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# NYMPHALIDAE OF CENTRAL RONDÔNIA, **BRAZIL: MELITAEINAE, WITH DESCRIPTIONS OF TWO NEW SPECIES**

## GEORGE T. AUSTIN<sup>1</sup> AND THOMAS C. EMMEL<sup>2</sup>

<sup>1</sup>Nevada State Museum and Historical Society, 700 Twin Lakes Drive, Las Vegas, Nevada 89107; and <sup>2</sup>Dept. of Zoology and Dept. of Entomology and Nematology, University of Florida, Gainesville, Florida 32611, USA

ABSTRACT.- Fourteen species of Melitaeinae (Lepidoptera: Nymphalidae) were recorded in the vicinity of Cacaulândia, in central Rondônia, Brazil. All are illustrated. Two of these are previously undescribed: Eresia fraterna n. sp. and Castilia longala n. sp. Eresia plagiata extensa (Hall), n. comb., is transferred from E. nauplius. Comments on variation and phenology are given for all species. Figures of the genitalia are included for those taxa and sexes not previously illustrated.

KEY WORDS: Bolivia, Castilia, Castilia longala n. sp., C. Amer., Chlosyne, Colombia, Costa Rica, Ecuador, Eresia, Eresia fraterna n. sp., genitalia. Guatemala, Hesperiidae, Lycaenidae, Mazia, Mexico, Neotropical, Ortilia, Peru, phenology, S. Amer., taxonomy, Tegosa, Telenassa, USA, variation.

The New World Melitaeinae are one of the few butterfly December. The five specimens are relatively constant in color and groups to have been reviewed several times (Röber, 1913-14; markings; variation involves the amount of postbasal black Hall, 1928-30; Forbes, 1945; Higgins, 1960, 1978, 1981). These towards the costa of the hindwing. The subspecific name, saundersi, is that used for this general form over much of tropical publications allow determination of samples, give an understanding of patterns of variation and distribution throughout the region, America. The genitalia of Rondônia material, at least, are and set the stage for more in-depth studies of regional faunas to different from those of Chlosyne lacinia (Geyer, 1837) taxa help fill those remaining gaps in our knowledge. Such studies (sensu Higgins, 1960) from southwestern United States south should provide information on species richness and variation, through Central America (comparisons made with Chlosyne address remaining questions on species limits, and identify californica (Wright, 1905) from Nevada, Chlosyne lacinia crocale possible locally endemic taxa. An inventory of butterflies near (W. H. Edwards, 1874) from Nevada and Arizona, Chlosyne Cacaulândia in central Rondônia, Brazil, was initiated in 1989 lacinia adjutrix Scudder, 1875, from Texas, C. l. lacinia from (Emmel and Austin, 1990) and over 1500 species are now known Guatemala and Costa Rica, and Chlosyne lacinia quehtala to occur in the area (Austin and Emmel, unpublished data). This (Reakirt, 1867) from Costa Rica). On the males of C. l. saundersi fauna includes numerous previously undescribed species of from Rondônia, the valvae are considerably longer and, along several families, including Hesperiidae (Austin, 1993, 1994, 1995, with the harpes, more robust. The single female from Cacaulândia 1996), Lycaenidae (Austin and Johnson, 1995, 1996; Johnson and has the lateral arms of the bursal support long and divergent Austin, in press), and Nymphalidae (Austin and Mielke, 1993). cephalad. All female C. lacinia genitalia examined from the Fourteen species in seven genera of Melitaeinae have been southern United States to Costa Rica have shorter and slightly recorded in the central Rondônia study area. In this paper, we converging arms; those of C. californica have very short and examine their phenology, discuss the taxonomy and variation of divergent arms. Higgins (1981) noted that C. l. saundersi is certain species, describe two new species, and illustrate genitalia "treated with specific rank by many local entomologists." This of taxa for which no figures exist. Structures of the genitalia are may be correct based on genitalic differences noted above, but described using the terminology of Higgins (1981). Citations to more study of the morphology of South American populations is original descriptions of taxa given by Higgins (1981) are not

needed. repeated here.

#### CHLOSYNE Butler, 1870

One species of this speciose, mostly northern Neotropical, genus occurs in central Rondônia.

#### Chlosyne lacinia saundersi (Doubleday, [1847]) (Fig. 1-2, 6, 14)

The dorsum of Rondônia material (see also photograph by This broadly orange phenotype is rare in central Rondônia, Krizek, 1991) varies in the completeness of the subapical black with one record in June and two records each in August and bar; this usually is incomplete but occasionally extends to the

#### TELENASSA Higgins, 1981

A single species of this South American genus occurs in central Rondônia.

#### Telenassa burchelli (Moulton, 1909) (Fig. 1-2, 5, 15)



Fig. 1. Melitaeinae from the vicinity of Fazenda Rancho Grande, near Cacaulândia, Rondônia, Brazil. Top row: left - *Chlosyne lacinia saundersi*, male, 3 Dec 1991 right - same, female, 3 Dec 1991. Second row: left - *Telenassa burchelli*, male, 13 Nov 1991; second - same, female, 22 Aug 1991; third - Ortilia gentina, male, 2 Oct 1990; right - same, female, 11 Dec 1990. Third row: left - *Tegosa claudina*, male, 26 Apr 1991; second - same, female, 18 Mar 1991; third - *Tegosa serpia*, male 2 Nov 1989; right - same, female, 31 Oct 1990. Bottom row: left - *Castilia angusta*, male, 12 Oct 1993; second - same, female, 24 May 1992; third- *Castilia schmitzorum*, male, 11 Nov 1991; right - *Castilia longala*, holotype male.

Fig. 2. Melitaeinae from the vicinity of Fazenda Rancho Grande, near Cacaulândia, Rondônia, Brazil. Same specimens as Fig. 1 (ventral view).



Fig. 3. Melitaeinae from the vicinity of Fazenda Rancho Grande, near Cacaulândia, Rondônia, Brazil. Top row: left - Eresia clara, male, 22 Apr 1991; right - same, female, 6 Jun 1992. Second row: left - Eresia plagiata extensa, male, 14 Dec 1990; right - same, female, 29 Mar 1991. Third row: left - Eresia eunice eunice, male, 12 Dec 1990; right - same, female, 19 Mar 1989. Fourth row: left - Eresia fraterna, holotype male; right - same, paratype female, 17 Mar 1989. Bottom row: left -Eresia aveyrona mylitta, male, 15 Jul 1994; middle - Mazia amazonica tambopata, male, 24 Sep 1992; right - same, female, 22 Apr 1991. Fig. 4. Melitaeinae from the vicinity of Fazenda Rancho Grande, near Cacaulândia, Rondônia, Brazil. Same specimens as Fig. 3 (ventral surface).

black margin. The female genitalia, not previously illustrated, are occurs in the genitalia. The female genitalia have not been similar to those of Telenassa teletusa (Godart, [1824]) as previously illustrated; they most closely resemble those of Ortilia illustrated by Higgins (1981), but with all structures somewhat orticas (Schaus, 1902) as illustrated by Higgins (1981). The broader. There is slight seasonal variation; the ventral hindwing bursal support is broader and less cup-shaped than on other is slightly more heavily marked on dry season individuals. This species of the genus. Slight seasonal variation is seen; some early common species is known for every month; most records (80% and mid wet season individuals are more heavily marked beneath of 89) are for the wet season from October through April. It is with red-brown in a pattern approaching that of Ortilia lirope seen most often along forest edges. (Cramer, [1775]). The species is abundant in the Cacaulândia area, with records for every month; these indicate a peak of ORTILIA Higgins, 1981 abundance in the mid dry season (due largely to a population explosion in June and July 1993). It is common at the forest One widespread species of this primarily eastern South edge, but is often seen at light gaps within the forest and at mud.

American genus is found in the vicinity of Cacaulândia.

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Ortilia gentina Higgins, 1981 (Fig. 1-2, 5, 16)

Central Rondônia material of this species is typical (illustrated by Higgins, 1981; also Krizek, 1991). Variation exists among both males and females in the length of the black at the forewing subapex, from being incomplete as a short triangular mark to completely extending to the black margin; females also vary in dorsal color (pale to dark orange) and in the width of the marginal black on the dorsal hindwing. No concomitant variation

#### TEGOSA Higgins, 1981

Two widespread species of this Neotropical genus are known from central Rondônia.

Tegosa claudina (Eschscholtz, 1821) (Fig. 1-2)

The wings and genitalia of central Rondônia material of this species are identical to those illustrated by Higgins (1981) under the name Tegosa similis Higgins (see Freitas, 1991). The male



genitalia exhibit slight variation in the curvature of the scapial extension. No seasonal differences are seen among specimens on hand. The species is uncommon, with records for March, April, June to August, and October through December.

#### **Tegosa serpia** Higgins, 1981 (Fig. 1-2, 7, 17)

This taxon, described from Peru (paratype from Bolivia), was included by Higgins (1981) as a subspecies of Tegosa anieta (Hewitson, [1864]) although he noted that it was "perhaps specifically distinct;" it was treated as distinct by Lamas (1994). Higgins (1981) did not illustrate the male genitalia of T. serpia (noting only that they were "like T. anieta anieta") or illustrate (or examine) female genitalia of any of the taxa he included in T. anieta. Superficially, T. serpia differs from T. anieta (described from Venezuela) in its narrower and more elongate wings, more rounded forewing apex, and much less black on the forewing and hindwing. The taxon Tegosa anieta cluvia (Godman & Salvin, 1882), described from Guatemala, is similar to T. a. anieta but with some reduction of the black on the forewing. Higgins (1981) also described Tegosa anieta luka based upon a holotype from Mexico and paratypes from Mexico, Colombia, and Ecuador. This taxon appears to include more than one phenotype and is possibly specificially distinct since its given distribution overlaps that of T. a. anieta and possibly those of T. a. cluvia and T. serpia. The phenotypes assigned to T. a. luka have a much reduced black pattern as on T. serpia, but have the wing shape of T. anieta.

All of the above mentioned taxa have male genitalia with a distinctly "racquet-shaped" scaphial extensions of the tegumen. T. serpia has a less lobate and more weakly sclerotized tegumen than does T. anieta, with narrower, shorter, and more flaring scaphial extensions; has a shorter and more robust harpe; has the tip of the valva more sharply turned ventrad; has the saccus always notched for 1/3 to 1/2 of its relatively short length; and has the penis less robust.

The female genitalia of *T. serpia* are different from those of *T. anieta* and its putative subspecies. The *T. anieta* taxa (material examined from Mexico, Costa Rica, and Ecuador) are all relatively similar in having broadly developed lamellae surrounding the ostium bursae, a broad sclerotized "collar" at the caudal end of a broad bursal duct, and a broad bursal support (Fig. 18). On *T. serpia*, the lamellae are narrower and the "collar," bursal duct, and bursal support are distinctly narrower.

The male genitalia of *Tegosa guatemalena* (Bates, 1864) also have a racquet-shaped scaphial extension. The tegumen of *T. guatemalena* is narrower than on *T. serpia*, the scaphial extension is also narrower with its lateral arms diverging less and closer to its caudal end; the valvae are much broader cephalad in lateral view; the saccus is longer, thinner, and not notched; and the harpes are longer, thinner, and more curvate. The female genitalia

Fig. 5. Melitaeinae from the vicinity of Fazenda Rancho Grande, nr. Cacaulândia, Rondônia, Brazil. **Top row:** left - *Telenassa burchelli*, dorsum, 21 Mar 1989; right - same, venter, 10 Nov 1990. **Second row:** left - *Eresia eunice eunice*, dorsum, 24 Mar 1989; right - same, venter, 24 Mar 1989. **Third row:** left -*Ortilia gentina*, dorsum, 18 Jun 1992; right - same, dorsum, 15 May 1995. **Bottom row:** left - *Ortilia gentina*, venter, 15 May 1995; right - *Eresia plagiata extensa*, dorsum, 15 May 1995. (photographs © 1996 Thomas C. Emmel). of *T. guatemalena* are more like *T. anieta* with broader lamellae, "collar," and bursal support.

*T. serpia* is common along forest edges in the Cacaulândia area, with records in March, June to August, and October to December; peak abundance appears to be in the first part of the wet season. There is no obvious seasonal variation. Slight individual variation involves the extent of black on the dorsum of both wings.

#### **ERESIA** Boisduval, [1836]

This large and widely distributed Neotropical genus includes five species encountered at the central Rondônia study area. Four of these are relatively widespread and one is previously undescribed.

#### Eresia clara Bates, 1864 (Fig. 3-4)

This species is not uncommon along forest edges and in second growth in central Rondônia, with records in every month, being most common in the wet season (82% of 44 records from October to April). No seasonal variation is apparent, but there is individual variation. The forewing shape is variable from short and rather stubby to more elongate, the width of the hindwing white band varies, and some males have a slight notch at the terminus of the saccus. The variation in dorsal band and macular color from white to yellowish seen in some populations of *E. clara* does not occur in Rondônia; these markings are white on all individuals examined.

#### *Eresia plagiata extensa* (Hall, 1929), new comb. (Fig. 3-5, 8, 19)

There is no doubt that the central Rondônia phenotype represents the taxon named Phyciodes nauplia extensa by Hall (1929). Its characters, however, both superficial and genital, indicate it is related to Eresia plagiata (Röber, 1913) rather than Eresia nauplius (Linnaeus, 1758). The forewing markings are broad as on E. plagiata (narrow on E. nauplius), the dorsal hindwing lacks the orange submarginal scaling seen on E. nauplius (vary rarely female E. p. extensa has vague orange here), the ventral forewing has the base of the discal cell white (orange on E. nauplius), and the ventral hindwing pattern is more similar to E. plagiata than to E. nauplius. Apparently Higgins (1981) did not examine the genitalia of E. p. extensa since the lateral margins of the scaphial extension of the male genitalia are strongly divergent caudad and not parallel as on E. nauplius; this was one of the major characters cited by Higgins (1981) to separate the two species. The genitalia of males from Rondônia are constant and do not exhibit the variation noted for E. plagiata by Higgins (1981). The female genitalia of E. p. extensa have a relatively short ductus bursae and expanded bursal support; these are more similar to E. p. plagiata than to E. nauplius. The major difference between E. p. extensa and E. p. plagiata is the width of the white band on the hindwing; this is very broad on E. p. extensa, extending well beyond the end of the discal cell, and much narrower on E. p. plagiata.















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*E. plagiata* is the most common *Eresia* near Cacaulândia and exhibits no obvious seasonal and little individual variation. Records are for every month; few (25% of 71 records) are for the dry season (May through September). Most adults are seen along the edge of the forest but they also occur within the forest, especially at light gaps.

#### *Eresia eunice eunice* (Hübner, [1807]) (Figs. 3-5, 9, 20)

In the Cacaulândia area, this species exhibits variation in the size and completeness of the black bar on the forewing; most individuals have this bar separated by yellow between the portion towards the costa and that in the bases of cells  $M_2$  and  $M_3$ . The latter extends to the margin by a variable width black line along vein CuA<sub>1</sub>. The black forewing apex occasionally contains one or two yellow macules.

*E. eunice* is not uncommon in the Cacaulândia area, with records for January, March to June, and August to December, but mostly in the wet season (69% of 32 records for October to April); no seasonal variation is evident. This species frequents the forest interior.

#### Eresia fraterna Austin & Emmel, new sp. (Fig. 3-4, 10, 21)

**Description**.– MALE: forewing length = 23.3mm (22.3-25.1, N = 9); dorsum orange, marked with black and yellow; forewing with broad, unmarked black apex (one specimen with single yellow apical macule), black narrowing along outer margin and very narrow on costa; subapex with broad yellow band; black bar from costa and apex of discal cell (where broadest) extending 1/2 distance from discal cell to termen in cell M<sub>3</sub>, prominently square-ended distad, extending as black vein CuA<sub>1</sub> to marginal black; yellow grading to yellow-orange behind bar in discal cell and cell CuA<sub>1</sub>; posterior vein of discal cell black from base to CuA<sub>2</sub>, very narrowly expanded onto surrounding wing; rest of forewing orange; hindwing with even-width black margin; black bar just below costa; macular black median band from vein M<sub>1</sub> to anal margin, macules divided by orange veins; area between costal bar and median band with vague yellow scaling.

Venter similar to dorsum; forewing apex with less extensive black; broad apical-subapical yellow band; marginal black divided by narrow yellow line in each cell posteriorly; hindwing with yellow more prominent between costal bar and median band; marginal black broken into lunules edged narrowly proximad with yellow.

Dorsal surface of head, thorax, and abdomen black, head with white in center, thorax and abdomen overscaled with orange; antennae black with narrow white annular rings, venter sparsely white scaled, club whitish above, orange beneath; palpi black above, white beneath; ventral thorax and abdomen whitish.

Fig. 6-13. Male genitalia of Melitaeinae from the vicinity of Fazenda Rancho Grande, near Cacaulândia, Rondônia, Brazil. All figures show a) dorsal view of genital capsule (penis removed), b) ventral view of genital capsule (penis removed), c) lateral view of genital capsule (penis removed), d) lateral view of penis, and e) dorsal view of penis. Fig. 6. Chlosyne lacinia saundersi, GTA Vial #5662; Fig. 7. Tegosa serpia, GTA Vial #821; Fig. 8. Eresia plagiata extensa, GTA Vial #5567; Fig. 9. Eresia eunice eunice, GTA Vial #5573; Fig. 10. Eresia fraterna, GTA Vial #5570; Fig. 11. Eresia aveyrona mylitta, GTA Vial #5562; Fig. 12. Castilia schmitzorum, GTA Vial #1294; Fig. 13. Castilia longala, GTA Vial #3179; Fig. 13A. Castilia angusta, GTA Vial #7162 (with pertinent structures illustrated for direct comparison with C. longala).

*Male genitalia*. Tegumen broad, weakly lobed; scaphial extension relatively short, barely reaching to harpes, divergent caudad, caudal end rather abruptly turned ventrad, spinate; saccus broad; juxta produced in middle; valva robust, especially broad in ventral view, caudal end curved ventrad; harpes relatively robust; penis robust.

FEMALE: Forewing length = 23.9, 26.9mm (N = 2); as male with broader wings.

*Female genitalia*. Ductus bursae somewhat flared cephalad to broad, goblet-shaped bursal support.

Types.- Holotype & with the following labels: white, printed - BRASIL: Rondonia / linea C-2.5 off / B-65, 12.5 mi S / Cacaulandia / 9 December 1990 / leg. G. T. Austin; red, printed - HOLOTYPE / Eresia fraterna. Paratypes: 2 & - same data as holotype; 1 & - same location as holotype, 12 Dec 1990; 1 & - BRAZIL: Rondônia; Linha 20, 7 km E B-65, Fazenda Rancho Grande, 11 Nov 1989; 1 & - 22 Aug 1992; 1 & - 25 Aug 1991; 1 2 - 31 May 1992; 1 8 - 6 Nov 1991; 1 8 - 24 Mar 1989; 1 & - 24 Oct 1989; 1 º - 17 Mar 1989; 1 & - Linha C-5 off B-65, 10 km S Cacaulândia, 11 Dec 1990; 1 & - Linha C-10, 5 km S Cacaulândia, 1 Jan 1995; 1 & - 9 Jan 1994; 1 º - 5 Feb 1994; 1 º - 13 Feb 1994; 1 ð - 26 Feb 1995; 1 ð - 2 Apr 1995; 1 ð - 9 Apr 1994; 1 9 - 21 May 1994; 2 & - 27 Jun 1993; 1 & - 28 Jun 1993; 1 & - 8 Aug 1993; 1 & -18 Oct 1992; 1 & - 6 Nov 1994; 1 & - 20 Nov 1993; 1 & - 27 Nov 1993; 1 & - 4 Dec 1993; 2 & - 19 Dec 1993; 1 9 - 31 Dec 1994; 1 & -Linha C-15, just W of Cacaulândia, 11 Nov 1994; 1 & - B-80, between linhas C-10 and C-15, 22 Apr 1994.

**Deposition of types.**– The holotype and a female paratype will be deposited at the Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Brazil.

**Type locality.**– BRAZIL: Rondônia; Linha 2.5 off road B-65, 12.5 km south of Cacaulândia. This area is located in what was (now destroyed through cutting and burning) typical lowland tropical rainforest. This species is not uncommon and flies mostly in the wet season from October to April (77% of 35 records) and, like *E. eunice*, inhabits the interior of the forest.

**Etymology.**- The name means "of something related to another," referring to the apparent relationship of this species to taxa now included in *Eresia eunice*.

**Diagnosis and Discussion**.– This species was initially thought to be part of the variation in the local population of *E. eunice*. Several constant superficial characters of *E. fraterna*, however, allowed separation from *E. eunice*: broader forewing subapical yellow band, the regular (quadrate distad) black band on the forewing (this irregular and often as large macules on *E. eunice* and with the costal macule separated by yellow from another large macule basad in cells  $M_2$  and  $M_3$ ), narrow black on posterior discal cell vein on forewing (usually very broad on *E. eunice*), no median band macule in hindwing cell Sc+R<sub>1</sub> (band continues into this cell on *E. eunice*), and smaller size (*E. eunice* male forewing length from central Rondônia = 24.6mm [23.7-26.1, N = 12]).

The genitalia of *E. fraterna* also exhibit constant differences from *E. eunice*. The male genital capsule is stouter than that of *E. eunice*, the valva is somewhat more broadly produced, the terminus of which is curved ventrad (nearly straight on *E. eunice*), the scaphial extension is short, barely extending to the harpes and far short of the caudal ends of the valvae (extending much further caudad on *E. eunice*), the terminal boss on each side of the scaphial extension is angled more sharply ventrad, the 140 AUSTIN and EMMEL: Melitaeinae of Rondônia



Fig. 14-22. Ventral views of female genitalia of Melitaeinae, all from the vicinity of Fazenda Rancho Grande, near Cacaulândia, Rondônia, Brazil, except as noted. Fig. 14. Chlosyne lacinia saundersi, GTA Vial #5641; Fig. 15. Telenassa burchelli, GTA Vial #5602; Fig. 16. Ortilia gentina, GTA Vial #5615; Fig. 17. Tegosa serpia, GTA Vial #5600; Fig. 18. Tegosa anieta, ECUADOR: Pichincha Province, GTA Vial #5608; Fig. 19. Eresia plagiata extensa, GTA Vial #5598; Fig. 20. Eresia eunice eunice, GTA Vial #5604; Fig. 21. Eresia fraterna, GTA Vial #5603; Fig. 22. Castilia angusta, GTA Vial #5619.

saccus is broader, and the penis is more robust. The female genitalia are similar to those of *E. eunice*, but both the bursal duct and bursal support are broader, the latter larger and not flared cephalad as on *E. eunice*.

*E. fraterna* is superficially most similar to *Eresia eunice esora* Hewitson, [1857] known from east and south of Rondônia (but also reported for Ecuador by Higgins, 1981). That taxon, however, has narrow subapical yellow, a broader black forewing band which is less regular than on *E. fraterna*, more prominent yellow on the hindwing, and a black median macule in hindwing

cell Sc+R<sub>1</sub>. The genitalia also differ (compared with Fig. 417 in Higgins, 1981) with *E. fraterna* having a more robust genital capsule, broader valvae, and shorter and more broadly flaring scapial extension of the tegumen (*E. e. esora* is more like *E. eunice* in these characters). The relationships of *E. eunice*, its subspecies, and *E. fraterna* are conjectural at present. Whatever the affinities, two species of this group occur in central Rondônia.

It was suggested by a reviewer of this paper (G. Lamas) that *E. fraterna* was a synonym of *Eresia eunica olivencia* Bates, 1864. The latter, however, has a pale orange subapical band on

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the forewings, a well developed macule in the hindwing cell hindwing with a narrow pale yellow median band from vein Rs to anal Sc+R<sub>1</sub>, a differently shaped black bar on the forewing and margin (white in cell 3A); a few yellow scales anterior to band in Sc+R, extensive black on the posterior margin of the forewing discal on paratype; cell Sc+R1 with wedge-shaped macule distad of band cell (see figures in Seitz, 1913-14; Higgins, 1981). extending to costa; a few yellow scales in submargin and at wing base.

#### Eresia aveyrona mylitta Hewitson, 1869 (Fig. 3-4, 11)

A single male, taken in July at a light gap in the forest, is known from the Cacaulândia area. This appears to represent the taxon Eresia mylitta Hewitson and tentatively considered a black postmedian points where brown margin meets median band. subspecies of Eresia aveyrona Bates, 1864 by Higgins (1981). Dorsal surface of head, thorax, and abdomen dark brown, thorax with The male genitalia differ from of E. aveyrona (as illustrated by many red-brown scales; antennae black with narrow white annular rings Higgins, 1981) by the more robust genital capsule, a broader on sides and venter, ventral antennae shaded with white, club black tegumen, and a broader and more flaring scapial extension with above, brown beneath, white at base; palpi mixed white and brown more prominent terminal bosses. The Rondônia specimen is above, whitish beneath; ventral thorax and abdomen whitish. identical to two males at the American Museum of Natural Male genitalia. Of the Castilia morphology as defined by Higgins History from PERU: Upper Rio Marañon (19 Oct 1929, 30 Dec (1981); tegumen relatively narrow, scaphial extension short, lacking hooks or spines; saccus pointed, moderately cleft, valvae untoothed, 1929). Previously, this taxon was known only from Ecuador relatively long and broad; harpes slender; penis rather robust with (Higgins 1981). posterior and anterior sections of equal length. FEMALE: Unknown.

#### CASTILIA Higgins, 1981

Types.- Holotype male with the following labels: white, printed -BRASIL: Rondonia / linea C-20 off B-65 / at Rio Pardo / 18 September Three species of the South American genus Castilia are known 1992 / leg. G. T. Austin; white, printed and handprinted - Genitalia Vial from central Rondônia. One is widespread and the other two were / GTA - 3179. Paratypes: 1 & - BRAZIL: Rondônia; B-80, between rds. recently discovered and appear to be local endemics. C-10 and C-15, near Cacaulândia, 9 Nov 1991; 1 & - Linha C-20, 7 km E B-65, Fazenda Rancho Grande, 13 Jun 1994.

#### Castilia angusta (Hewitson, [1868]) (Fig. 1-2, 13A, 22)

Type locality.- BRAZIL: Rondônia; ca. 60 km S of Ariquemes, Linha There is no obvious seasonal and little individual variation of C-20 at Rio Pardo, west of B-65 (180m elev.). This is about 10 km C. angusta in the Cacaulândia area (photographed by Krizek, northwest of Cacaulândia in typical lowland tropical rainforest where the 1992). The female genitalia, illustrated for the first time, have a holotype was taken at mud along a road adjacent to Rio Pardo. One short and sclerotized bursal duct and a well developed bursal paratype was taken at mud along a road and the other was taken at mud support. The species is common with records for every month. along a small stream. The species is unknown elsewhere. Most were recorded in the wet season (72% of 78 records from Etymology.- The name is a combination of the Latin words longa (long) and ala (wing) and refers to the wing shape of this species. October to April) when the species is often seen at mud on river Diagnosis and Discussion.- C. longala is very similar to C. banks and along roads.

## (Fig. 1-2, 12)

angusta, with which it flies in central Rondônia. The wings of C. longala are proportionally even longer and narrower than those Castilia schmitzorum Austin & Mielke, 1993 of C. angusta, the dorsal yellow markings are paler (more ochreous on C. angusta), there are only a few pale scales in  $CuA_2$ The male genitalia of this species, recently described by Austin beneath the macule in CuA<sub>1</sub> (obvious macule on C. angusta), and and Mielke (1993), are illustrated here for the first time. It is rare no well developed submarginal macules on the hindwing (comin the Cacaulândia area with records for the early wet season in plete, though vague submarginal row of lunules on C. angusta). November. On the ventral hindwing of C. longala, the relatively small black postmedian macules are at the proximal edge of the narrow Castilia longala Austin & Emmel, new sp. brown margin whereas these macules are larger and well within (Fig. 1-2, 13) the broader brown margin on C. angusta. The male genitalia of C. longala are also similar to those of C. angusta but overall are Description.- MALE: forewing length = 15.8mm (holotype), 16.0mm relatively larger and more robust (compare Fig. 13 and 13A). The valvae of C. longala are longer and somewhat broader (dorsal view) than those of C. angusta, the harpes are more slender, the larger macule near base of cell M3 separated from still larger macule scaphial extension is shorter, and the penis is more robust. beneath it in CuA, by dark-scaled vein; a few yellow scales beneath the Consistent differences between C. angusta and C. longala seen in wing shape, color and pattern, and genitalia, and their synchronic occurrence, rules out the possibility that they are seasonal forms from R<sub>4</sub> to CuA<sub>2</sub>; a few scattered yellow scales near base of wing; of the same species.

(paratype). Wings long and very narrow; dorsum dark brown; forewing marked with pale yellow as follows: small macule in mid discal cell; macule in CuA1 and small macule offset distad in CuA2; subapical macules in  $R_s$ ,  $M_1$ , and  $M_2$ , the first two rather vague; submarginal macules or a few yellow scales in all (paratype) or some (holotype) cells

Ventral ground color duller brown than on dorsum; forewing redbrown about distal end of discal cell, broadly at apex, and narrowly along outer margin; wing base broadly pale yellow-brown; macules more or less as on dorsum but broader and yellow-tan; hindwing with median band yellow-tan, this color extending as overscaling to wing base (where marked by fine lines of red-brown) and to apex; margin red-brown from M1 to tornus, divided by row of yellow-tan submarginal lunules, small

Deposition of types.- The holotype will be deposited at the Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Brazil.

#### MAZIA Higgins, 1981

The single species of this Amazonian genus has been recorded in central Rondônia.

#### Mazia amazonica tambopata Lamas, 1995 (Fig. 3-4)

This is a rare species in central Rondônia, known from February to June (7 records) and September (1 record); most were seen at the forest edge along rivers. The males of this subspecies, recently described from Peru (Lamas, 1995), have genitalia much as shown by Higgins (1981) except the tip of the saccus is not notched, but rounded, on one individual. The genitalia of the female are as shown by Higgins (1981). The males are much less heavily marked with black than illustrated males from elsewhere (Higgins, 1981; D'Abrera, 1987; Krizek, 1991). The female is similarly lightly marked.

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