A REVIEW OF THE NEOTROPICAL GENUS *CYLLOPODA* (LEPIDOPTERA: GEOMETRIDAE: STERRHINAE: CYLLOPODINI)

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Abstract - Morphological taxonomic techniques were used in the review of the genus *Cyllopoda*, leading to: four new synonymies, *Cyllopoda versicolor* of *Cyllopoda breviplaga*, *Cyllopoda claudicula catabathmus* of *Bombyx claudicula*, *Cyllopoda ovata* and *Cyllopoda protmeta eurychoma* of *Phalaena osiris*; resurrection to species level of *Phalaena osiris*; use of new combinations *Cyllopoda osiris osiris* and *Cyllopoda osiris protmeta*; designation of a neotype for *Phalaena osiris*; designation of lectotypes for *Cyllopoda angusta*, *Bombyx claudicula*, *Cyllopoda claudicula catabathmus*, *Cyllopoda puta*, and *Chrysauge postica*; and designation of paralectotypes for *Cyllopoda angusta*, *Bombyx claudicula*, *Cyllopoda puta*, and *Chrysauge postica*.

Key Words: lectotype, neotype, new combination, paralectotype, synonym

The present study began as a revision. However, the paucity of specimens for examination – especially the lack of females – has prevented us from evaluating the taxonomic status of some included species. Thus we present this work as a review.

The worldwide geometrid subfamily Sterrhinae is comprised of medium to small-sized geometrid moths known as "waves" because they typically have a pattern of thin, uneven lines crossing the wings. They are typically slender-bodied, concolorous white, tan, pink, yellow or other mostly pale colors, and the lines may or may not have adjacent shaded areas. One tribe, the Cyllopodini, is markedly different in having a yellow and black pattern (Covell 1983). Cyllopodini are diurnal and restricted to Central and South America. They are often found mixed with unrelated but very similar looking Dioptinae notodontid moths in collections (Prout, 1938) and can also be seen in nature flying with similar looking species. This coloration may be aposematic and there seems to be considerable convergence on one particular pattern, or variations thereof, in this tribe, suggesting the conferral of some protective function. A few species from the families Notodontidae (Miller, 1991), Hesperiidae, Nymphalidae, Arctiidae, Riodinidae, Noctuidae, and Pyraloidea, as well as other Lepidoptera have converged on this similar color pattern and may be involved in a mimicry complex. Such a complex has not yet been investigated and no life history information on this tribe has been published, so it is not known if they utilize host plants with potentially distasteful or poisonous chemicals.

Cyllopoda, the type genus of the tribe Cyllopodini, is comprised of 14 species, two of which have 2 subspecies each. The majority of species now recognized in the genus *Atyria* were formerly placed in *Cyllopoda* because of their close resemblance. Adults differ from other members of the tribe and subfamily in possessing a unique combination of the following characters: moderate to long palpi; bipectinate male and simple female antennae; male hindtibia either spurless or with vestigial spurs and sometimes more or less modified, and usually with a hair pencil; female hindtibia with two apical spurs; forewing with radius one, two and three (R_1, R_2 and R_3) arising from the areole, media one, two, and three, and cubitus one and two (M_1, M_2, M_3, Cu_1, and Cu_2) arising from the discal cell; hindwing with subcosta and radius one merged (Sc + R_1), radial sector, medial two and three, and cubitus one and two (Rs, M_1, M_2, M_3, Cu_1, and Cu_2) arising from the discal cell, and media one (M_1) arising from radial sector (Rs). There are two areoles on the forewing, the second one often being small (Prout, 1938), or sometimes absent. The type species for this genus is *Bombyx claudicula* Dalman, 1823, from Brazil, with the holotype deposited in Naturhistoriska Riksmuseet, Stockholm, Sweden (NHRS). They are distributed mainly in South America from Colombia south to Bolivia and east to Suriname and Brazil. They also occur in Central America and Trinidad. Although we are unable to construct a suitable phylogeny at this time we are placing species that appear similar together, starting with the type species.

MATERIALS AND METHODS

Most of the material studied was borrowed from the following institutions: National Museum of Natural History, Smithsonian Institution, Washington DC, USA (USNM); American Museum of Natural History, New York, NY, USA (AMNH); Naturhistoriska Riksmuseet, Stockholm, Sweden (NHRS); Zoologische Staatsammlungen, Munich, Germany (ZSM); Natural History Museum, London, UK (BMNH); Instituto Nacional de Biodiversidad, San Jose, Costa Rica (INBio); Pontificia Universidad Catolica del Ecuador, Quito, Ecuador (PUCE); Oregon State Museum; and the private collection of Dr. Jack Schuster, Guatemala. Remaining material is deposited in the McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, Gainesville, FL, USA.

Genital preparations were made by first exposing abdomens to 10% Potassium Hydroxide (KOH). After maceration, abdomens were denuded of scales and stained with chlorazol black. Genitalia were then separated from the abdominal pelt and both were temporarily stored in alcohol or glycerol to allow examination from various perspectives. Wings were denuded of scales by means of a small brush, and then examined and illustrated by means of a stereoscopic microscope equipped with a camera lucida. Terminology for male and female genitalia follows Covell (1970) and Klots (1956), and terminology for wing venation follows Hausmann (2001). Measurements of forewing and genitalia follow those of Covell (1970). Forewing length was measured from the base to the tip of the wing by means of a transparent ruler divided into 1millimeter increments. Genitalia were photographed with a Micro-optics system with a Canon EOS 1D Mark II camera and processed in Adobe Photoshop Elements®. Illustrations of genitalia were done by placing Velum-Accent paper (Translucent Clear, 20lbs) over black and white prints of photographs to draw

their outlines. Illustrations were then completed by comparing what was being drawn to actual specimens to better understand their three-dimensional structure. Length and width of genitalia were estimated by dividing the measurements taken of scale prints of the photographs by the magnification of the lens used to take the photographs. These were verified by placing a transparent ruler over the watch glass containing the genitalia and observing under a stereoscopic microscope.

Specimen data are recorded as they appear on labels. Information on each label is enclosed with double quotes (“), lines on each label are separated by a forward slash (/). Information on separate labels is separated by a comma (,) before double quotes. Additional information is enclosed in square brackets ([]), and information for different specimens is separated by a semicolon (;). Identification of specimens was done by comparing photographs of type specimens at the Natural History Museum (BMNH), Naturhistoriska Riksmuseet (NHRS), or National Museum of Natural History (USNM) to each specimen. Additionally, types at the USNM were viewed in person by the first author. Original descriptions were also used, along with plate 17 from Prout (1938).

HISTORICAL BACKGROUND

Cyllopoda was described by Dalman (1823) with type species *Bombyx claudicula* (Dalman, 1823). Description of the genus was preceded by descriptions of *Phalaena jatropharia* by Linnaeus in 1758 and *Phalaena osiris* by Cramer in 1777. Dalman moved these to *Cyllopoda* in 1823. Hübner also described what he called *Atyria jatrophae* in 1823 but this is recognized as an emendation of *Phalaena jatropharia* (Linnaeus, 1758). Walker (1854) described *Flavinia*, now recognized as a synonym of *Cyllopoda*, and *Chrysauge postica*, now recognized as *Cyllopoda postica* (Walker, 1854). In 1885, Druce described *Flavinia roxana*, now recognized as *Cyllopoda roxana* (Druce, 1855). From this point on, the genus name *Cyllopoda* was exclusively used, signifying its acceptance by the scientific community. The only other synonym described after 1885 was *Cyllopoda latimargo* Warren, 1897, a synonym of *Phalaena osiris* (Cramer, 1777). The remaining species were all described in *Cyllopoda* from 1897 to 1938 by Warren, Dognin, Prout, and Strand. Prout (1938) was the only comprehensive treatment of this genus to date.

RESULTS AND DISCUSSION

Morphology revealed that certain characters were unreliably diagnostic at the species level and varied greatly. One such character was the presence of one or two areoles and the size of the basal areole in comparison to the distal where there were two. In any one species, individuals varied greatly in the characteristics of the areole in the forewing; however, the majority of individuals possess two areoles; this is used as a characteristic feature of this genus. Another variable and unreliable diagnostic was the color of scales on the ventral side of the palpus, pectus, and legs. There seemed to be much inter- and intra-specific variation. Color of scales is not a reliable trait in this genus, and perhaps tribe, as these individuals seem to be involved in mimicry. Consequently little weight was placed on small variations of scale color. Until there is a better understanding of the nature of aposematic coloration in this genus and tribe, small variations in color patterns should not be used as a means of separating species. Original descriptions of species in this genus also proved inadequate for identification purposes. Larger scale variations in color patterns such as presence or absence of borders on wings did prove useful in separating species, as well as the structure of male hindtibia, presence or absence of vestigial spurs, presence or absence of hair pencils in males, and the structure of male and female genitalia.

Cyllopoda Dalman, 1823

Cyllopoda Dalman, 1823: 102. Walker, 1856: 1778. Warren, 1895: 84, 85. Prout, 1910: 239, 240. Sick, 1937: 400-412. Prout, 1934: 131. Scoble, 1999: 214.
Type: *Bombyx claudicula* Dalman, 1823: 102, by original designation.
Flavinia Walker, 1854: 369. Druce, 1885: 150.
Type: *Chrysauge postica* Walker, 1854: 369, by original designation.

Diagnosis. Male antenna bipectinate, female simple. Male hindleg reduced, with or without hair pencils, lacking spurs, or with modified spurs as of two apical lobes on tibia; female hindtibia with two apical spurs. Forewing with one or two areoles. Wings above almost always with a prominent bar on forewing, and almost always without a black bar on hindwing, black border may or may not surround entire wing. Forewing with a rounded tip. Pattern almost always repeated below (Fig. 2).
Description. Frons sometimes protuberant, mostly black, sometimes white or yellow. Interantennal ridge and antennal shaft black with or without sprinkling of yellow or white scales at antenna base. Male antenna bipectinate, female simple; collar black with or without sprinkling of yellow and white scales; palpus porrect, smooth. Thorax above black; pectus white, yellow or black; tegula, yellow, black, or with yellow at its base only, with long black setiform scales at its tips. Legs white, tan or black with or without suffusion; male hindleg reduced with or without tibial hair pencil, tarsi may be reduced or modified, spurs absent or modified as round apical projections on tibia; female hindleg with two apical spurs.
Venation. Typical for Sterrhinae with one or two areoles (Fig. 1). Forewing with R_1, R_2 and R_3 arising from the distal areole, M_1, M_2, M_3, Cu_1, and Cu_2 arising from the discal cell; hindwing with Sc and R_1 merged, Rs, M_1, M_2, M_3, Cu_1, and Cu_2 arising from the discal cell, and M_1 arising from Rs.
Male genitalia (Fig. 3). At least twice as long as wide; tegumen slightly to moderately sclerotized; socii as short oval lobes or as long, petiolate lobes with short to long setae, in some, socii not immediately obvious; gnathos moderately to heavily sclerotized, usually arising as two arms from lateral edges of tegumen but may also arise as a cone as in the type species; uncus slightly to moderately sclerotized, lateral sides curved or straight, sometimes with an indentation at its

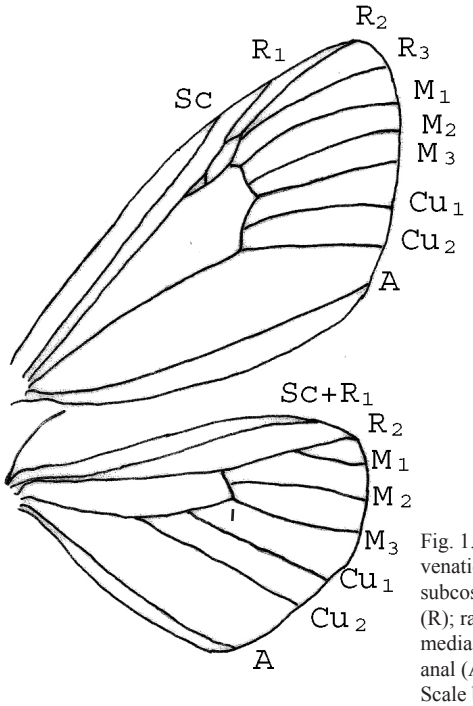


Fig. 1. *Cyllopoda* wing venation. costa (C); subcosta (Sc); radius (R); radial sector (Rs); media (M); cubitus (Cu); anal (A).
Scale bar: 1 cm.
Illustr. by D. S. Lewis.

base, tip may be cleft to produce a bifid appearance, may be expanded greatly laterally or simple, sometimes spoon-shaped, lateral edges often with long setae; valva simple, lightly setose, distal third usually thinner than first, converging into sharp point; tip of valva may be slightly or greatly curved dorsally; dorsal margin of valva may possess teeth midway along its length; ventral arm of tegumen and dorsal arm of saccus (Pierce, 1909), popularly referred to as vinculum, moderately to heavily sclerotized, surrounding base of valva; saccus membranous giving rise to annulus which may be membranous, slightly sclerotized or moderately sclerotized; top of annulus may be separated into two halves; juxta slightly to moderately sclerotized projecting cephalad of vinculum; aedeagus slightly to greatly curved, often appearing u-shaped, occasionally almost sigmoid, portions slightly to heavily sclerotized; tip point-like, or almost same diameter as anterior portion; ductus ejaculatorius entering at posterior end, close to posterior end or almost one-third distance from posterior end. One spinose cornuti present or absent.

Female genitalia (Fig. 4). Long, with simple papilla anales containing short to elongated setae; apophyses posteriores and apophyses anteriores slightly thickened, apophyses posteriores two to four times as long as apophyses anteriores; genital plate circular or v-shaped just caudad of ostium bursae or leading straight into ostuim bursae; ductus bursae membranous to heavily sclerotized; ductus seminalis meets ostium bursae about midpoint, a slightly sclerotized sac may be located where ductus seminalis joins ostium bursae; corpus bursae sac-like, with a paired signa; signa as rows of short hooks or a row of large spines extending almost along its entire length.

Variation. Some individuals may have the basal areole much smaller in comparison to the proximal. Others may have only one areole. Frons in some more protuberant than others.

Immature Stages. Unknown.

SPECIES ACCOUNTS

Cyllopoda claudicula (Dalman, 1823) (Figs. 2E, 2F)

Bombyx (*Cyllopoda*) *claudicula* Dalman, 1823: 102. Walker, 1856: 1778. Kirby, 1892: 403. Prout, 1916: 173; 1934: 132. Sick, 1937: 400- 412.
Callimorpha dichroa Perty, 1833: 161.
Chrysauge dichroa: Walker, 1854: 371. Kirby, 1892.
Cyllopoda dichroa: Prout, 1916: 174.
Flavinia dichroa: Strand, 1920: 136.
Cyllopoda claudicula catabathmus Prout, 1938: 120. Scoble, 1999: 214. **syn. nov.**
Cyllopoda claudicula catabathmus ab. *Filigera*: Prout, 1938: 120.
Cyllopoda claudicula claudicula: Prout, 1938: 120. Scoble, 1999: 214.

Diagnosis. Differentiated from others in this genus by the black bar present on hindwing that is repeated on underside. The hindleg of the male is much more reduced than others and lacks hair pencil.

Male (Fig. 2E). Frons black with yellow and white scales near labial palpus; interantennal ridge and antennal shafts black; antenna bipectinate; collar black with lateral sprinkling of yellow on both sides; palpus black, almost same length as frons. Thorax with yellow lateral lines; pectus white to yellow; tegula yellow, edged with black scales, with long black setiform scales at tips; legs white with tan suffusion on anterior surfaces of forelegs, base yellow; hindtibia compressed, short, lacking spurs and hair pencil. Abdomen black dorsally, and yellow ventrally, with median black bar. Forewing with two areoles, apex rounded. Wings above yellow with broad black border all along and a prominent black bar in both forewing and hindwing. Bar in forewing broad, from midpoint costal margin to anal angle; hindwing with bar narrow from base of wing to broad at anal angle. Wing pattern repeated on underside. Forewing length 1.7 to 1.8 cm (n=8).

Genitalia (Fig. 3A). About 3 mm long and 1.5 mm wide. Tegumen moderately sclerotized; socii length about one-half length between them, short, oval, and moderately sclerotized with short setae; gnathos heavily sclerotized, tip drawn out into a sharp point, base moderately sclerotized arising from caudal margin about halfway length of tegumen; uncus moderately sclerotized, sides straight, moderately broad, tip slightly bifid, with two moderately setose lateral lobes; valva simple, long, relatively smooth, distal third thinner than proximal two-thirds , drawn out into lightly setose tips; vinculum moderately sclerotized, v-shaped, surrounding base of valva; saccus membranous giving rise to a membranous annulus close to base of valva; juxta moderately sclerotized projecting cephalad of vinculum; aedeagus about 3 mm long, posterior third u-shaped, moderately sclerotized; tip pointed and more sclerotized than next two-thirds; ductus ejaculatorius entering about one-third distance from posterior end. Cornuti absent.

Female (Fig. 2F). Similar to male, but with simple antenna, lacking lateral yellow lines on thorax, hindtibia with two apical spurs. Black wing border and bar on wing broader and more diffused than in male. Forewing length 1.8 to 1.9 cm (n=3).

Genitalia (Figure 4A). About 4.8 mm long and 1 mm wide. Papilla anales simple and elongated with short setae; apophyses posteriores and apophyses anteriores slightly thickened, apophyses posteriores about twice as long as apophyses anteriores; genital plate circular, well defined, just caudad of ostium bursae; ostium bursae circular, on eighth abdominal segment; ductus bursae slightly sclerotized leading to appendix bursae which leads into corpus bursae and hardly distinguishable; ductus seminalis meets ostium bursae about midpoint; corpus bursae sac-like, with paired signa; signa as rows of short hooks extending almost along entire length, ending about 1 mm from end of corpus bursae.

Variation. Some individuals lack yellow markings on tegula or frons, legs may appear darker. Slight sexual dimorphism obvious.

Distribution. Blumenau, Santa Caterina (type locality), and Rio de Janeiro in Brazil; Chile.

Types. We have examined a photograph of a syntype for *C. claudicula catabathmus* at BMNH label data: "49. 29./Blumenau/Sta, Cath./Brazil/18.V.'29/F. Schade", "Cyllopoda/claudicula/catabathmus/♂ type Prout", one of four specimens, three males and one female. We designate this specimen as lectotype for *C. claudicula catabathmus*. Type series for *C. claudicula* consists of two syntypes, one male and one female, in NHRS. The original description identifies a male and a female, but does not specify a holotype. We designate the male specimen with label data "Type Dalmani/An. ent. P. 102" as lectotype. The second specimen, a female, is not labeled and we designate it as paralectotype. A third specimen, a female, with label data "Brazil", can also be found there. This specimen is not likely to be a part of the type series.

Other material examined. "Tijuco", "Cyllopoda/claudicula/Dalm.", "Rothschild/Bequest/B.M. 1939-1.", "Geometridae/genitalia slide/No. 18465 ♂" (BMNH); "1939/Chile" [male] (AMNH); "1939/ Brazil", "No. 7739/Collection/Hy. Edwards" [male] (AMNH); "Callimorpha/dichroa Perty/(x) [male] (NHRS); "Rio Janeiro", "Flavinia/dichroa/Perty" [male] (NHRS); "Rio Janeiro", "Collection/WmSchaus" [male] (USNM); "Petropolis, Brazil ", "Collection/WMSchaus" [female] (USNM); "Rio Janeiro","Collection/ WmSchaus" [female] (USNM); "Ty","EdwTOwen/Collection" [female] [handwriting difficult to read](USNM); "St. Catherina","Flavina dichroa","Cyllopoda claudicula Dalm", "Rothschild/Bequest/B.M. 1939-1.", "C. claudicula catabathmus" [male] (BMNH).

Method of determination. Examination of photographs of the lectotype.

Discussion. *C. claudicula catabathmus* appears to be only a variation of the nominate subspecies and is here synonymized with *C. claudicula*. Genitalia structure is identical to the nominate subspecies and the structure of the aedeagus fell within the range of variation observed for the nominate subspecies. They both occur within same range, the only major difference being that *C. claudicula catabathmus* was reputedly darker than *C. claudicula claudicula*.

Cyllopoda radiata Warren, 1906 (Fig. 2S)

Cyllopoda radiata Warren, 1906: 410. Prout, 1938: 120. Scoble, 1999: 215.

Diagnosis. Similar to *C. claudicula*; differing in that black bar in hindwing is not repeated on underside and slightly longer pectinations on male antenna; hindleg compressed, with first tarsal segment large and others reduced; tibia bears a hair pencil.

Male (Fig. 2S). Frons protuberant, black with patch of white scales, white scales also along back lower edges of eyes; interantennal ridge and antennal shaft black with sprinkling of yellow scales at base of antenna; antenna bipectinate; collar black with lateral sprinkling of white on both sides; palpus black with white suffusion on ventral surface, shorter than length of frons. Thorax black above with light sprinkling of yellow scales; pectus white to yellow; tegula black throughout with long black setiform scales; legs white with tan suffusion on anterior surfaces, yellow bases; hindleg highly compressed and thick with first tarsal segment large, others very reduced, hair pencil on femur and tibia, no spurs. Abdomen black dorsally with yellow lateral stripes divided by a thin black line, white ventrally. Forewing with two areoles, apex rounded. Wings above yellow with broad black border all along and a prominent black bar in both wings; bar on forewing broad, from midpoint of costal margin to anal angle; yellow streak on forewing in black margin between Sc and R_1 just before bar; hindwing with bar from base of wing to anal angle, slightly bent. Forewing pattern repeated below but hindwing with darker yellow space where pattern on underside stops and pattern above shows through. Hindwing bar only faintly expressed below. Forewing length 1.9 cm (n=2).

Genitalia (Fig. 3J). About 4 mm long and 1.5 mm wide. Tegumen lightly sclerotized; socii very short, oval, and lightly sclerotized with long setae; gnathos

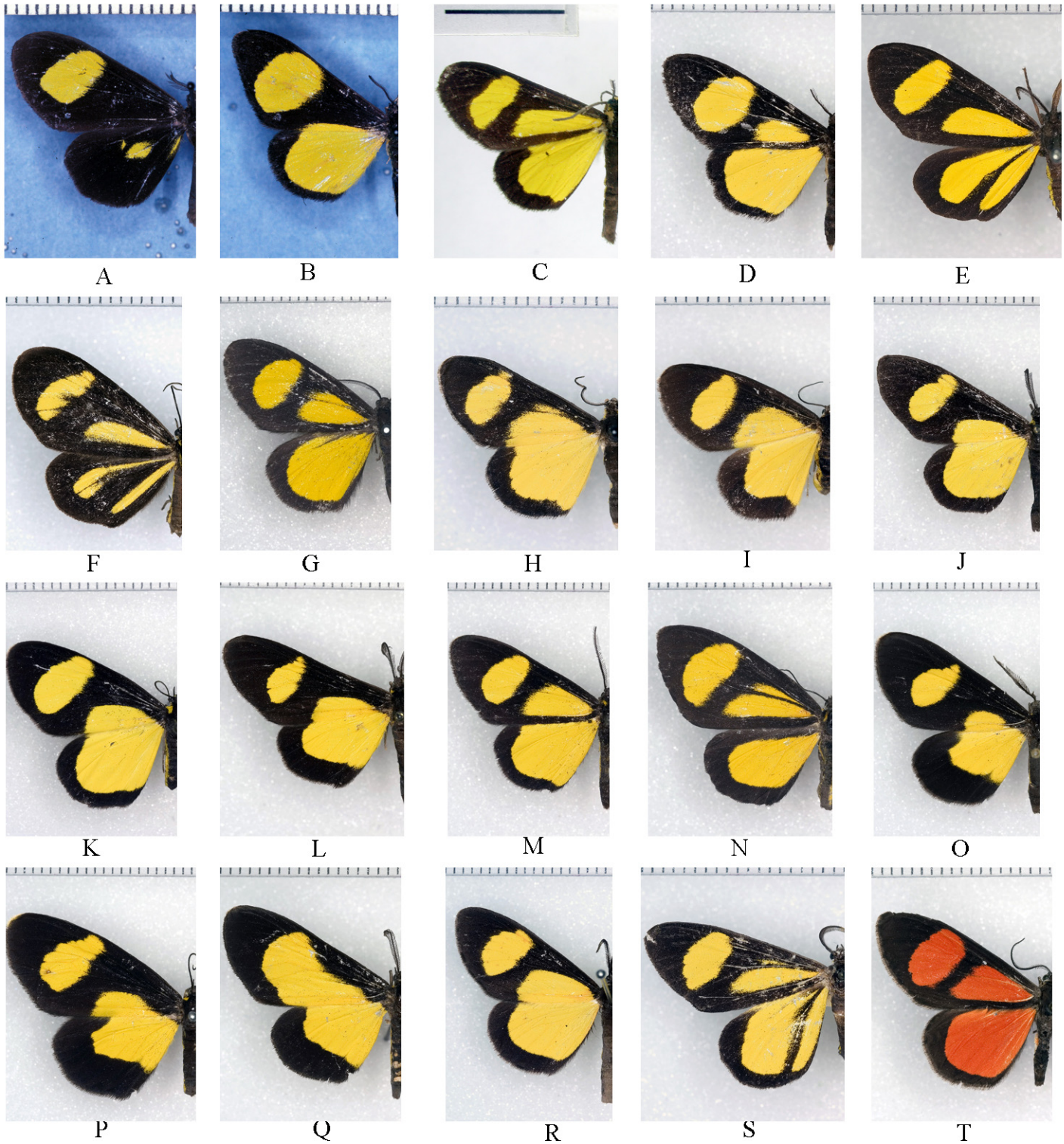


Fig. 2. *Cyllopoda* adults: A) *C. angusta* (Lectotype BMNH) male, photographed by C. V. Covell Jr.; B) *C. angustistriga* (Holotype BMNH) female, photographed by C. V. Covell Jr.; C) *C. bipuncta* (Holotype USNM) male, photographed by P. Gentili-Poole; D) *C. breviplaga* male; E) *C. claudicula* male; F) *C. claudicula* female; G) *C. expansifascia* male; H) *C. gibbifrons* male; I) *C. gibbifrons* female; J) *C. jatropharia jatropharia* male; K) *C. jatropharia jatropharia* female; L) *C. jatropharia puta* male; M) *C. latiflava* male; N) *C. nigrivena* female; O) *C. osiris osiris* male; P) *C. osiris osiris* female; Q) *C. osiris protmeta* male; R) *C. postica* male; S) *C. radiata* male; T) *C. roxana* male. Scale bar in C: 1 cm. Scale bar in all others graduated at 1 mm above image. D to T photographed by A. Chin-Lee and Delano S. Lewis.

heavily sclerotized, arising from tegumen close to socii as two projections that meet medially, forming a fan-like tip; uncus bilobed, arising just above socii, lightly sclerotized, slightly constricted laterally close to base, narrow, tip drawn out into lateral lobes; lateral lobes with long setae; valva lightly setose, slightly curved at tips, lightly sclerotized, tips thinner than remaining two-thirds ; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a membranous annulus close to base of valva; juxta narrow, moderately sclerotized barely projecting cephalad of vinculum; aedeagus about 2 mm long, slightly curved, moderately sclerotized, ductus ejaculatorius entering almost at posterior end; one spinose cornutus.

Female. Unknown.

Distribution. Brazil (type locality).

Types. We have examined the holotype at the USNM (catalogue Number 9164). This is the holotype by original designation.

Other material examined. "Rio", "Det. By/L. B. Prout", "Joicey/Bequest./Brit. Mus./ 1934-120.", "C. radiata" [male] (USNM).

Method of determination. Examination of the holotype.

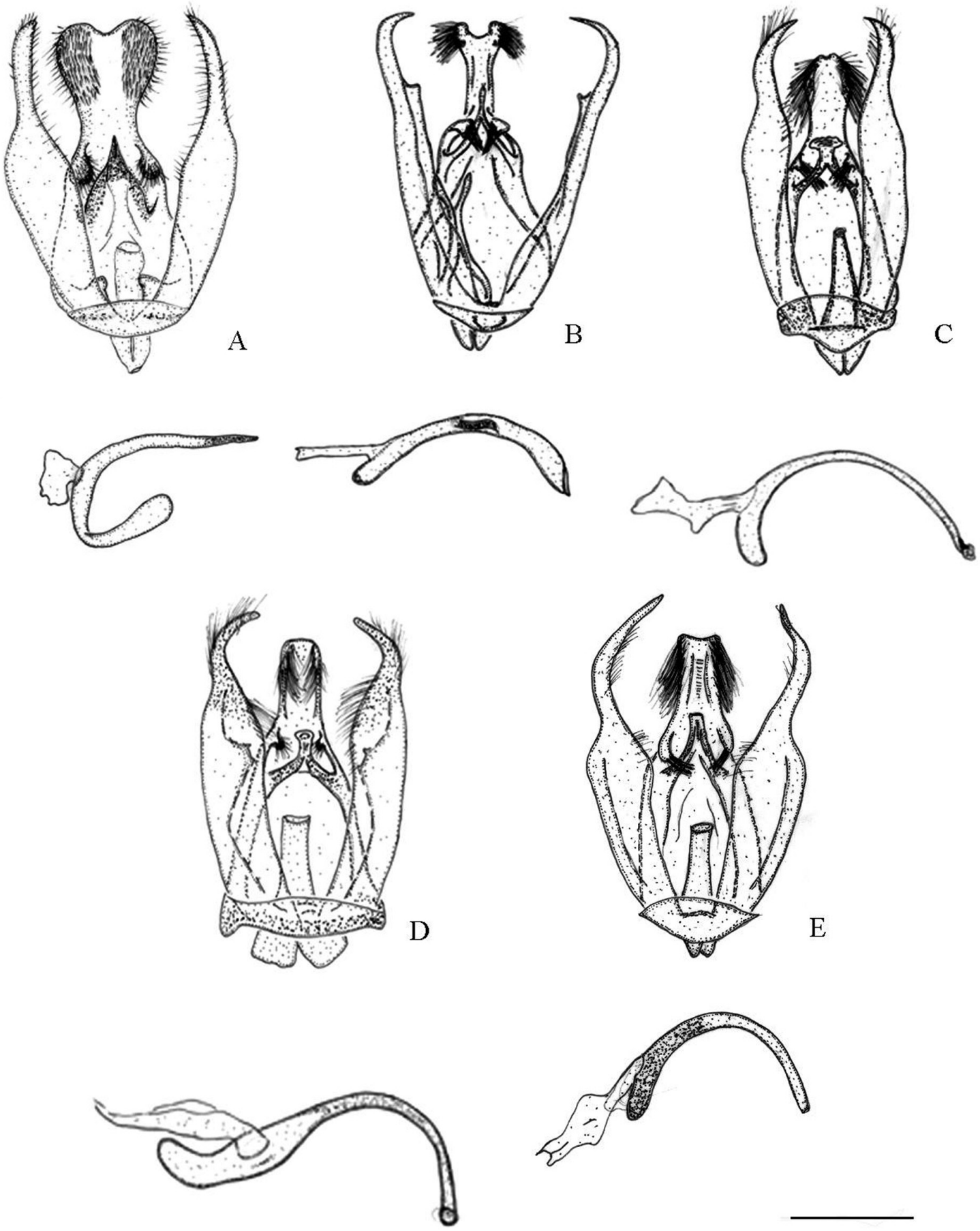
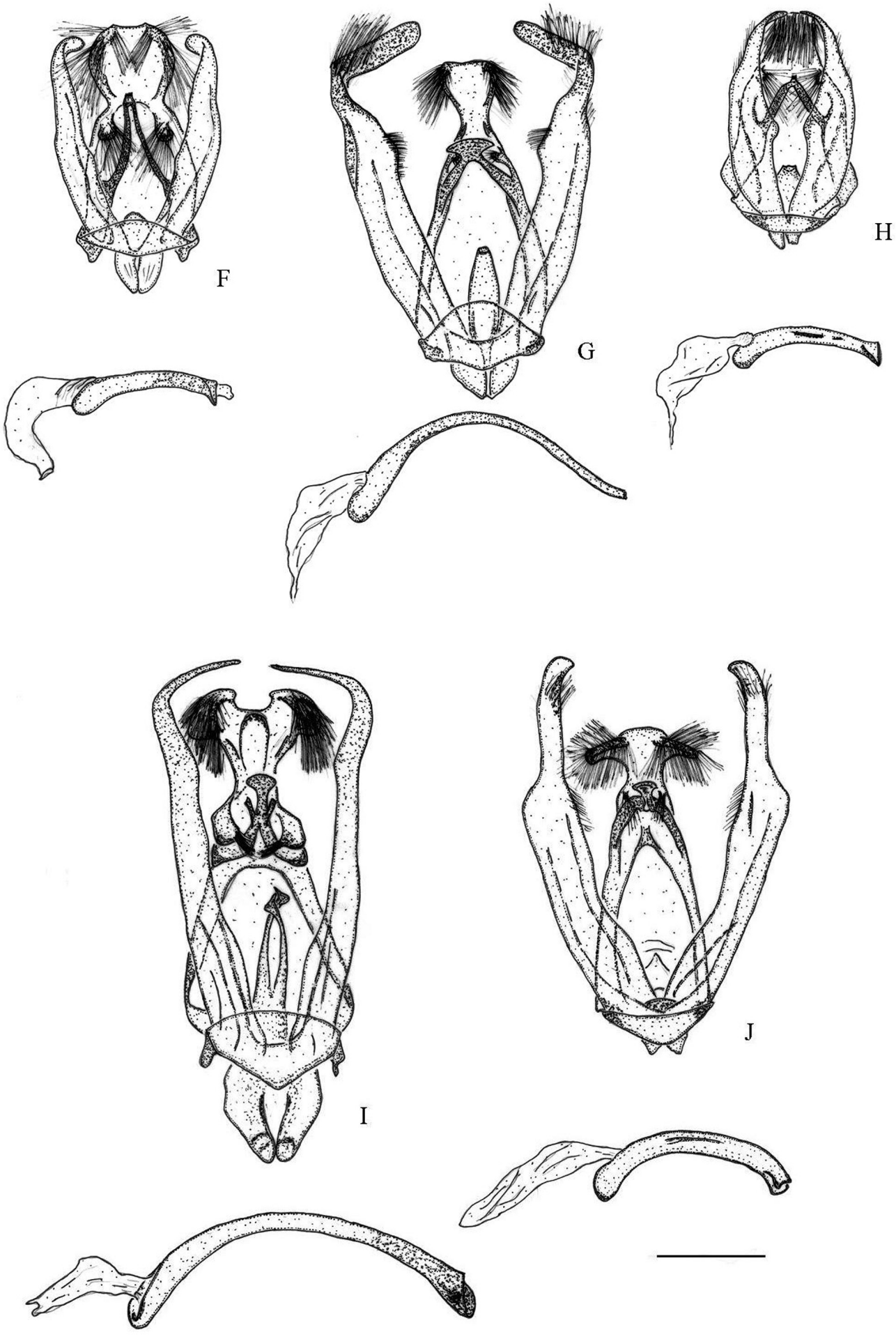


Fig. 3. Male genitalia and aedeagus of *Cyllopoda*. A) *C. claudicula*; B) *C. bipuncta*; C) *C. breviplaga*; D) *C. roxana*; E) *C. gibbifrons*; F) *C. jatropharia jatropharia*; G) *C. latiflava*; H) *C. osiris osiris*; I) *C. postica*; J) *C. radiata*. Scale bar: 1 mm. Illustrations by Delano S. Lewis.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Cyllopoda roxana (Druce, 1885) (Fig. 2T)

Flavinia roxana Druce, 1885: 529. Kirby, 1892: 404.

Diagnosis. Similar to *C. latiflava* in wing pattern, but colored orange and black instead of yellow and black.
Male (Fig. 2T). Frons protuberant, black with white scales along lower edges of eyes; interantennal ridge and antennal shaft black; antenna bipectinate; collar black; palpus black with white suffusion on ventral surface, shorter than length of frons; pectus white to tan; tegula black with long black setiform scales; legs white; tan suffusion on anterior surfaces, white bases; hindleg compressed, short with reduced tarsi, hair pencil present on posterior surface of tibia, spurs in form of two round projections at base of tibia. Abdomen black dorsally with lateral orange stripes; white ventrally. Forewing with two areoles, apex rounded. Wings above orange with black border all along and a prominent black bar in forewing only; bar in forewing from midpoint costal margin to anal angle; hindwing without bar, with thin black border on inner margin. Pattern repeated below. Forewing length 1.8 to 1.9 cm (n=3).
Genitalia (Fig. 3D). Similar to *C. expansifascia*. About 3 mm long and 1.5 mm wide. Tegumen moderately sclerotized; socii very short, oval, and moderately sclerotized with short setae; gnathos heavily sclerotized, arising from tegumen close to socii as two projections that meet medially, forming a tubular tip; uncus arising just above socii, moderately sclerotized, sides straight, narrow, with setae at top of lateral margins; valva lightly setose, slightly curved at tip with two teeth present on dorsal margin about half way from heavily sclerotized tip, remaining two-thirds moderately sclerotized; vinculum moderately to heavily sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately sclerotized annulus that extends up to halfway length of tegumen; juxta moderately sclerotized projecting cephalad of vinculum, broad; aedeagus about 3 mm long, heavily curved, almost sigmoid, anterior and posterior moderately sclerotized, center heavily sclerotized and tubular, ductus ejaculatorius entering about one-third from posterior end. Tip not as rounded as *C. expansifascia*. Cornuti absent.
Female. Unknown.
Distribution. Cosnnipata (type locality) and Quillabamba, Cuzco in Peru.
Types. Label data for holotype by monotypy in the BMNH: "Cosnipata/Valley/H. Whitely", "Flavinia/roxana/type Druce.", "Holo-type".
Other material examined. Two male specimens from: "PERU, Cuzo:/ Quillabamba/13.III.47/J. C. Pallister" (AMNH).
Method of determination. Examination of a photograph of the holotype.

Cyllopoda expansifascia Prout, 1917 (Fig. 2G)

Cyllopoda expansifascia Prout, 1917: 391-392; 1934: 133; 1938: 321. Scoble, 1999: 214.

Diagnosis. Similar to *C. nigrivena*, *C. claudicula* and *C. radiata* in having a black border on the hindwing all along. Differs from *C. claudicula* and *C. radiata* in that it lacks a black bar in hindwing and possesses a thin line of black scales along lower edge of discal cell from base of wing to prominent bar. This line is broader in *C. nigrivena*.
Male (Fig. 2G). Frons black; interantennal ridge and shaft black; antenna bipectinate; collar black; palpus black, shorter than length of frons; pectus white to tan; tegula black throughout with long black setiform scales; legs white with tan suffusion on anterior surfaces, yellow bases; male hindtibia club-shaped with reduced tarsi, hair pencil present on posterior surface, spurs reduced, as two round apical projections. Abdomen black dorsally with laterally sprinkling of yellow scales, white ventrally with lateral sprinkling of yellow scales. Forewing with two areoles, apex rounded. Wings above yellow, with broad black border all along and a prominent black bar in forewing only; thin line of black scales along lower edge of discal cell from base of wing to prominent bar; bar in forewing broad, from midpoint costal margin to anal angle; hindwing with no bar; a sprinkling of black scales at base. Pattern repeated below. Forewing length 1.7 to 2.0 cm (n=2).
Genitalia. (Not illustrated) Very similar to *C. roxana* (Fig. 3D) but slightly smaller, about 3 mm long and 1.5 mm wide. Differ in that socii very short, oval with short setae; gnathos heavily sclerotized with tubular tip; uncus slightly tapered towards tip, narrow, with setae at top of lateral margins; valva slightly curved at tip, two teeth present on dorsal margin about half way from heavily sclerotized tip, remaining two-thirds moderately sclerotized; vinculum moderately to heavily sclerotized; annulus narrower than in *C. roxana*; juxta moderately sclerotized; aedeagus smaller than *C. roxana*, about 3 mm long, heavily curved, almost sigmoid, anterior and posterior moderately sclerotized, center heavily sclerotized and tubular, ductus ejaculatorius entering about one-third from posterior end. Cornuti absent.
Female. Unknown.
Distribution. Charaplaya (type locality), Bolivia; Eastern Slopes of Andes, Charape, San Remón and Río Colorado, Peru. 1300 meters.
Types. We have examined a photograph of holotype at BMNH with label data: "Charaplaya,/Bol. 1300 m./VI. 01. (Simons)/650 W. 160 S.", "Cyllopoda/ expansifascia/♂ Prout/type." Holotype by original designation. Author also mentions two specimens from San Remon, Peru with label data "San/Ramon/ Peru/3000 ft Watkins"; "Cyllopoda/expansifascia/♂ Prout / paratype"; "Det. L. B. Prout"; "Joicey / Bequest/ Brit. Mus. /1934-120", a specimen from Rio Colorado with label data "Peru/Rio Colorado/2500 ft/VII. VIII. 03/Watkins &/Tomlinson / 190-133"; "expansifascia/Prout" [in Prout's handwriting]. These three specimens are paratypes by original designation.
Other material examined. A male from Charape with label data "E. Slopes of Andes./Charape, N. Peru./June. PRATT. 1912.", "Det. By L.B.Prout", "Joicey/ Bequest./Brit.Mus./1934-120.", "C. expansifascia" in the BMNH.
Method of determination. Examination of photographs of the holotype; examination of a male paratype.
Discussion. Male genitalia similar to *C. roxana* (Fig. 2T), as is the structure of the hindleg. Both species possess similar black markings on wings, except one is yellow and other orange. We did not have females of either species to compare, and information on their natural history is unavailable.

Cyllopoda nigrivena Prout, 1917 (Fig. 2N)

Cyllopoda nigrivena Prout, 1917: 392; 1934: 133; 1938: 121. Scoble, 1999: 215.

Diagnosis. Similar to *C. expansifascia*, *C. claudicula* and *C. radiata* in having black border on hindwing all along. Differs from *C. claudicula* and *C. radiata* in that it lacks a black bar in the hindwing and possesses a thick line of black scales from base of the wing to prominent bar along Cu. This line is thinner in *C. expansifascia*.
Male. Frons slightly protuberant, black, with white scales along lower edges of eyes; interantennal ridge and antennal shaft black with a few white scales at antenna base; antenna bipectinate; collar black with lateral sprinkling of yellow on both sides; palpus black. Pectus yellow; tegula black with yellow scales on inner edges, tipped with long setiform scales; legs tan with yellow base; male hindtibia club-shaped with reduced tarsi, hair pencil present on posterior surface, spurs reduced in form of two round apical projections. Abdomen black dorsally with yellow median stripe, ventrally black, yellow median stripes separating dorsal from ventral. Forewing with two areoles, apex rounded. Wings above yellow with broad black border all along and a prominent black bar in forewing only; line of black scales from base of wing to prominent bar; bar in forewing broad, from midpoint of costal margin to anal angle; hindwing with no bar. Pattern repeated below. Forewing length 1.7 cm (n=2).
Genitalia: (Not illustrated) Somewhat similar to *C. latiflava* (Fig. 3G). About 3.5 mm long and 1.5 mm wide. Tegumen moderately sclerotized; socii short, and moderately sclerotized with long setae; gnathos heavily sclerotized, arising from tegumen near socii as two projections that meet medially, forming into a point; uncus arising just above socii, moderately sclerotized, slightly constricted at base, broad, with setae arising medially on both sides, somewhat spoon-like; valva heavily setose, greatly curved at heavily sclerotized tips, remaining two-thirds moderately sclerotized; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately sclerotized annulus that extends up to one-third length of tegumen from base of valva; juxta moderately sclerotized projecting cephalad of vinculum, broad; aedeagus about 3 mm long, slightly curved, moderately sclerotized, ductus ejaculatorius entering at almost at posterior end. Cornuti absent.
Female (Fig. 2N). Similar to male but larger, with simple antenna. Forewing length 1.8 to 2.0 cm (n=2).
Genitalia: (Not illustrated) About 9.5 mm long and 2.5 mm wide; similar to *C. gibbifrons* (Fig. 4B); differs in that genital plate, ostium bursae, and ductus bursae much more heavily sclerotized, and signa in corpus bursae fewer.
Distribution. Novo Friburgo (type locality), Rio de Janeiro, Brazil.
Types. The holotype by original designation is in the BMNH with the following labels: "Novo /Friburgo.", "Cyllopoda/nigrivena/♀ Prout/type". A female from Tijuca is also mentioned. We treat this as a paratype.
Other material examined. Female specimen with label: "Zoolog./Staatsslg. [on left of label] /BRASILIEN/Rio de Janeiro/ 17.II.51/leg. H. Ebert" (ZSM); "Staatsslg/München [on left of label]/Brasilia/Rio de janeiro/20.XI./leg. R. Spitz" [name is illegible], "Rio 20/11" [Two males](ZSM).
Method of determination. Examination of a photograph of the holotype.

Cyllopoda bipuncta Warren, 1906 (Fig. 2C)

Cyllopoda bipuncta Warren, 1906: 409. Prout, 1934: 133; 1938: 120. Scoble, 1999: 214.

Diagnosis. Wing pattern similar to *C. breviplaga*, *C. latiflava*, *C. jatropharia* and *C. osiris*. Differentiated from *C. jatropharia* and *C. osiris* by shorter pectinations of its antenna and narrower black borders on wings. Smaller than *C. jatropharia* and *C. osiris* based on material studied. Separated from *C. breviplaga* and *C. latiflava* by length and width of basal yellow cell created by black wing borders and black bar in forewing. This cell is longer (half wing length) in *C. bipuncta* than in *C. breviplaga* (one-third wing length) and narrower in *C. bipuncta* than in *C. latiflava* where it is more triangular.
Male (Fig. 2C). Frons yellow; interantennal ridge and antennal shaft black; antenna bipectinate; collar black with lateral sprinkling of yellow on both sides; palpus whitish, shorter than length of frons. Pectus yellow; tegula yellow, edged with black scales, with long black setiform scales at tips; legs white with tan suffusion on anterior surfaces of forelegs, yellow bases; abdomen black dorsally, white ventrally with lateral yellow lines of scales narrowing posteriorly. Wing above most closely resembles *C. breviplaga*; differs in that bar in forewing is closer to tip, making yellow cell produced by it and border on inner margin longer than in *C. breviplaga*. Black border on hindwing also thicker than in *C. breviplaga*. Pattern repeated below. Forewing length 1.6 cm (n=1).
Genitalia (Fig. 3B). About 3 mm long and 1.2 mm wide. Tegumen moderately sclerotized; socii very long, petiolate, lightly sclerotized, about same length as distance between them, with moderately long setae; gnathos moderately sclerotized, arising from tegumen very close to socii as two projections that meet medially, forming a pointed tip with two short, small terminal spines; uncus arising just above socii, moderately sclerotized, sides straight, narrow, tip slightly bilobed; lateral lobes with short setae; valva lightly setose, curved at tips, moderately sclerotized, dorsal edges abruptly constricting to form tip about two-thirds distance from base; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately to heavily sclerotized annulus that extends to about half length length of tegumen, split where aedeagus exits; juxta narrow, lightly to moderately sclerotized projecting cephalad of vinculum; aedeagus about 2.5 mm long, slightly curved, lightly sclerotized, ductus ejaculatorius entering almost at posterior end; one cornutus seen.
Female. Unknown.
Distribution. Peru (type locality).
Types. The holotype by original designation in the USNM was examined and photographs obtained. Label data for holotype is: "Peru", "Type/No. 9163/ U.S.N.M.", "not B.M.", "Cyllopoda/bipuncta/Type ♀ [should be ♂?]", "Collection/ WmSchaus."
Method of determination. Examination of specimen and photographs of holotype.

Cyllopoda breviplaga Dognin, 1906 (Fig. 2D)

Cyllopoda breviplaga Dognin, 1906: 108. Prout, 1934: 133. Sick, 1937: 400 - 412. Prout, 1938: 121
Cyllopoda versicolor Dognin, 1908: 17. **syn. nov.**
Cyllopoda breviplaga versicolor: Prout, 1934: 133; 1938: 121. Scoble, 1999: 214.
Cyllopoda breviplaga breviplaga: Scoble, 1999: 214.

Diagnosis. Similar to *C. bipuncta*, *C. latiflava*, *C. jatropharia* and *C. osiris* in wing pattern. Differentiated from *C. jatropharia* and *C. osiris* by shorter pectinations of antenna and narrower black borders on wing. Smaller than *C. jatropharia* and *C. osiris* based on material studied. Separated from *C. bipuncta* and *C. latiflava* by length and size of basal yellow cell created by wing borders and black bar in forewing. This cell is shorter in *C. breviplaga* (one-third wing length and almost oval) than in *C. bipuncta* (half wing length), and much smaller in *C. breviplaga* than in *C. latiflava* where it is more triangular.
Male (Fig. 2D). Frons protuberant, black with white scales along lower edges of eyes; interantennal ridge and shaft black; antenna bipectinate; collar black; palpus black, shorter than length of frons; pectus white to yellow; tegula black throughout with long black setiform scales; legs white with tan suffusion on anterior surfaces and yellow at bases; hindtibia with reduced tarsi, hair pencil present on posterior surface of rod-shaped tibia; no spurs. Abdomen black dorsally, white ventrally with lateral yellow lines of scales narrowing posteriorly. Forewing with two areoles, apex rounded. Wings above yellow, with broad black border all along in forewing and only at outer margin in hindwing; prominent broad black bar in forewing only, from midpoint of costal margin to anal angle; hindwing without bar. Pattern repeated below. Forewing length 1.8 cm (n=3).
Genitalia (Fig. 3C). About 3 mm long and 1 mm wide. Tegumen moderately sclerotized; socii short, oval, and moderately sclerotized with long setae; gnathos moderately to heavily sclerotized, arising from tegumen close to socii as two projections that meet medially into a fan-like tip; tip of gnathos moderately sclerotized, base heavily sclerotized; uncus arising just above socii, moderately sclerotized, slightly indented laterally, narrow, with setae at top of lateral margins; uncus with a slight cleft at top; valva lightly setose, slightly curved at tip, which makes up distal one-third of valva, remaining two-thirds thicker than tip; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately sclerotized annulus that extends up to one-third length of genitalia; juxta moderately sclerotized projecting slightly cephalad of vinculum, moderately broad; aedeagus about 3.5 mm long, heavily curved, u-shaped, anterior end with tip moderately sclerotized, ductus ejaculatorius entering at about posterior one-quarter. Cornuti absent.
Female. Unknown.
Variation. Some males paler than others.
Distribution. Tarapota (type locality) and Charape, Peru; Ecuador.
Types. We have examined the holotype by monotypy in the USNM. Label data are "Tarapota/Peru/Aty fis. 03", "Type No./33039/U.S.N.M.", "Dognin/ Collection", "Varite de/quicha/le Crois/and 03/No", "not decided/yet/Warren X.N05", "Cyllopoda/(breviplaga)/sp. nov./Warren mass 03", "Cyllopoda/ breviplaga/type ♂ Dn.", "perhaps/described/now ?." We have examined the genitalia and the type for *C. versicolor*, and compared its original description (Dognin, 1908) to notes by Prout (1938). Label data for this specimen is: "Cyllopoda/versicolor/type ♂ [illegible]", "Numbala/Equatur /1885/abbi gaujon", "Cyllopoda/sp nov. ♂/Warren 10.01", "Type No./33040/USNM", "Dognin/Collection", "Cyllopoda/(versicolor)/ sp. nov." This specimen differs from *C. breviplaga* in color only, yellow on wings being much paler, almost white. We agree with Prout (1938) and treat this specimen as an albinistic form of *C. breviplaga*.
Other material examined. "Charape: N. Peru/4,000 ft. Sept. Oct. 1912./A. & E. Pratt.", "breviplaga Dogn.", "Det. By L.B.Prout", "Joicey/Bequest./Brit. Mus./1934-120.", "C. b. breviplaga" [male] (BMNH).
Method of determination. Examination of the holotype.
Discussion. Prout (1938), in the only comprehensive treatment of genus *Cyllopoda* and tribe Cyllopodini to date, found that *C. breviplaga versicolor* differed from the nominate subspecies in that it was paler. He found "no other outstanding difference" and suggested that it was merely an albinistic form. Genitalia and other body characteristics revealed no significant differences and we conclude that it is not a valid subspecies.

Cyllopoda latiflava Warren, 1905 (Fig. 2M)

Cyllopoda latiflava Warren, 1905: 312. Prout, 1934: 133; 1938: 121. Scoble, 1999: 215

Diagnosis. Similar to *C. bipuncta*, *C. breviplaga*, *C. jatropharia* and *C. osiris* in wing pattern. Differentiated from *C. jatropharia* and *C. osiris* by its shorter antennal pectinations and narrower black borders on wings. It is also smaller than typical individuals of these two species. Separated from *C. bipuncta* and *C. breviplaga* by length and size of the basal yellow cell formed by wing borders and black bar in forewing. This cell is more triangular in *C. latiflava* than in *C. breviplaga* where it is one-third wing length and almost oval, and *C. bipuncta* where it extends to half wing and is more slender.
Male (Fig. 2M). Frons protuberant, black with white scales along lower edges of eyes; interantennal ridge and antennal shaft black with sprinkling of white scales at base of antenna; antenna bipectinate; collar black with lateral sprinkling of yellow on both sides; palpus black with tan suffusion on ventral surface, shorter than length of frons; pectus white to yellow; tegula yellow, edged with black scales, with long black setiform scales at tips; legs white with tan suffusion on anterior surfaces, yellow bases; hindleg with reduced tarsus, hair pencil present on posterior surface of rod-shaped tibia, no spurs. Abdomen black dorsally, white ventrally with yellow lateral lines broader at base of abdomen than at its posterior. Forewing with two areoles; apex rounded. Wings above yellow with broad black border all along in forewing, and only at outer margin in hindwing; prominent broad black bar in forewing only, from midpoint of costal margin to anal angle; hindwing without bar. Pattern repeated below. Forewing length 1.7 to 1.9 cm (n=5).
Genitalia (Fig. 3G). About 3.5 mm long and 1.5 mm wide. Tegumen moderately sclerotized; socii very short, oval, and moderately sclerotized with short setae; gnathos heavily sclerotized, arising from tegumen near socii as two projections that meet medially, forming a fan-like tip; uncus arising just above socii,

moderately sclerotized, slightly constricted at base, slender, with setae at top of lateral margins, somewhat spoon-like; valva lightly setose, greatly curved at heavily sclerotized tips, remaining two-thirds moderately sclerotized; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately sclerotized annulus that extends up to one-third length of tegumen from base of valva; juxta broad, moderately sclerotized projecting cephalad of vinculum; aedeagus about 3 mm long, slightly curved, moderately sclerotized, ductus ejaculatorius entering at almost at posterior end. Cornuti absent.

Female. Unknown.

Variation. Some males may have basal areole in forewing smaller than the distal.

Distribution. Colombia (type locality); Sta. Catarina, Brazil.

Types. Warren described this species based on one male from Colombia. We have examined a photograph of this specimen located in the BMNH with locality data: "Colombia", "Cyllopoda/ latiflava/ type ♂ Warr." This specimen is the holotype by monotypy.

Other material examined. "FELDER/ COLLN.", "Cyll./latiflava/♂ Warr.", "Rothschild/ Bequest /B.M.1939-1.", "C. latiflava" (BMNH); "Muzo./ Colombia/1.20", "Dognin/ Collection" [male] (USNM); "Muzo/Colombia", "Dognin/Collection" [male] (USNM); "Sta.Catharina/ coll.Wernicke ", "Staatssamml./Muenchen", "Micropos/simplex C. Feld./♂" [male] (ZSM); "Anapoima/ amdinamanca/7.VI.1975/ Colombi" [male] (ZSM).

Method of determination. Examination of a photograph of the holotype.

Cyllopoda jatropharia (Linnaeus, 1758)

This is the first species to be named in this genus, and in its tribe. Originally three subspecies were recognized, but based on wing pattern, genitalia, and locality. We recognize two subspecies and have resurrected the third to species level.

Cyllopoda jatropharia jatropharia (Linnaeus, 1758) (Figs. 2J, 2K)

Phalaena jatropharia Linnaeus, 1758: 523. Clerck, 1764 (2). Fabricius, 1775: 629; 1781: 250; 1787: 193; 1794: 154. Göze, 1781: 214. Gmelin, 1790: 2469.
Atyria jatrophae (Hübner, 1823): 31 (emendation of *jatropharia*)
Atyria jatropharia: Aurivillius, 1882: 166. Kirby, 1892: 403.
Atyriodes jatropharia: Dognin, 1900: 214.
Cyllopoda jatropharia: Prout, 1908: 78. Kay & Lamont, 1927: 110. Prout, 1934: 132. Sick, 1937: 400-412. Prout, 1938: 120.
Cyllopoda jatropharia jatropharia: Scoble, 1999: 215.

Diagnosis. Wing pattern similar to *C. gibbifrons* and *C. osiris*. Much larger than *C. gibbifrons* and with much longer pectinations on male antenna. Separated from *C. osiris* by more slender black wing borders, especially in hindwing, and more slender forewing, especially in males.

Male (Fig. 2J). Frons slightly protuberant, black with patch of white scales, white scales along lower edges of eyes; interantennal ridge and antennal shaft black with sprinkling of white scales at base of antenna; antenna bipectinate; collar black with lateral sprinkling of yellow on both sides; palpus black, about same length as frons; pectus white to yellow; tegula yellow, with long black setiform scales at tips; legs tan, yellow bases; hindleg with highly reduced tarsi; hair pencil on posterior surface of a spurless club-shaped tibia. Abdomen black dorsally with lateral yellow stripes, yellow ventrally. Forewing with two areoles, apex rounded. Wings above yellow, with broad black border along edges of wings except inner margin, and a prominent black bar in forewing only; bar in forewing broad, from midpoint of costal margin to anal angle; hindwing with no bar; black border present on outer margin only. Pattern repeated below; hindwing underside with black patch at base. Forewing length 1.8 to 1.9 cm (n=4).

Genitalia (Fig. 3F). About 2.5 mm long and 1 mm wide. Tegumen moderately sclerotized; socii short, oval, and moderately sclerotized with long setae, about as long as half distance between them; gnathos heavily sclerotized, arising from tegumen near base as two slender projections that meet medially, with five very short apical spines; uncus moderately sclerotized, round, moderately broad, with very long setae at top of lateral margins; uncus arising just above socii, constricted laterally; valva simple, slightly curved at tip, relatively smooth, distal third slightly thinner than proximal two-thirds, lightly setose; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately sclerotized annulus very near base of valva; juxta moderately sclerotized projecting cephalad of vinculum; pedunculi moderately sclerotized projecting cephalad of vinculum; aedeagus about 1.2 mm long, very slightly curved, moderately sclerotized, anterior end about same width as posterior, ductus ejaculatorius entering at posterior end. Cornuti absent.

Female (Fig. 2K). Similar to male; slightly more robust, with simple antenna and two apical spurs on hindleg. Lower edges of eyes with yellow scales; some females have a yellow pectus. Forewing may have white scales at its tip. Forewing length 1.8 to 2.1 cm (n=4).

Genitalia (Fig. 4C). About 8.5 mm long and 2 mm wide. Papilla anales simple and elongated with short setae; apophyses posteriores about three times as long as apophyses anteriores; genital plate slightly sclerotized, just caudad of ostium bursae; ostium bursae circular, on eighth abdominal segment; ductus bursae slightly sclerotized leading to appendix bursae; ductus seminalis leads from about halfway between ostium bursae and appendix bursae; corpus bursae with paired signa; signa as rows of short hooks on side of corpus bursae, extending through mid-region of corpus bursae.

Variation. Sexual dimorphism, where females are larger than males and have more rounded wings. Female forewing may also have a few white scales at its tip.

Distribution. Turrialba, Heredia, Cartago and La Florida in Costa Rica; Northern Peru; Venezuela; Bolivia; Guyana; Trinidad and Tobago. From 500 to 2250 feet. Type locality unknown.

Types. Holotype by monotypy is located in the Evolutionsmuseet, Uppsala Universitet, Sweden (UZUI). This specimen does not appear yellow and black. This may have resulted from loss of pigments over last two and one half centuries. It also bears some resemblance in patterning to *Celerena* sp. and bears a label written by Aurivillius as *Celerene perithea*. Original label, "Jatropharia", was written by Thunberg. Label data for this specimen are: "Jatropharia/Mus. Gust. Ad.","Celerene pe-/rithea (Cram.)/Auriv.1881." This specimen is part of a royal donation by King Gustaf IV Adolf.

Other material examined. "Rentema Falls,/Upper Marañón;/N. Peru 1000ft/A. & E. Pratt.", "jatropharia L./det. L.B.P." [male] (BMNH); "Feb./'07", "Peralta/ 2000ftCR", "Collection/Wm Schaus" [male] (USNM); "Torrialba. C.R./6.24.71" [male] (MGCL); "COSTA RICA: Prov./Heredia, 3kms.SW/ Puerto Viejo 75m/ Finca La Selva/Oct. 17, 1973 Opler" [male] (AMNH); "July/'07", "La Florida/ CR 500ft", "Collection/WmSchaus" [female] (USNM); "II-8-77/TURRIALBA, CARTAGO,/COSTA RICA", "Borrowed from/Oregon St-Univ./Collection 7/2001/ CVCovell Jr" [female] (INBio); "Costa Rica : Cartago Prov./ V,14,1985 Opler" [female] (AMNH); "Turrialba/CR. 6-27-71" (MGCL); "Rio Songo/ Bolivia/ 750 m/ Coll. Fassl" [female] (NHRS).

Method of determination. Examination of a photograph of the holotype.

Cyllopoda jatropharia puta Strand, 1920 (Fig. 2L)

Cyllopoda puta Strand, 1920: 137; 1927: 24.
Cyllopoda jathropharia puta Prout, 1934: 132; 1938: 120. Scoble, 1999: 215.

Diagnosis. As in nominate subspecies, but with slightly broader black borders, especially on hindwing.

Male (Fig. 2L). Similar to nominate subspecies; differing in that it may have yellow scales as well as white on sides of collar, palpus may also have white suffusion on ventral surfaces, and tegula with yellow at base only. Also, black wing borders are slightly wider. Forewing length 1.6 to 1.9 cm (n=5).

Genitalia. (Not illustrated) Almost same as nominate subspecies. Differ in having gnathos less sclerotized.

Female. Unknown.

Distribution. Trinidad (type locality) and Tobago; Surinam; Rio Branco in Brazil.

Types. Author cited three males from Trinidad and designated "largest specimen" as type. We secured on loan a specimen with locality data: "Trinidad/F. Birch","Cyllopoda/jatropharia/ f. puta/♂ Strand","L B. Prout Coll./ B.M.1939-643","C. jatropharia puta" from the BMNH which we believe to be a syntype. A check with the BMNH reveals that there are three additional specimens, two males and one female labeled "Trinidad/F. Birch","L. B. Prout Coll./B.M.1939-643" and also two specimens, a male and a female labeled "Trinidad","L. B. Prout Coll./ B.M.1939-643" in their possession. The specimens labeled "F. Birch" are treated as syntypes. Since a holotype was not explicitly designated, we designate the male we secured on loan with label data "Trinidad/F. Birch","Cyllopoda/jatropharia/ f. puta/♂ Strand","L B. Prout Coll./ B.M.1939-643","C. jatropharia puta" as the lectotype and the other two males with label data "Trinidad/F. Birch","L. B. Prout Coll./B.M.1939-643" as paralectotypes.

Other material examined. "St Anns/ Trinidad/ Antoin Peirre/1912", "Dognin/ Collection" [male] (USNM); "Coll. Of by/Albert S. Pinkus", "Lady Chancellors Rd./St. Anns-Trinidad/Mar 8 1933" [male] (AMNH); "Surinam", "Barnet/Lyon." [male] (NHRS). "Rio/Branco", "Amazon/Roman", "[third label illegible]" [male] (NHRS).

Method of determination. Examination of the lectotype.

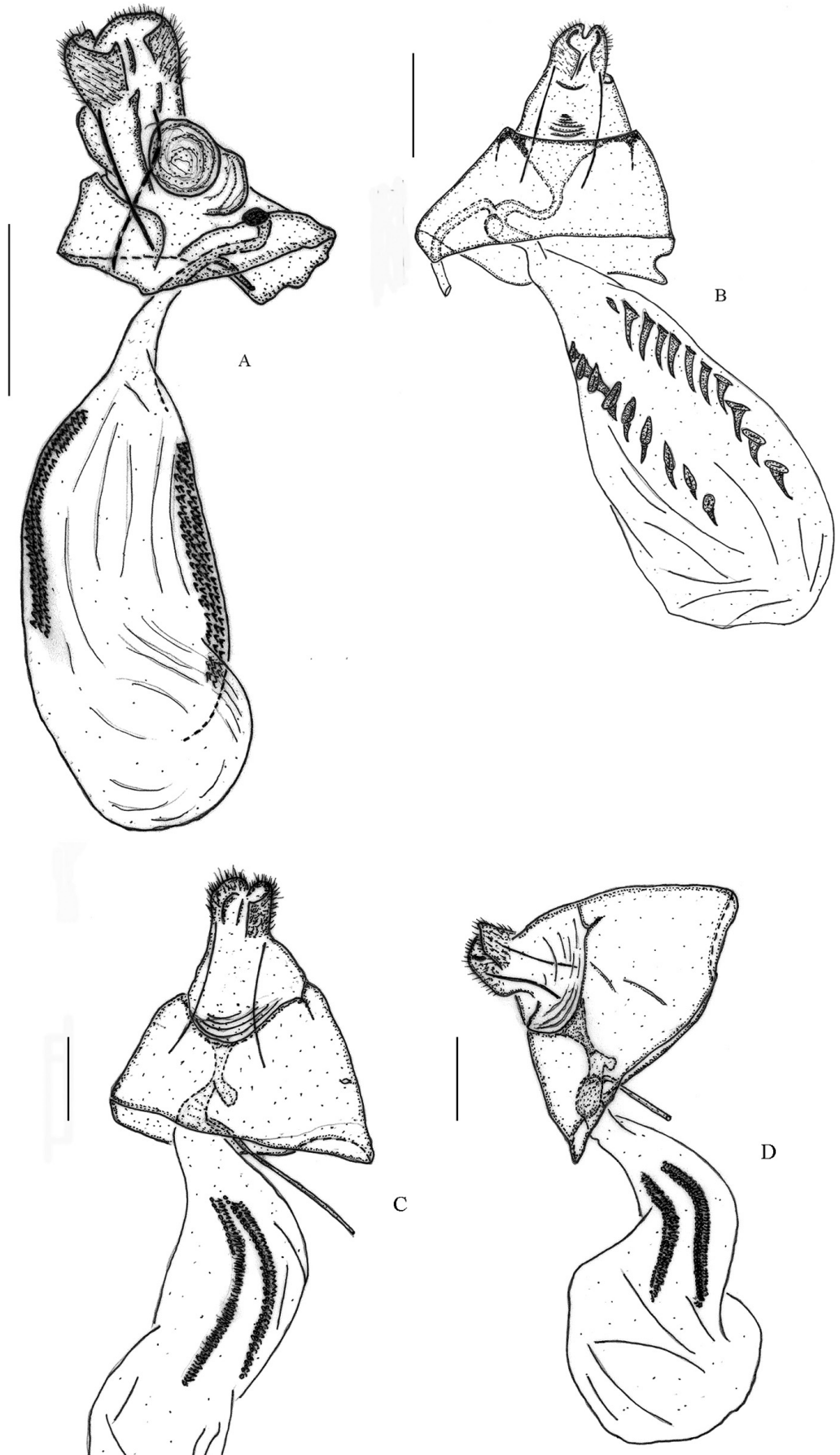

Fig. 4. Female genitalia of *Cyllopoda.* A) *C. claudicula*; B) *C. gibbifrons*; C) *C. jatropharia jatropharia*; and D) *C. osiris osiris*. Scale bars: 1 mm. Illustrations by Delano S. Lewis.

Cyllopoda osiris (Cramer, 1777), stat. rev.

Formerly treated as a subspecies of *C. jatropharia* by Prout (1908) after it was originally described as a species by Cramer; we have returned it to species status. Two subspecies are easily separated by wing pattern and genitalia. New synonyms have also been established. This species has a wide geographic range.

Cyllopoda osiris osiris (Cramer, 1777), stat. rev., comb. nov. (Figs. 2O, 2P)

Phalaena osiris Cramer, 1777: 28. Stoll, 1782: 26. Guérin-Méneville, 1818: 25.
Atyria osiris: Herrich-Schäffer, 1856: 20. Möschler, 1877: 659.
Callimorpha osiris: Verloren, 1837: 53.
Chrysauge osiris: Walker, 1854: 370.
Cyllopoda latimargo Warren, 1897: 420 [Synonym of *osiris*]
Cyllopoda ovata Warren, 1907: 198. Prout, 1938: 120. Scoble, 1999: 215 **syn. nov.**
Cyllopoda jatropharia var. *osiris*: Prout, 1908: 78; 1910: 230. Sick, 1937: 412. Prout, 1934: 132.
Cyllopoda jatropharia var. *ovata* : Prout, 1934: 133.
Cyllopoda jatropharia osiris: Prout, 1938: 120. Scoble, 1999 : 215.
Cyllopoda protmeta eurychoma Prout, 1938: 120. Scoble, 1999: 215. **syn. nov**.
Cyllopoda protmeta eurychoma ab. o*siriodes*: Prout, 1938 : 120

Diagnosis. Wing pattern similar to *C. gibbifrons* and *C. jatropharia*. Much larger than *C. gibbifrons* and with much longer pectinations on male antenna. Separated from *C. jatropharia* by broader black wing borders, especially in hindwing, and more robust forewing, especially in males.
Males (Fig. 2O). Frons slightly protuberant, black with small patch of white scales, yellow scales along lower edges of eyes; interantennal ridge and antennal shaft black with a sprinkling of yellow scales at base of antenna; antenna bipectinate; collar black with lateral sprinkling of yellow on both sides; palpus black, about same length as frons, white suffusion on ventral surface; pectus yellow; tegula black with yellow at base, with long black setiform scales at tips; legs tan, with yellow bases; hindleg with reduced tarsi, hair pencil present on posterior surface of club-shaped tibia, no spurs. Abdomen black dorsally with lateral yellow stripes, yellow ventrally. Forewing with two areoles, apex of forewing rounded with yellow and/or white scales at tip. Forewing above yellow with broad black border along edges of wing except inner margin and a prominent black bar; bar in forewing broad, from midpoint of costal margin to anal angle; hindwing with no bar; very broad black border present on outer margin only, almost half of wing. Pattern repeated below; hindwing underside with black patch at base. Forewing length 1.9 to 2.1 cm (n=4).
Genitalia (Fig. 3H): About 2 mm long and 1 mm wide. Tegumen moderately sclerotized; socii very short, oval, and moderately sclerotized with long setae; gnathos heavily sclerotized, arising from tegumen close to midpoint as two slender projections that meet medially, with three very short apical spines; uncus moderately sclerotized, sides straight, moderately broad, uniform towards a square tip with long setae; valva simple, slightly curved at tip, relatively smooth, distal third thinner than proximal two-thirds , lightly setose; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately sclerotized annulus close to base of valva; juxta moderately sclerotized, projecting cephalad of vinculum; pedunculi moderately sclerotized and broad; aedeagus about 1.2 mm long, slightly curved, moderately sclerotized, anterior end about same width as posterior, ductus ejaculatorius entering at posterior end; one spinose cornutus.
Female (Fig. 2P). Similar to male but with simple antenna and two apical spurs on hindleg. Forewing length 1.9 to 2.3 cm (n=8).
Genitalia (Fig. 4D): About 7 mm long and 2 mm wide. Papilla anales simple and elongated with short setae; apophyses posteriores and apophyses anteriores slightly thickened, apophyses posteriores about three times as long as apophyses anteriores; genital plate slightly sclerotized, just caudad of ostium bursae; ostium bursae circular; ductus bursae slightly sclerotized leading to appendix bursae; ductus seminalis leads from about halfway between ostium bursae and appendix bursae, heavily sclerotized, expanded area where ductus seminalis enters ductus bursae; corpus bursae with paired signa; signa as row of short hooks, extending through mid-region of corpus bursae.
Variation. Some specimens without yellow scales at base of antenna or suffusion on palpus, and base of legs may be yellow or black. Legs may be tan or white color, with or without suffusion. Females slightly larger than males. In some individuals, bar on forewing appears to be fading, middle of bar becoming thin, sometimes broken.
Distribution. Bogueron, Ecuador; Surinam; "British Colombia [sic]"; Rio Essequebo, Lethem and Rockstone (type locality), Guyana; La Union, Huacamayo and Iquitos, Peru; Dabadie, Trinidad. From 2000 to 3100 feet elevation.
Types. We have examined photographs of the following specimens, all in the BMNH: Male holotype by original designation of *C. ovata* with label data: "R. Huacamayo,/ Carabaya, dry s.,/3100 ft., June 04./(G. Ockenden).", "Cyllopoda/ovata/ Type ♂ Warr."; *C. protmeta erychoma* holotype by original designation (see explanation below) with label data: "Type", "Amazones/Iquitos/M. de Mathon.", "Cyllopoda/ prometa/eurychoma ♂ Prout/type"; *C. protmeta eurychoma* ab. *osiriodes* female holotype by original designation with label data: "Iquitos,/U. Amazon,/May 1932./ (G. Klug.)", "Cyllopoda/ protmeta/ab. Osiriodes/♂ type Prout"; *C. latimargo* female holotype by monotypy with locality data: "Rio Demerara/ British Guiana", "Cyllopoda/latimargo/Type ♀ Warr." We have also examined a photograph of a *C. protmeta eurychoma* with label data: "Allo-/ type", "Iquitos,/U. Amazon,/August 1932./(G. Klug.)", "Cyllopoda/ protmeta/ eurychoma/ ♀ Prout/ allotype."
Although Prout (1938) did not explicitly designate a holotype, we gather from his labeling this specimen as an allotype that he did. We however can only assume that the holotype would be the only male mentioned in his original description mentioned above. Cramer (1777) did not specify a holotype for *C. osiris*, claiming that it was from Surinam and located in Mr. B. Vriends cabinet. It should be noted that Surinam in 18th Century could mean land now part of French Guiana and Guyana, as we suspect that ship captains often did not specify an exact locality. The only reference to the sex of the specimen is that it has thread-like antennae; this would make it female. An illustration of the holotype (Cramer 1777) was provided by the author, but the collection of Mr. B. Vriends was sold to van Lennep in 1791 after Vriends' death in that same year. Parts of the van Lennep collection, then a part of the van Eyndhoven collection, had been taken to Zoological Museum in Tring by C. Felder who acquired a portion in 1861. Walter Rothschild purchased Felder's collection and incorporated it into his own. This collection, also housed in Museum in Tring, was bequeathed to the BMNH in 1937. A part of van Eyndhoven collection was also bought by Verloren van Themaat. The collection of Verloren van Themaat was donated to 'Ned. Heidemaatschappij' in Arnhem, now Koninklijke Nederlandsche Heidemaatschappij, in 1939 and was housed in a villa in Zeist near Utrecht. This villa, and the collection, was unfortunately destroyed (Chainey 2005). A check with museums in Europe revealed that whereabouts of the holotype for *C. osiris* is unknown and we conclude that it has been lost. We designate the specimen with label data: "Rockstone,/Essequebo.", "Cyllopoda/latimargo/Wlk./4. 420", "Collection/WmSchaus", "osiris/Cr./115 E" [female] (USNM) as neotype.
Other material examined. "Rockstone,/Essequebo.", "Cyllopoda/latimargo/ Wlk./4. 420", "Collection/WmSchaus", "osiris/Cr./115 E" [female] (USNM); "Lethem/Guyana/m-m. Vallex/ 8/8/81", "ATYRIA ALBIFRONS", "J. Bowe/ Collection – 2003" [female] (MGCL) ; "Iquitos/ Ecuador/23.III.1987", "Dr. Luke Kassarov/donation to FSCA/collection" [male] (MGCL); "La Union,/R. Huacamayo,/Carabaya, 2000 ft.,/wet s., Jan. 1905/(G. Ockenden).", "Cyllopoda/ jatropharia/Linn.", "Rothschild/Bequest/B.M.1939-1.", "C. ovata" [male] (BMNH); "18.5.62 leg.J.S./Bogueron Abd, Peru", "Cyllopoda/ovata Warr;/Det. C. Covell 83" [male] (MGCL); "9/2/99", "U.S.N.M/Acc39806" (USNM); "Collection of by/Albert S. Pinkus", "Dabadie-Trinidad/April 10 1933" [female] (AMNH).
Method of determination. Examination of photographs of holotypes, a paratype, and an allotype of the synonyms, and examination of the neotype.

Cyllopoda osiris protmeta (Prout, 1938), comb. nov. (Fig. 2Q)

Cyllopoda protmeta Prout, 1938: 120.
Cyllopoda protmeta protmeta: Scoble, 1999: 215.

Diagnosis. Differs from nominate subspecies in lacking black bar in forewing.
Male (Fig. 2Q). External characters as in nominate subspecies, differing from it in absence of a bar on forewing. Location of bar in nominate subspecies seen as a thickening of black border on costal edge of forewing in this subspecies. Forewing length 1.9 cm (n=1).
Genitalia: Same as nominate subspecies, only slightly more sclerotized.
Female. Same as nominate subspecies differing in absence of black bar on forewing. Forewing length 2.1 cm (n=1 from photograph).
Genitalia: None examined.
Distribution. Pebas (type locality), Amazonas in Peru; Ecuador.
Types. Holotype by original designation in the BMNH with label data: "Pebas/ Amazones/M. de Mathan/finX.bre & 1.erTr1880", "Cyllopoda/protmeta/ ♀ Prout/ type." The author also mentions a paratype from Peru that along with the holotype was collected for C. Oberthür by M. de Mathan.
Other material examined. "Ecuador. Buckley", "intensa/wlk", "Cyllopoda/ protmeta/♂ Prout", "Rothschild/Bequest/ B.M.1939-1.", "C. p. protmeta"

(BMNH);"Sarayaco/ Ecuador", "Collection/ WmSchaus" [male] (USNM).
Method of determination. Examination of a photograph of holotype.

Discussion. On investigation of patterns of coloration in the *C. jatropharia* species group, it was observed that the species formerly recognized as *C. jatropharia osiris* was significantly larger and had broader margins than the nominate subspecies and other subspecies, *C. jatropharia puta*. Male and female genitalia revealed that *C. jatropharia osiris* males and females were significantly different from the rest of the *C. jatropharia* group, while identical to that of *C. ovata*. *C. osiris* is revised to species level and *C. ovata* and *C. protmeta eurychoma* treated as synonyms. Based on the structure of male genitalia and absence of bar in the forewing of *C. protmeta protmeta*, this is now recognized as a subspecies of *C. osiris*.

Cyllopoda gibbifrons Prout, 1917 (Figs. 2H, 2I)

Cyllopoda gibbifrons Prout, 1917: 391. Prout, 1934: 133; 1938: 121. Scoble, 1999: 215.

Diagnosis. Small, with wing pattern similar to *C. jatropharia* and *C. osiris*. Differs in having very short pectinations on male antenna, much smaller body, and thinner black wing borders.
Male (Fig. 2H). Frons protuberant, tan to black with white scales along eyes; interantennal ridge and antennal shaft black with sprinkling of white scales at base of antennal shafts; antenna bipectinate; collar black with lateral sprinkling of yellow on both sides; palpus black with tan suffusion on ventral surface, shorter than length of frons; pectus white; tegula black with long black setiform scales; legs white with tan suffusion on anterior surfaces, base yellow; hindleg compressed, short, with reduced tarsi, hair pencil present on posterior surface of tibia, reduced spurs in the form of two round apical projections. Abdomen black dorsally, with lateral sprinkling of yellow scales, white ventrally, with lateral sprinkling of yellow scales. Forewing with two areoles; apex rounded. Wings above yellow, with broad black border along edges of forewing, except inner margin and a prominent black bar in forewing only; sprinkling of black scales along base of discal cell from base of wing to prominent bar; bar in forewing broad, from midpoint of costal margin to anal angle; hindwing with no bar; black border present on outer margin only. Forewing pattern repeated below but hindwing with darker yellow space where pattern on underside stops and pattern above shows through. Forewing length 1.5 to 1.6 cm (n=2).
Genitalia (Fig. 3E). About 3 mm long and 1.5 mm wide. Tegumen moderately sclerotized; socii long, petiolate, and moderately sclerotized with long setae; gnathos with base heavily sclerotized, remaining portions moderately to heavily sclerotized, arising close to socii as two projections that meet medially into a moderately sclerotized tip; uncus arising just above socii, moderately sclerotized, sides straight, narrow, with setae at top of lateral margins; valva lightly setose, slightly curved at tip, which makes up distal one-third of valva, remaining two-thirds thicker than tip; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately sclerotized annulus that extends up to one-third length of tegumen; juxta narrow, moderately sclerotized projecting slightly cephalad of vinculum; aedeagus about 2 mm long, heavily curved, u-shaped, posterior end moderately sclerotized, ductus ejaculatorius entering almost at posterior end. Cornuti absent.
Female (Fig. 2I). Similar to male but with simple antenna and hindtibia with two apical spurs. Black wing borders slightly broader. Forewing length 1.6 cm (n=1).
Genitalia (Fig. 4B). About 6.2 mm long and 2 mm wide. Papilla anales simple and elongated, with short setae; apophyses posteriores and apophyses anteriores slightly thickened, apophyses posteriores about four times as long as apophyses anteriores; genital plate well developed and slightly sclerotized, just caudad of ostium bursae; ostium bursae leads from genital plate; ductus bursae slightly sclerotized leading to appendix bursae which enters corpus bursae and is hardly distinguishable; ductus seminalis enters about midpoint between ostium bursae and appendix bursae, where it enters a slightly sclerotized extended area; corpus bursae sac-like, with paired signa; signa as a row of long spines extending almost most of its length ending about 1 mm from end of corpus bursae.
Variation. Females may have a yellow pectus. Abdomen may also be black dorsally with ventral surfaces yellow and white at tip. Black border and bar in wings are also slightly broader than in males.
Distribution. Suapure (type locality), Maipures and Orinoco, in Venezuela; and Tobago.
Types. The holotype by original designation in the BMNH has locality data: "Suapure,/Venez./1.3.99./(Klages)", "Cyllopoda/gibbifrons/♂ Prout/ type." Prout (1917) also mentions seven female paratypes with same locality data and one male paratype from Maipures, Orinoco, Venezuela. We have examined a male from the BMNH with data: "Maipures,/Orinoco,/Dec. 98./(Cherrie)", "Cyllopoda/postica/ Wlk", "Rothschild/ Bequest/ B.M 1939-1.", "C. gibbifrons". We believe this specimen to be one of the paratypes mentioned by Prout.
Other material examined. "2/25/99", "U.S.N.M./Acc39806" [female] (USNM).
Method of determination. Examination of a photograph of holotype and examination of one male paratype.

Cyllopoda postica (Walker, 1854) (Fig. 2R)

Chrysauge postica Walker, 1854: 371.
Flavinia postica: Dognin, 1891: 39. Kirby, 1892: 404.
Atyria postica: Prout, 1916: 174.
Cyllopoda postica: Prout, 1934: 133; 1938: 120. Scoble, 1999: 215.

Diagnosis. Similar to *C. gibbifrons* and *C. jatropharia* in wing pattern. Differs in having black wing borders wider than *C. gibbifrons* and basal yellow patch on forewing larger than *C. jatropharia*. Also, lateral yellow abdominal lines narrowing posteriorly separates it from those two species. These lines are not present in other similarly patterned species. Forewing also sometimes with only one areole.
Male (Fig. 2R). Frons protuberant, black with white scales along lower edges of eyes; interantennal ridge and antennal shaft black; antenna bipectinate; collar black; palpus white, shorter than length of frons; pectus white to yellow; tegula yellow, edged with black scales, with long black setiform scales at tips; legs white with tan suffusion on anterior surfaces, yellow bases; hindleg with reduced tarsus, hair pencil present on posterior surface of rod-shaped tibia, no spurs. Abdomen black dorsally, white ventrally with yellow lateral narrowing posteriorly. Forewing of three out of four specimen examined with one areole, the fourth specimen with two areoles; apex rounded. Wings above yellow, with broad black border along edges of wing except inner margin, and a prominent black bar in forewing only; sprinkling of black scales from base of wing to prominent bar; bar in forewing broad, from midpoint of costal margin to anal angle; hindwing with no bar; black border present on outer margin only. Pattern repeated below. Forewing length 1.6 to 2.0 cm (n=3).
Genitalia (Fig. 3I). About 5.5 mm long and 1.6 mm wide. Tegumen moderately sclerotized; socii very long, petiolate, lightly sclerotized, about same length as distance between them, with moderately long setae; gnathos moderately sclerotized, arising from tegumen very close to socii as two projections that meet medially, forming a fan-like tip, two projections leave it dorsally; uncus bilobed, arising just above socii, moderately sclerotized, constricted at base, narrow, tip drawn out into lateral lobes protruding from uncus; lateral lobes with long setae; valva lightly setose, greatly curved at tips, moderately sclerotized, base slender, narrowing towards tips; vinculum moderately sclerotized, surrounding base of valva; saccus membranous giving rise to a moderately to heavily sclerotized annulus that extends to about midway length of tegumen, split where aedeagus exits; juxta broad, lightly to moderately sclerotized projecting cephalad of vinculum; aedeagus about 3.5 mm long, slightly curved, moderately to heavily sclerotized, ductus ejaculatorius entering at posterior end, tip heavily sclerotized. Cornuti absent.
Female. Similar to male but with simple antenna and two apical spurs on hindleg. Forewing length 1.9 cm (n=1).
Genitalia: (Not illustrated) Similar to *C. osiris* but with signa longer, and with a more sclerotized genital plate, and ostium bursae.
Variation. Some individuals have more white on frons, with some white at base of antenna. Collar may also be a mixture of white, yellow, and black scales. Tegula may also lack yellow scales, being entirely black. Abdomen may also be white ventrally turning into black posteriorly.
Distribution. Peru; San Jose de Cúcuta (type locality), Colombia, on border with Venezuela.
Types. The author did not designate a holotype stating only that it was from Venezuela and that there were five specimens, "a – e" from Mr. Dyson's collection and "f - ?" presented by E. Doubleday Esq. We suspect an error in type locality, as Cúcuta lies in Colombia near to the border with Venezuela. We have examined a photograph of a male syntype at the BMNH with label data: "Vene-/zuela", "[underside of label] 47/g", "9. CHRYSAUGE POSTICA." We designate this specimen the lectotype. Two other specimens in the BMNH with label data "Vene-/ zuela / [underside of label] 47 / g", and a third with the additional label identifying it as "*jatropharia*" are designated as paralectotypes.
Other material examined. "Cucuta,/Venezuela.", "Cyllopoda/postica/Wlk.", "Rothschild/Bequest /B.M.1939-1.", "C. postica" [male] (BMNH); 2 specimens "Peru", "Collection/ WmSchaus" [male] (USNM); "VENEZUELA, 1100m./ Rancho Grande/Estado Aragua/June 22, 1984/C.V. Covell Jr.", "gibbifrons/Prt.?/

postica/wlk.?", "CV Covell coll./MGCL Acc./2004-12" [female] (MGCL).
Method of determination. Examination of a photograph of the lectotype.

Cyllopoda angusta Warren, 1897 (Fig. 2A)

Cyllopoda angusta Warren, 1897: 419. Prout, 1934: 132; 1938: 120. Scoble, 1999: 214.

Diagnosis. Easily differentiated from others in the genus by its predominantly black wings with one small area of yellow scales on the forewing and two even smaller areas of yellow scales on the hindwing.
Male (Fig. 2A). Frons, interantennal ridge, and antennal shaft black; male antenna bipectinate; lower parts of face yellow; tegula black; legs whitish. Abdomen above black, underside whitish. Wings above predominantly black; forewing with a large, transverse, oblong yellow spot near tip of wing but not touching borders; hindwing with two yellow spots, larger oval spot at lower end of cell, smaller, a short streak almost touching inner margin close to wing base. Forewing length 1.8 cm (n=1 measured from photograph).
Genitalia. No specimen was secured on loan; description of adult made by comparing photograph of syntype with original description.
Female. Unknown.
Distribution. Known only from Reyes, Bolivia (type locality).
Types. Two syntypes, one male and one female are in the BMNH. We have examined photograph of male with label data: "REYES,/7.8.95/Stuart.", "Cyllopoda/angusta/Type ♂ Warr". The original description does not state which of two individuals the holotype is. We designate the male with the above label data as the lectotype and the female with label data "REYES/7.8.95/Stuart", "Cyllopoda / angusta/type [crossed out]♀Warr /[underside of label] Seitz VIII/t.17 c" as the paralectotype.
Method of determination. Examination of photographs of the male lectotype.

Cyllopoda angustistriga Warren, 1904 (Fig. 2B)

Cyllopoda angustistriga Warren, 1904: 14. Prout, 1934: 133; 1938: 121. Scoble, 1999: 214.

Diagnosis. Separated from other members of genus by forewing pattern. Similar to *C. latiflava* in general appearance, but differs in having the proximal third of forewing almost completely black, with a small patch of yellow scales on inner margin from wing base almost to anal angle.
Male (Fig. 2B). Type labeled as a female; however, antenna appears bipectinate. We treat it as male. Wing pattern similar to *C. latiflava,* but forewing with black bar extending into a larger patch, covering almost entire basal section of wing except for a small yellow patch on inner margin from wing base to almost where anal vein (A) meets wing margin. Forewing length 1.6 cm (n=1 from photograph).
Genitalia. No specimen secured on loan; description of adult made by comparing photograph of type with original description.
Female. Unknown.
Distribution. Chiri-Mayo (type locality) and River Slucuri in South East Peru; 1000 feet.
Types. We have examined a photograph of the holotype by original designation in BMNH with label data: "Chiri-Mayo/S. E. Peru, 1000'./VII. 01. Dry/(Ockenden)", "Cyllopoda/angustistriga/Type ♀ Warr." Even though the author identifies this specimen as female, we believe this specimen to be male based on structure of the antenna.
Other material examined. A male from River Slucuri in South East Peru was also briefly examined.
Method of determination. Examination of photographs of the holotype.
Discussion. The original label on the type indicates that Warren (1904) thought this specimen to be female; however, presence of bipectinate antennae indicates that it is male. Sex of the type is unsubstantiated as observations of wing coupling mechanism could not be determined.

SYNONYMIC CHECKLIST

CYLLOPODA Dalman, 1823; Type species: *Bombyx claudicula* (Dalman, 1823)
FLAVINIA Walker, 1854; Type species: *Chrysauge postica*, (Walker, 1854)
angusta Warren, 1897
angustistriga Warren, 1904
bipuncta Warren, 1906
breviplaga Dognin, 1906
versicolor Dognin, 1908 **syn. nov.**
claudicula (Dalman, 1823)
catabathmus Prout, 1938 **syn. nov.**
expansifascia Prout, 1917
gibbifrons Prout, 1917
jatropharia jatropharia (Linnaeus, 1758)
jatrophae (Hübner, 1823) (emendation of *jatropharia*)
jatropharia puta Strand, 1920
latiflava Warren, 1905
nigrivena Prout, 1917
osiris osiris (Cramer, 1777) **stat. rev., comb. nov.**
latimargo Warren, 1897
ovata Warren, 1907 **syn. nov.**
protmeta eurychoma Prout, 1938 **syn. nov.**
osiris protmeta (Prout, 1938) **comb. nov.**
postica (Walker, 1854)
radiata Warren, 1906
roxana (Druce, 1885)

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