). ECUADOR. Baños, Tungurahua, 1800 m., leg. F. M. Brown, May 1936, 1 male, 1 female (AMNH); Banos, Rio Pastaza, leg. F. M. Brown, 30 April 1936, 1 male (AMNH); Rio Santiago, ex. coll. Huntington, 1 female (AMNH); Santo Domingo de los Colorados, leg. H. Descimon, 1 male (AMNH). PERU. Cayumbe Puente, Huanuco, 24 October 1946, leg. J. Pallister (AMNH); Tingo Maria, Huanuco, 6 October - 24 January 1947. VENEZUELA. Highlands nr. Merida, 1 male (AMNH).

Tigrinota jennifera,
NEW SPECIES
Figs. 191F, 218

DIAGNOSIS. ***Wings.*** Male DFW,DHW with dull blue iridescence above, female completely dark brown; VFW, VHW of both sexes profusely striped with vivid orange-brown, FW with five equally dark stripes, HW with dark orange-brown basal coloration repeated again over the entire medial-postmedial area of wing (on male suffused nearly black at its darkest, in female deep orange-brown).

Male Genitalia. Valvae robust and "bullet"-shaped, lateral serrate sclerotin extending over entire terminal two-fifths of valve, robust rims lining anterior three-fifths. Saccus only slightly tear-drop in shape.

Female Genitalia. Lamella postvaginalis, compared to *T. ellida*, widely expansive with short paired distal teeth.

DESCRIPTION. ***Male***. DFW flecked with dark iridescent blue to the medial area, androconial brand oblongate and black; HW with similar structural color to the blackened margins. VFW with five vivid orange-brown stripes (basal, postbasal, medial, postmedial, submarginal), VHW with this color repeated in the basal area, broken distally by mottled yellow-white, and then repeated again across the entire medial to postmedial area. FW length: 12.0 mm. (holotype). ***Female***. DFW,DHW completely brown except for scattered flecks of blue, no androconial elements; VFW, VHW similar to male, differing only in somewhat lighter suffusive expression of the medial to postmedial grounds. FW length: 12.5 mm. (allotype).

TYPES. Holotype male, COLOMBIA, Rio Tacana, Amazonas, October 26-31, 1946, leg. L. Richter; allotype female, Leticia, Amazonas, 15 May 1946, leg. L. Richter. Paratypes. AMNH: same data as primary type, 1 male.

DISTRIBUTION. ***Spatial***: Known from two collecting areas in Amazonas, Colombia, possibly extending across upper Amazon drainage in this region (see Remarks). ***Temporal***: Known from disparate May and October dates of the types (see Remarks).

REMARKS. There appears to be some confidence regarding the status of this taxon from the disparate data on the types but there sharing of characters so divergent from congeners. Comstock and Huntington (AMNH) first marked these specimens as an undescribed species near *T. ellida* and, since they were segregated in the collection I am not sure what other workers have noted them. It would not appear difficult to locate further material of this entity.

ETYMOLOGY. Patronym for Jennifer Borg.

Tigrinota perinota,
NEW SPECIES
Figs. 191G, 219

DIAGNOSIS. ***Wings***. A very small species (FW 10.0 mm.) which by DFW, DHW characters might not be readily identified with the genus (appearing more like a *Ministrymon*. From congeners, differs on the VFW,VHW from both *T. ellida* and *T. jennifera* by the repetition of the dark orange-brown stripes of the FW across the medial area and margin of the HW.

Male Genitalia. Saccal and valvae features both extremely robust, latter with prominently rimmed about distended bilobes and with recurate termini serrate along the lateral margins.

DESCRIPTION. ***Male***. DFW,DHW with violet structural color surrounded by crisp fuscous borders and orange wing fringe. FW androconial brand more elliptic than other group members. VFW with five orange brown stripes as in *T. jennifera* but HW with medial and marginal orange stripes which do not occur on any other congener. FW length: 10.0 mm. (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 219. Valval ventrum greatly distended, saccus of robustly spatulate teardrop-shape. Valvae with base distended along line of vinculum, basal one half with wide rims surrounding the bilobes; caudal extension robust, caudally with heavily sclerotized recurvate termini marked by clusters of robust microtrichia. Aedeagus robust, length exceeding rest of genitalia by length of caecum; shaft arched, terminus with heavily sclerotized, somewhat serrate margin, single cornutus typical of the genus.

TYPE. Holotype male, PERU, Tarapoto Region, 12 February 1926, leg. H. Bassler, deposited AMNH.

DISTRIBUTION. ***Spatial***: Known only from the type locality. ***Temporal***: Known only from the type data.

REMARKS. Again, this taxon (first marked and segregated at the AMNH by Comstock and Huntington as an undescribed species) should not be difficult to further locate in collections. It will be of interest to ascertain if additional material mirrors the peculiar characters of the holotype. *Tigrinota* appears to be a diverse genus when compared to other taxa treated in this monograph. It is one of the few to have a nuclear Mexican component as well as representatives in SE Brazil. With this kind of wide distribution the chances of local endemics appears further enhanced.

ETYMOLOGY. The name adds *para* ("around") to *nota* ("marks") referring to the two orange bands on the VHW which distinguish the species.

dolylas Group-- VFW with three prominent stripes, male brands very large and ovate to rectangular; male genitalia with parabolic to pointed saccus; female genitalia with structural innovation surrounding ductus seminalis reduced to less than one-half length ductus bursae.

Tigrinota dolylas (Cramer)
NEW COMBINATION
Figs. 191H, 220
Papilio dolylas Cramer 1775-1790 [1777].

DIAGNOSIS. ***Wings***. Male FW brand black and ovate, blue structural color occurring on HW in basal patch extending obliquely across wing (*T. spurius* with brand rectangular band, HW blue extending to HW submargins). VHW with wide dark brown patch connecting bases of all three wing bands.

Male Genitalia. Valvae ventrally elliptic and unsculptured, marked only by terminal sclerotized lobes exhibiting clusters of robust microtrichia.

Female Genitalia. Posterior and anterior elements of ductus bursae of about equal length. Both lamella postvaginalis and antevaginalis with protruding distal prongs.

DESCRIPTION. ***Male***. FW with large suffusive black ovate brand dominating medial area, wing apex and submargins fuscous, blue iridescence occurring basad to the wing base. HW fuscous distally, blue iridescence extending basally in an oblique line across wing, from midpoint of costal margin to the tail at terminus of vein CuA2. VFW with three prominent orange brown bands (basal, postbasal and medial) followed distally by lighter cream to ochre submarginal and marginal bands. VHW with cryptic grounds of white, yellow, ochre and brown basically forming a basal patch, a light medial band and patchwork patterns in the limbal area around the HW tail. FW length: mean of AMNH specimens 13.6 mm., range 13.2 mm. -14.5 mm. ***Female***. Similar to male but with more extensive DHW blue and without androconial brands. VFW, VHW similar to males. ***Male Genitalia***. Fig. 220A. Vincular ventrum angulate, saccus pointed. Valve elongate and elliptic, not sculptured along the lateral edges, terminating with heavily sclerotized lobes anchoring robust microtrichia. ***Female Tergal Morphology and Genitalia***. Fig. 220B. *Sipc* with cephalic margin rounded and heavily sclerotized. Elements posterior and anterior to transparent juncture of about equal length, anterior element slightly fluted to juncture with cervix bursae, posterior with widely fluted antrum and robust lamellae marked on both the postvaginalis and antevaginalis with distal prongs. Cervix bursae with sclerotization limited to narrow aperture surrounding juncture of ductus seminalis.

TYPE. Location of type unknown (Bridges 1988). TL: Surinam.

DISTRIBUTION. ***Spatial***: From Material Examined most apparent in material from the Guiana Shield. Identified elsewhere in the literature and by other curators but these identification will require review after the publication of this taxonomy. ***Temporal***: Indeterminate from Material Examined but at least occurring generally across the South American summer and perhaps from every month.

REMARKS. Examination of morphology in taxa in this genus enhances what might otherwise be considered an easily "lumped" cluster of taxa. Particularly, taxa of the *dolylas* Group not only show the distinctive FW brand in males but female genitalia showing a far more diminutive development of the area surrounding the ductus seminalis than in the *ellida* Group. Thus, the distribution of *T. dolylas* will require further elucidation now that it's identification has been clarified. It is of particular interest that the taxon *T. pallida*, with its type now located and described from the MNHN (Johnson 1991a), also represents a distinctive entity once wing and structural characters are considered.

MATERIAL EXAMINED. FRENCH GUIANA. St. Jean de Maroni, Guyana Francaise, 4 males, 5 females (MNHN [loan AMNH]); Guyana Francaise, River de Maroni, 2 males, 1 female (MNHN [loan AMNH]); St. Laurent, 2 males, 1 female (AMNH). GUYANA. Georgetown, 1 male, 1 female (AMNH); Cayenne, 1 male (AMNH); Wismar, 10 March 1938, leg. A. S. Pinkus, 1 female (AMNH). SURINAM. Santa Barbara, 15 April 1927, 1 male (AMNH).

Tigrinota spurius (Felder and Felder)
NEW COMBINATION
Figs. 191J, 222
Pseudolycaena spurius Felder and Felder 1865-1875 [1865].

DIAGNOSIS. ***Wings***. Differing from *T. dolylas* by rectangular brown brand in male, male structural color covering entire DHW except for marginal borders and on VFW,VHW elements of the FW and HW bands more broken, on HW postbasal and medial area forming more lunulate elements reminiscent of that seen *T. biangula*.

Male Genitalia. Brush organs occurring along vincular dorums; valvae robustly oblongate and laterally sculptured at juncture of bilobes and caudal extension, actually resembling *T. biangula* more than *T. dolylas*.

Female Genitalia. Respective ductal elements more elongate and elliptical than congeners (except *T. biangula*) and with less angulate sculpturing of lamellae; cervix bursae diminutive as typical of *dolylas* Group.

DESCRIPTION. Male. DFW marked with large rectangular brown brand in males, violet to silvery

blue iridescence at wing base, apex and wide areas of apex and submargins fuscous to black. DHW with violet to silvery blue iridescence distad through postmedial areas, submargins and margins black; tail at terminus of vein CuA1. VFW with four brown to orange brown bands (fourth formed by slight split in the bands in basal-postbasal area) over cream ground; submargins and margins with tawny to brown blotches strewn across the cell interspaces. HW with pattern elements forming semblance of bands distinctly lunulate in shape (like those extreme in *T. biangula*) with these lunulate element coalesced into postbasal and medial tawny, ochre and brown bands distad the dark brown basal patch. FW length: mean of AMNH specimens 12.8 mm., range 12.5 mm. - 13.6 mm.. ***Female***. Similar to males but wings more broad, FW lacking androconial elements and HW with distal band more suffusive. FW length: mean of AMNH specimens 12.5 mm., range 12.0 mm. - 13.5 mm. ***Male Genitalia***. Fig. 222A. Vincular dorsum with brush organs. Vincular ventrum angulate and robust, not oblongate like taxa of *ellida* Group and even *T. dolylas*; saccus parabolic. Valvae robust and elliptic, bilobes parabolic and with slight lateral keel at juncture with evenly tapered caudal extensions, latter terminating with clusters of microtrichia as typical of genus. Aedeagus robust, exceeding length of rest of genitalia by about caecum length; caecum comprising about one-fourth aedeagal length. ***Female Genitalia***. Fig. 222B. Elements of ductus bursae on either side of transparent neck more elliptic on any congener except *T. biangula* and with only slight angulate development of the lamellal margins. Juncture of lamellae with membranous connection to lateral surface of *sipc*. As typical of the species group, cervix bursae not greatly produced surrounding ductus seminalis.

TYPE. Lectotype male, BMNH, labelled "Bogota, [unreadable], type", "Pseudolycaena spurius Feld.", "Felder Colln.", B.M. Type No. 612", "Type". Additional syntypes are indicated from "Venezuela" and "New Grenada" [Colombia] but these have not been located. TL: includes the above localities of material indicated as syntypical.

DISTRIBUTION. ***Spatial***: May turn out to be one of the most broadly distributed of congeners once the new alpha taxonomy is delineated with regard to larger samples. Type material is from Venezuela and Colombia and the species is also known from as far south as Argentina. However, the taxon has been widely misidentified or lumped with *T. dolylas*. ***Temporal***: Indeterminate due to new taxonomy and widespread misidentification but at least through the South American summer, depending on the seasonality within the various regions of occurrence, Colombia south to Argentina.

REMARKS. The morphology of this species is significant, along with that of the following species, in indicating the diversity of this genus. The occurrence of brush organs along with genitalia and VHW markings reminiscent of *T. biangula* further lend to an understanding of the breadth of this monophyletic group. The distribution of *T. spurius* may turn out to be one of the widest of the genus and, if so, sheds additional light on the apparent similarities to Austral species *T. biangula* (see Remarks under latter species).

MATERIAL EXAMINED [listed here only from material in vicinity of type locality and the Argentine material verified by recent identifications from that region]. ARGENTINA. Prov. Salta, Dept. Capital, Cerro San Bernardo, 1300-1454 m., leg. R. Eisele, 13 May 1985, 1 female, 23 May 1985, 1 female (AMNH); Jujuy Prov., Esperanza, 4 km. S. on floodplain, leg. R. Eisele, 1 April 1980 (AMNH); Jujuy, Agua Blanca, S. at km 25 to El Choro, 700 m., leg. R. Eisele, 20 November 1979, 1 male (AMNH); Jujuy, Dept. Capital, Cucho, leg. J. Gerow, 1 May 1979, 1 female (AMNH); Salta Prov., Snia. de Las Povas, S. Abra del Pescado, km. 31, 750 m., leg. R. Eisele, 5 September 1972 (AMNH). COLOMBIA. New Granada [no other data], 1 male (AMNH); "Colombia", Filipe Ovale, 1 male, 1 female (AMNH); Rio Corcona,1 male (AMNH); Cauca,1 male (AMNH). VENEZUELA, Highlands nr. Merida, 1 male (AMNH). ***Note added in proof***: Following the 1992 AMNH Argentine expedition, during which Eric Quinter (AMNH) kindly acted as a conduit for material to and from R. Eisele, it was possible to identify *T. ellida* sympatric with *T. spurius* from NW Argentina as follows: Salta, Pichanal, 16 May-18 June 1972, leg. R. Eisele, 4 males, 5 females (AMNH).

Tigrinota pallida (Lathy)
NEW COMBINATION, REVISED STATUS
Figs. 191I, 221
Thecla dolylas pallida Lathy 1930.

DIAGNOSIS. ***Wings***: DHW of female complete white except for thin or suffusive charcoal margin, DFW with white along margin with HW, bordered with thin rim of blue before wide fuscous apices and borders. VFW with only two dark wing bands (postbasal and medial) and without any dark patch connecting the bottoms of these bands, only a dark patch at the wing base.

Male Genitalia. Near *T. spurius* and *T. binangula* in robust elliptic form of valvae; vinculum robust and angulate compared to *ellida* Group.

Female Tergal Morphology and Genitalia. *Sipc* with a ventrocephalic prong; genitalia with the antrumal component comprising only about one-third ductal length, lateral areas of lamellae with multiple prongs, cervix bursae robust and greatly sclerotized.

DESCRIPTION. *Male*. DFW with brand brown and rectangulate as typical of the species Group but with surrounding ground dominated by white; blue iridescence occurring (if at all) along the wing base. Apices and submargins widely fuscous, followed by a thin line of iridescent blue bordered by wide arc of white along the margin with HW; HW with short tail at CuA2 (see Remarks). VFW with only two prominent dark wing bands (postbasal and medial), the basal area marked with a wide patch along the border with the hindwing and without the dark patch connecting the bottoms of other bands as in *T. dolylas*. FW length: mean of AMNH specimens 12.9 mm., range 12.5 mm. - 13.3 mm. *Female*. DFW with wide fuscous apices and submargins bordering a broad white ground, distally a thin line of iridescent blue borders the white along margin with HW; HW completely white except for black in the margins of cells M1 and M2. VFW, VHW similar to males except most often somewhat more suffusive. FW length: mean of AMNH specimens 13.0 mm., range 12.5 mm. 14.5 mm. ***Male Genitalia***. Fig. 221A. Brush organs along vincular dorsum. Vincular ventrum robust and angulate, saccus parabolic. Valvae robust and elliptical, somewhat sculptured along the juncture of the bilobes and caudal extensions, latter terminating with produced bundles of microtrichia. Aedeagus robust, length exceeding of rest genitalia by about two-fifths and with caecum somewhat arched. ***Female Tergal Morphology and Genitalia***. Fig. 221B. *Sipc* with cephalic margin angulate and baso-lateral surface with short anteriorly directed prong. Genitalia with the antrum comprising about one-third of the genital length. Lamellae postvaginalis with at least three prongs along each distal margin, antevaginalis with heavily sclerotized prong. Cervix bursae robust and heavily sclerotized both at juncture with ductus bursae and with ductus seminalis.

TYPE. Holotype male, MNHN, labelled "Specimen typicum, Thecla dolylas pallida", "Type" and a label reading "Hab?" [sic, probably inquiring concerning lack of a type locality in the OD]. TL: lacks locality data, but from data below and other Lathy material, probably from the Guiana Shield.

DISTRIBUTION. ***Spatial***: Prominent in samples from the Guiana Shield and Trinidad-Tobago, latter appearing, from *Tigrinota* specimens I have seen, to be a unique occurrence. ***Temporal***: Only the AMNH Trinidad-Tobago and Venezuelan material is dated (April); larger series from the Guiana Shield at MNHN lack date notations.

REMARKS. As is the case with *T. spurius*, the morphology of this species stands out from congeners, supporting the view that *Trigrinota* is composed of a number of taxa sympatric over significant areas of the neotropics as well as insular endemics. Regarding diagnosis of the species, it is useful to call attention to the differential occurrence of HW tails as summarized in figure caption 191E-L (as well as Draudt 1919). I have not emphasized these differences as much in species diagnoses of the text since it is always possible, with study of longer series, that some differential occurrence with species may be noted. As with so many cases concerning previous reliance on wing pattern alone, it is understandable why early workers considered Lathy's *pallida* either a form or subspecies. However, once the morphology of the *dolylas* Group is noted, the individual taxa making it up became salient, along with their apparent sympatry.

MATERIAL EXAMINED. FRENCH GUIANA. St. Jean de Maroni, Guyana Francaise, 1 male, 2 females (MNHN [loan AMNH]); Guyana Francaise, River de Maroni, 3 males, 1 female (MNHN [loan AMNH]); St. Laurent, 1 males (AMNH). GUYANA. Bartica District, 1 female (AMNH); Cayenne, 1 male (AMNH). TRINIDAD-TOBAGO. Hololo Mt. Road, St. Anns, 13 April 1933, leg. A. Pinkus. VENEZUELA. Curipito, 1-5 April 1942, 1 male (AMNN).

Tigrinota hypocrita (Schaus)
NEW COMBINATION
Figs. 191K, 223
Thecla hypocrita Schaus 1913.

DIAGNOSIS. DFW,DHW very dark, FW generally black broken by large rectangulate brown brand in males; HW silvery blue with crisp black arc-shaped submarginal borders. VFW with two brownish black bands distad of blackened wing base; VHW crossed by rather straight medial brownish black band. HW without tails (see Remarks under *T. pallida*).

Male Genitalia. Habitus generally differing from other congeners in constricted and more elongate caudal extensions of valvae extending from relatively diminutive bilobes (see Remarks).

DESCRIPTION. ***Male.*** DFW dark blackish brown throughout, broken in male only by large rectangulate brown brand; HW silvery blue with crisp black borders arched about the wing. VFW with cream ground crossed by two brownish black bands distad of a blackened basal patch; baso-medial area of FW along border with HW quite black; HW without tails. VHW crossed most prominently by a rather straight brownish black medial band; also crossing HW, lighter (tawny to buff) basal, postbasal and postmedial bands all at angles opposing the rather straight medial band. FW length: single AMNH male, 10.5 mm. ***Female.*** Unknown to me. ***Male Genitalia.*** Fig. 223. Differing in much of habitus from South American congeners. Vincular ventrum more angulate and narrow, saccus shorter and parabolic. Valvae elongate and narrowly tapered in the caudal extensions; bilobes parabolic and rather diminutive. Aedeagus more elongate and narrower than congeners, length exceeding rest of genitalia by about one-fourth; caecum about one-fifth aedeagus length and somewhat displaced from plane of aedeagal shaft.

TYPE. Holotype male, BMNH (Bridges 1988; but to date not located there by me). TL: Tuis, Juan Vinas, Costa Rica.

DISTRIBUTION. *Spatial*: Construed to be Central America, at least from Mexico (AMNH) to Costa Rica (OD) but not well represented in collections. ***Temporal***: Known to me only from August data of AMNH specimen (see Remarks).

REMARKS. The only specimen known to me suggests this species has seldom been collected; as is well known, the AMNH has extensive Mexican samples from the Hoffman collection. Large series of Hoffman's collection are from Vera Cruz State, yet *T. hypocrita* (note a Vera Cruz record below) is not represented therein.

MATERIAL EXAMINED. MEXICO. Vera Cruz State, Fortin de las Flores, 25-31 August 1969, leg. W. H. Howe, 1 male (AMNH).

binangula Species Group. VFW,VHW cryptically marked with mottled ochre ground color crossed by lunulate, variously bandlike, elements of brown or greenish-brown ground (thus, with untailed condition, appearing elfinlike). Historically requiring differentiation from *Dolymorpha* Holland which, because it has been an available generic name, has been widely confused with *Tigrinota binangula* and congeners (see *Dolymorpha* below and figs. 191M, 225).

Tigrinota binangula (Schaus)
NEW COMBINATION
Figs. 191L, 224
Thecla binangula Schaus 1902
Thecla bolima Schaus 1902 (**SYNONYM**, see Remarks).

DIAGNOSIS. DFW blackish, DHW black with brilliant angulate blue patches (often with a black spot within) adjoining a short protruding lobe at cell CuA1. This elfinlike appearance repeated on VFW,VHW by mottled ochre ground crossed by lunulate markings of brown, tawny, greenish-brown or orange variously coalesced into bands, depending on the specimen (see Remarks).

Male genitalia. Of all congeners, valvae most robustly elliptic; vinculum robust and angulate as in members of the *dolylas* Group.

Female genitalia. Respective anterior and posterior ductal elements most elongate and elliptic of genus and lacking angulate projections around the lamellae.

DESCRIPTION. ***Male.*** FW with apex sharply angled contrasting HW; HW with angulate margin along the limbal cells, protrusion of margin along cell CuA1 appearing somewhat like the anal tail of elfins. FW with compact black ellipsoid brand contrasting blackish brown ground; HW with patches of brilliant iridescent blue along submargins of limbal area often marked internally with black spots (these features suggesting the familiar genus *Strymon* Hübner to many previous workers and/or museum curators); VFW,VHW with cryptic ochre ground marked both on FW and HW with varying bandlike combinations of lununate brown, tawny, greenish-brown or orange (such markings, particularly on Austral specimens, varying from overall mottled elfinlike appearance to more congealed bands). FW length: mean of AMNH Argentine specimens 12.6 mm., range 11.8 mm. - 13.5 mm. ***Female.*** Similar to male but with broader FW and more rounded HW. FW length: mean of AMNH Argentine specimens 12.8 mm., range 11.5 mm. - 13.5 mm. ***Male Genitalia.*** Fig. 224A. Vincular ventrum robust and angulate, saccus parabolic and generally more elongate than congeners; valvae most robust and elliptic of congeners, lobes closely aligned and of generally smooth contour; terminal microtrichia not as densely organized as other species. Aedeagus robust, length exceeding rest of genitalia by about one-fourth, caecum one-fourth to two-fifths aedeagal length and only slightly displaced from plane of aedeagal shaft. ***Female Tergal Morphology and Genitalia.*** Fig. 224B. Respective posterior and anterior elements of ductus bursae on either side of transparent neck more elongate and elliptic than congeners; lamellae generally of even contour and lacking angulate projections

common among congeners; lateral margin of lamellae juncture with membranous connection to *sipc*. Cervix bursae diminutive with sclerotal innovation at area of ductus seminalis more reduced as in the *dolylas* Group.

TYPES. *Thecla binangula* holotype, NMNH No. 5941, *Thecla bolima* holotype, NMNH No. 5942 (see Remarks). TL: *T. binangula*, "Peru"; *T. bolima*, Castro, Paraná, Brazil.

DISTRIBUTION. ***Spatial***: From southern Peru southward in Andean region to central Argentina; also in SE Brazil. ***Temporal***: In Austral and high Andean regions (Argentina) limited to regional summer months; northward records in subtropical-temperate Argentina more diverse in spring and fall; SE Brazil records scattered but suggesting possibly the entire year.

REMARKS. The cryptic markings on the VFW,VHW of this species have always made it appear of uncertain affinity and many curators, looking at the DFW,DHW construed the species as a member of *Strymon*. In the Austral Region the species is quite variable, the most suffusive and grizzled specimens appearing very elfinlike. Since SE Brazilian material more generally represents the striped appearance, workers (including Schaus) thought the populations were distinct species. Striped specimens have also caused the historical confusion with *Dolymorpha*, an available generic name also widely associated with the species. The VFW,VHW markings of *T. binangula* become more understandable in context of *Tigrinota* when one considers *T. spurius*, a species in which the bands often take on a lunulate appearance.

There has been a general concensus in regional literature and among curators that *Thecla binangula* and *Thecla bolima* were synonyms. Since the names have been used quite interchangeably in regional faunal studies I do not consider the synonymy new.

MATERIAL EXAMINED. ARGENTINA. Jujuy Prov., Santa Clara to El Fuerte, various km. S. of Agua Blanca, leg. R. Eisele, 18 January 1980, 3 males, 1 female, 22 January 1980, 1 female, 25 January 1980, 1 male (AMNH); Arroyo Colorado, W of Prov. Rt. 23, 850 m., leg. R. Eisele, 29 December 1979, 1 female (AMNH); Salta Prov., Quebrada de Escoipe, wet bottom- land marsh, 10 February 1991, K. Johnson (AMNH); Tucuman Prov., Cumbres de San Javier, 1 km. S of Summit Hotel, 1250 m., high ridge margin of mesic forest and xeric savannah, leg. K. Johnson, 9 February 1991, 1 male, 1 female (AMNH); Salta Prov., Dept. Caldera, Rt. 9 km. 1637-38, "Alto de la Sierra:, "La Cornisa, mixed rain forest", 1450 m., leg. R. Eisele, 26 May 1985. BRAZIL. Massaranduba-Blumenau, "highlands nr.", 2 males, 1 female (AMNH); Petropolis, Rio de Janeiro State, leg. Biezanko, 1 male, 2 females (AMNH). PARAGUAY. Santissima-Trinidad, western Cordillera, leg. B. Podtiaguin, "June-July", 2 males, 3 females (AMNH)

DOLYMORPHA Holland

Figs. 191M, 225.

Dolymorpha Holland 1931.

Figs. 191M, 225.

DIAGNOSIS. Based on monotypy of original description, ***Wings*** HW anal area distended at anal lobe as in some thecloxurines but also with tail at vein CuA2, DFW,DHW blue violet, wide obligue black border on FW, male with elliptic brand; VFW,VHW with profuse tawny to brownish stripes traversing white to cream ground color on both wings (see Fig. 191M).

Morphology. Male genital valvae with salient lateral prong; female genital ductus simple and tubular terminating in robust bell-shaped lamellae (see below).

DESCRIPTION. ***Adult***. ***Male***. HW shape angulate to distended anal lobe, coupled with tail at terminus of vein CuA2. DFW, with blue to violet iridescent from base to wide black border obliquely traversing wing across medial area; elliptic brand; DHW generally iridescent blue to violet with black border only along margin and cells approaching costa; DFW, DHW ground cream to white, traversed by concentric tawny to brown stripes, on FW generally most prominent at discal cell and across postmedial and apical areas; on HW interspaced about every 1 mm. across the wing, those basad of the discal area somewhat more obliquely arranged. FW length: AMNH specimen figured 14.2 mm. ***Female***. Differing from male only by lack of FW brand and with duller flat blue to violet DFW,DHW ground; wing shape somewhat broader and more rounded, particularly on HW.

Male Genitalia. Fig. 225A. No *sipc*; short brush organs from dorsocephalic margin of vinculum to labides base. Genitalia with vincular ventrum robust and angulate, only slight lobate spurs, saccus parabolic. Valvae with extremely large termino-laterally directed prong paralleling elongate, pronglike caudal extension; bilobed area parabolic, forming base for two-pronged terminus mentioned above. Aedeagus robust but also elongate, length exceeding rest of genitalia by caecum length; shaft slightly curvate, caecum also curvate and somewhat displaced from general plane of shaft; aedeagus terminus broad and robustly sclerotized, one cornutus knoblike with

serrate termini, the other pronglike with clustered serration at terminus. ***Female Genitalia***. Fig. 225B. No *sipc*. Ductus bursae simple elongate tube terminating in robust bell-shaped lamellae only slightly laterally expansive from the tube terminus; along ventrum of lamella antevaginalis a heavily membranous lip. Cervix bursae not greatly innovated, ductus seminalis attachment almost completely membranous at distal end of corpus bursae; corpus bursae with broad based signa, appearing arrow-shaped from base but with short prong in lateral view.

TYPE SPECIES. *Thecla jada* Hewitson 1863 -1878 [1867] [TL: "Mexico"], monotypic by original designation = *Dolymorpha jada* (Hewitson) (Fig. 191M).

DISTRIBUTION. Mexico southward in Central America to at least Costa Rica.

REMARKS. This taxon is treated here because, as an available name, it has been used by curators and collectors for *Thecla binangula* and some other cryptic Theclinae which show DFW,DHW iridescence, angulate HW and short HW tail. The morphology of the genus restricts it and the genus still requires study to ascertain what species in the Neotropical Realm it most properly includes. The male genitalia suggest the type species may be quite autapomorphic; the female genitalia, however, appear quite primitive.

IGNATA,
NEW GENUS,
Figs. 191N,O, 226-227

Synopsis-- includes *Thecla levis* Druce and some apparent relatives from the Andean region.

DIAGNOSIS. ***Wings***: Male construed as DFW, DHW bright blue to brown, females brown with some basal blue; HW untailed and with crenate margin appearing elfinlike. VHW with crytpic markings highlighted by presence of a brown medial band which is greatly suffused basally from the discal cell costad. Along with major medial pattern differences, species differ in presence of minor additional pattern elements in the distal areas.

Male Genitalia. See Remarks.

Female Genitalia. Marked by a simple, robust and straight, ductus bursae terminating in diminutive lateral flaps in the area usually characterized by lamellae in most Eumaeini (see Remarks).

DESCRIPTION. ***Adult***. ***Male***. Unknown to me at present (see Remarks). ***Female***. DFW, DHW grounds variously brown and otherwise unmarked except, on the HW, with various suffusions or lines ringing the submarginal or marginal borders. VFW, VFW ground beige to brown or red-brown; FW with simple lineal postmedian line from costa to vein CuA2; HW with grounds as FW but sometimes more mottled, markings limited to medial or postmedial band which is greatly suffusive from the discal cell costad in known species and generally formed from blocked or lunulate markings crossing this area of the wing. ***Male Tergal Morphology and Genitalia***. Unknown to me at present (see Remarks). ***Female Tergal Morphology and Genitalia***. *Sipc* lacking. Genitalia with ductus bursae occurring as simple, robust and straight, tube terminating in variously laterally oriented sclerotized flaps. Cervix bursae without notable sclerotal innovation; corpus bursae with small signa marked by broad base and short inwardly directed spine.

TYPE SPECIES. *Ignata ignobila*, new species.

DISTRIBUTION. ***Spatial***: Andean members currently known only from Bolivia and Peru. ***Temporal***: The dated specimen, as typical of high Andean taxa, is dated at height of regional summer, 26 January.

REMARKS. I describe this genus here because the two new described species are high Andean, untailed, either brown or with only slight dorsal iridescence and simply marked on the VHW with a few suffusive bandlike elements. Overall VFW,VHW facies strongly suggest that *Thecla levis* Druce, a species unfamiliar to me by firsthand also belongs to this group. However, *T. levis* is brilliantly blue above in the male and, to my knowledge, the female has not been reported. In addition, T. levis, from its type, is reported from the "Amazon" and this does not appear much compatible with the data on the type species designated herein. I thus, make the name *Ignata* available for the Andean species described herein and it remains to be ascertained what other taxa may belong to the group. All the species are little known.

The poorly represented high Andean and austral genus *Tergissima* Johnson, including four species and belonging to the very differnt *Calycopis/Calystryma* grade of Eumaeini (Johnson 1990c) also shows very simple female genitalia reminiscent of *Ignata*. I suspect that this resemblance is due to both structures being relatively primitive among Eumaeines and evidencing very little structural innovation. Primitive structures in the Palaearctic Eumaeini also show this (Johnson in press b). See Remarks under the type species regarding Draudt's (1919) figure of *Thecla levis* and the BMNH type.

ETYMOLOGY. The Latin name means "unknown", refers to the poor representation of specimens of the this genus, and is considered feminine.

Ignata ignobilis,
NEW SPECIES
Figs. 191N, 226

DIAGNOSIS. ***Wings.*** DFW,DHW light tawny brown with slight flush of blue on basal FW and dark brown suffusive lines along HW margin. VFW, VHW ground beige, FW marked with darker suffusive brown line from costa to cell CuA1, HW with irregular, suffusive brown, medial band formed by square-shaped elements in the cells extending from the costa to the anal margin.

Female genitalia. Compared to congeners, ductus bursae robust and of generally even width, length about five times maximal width (congener at least eight with maximal width at apex of extremely fluted ductus); lateral areas of ductus terminus with very slight sclerotized flaps. Cervix bursae diminutive, hardly with any sclerotized innovation.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW ground color light tawny brown, FW with some basal blue flush; HW with dark brown suffusive line along HW margin. VFW, VHW: ground color beige; FW with darker brown suffusive line extending from costa to cell CuA1; HW with irregular, suffusive brown, medial band formed from squared-shaped elements in the cells from costa to anal margin; limbal area with diffusive orange patches at anal lobe and in cell CuA1 (herein similar to *T. levis*). FW length: 13.6 mm. (holotype). ***Male Genitalia.*** Unknown. ***Female Genitalia.*** Fig. 226. Genital parts very simple-- ductus bursae a robust tube of quite even wide, only very slightly fluted terminad and with width about five times length; ductus terminus with two laterally oriented, partially sclerotized, flaps each about one-half the ductus width. Cervix bursae slightly knoblike in the dorsum but not greatly innovated as in Thecloxurina.

TYPES. Holotype female, Panao, Huanuco, Peru, 9-10,000 ft., "arid upper tropical zone", 26 January 1947, leg. J. C. Pallister, deposited AMNH.

REMARKS. There is some pattern resemblance between the VFW, VHW of this taxon and the Draudt figure of *Thecla levis* (described from the "Amazon" and known to me only from males). Draudt placed this species in his *Thecla "gadira* Group", species of which differ very much in VFW,VHW pattern from the specimens I have placed here in *Ignata*.

ETYMOLOGY. The name, following on the generic name, means "obscure" and refers to poor knowledge of this species and its relation to other eumaeines.

Ignata illepida,
NEW SPECIES
Figs. 191O, 227

DIAGNOSIS. ***Wings.*** DFW,DHW dark bronze brown, marked only by darker brown suffusive lines along HW margin. VFW,VHW ground dark brown, FW marked with thin brown line from costa to cell CuA1, HW with irregular chocolate brown medial band, suffused basally with black and dark brown flecks and wider toward the costa than the anal lobe. HW anal and limbal areas obscured by wing damage in known specimen.

Female genitalia. Compared to congener, ductus bursae elongate and greatly fluted toward the terminus, length about eight times maximal width (measured at the most fluted part of ductus).

DESCRIPTION. ***Male.*** Unknown. ***Female.*** Wing shape somewhat oblongate. DFW, DHW: ground color deep bronze, HW with dark brown suffusive line along HW margin where undamaged. VFW,VHW ground dark brown; FW with thin darker brown line extending from costa to cell CuA1; HW with irregular, basally suffusive, chocolate brown medial band— most widely suffused basally as it approaches the costa, less so toward the anal area. Anal and limbal areas of known specimen obscured by wing damage. FW length: 12.5 mm. (holotype). ***Male Genitalia.*** Unknown. ***Female Genitalia.*** Fig. 227. Compared to congener, ductus bursae elongate and greatly fluted toward the terminus, length about eight times maximal width (measured at the most fluted part of ductus); lateral areas of ductus terminus with very slightly sclerotized flaps. Cervix bursae knoblike adjacent narrowmost habitus of ductus bursae and otherwise showing no additional sclerotinal development save a slight tongue-like extension connection to the point of attachment of the ductus seminalis.

TYPES. Holotype female, Sierra Paramo [sic], Bolivia, no other data [see Remarks under *Pontirama lorena* in Thecloxurina text, Clade IV], deposited BMNH. Paratypes. BMMH: two additional females bearing same labels as primary type.

REMARKS. These specimens were in a BMNH box labelled "mostly undescribed species" (see *Pontirama lorena* entry mentioned above) which was in the "Schmidt box" portion of the uncurated collection. This material also included a large number of specimens left at the BMNH by K. Hayward but it is uncertain if there is any connection between the collectors of the samples and their being pinned in the same box.

ETYMOLOGY. The Latin name means "inelegant" and refers to the very simple markings of this poorly known taxon.

Ignata levis (Hewitson),
NEW COMBINATION
See Remarks

DIAGNOSIS. Male DFW,DHW bright azure blue with rounded black marginal borders and black elliptic brand. VHW markings with medial band more organized into brown lunulate marks, these paralleled by addition basally oriented lunulate marks toward the costa, suffusive brown crescent-like markings along submargin and marginal red marks at anal lobe and in cell CuA1.

DESCRIPTION. *Male*. Wing shape oblongate. DFW,DHW ground deep bright azure blue; FW with black elliptic brand. VFW ground buff basad of submarginal area, submargin more beige; postmedial area with dark brown line from costa to cell CuA1, repeated slightly along submargin. HW ground beige with medial band of disorganized brown lunulate markings, more basally suffusive toward the costa as typical of genus; slight brown-suffused crescent to lunulate-like marks along submargin and colored red-orange marginad at anal lobe and in cell CuA1.

TYPE. Holotype male indicated as BMNH but not located there by me to date. TL: Pará, Amazonas, Brazil.

DISTRIBUTION. *Spatial*: Generally attributed to the Amazon region. *Temporal*: Unknown.

REMARKS. This species is poorly known and I have not located the type. It is included here because of the compelling wing pattern similarity to the other members of the genus which have Andean data.

ARASES,
NEW GENUS
Figs. 191P-S, 228-231

Synopsis-- contains *Thecla sesara* Godman & Salvin 1879-1901 [1901] of the formerly monotypic "*sesara*-Group" of Draudt 1919 (homonym of *Thecla sesara* Godman & Salvin 1879-1901 [1887]) and undescribed relatives.

DIAGNOSIS. *Wings*: Appearing elfin-like in some species with short tails and more suffusive VFW,VHW as follows-- VFW,VHW grounds brown, VHW crossed by a more or less lunulate and jagged reddish to magenta band complemented by additional red to magenta markings basally or distally, sometimes suffused and/or lined with succinct white or blue (as usually attributed to the "*Micandra*" Group of *Thecla*).

DESCRIPTION. *Adult. Male*. DFW,DHW: ground varying from brown to black and with most species marked on DHW by quadraspheres of iridescent blue paralleled by a blue marginal line and a bright orange orb at the anal lobe. FW without androconial elements. HW with short to tufted tailed at terminus vein CuA1, long tail at CuA2 very often with heavy fringe between this tail and the anal lobe. VFW, VHW: ground brown, FW crossed by darker brown to red or magenta post-medial line; HW cross medially by variously irregularly lunulate brown, red or magenta band depending on the species; similarly, limbal area varying from unmarked to crossed by vivid orange and with other areas of HW showing additional components including distal or basal patches of red, magenta, or brown, or any of the above pattern elements lined with succinct egdes of white or blue (see Remarks). Female. DFW, DHW: wing shape broader than in male, and with suffusive blue iridescence basal to medial on both wings. VFW,VHW: similar to facies in the male of each species, but broader wing shape, causing bands to be more arched then straight. ***Male Tergal Morphology and Genitalia***. Figs. 228-229. No *sipc*. Genitalia with vincular ventrum oblongate terminating in a parabolic to pointed saccus. Brush organs extending from about midpoint of vincular ventrum to the base of middle of the labides. Valvae with robust, parabolic base and caudal extensions either tapered or in "stair-steps" to pointed termini. Aedeagus elongate, length exceeding distended vincular structure by at least another two-fifths, caecum small comprising only about one-fourth to one-fifth aedeagal length and displaced out of the plane of the aedeagal shaft. ***Female Tergal Morphology and Genitalia***. Figs. 228-231. No *sipc*. Genitalia with ductus bursae occurring as elongate, variously sculptured, tube with an antrum-like posterior terminating in paired lamellae lips divided by a deep central fissue. Depending on the species, various parts of the ductus or lamellae lateral margins with undulated, ridged sclerotin (referred to in Johnson 1991 as "corrugated", unique among taxa in the present elfin study). Cervix bursae diminutive, marked only by slight sclerotization of the corpus bursae membrane attaching to the ductus seminalis. Corpus bursae lacking signa.

TYPE SPECIES. *Arases clenchi*, replacement name for *Thecla sesara* Godman & Salvin 1879-1901 [1901].

DISTRIBUTION. *Spatial*: Four species distributed from Mexico to Colombia. *Temporal*: Dates on specimens include August, September and October.

REMARKS. Harry K. Clench, late curator CMNH, had segregated these specimens as a new genus, "Arasès", a name I retain in deference to this original plan. All the included specimens were passed on to me by

Dr. John E. Rawlins when he replaced Mr. Clench at the CMNH; some specimens were on loan from other institutions and these have been returned to the original sources. Clench was of the opinion that three Mexican species were contained in this complex and he had placed manuscript names on each. I located a fourth species (one appearing quite dull and elfin-like) in my studies of montane Colombian taxa. The affinities of *Arases* are unclear; Draudt (1919) had included the sole known species in a monotypic species group calling it, among theclines, an "isolated species". It is interesting that when expanded by additional taxa, this assemblage mirrors the distribution of the Central American *umbratus* Group of *Radissima*. I include the group Arases in the present study because no names have been available for these unique looking theclines and the Colombia species might cause confusion in the context of other Andean region elfins. In addition, the tails and jagged red-brown HW bands also suggest possible confusion with *Cisincisalia*.

ETYMOLOGY. From Clench's labels, taken by me as an anagram of the species name *sesara*.

***Arases clenchi*,**
REPLACEMENT NAME
Thecla sesara Godman & Salvin 1879-1901 [1901]: (2) 722, (3) pl. 111, figs. 7,8. [invalid homonym of *Thecla sesara* Godman & Salvin 1879-1901 [1887: (2) 90]).

DIAGNOSIS. ***Wings.*** This is the commonly known congener, male recognized by the DHW quadrasphere of bright blue paralleled by a blue marginal line and marked by an orange orb at the anal lobe (female with additional lighter blue across baso-medial area of FW). On the VHW the species differs from congeners by the HW band forming a generally continuous arc (not broken, flanked by, or connect to additional pattern elements) and having a row of simple brown dashes along the submargin from the costa to the anal lobe (new species below show either a vivid orange band across this area or additional pattern elements).

Male Genitalia. Valvae with steeply tapered caudal extensions, slightly sculptured along the lateral margins and extending posterior of robust, parabolic, bilobes.

Female Genitalia. Compared to all congeners, ductus short (length equalling two-times length of terminal lamellae) unsculptured and thin (width one-fourth that of lamellae).

DESCRIPTION. ***Male.*** DFW black, DHW black with flecked iridescent blue from posterior one-third to the submargins, paralleled along the margin by prominent blue line. Short robust tails at termini of veins CuA1 and CuA2, latter with slight white tip. Anal lobe with prominent orange orb. VFW, VHW ground beige, FW with postmedial line from costa to cell CuA1 or CuA2; HW with regular, arched, band of rather square-shaped blocks of brick-red in each cell, outlined very narrowly by bluish-white. Limbal area immaculate except for black dashes in each cell along submargin. FW length: 11.5 mm., 11.0 mm. (CMNH, AME). ***Female.*** DFW, DHW very similar to male, differing only in duller HW iridescent blue and basal occurrence of similar blue on the FW. VFW, VHW as on males but with a broader wing shape making medial band appear more broadly arched. FW length: 11.5 mm. (CMNH). ***Male Genitalia.*** Fig. 228A. Vincular ventrum oblongate, saccus parabolic, falces widely arched; valvae with robust parabolic bilobes terminating in steeply tapered caudal extensions sculptured along the lateral edges at the juncture of the bilobes and again about one-half the length toward the pointed termini. ***Female Genitalia.*** Fig. 228B. Simplest configuration of genus-- ductus bursae a simple thin tube, length about twice that of terminal lamellae; juncture of ductus bursae and terminal lamellae with cuplike antrum about one-third the expanse of the lamellae themselves. Cervix bursae completely membranous.

TYPE. Holotype male of *Thecla sesara*, Godman and Salvin Collection, MEXICO, Vera Cruz, Las Vigas, BMNH. TL: Las Vigas, Vera Cruz State, Mexico.

DISTRIBUTION. ***Spatial***: Known from eastern coastal Mexico south to Chiapas. ***Temporal***: Dates on specimens range from September to May.

REMARKS. I construe the identity of the type species compared to congeners consistent with Clench's curations and the respective illustrations of Godman and Salvin and Draudt. The species is fairly poor in representation, considering that there is ample Vera Cruz State material in Hoffman's collection (AMNH). The species is not included in a recent Oaxaca faunal list (Martinez, Vargas Fernandez and Llorente Bousquets) and I therefore include it in the amended list of Oaxacan Theclinae addended to this volume in *Report* No. 23.

MATERIAL EXAMINED [diacriticals employed as on specimens labels]. MEXICO. Chiapas, Ochuc, leg. R. Wind, 21-23 September 1972, 1 male, 18-20 September 1972, 1 female (AME); Oaxaca, Cerro Pelón, 2150 m., Mpi. Yolox, 18 September 1962, leg. E. C. Welling, 1 male (CMNH).

Arases aurantiaca,
NEW SPECIES
Figs. 191Q, 229

DIAGNOSIS. *Wings*. Male with DFW,DHW completely brown; female DFW with basal blue, DHW with blue extending tranversely across wing from costa to tail at vein CuA1. Both sexes with VHW limbal area crossed by bright stripe of vivid orange.

Male Genitalia. Differing from *A. clenchi* in showing elongate, evenly tapered valvae.

Female Genitalia. Ductus bursae greatly sculptured, separated by bulbous portion into an elongate posterior antrum and anterior elementv tapered toward partially sclerotized cervix bursae.

DESCRIPTION. *Male*. DFW,DHW brown, HW with prominent orange orb at anal lobe. VFW, VHH ground beige; FW with blackish brown postmedial band from costa to cell CuA2 suffused basally brick red, paralleled by much thinner similar line along the submargin. HW with medial orange band of bright lunulate red-orange, typical of the genus but proceeding rather straight across wing and paralleled in the limbal area by a bright orange stripe extending from anal lobe along every cell of the submargin. FW length: 11.0 mm. (holotype). *Female*. DFW,DHW fuscous with rather flat blue over FW base and extending rather straight across HW from costa to the limbal cell CuA1. VFW,VHW as on male but with broader wing shape making medial band appear more arc-shaped than on male and with white outlines slightly more prominent. *Male Genitalia*. Fig. 229A. Vincular ventrum oblongate, saccus wide but pointed. Valvae elongate and showing an even taper from parabolic bilobes. Aedeagus elongate and narrow, length exceeding rest of genitalia by nearly one-third and with caecum slightly dislaced from aedeagal plane. *Female Genitalia*. Fig. 229B. Ductus bursae extremely sculptured, divided midway by a bulbous area from which extends posteriorly an elongate antrum terminating in paired elliptic lamellae lobes. Corrugated area of ductus occurring along sides of the antrum and lamellae. Anterior element tapered gradually toward cervix bursae; cervix bursae with area of attachment ductus bursae sclerotized.

TYPES. Holotype male, allotype female, MEXICO, Chiapas State, Ochuc, 1-5 October 1973, leg. R. Wind, deposited AME. Paratype. AME: same data as primary types, 1 female.

DISTRIBUTION. *Spatial*: To date known only from the type locality. *Temporal*: Known only from the type data.

REMARKS. Clench noted that Wind forwarded these specimens when it was noted that they were locally sympatry with *Thecla sesara* he had also collected. This led Clench to segregate the series into two different species even though, at the time, he had only examined the genitalia of the "*sesara*" representatives. Further dissection of the material corroborates Clench's view that two species are represented.

ETYMOLOGY. The Latin name refers to the orange band on the VHW.

Arases micandriana,
NEW SPECIES
Figs. 191R, 230

DIAGNOSIS. *Wings*. VFW,VHW with contour of hindwing band broken— discal area with blue-white slash and adjacent elongate brown patch connecting vertically to the band's usual element in cell SC + R1. All undersurface markings lined by bright irregular blue to white dashes. DHW of male without blue marginal line; DFW,DHW of female flecked blue across baso-medial areas of both wings.

Female Genitalia. Ductus elongate and undulate with antrum hardly noticable; terminus of ductus rather "sharks-head" in shape due to lateral flaps complementing the paired elliptic lamellae lobes.

DESCRIPTION. *Male*. Unknown. *Female*. Large, FW 14.0 mm. FW ground prominently blue to the postmedial area; HW suffusive across entire medial area and also in the cell interspaces along the limbal submargin. VFW with postmedial line from costa to cell, prominently outlined with bluish-white. VHW with medial band broken by additional components in the discal area— a brown discal slash prominently outlined by light blue connecting to the band element in cell SC +R1. Rest of medial band quite disjunct with each large square of brick-red outline with prominent slash of light blue or white. Limbal area with black marginal line and faint traces of orange basal suffusion that become prominent only in the two cells along the anal lobe. *Female Genitalia*. Fig. 230. Ductus bursae elongate and undulate without much antrumal exaggeration at the terminal end. Terminal lamellae with lateral extending flaps junctured with widely elliptic and serrate edged lamellae broken by a deep central fissue. Cervix bursae with area of attachment of ductus seminalis sclerotized.

TYPE. Holotype female, GUATEMALA, Rabinal, 12 September 1947, deposited AMNH.

DISTRIBUTION. *Spatial*: Known only from type locatlity. *Temporal*: Known only from type data.

REMARKS. This specimen was with Clench's original series but had been borrowed by him from the AMNH.

ETYMOLOGY. The name is a euphonious combination based on the generic name *Micandra*, species of which, in common usage, have been considered those with white and blue VHW highlights [I further define the name *Micandra* in the subsequent outgroup section].

Arases columbiana
NEW SPECIES,
Figs. 191S, 231

DIAGNOSIS. ***Wings***. DFW,DHW with silvery blue-green structural color reminiscent of *Paralustrus commodus*; VFW,VHW elfin-like with diffusive brown marks over brown grounds-- VFW with dull brown postmedial band crossing wing, VHW with rounded suffusive medial band paralleled by suffusive brown postbasal band and brown blotches surrounding the submargin. Known specimen, though somewhat worn, without indication of tail.

Female Genitalia. Ductus bursae divided into respective anterior and posterior sections divided not by a bulbous area as in congeners but by a simple indention; terminus with border of antrum corrugated and lamellae reather rectangular.

DESCRIPTION. ***Male***. Unknown. ***Female***. DFW,DHW with silvery blue-green structural color extending through the medial area of both wings; VFW,VHW elfin-like with suffusive brown marks over brown grounds— VFW with dull brown postmedial band crossing wing, VHW with rounded suffusive medial band paralleled by suffusive brown postbasal band and brown blotches surrounding the submargin. Known specimen, though somewhat worn, without indication of tail. ***Female Genitalia***. Fig. 230. Ductus bursae divided into respective anterior and posterior sections divided not by a bulbous area but by a simple indention; terminus with border of antrum corrugated and lamallae quite rectangular and occurring angulate from the arch formed by the antrum. Cervix bursae menbranous.

TYPE. Holotype female, COLOMBIA, Antioquia, Rio Penderisco, 27 August 1948, deposited AMNH.

DISTRIBUTION. Currently known only from the Rio Penderisco locality in northwest Colombia from where also derive several other interesting records within the Thecloxurina (see *Thecloxurina loxurina lustra* and *Radissima umbratus colombiensis*). There appears to have been more significant movement (e.g. dispersion) back and forth across the Panamanian isthmus than some more cursory records of Central American and N South American Theclinae has previously indicated. ***Temporal***: Known only from the type data.

REMARKS. The type locality accounts for specimens of the southernmost records of the *Radissima umbratus* complex which is also centered in Mexico.

ETYMOLOGY. Named for the region of occurrence.

SOLANORUM,
NEW GENUS
Figs. 232, Appendix 3, Fig. B
Synopsis-- includes *Thecla goleta* Hewitson and a new species from Argentina.

DIAGNOSIS. Wings angulate with anal lobe prominent; DFW,DHW brown and somewhat suffused with blue depending on the species, androconial brand small and black (historically for *T. goleta* suggesting genus *Strymon*, see Remarks below and under *S. goleta*). VFW,VHW with suffusive and mottled patterns of gray, brown and/or white (also confusingly suggestive of *Strymon* species like *cestri* Reakirt, *crambusa* Hewitson or the *crossoea* Group (see Remarks) but differing completely from these in structural characters (see below).

Male Genitalia. Vincular ventrum extremely robust and, contrasting *Strymon*, with a thick, truncate and symmetrical saccus dominating the ventral habitus. Valvae with rounded bilobed area contrasting much thinner, and/or shorter caudal extensions (differing from evenly contoured, elongate, and elliptical valvae of *Strymon*).

DESCRIPTION. ***Adult***. ***Male***. DFW,DHW either brown or brown with a hue of steel blue; FW with hardly noticable blackish brand embedded in the dark FW ground (type species). VFW,VHW with rather "blocked" regions of mottled pattern elements, patchworks of square and/or rectangulate marks, forming complex of gray, brown, gray-brown and/or white across the wings (particularly on HW). ***Male Tergal Morphology and Genitalia***. Fig. 232. *Sipc* lacking. Vincular dorsum with elongate bundles of brush organs; vincular ventrum with most notable element of habitus a wide, robustly rimmed, truncate saccus dominating some two-fifths of ventral genital length. Valvae with bilobed configuration more prominent in habitus than adjacent bilobes (latter tapered and thin). Aedeagus generally robust, exceeding length of genitalia by only about one-fourth and with planes of

caecum and shaft not greatly different. Terminus with two laterally serrate cornuti. ***Female Morphology and Genitalia***. Unknown to me (see Remarks).

TYPE SPECIES. *Solanorum gentilii*, new species.

DISTRIBUTION. ***Spatial***: Poorly known but, as presently defined, from Colombia to Argentina. ***Temporal***: Known only from the February data of the type species.

REMARKS. I name this genus because of the uniqueness of the type species and the problem of the placement of *Thecla goleta* Hewitson (which still may require further resolution). It was initially my intent to include a short note concerning the problem of placing little-known *T. goleta*. However, when I received the holotype of *S. gentilii* from L. Peña I assumed (as have workers concerning *T. goleta*) that a species of *Strymon* was represented. I dissected the specimen relative to preparation of *Report* No. 23 concerning additions Argentine *Strymon*. Although I considered the above-mentioned members of *Strymon* as the most likely sister species of the unusual Peña specimen, I also noted that only *Thecla goleta* shared with it the "blocked" appearance of the mottled undersuface. I thought therefore, if nothing else, Peña's specimen might be the first female I had seen of *T. goleta*. The genitalia of the Peña specimen, however, were male and appeared nothing like *Strymon*. I thus erect the present genus to be available for this new species and eventual clarification concerning *T. goleta*.

ETYMOLOGY. Patronym for Elizabeth, Alicia and Rick "Solano".

Solanorum gentilii,
NEW SPECIES
Figs. 232, Appendix 3,B

DIAGNOSIS. ***Wings***. Most similar to *S. goleta* but differing mainly by the steel blue DFW,DHW sheen and the VHW suffusion of bright white over the entire postmedial area from the costa to vein M3. Also superficially similar (because of cryptic mottling of gray, white and brown on DFW,DHW) to *Strymon crossoea* Group (Johnson, Eisele and MacPherson 1990), *S. crambusa* and *S. cestri*. The latter are easily distinguished by dissection (especially when the brown females may cause confusion).

Male Genitalia. Aside from being a eumaeine, sharing no character states with *Strymon* (see Johnson, Eisele and MacPherson 1990, figs. 14-45 contrasting Fig. 232).

DESCRIPTION. ***Male***. DFW with rather angulate apex, ground color distally brownish black fading into hue of steel blue from postmedial area to the wingbase. Distal area of discal cell with small dark brand. HW margin with irregular contour and with anal lobe outstanding, submargins brownish black, base of wing hued steel blue. VFW ground grizzled gray over darker brown and black, postmedial area with suffusive light gray-white band from costa to cell CuA2; VHW covered with blocks of grizzled gray, brown and whitish mottling, forming alternating, concentric pattern of patches from base through medial area and, thereafter, with distal areas from costa to cell M3 suffused brightly with white. FW length: 12.0 mm. (holotype). ***Female***. Unknown. ***Male Genitalia***. Fig. 232. Vincular dorsum with elongate bundles of brush organs; vincular ventrum with most notable element of habitus a wide, robustly rimmed, truncate saccus dominating some two-fifths of ventral genital length. Valvae with bilobed configuration more prominent in habitus than adjacent bilobes (latter tapered and thin). Aedeagus generally robust, exceeding length of genitalia by only about one-fourth and with planes of caecum and shaft not greatly different. Terminus with two laterally serrate cornuti.

TYPE. Holotype male, ARGENTINA, Quimili, Santiago del Estero Prov., 1 March 1992, leg. L. Peña, deposited AMNH.

DISTRIBUTION. ***Spatial***: Known only from he type locality. ***Temporal***: Known only from the type data.

REMARKS. See Remarks in generic entry.

ETYMOLOGY. Patronym for Mario Gentili, honoring his contributions to studies of Austral Lepidoptera.

Solanorum goleta (Hewitson)
NEW COMBINATION,
Fig. Appendix 3,C

DIAGNOSIS. FW angulate at apex, HW with pronounced anal lobe. DFW,DHW brown; VHW with pattern of "blocked" suffusive patches of grizzled brown forming mainly a dark basal and medial band followed distally more "strewn" patterns of grizzled brown and gray.

DESCRIPTION. ***Male***. DFW,DHW ground brown; VFW generally grizzled beige and brown with short suffusive postmedial and apical lines across the radial areas. VHW marked with blocks of mottled brown, gray and tawny ground formed mainly into dark basal and medial bands (broken by a lighter postbasal area) and followed distally by meandering brown and blackish

mottled marks markings across the postmedial/anal area and along the submargins. ***Female***. Unknown to me. ***Male Genitalia***. Unknown to me (see Remarks).

TYPE. Holotype male, BMNH, labelled "N. Grenada. Hewitson Coll. 79-69. Thecla goleta. 1.", "B. M. Type No. Rh. 609. TL: "New Grenada" [Colombia].

DISTRIBUTION. *Spatial*: Known from only a few old specimens with generalized Colombia data. ***Temporal***. Unknown.

REMARKS. Along with the type (dissection which I do not have available for review) the only other specimen known to me is at the MNHN. I have included this species here because of the appearance of a compelling congener and the fact that, on my last visit to the BMNH (1989), I had excluded *T. goleta* from combination with the available Eumaeini generic names *and* those contemplated for the Thecloxurina. This matter requires further resolution.

GROUP 3

Distinction of Various New Genera from Certain Old Monotypic Genera Widely Misapplied in the Historical Literature [taxa described or redescribed, as appropriate in abbreviated format, to clarify the taxonomy of certain of the larger, elfinlike, Eumaeini]

Format: Treatments include certain monotypic genera requiring redescription because of broad misapplications in literature of the "*Thecla*" grade. Sections define certain old names and differentiate them from other monophyletic groups requiring new names. Selected species are treated in each group using the abbreviated format reviewed below.

An initial ***Synopsis*** explains why a genus is treated herein and what species it has generally included in historical "*Thecla*" usages. Format for each generic treatment is similar to that in the main text (diagnoses including *Wings* and *Morphology* entries). Old genera are treated using appropriate entry categories from the text; new genera are treated in full descriptive format.

In entries concerning old monotypic genera, type species are treated in the *Type Species* entry of the generic treatment; for new genera, type species are described in full in a separate entry. Species described under new genera have been selected to illustrate species diversity. This section is subtitled *Exemplary Species* and follows the format used for subspecies in the main text. This format was selected because it is complete but telegraphic. For genera, synonyies are limited to the original citation and referenced to the literature citation; for species synonymies the original citation is referenced to date and page number. In cases where species synonymies are historically "well-known", such are cited.

MICANDRA **Staudinger** [in Staudinger and Schatz, 1888].

Figs. 192, 233B

Type Species by monotypy *Pseudolycaena platyptera* Felder and Felder [1865].

Synopsis-- treated here because study of its large, somewhat elfinlike, type species shows numerous taxa associated with it by common usage do not belong.

DIAGNOSIS. ***Wings***. From *P. platyptera* (see Remarks) DFW,DHW shape greatly rounded, FW appearing quite small compared to HW; no tail, margin of HW limbal cells slightly crennate. DFW ground color dark iridescent azure blue, male FW with extremely large black elliptic androconial brand. VFW blackish with blue sheen and marked with rounded black marginal band; VHW ground black, overlaid with what appears to be six concentric, narrow, jagged and linulate white to blue-white bands (appearing in basal, postbasal, medial, postmedial, submarginal and marginal areas). These latter have been cause of wide misuse of this genus.

Morphology. ***Male*** (Fig. 233B). No *sipc*; elongate brush organs along vincular dorsum. Genital vinculum laterally and ventrally robust, spurs lobate, saccus robust and pointed. Valvae ventrum oblongate and not greatly angulate along lateral contour, ventrally marked by bulbous convex bilobes forming a "keel" (outstanding in lateral view), caudal extensions about same length as bilobes and tapered to fingerlike termini. Aedeagus robust, length exceeding rest of genitalis by caecum length, latter about two-fifth aedeagus length; terminus with prominent bifurcate cornutus. ***Female***. Unknown to me.

REMARKS. Two factors have caused the wide misuse of this monotypic genus: (1) the original inclusion by Staudinger of an ineligable name *incertae sedis*, *sapho* Staudinger (fig. 192T) of uncertain affinity to the type; and (2) the wide association of the name by collectors and curators with any eumaeine showing the recticulate blue and white markings like *platyptera* (most often those with elongate anal tails properly associated with *Macusia*, see below). These show a broad, laterally fanlike, cervix bursae innovation on the female genitlia, along with other characters. *M. platyptera* still appears to be an "isolated" eumaeine whose phylogenetic relations require further study.

Rediagnosis of *Micandra* serves to disassociate from it taxa to which the name should not apply. The largest group of the Eumaeini misassociated with *Micandra* in common usage are various species of Draudt's (1919) "*aegides* Group". Most of these taxa, with bright blue-white VFW,VHW linulate highlights belong in *Macusia* Kaye reviewed hereafter.

***MITHRAS* Hübner 1819**

Type Species *Papilio nautes* Cramer [by Scudder 1875]. Figs. 192U, 233

Synopsis-- treated here to distinguish its type species since numerous taxa of "*Thecla*" sometimes associated with *Mithras* belong in genera of subsequent entry.

Wings: Type species (fig. 192U) very distinctive (thus obscuring apparent congeners). FW and HW broadly rounded, dorsal color azure blue; male FW with black ovate scent brand appearing as salient black FW dot, HW with elongate tails at veins CuA1 and CuA1 and a sharp, anally directed, (1 -1.5 mm.) anal lobe. Ventral markings dominated by (1) black HW eyespot located postmedial along the costa and (2) three wavy, crenate, blue-green bands (medial, postmedial, submarginal) extending from the anal margin to the terminus of veins M1 or M2 (these bands, over black ground, produce the rather "showy" "ocean-wave" pattern typifying the HW markings).

Morphology: Only the male is known to me, exhibiting an extremely robust and rather hemispherical lateral ventrum, supporting elongate brush organs along dorsum; no *sipc*. Vinculum laterally with huge spurs (almost equalling size of saccus); vincular ventrum robust and ovate, terminating in a broadly pointed saccus. Valave bulbously parabolic at base with robust caudal extensions proceeding to a knobbed end; small lateral spur at juncture of bilobes and the caudal extensions. Aedeagus robust, length exceeding rest of genitalia by caecum length; caecum robust, comprising over a third of aedeagal length and displaced some 60 degrees from plane of aedeagal shaft; aedeagus terminus with two prominent cornuti, one "pencil"-like with sightly serrate ends, the other lobate with surface covered by serrate setae.

REMARKS. Considering wings and morphology, the type species still appears to be rather "isolated" among the Eumaeini and of the numbers of large elfinlike taxa studied by me in the outgroups, no other taxa readily appear as a "sister". There are, however, many large "showy" "*Thecla*" still to study in this pursuit.

***MACUSIA* Kaye 1904**

Figs. 192VW, 234-235

Type species by original designation *Thecla satyroides* Hewitson 1863-1878 [1865].

Synopsis-- treated here because study of the type species indicates a number of "*Thecla*" taxa are readily associated with its stuctural characters.

Wings. Structural characters unite a number of species (two extremes treated below) showing highly individualized patterm elements sharing a common ground plan (see Remarks). All species have an inwardly directed anal lobe offset by long HW tails. Pattern elements in common involve the VFW,VHW and include three major concentric lines of bands (usually brown to black)— discal, postmedial and marginal on FW; medial, postmedial and submarginal on HW. Given the wing shape, mounted specimens show the above FW and HW bands generally in line from one wing to the other. Bands themselves, however, differ in composition, depending on species— widely brown and submarginally lunulate in taxa like the type species; lineal and black to brown in species like *M. triquetra* Hewitson; lineal as above but with blue and white highlights in certain species of Draudt's "*aegides* Group".

Morphology: Female with *sipc* consisting only of a heavily sclerotized terminal tergite without additional ventral elements as in some genera below (see *Cryptaenota*); cervix bursae developed into an outstanding, laterally expansive, "wing"-like structure extending over the distal end of the corpus bursae. Male showing brush organs and robust genitalia differing between the species by widely varying saccus lengths but otherwise sharing angulate lateral vincular shapes with prominent lobate spurs and valvae markedly shouldered (angulate bilobed area dominating the habitus and tapered to short caudal extension after a promient lateral prong or keel). Aedeagus elongate (length exceeding rest of genitalia varying with interspecific differences of saccus length but far more elongate than vincular area before saccus); caecum comprising one-fourth to two-fifth aedeagus length and generally displaced from plane of aedeagal shaft; terminus of aedeagus with two prominent cornuti, one "spearhead"-shaped, one lobate and covered with serrate elements.

EXEMPLARY CONGENERS.

***Macusia satyroides* (Hewitson)**

Figs. 192V, 234

Thecia satyroides Hewitson 1863-1878 [1865].

DIAGNOSIS. An outstanding species, male solid silvery blue on DFW,DHW with thin black margins,

orange anal lobe and two HW tails; VFW,VHW each showing three parallel brown bands, latter on HW expressed in large lunules appearing Satyrid-like (hence the species name). Female similar on VFW,VHW but brown on DFW,DHW.

Male Genitalia. Fig. 234A.

Female Genitalia. Fig. 234B.

Macusia triquetra (Hewitson)
NEW COMBINATION

Figs. 191W, 235

Thecla triquetra Hewitson 1863-1878 [1865]: (1) 76, (2) pl. 28, figs. 17-19.

DIAGNOSIS. Male DFW,DHW very deep blue, FW marked with ovate suffusive brand, female brown; anal lobes black, two HW tails. VFW,VHW beige marked on each wing with three concentric lineal brownish-black bands (discal, postmedial, submarginal on FW, medial, postmedial, submarginal distad from small discal mark).

Male Genitalia. Fig. 235A.

Female Genitalia. Fig. 235B.

REMARKS. This species illustrates the extreme of wing pattern occurring within a rather coherent structural ground plan.

DENIVIA,
NEW GENUS

Figs. 192X,Y,Z,Aa; 236-239

Synopsis-- Defines a monophyletic unit including certain elfinlike species of the "*Thecla*" *deniva* and *theocritus* Groups of Draudt (1919) to distinguish these from *Mithras*.

DIAGNOSIS. ***Wings***. HW with elongate, distally directed spikelike anal tail protruding from the anal angle, differentially complemented by normal thecline tail at vein CuA2. VHW pattern based on suffusive or jagged patterns comprised of concentric rows of bandlike elements— discal, postmedial, submarginal on FW; postbasal/medial, postmedial, submarginal on HW (some species with these suffusive and cryptic, others wide and colorful, others linulate and jagged).

Morphology. ***Male***. Vinculum of genitalia steeply tapered to sharp, often elongate, saccus; valvae varying interspecifically in length but always with steeply tapered bases forming the bilobes. ***Female***. *Sipc* lacking ventral elements and with terminal tergite more elongate than laterally expansive, sclerotal scupturing along dorso-anterior margin. Genitalia divided into distinctive anterior and posterior tubal elements separated by robust transparent neck; posterior element terminating in lamellae showing elongate distal prongs. Corpus bursae signa closely abutting cervix bursae.

DESCRIPTION. ***Adult***. ***Male***. DFW,DHW bright iridescent blue, silvery blue, greenish blue or green; HW with elongate spikelike anal tail usually offsetting hairlike thecline tails; males with FW brands. VHW pattern built on concentric rows of bandlike elements— discal, postmedial, submarginal on FW; postbasal/medial, postmedial, submarginal on HW (some with suffusive and cryptic hues, others with wide colorful bands or bands that are more linulate and jagged). FW length: 14.5 mm.- 16.5 mm. Female. Similar to male but with DFW,DHW generally with duller grounds and less iridescence, if at all. FW length: 14.5 mm.-17.0 mm. ***Male Tergal Morphology and Genitalia.*** No *sipc*; elongate brush organs along dorsum of genital vinculum. Genital vinculum with lateral surface tapered steeply from labides to base of saccus (contrasting angled or rounded lateral surfaces in *Mithras*, *Macusia* and *Cryptaenota*); vincular ventrum steeply tapered to saccus and saccus sharply elongate (or at least pronglike); vincular spurs elongate and rectangulate. Valvae differing between species in caudal extension length but steeply tapered in the bilobes, extending to rather sharp and/or pointed bases; juncture of bilobes and caudal extension with small but sharp prong or keel. Aedeagii elongate with shaft straight or slightly bowed, length exceeding rest of genitalia by well over caecum length; caecum comprising one-fourth to two-fifths aedeagus length; terminus with two cornuti, one very thin and sharply pointed, one widely lobate and covered with serrate elements. ***Female Tergal Morphology and Genitalia***. *Sipc* present with terminal tergite more terminally elongate than laterally expansive and with salient sclerotinal sculpturing along the dorso-cephalic and centrolateral margins. Genitalia divided into distinct posterior and anterior tubular elements separated by a broad transparent juncture, posterior element antrumal and terminating with lamellae generally showing elongate distal horns (either uniramous or variously serrate). Anterior end of ductus bursae usually dorsally inclined; cervix bursae showing a raised "tongue" from dorsum of ductus bursae which curves dorso-posteriorly into a sclerotized aperature for the ductus seminalis. The corpus bursae has paired, generally "cross"-like, signa which are located *immediately adjacent* the cervix bursae, not midway along the expanse of the bursal sac as is other genera herein.

TYPE SPECIES. *Thecla deniva* Hewitson 1863-1867 [1874].

REMARKS. Numerous taxa of the "*Thecla*" grade still require elucidation in relation to *Denivia*; regarding this, it is important to call attention to the salient unifying characters of the female genitalia and *sipc* (as figured herein for species below).

ETYMOLOGY. Arbitrary Latinized euphonious combination taken from the type species name and considered feminine.

EXEMPLARY SPECIES

Denivia deniva (Hewitson)
NEW COMBINATION

Figs. 192X, 236

Thecla deniva 1863-1867 [1874]: (1) 180, (2) pl. 71, figs. 535,536.

DIAGNOSIS. ***Wings.*** HW with bold laterally extending anal tail complemented by normal thecline tail at vein CuA2; male and female both iridescent blue above, male more brilliant and with ovate (usually gray-sheened) androconial brand. VFW,VHW marked with cryptic and suffusive shades of deep brown and black (these, however, occurring in the concentric areas of wing as typical of genus).

Male Genitalia. Unknown to me.

Female Genitalia. Fig. 236.

TYPE. Holotype male, BMNH, labelled "Brazil. Hewitson Coll. 79-69. Thecla deniva, Hew. (1)", "B.M. Type Rh. 530", "Type". TL: "Brazil".

DISTRIBUTION. ***Spatial***: Specimens basically represent SE Brazil; an apparent sister species occurs across the Paraná/La Plata delta in Argentina chaco (see below). ***Temporal***: None of the specimens known to me is dated.

REMARKS. This species was of interest to the study of the ingroup because it is elfinlike in VFW,VHW appearance and was of uncertain relationship.

Denivia maggae,
NEW SPECIES

Figs. 192Y, 237

DIAGNOSIS. ***Wings.*** Differing from *D. deniva* in (1) more angulate wing shape but diminutive HW anal tail and no tail at CuA2 and (2) extent of concolorous VFW, VHW pattern, limiting cryptic suffusive pattern elements to the VHW basal and postbasal areas, a slight postmedial line, and suffusive brown blotches in the cells along the HW margin.

Female Genitalia. Ductus habitus shorter and more robust than *D. deniva*; lacking the elongate terminal prongs, these replaced by short serrate distal margins along each side of the lamella postvaginalis.

DESCRIPTION. ***Male.*** Unknown. ***Female.*** DFW,DHW shape angulate, HW particularly distended with rather truncate anal tail and no tail at vein CuA2. DFW, DHW ground flat violet gray. VFW, VHW ground buff, FW with suffusive brown along media and postmedial areas from costa to cells CuA1 or CuA2, HW with dark blackish brown suffusion limited to postbasal patch, meandering line along medial area and blotches in cell interspaced along the submargin. FW length: 15.0 mm. (holotype). ***Female Genitalia.*** Fig. 237. Typical of genus but with robust ductus habitus and lamellae lacking greatly elongate distal prongs; rather, lamella postvaginalis flanked by two to three serrate prongs along each distal margin.

TYPE. Holotype female, ARGENTINA, Santiago del Estero, deposited MNHN.

DISTRIBUTION. ***Spatial***: To day known only from the type locality which appears to be chaco (see Remarks). ***Temporal***: Unknown.

REMARKS. This interesting specimen from MNHN series gains some credibility by two recent discoveries— (1) Peña's recent additional specimens of a new species of *Ministrymon* from Santiago del Estero represented by old series in the MNHN and (2) Peña's collection at the same locality of an extremely interesting new species, *Solanorum gentilii*, described in a previous section. With hot humid weather characterizing one part of chaco seasonality, it appears likely that a sister species of SE Brazil *D. deniva* occurs south of the Paraná/ La Plata delta. A similar vicariance has already been noted in *Strymon* (Johnson, Eisele and MacPherson 1990).

ETYMOLOGY. Patronym for Maggie Taylor.

Denivia hamila (Jones)
NEW COMBINATION

Figs. 192Z, 238

Thecla hamila Jones 1912: (4) 896, pl. 97, fig. 1.

DIAGNOSIS. ***Wings.*** Male DFW,DHW brilliant iridescent silvery blue, FW with ovate, course and suffusive gray brand. HW with spikelike anal tail but no tail at vein CuA2. Female dull brown with bluish hue. VFW,VHW with distinctively green-gray concentric suffusive bands, more angulate than on congeners except the brown species *D. hemon* (subsequent entry), and occurring with particularly prominence as black across the FW medial area and as black bordered with green at medial, postmedial and submarginal areas of the HW.

Male Genitalia. Fig. 238A.

Female Genitalia. Fig. 238B.

TYPE. Deposition presently unknown; originally in Jones Collection but not documented as yet in Jones material at BMNH. TL: Castro, Brazil.

DISTRIBUTION. ***Spatial***: General area of specimen representation SE Brazil. ***Temporal***: Specimens known to me are undated.

REMARKS. This species exemplifies those showing thick multi-colored bands.

***Denivia hemon* (Cramer)**
NEW COMBINATION
Figs. 192Aa, 239

Thecla hemon Cramer 1775--1790 [1775]: 1(2) 30, pl. 20, figs. D,E.

DIAGNOSIS. Male DFW,DHW iridescent silvery blue, FW with widely suffusive (3-4 mm.) black area surrounding brand; female brown. VFW, VHW ground brown crossed by concentric darker brown band; particularly on the HW, bands very angulate and jagged abutting the discal area and with the medial and postmedial bands converging in angulate fashion toward the anal area and tails.

Male Genitalia. Fig. 239A.

Female Genitalia. Fig. 239B.

TYPE. Deposition unknown. TL: Surinam.

DISTRIBUTION. ***Spatial***: Appearing rather widepsread in South America from Colombia south through Brazil. Draudt (1919) mentions the species from Central America but this also needs to be verified. ***Temporal***: Specimens from the AMNH span much of the South American spring through fall; they appear as perhaps year-round in S Brazil.

REMARKS. This species exemplifies congeners with lineal, angulate bands.

***CRYPTAENOTA*,**
NEW GENUS
Figs. 192Ab,Ac; 240-241

Synopsis-- includes the well-known *Thecla latreillii* and relatives.

DIAGNOSIS. ***Wings***. Pattern element innovations superficially obscuring sister taxa but all with prominent, inwardly directed HW anal lobe and VFW, VHW pattern based on suffusive or succinct expression of medial and submarginal FW and HW bands, generally attaining widths 1 mm. or more

Morphology. ***Male***. Vinculum greatly sculptured ventrally and laterally; saccus, though varying in length between species usually with terminal knob; valvae robust with bilobes greatly shouldered and lateral contours of these and shorter caudal extensions irregularly sculptured. ***Female***. *Sipc* with separate ventral element attached laterad of variously sculptured terminal tergite and extending around the genital antrum and lamella antevaginalis. Genital ductus bursae a simple tube, flared slightly at anterior and posteriorly as an antrum with simple lamellae lips.

DESCRIPTION. ***Adult. Male***. Wing shape angulate in HW showing prominent inwardly directed anal lobe offsetting elongate tails at veins CuA2 and CuA2. DFW, DHW variously concolorous iridescent green to blue. Brands in males appear to be differential in occurrence depending on the species. VFW,VHW pattern based on suffusive or succinct expression of medial and submarginal FW and HW bands, generally attaining widths 1 mm. or more due to color combinations of scales comprising the bands (tawny/ orange/ tawny on *C. latreillii*, gray-green/ black/ gray-green on *C. mavors*, etc.). Additional pattern elements occur depending on the species but usually limited to tripartite markings resembling parts of the other bands and occurring distally or angulate in the anal areas. ***Male Tergal Morphology and Genitalia***. No *sipc*. Genitalia differing between species in saccus length but saccus usually with terminal knob. Vinculum ventrally and laterally angulate, spurs prominent and robustly angled; brush organs in thick bundles about vincular dorsum. Valvae with angulate shoulder similar to *Mithras* but contour of both bilobes and short caudal extensions more irregularly sculptured than in latter genus. Aedeagus elongate, caecum comprising two-fifths to one-third aedeagal length with shaft and caecum often bowed; terminus with two cornuti, one robust and pronglike, one lobate with serrate elements. ***Female Tergal Morphology and Genitalia***. Female *sipc* with separate ventral element attached laterad of variously sculptured terminal tergite, ventral element extending around and abutting genital antrum and lamella antevaginalis. Genital ductus bursae a simple tube, flared slightly at anterior to cervix bursae and posteriorly as an antrum; antrum terminating as simple, ovate or oblongate, lamellae with little, if any, sculptured components along the margins. Cervix bursae also simple, amounting to a somewhat more bulbous sclerotization in the area of the ductus seminalis; paired signa are broad-based and inwardly pronglike.

TYPE SPECIES. *Thecla latreillii* Hewitson 1863-1878 [1865].

REMARKS. Described herein to distinguish the type species and further denote the structural ground plan on which further study of congeners can be based. Study of South American elfin butterflies would hardly be complete without mention of the position of a showy

species like *C. latreillii* which could be considered the consumate large and cryptic elfin.

ETYMOLOGY. Considered feminine; combines Latin roots meaning "cryptic" and "marks" and refers to the elfinlike markings that characterize the type species and congeners.

EXEMPLARY SPECIES

Cryptaenota latreillii (Hewitson), NEW COMBINATION

Figs. 192Ab, 240

Thecla latreillii Hewitson 1863-1878 [1865]: (1) 74, (2) pl. 29, figs. 8,9.

DIAGNOSIS. Unmistakable in wing pattern; VFW,VHW beige with bands of tripartite and somewhat lunulate orange bordered by tawny. Wing shape marked by greatly produce and incised anal lobe paralleled by two frilly tails at CuA1 and CuA2. Male DFW,DHW silvery blue, female brown.

Male Genitalia. Fig. 240A

Female Genitalia. Fig. 240B

TYPE. Holotype male, BMNH, labelled "Latreillii, [unreadable], Java [sic, and partially rubbed out]", "Ex. Obethur Coll. Brit. Mus. 1927-3." "ex MUsaeo Dr. Boisduval", "B.M. Type Rh. No. 515", "Type".

DISTRIBUTION. ***Spatial***: SE Brazil westward at least to Paraguay. ***Temporal***: AMNH specimens are dated January to May.

REMARKS. See generic entry.

Crytaenota mavors (Hübner) NEW COMBINATION

Figs. 192Ac, 241

Thecla mavors Hübner 1808-1837 [1818]: (1) 31, pl. 33, fig. 189, 190.

DIAGNOSIS. ***Wings***: DFW,DHW ground of males iridescent dark gray-green, female brown; DHW showing typical outline but anal lobe smaller offsetting elongate tails. VFW,VHW ground steel green cross by rather succinct black medial and submarginal stripes highlight distally and basally by gray-green suffusions.

Male Genitalia. Fig. 241A

Female Genitalia. Fig. 241B

TYPE. Location unknown. TL "Surinam".

DISTRIBUTION. ***Spatial***: As idenfified in the common usage appearing to be Pan-Neotropical (Mexico south through the Amazon region) though not commonly represented in Andean Region west of the upper Amazon tributaries. ***Temporal***: Considering entire range, specimens dated from nearly every month of the year.

REMARKS. As with other taxa which have taken on omnibus usages over the neotropics studies need to be made of the populations making up these ranges and the possibilities of wide misidentification regarding various similar taxa.

VOLUME II GENITALIC FIGURES

Figure captions following hereafter use the format of Vol. I and are placed on the facing pages. Caption for Figs. 51-53 is given below.

Figures 51-53

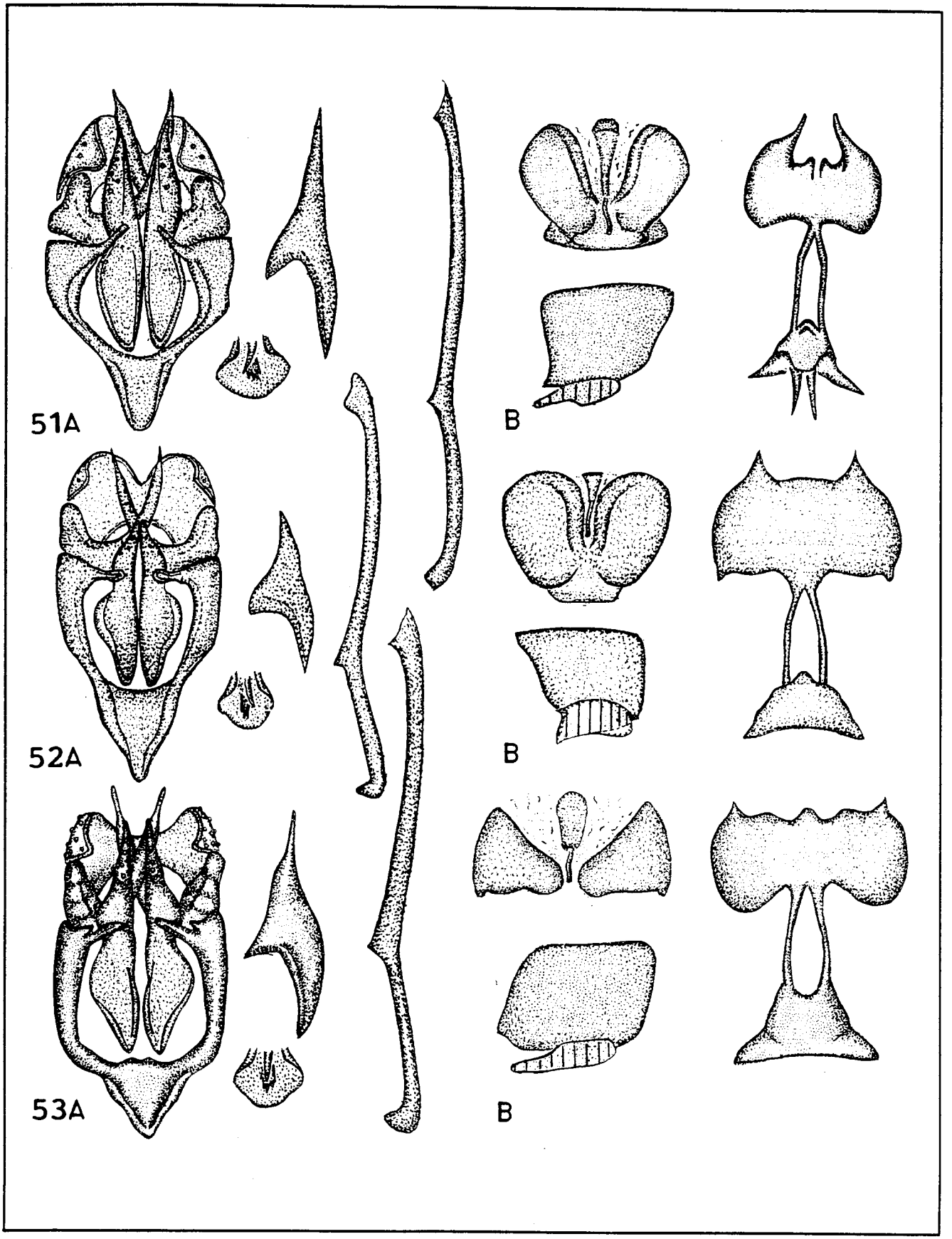
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Display format for *Rhamma* species was given in type species Figure 41, repeated briefly below for rapid reference.

A, male: left, genitalia with aedeagus removed, ventral view; right above, valvae lateral view; right below, aedeagus terminus and cornuti; far right, aedeagus lateral view. B, female: left, above, cervix bursae hood, terminal view; left, below, *sipc* with ventral element shaded with vertical lines; right, female genitalia from lamellae postvaginalis to cervix bursae ventrum, ventral view. In succeeding male figures, dark line and carot, respectively, denote expanse and locus of abutment of brush organs, when present.

Fig. 51. *Rhamma amethystina*, A, holotype, B, proximate topotype Cumbres de San Javier, Tucuman, Argentina (AMNH).

Fig. 52. *Rhamma comstocki*, A, holotype, B, allotype.

Fig. 53. *Rhamma nigrasarotina*, A, holotype, B, allotype.


51A
B
52A
B
53A
B

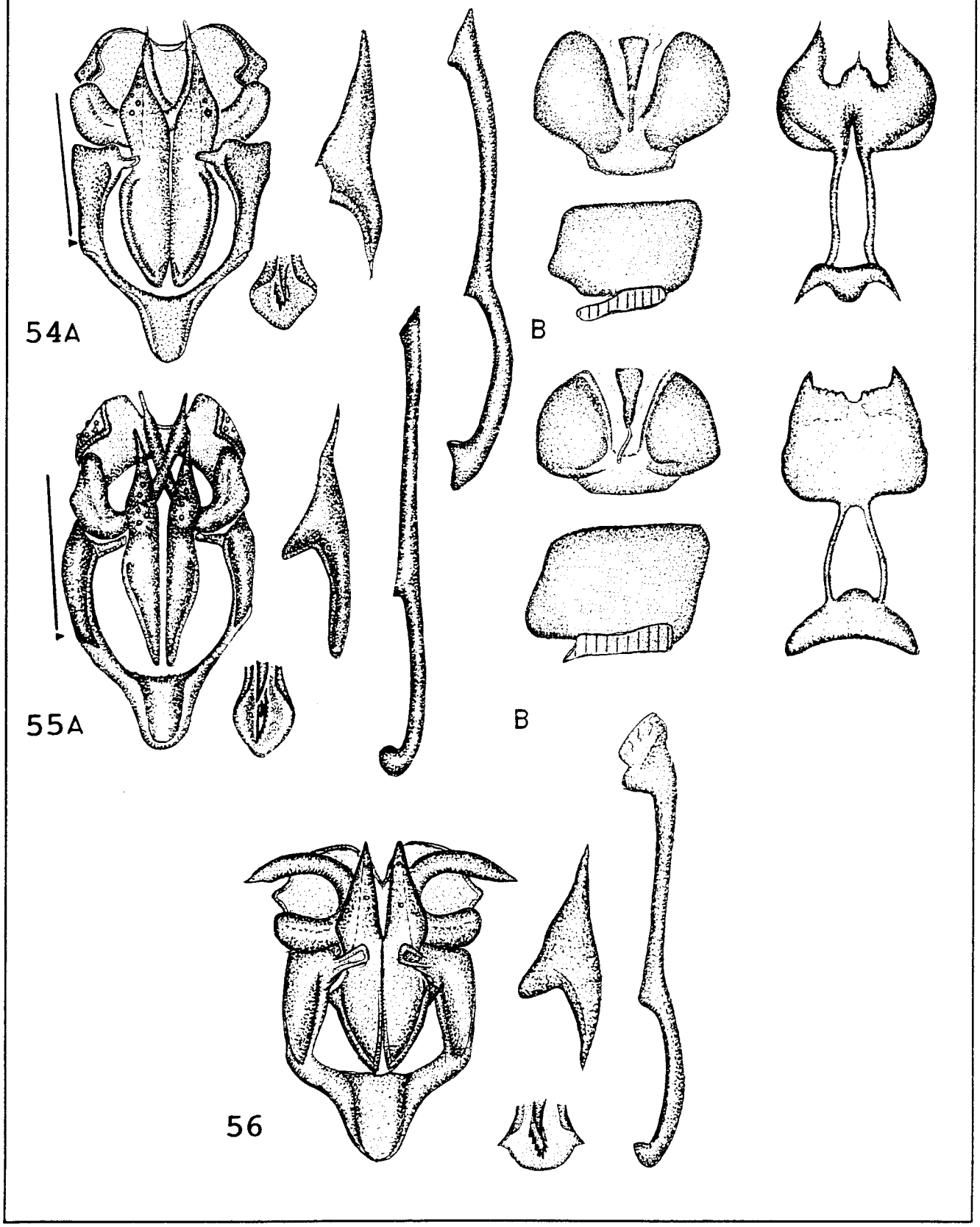
Figures 54-56

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

Fig. 54. *Rhamma saroticana*, A, holotype, B, allotype.

Fig. 55. *Rhamma inexpectata*, A, holotype, B, allotype.

Fig. 56. *Rhamma roberti*, holotype.


54A
B
55A
B
56

Figures 57-61

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

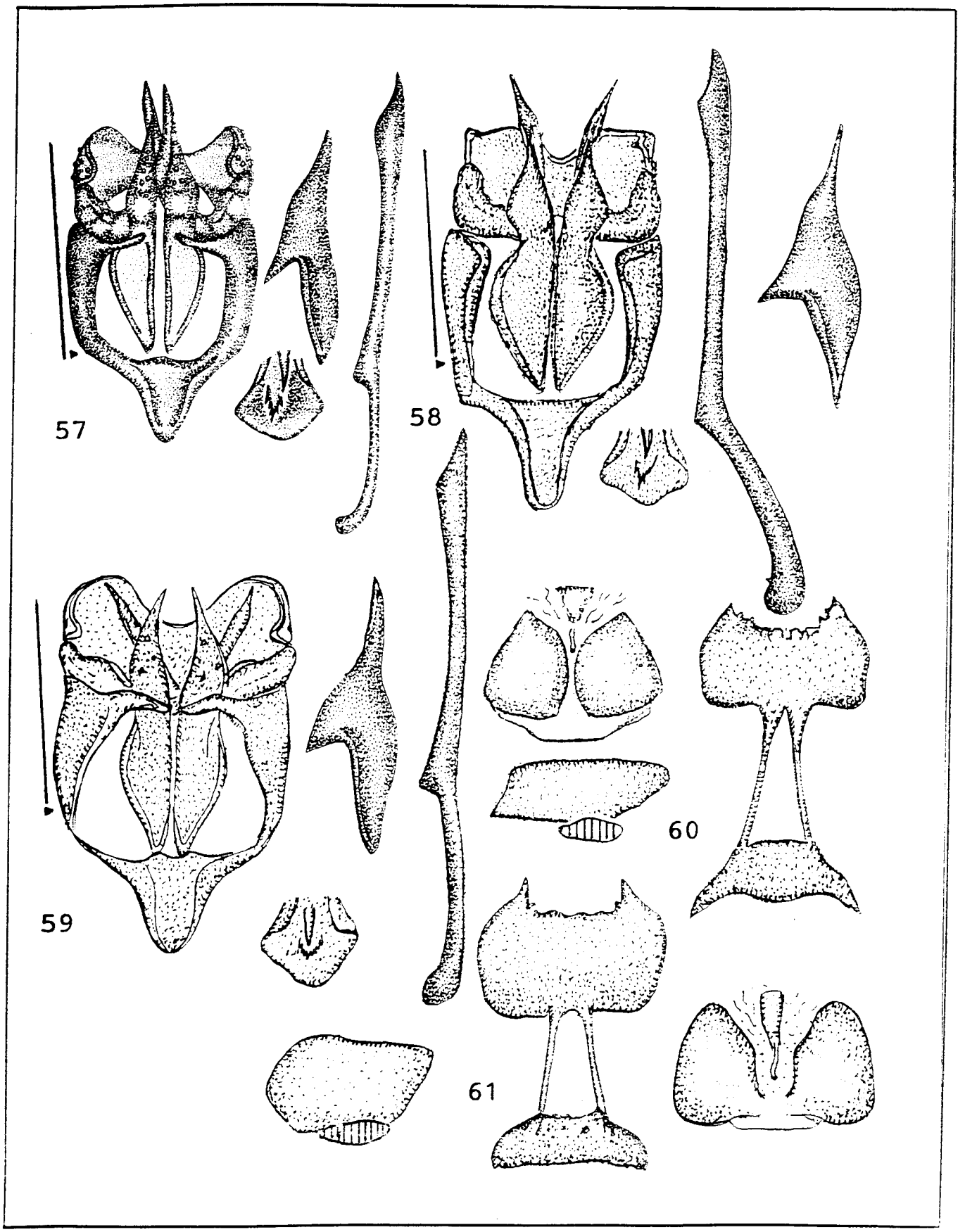
Fig. 57. *Rhamma tarma*, holotype.

Fig. 58. *Rhamma hybla*, A, holotype, B, "Equateur" (MNHN).

Fig. 59. *Rhamma adunca*, topotype female (MNHN).

Fig. 60. *Rhamma chilensis*, holotype.

Fig. 61. *Rhamma duplicata*, holotype.


57
58
59
60
61

Figures 62-66

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters on fig. 66, male and female of *Shapiroana shapiroi*, indicate the display format used for all taxa of genus.

Fig. 62. *Rhamma magenta*, holotype (*Note*: text citation to figure is incorrect; Fig. 62 is *R. magenta*).

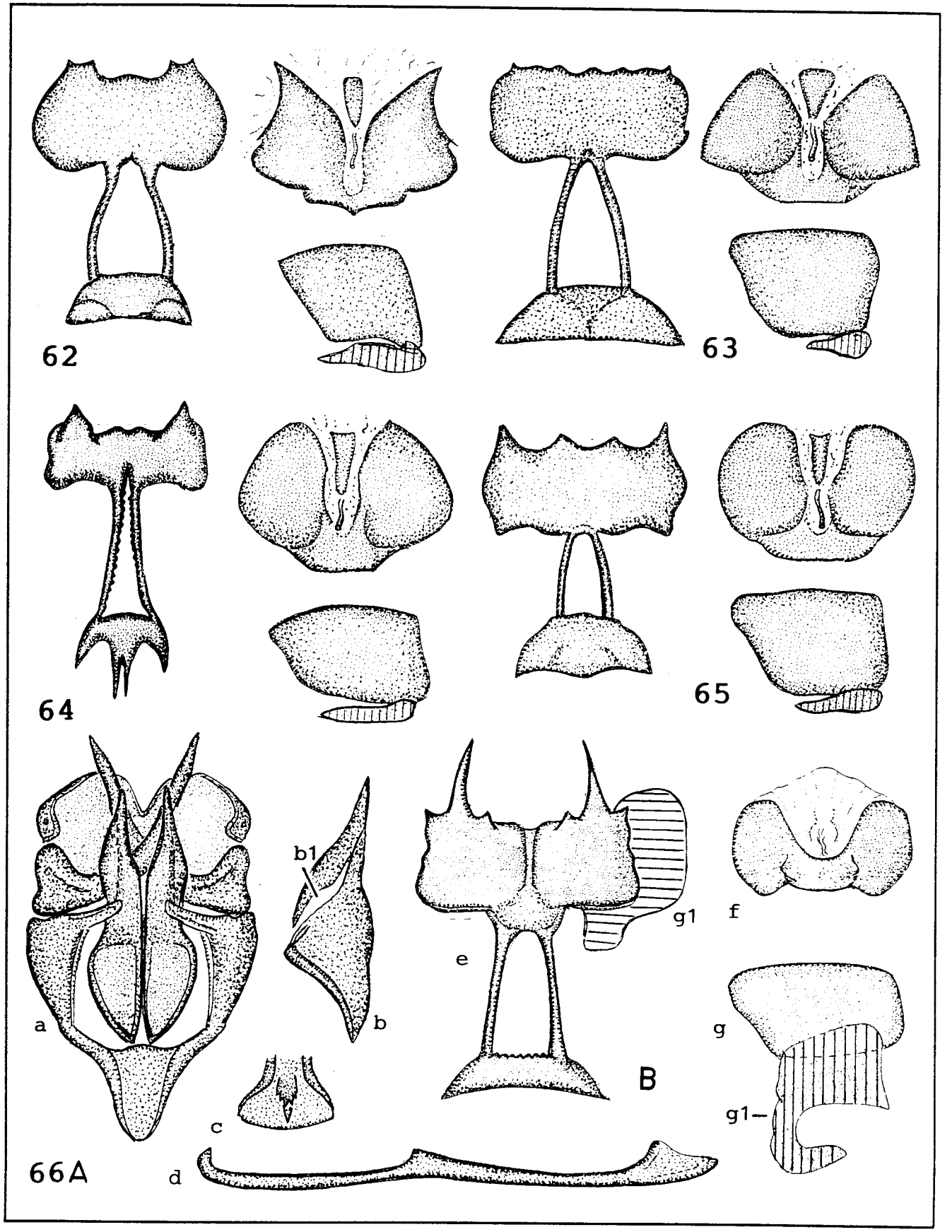
Fig. 63. *Rhamma argenta*, holotype.

Fig. 64. *Rhamma creara*, holotype (*Note*: text citation to figure is incorrect; Fig. 64 is *R. creara*).

Fig. 65. *Rhamma disjuncta*, holotype.

Display format for ***Shapiroana***: male (A) a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view (b1, transparent area); c, aedeagus terminus with cornuti; d, aedeagus, lateral view; female (B), e, genital plate, ventral view with pronged lamella postvaginalis above, paired lateral ridges of ductus bursae center, cervix bursae ventrum, below; f, cervix bursae hood, terminal view; g, *sipc*, lateral view (g1, ventral element of *sipc* noted on both *sipc* lateral view and genital plate ventral view).

Fig. 66. *Shapiroana shapiroi*, A, holotype, B, allotype.


62
63
64
65
a
b1
b
c
d
e
g1
B
f
g
g1
66A

Figures 67-68C

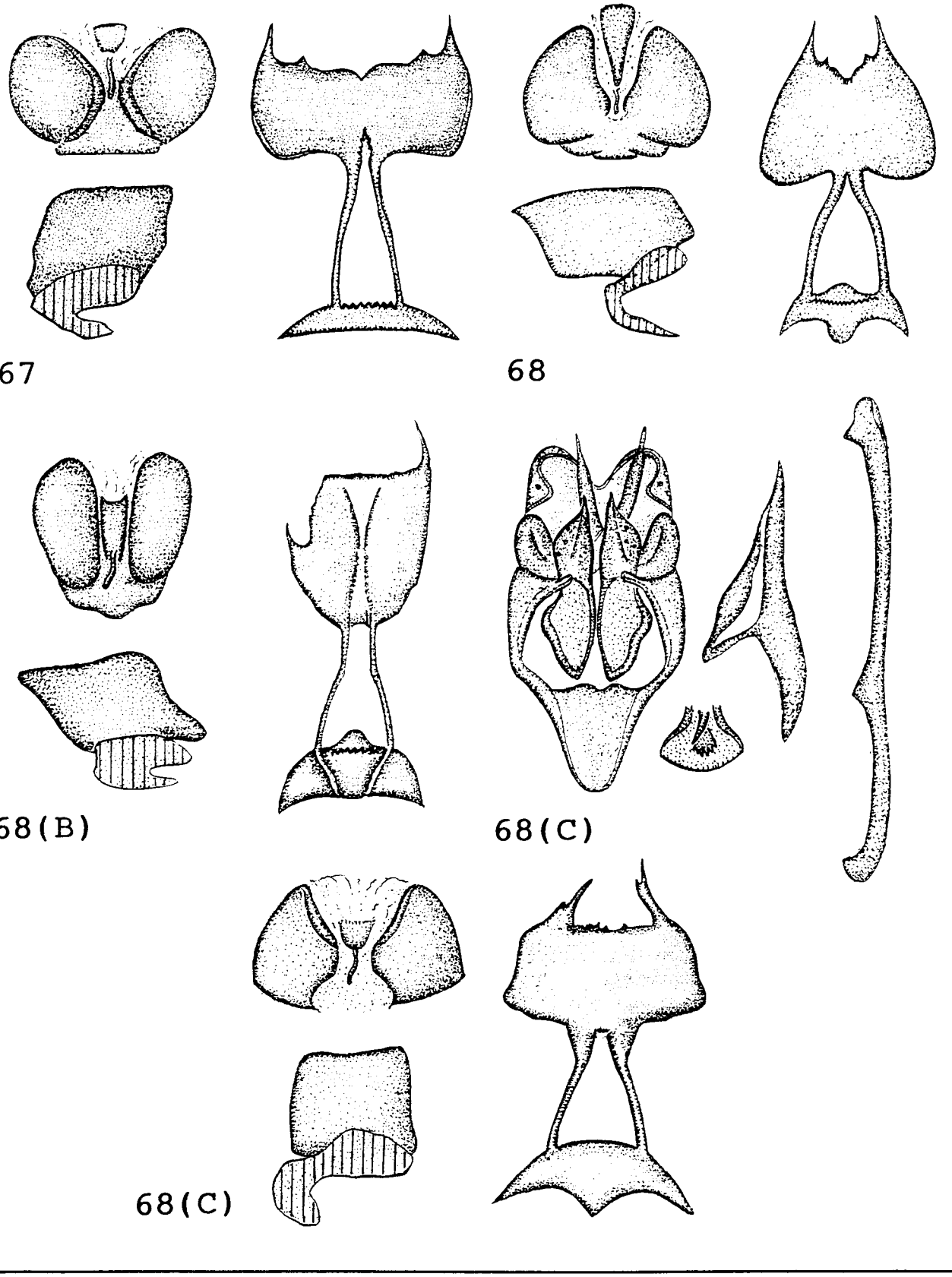
Large numerals and accompanying letters (B,C) denote figures cited in text. Additional taxa, 68B-, result from expansion of original graphics format at proof; consequently in fig. 68C, male is figured above and female below.

Fig. 67. *Shapiroana circe*, holotype.

Fig. 68. *Shapiroana aurifera*, holotype.

Fig. 68B. *Shapiroana matusikorum*, holotype.

Fig. 68C. *Shapiroana macphersoni*, holotype (above), allotype (below).


67
68
68(B)
68(C)
68(C)

Figures 68D-70

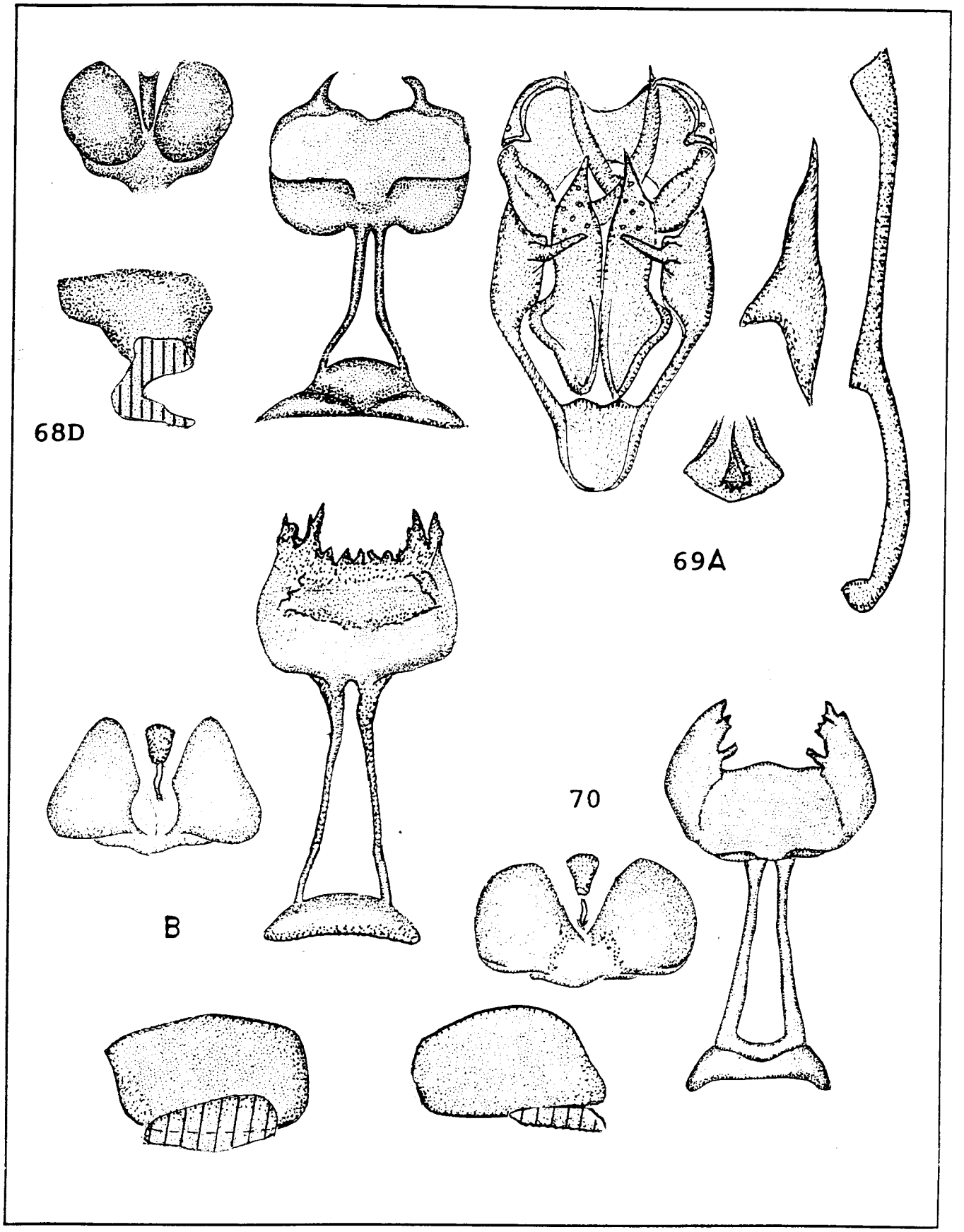
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters of fig. 69, type species of *Paralustrus*, give display format used for all congeners.

Fig. 68D. *Shapiroana minissima*, holotype.

Display format for ***Paralustrus***: male (70A)-- a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; female (70B)-- e, ductus bursae (f, cervix bursae); 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 larger *arria* Group of genera.

Fig. 69. *Paralustrus commodus*, A, lectotype, B, proximate topotype, "New Granada" (BMNH).

Fig. 70. *Paralustrus orosiensis*, holotype.


68D
69A
B
70

Figures 71-73

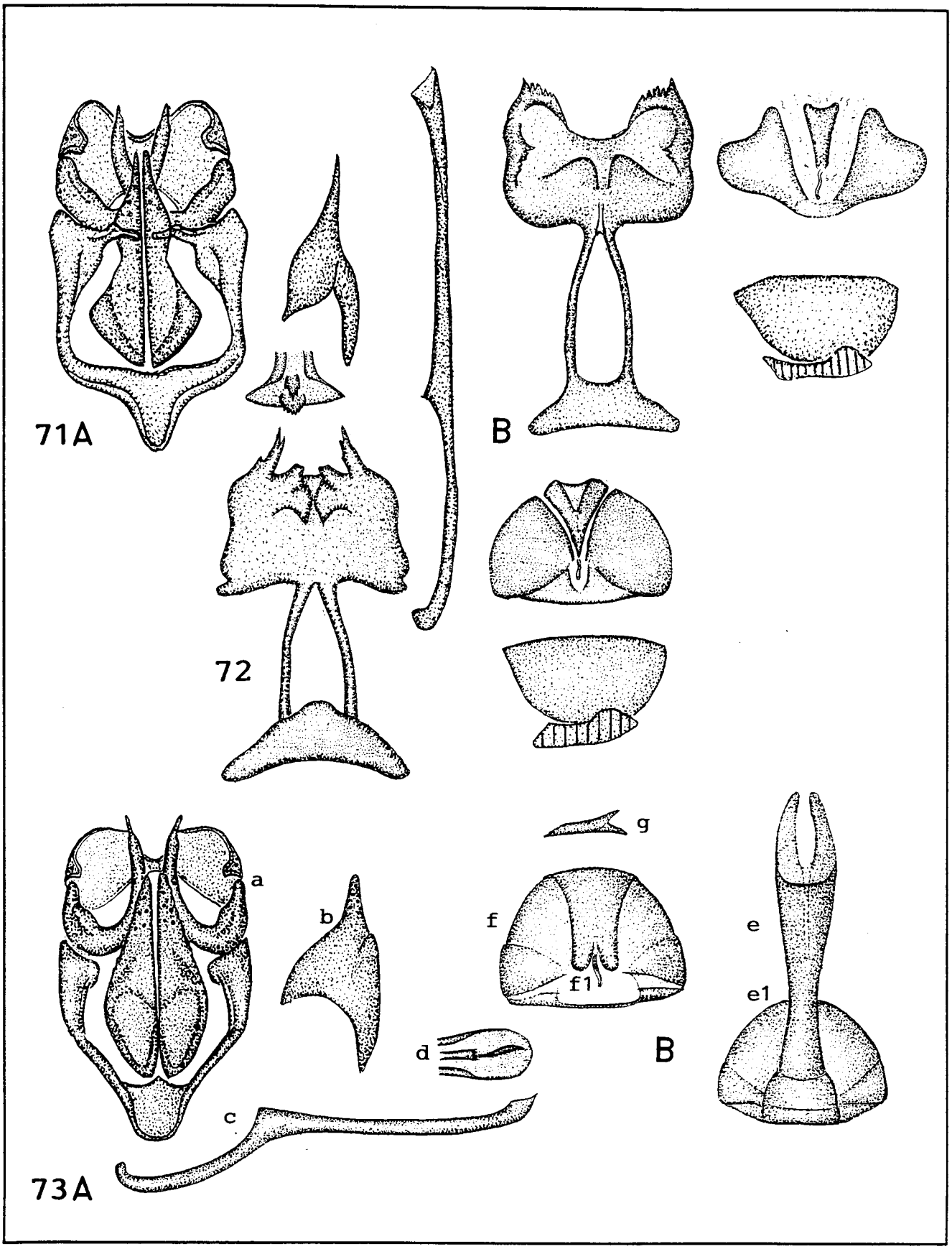
Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters on fig. 73A, male and female of *Penaincisalia culminicola*, indicate the display format used for all taxa of genus.

Fig. 71. *Paralustrus familiaris* (= "*Thecla viridis*" Lathy, homonym), A, holotype B, Amato, Ecuador (BMNH).

Fig. 72. *Paralustrus paccius*, holotype.

Display format for ***Penaincisalia***: male (A) a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti; female (B), e, ductus bursae, ventral view, extending from terminal lamellae, above, to cervix bursae ventrum, below; e1, cervix bursae hood, terminal view, shown behind ductus bursae; f, cervix bursae hood, full terminal view enlarged (f1, ductus seminalis); g, corpus bursae signum, lateral view.

Fig. 73. *Penaincialia culminicola*, A, holotype, B, topotype (see fig. 73CD, next plate for junior synonym *alatus*).


71A
B
72
B
a
b
c
d
e
e1
f
f1
g
73A

Figures 73C-76

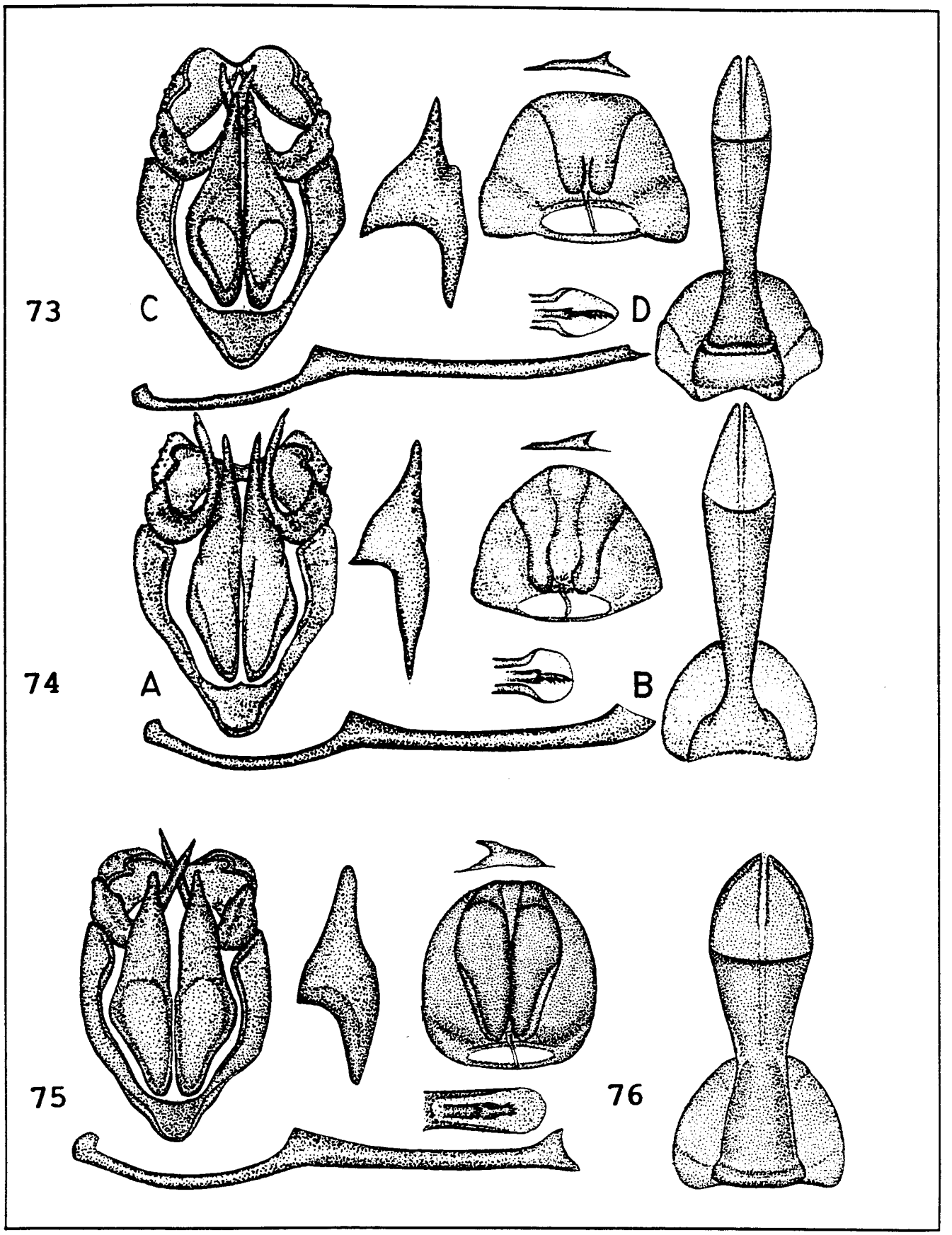
Large numerals and accompanying letters (A-D) denote figures cited in text. Additional figure element 73C,D results from need to illustrate junior synonym of *Penaincisalia culminicola* (male as C, female as D).

Fig. 73. *Penaincisalia culminicola* [junior synonym *Thecla alatus*], C, holotype, D, topotype of *Thecla alatus*.

Fig. 74. *Penaincisalia aurulenta*, A, holotype, B, allotype.

Fig. 75. *Penaincisalia caudata*, holotype.

Fig. 76. *Penaincisalia oribata*, proximate topotype.


73
C
D
74
A
B
75
76

Figures 77-82

Large numerals and accompanying letters (A, male, B, female) denote figures cited in text; display format of fig. 80 is divided, as indicated, between right center and bottom left of plate.

Fig. 77. *Penaincisalia downeyi*, holotype.

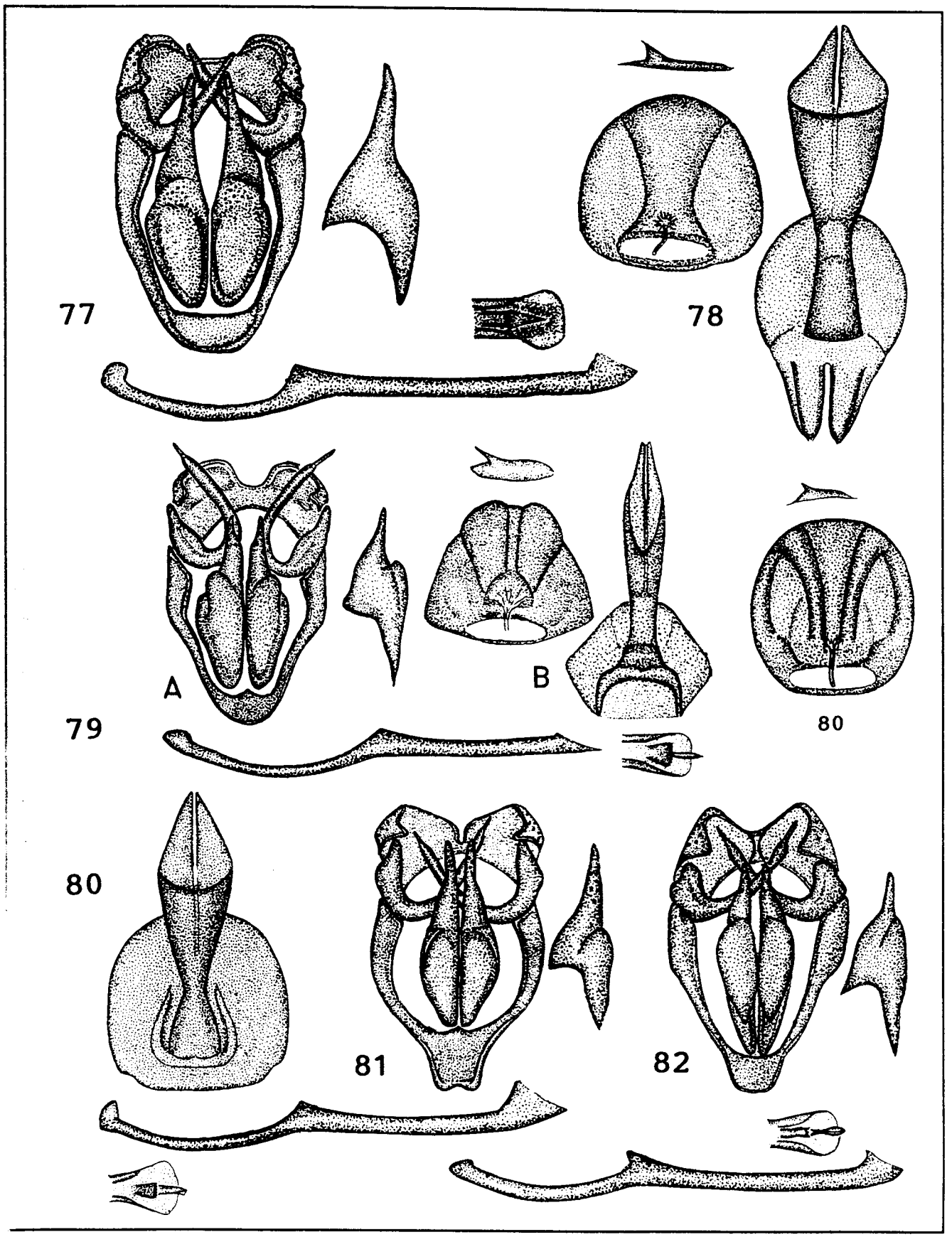
Fig. 78. *Penaincisalia anosma*, representative

Fig. 79. *Penaincisalia rawlinsi*, A, holotype, B, allotype.

Fig. 80. *Penaincisalia pichincha*, holotype.

Fig. 81. *Penaincisalia descimoni*, holotype.

Fig. 82. *Penaincisalia patagonaevaga*, holotype.


77
78
A
B
79
80
80
81
82

Figures 83-87

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

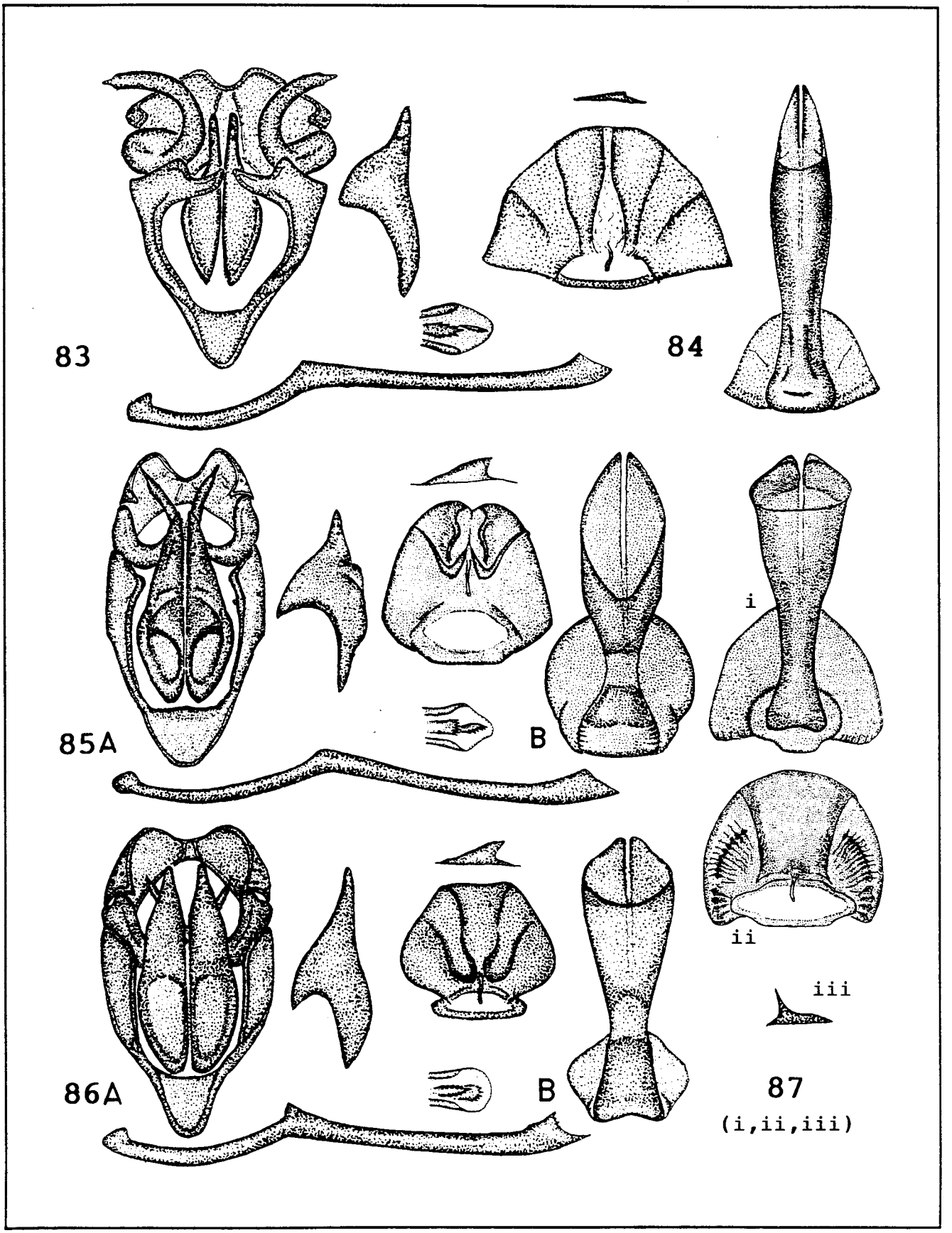
Fig. 83. *Penaincisalia eiselei,* holotype.

Fig. 84. *Penaincisalia planuma*, holotype.

Fig. 85. *Penaincisalia penai*, A, holotype, B, allotype.

Fig. 86. *Penaincisalia candor*, A, holotype, B, El Tabano, Colombia (AMNH).

Fig. 87. *Penaincisalia bimediana,* holotype.


83
84
85A
B
i
86A
B
ii
iii
87
(i,ii,iii)

Figures 88-90AB

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters of figs. 88 and 90, illustrating respective type species of ***Galba*** and ***Radissima***, give display format used for their congeners.

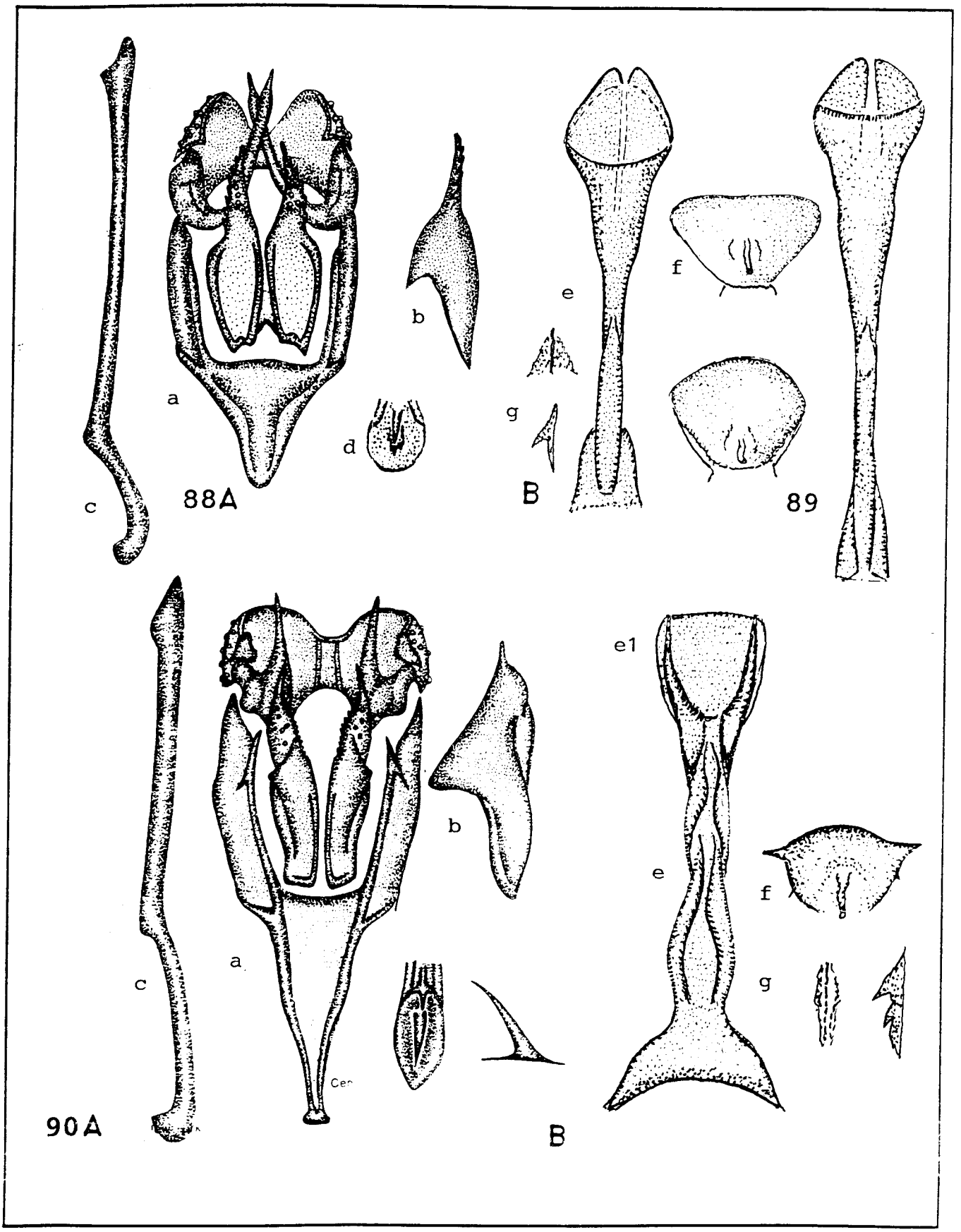
Display format for ***Galba***: male (88A)-- a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; female (88B)-- e, ductus bursae, ventral view; f, cervix bursae hood, terminal view; g, corpus bursae signa, lateral (right), ventral (left).

Fig. 88. *Galba elvira*, A, holotype, B, allotype.

Fig. 89. *Galba fumosa*, holotype.

Display format for ***Radissima***: male (90A)-- a, genitalia with aedeagus removed, ventral view; b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; female (90B)-- e, ductus bursae, ventral view (e1 terminal lamellae); f, cervix bursae hood, terminal view; g, corpus bursae signa, lateral (right), ventral (left).

Fig. 90. *Radissima umbratus umbratus*, proximate topotypes (Yucatan) (AMNH).


a
b
c
d
88A
B
e
f
g
89
90A
e1
Cen

Figures 90-95

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. 90. *C,D Radissima umbratus parthenia,* A,B, Vera Cruz, Mexico (AMNH). *E, R. u. colombiensis*, holotype.

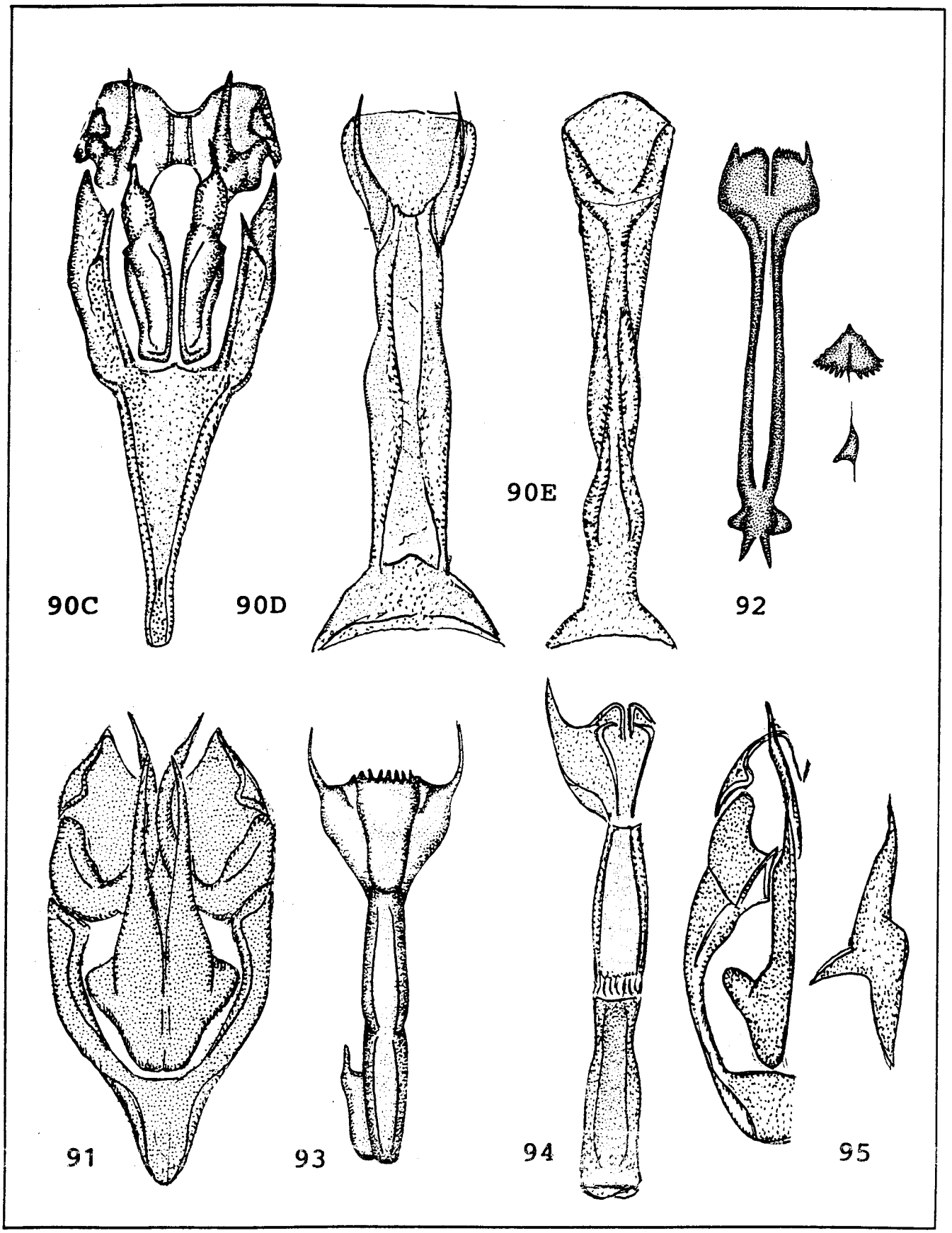
Fig. 91. *Radissima catadupa,* A, holotype.

Fig. 92. *Radissima chaluma,* B, Bolivia (BMNH).

Fig. 93. *Radissima dinus,* B, Ecuador (BMNH).

Fig. 94. *Radissima curitabaensis*, holotype.

Fig. 95. *Radissima esolana*, holotype.


90C
90D
90E
92
91
93
94
95

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).

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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).

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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).

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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 shapiroi*, 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).

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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).

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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).

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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).

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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).

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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).

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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).

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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).

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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 azura*, 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 quatemalena*, 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).

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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).

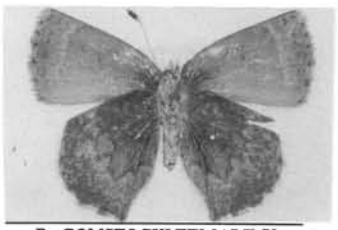
Outgroup illustrations are numbered 190-192, arranged as the respective groups in the text, with individual taxa lettered "A" through "Z" and then "Aa", "Ab", etc. Diagnostic characters listed for these species are more abbreviated than for those of the ingroup. Illustrations for the addended paper are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

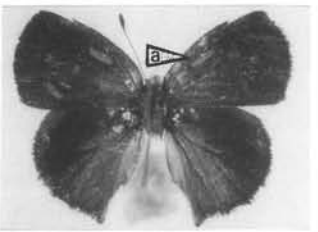
RHAMMA: **147A.** *R. COMSTOCKI* MALE D

R. COMSTOCKI MALE V

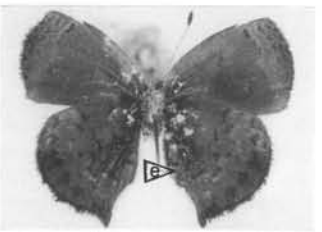
B. *R. COMSTOCKI* FEMALE D



R. COMSTOCKI FEMALE V



RHAMMA: **148A.** *R. NIGRASAROTINA* MALE D

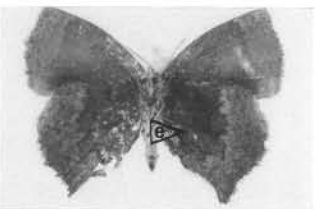


R. NIGRASAROTINA MALE V

B. *R. NIGRASAROTINA* FEMALE D

R. NIGRASAROTINA FEMALE V

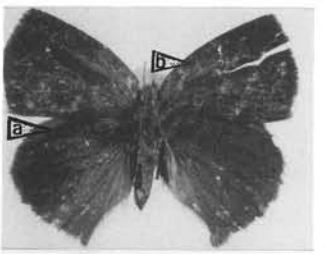
RHAMMA: **149A.** *R. SAROTICANA* MALE D



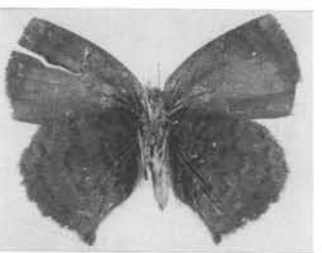
R. SAROTICANA MALE V

B. *R. SAROTICANA* FEMALE D

R. SAROTICANA FEMALE V

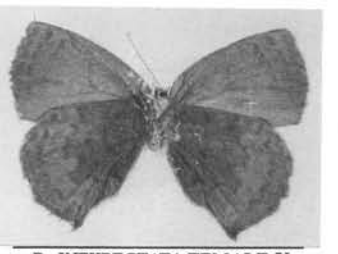


RHAMMA: **150A.** *R. INEXPECTATA* MALE D

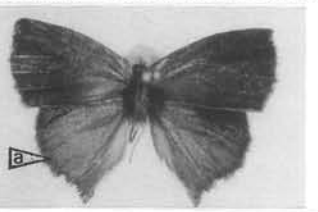


R. INEXPECTATA MALE V

B. *R. INEXPECTATA* FEMALE D



R. INEXPECTATA FEMALE V



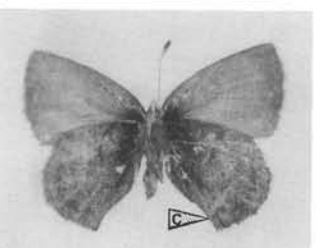
RHAMMA: **151.** *R. ROBERTI* MALE D

R. ROBERTI MALE V

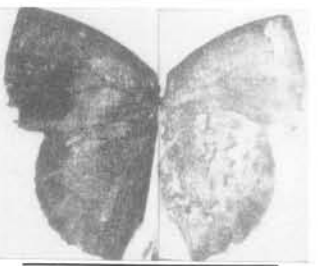
152A. *R. TARMA* MALE D

R. TARMA MALE V

RHAMMA: **152B.** *R. CATAMARCA* MALE D

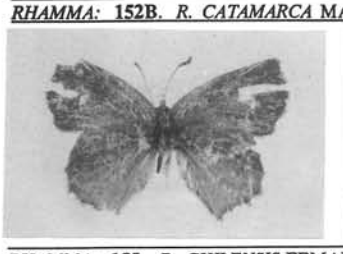


R. CATAMARCA MALE V

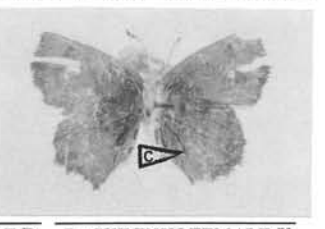


153. *R. HYBLA* MALE D,V

154. *R. ADUNCA* FEMALE V,V

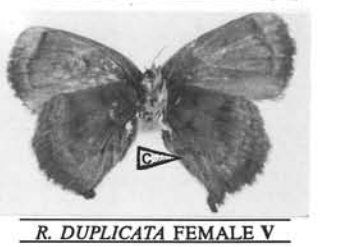


RHAMMA: **155.** *R. CHILENSIS* FEMALE D

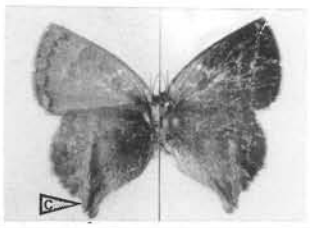


R. CHILENSIS FEMALE V

156. *R. DUPLICATA* FEMALE D

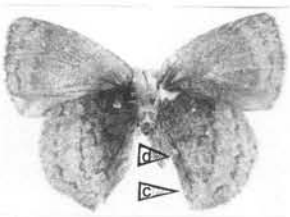


R. DUPLICATA FEMALE V

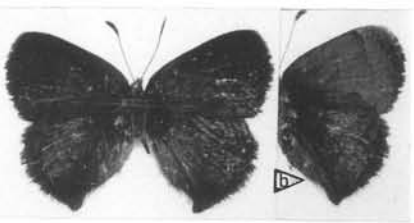


RHAMMA: 157. *R. CREARA* FEMALE D,V

158. *R. ARGENTA* FEMALE D



R. ARGENTA FEMALE V

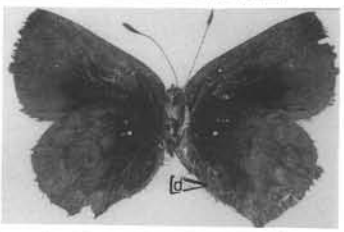


159. *R. MAGENTA* FEMALE D (full), V

RHAMMA: 160. *R. DISJUNCTA* FEMALE D

R. DISJUNCTA FEMALE V

SHAPIROANA: 161A. *R. SHAPIROI* MALE D



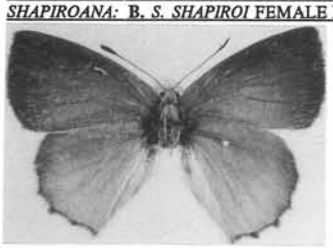
S. SHAPIROI MALE V

SHAPIROANA: B. *S. SHAPIROI* FEMALE D

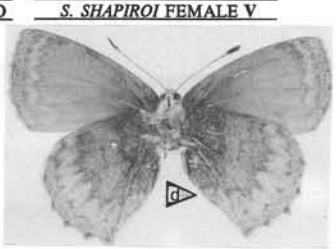
S. SHAPIROI FEMALE V

162. *R. CIRCE* FEMALE D

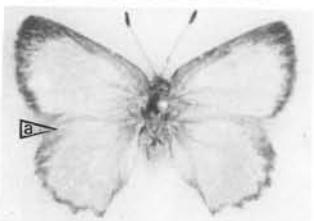
S. CIRCE FEMALE V



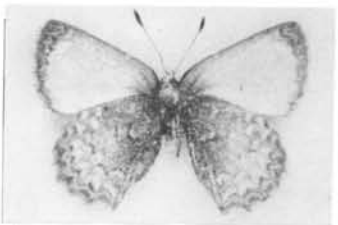
SHAPIROANA: 163A. *R. AURIFERA* FEMALE D



S. AURIFERA FEMALE V



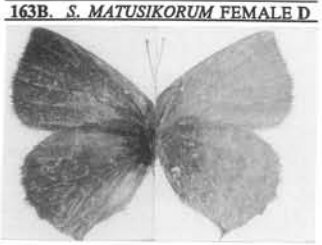
163B. *S. MATUSIKORUM* FEMALE D



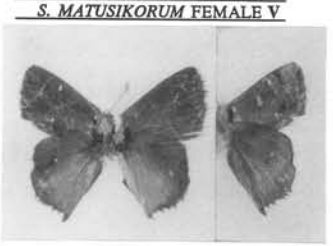
S. MATUSIKORUM FEMALE V

SHAPIROANA: 163C,A. *R. MACPHERSONI* MALE D

S. MACPHERSONI MALE V



B. *S. MACPHERSONI* FEMALE D,V



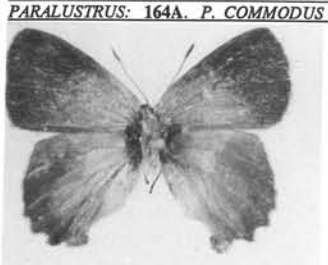
163D. *R. MINISSIMA* FEMALE D (full), V

PARALUSTRUS: 164A. *P. COMMODUS* MALE D

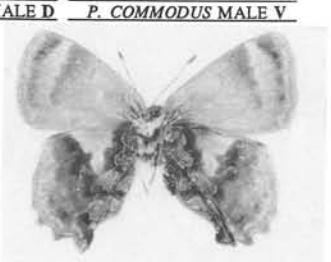
P. COMMODUS MALE V

B. *P. COMMODUS* FEMALE D

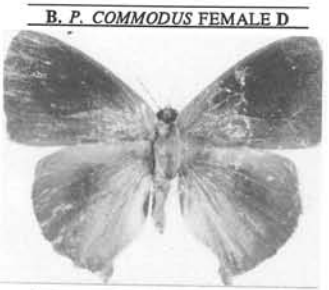
P. COMMODUS FEMALE V



PARALUSTRUS: 165. *P. OROSIENSIS* FEMALE D

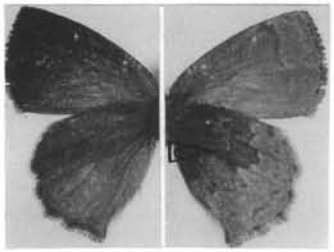


P. OROSIENSIS FEMALE V

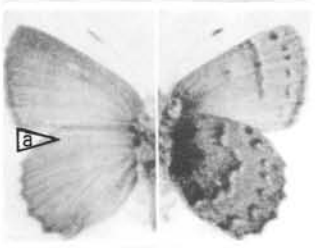


166. *P. FAMILIARIS* MALE D

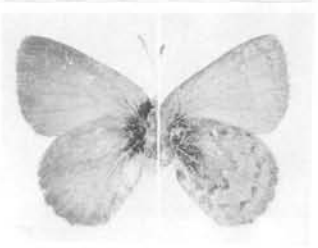
P. FAMILIARIS MALE V



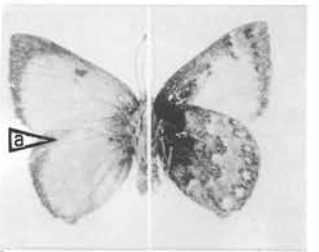
167. *P. PACCIUS* FEMALE D,V



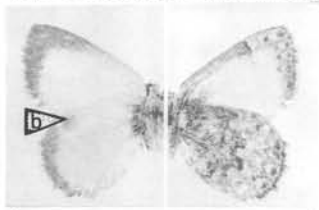
PENAINCISALIA: 168 *P. CULMINICOLA* MALE D,V



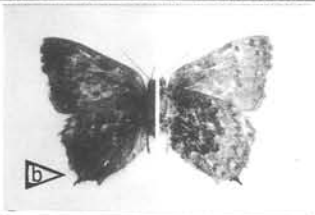
FEMALE D,V



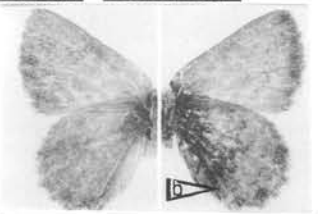
169. *P. AURULENTA* MALE D,V



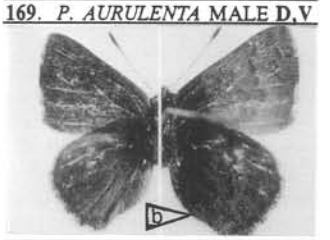
P. AURULENTA FEMALE D,V



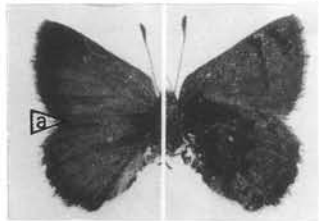
170. *P. CAUDATA* MALE D,V



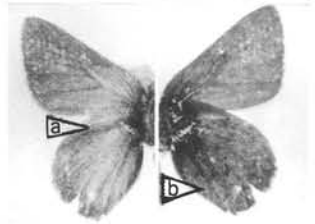
171. *P. ORIBATA* FEMALE D,V



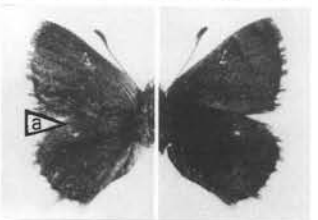
172. *P. DOWNEYI* MALE D,V



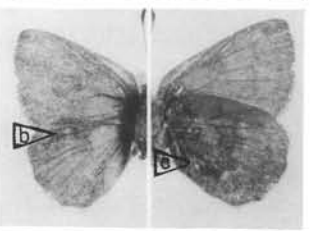
173. *P. ANOSMA* MALE D,V



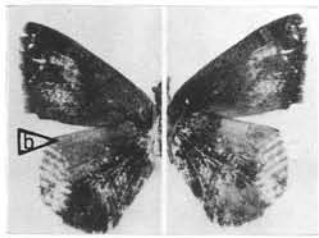
174. *P. RAWLINSI* MALE D,V



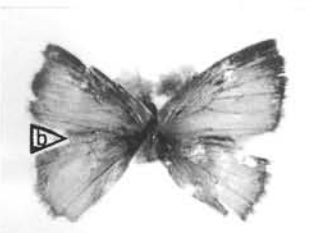
175. *P. PICHINCHA* FEMALE D,V



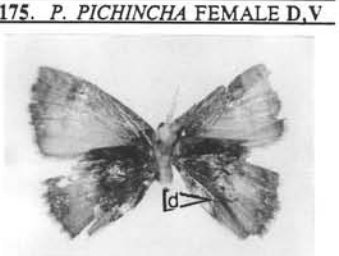
176. *P. DESCIMONI* MALE D,V



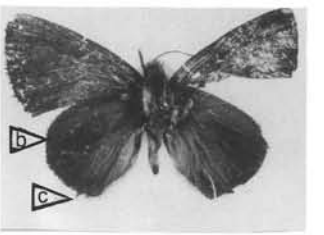
177. *P. PATAGONAEVAGA* MALE D,V



178. *P. EISELEI* MALE D

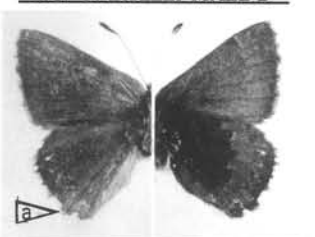


P. EISELEI MALE V

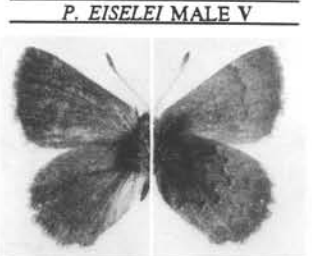


179. *P. PLANUMA* MALE D

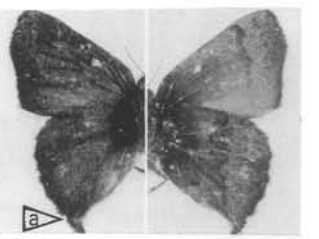
P. PLANUMA MALE V



180. *P. PENAI* MALE D,V

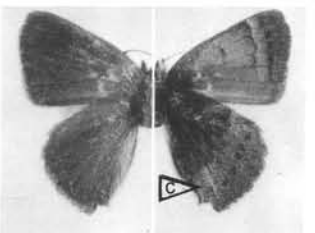


P. PENAI FEMALE D,V

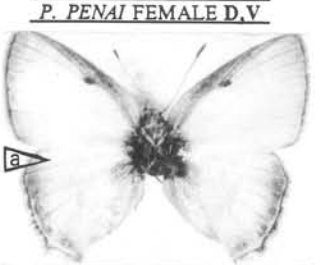


181. *P. CANDOR* MALE D,V

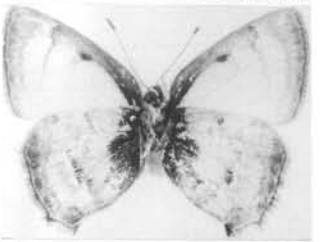
P. CANDOR FEMALE D,V



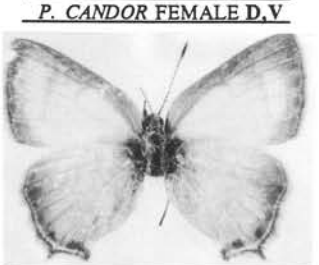
182. *P. BIMEDIANA* FEMALE D



GALBA: 183A. *G. ELVIRA* MALE D



G. ELVIRA MALE V



B. *G. ELVIRA* FEMALE D

G. ELVIRA FEMALE V

184. *G. FUMOSA* FEMALE D

G. FUMOSA FEMALE V

RADISSIMA: **185A.** *R. U. UMBRATUS* MALE D

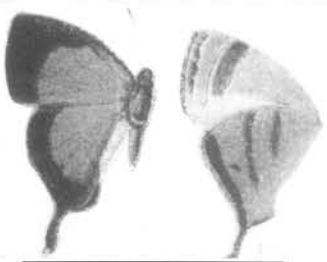
R. U. UMBRATUS MALE V

B. *R. U. PARTHENIA* MALE D

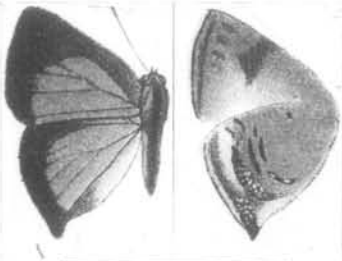
R. U. PARTHENIA MALE V

RADISSIMA: **C.** *R. U. COLUMBIENSIS* MALE D

R. U. COLOMBIENSIS MALE V

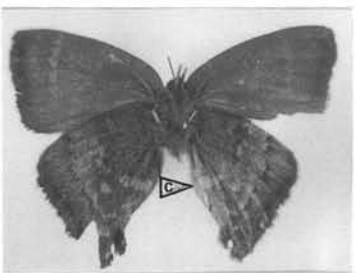


186. *R. CATADUPA* MALE D,V



187. *R. DINUS* MALE D,V

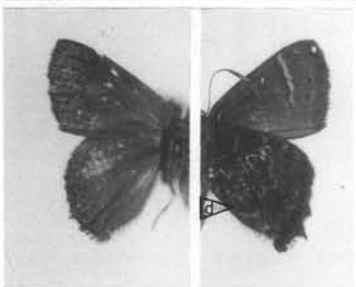
RADISSIMA: **188.** *R. CURITABAENSIS* FEMALE D



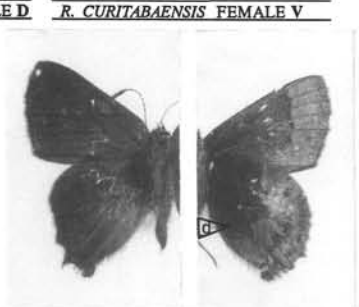
R. CURITABAENSIS FEMALE V

189. *R. ESOLANA* FEMALE D

R. ESOLANA FEMALE V



CISINCISALIA: **190.** *C. GUATEMALENA* MALE D,V

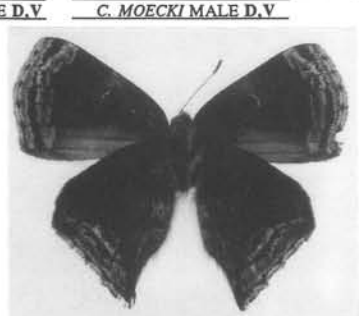


C. MOECKI MALE D,V

VARIEGATTA: **191A.** *V. ELONGATA* MALE D

V. ELONGATA MALE V

VARIEGATTA: **191B.** *V. REDUCTA* MALE D



V. REDUCTA MALE V

LAMASA: **191C.** *L. CALESIA* MALE D,V

L. CALESIA FEMALE D,V

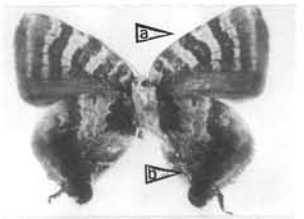
LAMASA: **191D.** *L. ROBBINSI* MALE D

L. ROBBINSI MALE V

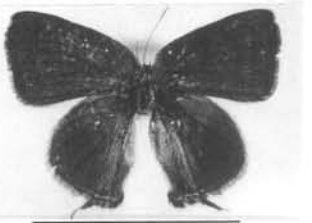
TIGRINOTA: **191E.** *T. ELLIDA* MALE D,V

191E. *T. ELLIDA* FEMALE D,V

TIGRINOTA: 191F. *T. JENNIFERA* MALE D



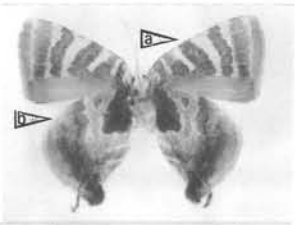
T. JENNIFERA MALE V



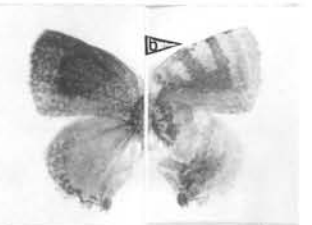
T. JENNIFERA FEMALE D

T. JENNIFERA FEMALE V

TIGRINOTA: 191G. *T. PERINOTA* MALE D

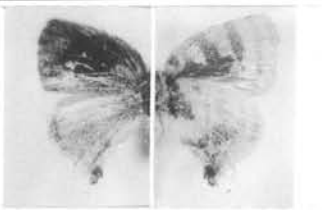


T. PERINOTA MALE V

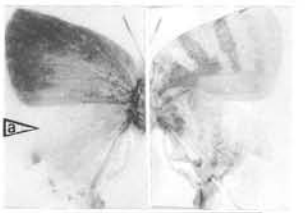


191H. *T. DOLYLAS* MALE D,V

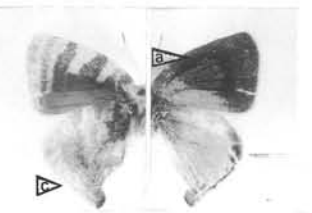
T. DOLYLAS FEMALE D,V



TIGRINOTA: 191L. *T. PALLIDA* MALE D,V

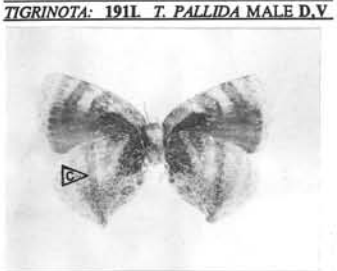


T. PALLIDA FEMALE D,V



191J. *T. SPURIUS* MALE D,V

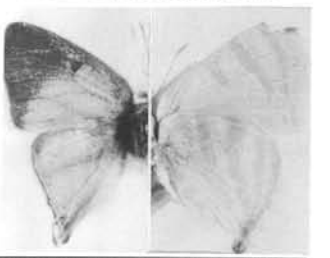
191K. *T. HYPOCRITA* MALE D



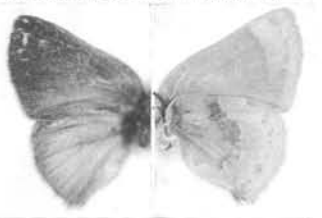
TIGRINOTA: T. HYPOCRITA MALE V

191L. *T. BIANGULA* MALE D,V

T. BIANGULA FEMALE D,V

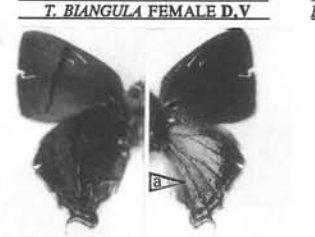


DOLYMORPHA: 191M. *D. JADA* MALE D

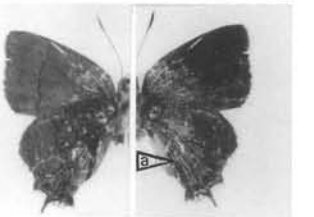


IGNATA: 191N. *I. IGNOBILIS* MALE D,V

191O. *I. ILLEPIDA* MALE D,V

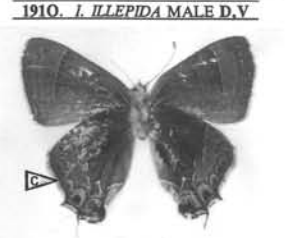


ARASES: 191P. *A. CLENCHI* MALE V,D



A. CLENCHI FEMALE V,D

ARASES: 191Q. *A. AURANTIACA* MALE D



A. AURANTIACA MALE V

A. AURANTIACA FEMALE D

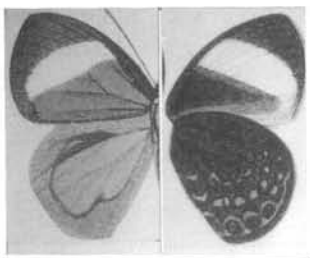
A. AURANTIACA FEMALE V

ARASES: 191R. *A. MICANDRIANA* FEMALE D

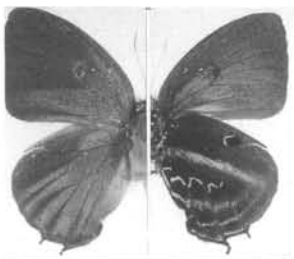
A. MICANDRIANA FEMALE V

191S. *A. COLOMBIANA* FEMALE D

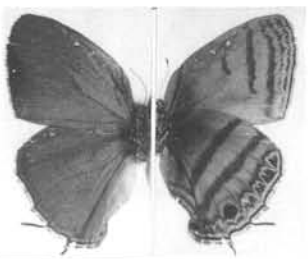
A. COLOMBIANA FEMALE V



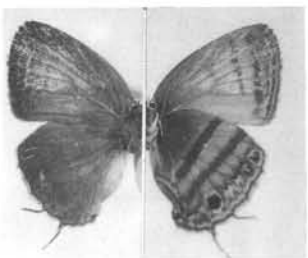
MICANDRA: 192T. *M. SAPPHO* MALE D,V



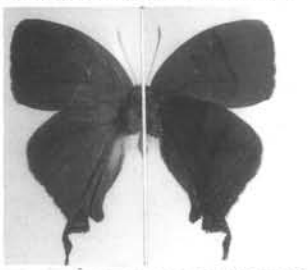
MITHRAS: 192U. *M. NAUTES* MALE D,V



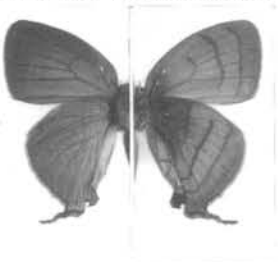
MACUSIA: 192V. *M. SATYROIDES* MALE D,V



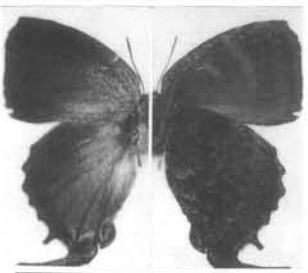
M. SATYROIDES FEMALE D,V



MACUSIA: 192W. *M. TRIQUETRA* MALE D,V

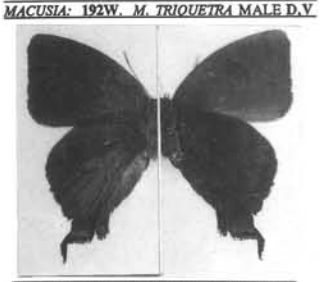


M. TRIQUETRA FEMALE D,V



DENIVIA: 192X. *D. DENIVA* MALE D,V

192Y. *D. MAGGAE* FEMALE D,V



DENIVIA: 192Z. *D. HAMILLA* MALE D,V

D. HAMILLA FEMALE D,V

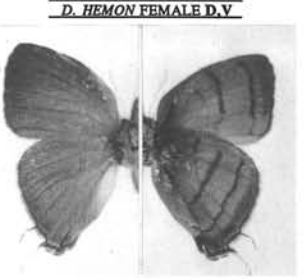
192Aa. *D. HEMON* MALE D,V

D. HEMON FEMALE D,V

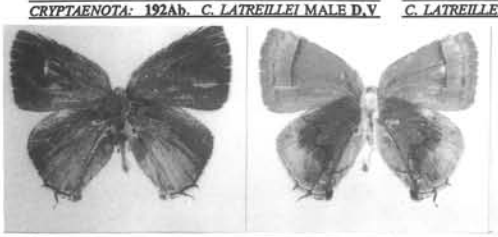
CRYPTAENOTA: 192Ab. *C. LATREILLEI* MALE D,V

C. LATREILLEI FEMALE D,V

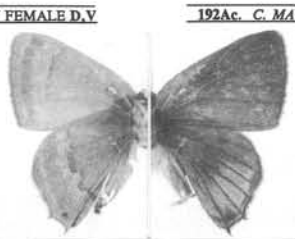
192Ac. *C. MAVORS* MALE D,V



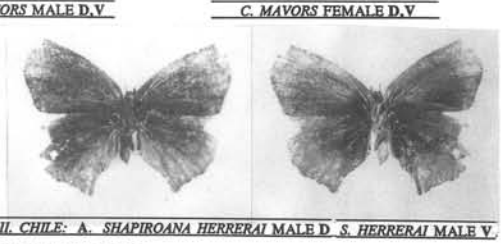
C. MAVORS FEMALE D,V



I *I. STRYMON:* A. *S. CRYPTOGRAMUS* MALE D,V

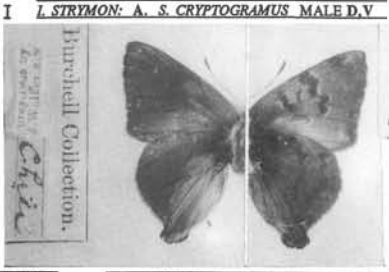


B. *S. CORONOS* FEMALE V,D



II. CHILE: A. *SHAPIROANA HERRERAI* MALE D *S. HERRERAI* MALE V.

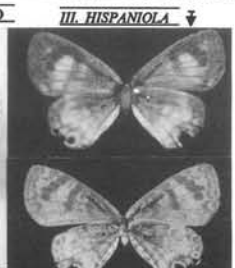
III. HISPANIOLA



CHILE:

B. *REKOA P. CYRRIANA* MALE D,V

C. *EISELIANA ROJASI* PARATYPE MALE D,V

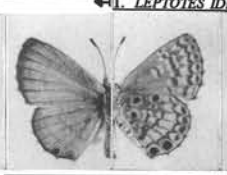


1. *LEPTOTES IDEALUS* FEMALE D/V

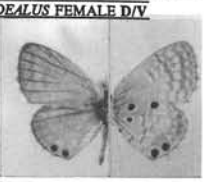
2. *CALISTO AINIGMA* MALE D,V

III 3A,B. *CYCLARGUS KATHLEENA* HOLOTYPE MALE D,V

3C,D. *CYCLARGUS SORPRESUS* HOLOTYPE MALE D,V



3E. *C. THOMASI* MALE D,V



3F. *C. AMMON* MALE D,V

Distribution Maps for Taxa of Volume I I

Figures 206-211, arranged hereafter as pages 252-263, 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 136 to end. Figures for taxa included in Volume II are arranged similar to those in Volume I with the base map varying as specified in the Materials and Methods section included in Volume I.

Figure 206

Geographic distribution of *Rhamma*, *tyrrius Species Group*, *tyrrius Subgroup*, *tarma Subgroup*.

Display format for ***Rhamma***:

● *Rhamma tyrrius*

▲ *Rhamma amethystina*

▲ *Rhamma comstocki*

⊕ *Rhamma nigrasarotina*

◧ *Rhamma saroticana*

▼ *Rhamma inexpectata*

■ *Rhamma roberti*

◐ *Rhamma tarma*

⊡ *Rhamma catamarca*

Figure 207

Geographic distribution of *Rhamma, hybla Species Group and Species of Uncertain Affinity* (known only from one sex).

Display format for ***Rhamma***:

⊕ *Rhamma hybla*

▲ *Rhamma adunca*

● *Rhamma chilensis*

◮ *Rhamma duplicata*

◧ *Rhamma creara*

▼ *Rhamma argenta*

▽ *Rhamma magenta*

⊙ *Rhamma disjuncta*

Figure 208

Geographic distribution of *Shapiroana*.

Display format for ***Shapiroana***:

- ● *Shapiroana shapiroi*
- ◒ *Shapiroana circe*
- ▼ *Shapiroana aurifera*
- ■ *Shapiroana matusikorum*
- ◧ *Shapiroana macphersoni*
- ◐ *Shapiroana minissima*

Figure 209

Geographic distribution of *Paralustrus*.

Display format for ***Paralustrus***:

● *Paralustrus commodus*

■ *Paralustrus orosiensis*

◐ *Paralustrus familiaris*

⊕ *Paralustrus paccius*

Figure 210

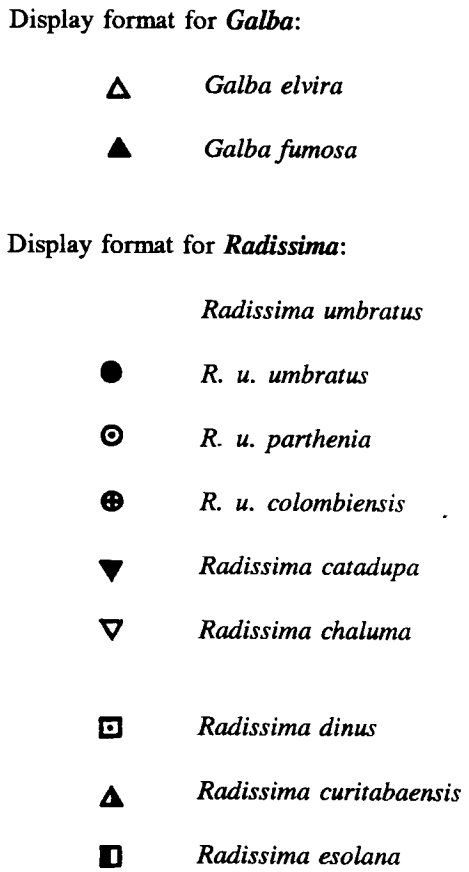
Geographic distribution of *Penaincisalia, culminicola Species Group, penai Species Group.*

Display format for ***Penaincisalia***:

- *Penaincisalia culminicola*
- *Penaincisalia aurulenta*
- *Penaincisalia caudata*
- *Penaincisalia oribata*
- *Penaincisalia downeyi*
- *Penaincisalia anosma*
- *Penaincisalia rawlinsi*
- *Penaincisalia pichincha*
- *Penaincisalia descimoni*
- *Penaincisalia patagonaevaga*
- *Penaincisalia eiselei*
- *Penaincisalia planuma*
- *Penaincisalia penai*
- *Penaincisalia candor*
- *Penaincisalia bimediana*

Figure 211

Geographic distributions of Galba and *Radissima, umbratus Species Group, dinus Species Group.*



Figures 212-218

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters used on all figures correspond to structures listed in the display format below, if present.

Display format: male (A)-- a, genitalia with aedeagus removed, ventral view (showing only one-half of bilateral symmetry); b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; e, *sipc*, lateral view; black line and carot, length and location of abutment of brush organs; female (B)-- f, ductus bursae to cervix bursae, ventral view; g, cervix bursae hood, terminal view; h, corpus bursae signa, lateral (right), ventral (left); i, *sipc*, lateral view; j, cervix bursae with ductus seminalis, lateral view.

Fig. 212. *Cisincisalia moecki*, holotype.

Fig. 213. *Variegatta elongata*, lectotype.

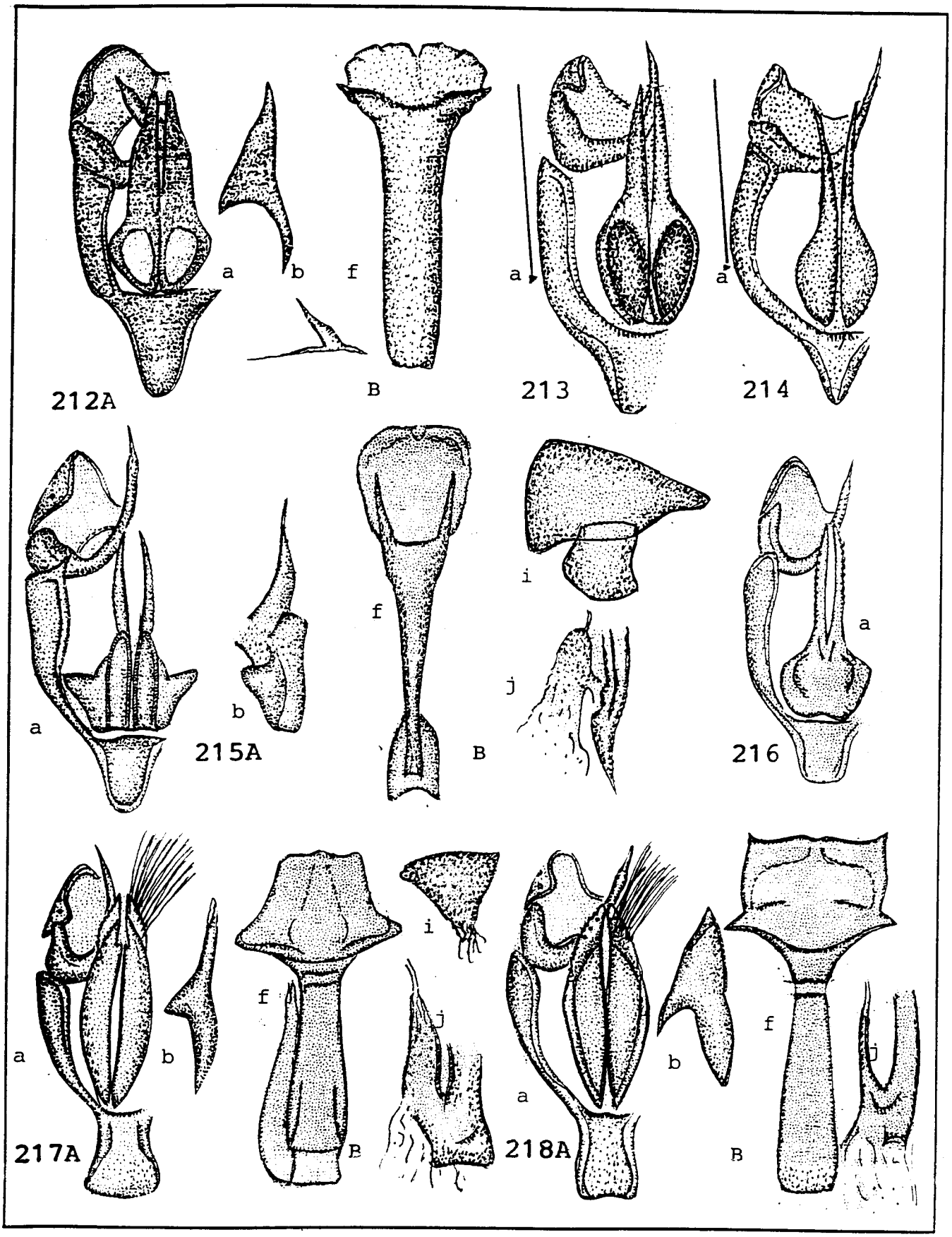
Fig. 214. *Variegatta reducta*, holotype.

Fig. 215. *Lamasa calesia*, A,B Cumbres de San Javier, Argentina (AMNH).

Fig. 216. *Lamasa robbinsi*, holotype.

Fig. 217. *Tigrinota ellida*, A,B topotypes (Venezuela) (AMNH).

Fig. 218. *Tigrinota jennifera*, A, holotype, B, allotype.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217A
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Figures 219-224

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters used on all figures correspond to structures listed in the display format below, if present.

Display format: male (A)-- a, genitalia with aedeagus removed, ventral view (showing only one-half of bilateral symmetry); b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; e, *sipc*, lateral view; black line and carot, length and location of abutment of brush organs; female (B)-- f, ductus bursae to cervix bursae, ventral view; g, cervix bursae hood, terminal view; h, corpus bursae signa, lateral (right), ventral (left); i, *sipc*, lateral view; j, cervix bursae with ductus seminalis, lateral view.

Fig. 219. *Tigrinota perinota*, holotype.

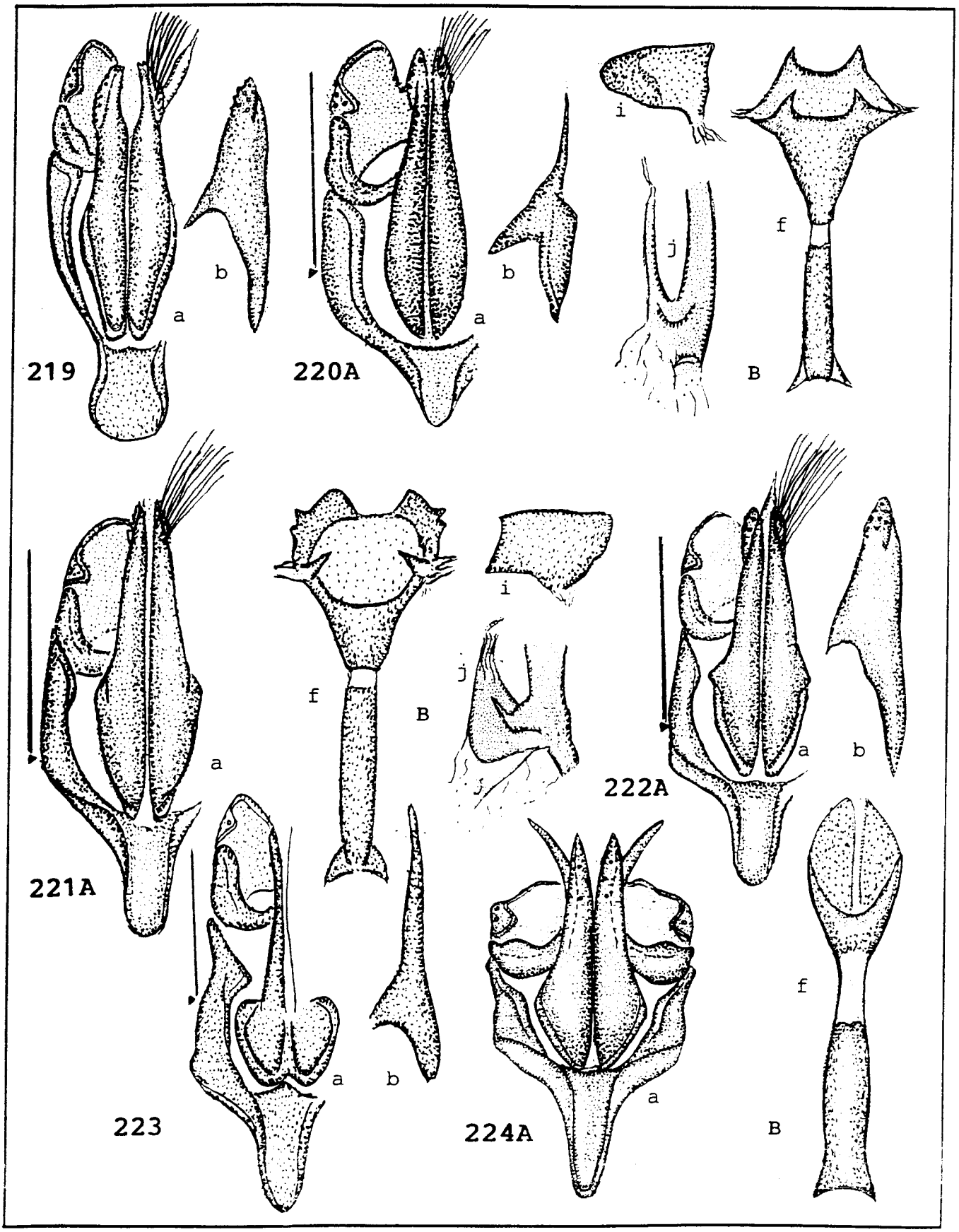
Fig. 220. *Tigrinota dolylas*, A,B, St. Laurent, French Guiana (AMNH).

Fig. 221. *Trigrinota pallida*, A,B, Curipito, Venezuela (AMNH).

Fig. 222. *Tigrinota spurius*, A,B, Cauca, Colombia (AMNH).

Fig. 223. *Tigrinota hypocrita*, A, Presidio, Mexico (AMNH).

Fig. 224. *Tigrinota binangula*, A,B, Quebrada de Escoipe, Argentina (AMNH). (AMNH).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Figures 225-232

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters used on all figures correspond to structures listed in the display format below, if present.

Display format: male (A)-- a, genitalia with aedeagus removed, ventral view (showing only one-half of bilateral symmetry); b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; e, *sipc*, lateral view; black line and carot, length and location of abutment of brush organs; female (B)-- f, ductus bursae to cervix bursae, ventral view; g, cervix bursae hood, terminal view; h, corpus bursae signa, lateral (right), ventral (left); i, *sipc*, lateral view; j, cervix bursae with ductus seminalis, lateral view.

Fig. 225. *Dolymorpha jada*, Blumenau, Brazil (AMNH).

Fig. 226. *Ignata ignobilis*, holotype.

Fig. 227. *Ignata illepida*, holotype.

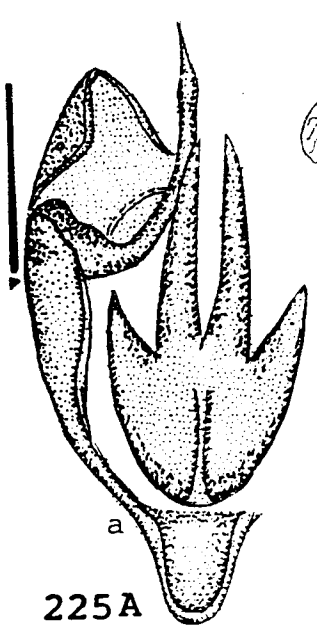
Fig. 228. *Arases clenchi*, A,B, Ochuc, Chiapas, Mexico (AMNH).

Fig. 229. *Arases aurantiaca*, A, holotype, B, allotype.

Fig. 230. *Arases micandriana*, holotype. (AMNH).

Fig. 231. *Arases colombiana*, A, holotype.

Fig. 232. *Solanorum gentilei*, holotype.



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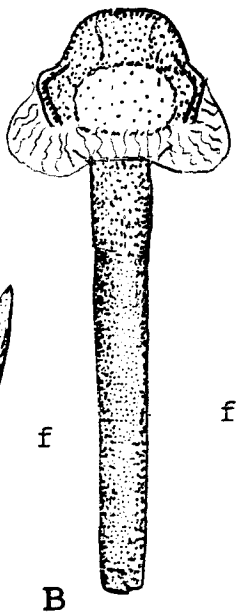

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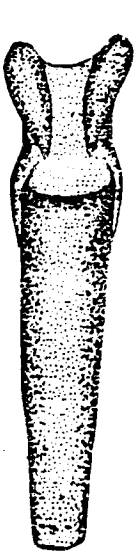

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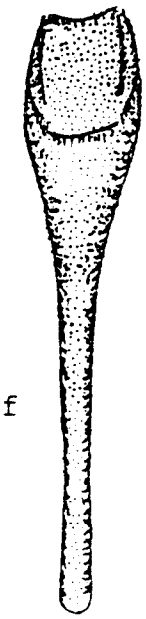

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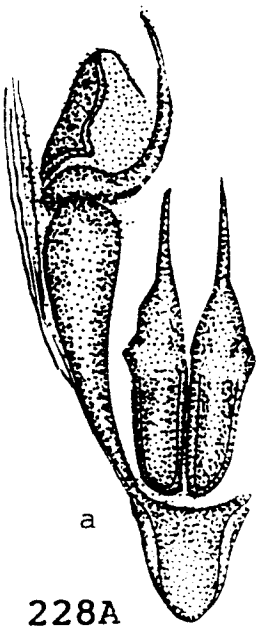
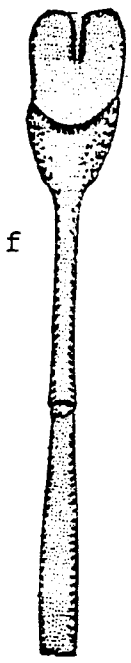


228A



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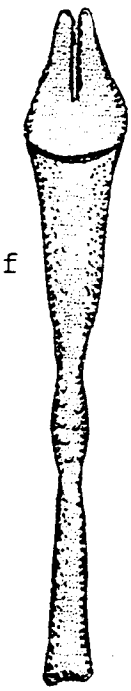

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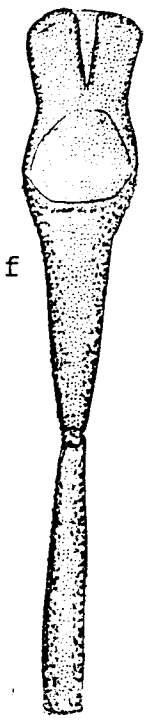

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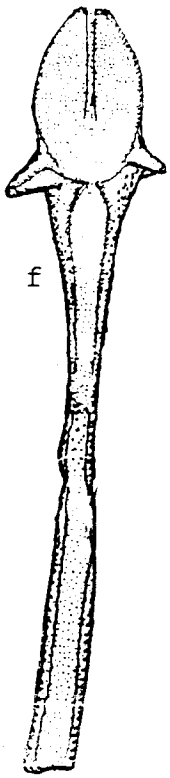

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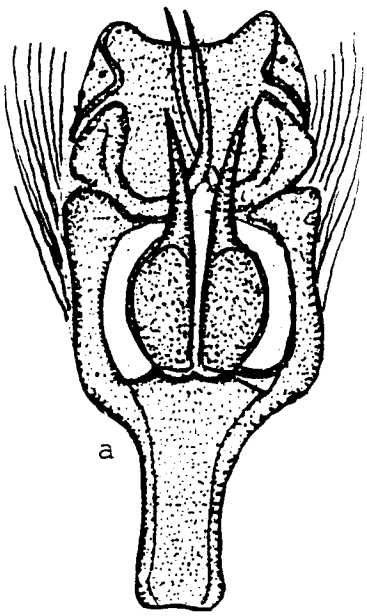

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Figures 233-237

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters used on all figures correspond to structures listed in the display format below, if present.

Display format: male (A)-- a, genitalia with aedeagus removed, ventral view (showing only one-half of bilateral symmetry); b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; e, *sipc*, lateral view; black line and carot, length and location of abutment of brush organs; female (B)-- f, ductus bursae to cervix bursae, ventral view; g, cervix bursae hood, terminal view; h, corpus bursae signa, lateral (right), ventral (left); i, *sipc*, lateral view; j, cervix bursae with ductus seminalis, lateral view.

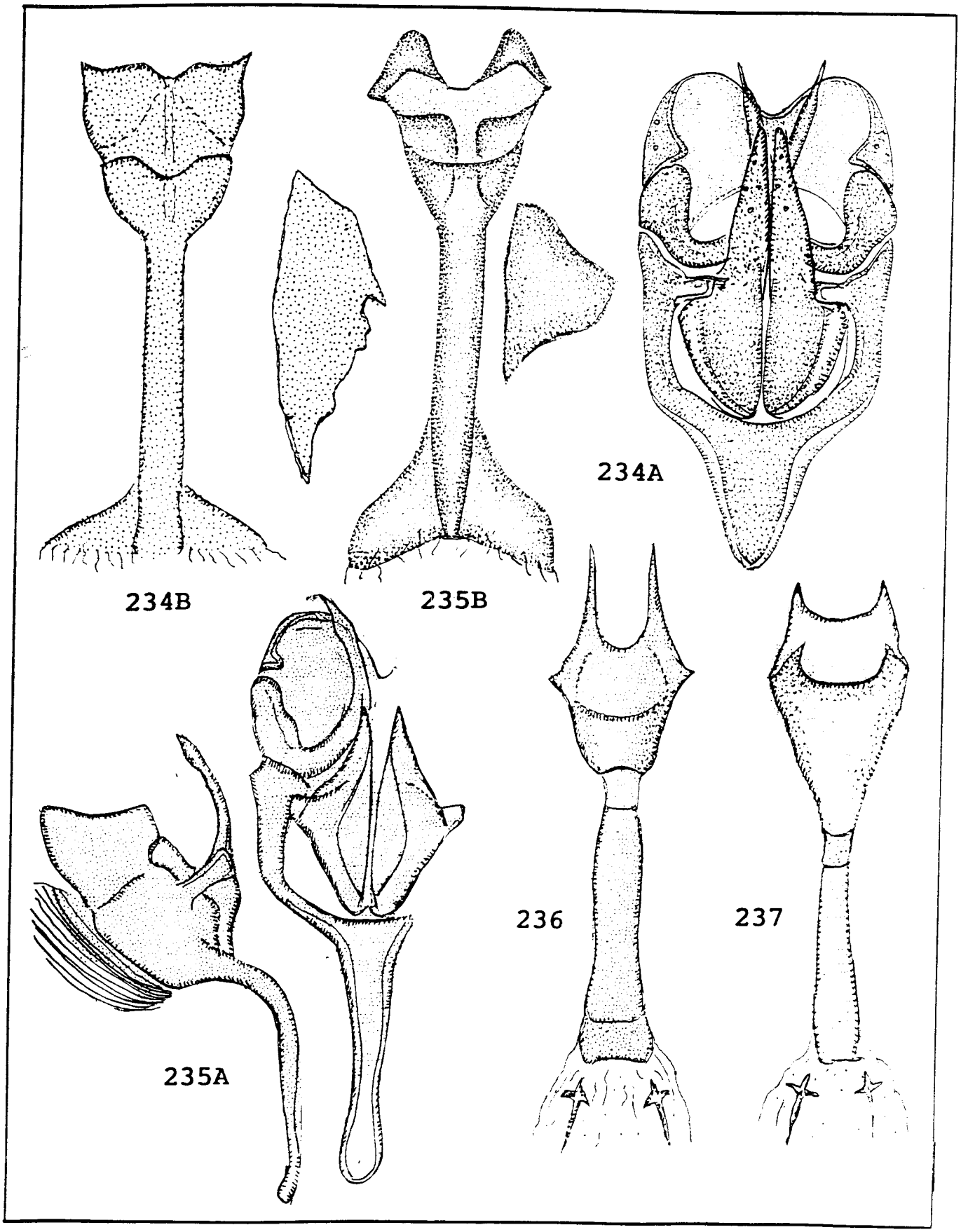
Fig. 233. *Mithras nautes*, A, Iquitos, Peru (AMNH).

Fig. 234. *Macusia satyroides*, A,B, Blumenau, Brazil (AMNH).

Fig. 235. *Macusia triquetra*, A,B, St. Laurent, French Guiana (AMNH).

Fig. 236. *Denivia deniva*, B, Blumenau, Brazil (AMNH).

Fig. 237. *Denivia maggae*, holotype.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Figures 238-241

Large numerals and accompanying letters (A, male; B, female) denote figures cited in text. Small letters used on all figures correspond to structures listed in the display format below, if present.

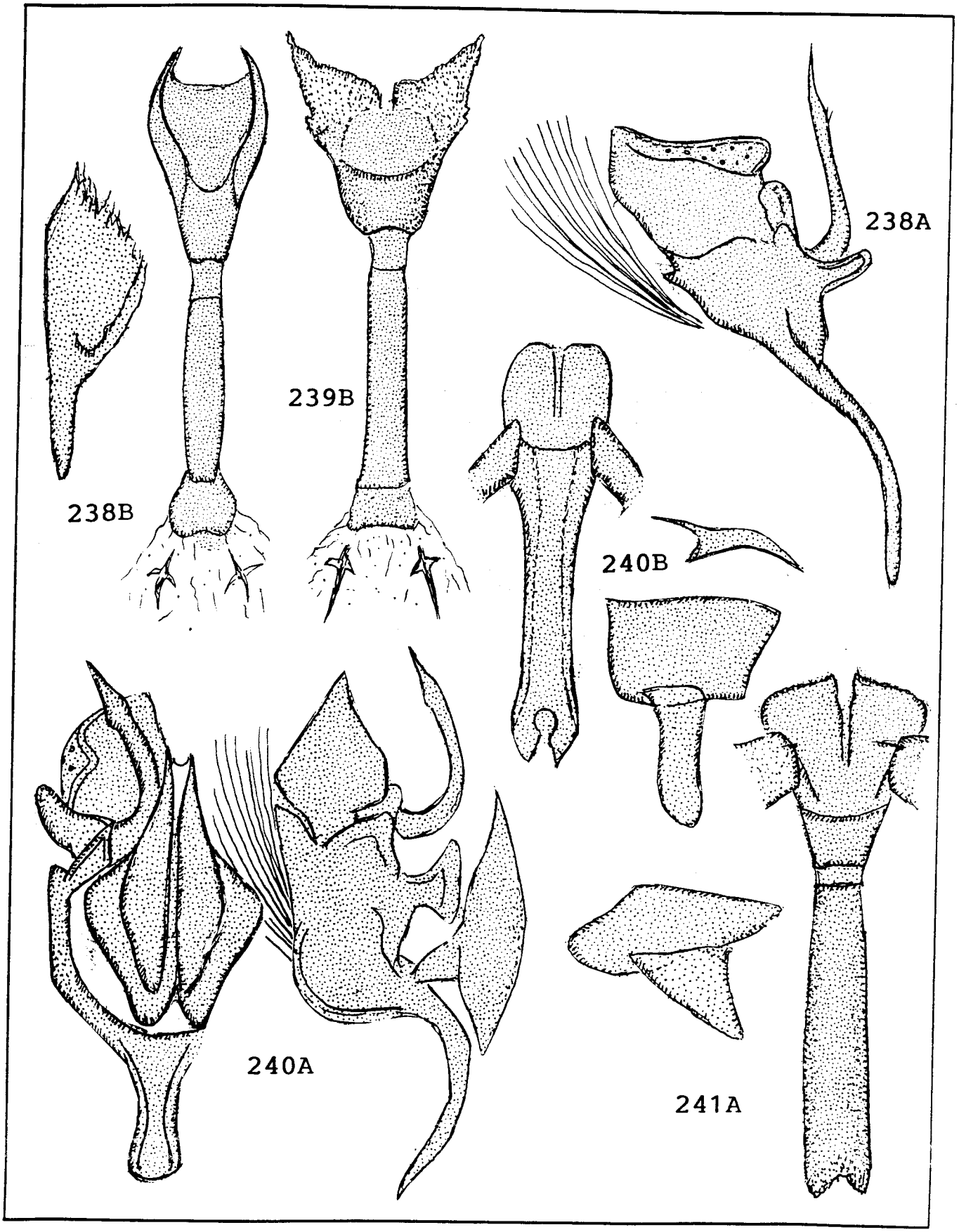
Display format: male (A)-- a, genitalia with aedeagus removed, ventral view (showing only one-half of bilateral symmetry); b, valvae, lateral view; c, aedeagus, lateral view; d, aedeagus terminus with cornuti, dorsal view; e, *sipc*, lateral view; black line and carot, length and location of abutment of brush organs; female (B)-- f, ductus bursae to cervix bursae, ventral view; g, cervix bursae hood, terminal view; h, corpus bursae signa, lateral (right), ventral (left); i, *sipc*, lateral view; j, cervix bursae with ductus seminalis, lateral view.

Fig. 238. *Denivia hamila,* A,B, Castro, Brazil (AMNH).

Fig. 239. *Denivia hemon,* A,B, St. Laurent, French Guiana (AMNH).

Fig. 240. *Cryptaenota latreillii,* A,B, St. Catarina, Brazil (AMNH).

Fig. 241. *Cryptaenota mavors*, B, Blumenau, Brazil (AMNH).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APPENDICES

APPENDIX 1

Taxa of Callophryina and Thecloxurina.

Callophryine butterflies.- Of the Eumaeini genera listed by Eliot (1973), groups included by Brown (1942), Gillham (1956), Clench (1961), Howe (1975), Johnson (1981), Johnson & Quinter (1982) and Descimon (1986) include: (1) *Ahlbergia* Bryk, (2) *Callophrys* Billberg, (3) *Cyanophrys* Clench, (4) *Incisalia* Scudder, (5) *Mitoura* Scudder, (6) *Sandia* Clench, and (7) *Xamia* Clench.

Authors have widely treated New World members (2-7) as a monophyletic group, including all or most as either subgenera of *Callophrys* (Clench 1961, dos Passos 1970, Howe 1975, Scott 1986) or separate genera (Klots 1951; dos Passos 1964; Miller & Brown 1981, 1983; Pyle 1981; Johnson & Quinter 1982; Opler & Krizek 1986). Separate genera appear preferable since Palaearctic groups are a part of the assemblage and far more diverse than indicated in the current literature (Johnson 1981; Johnson & Quinter 1982).

Thecloxurine butterflies.- Of the Eumaeini species groups listed by Draudt (1919), groups included by Brown (1942), Descimon (1986) and Johnson (1981) included: *Thecla culminicola*-group (herein, *Penaincisalia*), and *loxurina*-group and *arria*-group. This monophyletic group comprises the taxa revised in the present monograph, infratribe Thecloxurina.

APPENDIX 2

Characters of Callophryina and Thecloxurina. The major shared features of any structure are simply listed. States for: (A) Thecloxurina, (B) Callophryina (see Appendix 1). For figures of structures refer to figures herein and compare to those in references cited in parentheses. As with any group of biota there are exceptions in individual taxa to the generalizations below (especially regarding autapomorphies), but they are few.

1. Male genitalia, cephaloventral margins of valval lobes: (A) separated by transparent sclerotin; (B) fully fused with opague sclerotin (Gillham 1956; Clench 1964, 1981; Johnson 1976, 1978, 1981, 1987b; Brown 1983).

2. Male genitalia, bilobed area of valvae: (A) opague and ventrally convex; (B) transparent and flat or concave (Gillham 1956; Clench 1964, 1981; Johnson 1976, 1978, 1981, 1987b; Brown 1983).

3. Male genitalia, caecum of aedeagus: (A) comprising at least a third of aedeagus length and often ventrally declined; (B) comprising a fourth or less of aedeagus length and uniplanar [or contiguously bowed] with shaft (Gillham 1956; Clench 1964, 1981; Johnson 1976, 1981; Brown 1983).

4. Female genitalia, ductus bursae and terminal lamellae: (A) as one conjoined tubelike structure, variously constricted in the cephalic one-half to one third, and with a prominent dorsoterminal fissure; (B) terminal lamellae flared distally outside plane of ductal tube, unconstricted in the cephalic one-half to one-third, and with dorsoterminal area either fused or with a transparent suture (Johnson 1976, 1978, 1981; Clench 1981; Brown 1983).

5. Female genitalia, cervix bursae: (A) variously sclerotized into a major additional genital component; (B) diminutive, developed at most to a thin shield covering distal end of corpus bursae (Johnson 1976, 1978, 1981; Clench 1981; Brown 1983).

Although all subgroups of Callophryina and Thecloxurina have outstanding wing and pattern characters defining them, no such overall characters define Callophryina or Thecloxurina *per se* because of the occurrence of "hairstreak"-like and "elfin"-like taxa in both groups. However, outstanding characters of the wing do pertain to the genera of both callophryines and thecloxurines and, in most cases, species groups and species.

APPENDIX 3

A New Species of *Shapiroana* from Chile

INTRODUCTION. During 1991-1992, as the present paper had gone to press, Dr. J. Herrera G. began working with me and Mr. Luis Peña to ascertain the status of *Thecla rojasi* Ureta (see Rept. Mus. Nat. Hist. Univ. Wisc. (Stevens Point) 23). Types had been lost and neither Herrera or Peña were familiar with the species. The general OD and poor genitalic figure gave few clues. However, the type locality in Atacama, Chile, was known to both Chilean workers. In late 1991, Dr. Herrera forwarded me a number of unidentified Theclinae from Atacama. One specimen he thought might be *T. rojasi* because I had ascertained from the OD that DFW,DHW coloration of *T. rojasi* was iridescent and this led me to suspect it might be a thecloxurine.

Peña later helped me locate a paratype of *T. rojasi* in the United States. This left Herrera's specimen, indeed a thecloxurine, to be described. It is a species of *Shapiroana* as follows:

***Shapiroana herrerai*,**
NEW SPECIES

Figures— *adult*, last Vol. 2 photo plate as labelled; *genitalia* below.

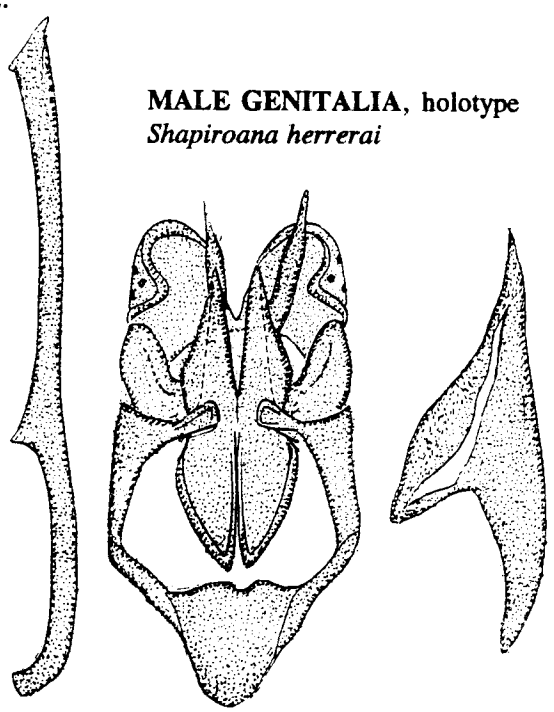
DIAGNOSIS. DFW,DHW bright violet (congeners brilliant blue, orange); VHW basal disc concolorous brown with rounded margin and flanked by light white corona (congeners with mottled and/or dentate-edged discs; only *S. tolimensis* [Colombia] with hint of white corona). Several congeners show angulate FW's; in *S. herrerai* FW is sharply angled from vein CuA1 to apex, angle beginning much "lower" on wing than congeners.

DESCRIPTION. ***Male.*** FW angulate from vein CuA1 to apex, HW slightly angulate at anal lobe. As typical of genus, DFW brightly concolorous in iridescence, but violet; DHW flushed centrally with blue. VFW gray-black from base to apex and submargins, latter a lighter beige; VHW with rounded brown basal disc surrounded by .5 mm. corona of suffusive white; distal area generally beige except for rust suffusion near the anal lobe. FW length: 10 mm. (holotype). ***Female.*** Unknown. ***Male Genitalia.*** General habitus typical of the genus, all elements robust compared to members of Clade II; lateral surface of valvae broken by elongate patch of transparent sclerotin. Compared to congeners, valvae in the lateral aspect more robust, ventral aspect showing steeply tapered caudal extension and narrower bilobed area. Vincular ventrum with areas flanking valvae less robust but with saccus broadly parabolic. Aedeagus robust, length exceeding rest of genitalia by about two fifths; caeum comprising two-fifths aedeagus length.

TYPE. Holotype male, CHILE, Atacama, 40 km. (s) Capiapo, 25 October 1983, leg. Herrera (?) (see Remarks), deposited UMCE.

REMARKS. The species is particularly interesting because of its occurrence with *Thecla rojasi*, a species whose nearest sisters (as is the case with *S. herrerai*) are high Andean and austral scrub-steppe endemics. *S. herrerai* joins a list of Atacama endemics from mixed dune and scrub habitats in the Intermediate Desert Biotic Province (see Johnson, Eisele & MacPherson 1990; Johnson, Miller & Herrera, in press). Some ambiguity exists concerning the collectors of specimens forwarded to me by Herrera. Numerous years ago he had borrowed a large amount of Peña material and much of this material remained unsorted for many years. He originally sent me a large number of specimens through the AME. Later, as identications continued and he sorted more material, he sent additional samples directly to me. I infer the holotype above as a Herrera collection because its label is typewritten and inserted into the envelope (Peña generally attaches adhesive labels to, or writes on, the outsides).

ETYMOLOGY. Patronym for the late Dr. José Herrera G., founder of the Instituto de Entomologia, UMCE.



MALE GENITALIA, holotype
Shapiroana herrerai

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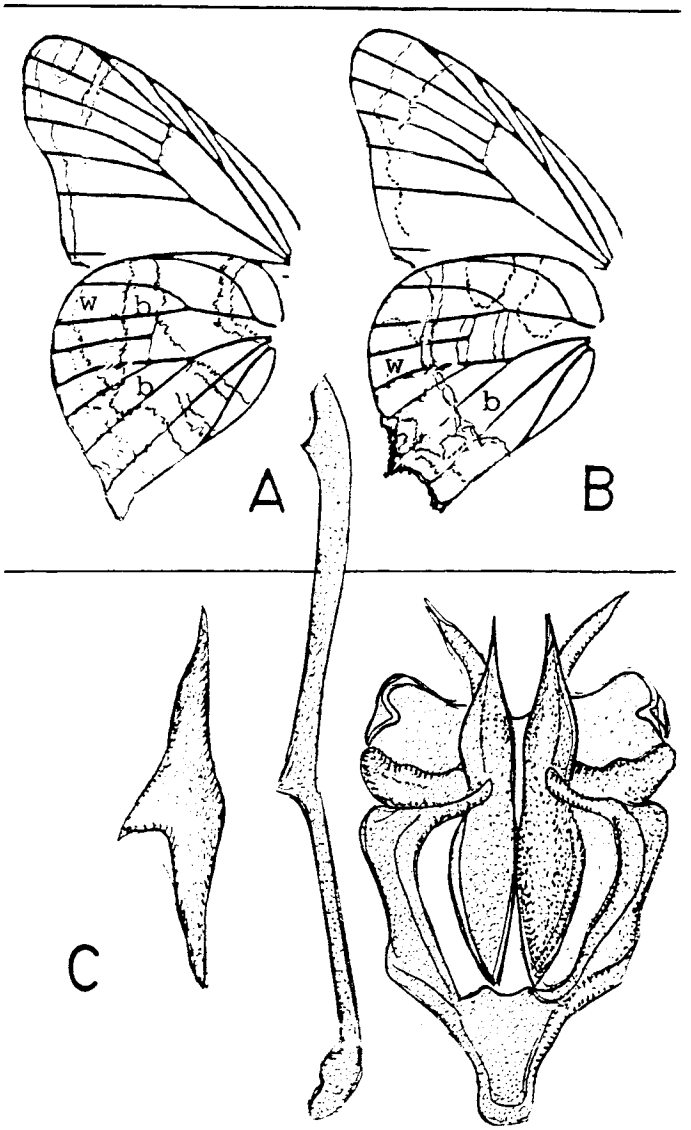
TECHNICAL COMMENT. Following review of the manuscript the copy was redacted on typesetting diskette. To satisfy requirements of the ICZN Code, camera ready copy was prepared for offset priniting. Because this typeset copy was printed on white translucent paper and not plastic the resolution of the typeface is less sharp than laser printing might have provided. The bound run for UWSP mailing list was printed on slightly veneered offwhite paper and perfect bound at 8 1/2 by 10 7/8 page size. Reprint copies were printed on a slightly lighter paper. Photographics were prepared on glossy paper and inserted into both the bound and reprint copies.

FORMAT ERRATA. Due to size constraints not all morphological figures indicated in some of the outgroups captions could be included. In addition, for some taxa added at proof, genus *Solanorum* and *Rhamma catamarca*, certain illustrations have had to be provide below in Appendix 3, B. It was not possible to include these materials in the original pagination.

APPENDIX 3B. A,B. Differences in wing pattern between *Solanorum goleta* (A) and *S. gentilii*. *S. goleta* has a produced anal lobe and not tail. The lobe is less produced on *S. gentilii* and there is a tufted tail. In the under surface pattern *S. goleta* shows a brown band crossing the entire wing (b) and there is slight white suffusion only toward the costa (w). In *S. gentilii* solid dark brown occurs only caudad of the discal cell (b), latter which is broken by three which suffusive slashes. Most notably, bright white covers the limbal area (w).

C. Male genitalia of *Rhamma catamarca*, holotype. Features as in text for genus.



Taxonomic Additions to Recent Studies of Neotropical Butterflies

Kurt Johnson, Editor

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INTRODUCTION

Recent years have shown momentum develop in the delineation of Theclinae faunas from various Neotropical regions. Forthcoming books and identification guides are contemplated (or about to go to press) concerning butterflies of Chile and also of the Caribbean region. One of the problems with the progress of these studies has been the "last minute" accumulation of samples which add additional or new taxa to these regional lists. In many cases this has resulted from local workers becoming aware of publication efforts and "suddenly" making new material available for study. In addition, manuscripts including descriptions of new taxa have remained unpublished due to lack of funds at some institutions when, meantime, other authors have included such names in their forthcoming books, assuming the names would soon be available. The present paper serves to alleviate this "accumulation" problem. It assembles a number of papers and, retaining the original authorships as cited in various forthcoming regional and faunal works, makes these names and records available for purposes of the ICZN Code.

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ADDITIONS TO THE ARGENTINE FAUNA

by Kurt Johnson, Robert C. Eisele and Bruce MacPherson

INTRODUCTION. In 1990 we published a study of the genus *Strymon* in Argentina and Austral regions of South America. Subsequent to that publication, one outstanding new species of that genus was discovered in the Parque Nacional Callilegua, Jujuy Province, and additional records and first recorded opposite sexes located for *Strymon coronos* and *Strymon barbara*. This paper will describe the new species and provide further documentation on the other two *Strymon* species.

Strymon cryptogramus, NEW SPECIES

Photo Plate Notation I, as labelled; Genitalic Fig. Argentina 1

DIAGNOSIS. Differing from all congeners the overlay of a cryptic pattern of mottled dark charcoal, white and brown upon, and distad of, bright discontinuous red-orange VHW medial band.

DESCRIPTION. ***Male.*** DFW,DHW ground brilliant iridescent azure from wing bases through postmedial areas; thereafter, black. FW with elliptic androconial brand. VFW,VHW ground light gray on FW with postmedial area crossed by red-orange band from costa to cell CuA2;HW with jagged generally discontinuous red-orange medial band overlaid, and replaced distally, by a weblike cryptic pattern of dark charcoal and brown interwoven with white and gray lineal elements. ***Female.*** Unknown. ***Male Genitalia.*** Fig. Argentina 1.

TYPES. Holotype male, ARGENTINA, Jujuy Prov., Dept. Ledesma, Parque Nacional Callilegua ("PNC"), along upland park track, mesic deciduous forest, leg. R. C. Eisele, 12 May 1985.

REMARKS. We wish to thank Luís Raúl Canteros, Miguel Tassinari, Hugo Rossi and Angel Caradonna, staff of PNC for their gracious aid to our study of the Lepidotpera fauna of this unique area.

ETYMOLOGY. Arbitrary euphonious Latinization of "cryptogram" referring to the reticulate VHW pattern distinguishing this species.

First Known Female–

Strymon coronos Johnson, Eisele & MacPherson 1990. Photo Plate Notation I, as labelled; Genitalic Figure Argentina 2

COLLECTION DATA. Female, ARGENTINA, monte mesquite, 1-2 km. N Cafayate, Salta Prov., 1660 m., 11 February 1991, leg. 1991 AMNH expedition.

DESCRIPTION. ***Wings.*** DFW grizzled dark gray; DHW same but with violet blue iridescent "blocked" between the veins along the submarginal limbal areas. VFW,VHW as in male.

Female Genitalia. Area of spiral in ductus bursae showing the dorso-terminally directed element of the ductus bursae laying very flat over the dorsum of the bottom spiral (see Figure).

DISTRIBUTION. ***Spatial***: Now known from several "monte" habitats extending from Catamarca Province to Cafayate in Salta Province. ***Temporal***: New records are from October to February.

REMARKS. Peña sent a series of males and females from Catamarca Prov., San Fernando, 4 November 1991 and SW of San Juan near Los Berros, 30 October 1991. These recent records show *S. coronos* to be a significant component of the "monte" ecological biome as it extends northward out of Patagonia along the western Andean slopes of Argentina to Cafayate in southern Salta Province.

First Known Male–

Strymon barbara Johnson, Eisele & MacPherson 1990. Genitalic Figure Argentina 3

COLLECTION DATA. Male, ARGENTINA, Salta Prov., Quebrada de Escoipe, Rt. 33 at km. 23-25, 1600 m., steep xeric/mesic margin, 10 February 1991, leg. 1991 AMNH expedition (see Remarks).

DESCRIPTION. ***Wings.*** Similar to the female but showing a succinct elliptic FW androconial brand and a more angulate HW.

Male Genitalia. Vinculum narrowly inclined to asymmetic saccus. Valvae robust with not much difference in breath of bilobes or caudal extensions. Aedeagus short, terminally undulate.

DISTRIBUTION. ***Spatial***: Still known only from the type locality, a deep quebrada in Salta Province characterized by steep slopes showing an abrupt transition from xeric savannah above, to mixed forest between and wet bottomlands affording narrow marsh habitats. ***Temporal***: The new record is from early summer (February).

REMARKS. Male was taken on flowers near stream ford at quebrada road within 30 meters of where the holotype female was taken in 1976. This species appears to be an upland isolate endemic of the *Strymon nicolayi* Johnson, Eisele & MacPherson [chaco]/ *Strymon valentina* Berg [monte] complex. This area of Salta is lies between the chaco and monte regions where Andean habitats are greatly stratified and interdigitated.

Ministrymon chacovaga,
NEW SPECIES

Argentina Figure 3 (Wings and Genitalia)

DIAGNOSIS. ***Wings.*** VFW,VHW ground charcoal, HW with thick jagged red-orange postbasal band followed distally by similarly thick medial band but in which elements between cell SC + R1 and discal cell (typical of genus) are absent. DFW,DHW chocolate brown.

Male Genitalia. Bilobed area of valvae bulbous and concave contrasting extremely narrow and elongate caudal extensions (see Remarks).

DESCRIPTION. ***Male.*** DFW,DHW completely dark chocolate brown with only hint of iridescent blue along base of hindwing, if at all. HW margin with slight white line; short tail at terminus of vein CuA2. FW with black brand hardly visible over ground color. VFW,VHW ground charcoal gray, HW with thick and very jagged red-orange postbasal band and then a similar thick and jagged band in the medial area but with the elements between cell SC + R1 and the discal cell typifying congeners notably absent. Limbal area concolorous charcoal gray. FW length: 10.0 mm. (holotype), mean of MNHN males 9.8 mm., range 9.5 mm.- 10.0 mm. ***Female.*** Similar to male but lacking FW brands and with slightly more HW basal iridescence. ***Male Genitalia.*** General habitus typical of the *phrutus* Group of genus (Johnson and Miller 1991) but differing most markedly in the valvae which show bulbous, ventrocephalically convex, bilobes contrasting very thin and elongate caudal extensions.

TYPES. Holotype male, ARGENTINA, Quimili, Santiago del Estero Prov., 1 March 1992, leg. L. Peña, deposited AMNH. *Paratypes*. 5 males, 4 females labelled only as to province above, MNHN (see Remarks).

REMARKS. I segregated at Paris (MNHN) a series marked Santiago del Estero as a *Ministrymon* of uncertain identity, marked by the charcoal ground and HW band lacking red-orange elements after cell SC + R1 to the discal area. These old specimens appear now to gain credibility with Peña's recent collection, noted from the same area as the peculiar thecline *Solanorum gentilii*.

ETYMOLOGY. Combines Latin suffix for "roamer" to "chaco" referring to the apparent habitat.

ADDITIONS TO THE HISPANIOLAN FAUNA

by Kurt Johnson and David Matusik

INTRODUCTION. For several years we have been aware of two undescribed species of Polyommatinae from the southwestern Dominican Republic. Originally, we prepared a study of these species in context with the larger problem of polyommatine taxonomy in the Antilles, also including notes on some other recently described butterfly taxa occurring in remote habitats of the region. It is necessary to supplant this paper with a shorter one in order to immediately make names available for some forthcoming general works on the Hispaniolan butterfly fauna. For reasons noted in subsequent Discussion, descriptions and genitalic terminology follow Nabokov (1945). For brevity we abbreviate dorsal fore- and hindwing as "DFW,DHW" and ventral fore- and hindwing as "VFW,VHW", respectively; we addend first records of male and/or females of some other little-known Hispaniolan taxa by simply providing their collection data and appropriate illustrations.

Cyclargus kathleena,
NEW SPECIES
Photographic Plate: III, as labelled.
Genitalic Figures: Hispaniola *Cylargus* [hereafter, "C"], AC

DIAGNOSIS. VFW,VHW mottled white (as common in *Leptotes* species); HW with five extremely large black spots located postbasal and medial along vein SC+R1, basal in the discal cell and marginal in cells CuA1 and CuA2; DFW,DHW bright silvery blue. Male genitalia most similar to *C. thomasi* (Clench) (Figs. photoplate and C,AB) but valval terminus with rostellum and mentum of about equal size, both with margins generally entire and a dorsally inclined spine (*C. thomasi* rostellum with serrate comb and dorsally inclined spine, rostellum overlapping diminutive mentum).

DESCRIPTION. ***Male.*** DFW,DHW ground bright silvery blue with fringe white and hindwing with two prominent marginal blacks dots, cells CuA1 and CuA2. VFW,VHW ground bright mottled light gray over white with only pattern elements being, on the hindwing, five pronounced black orbs as noted in Diagnosis. FW length: 10.5 mm. (holotype), five paratypes 10.0 - 10.5 mm. ***Female.*** Unknown. Male Genitalia. Fig. C,AC. Typical of *Cyclargus* (Fig. 2) but valvae differing from sympatric *C. thomasi* (Fig. C,AB) by being more elongate (Fig. C,A) and with distinctive terminus noted above (Fig. C,C and for *C. thomasi* see also Nabokov, 1945, pl. 3). As noted in Fig. C,C: aedeagus differing from *C. thomasi* by (i) thinner lateral aspect with tapered distal tip, (ii) prominent, ventrally directed tooth at dorsal opening of suprazonal sheath, and (ii) more basally broad, laterally oriented, allulae; uncus in lateral aspect much broader than in *C. thomasi*; terminus of valvae, from caudal view, much wider than in *C. thomasi* because of parallel-oriented spined comb and mentum.

TYPES. Holotype male (photoplate), at site of 1987 Carnegie Expedition base camp, 18 degrees 10'N, 71 degrees 37'W,1600 m, circa 4 km from upper Las Abejas, in xeric pine forest, 815 hrs., 27 June 1988 leg. D. Matusik, deposited AME. ***Paratypes.*** AMNH: one male, pine forest bottom,, @1000 m., adjacent Aceitillar open pit mine near southern entry point of Ideal Dominicana access road, 900 hrs., 28 June 1988, leg. K. Johnson; one male, "Pine Forest before Abejas" [this would refer to the upland trail from the holotype locality to Las Abejas (see Johnson and Matusik, 1988, p. 222)]; three males, same data as previous entry, all early morning, 2 July 1985, 30 July 1990, 12 August 1991, leg. D. Matusik (see Remarks).

REMARKS. Though generally sympatric with *C. thomasi*, *C. kathleena* occurs in a different biome and has, thus far, been collected at a different time of day. *C. kathleena* occurs in dense, pine bottom grasslands more typical of *Calisto* (Satyridae) habitat (e.g type locality approximates that of Sierra de Baoruco endemic *C. sommeri* Schwartz and Gali). *C. kathleena* have been collected at or before 0900 hours as workers have traversed the trail to Las Abejas. In contrast, *C. thomasi* in the Sierra de Baoruco uplands is most frequent in the heat of sunny mid-day and afternoon and usually restricted to areas with stands of flowering legumes; it is also common in xeric lowlands all over the island in many months of the year (Johnson and Matusik, 1988; Schwartz, 1989).

ETYMOLOGY. At the request of the junior author named for his wife Kathleen, who accompanied the authors to the Sierra de Baoruco in 1988.

Cyclargus sorpresus,
NEW SPECIES
Photographic Plate: III, as labelled.
Genitalic Figures: Hispaniola *Cylargus* ["C"] AE

DIAGNOSIS. Differing from sympatric *C. thomasi* (Fig. photoplate) by the classic markings hitherto

attributed only to *C. ammon* (Lucas) of Cuba and Cayman (Riley, 1975) (photoplate): DFW,DHW bright lilac blue (not dingy gray-blue) and, on VHW, with (i) three equally large (not four variously sized) black postbasal dots and (ii) brilliant, expansive white across the postmedian area (not as restricted in intracellular blocks). Differing from *C. ammon* by lacking bold DHW orange spot marginal in cell CuA1 and showing a unique gray patch across the subapex of VFW caused by radical baso-costal orientation of the postmedial band (see Remarks). Of congeners, genitalia most like *C. ammon* (Fig. C,D) but valvae more terminally blunt with dorso-terminal comb diminutive and ovate and inner lateral valval surface with a prominent, dorsally directed, setate lobe; aedeagus comparatively robust and sigmoid in shape (see below and Remarks).

DESCRIPTION. ***Male***. DFW,DHW ground color bright lilac blue, fringes white, DHW with pronounced marginal black dots each in cells CuA1 and CuA2 with very slight orange at base of former. VFW ground gray with dark gray discal spot, wide postmedian band of gray followed distally by white in submargin and gray bordering black spots along the margin; subapex just distad medial band dark gray; HW ground gray, postbasal area with three equally large black spots (along vein SC+R1, in discal cell and at anal margin); central area of wing with light gray "Y"-shaped median pattern formed by outlines of vivid white along base of discal cell and across entire postmedian area; margins with gray orbs in each cell replaced caudally by large black spots at cells CuA1 and CuA2 (CuA1 spot ringed with yellow orange). FW length: 9.5 mm. (holotype), paratypes 9.5, 8.5 mm.. ***Female***. Unknown. ***Male Genitalia***. Fig. C,E. Compared to *C. ammon* (Fig. C,D), valvae similarly robust but terminus of valvae peculiarly blunt with diminutive, ovate, dorso-terminal comb and inner lateral surface with prominent setate lobe as noted in Diagnosis; uncus and forearm more robust with forearms consequently less prominent; aedeagus laterally more robust and distinctly sigmoid in shape (caused by elongate, bifurcate, terminal tabs not typifying *C. ammon*), allulae much thinner dorsally, with dorsal margin greatly concave.

TYPES. Holotype male (photoplate), 21 km. marker near "Las Mercedes" [see below] on Ideal Dominicana S.A. ("Ideal") company road from Cabo Rojo to Aceitillar, Pedernales Province, Dominican Republic, altitude @500 m, in Acacia-dominated xeric scrub, 14 May 1984, D. Matusik", deposited AMNH. *Paratypes*. AMMH: 2 males, data as holotype.

REMARKS. "Las Mercedes" colloquially refers to an assemblage of herders' quarters, as well as a large open pit alumininum mine of Ideal located proximate the "21 km." road marker on Ideal's private road to Aceitillar (see Johnson and Matusik, 1988, p. 222). The area is covered by thorn-scrub varying from dense, cactus interspersed, tracts to thinner overgrowths in the areas of the old open pit mines.

Among Antillean *Cyclargus*, the produced, terminally setate, inner lateral lobe on the inner margin of the valvae appears unique to *C. sorpresus*. Although the raised ridge from which this lobe has developed is apparent in all male *Cyclargus*, it is never an outstanding feature and, as such, was not mentioned or figured by Nabakov. We add this structure to our illustrations as a dotted line and, when it is uniquely modified, mark the structure as the "inner lateral lobe" (= IL).

ETYMOLOGY. The name is a euphonious Latinization of the Spanish word for "surprise" and refers to the conditions surrounding the discovery of this species--a "blind" genitalic test (done during the study of *C. kathleena*) on papered specimens whose wing characters had not yet been examined.

DISCUSSION

Nabokov (1945) characterized Neotropical Polyommatinae ("blue butterflies") with a detailed morphological analysis and described a number of new genera. Riley (1975) did not use all of these genera and, apparently to reunite some Antillean blues with similar wing patterns, synonymized Nabokov's *Cyclargus* (types species *cerargus* Fabricius) with *Hemiargus* Hübner (type species *hanno* Lucas). Unfortunately, study of Nabokov's morphological work shows that *Hemiargus* and *Cyclargus* cannot be monophyletic unless the commonly used polyommatine genera *Pseudochrysops* Nabokov and *Echinargus* Nabokov are also dropped from the nomenclature. Species of *Cyclargus* have a serrate comb on the valval rostellum while species of *Hemiargus*, *Pseudochrysops* and *Echinargus* have a protruding, recurvate process. This detail eluded Riley and, as a result, if one uses his "*Hemiargus*" to contain new species of Antillean blues, the intrageneric morphological comparisons require diagnoses involving a structurally dissimilar, paraphyletic, group. Thus, we have returned to Nabokov's nomenclature and described the above new species in the monophyletic genus *Cyclargus*.

Of *Cyclargus* species, taxa related to *C. thomasi* have the rostellum/comb laterally oriented and slightly overlapping the valval terminus; taxa related to *C. ammon*

have the rostellum/comb lying dorsally along the valvae and usually not exceeding the expanse of the mentum. This detail also eluded Riley (1975) concerning the status of *woodruffi* Comstock and Huntington, a taxon related to *C. ammon*, not *C. thomasi*.

First Known Female--
Leptotes idealus Johnson and Matusik
Photo Plate Notation III, as labelled; Genitalic Figure Hispaniola *Leptotes* ["L"].

COLLECTION DATA. Female (and one male), 29 June 1988, approximately 0945 hrs, damp, shady, heavily wooded bottomland broadleaf forest at Las Abejas (some 20 m. from collection site of holotype male in "lower Abejas" sensu Johnson and Matusik, 1988, p. 222), female deposited AME, male AMMH.

First Known Males--
Calisto ainigma Johnson, Quinter and Matusik
Photo Plate Notation III, as labelled; Genitalic Figure Hispaniola *Calisto* ["Cl"].

COLLECTION DATA. Two males, 7 July 1988, at stream course near outlet of "Bamboo Hole Canyon", approx. 6.5 km southeast of Jarabocoa, La Vega Province, Dominican Republic, about 1700 hrs., in partly sunny weather, leg. Kurt Johnson, deposited AMNH.

Note: all Photo Plate notations refer to the last photo plate, following the photos of the revisionary study of Thecloxurina (*Reports* #22).

ADDITIONS TO THE CHILEAN FAUNA

by Kurt Johnson and Lee D. Miller

INTRODUCTION. For several years, the late Dr. José Herrera G. and Mr. Luis Peña have worked toward a popular book summarizing current knowledge of the Chilean butterfly fauna. One of the obstacles to completion of the Chilean butterfly guide has been the number of undescribed entities in Lycaenidae and Hesperiidae. Progress has been made through some recent papers published in *Acta Entomologica Chilena* (hereafter "*AEC*") (Herrera, MacNeill and Atria 1991; Johnson and Miller 1991; Johnson, Miller and Herrera in press). However, at the last minute, additional specimens representing new Chilean species records or new species in the Lycaenidae have become become available. To facilitate the publication of Peña's book, three taxa must be recorded that are not treated in the latest publications in press at *AEC*.

Dr. Raúl Cortéz (UMCE) kindly advised us that the mailing date for the latter publications will be in November 1992. Therefore, to facilitate availability of names for Peña's work but also to avoid *nomen nudum* citations, we are compelled to review here one genus in press at *AEC*. This treatment will take priority over the *AEC* treatment but not supplant it. The *AEC* treatment is in great detail and includes all the new species for the genus. The review below is very brief, using only available historical names, but serves to add the final species name which must be available for Peña. This approach may not be the most desirable but appears to be the only way to make names available prior to the anticipated publication of Peña's book.

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Overview of *Heoda* Johnson, Miller & Herrera

HEODA

Synopsis-- The genus is erected for five species of high Andean and austral hairstreak butterflies, including three previously unknown species which share unique characters with *Thecla heodes* H. H. Druce (1909) and *Thecla wagenknechti* Ureta (1947). *Thecla heodes* has been known only from the type and a few old, high montane, Peruvian specimens at the BMNH. *Thecla wagenknechti* has, hitherto, been generally unknown to workers outside of Chile. We were surprised, therefore, to discover obvious wing pattern and morphological similarities between these species and the widespread undescribed species (two from Patagonia and one from Colombia [Johnson, Miller and Herrera, *AEC* in press]).

Considering the shared characters, and geographic distributions overlapping those of *Eiseliana* (latter as defined by de Toledo 1978 and redefined by Johnson, Miller and Herrera, *AEC* in press) and *Strymon* Hübner, generic status is appropriate (see Remarks). Contrasting infraspecific variability in some taxa of *Eiseliana*, however, the known species of *Heoda* are very distinctive and, since generally restricted to high Andean and Patagonian locales, appear to have remained unfamiliar simply because of the paucity of samples.

DIAGNOSIS. Compared to *Strymon* and *Eiseliana*, all *Heoda* species have forewing androconial brands in males and exhibit marked basal displacement of the SC+R1 element of the under surface medial band (regardless of expression of band as "band", "line", or "spot-band"). Some species have hindwing tails. As in *Eiseliana*, two upper surface wing patterns occur: concolorous brown, and brown with bold medial orange wing patches. Structurally, *Heoda* species are unique in having the female's eighth tergite modified to a "subcordate incised posterior cavity" (*sensu* Field, 1967ab, the "*sipc*" *sensu* Johnson, 1988, 1989a,b,c; Johnson and Matusik, 1988). This structure extends cephalad beneath the seventh tergite, enclosing two spiracular openings with heavy sclerotin. Male genitalia are robust with ventral vincular shape generally ovate and saccus broad and thickly attached to the vincular base; female genitalia have the ductal spiral located relatively remote from the distal end of corpus bursae, often near the midpoint of the total ductus bursae length.

DESCRIPTION. ***Adult.*** Antennae fuscous, finely striped white, length one third to two-fifths that of forewing base to apex; head with frons fuscous, eyes outlined white; thorax fuscous with gray to fuscous hairs distally profuse; abdomen fuscous. ***Male.*** Upper surface of wings: depending on the species (i) ground color concolorous brown or with pronounced central orange patches; (ii) androconial scent brands size varying greatly; (iii) hindwing tailed or untailed. Under surface of wings: depending on species (i) forewing ground concolorous or with central orange patch; (ii) postmedian line, costa to cell CuA1 or CuA2, bold to obsolescent. In all species, hindwing ground colors gray or gray-brown with bold bipartite (distally white, basally black) jagged medial line or spot-band marked by pattern element in cell SC + R1 being greatly displaced basally. Depending on species, hindwing distal areas (i) broadly and boldly gray, or (ii) with additional pattern elements (patches or chevrons); limbal *Thecla*-spot prominent, orange or yellow. ***Female.*** Upper surface of wings: similar to male but with more extensive orange in orange-patched taxa and without androconial scent brand. Under surface of wings: similar to male except in *H. heodes* and a southern Patagonia/Chilean species described in Johnson, Miller and Herrera (in press) which show slight sexual dimorphism in degree of basal displacement in cell SC+R1 in the medial hindwing band (see below). ***Male Tergal Morphology and Genitalia.*** *AEC* Figs. 14-18. Eighth tergite normal (sensu Johnson et al., 1990). Genitalia generally similar to taxa of "*eurytulus* group" of *Strymon* (Johnson et al., 1990) or *Eiseliana* (see above) but generally more robust, with saccus more prominent, valvae more obtusely triangular and aedeagus less undulate towared the terminus. ***Female Tergal Morphology and Genitalia.*** *AEC* Figs. 14-17. As noted in Diagnosis, eighth tergite specialized to subcordate incised posterior cavity (*sipc*) extending cephalically beneath the seventh tergite, surrounding two spiracles with heavy sclerotin, and encompassing all but the cephalic tip of the apophyses papillae anales. Dorsal plate of cavity heavily sclerotized from spiracular openings ventrally to juncture with lamella postvaginalis. Genitalia with spiral area of ductus bursae located remote from distal end of corpus bursae, spiral generally occurring centrally on the ductal shaft; apophyses papillae anales very short, cephalic ends barely exceeding cephalic expanse of *sipc*.

TYPE SPECIES. *Thecla heodes* H.H.Druce 1909.

DISTRIBUTION. ***Spatial***: generally pan-Andean and austral. Two species occur in disjunct high montane (present data including 2500 - 2800 m.) areas of Colombia and Peru; one species occurs in coastal mountains of the Chilean CDP biotic province; two species are sympatric in the PSP biotic province of Chile (Patagonia). Temporal: specimens are reported November to January.

REMARKS. As heretofore noted, *Heoda* is accorded generic rank because of its distinctive morphological characters and sympatric ranges with *Eiseliana* and montane members of *Strymon sensu stricto*. These conditions suggest *Heoda* is a separate evolutionary lineage.

Contrasting the modified female eighth tergite (*sipc*) in *Heoda*, *Eiseliana* and the *S. eurytulus* complex exhibit (a) the eighth tergite only slightly sclerotized dorsad the lamella postvaginalis (including a single spiracular opening, and otherwise unspecialized) and (b) the apophyses papillae anales widely exceeding the eighth tergite cephalically and extending to, or beyond, the characteristic spiral configuration of the ductus bursae. Contrasting the compartively remote location of the ductal spiral from the distal end of the corpus bursae in *Heoda*, in *Eiseliana* and the *S. eurytulus* complex the spiral more

closely abuts the corpus bursae. Also, the corpus bursae signa in *Eiseliana* and *Strymon* do not appear as expansive as in *Heoda*. In males of *Heoda*, vincular structures and the adjoining saccus appear more robust than in *Eiseliana* or the *S. eurytulus* complex.

There is some sexual dimorphism in the expression of basal displacement of the SC+R1 element of the under surface medial band. It is radical in both sexes of *H. wagenknechti* and the white-banded Patagonian species and Colombian species described by Johnson, Miller and Herrera (*AEC* in press). In *H. heodes* the displacement is less notable in the female, in the large southern Patagonian/ Chilean species described by Johnson, Miller and Herrera (*AEC* in press).

ETYMOLOGY. The name is a euphonious modification of the type species name and considered feminine.

End of text concerning *Heoda* Johnson, Miller and Herrera (1992, in press) reprinted by permission of *AEC*.

A New Species of *Heoda* from the Atacama Coastal Region (Coquimbo State) Northern Chile

Heoda atacama Johnson and Miller
NEW SPECIES
Fig. Chile 1.

DIAGNOSIS. *Wings*. A large species (FW 13.5-14.0 mm.) second in size only to the southern Patagonian/ S. Chilean species described by Johnson, Miller and Herrera (*AEC* in press). Differing from all congeners by restricted DFW,DHW and VFW orange patches in both sexes (orange postmedial in CuA1 and edges of adjoining cells only) and from congener cited above by lacking its lavish white VHW coloration across the distal areas; instead, VHW ground dull beige broken by the medial band of lunulate black marks and the secondary, but lighter, postbasal band. Differing from *Eiseliana bicolor* Phillipi by the generic wing characters (particularly in this case the succinct, restricted orange patches, see Remarks, and the secondary postbasal lunuate marks on the VHW).

DESCRIPTION. ***Male***. Large, FW 13.5-14.0 mm.; DFW very black compared to *E. bicolor* and framing very restricted bright orange patches occurring only in cell CuA1 and adjoining cell edges FW (detached from scent brand by more than 2 mm.) in cell CuA1 and slightly more of the adjoining cell edges on the HW. VFW dark buff surrounding a succinct rectangular orange patch restricted to postmedial cells M3 to CuA2 and bordered costad by the six black dots of the FW postmedial band. HW ground dark buff with medial band of black orbs, orb second from costa not as radically indented as in congeners; postbasal area with mottled to partially spot band, some areas slightly diffused with white. FW length: known males 13.5 mm. (holotype), 14.0 mm., 13.5 mm.

Female. Wings appearing broader and more rounded than male and DFW without brand; DFW,DHW grounds as dark as males and with orange restricted only slightly less. VHW with second orb from costa in medial band more incised. FW length: known females 14.0 (allotype), 14.0 mm. ***Male Genitalia***. Fig. Chile 1, as labelled. As typical of genus vincular area between base of falces and saccus very diminutive, in this species perhaps the most diminutive of all; saccus broadly parabolic and asymmetric. Valvae robust with both bilobe areas and caudal extensions elliptically tapered. ***Female Genitalia***. Fig. Chile 1, as labelled. Eighth tergite modified to robust sipc as typical of genus; genitalia typical of genus with wide spiral generally remote from cervix bursae, extremely robust in the terminal ductus bursae element.

TYPES. Holotype male (line drawing, fig. Chile 1) CHILE, Coquimbo, Elqui, Cta. Pajunales, 15 January 1992, allotype female, two paratype male and one paratype female, reg. Vicuña, January 1987 (collector uncertain see Remarks under *Shapiroana herrerai*, Report #22, Appendix 3). Primary types UMCE; paratypes AMNH, AME.

DISTRIBUTION. ***Spatial***: Apparently endemic to relict Valdivian related habitat as it occurs in Coquimbo State, Atacama Coastal Region. The latter is known for interdigitated relict dune, scrub-steppe and coastal forest biomes. ***Temporal***: Known only from the type data.

REMARKS. This entity first appeared in series forwarded through Herrera but we were uncertain of it firsthand until Peña's most recent specimen, a fresh male which we make the primary type. From regionally familiar *Eiseliana bicolor* (the familiar orange and black austral thecline) the singleton specimen stood out by its large size, black upper surface with very restricted orange, and more suffusive ventral pattern. The DFW,DHW is so dark, Peña queried if the specimen might be a *Strymon peristictos* (an extremely dark tailless *Strymon* also restricted to dune habitat in Atacama) showing unique orange patches. This query was also warranted because the more suffusive gray aspects of the VHW of the specimen do appear more like *S. peristictos* than *E. bicolor*.

AUTHORSHIP/ PRIORITY. We consider the late J. Herrera G. as a co-author of *Heoda*, consistent with the *AEC* study (in press) and *AEC*'s permission for us to reprint one section of the tri-authored text from Johnson, Miller and Herrera (*AEC*, in press) above. Since the text for *Heoda atacama* was prepared after Dr. Herrera's death, we separated its text above and consider the authorship as Johnson and Miller.

First Report of *Rekoa palegon cyrriana* from Chile

Concerning the Chilean butterfly guide, L. Peña and J. Herrera G. contacted the first author concerning historical records of certain Chilean species apparently represented only in European collections.

Review of old Chilean material assembled from several European museums (Johnson 1989a,b; 1991) included a specimen of *Rekoa palegon* Cramer not previously recorded for the Chilean fauna (Ureta 1963).

Rekoa palegon is one of several butterflies with xerophilic populations characterizing a range southward from Loja, Ecuador, along the westcoast and adjacent foothills of Peru to the northern coastal region of Arica Province and/or northern foothills of adjoining Tarapaca Province, Chile (Ureta 1963, Johnson and Miller 1991, Robbins 1991) (hereafter, the "western coastal zone"). Chilean records, representing the southern ends of the ranges for western coastal zone xerophiles, include *Thecla davara joannisi* Dufrane, *Thecla dissentanea* Draudt and *Thecla sapota* Hewitson (Ureta 1963) and *Ministrymon azia* (Hewitson) (Johnson and Miller 1991).

Robbins (1991) characterized *R. palegon* from the western coastal zone as a "distinctive phenotype", historically referred to the taxon *cyrriana* Hewitson. Robbins considered this coastal phenotype as clinal with nominate *palegon* and, since he did not recognize subspecies in his study, synonymized *cyrriana* with palegon. Other authors (G. Lamas, J. Herrera G., L. Peña, pers. comm.) prefer subspecies recognition for this phenotype and, consistent with the methodology of forthcoming books on the Chilean butterfly fauna, we recognize *R. palegon cyrianna* here as a revised status.

The photoplate (Chile II, as labelled) illustrates upper and under surfaces of a male of *R. palegon cyrianna* labelled "Chili", "pres. [presented?] 1905 by J. J. [label is torn] Walker R.N. [Royal Navy]", "Burchell Collection" found in the Hope Entomological Collections, Oxford University. J. J. Walker, a Royal Navy officer, was a well-known British collector of South American Lepidoptera (Brown 1941). Brown records Walker's work in Ecuador, particularly mentioning specimens in the British Museum (Natural History) (BMNH). Specimens attributed to Walker's collections occur in other European museums, however, in our experience not only the BMNH and Oxford collections, but also the Fournier Collection at the Museum National d'Histoire Naturelle, Paris (Johnson 1991). There is considerable evidence that Walker specimens were first distributed to private collectors. Johnson (1990) included one Walker specimen, labelled "Chili, Walker" "J. J. Joicey Collection" "Thecla sp. not in collection, S.G." (now at BMNH) as a paratype of Chilean endemic *Chlorostrymon chileana*. Johnson, Miller and Herrera (in press) include several specimens of *Thecla bicolor* Phillipi which are also attributed to Walker in the J. J. Joicey Collection at the BMNH. At Oxford, specimens from the western coastal zone with Walker collection data include individuals from Callao and Chosica, Peru.

Although there is no way to be absolutely certain about the authenticity of the specimen of *R. palegon* attributed to Chile and to Walker, the specimen's data are completely consistent with other published and unpublished historical records of Walker collections as well as the distribution this species, and other xerophiles, along the western coastal zone extending into northern Chile. We therefore suggest that *Rekoa palegon* can be included in the Chilean butterfly fauna with some confidence.

Sympatry of *Ministrymon quebradivaga* Johnson and Miller and *M. azia* Hewitson (form *brocela* Dyar)

Early summer 1992 afforded some of the best collecting conditions northern Chile had experienced in many years. L. Peña forwarded samples including both *M. quebradivaga* and *M. azia*; it was interesting for us to place these species side by side (Chile figure 3).

Specimens of *M. quebradivaga* are larger (FW 11.0-11.5 mm.), brown above (with suffusive 2 mm. FW brands) in males, slightly blue distally in females; *M. azia* males are smaller (FW 7.5-8.0 mm.) blue from base to succinct 1 mm. black brands on FW, blue across entire HW. Data is as follows: *M. azia* male figured, Lluta, Arica, Molinos, 1-2 February 1992; *M. quebradivaga* male figured, Lluta, Arica, Rio Lluta, 31 January 1992; Peña states that additional specimens were taken at both ites; Peña also sent an additional male/female pair of *M. quebradivaga* from the type locality, Codpa, Arica, 27 January 1992. It was too late for us to include photographs in the present publication.

ADDITIONS TO THE MEXICAN FAUNA

A Reorganized List of Theclinae from Various Regions of Mexico

by Kurt Johnson and Jorge E. Llorente Bousquets

This list updates recent ones by Isabel Vargas Fernandez, Jorge E. Llorente Bousquets and Moises Armando Luis Martinez (1991a,b [hereafter, Llorente et.al. 1991a,b]) reorganizing the Theclinae according to the new combinations available from more recent literature. No new combinations are made; all combinations used below have been published in recent revisionary (or other) works, particularly those listed subsequently by Johnson and by Robbins and colleagues. New records are marked with a bolded asterisk and their locality data provided. One new taxon is described which had been cited *nomen nudum* in Llorente et. al. 1991.

Lists of Mexican Theclinae are preliminary since they rely on local indentifications and many of these are based on common usage and not on comparison with type specimens. These lists, however, provide the necessary progress of updating the available lists to recent nomenclature.

Theclinae of the Sierra de Juárez, Oaxaca
after Llorente et.al. 1991a, p. 38-39, updated to published literature as of 15 May 1992.

Note: The original list by Llorente et.al. 1991a,b numbered taxa consecutively (beginning with the Papilionidae) and was organized with various footnotes concerning identification methods and/or deposition of specimens. The purpose of the present list is limited to updating nomenclature to more recently published combinations. Thus, original taxon designation numbers and footnotes are not repeated. Original description date citations from the original list are repeated for taxonomic reference but not included herein in a bibliography. However we add author citations for genera since some are recently published. No new combinations are made; all combinations below have appeared previously.

Ministrymon Clench. *M. azia* (Hewitson, 1873); *M.* aff. *paetus* (Godman y Salvin, 1887); *una scopas* (Godman y Salvin, 1887).

Strymon Hübner. *S. alea* (Godman y Salvin, 1887); *S. cestri* (Reakirt, 1865); *S. columella istapa* (Reakirt, 1866), *S. sp1* (unidentified); *S. sp2* (unidentified).
Mercedes Johnson. *M. demonassa* (Hewitson, 1868)
Panthiades Hübner. *P. battus jalan* (Reakirt, 1866); *P. bitias bitias* (Cramer, 1777); *P. barajo* (Reakirt, 1866); *P. ochus* (Godman y Salvin, 1887)
Parrhasius Hübner. *P. orgia melissa* (Hewitson, 1868); *P. polibetes polibetes* (Cramer, 1791)
Tmolus Hübner. *T. echion* (Linneo, 1758); *T. cydrara* (Hewitson, 1868); *T. cydrara* (Hewitson, 1868)
Arcas Swainson. *A. cypria* (Geyer, 1837); *A. imperialis* (Cramer, 1775)
Arawacus Kaye. *A. aetolus togarnus* (Hewitson, 1867); *A. sito* Boisduval, 1836
Rekoa Kaye. *R. palegon* (Cramer, 1782)
Theritas Hübner. *T. regalis* (Cramer, 1775)
Cryptaenota Johnson. *C. mavors* (Hübner, 1818)
Atlides Hübner. *A. carpasia* (Hewitson, 1868); *A. carthaea* (Hewitson, 1868); *A. halesus corcorani* (Jean, 1933)
Pseudolycaena Wallengren. *P. damo* (Druce, 1875)
Eumaeus Hübner. *E. debora* (Hübner, 1806); *E. toxea* (Godart, 1824)
Theorema Hewitson. *T. eumenia* (Hewitson, 1863)
Chalybs Hübner. *C. janais* (Cramer, 1782)
Janthecla Robbins and Venables. *J. janthina janthodonia* (Dyar, 1916)
Orcya Johnson. *O. ahola* (Hewitson, 1867); *O. bassania* (Hewitson, 1867)
"Thecla" (Neotropical Eumaeini). *T. mycon* (Godman y Salvin, 1887); *T. erybathis* Hewitson, 1867; *T. hyas* Godman y Salvin, 1887; *T. maeonis* Godman y Salvin, 1887; *T. minthe* Godman y Salvin, 1887; *T. norax* Godman y Salvin, 1887; *T. busa* Godman y Salvin, 1887; *T. denarius* (Butler, 1872); *T. sethon* Godman y Salvin, 1887; *T. guzanta* Schaus, 1902; *T. cyda* Godman y Salvin, 1889
Argentostriatus Johnson. *A. clarina* (Hewitson, 1874)
Radissima Johnson. *R. umbratus parthenia* (Hewitson, 1863)

Theclinae of Oaxaca
after Llorente et.al. 1991a, p. 99-101, using the original alphabetical order except to cluster genera after the first generic entry, updating nomenclature to published literature as of May 15, 1992 and inserting locality data only for new additions.

Arawacus Kaye. *A. aetolus togarna* Hewitson 1867; *A.*

sito Boisduval 1836
Dolymorpha Holland. *D. jada* (Hewitson, 1870)
Arcas Swainson. *A. cypria* (Geyer, 1837)
Atlides Hübner. *A. carpasia* (Hewitson, 1868)
Cyanophrys Clench. *C. miserabilis simplex* Clench, 1981; *C. goodsoni* (Clench, 1946) ["goosoni" of original list, misspelling]; *C. herodotus* (Fabricius, 1793)
Mercedes Johnson. *M. demonassa* (Hewitson, 1868)
Cycnus Hübner. *C. phaleros* (Linneo, 1758)
Eumaeus Hübner. *E. debora* (Hübner, 1806); *E. toxea* (Godart, 1824)
Michaelus Nicolay. *M. jebus* (Godart, 1822)
Panthiades Hübner. *H. barajo* (Reakirt, 1866) ["Phantiades" of original list, misspelling]; *P. battus jalan* (Reakirt, 1866); *P. bitias bitias* (Cramer, 1777); ***P. ochus*** (Godman y Salvin, 1887)
Parrhasius Hübner. *P. m-album moctezuma* (Clench, 1971); *P. orgia melissa* (Hewitson, 1874); *P. polibetes* (Cramer, 1791); *P. damo* Druce, 1875
Rekoa Kaye. *R. brescia* (Hewitson, 1868); *R. meton* (Cramer, 1782); *R. palegon* (Cramer, 1782)
Sandia Clench. *S. xami xami* (Reakirt, 1866) **S. xami scaphia* Clench 1981, Cerro Pelón
Strymon Hübner. *S. albata albata* (C. y R. Felder 1864/1867); *S. yojoa* (Reakirt, 1866); *S. basalides* (Geyer, 1837); *S. bebrycia* (Hewitson, 1868)
Celmia Johnson. *C. celmus* (Cramer, 1775)
Argentostriatus Johnson. *A. clarina* (Hewitson, 1874)
Iaspis Kaye. *I. talayra castitas* (Druce, 1907)
Theritas Hübner. *T. regalis* (Cramer, 1775)
Theorema Hewitson. *T. eumenia* (Hewitson, 1863)
Cryptaenota Johnson. *C. mavors* (Hübner, 1818)
Tmolus Hübner. *T. cydrara* (Hewitson, 1868)
Arases Johnson. **A. aurantiaca* Johnson 1992. Cerro Pelón
Cisincisalia Johnson. **C. guatemalena* (Clench, 1981), Cerro Pelón
"***Thecla***" *nitetis* Godman y Salvin 1887

Theclinae of the Sierra de Atoyac de Alvarez, Guerrero
after Llorente, et.al. 1991b, p. 26-27, updating nomenclature to published literature as of May 15, 1992.

Cyanophrys Clench. *C. agricolor agricolor* (Butler, 1873); *C. amyntor distractus* (Clench, 1946); *C. herodotus* (Fabricius, 1793); *C. longula* (Hewitson, 1869)
Chlorostrymon Clench. *C. telea* (Hewitson, 1868)
Argentostriatus Johnson. *A. clarina* (Hewitson, 1874); *A. calus* (Godart, 1819)
Ministrymon Clench. *M. clytie* (Edwareds, 1877); *M.* aff. *megacles* (Cramer, 1782); *M. azia* (Hewitson, 1873); *M. coronta* (Hewitson, 1874); *M. paetus* (Godman y Salvin, 1887); *M. una scopas* (Godman y Salvin, 1887); *M.* sp.1 *M.* sp.2
Strymon Hübner. *S. rufofusca* (Hewitson, 1877); *S. albata* sedecia (Hewitson, 1874); *S. bazochii* (Godart, 1824); *S. columella istapa* (Reakirt, 1866); *S. thius* (Geyer, 1832); *S. yojoa* Reakirt, 1866
Calycopis Scudder. *C. bactra* (Hewitson, 1877); *C. cecrops* (Fabricius, 1793); *C. isobeon* (Butler y Bruce, 1872); *C.* sp.
Mercedes Johnson. *M. demonassa* (Hewitson, 1868)
Morphissima Johnson. *M. xeneta xeneta* (Hewitson, 1877)
Panthiades Hübner. *P. battus jalan* (Reakirt, 1866); *P. ochus* (Godman y Salvin, 1887); *P. bitias sierrae* (Dyar, 1919)
Parrhasius Hübner. *P. m-album moctezuma* (Clench, 1971); *P. orgia* (Hewitson, 1867) ssp. nov.
Michaelus Nicolay. *M. ira* (Hewitson, 1867); *M.* aff. *hecate* (Godman y Salvin, 1887); *M. jebus* (Godart, 1822)
Celmia Johnson. *C. celmus* (Cramer, 1775)
Caerofethra Johnson. *C. carnica* (Hewitson, 1873)
Tmolus Hübner. *T. echion echiolus* (Draudt, 1920)
Arcas Swainson. *A. cypria* (Geyer, 1837)
Oenomaus Hübner. *O. ortygnus lauta* (Draudt, 1919)
Arawacus Kaye. *A. sito* Boisduval, 1836
Rekoa Kaye. *R. palegon* (Cramer, 1782); *R. meton* (Cramer, 1782)
Atlides Hübner. *A. neora* (Hewitson, 1863)
Pseudolycaena Wallengren. *P. damo* (Druce, 1875)
Ocaria Clench. *O. ocrisia* (Hewitson, 1868)
Eumaeus Hübner. *E. minijas* Hübner, 1806
Janthecla Robbins and Venables. *J. janthia janthodonia* (Dyar, 1916)
Orcya Johnson. *O. ahola* (Hewitson, 1867); *O. bassania* (Hewitson, 1868)
Radissima Johnson. *R. umbratus parthenia* (Hewitson, 1863)
Angulopis Johnson. *A. politas* (Druce, 1907)
"***Thecla***" (Neotropical Eumaeini) [hereafter, *T.* not repeated]. *lollia* Godman and Salvin 1887; *canus* Druce, 1907; *cyphara* Hewitson, 1874; *erybathis* Hewitson, 1867; *gabina* Godman y Salvin 1887; *hisbon* Godman y Salvin 1887; *hyas* Godman y Salvin, 1887; *keila* Hewitson, 1868; *maeonis* Godman y Salvin, 1887; *guzanta* Schaus, 1902; *minthe* Godman y Salvin, 1887; *nippia* Dyar, 1918; *norax* Godman y Salvin, 1887; *orasus*

Godman y Salvin, 1887; *phobe* Godman y Salvin, 1887; *santans* Dyar, 1926; *semones* Godman y Salvin, 1887; *syedra* Hewitson, 1863; aff. *ambrax* (Westwood, 1852); aff. *bianca* (Möschler, 1883); aff. *denarius* (Butler, 1872); aff. *latagus* (Godman y Salvin, 1887); aff. *sethon* (Godman y Salvin, 1887); *cyda* (Godman y Salvin, 1889); "*Thecla*" sp.1 (grupo sethon); "*Thecla*" sp.2; "*Thecla*" sp.3; "*Thecla*" sp.4; "*Thecla*" sp.5; "*Thecla*" sp. 6

Theclinae of Guerrero
after Llorente, et.al. 1991b, updating nomenclature to published literature as of May 15, 1992.

Cyanophrys Clench. *C. agricolor agricolor* (Butler, 1873); *C. amyntor distractus* (Clench, 1946); *C. herodotus* (Fabricius, 1793); *C. longula* (Hewitson, 1869); *C. necopina* Johnson (see below).
Chlorostrymon Clench. *C. telea* (Hewitson, 1868); C. *simaethis sarita* (Skinner, 1895)
Argentostriatus Johnson. *A. clarina* (Hewitson, 1874); *A. calus* (Godart, 1819); *matho* Godman y Salvin 1887
Ministrymon Clench. *M. clytie* (Edwareds, 1877); *M.* aff. *megacles* (Cramer, 1782); *M. azia* (Hewitson, 1873); *M. coronta* (Hewitson, 1874); *M. paetus* (Godman y Salvin, 1887); *M. una scopas* (Godman y Salvin, 1887); *M. phrutus* (Geyer, 1932); *M.* sp.1; *M.* sp.2
Aubergina Johnson. *A. paetus* (Godman y Salvin, 1887); *hicetas* (Godman y Salvin 1887)
Strymon Hübner. *S. rufofusca* (Hewitson, 1877); *S. albata* sedecia (Hewitson, 1874); *S. bazochii* (Godart, 1824); *S. columella istapa* (Reakirt, 1866); *S. thius* (Geyer, 1832); *S. yojoa* Reakirt, 1866; *S. eurytulus* (Hübner, 1819)
Hypostrymon Clench. *H. critora festata* (Weeks 1891) *H. aderces* Clench 1975
Calycopis Scudder. *C. beon* (Cramer, 1782) [Johnson 1991c has shown that this name is ambiguous at both the species and generic level]; *C. bactra* (Hewitson, 1877); *C. cecrops* (Fabricius, 1793); *C. isobeon* (Butler y Bruce, 1872); *C.* sp.
Mercedes Johnson. *M. demonassa* (Hewitson, 1868)
Morphissima Johnson. *M. xeneta xeneta* (Hewitson, 1877)
Panthiades Hübner. *P. battus jalan* (Reakirt, 1866); *P. ochus* (Godman y Salvin, 1887); *P. bitias sierrae* (Dyar, 1919)
Parrhasius Hübner. *P. m-album moctezuma* (Clench, 1971); *P. orgia* (Hewitson, 1867) ssp. nov.
Michaelus Nicolay. *M. ira* (Hewitson, 1867); *M.* aff. *hecate* (Godman y Salvin, 1887); *M. jebus* (Godart, 1822)
Celmia Johnson. *C. celmus* (Cramer, 1775)
Caerofethra Johnson. *C. carnica* (Hewitson, 1873)
Tmolus Hübner. *T. echion echiolus* (Draudt, 1920)
Arcas Swainson. *A. cypria* (Geyer, 1837)
Oenomaus Hübner. *O. ortygnus lauta* (Draudt, 1919)
Arawacus Kaye. *A. sito* Boisduval, 1836
Rekoa Kaye. *R. palegon* (Cramer, 1782); *R. meton* (Cramer, 1782)
Atlides Hübner. *A. neora* (Hewitson, 1863); *A. carpohora* (Hewitson, 1868); *A. gaumeri* (Godman y Salvin, 1901)
Pseudolycaena Wallengren. *P. damo* (Druce, 1875)
Ocaria Clench. *O. ocrisia* (Hewitson, 1868); *O. peruviana* (Erschoff, 1877)
Eumaeus Hübner. *E. minijas* Hübner, 1806; *E. debora* (Hübner, 1806)
Janthecla Robbins and Venables. *J. janthia janthodonia* (Dyar, 1916)
Orcya Johnson. *O. ahola* (Hewitson, 1867); *O. bassania* (Hewitson, 1868)
Radissima Johnson. *R. umbratus parthenia* (Hewitson, 1863)
Tigrinota Johnson. *T. hypocrita* (Schaus, 1913)
Noreena Johnson. *N. cambes* (Godman y Salvin, 1887) ["cambens" of original list, misspelling]
Angulopis Johnson. *A. politas* (Druce, 1907); *autoclea* Hewitson, 1862
Iaspis Kaye. *I. thabena* (Hewitson, 1887) ["tabena" of original list, misspelling]
"***Thecla***" (Neotropical Eumaeini) [hereafter, *T.* not repeated]. *lollia* Godman and Salvin 1887; *canus* Druce, 1907; *cyphara* Hewitson, 1874; *erybathis* Hewitson, 1867; *gabina* Godman y Salvin 1887; *hisbon* Godman y Salvin 1887; *hyas* Godman y Salvin, 1887; *keila* Hewitson, 1868; *maeonis* Godman y Salvin, 1887; *guzanta* Schaus, 1902; *minniles* Dyar, 1916; *mathewi* Hewitson, 1874; *minthe* Godman y Salvin, 1887; *nippia* Dyar, 1918; *norax* Godman y Salvin, 1887; *orasus* Godman y Salvin, 1887; *phobe* Godman y Salvin, 1887; *santans* Dyar, 1926; *sethon* Godman y Salvin, 1887; *semones* Godman y Salvin, 1887; *tephraeus* Geyer, 1837; *vevenae* Dyar, 1918; *muridosca* Dyar, 1919; *semones* Godman y Salvin, 1887; *syedra* Hewitson, 1863; *nitetis* Godman y Salvin, 1867; *theocritus* Godman y Salvin, 1887; *theocritus* Fabricius, 1793 ["teocritus" of original list, misspelling]; *facuna* Hewitson, 1887; *dignota tongida* Clench y Miller, 1971); *pion* Godman y Salvin, 1887; *busa* Godman y Salvin, 1887; *arindela rinde* Dyar, 1916; *critola* Hewitson, 1874; *mycon* Godman y Salvin,

1887; aff. *ambrax* (Westwood, 1852); aff. *bianca* (Möschler, 1883); aff. *denarius* (Butler, 1872); aff. *latagus* (Godman y Salvin, 1887); aff. *sethon* Godman y Salvin, 1887; *cyda* Godman y Salvin, 1889; "*Thecla*" sp.1 (grupo sethon); "*Thecla*" sp.2; "*Thecla*" sp.3; "*Thecla*" sp.4; "*Thecla*" sp.5; "*Thecla*" sp. 6

Description.

***Cyanophrys necopina* Johnson,**
NEW SPECIES

Cyanophrys necopina Johnson: Llorente et.al. 1991b, p. 117, cited *nomen nudum*
Fig. Mexico 1

DIAGNOSIS. Based on comparisons of *C. herodotus* and *C. miserabilis* in Clench 1961-- *C. necopina* males appearing somewhat intermediate in VHW anal/limbal rust suffusion, thus resembling *C. miserabilis* specimens with less of the suffusion always considered typical of latter species; females more broadly winged and darker than females of *C. herodotus* or *C. miserabilis* and showing reduced anal/limbal suffusion as males. ***Outstanding feature*** in morphology, apparent maintenance of the primitive genital conditions that contrast *C. herodotus* to *C. miserabilis*: (1) male valvae and vincular ventrum in *C. miserabilis* elongate and with parabolic elements, valvae in *C. herodotus* and *C. necopina* with an ovate bilobed area followed by short, three-step caudal extension; (2) female of *C. miserabilis* with greatly elongate ductus bursae and prominent lamellae antevaginalis showing produced ventral scutes (see Johnson 1991b), *C. herodotus* with similar lamellae configuration but short, robust, ductus bursae, but ductus bursae in *C. necopina* rather intermediate in length while showing a reduced lamella antevaginalis lacking produced scutes.

TYPES. Holotype male, allotype female, Catemaco, Veracruz State, Mexico, September 1960, T. Escalante, AMNH. *Paratypes*. AMNH: A series of 11 males and females from Acohuata, Mendez, Rincon and Vanegas, Mexico.

DISTRIBUTION. ***Spatial***. Known from dissections of material from several central to northwestern Mexican localities. ***Temporal***. Type data extends from July to September.

REMARKS. This species is described here because it was included *nomen nudem* in Llorente et. al. 1991b. The precise biological identity of this taxon in unclear; the mix of odd genital characters seem to argue against the possiblity that it represents hybrids of *C. miserabilis* and *C. herodotus*. *Cyanophrys necopina* has appeared in a number of samples dissected because of the "intermediate" wing characters. Several "foodplant strains" (with distinctive minor wing character differences) have been noted in *C. miserabilis* [R. O. Kendall, pers. comm.] and forwarded to me for study. These specimens show less outstanding genitalic differences than those seen in material identified as *C. necopina*. Thus, it is possible this latter species is a biologically restricted entity (e.g. a "sibling species"). However, these biological speculations need to be investigated in the field.

ETYMOLOGY. The Latin names means "unexpected".

REPLACEMENT NAME FOR *FIELDIA* JOHNSON 1991

by Kurt Johnson

The name *Fieldia* (used in the Lycaenidae by Johnson 1991b) for a genus including *Fieldia yungas* Johnson 1991 as type species, along with *Thecla nisaee* Godman and Salvin, 1887 and *Thecla vesper* Druce 1909, has been previously used in the Nymphalidae and is therefore a homonym requiring a replacement name. I propose *Profieldia* as the replacement name, incorporating here by reference all the relevant information in the original description (Johnson 1991b, p. 28-29). The new name adds the Latin prefix "for" to the original name and is considered a patronym of masculine gender.

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FIGURES FOR *REPORTS* NO. 23

Photos of adults are included at the end of the last plate in *Reports* No.22. Line drawings of adults are included hereafter with the genitalic figures, as labelled. These latter are organized according to the numbers used in the photoplate and the order of papers in the **Table of Contents**.

Figure captions are placed on full facing pages hereafter.

facing page:

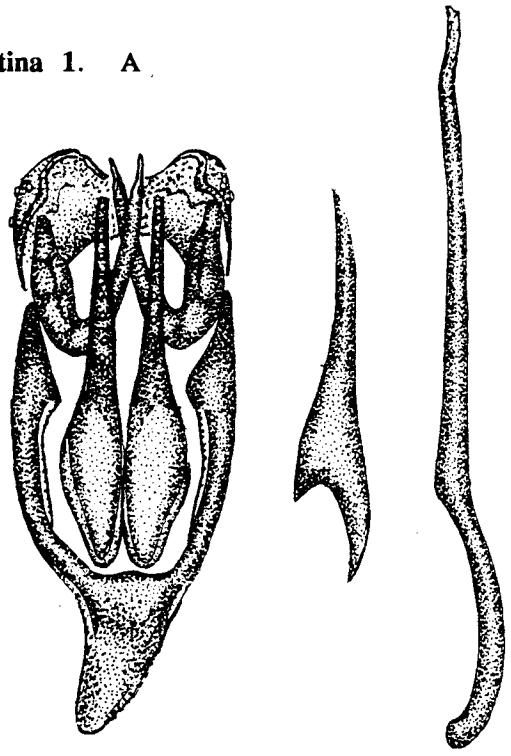
Argentina 1. A, Male genitalia of *Strymon cryptogramus*, holotype

Argentina 2. B, Female genitalia of *Strymon coronos*, Cafayate, Argentina (AMNH)

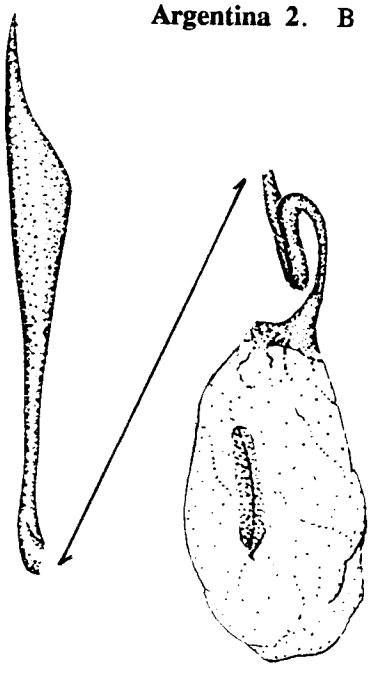
Argentina 3. A, line drawing of adult *Ministrymon chacovaga*, holotype,
B, male genitalia, holotype

Chile 2. B, Male genitalia of *Thecla rojasi*, paratype (FMNH), = *Eiseliana rojasi*, NEW COMBINATION

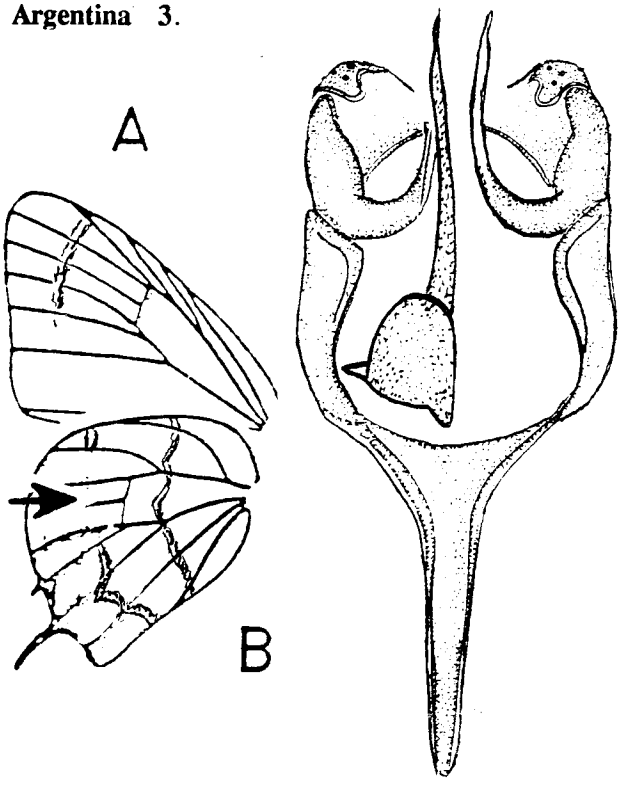
Argentina 1. A



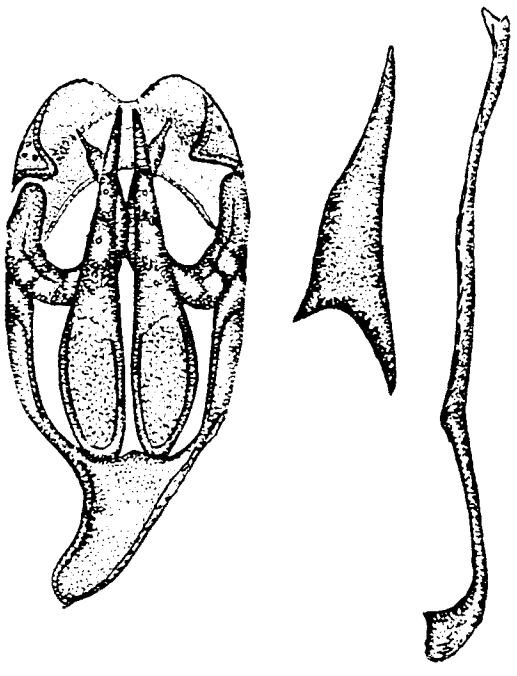
Argentina 2. B



Argentina 3.



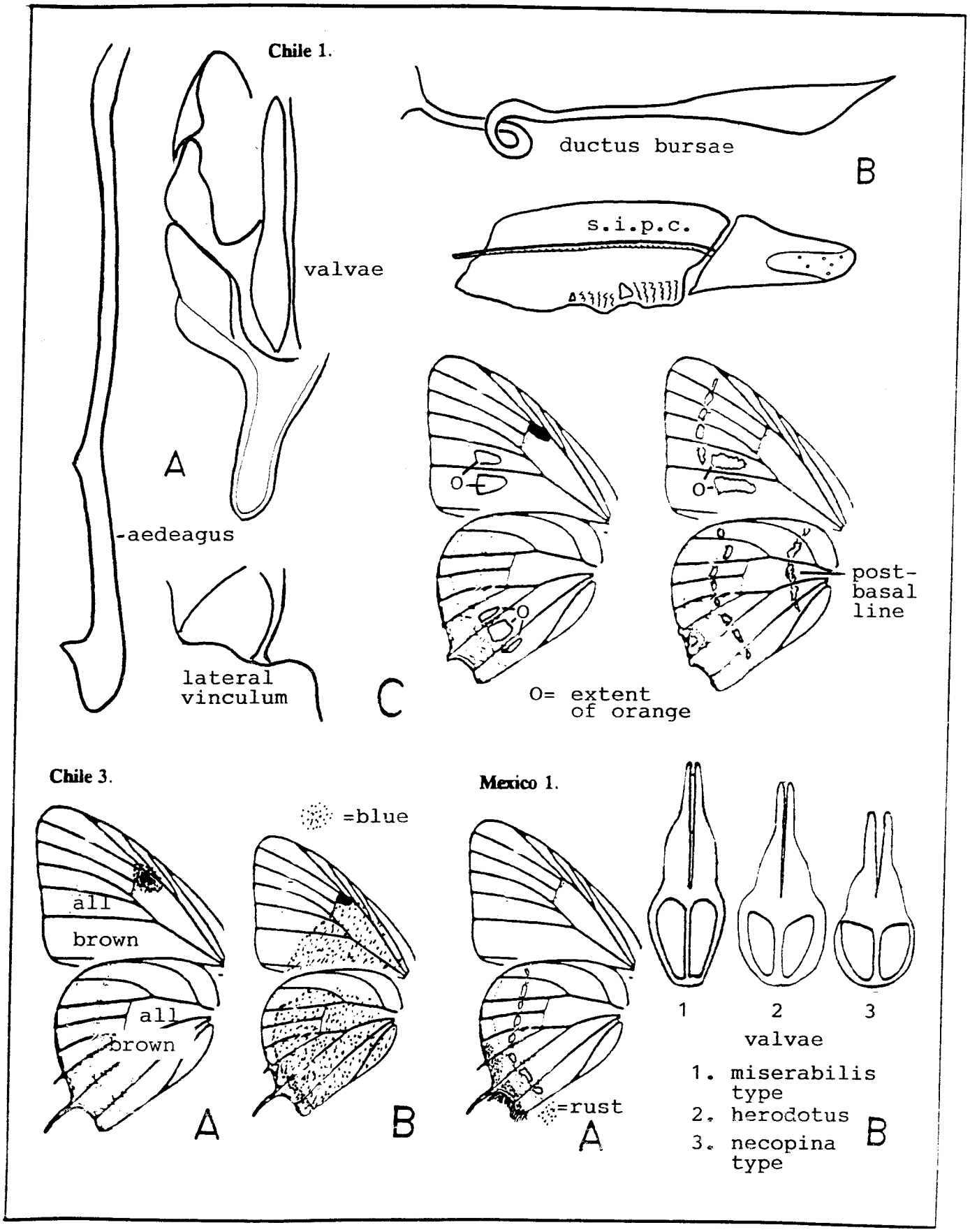
Chile 2. B



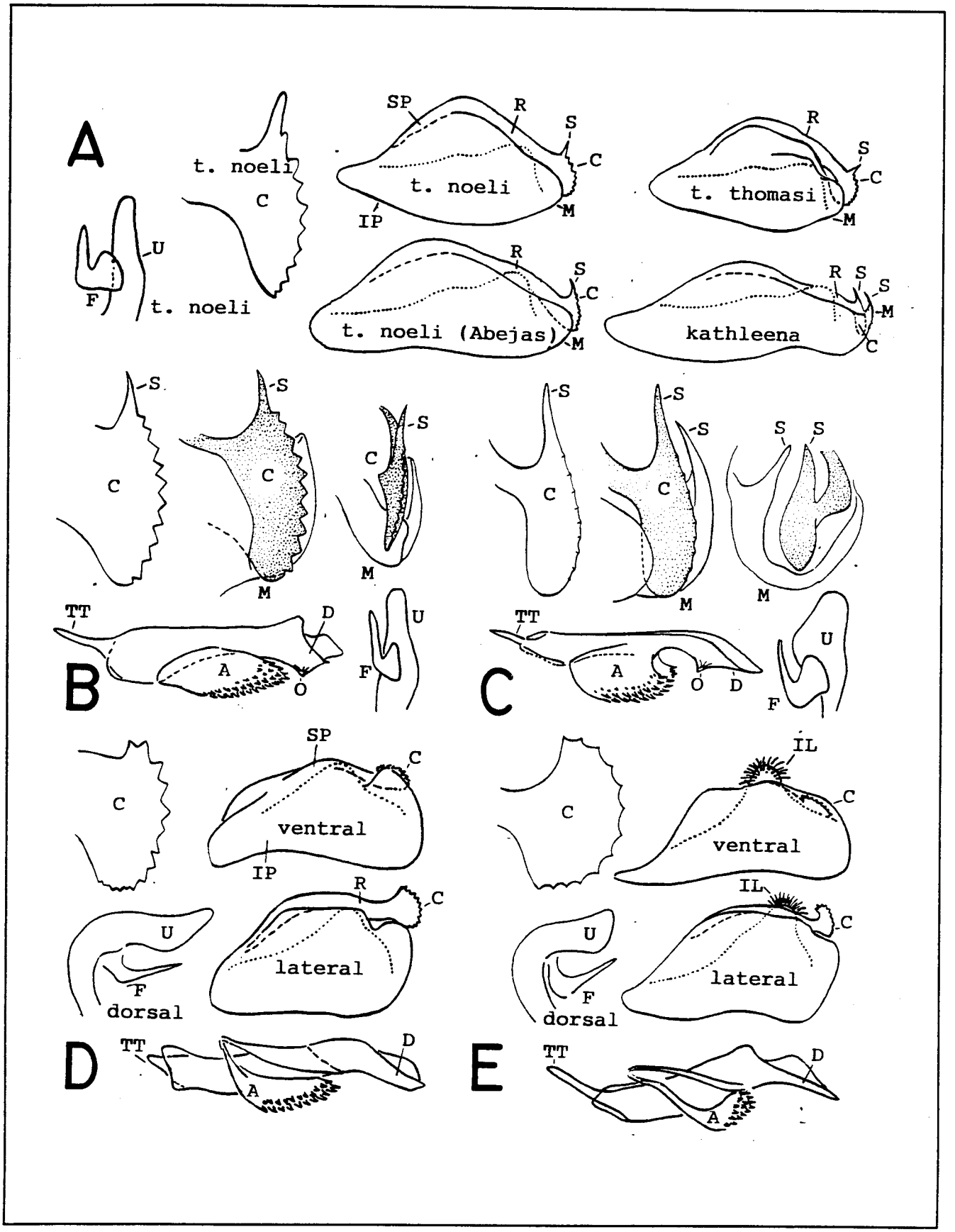
Chile 1. A, Male genitalia of *Heoda atacama*, holotype (UMCE).
B, Female genitalia of *Heoda atacama*, allotype (UMCE).
C, Line drawing, 1 dorsal, 2 ventral, holotype *Heoda atacama*.

Chile 3. A, Line drawing, dorsal, *Ministrymon quebradivaga*, male, Lluta, Arica.
B, Line drawing, dorsal, *Ministrymon azia*, male, Lluta, Arica.

Mexico 1. A, Line drawing, ventral, *Cyanophrys necopina*, holotype male (AMNH).
B, Male genitalia, *Cyanophrys necopina*, holotype.

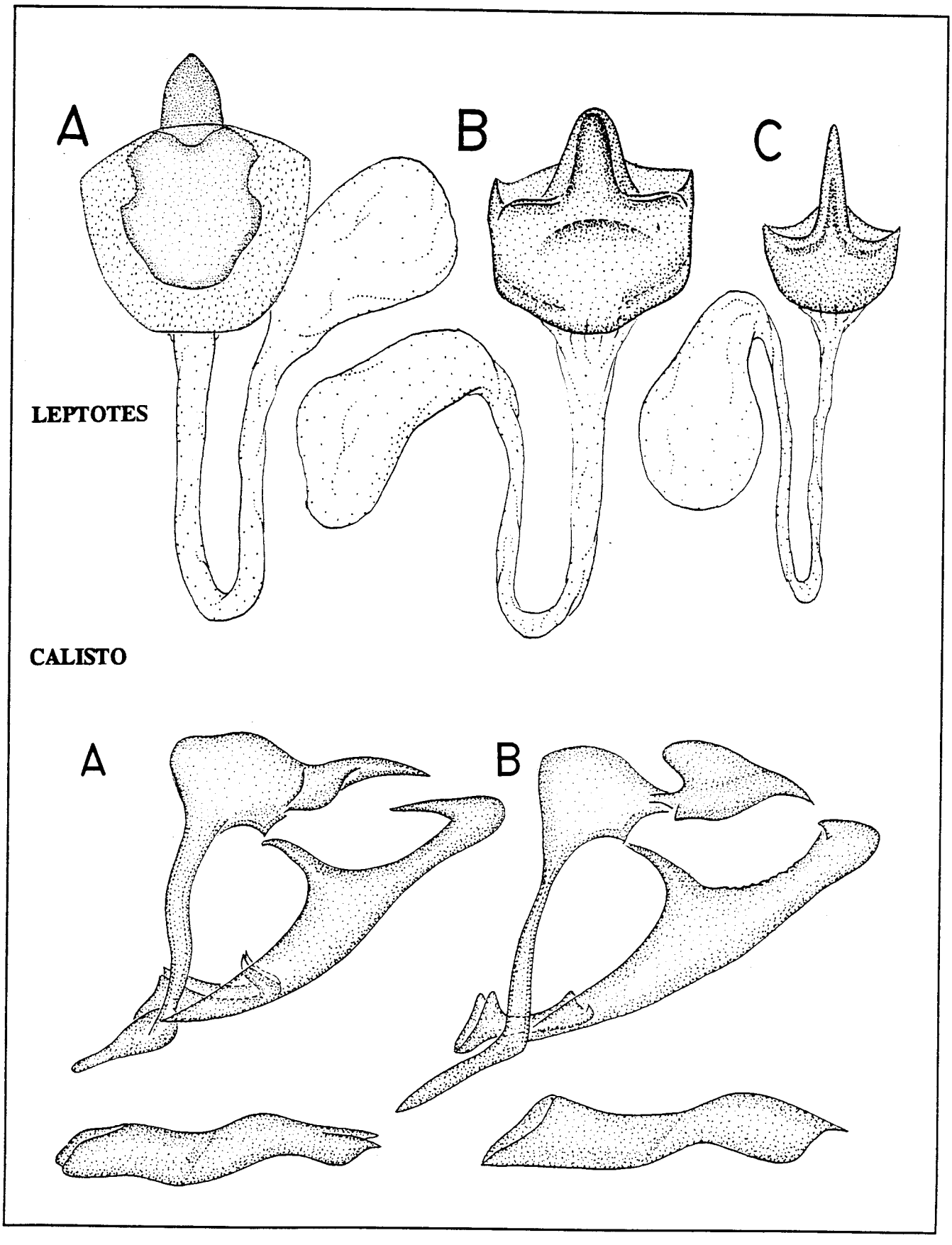

Chile 1.
valvae
aedeagus
A
lateral
vinculum
C
ductus bursae
B
s.i.p.c.
O= extent
of orange
post-
basal
line
Chile 3.
=blue
all
brown
all
brown
A
B
Mexico 1.
=rust
A
1
2
3
valvae
1. miserabilis
type
2. herodotus
3. necopina
type
B

Hispaniola 1. Male Genitalia of Antillean *Cyclargus*. Structures portrayed as characterized by Nabokov, using his terminology as follows: **valvae**— superior process = SP, rostellum = R, comb= C, mentum = M, distal spine (on comb or mentum) = S, inferior process = IP; **aedeagus**— distal point = D, dorsal opening of suprazonal sheath = O, proximal tabs of subzonal sheath = TT, allulae = A; **uncus and falx**— uncus = U, forearm = F. A. Left, comb and uncus of *t. noeli*; above right, lateral valve of nominate, and *t. noeli*; below right, AMNH *t. noeli* from Las Abejas and *kathleena*. B. *t. noeli* (Las Abejas) valval terminus: above left, comb inner lateral; center, comb (stipled) and mentum; right, terminal view, same; below left, aedeagus, right, uncus. C. same (as B), *kathleena*. D. *ammon* (of Fig. 1): above left, comb dorsal (rotated laterally for drawing as in Nabokov); below left, uncus dorsal; right, views of valvae; below, aedeagus. E. same (as D), *sorpresus*.


A
t. noeli
C
U
F
t. noeli
SP
R
S
C
t. noeli
IP
M
R
S
C
t. thomasi
M
R
S
C
t. noeli (Abejas)
M
R S
S
M
kathleena
C
S
C
S
C
M
S
C
M
S
S
C
M
S
S
C
M
S S
M
TT
D
A
O
B
F
U
TT
A
O
D
C
F
U
C
SP
C
ventral
IP
R
C
U
F
dorsal
lateral
IL
C
ventral
IL
C
U
F
dorsal
lateral
TT
D
A
D
TT
A
E
D

Hispaniola Fig. 2. ***CYCLARGUS.*** Female genitalia of *Leptotes*-- genitalia including terminal plates and membranous bursae, ventral view. A. *L. cassius* (pine forests above Las Abejas, AMNH). B. *L. perkinsae* topotype (Baron Hill, Jamaica, AMNH). C. *L. idealus* of photo plate and as treated in text.

CALISTO. Male genitalia of certain *Calisto*-- lateral view, aedeagus removed and placed below. A. *C. elelea* (pine forests above Las Abejas, AMNH). B. *C. ainigma* of photo plate and as treated in text.


A
B
C
LEPTOTES
CALISTO
A
B