

Revisional notes on the "*amastris*" group of *Catantixia* Butler, 1870 (Lepidoptera: Pieridae), with descriptions of new species and subspecies

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Abstract

We provide diagnostic characters for the *amastris* group of *Catantixia*, an annotated synonymic list of all taxa in the group (eight species, plus ten subspecies), a key to the identification of its species and subspecies, and describe as new *Catantixia vilcabamba* Lamas & Bollino (from Peru, Cuzco), *C. abiseo* Lamas & Bollino (Peru, San Martín), *C. marcapita boettgeri* Bollino & Lamas (Peru, Pasco), *C. semiramis costarum* Bollino & Lamas (Venezuela, Táchira) and *C. s. willmotti* Bollino & Lamas (Ecuador, Zamora-Chinchipec). *Catantixia striata* (Eitschberger & Racheli, 1998) and *C. paucartambo* (Eitschberger & Racheli, 1998) are elevated to species rank from their former subspecific level.

Resumen

Los autores proveen caracteres diagnósticos para el grupo *amastris* de *Catantixia*, una lista sinonímica anotada de sus taxones (ocho especies más 10 subespecies), una clave de identificación para las especies y subespecies, y describen como nuevas *Catantixia vilcabamba* Lamas & Bollino (de Perú, Cuzco), *C. abiseo* Lamas & Bollino (Perú, San Martín), *C. marcapita boettgeri* Bollino & Lamas (Perú, Pasco), *C. semiramis costarum* Bollino & Lamas (Venezuela, Táchira) y *C. s. willmotti* Bollino & Lamas (Ecuador, Zamora-Chinchipec). *Catantixia striata* (Eitschberger & Racheli, 1998) y *C. paucartambo* (Eitschberger & Racheli, 1998) son elevadas al rango de especie, a partir de su nivel subespecífico previo.

Riassunto

Gli autori indicano i caratteri che contraddistinguono le specie del genere *Catantixia* appartenenti al gruppo *amastris* (otto specie e dieci sottospecie), forniscono una lista sinonimica annotata dei taxa esistenti e chiavi dicotomiche per la differenziazione dei taxa a livello subspecifico, descrivono *Catantixia vilcabamba* Lamas & Bollino sp. n. (Perù, Cuzco), *Catantixia abiseo* Lamas & Bollino

sp. n. (Perú, San Martín), *Catantixia marcapita boettgeri* Bollino & Lamas ssp. n. (Perú, Pasco), *Catantixia semiramis costarum* Bollino & Lamas ssp. n. (Venezuela, Táchira) e *Catantixia s. willmotti* Bollino & Lamas ssp. n. (Ecuador, Zamora-Chinchi). *Catantixia striata* (Eitschberger & Racheli, 1998) e *Catantixia paucartambo* (Eitschberger & Racheli, 1998) sono elevate, da sottospecie quali erano precedentemente considerate, al rango specifico.

Key words: Colombia, Venezuela, Ecuador, Peru, Bolivia, *Catantixia*, new species, new subspecies, identification key

INTRODUCTION

Catantixia is a genus of Neotropical pierine butterflies which contains over 90 recognized species, all restricted to montane habitats in Mexico and Central and South America (Lamas, 2004). Highest species diversity is found in the Andes of Ecuador, Peru and Bolivia. *Catantixia* was introduced and briefly diagnosed by Butler (1870), based fundamentally on wing venation characters. It was further characterized by Klots (1933), who discussed features of the male genitalia and regarded it as closely related to *Eucheira* Westwood, 1834, *Neophasia* Behr, 1869, *Archonias* Hübner, [1831], and *Charonias* Röber, 1908, comprising an assemblage he called "Catantixiinae". An unpublished cladistic analysis by Venables (1993) supported Klots' grouping, but added *Melete* Swainson, [1831], *Pereute* Herrich-Schäffer, 1867, and *Leodonta* Butler, 1870, resulting in a monophyletic "Catantixia" group in her strict consensus tree. The confirmed larval food plants of most members of the "Catantixia" group are mistletoes (Santalales, mainly Loranthaceae).

Reissinger (1972) published a schematic classification of *Catantixia*, distributing the 157 species he recognized in the genus among five "subgenera" and 35 "groups" of species. His approach was purely phenetic, relying exclusively on adult wing color patterns to cluster the species in subgenera and species groups. Reissinger (1972) proposed four new subgenera, namely *Archonoia*, *Pierinoia*, *Leodontoia*, and *Hesperochoia*, indicating that their member species showed superficial resemblance in wing color pattern to species of the pierid genera *Archonias*, *Pieris* Schrank, 1801, *Leodonta*, and *Hesperocharis* C. Felder, 1862. However, three of them (*Pierinoia*, *Leodontoia*, and *Hesperochoia*) are nomenclaturally unavailable under Article 13.1 of the International Code of Zoological Nomenclature (ICZN, 1999), as they were not "...accompanied by a description or definition that states in words characters that are purported to differentiate the taxon, or be accompanied by a bibliographic reference to such a published statement..., or be proposed expressly as a new replacement name." Only *Archonoia* barely met the requirements of Art. 13.1, by being provided with a suite of vague differentiating characters. Reissinger's species groups were not diagnosed and fortunately this (lack of) action, although poor taxonomic practice, does not have nomenclatural consequences.

Subsequently, Eitschberger & Racheli (1998) provided an "updated" taxonomic treatment and synonymic list of *Catantixia*, based primarily on unpublished information assem-

bled by Reissinger after 1972 in collaboration with his long standing friend, Jean H. Robert, during their joint efforts directed towards a monographic treatment of the genus. Eitschberger and Racheli collated the available manuscript information left after the deaths of Reissinger and Robert, and summarized their views, which had shifted towards recognition of three separate genera (*Catasticta* [including *Pierinoia* as a synonym, and *Archonoia* as a subgenus], *Leodontoia*, and *Hesperochoia*), and a substantial reduction in the number of recognized species to 76. Eitschberger & Racheli (1998) did provide putative distinguishing characters for the three "genera" accepted by Reissinger and Robert (in manuscript), thus inadvertently making available the names *Leodontoia* and *Hesperochoia*, which ought to be credited to Eitschberger & Racheli, 1998, and not to Reissinger, 1972.

Under the unavailable subgeneric name "*Leodontoia*", Reissinger (1972) had listed 17 species included in five clusters, namely the species groups *semiramis*, *rosea*, *cinerea*, *uricoecheae*, and *cerberus*. Under their available generic name *Leodontoia*, Eitschberger & Racheli (1998) reduced the number of recognized species to 10, included in four species groups: *cerberus*, *amastris*, *albofasciata*, and *rosea*. Neither Reissinger (1972) nor Eitschberger & Racheli (1998) mentioned any diagnostic features for their respective species groups, and in general offered no explanations for their decisions on taxonomic rank, conspecificity, etc. of the taxa listed, other than vaguely indicating that "...the biological species mainly [were based on]... field observations."

No phylogenetic treatment of *Catasticta sensu lato* has been attempted, and its presumed monophyly has not been tested. Therefore, though bowing to tradition in regarding *Catasticta* as a monophyletic species assemblage, we consider premature and misleading to divide it into either subgenera or separate genera. Furthermore, it must be pointed out that the type species of *Leodontoia* Eitschberger & Racheli, 1998 (*Catasticta cerberus* Godman & Salvin, 1889) does not possess the long hindwing subcostal vein regarded as diagnostic for the putative genus. Whether a short hindwing subcostal vein is a plesiomorphic or apomorphic character state remains to be determined, but it seems highly improbable that *cerberus* and other species included under *Leodontoia* share an immediate common ancestor.

The purpose of the present paper is to offer a preliminary (phenetic) diagnosis of a small group of species within *Catasticta* which appear to be closely related, sharing similar wing color patterns, habits and habitats, occur along the high Andes from extreme southwestern Venezuela to northern Bolivia, and are rarely represented in collections. We adopt "*amastris*" as the name for this cluster, diagnose it, list the species-group taxa it contains, and describe two species and three subspecies we regard as new to science.

The "*amastris*" species group

The species of this presumably monophyletic group share the following combination of

morphological characters (whether they represent symplesiomorphies or synapomorphies remains to be determined):

1. Hindwing subcostal vein long, ending distad of an imaginary line traversing the disc at the bases of veins M_1 and CuA_2 (Fig. A) (see also fig. 3 in Eitschberger & Racheli, 1998).
2. Interneural yellow submarginal stripes on the hindwing below drumstick-shaped, the basal portion noticeably thicker than the distal one (Fig. B).
3. Extreme base of the hindwing costal cell below, behind the humeral vein, partly or totally yellow, silvery or white, never wholly dark.
4. Besides a few red or orange scales at the extreme base of the hindwing below, no red coloration on the wings above or below.

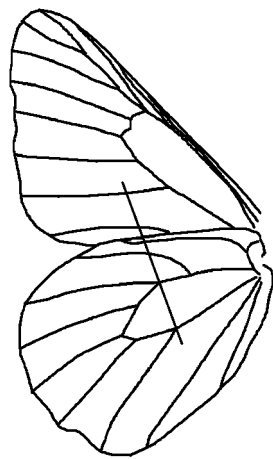


fig. A



fig. B

Materials and Abbreviations

Specimens examined for this study were provided by 24 institutions and private collections. A total of 547 specimens, including types, formed the basis of this research. Acronyms for institutions and private collections holding specimens examined in this revision follow largely Samuelson & Evenhuis (2004).

AJWP: collection of Artur Jasinski, Warszawa, Poland

ANLK: collection of Andrew Neild, London, England

BMNH: The Natural History Museum, London, England

ETHZ: Eidgenössische Technische Hochschule, Zürich, Switzerland

FRSV: collection of Fernando Rey, San Cristóbal, Venezuela

- JLBC: collection of Jean-François Le Crom, Bogotá, Colombia
 KWJH: collection of Keith Willmott and Jason Hall, London, England
 MBLI: collection of Maurizio Bollino, Lecce, Italy
 MCCV: collection of Mauro Costa, Caracas, Venezuela
 MCZN: Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA
 MIZA: Museo del Instituto de Zoología Agrícola, Maracay, Venezuela
 MNHN: Muséum National d'Histoire Naturelle, Paris, France
 MUSM: Museo de Historia Natural, Lima, Peru
 PBPF: collection of Pierre Boyer, France
 SMNS: Staatliches Museum für Naturkunde, Stuttgart, Germany
 USNM: National Museum of Natural History, Washington DC, USA
 ZMHB: Zoologisches Museum der Humboldt Universität, Berlin, Germany
 ZMJU: Zoological Museum, Jagellonian University, Krakow, Poland

Abbreviations used in the text include the following:

- AT: allotype
 FW: forewing
 HT: holotype
 HW: hindwing
 LT: lectotype

Key to species and subspecies of *Catasticta* of the “*amastris*” group

- 1a. HW outer margin smooth or weakly scalloped..... 2
 1b. HW outer margin strongly scalloped 10
 2a. HW above with extensive yellow coloration covering most of the basal two-thirds. .
 (*marcapita*) 3
 2b. HW above with yellow coloration restricted to a narrow discal band and a widely
 separate submarginal band of intervening spots 5
 3a. HW above with yellow submarginal band almost completely fused to the yellow
 basal two-thirds *m. marcapita*
 3b. HW above with yellow submarginal band widely separated from the yellow basal
 two-thirds 4
 4a. HW above with black basal area reaching vein Rs *m. roberti*
 4b. HW above with black basal area ending at least 2 mm before vein Rs
 *m. boettgeri* **n.ssp.**
 5a. HW above with yellow submarginal band formed by wide wedge-shaped inter-
 venous spots; below with yellow submarginal band *paucartambo*
 5b. HW above with yellow submarginal band formed by narrow intervenous spots;

- below with silvery submarginal band (*semiramis*) 6
- 6a. HW costal cell above wholly yellowish..... *s. costarum* **n.ssp.**
- 6b. HW costal cell above with proximal half brown 7
- 7a. HW above with a round distal spot in discal cell..... 8
- 7b. HW above without round distal spot in discal cell *s. belmira*
- 8a. FW below with whitish-yellow spots..... *s. semiramis*
- 8b. FW below with greenish-yellow spots..... 9
- 9a. HW above with discal band obsolete..... *s. palla*
- 9b. HW above with discal band present..... *s. willmotti* **n.ssp.**
- 10a. FW above with outer border of discal band concave, spot at the base of cell M₂-M₃ minute or absent..... (*amastris*) 11
- 10b. FW above with outer border of discal band straight or convex, spot at the base of cell M₂-M₃ present, well-developed..... 12
- 11a. HW above with submarginal band obsolete *a. amastris*
- 11b. HW above with submarginal band present, formed by narrow arrowhead-shaped spots *a. dentata*
- 12a. Wings above with discal bands white or dirty white; HW above with submarginal band usually composed of long, narrow intervenous stripes, sometimes widened into arrowhead-shaped spots (*striata*) 13
- 12b. Wings above with discal bands yellowish or dirty yellowish; HW above with submarginal band composed of short, arrowhead-shaped intervenous spots or short stripes 15
- 13a. HW discal band above nearly obsolete..... *s. batesi*
- 13b. HW discal band above always present..... 14
- 14a. HW discal band above pure white *s. striata*
- 14b. HW discal band above washed with grey scales..... *s. jimbura*
- 15a. HW below with a yellow spot at the base of cell CuA₂-2A..... (*socorrensis*) 16
- 15b. HW below without a yellow spot at the base of cell CuA₂-2A..... 17
- 16a. FW below with discal spots wide and subrectangular *s. socorrensis*
- 16b. FW below with discal spots narrow and rounded..... *s. cotopaxiensis*
- 17a. HW above with submarginal band composed of short, narrow intervenous stripes (wider in females); below with white at the base of cells M₁-M₂ and CuA₁-CuA₂ extensive, narrowly connected along the veins to the silvery submarginal spots..... *vilcabamba* **n.sp.**
- 17b. HW above with submarginal spots composed of short, wide arrowhead-shaped intervenous spots; below with white at the base of cells M₁-M₂ and CuA₁-CuA₂ reduced to a few scales, not connected along the veins to the silvery submarginal spots..... *abiseo* **n.sp.**

***Catantia amastris* (Hewitson, 1874)**

A medium- to large-sized species, characterized by the strongly melanic pattern of the dorsal surface of the male, the female being much less melanic. General shape of both wings very rounded, with smooth apex of FW and rounded anal lobe of HW. FW discal band (both dorsally and ventrally) with a concave outer margin (all other related species with a straight or convex outer border). Both subspecies exhibit a stable wing pattern, though specimens of ssp. *dentata* show some degree of variability in the arrowhead-shaped spots of the HW above. The species is very poorly represented in collections, but is locally not scarce (Boyer, pers. comm.).

Distribution: Northern Bolivia (La Paz and Cochabamba, ssp. *amastris*) to southern Peru (Puno and Cuzco, ssp. *dentata*), between 2400 and 3450 m.

Lectotype specimens serve to tie the published name of a nominal taxon to an actual specimen, and as a reference standard for the application of that name. In order to preserve the stability of nomenclature by selecting one specimen as the unique bearer of the name, and following Art. 74.7 of the Code, we designate as lectotype of *Catantia dentata* Lathy & Rosenberg, 1912 the male syntype in the BMNH from Peru, [Puno], Acopampa, 11,500', II–III.1910 (H. & C. Watkins) [examined], which was illustrated by D'Abrera (1981: 132).

***Catantia striata* (Eitschberger & Racheli, 1998) Comb. et stat. nov.**

A medium-sized species with slight dimorphism between sexes. FW with acute apex, and HW with slightly dentate anal lobe.

Described by Eitschberger & Racheli (1998) as a subspecies of *Catantia amastris* (Hewitson), we regard it as a separate species due to its different wing shape and pattern (i.e. the discal band of FW outwardly straight) and slight sexual dimorphism. Males of its three subspecies show a quite stable wing pattern, though females (herein illustrated for the first time) exhibit a high degree of intra-population variability in regards to the color of the discal band (plate 1, figs. 1–4).

Distribution: Medium to high elevations (2300–3000 m) from central Peru (Huánuco, San Martín and southern Amazonas, ssp. *striata*) to northern Peru (northern Amazonas, ssp. *batesi*), northward to south-central Ecuador (Loja and Azuay, ssp. *jimbura*).

***Catantia marcapita* Röber, 1909**

A medium- to large-sized species with no relevant sexual dimorphism (the previously unknown female is illustrated herein for the first time; plate 1, figs. 5–6). FW with acute apex, HW anal lobe rounded.

While *marcapita roberti* and *m. boettgeri* are quite stable in pattern, Peruvian *m. marcapita* show some degree of variability, especially in the HW postdiscal black band. The band is nearly absent in about 10% of the individuals examined (see Lamas, 2003: pl. 16, fig. 142), without apparent geographical correlation.

Distribution: Present as separate populations at medium to high elevations (2400–3100 m) in northern Bolivia and Southern Peru (ssp. *marcapita*), and central Peru (Pasco, ssp. *boettgeri*; Huánuco, ssp. *roberti*).

***Catasticta marcapita boettgeri* Bollino & Lamas, ssp. n. (plate 1, figs. 7–8)**

Holotype: male, Peru, Pasco, Huancabamba District, Cueva Blanca, ~ 10°31'S, 75°34'W, 2600 m, IX.2003 (J. Böttger), presently in MBLI, to be deposited in MUSM.

Description: FW length: 26.5 mm.

Dorsal surface: Ground color of both wings black with a complete series of yellow (PANTONE® 379 PC) discal and submarginal spots on FW, scarcely suffused proximally with black scales. HW with black basal area not reaching the origin of vein Rs, discal yellow (PANTONE® 379 PC) band large, arrow-shaped yellow postdiscal spots, marginal yellow lunules deeply obscured by black scales.

Ventral surface: As in *marcapita marcapita* and *m. roberti*.

Female: Unknown.

Diagnostic characters: *C. marcapita boettgeri* n.ssp. is easily separable from *m. roberti* by its black ground color (deep brown in *m. roberti*), by the FW yellow discal spots not proximally suffused by dark scales and especially by the reduction of the HW black basal area above not reaching the origin of vein Rs (in *m. roberti* the origin of vein Rs is always covered by the black basal area).

PLATE 1

Fig. 1: *Catasticta striata jimbura* female (dorsal): Ecuador - Azuay, Maylas (16 km. ESE Guala- ceo), ~ 2°58'S 78°40'W, m. 3200–3350, XII.2002, in MBLI

Fig. 2: *Catasticta striata jimbura* female (dorsal): Ecuador - Azuay, Maylas (16 km. ESE Guala- ceo), ~ 2°58'S 78°40'W, m. 3200–3350, I.2003, in MBLI

Fig. 3: *Catasticta striata jimbura* female (dorsal): Ecuador - Azuay, Maylas (16 km. ESE Guala- ceo), ~ 2°58'S 78°42'W, m. 3200–3350, XII.2003, in MBLI

Fig. 4: *Catasticta striata jimbura* female (dorsal): Ecuador, Loja Prov., Cord. de Lagunillas, m. 3200, IX.2003, in MBLI

Fig. 5: *Catasticta marcapita marcapita* female (dorsal): Peru, via Acjanaco-Boca Manu km2 (Cuzco) 3400m, 22/5/2003, in PBPf

Fig. 6: *Catasticta marcapita marcapita* female (ventral): same data as fig. 5

Fig. 7: *Catasticta marcapita boettgeri* n. ssp. HT (dorsal)

Fig. 8: *Catasticta marcapita boettgeri* n. ssp. HT (ventral)

Fig. 9: *Catasticta abiseo* n. sp. HT (dorsal)

Fig. 10: *Catasticta abiseo* n. sp. HT (dorsal)



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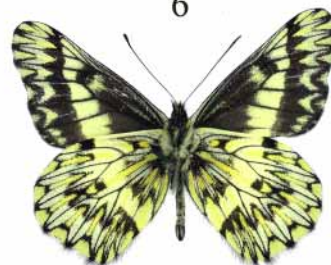
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8



9



10

Plate 1

2 cm.

Paratypes (27 males): 1 male, Peru, Pasco, Huancabamba District, Torrebamba, ~ 10°31'S, 75°38'W, 2500 m, IX.2003 (J. Böttger); 7 males, same data, XI.2003; 1 male, same data as holotype; 1 male, same data as holotype, X.2003; 2 males, same data as holotype, XI.2003; 1 male, Peru, Pasco, Huancabamba District, near Mallapampa, ~ 10°31'S, 75°39'W, 2500 m, XI.2003 (J. Böttger); 3 males, Peru, Pasco, Oxapampa District, San Alberto, ~ 10°36'S 75°20'W, 2400 m., X.2003 (J. Böttger); 7 males, Peru, Pasco, Cordillera Yanachaga, El Pajonal, ~ 10°38'S, 75°18'W, 2800 m., II.2004 (J. Böttger) all in MBLI; 3 males, Peru, Pasco, Huancabamba District, Cueva Blanca, 2300–2600 m, 6.XII.2003 (P. Boyer), in PBPF; 1 male, same data as holotype, 2500 m, XI.2003, in MUSM.

Distribution: As far as we know, the new subspecies is present at 2300–2600 m along the Río Lecma valley and on the Cordillera Yanachaga. Individuals are not rare, even if highly localized (Böttger, pers. comm.).

Derivatio nominis. The new subspecies is named after José (Pepe) Böttger (Huancabamba, Peru), who collected the type series.

***Catantia paucartambo* (Eitschberger & Racheli, 1998) Comb. et stat. nov.**

A medium-sized species. Female unknown. FW with acute apex and scalloped outer margin, indented at M_2 - M_3 . HW with smooth outer margin and rounded anal lobe.

Described by Eitschberger & Racheli (1998) as a subspecies of *Catantia marcapita* Röber, apparently not realizing that it overlaps in range with *C. marcapita marcapita*. We consider it a species due to its different wing pattern and sympatry with *marcapita*. The holotype of *paucartambo* was collected 15 km NE of Paucartambo, Cuzco, at 3100 m, nearly at the same spot where *marcapita* was recently caught by T. Pyrcz (pers. comm.).

Distribution: High elevations from northern Bolivia to southern Peru (Cuzco).

***Catantia abiseo* Lamas & Bollino, sp. n. (plate 1, figs. 9–10)**

A medium-sized species. Female unknown. FW with slightly acute apex and scalloped outer margin indented at M_2 - M_3 ; HW with outer margin strongly scalloped and slightly dentate anal lobe.

Holotype: male, Peru, San Martín, Parque Nacional Abiseo, Huicungo, La Playa, 2480–2680 m, 24.VII.1990 (M. Medina), in MUSM.

Description: FW length: 25 mm.

Dorsal surface: Ground color of both wings brown (PANTONE® DS 316-1 C), with a complete series of ochre (PANTONE® DS 311-6 C) discal, submarginal and marginal spots on FW. HW with postdiscal spots thick, different from those present in *paucartambo*, and similar in pattern to those of *vilcabamba* sp. n. Light discal band partially obscured by brownish scales.

Ventral surface: General pattern as in *paucartambo* and *vilcabamba*, but HW black line bordering marginal yellow lunules uniformly thick (in *paucartambo* the black line is uniformly thick, while in *vilcabamba* is thicker at the distal end of the yellow interneural submarginal stripes).

Female: Unknown.

Distribution: To the best of our knowledge, this species is restricted to its type locality, where it is sympatric with *C. striata striata*. Even if *C. abiseo* sp. n. is geographically widely separate from *C. vilcabamba*, their close relationship is evidenced by their similar wing shape and HW ventral pattern. Future sampling along the Peruvian Andes at medium and high elevations may reveal the presence of other closely related species.

***Catasticta vilcabamba* Lamas & Bollino, sp. n. (plate 2, figs. 11–14)**

A large-sized species with few differences between the sexes. FW with acute apex and scalloped outer margin, indented at M_2 - M_3 ; HW with strongly scalloped outer margin and slightly dentate anal lobe.

Holotype: male, Peru, Cuzco, Cordillera de Vilcabamba, 3350 m, 11°40'S, 73°40'W, 11.VI.1997 (J. Grados), in MUSM.

Description: FW length: 28.6 mm.

Dorsal surface: Ground color of both wings brown (PANTONE® DS 318-1 C), with a complete series of ochre (PANTONE® DS 10-6 C) discal, submarginal and marginal spots on FW. HW with postdiscal spots thick, different from those in *paucartambo*, which are arrow-shaped and very evident. Light discal band heavily obscured by dark scales.

Ventral surface: General pattern as in *paucartambo*, but HW black line bordering marginal yellow lunules heavy and thickened at the distal extremity of the yellow interneural submarginal stripes (in *paucartambo* the black line is uniformly thick).

Allotype: female, Peru, Cuzco, Cordillera de Vilcabamba, 3350 m, 11°40'S, 73°40'W, 8.VI.1997 (J. Grados), in MUSM.

Description: FW length: 28,6 mm.

Dorsal surface: Somewhat lighter ground color. Light markings more evident and slightly more extensive on both FW and HW. HW with postdiscal spots larger than in male, oval. Discal band not heavily obscured by dark scales.

Ventral surface: Like the male.

Paratypes (23 males, 2 females): Same data as holotype, but dates between 8 and 20.VI.1997 (J. Grados; G. Lamas); all in MUSM.

Distribution: Apparently restricted to high altitude meadows of the northern Cordillera de Vilcabamba, where it is not scarce.



11



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Plate 2

2 cm.

PLATE 2

Fig. 11: *Catasticta vilcabamba* n. sp. HT (dorsal)

Fig. 12: *Catasticta vilcabamba* n. sp. HT (ventral)

Fig. 13: *Catasticta vilcabamba* n. sp. AT (dorsal)

Fig. 14: *Catasticta vilcabamba* n. sp. AT (ventral)

Fig. 15: *Catasticta semiramis willmotti* n. ssp. HT (dorsal)

Fig. 16: *Catasticta semiramis willmotti* n. ssp. HT (ventral)

Fig. 17: *Catasticta semiramis costarum* n. ssp. HT (dorsal)

Fig. 18: *Catasticta semiramis costarum* n. ssp. HT (ventral)

Fig. 19: *Catasticta semiramis costarum* n. ssp. AT (dorsal)

Fig. 20: *Catasticta semiramis costarum* n. ssp. AT (ventral)

***Catasticta semiramis* (Lucas, 1852)**

A medium- to large-sized species with no relevant sexual dimorphism. FW with smooth apex, and HW anal lobe rounded.

Distribution: Medium to high altitudes in extreme southwestern Venezuela and extreme northeastern Colombia (ssp. *costarum*), East Cordillera of Colombia (ssp. *semiramis*), northern Central Cordillera of Colombia (ssp. *belmira*), southern Central Cordillera of Colombia and northern and central East Cordillera of Ecuador (ssp. *palla*), and south-central (Azuay) and southern (Loja and Zamora-Chinchipec) Ecuador (ssp. *willmotti*).

In order to preserve the stability of nomenclature by selecting one specimen as the unique bearer of the name, and following Art. 74.7 of the Code, we designate as lectotype of *Euterpe semiramis* Lucas, 1852 the male syntype in MNHN from "Colombia", which was labelled as "Lectoholotype" by J. H. Robert [examined].

Up to 1998, Ecuadorian *C. semiramis* specimens were all regarded as belonging to ssp. *palla* Brown, 1939. Eitschberger & Racheli (1998) described ssp. *salomon* from Ecuador, Santiago-Morona. At that time, very few Ecuadorian specimens were known. Since then, we have examined a total of 30 Ecuadorian individuals (including relevant types), 24 of them referable to ssp. *palla*. That material has allowed us to determine that ssp. *palla* is characterized by a dark pattern which varies clinally in intensity from north to south, darker specimens occurring at the southern limit of its distribution, where they match the phenotype described as ssp. *salomon*. Thus, we regard *salomon* as a **new synonym** of *palla*.

On the other hand, we examined six specimens recently collected in southern Ecuador and clearly belonging to a new taxon, which we describe below.

***Catantixia semiramis willmotti* Bollino & Lamas, ssp. n. (plate 2, figs. 15–16)**

Holotype: male, Ecuador, Zamora-Chinchipec, km 21 Loja-Zamora road, 2250 m (K. R. Willmott), presently in BMLI, to be deposited in a public institution in the future.

Description: FW length: 25.5 mm

Dorsal surface: Ground color of both wings brown with a complete series of brownish discal and submarginal spots, suffused with black scales on FW. HW distal third of costal cell yellowish, basal two thirds brown. HW discal band evident, postdiscal spots small and nearly obsolete, marginal lunules nearly indistinguishable from ground colour.

Ventral surface: As in *s. palla*, but FW discal band spots wider.

Female: Unknown.

Diagnostic characters: *C. semiramis willmotti* is distinguishable from *s. palla* by the dorsal HW discal band evident and clearly marked in the anal area (nearly absent and constantly brown, like the ground-color, in the anal area in *s. palla*), and dorsal HW postdiscal spots nearly obsolete and sub-ovate (conspicuous and elongated in *s. palla*).

Paratypes (2 males): 1 male, Ecuador, Azuay, Gualaceo-Limón (East), 2200 m, 31.VIII.2003 (J. Wojtusiak & T. Pyrcz), in MBLI; 1 male, Ecuador, Zamora-Chinchipec, Quebrada Las Dantas, near Romerillos, 1700m, (K. R. Willmott), in KWJH.

Additional specimens, not included in the type series: 1 male, Ecuador, Zamora-Chinchipec, Valladolid, X.1995; 2 males, Ecuador, Loja, Cordillera Lagunillas, San Andreas, 2100-2500 m, 20.V.1998 (A. Jasinski); all in AJWP.

Distribution: Apparently restricted to mid elevations (1700–2300 m) in south Ecuador, from Cordillera Las Lagunillas (Loja) northward to the eastern slopes of the Morona-Santiago mountains, though it will certainly occur in extreme northern Peru as well. Both Ecuadorian subspecies appear to be parapatric in Azuay/Morona-Santiago, with *palla* flying at 3000 m, whereas *willmotti* occurs at 2200 m.

Derivatio nominis. Named after Keith R. Willmott (The Natural History Museum, London), in appreciation of his important research on the biodiversity of Ecuadorian butterflies.

***Catantixia semiramis costarum* Bollino & Lamas, ssp. n. (plate 2, figs. 17–20)**

Holotype: male, Venezuela, Táchira, Tamá, La Revancha, ~ 7° 32'N 72° 23'W, 2800 m, II.2004, in MIZA.

Description: FW length: 25 mm.

Dorsal surface: Ground color of both wings deep brown with a complete series of brownish discal and submarginal spots, suffused with black scales on FW. HW costal cell above wholly yellowish, but at 2 mm of the base. Discal band scarcely evident, postdiscal spots elongated, marginal lunules nearly indistinguishable from ground color.

Ventral surface: As in *s. semiramis*, but HW discal band and interneural yellow sub-marginal stripes wider.

Allotype: female, Venezuela, Táchira, Tamá, La Revancha, ~ 7° 32'N 72° 23'W, 2800 m, III.2004, in MIZA.

Description: FW length: 25 mm.

FW more rounded than in male.

Dorsal surface: Lighter ground color. Light markings slightly more extended on FW and HW. HW with postdiscal spots larger than in the male, sub-ovate.

Ventral surface: As in the male.

Diagnostic characters: *C. semiramis costarum* is immediately distinguishable from *s. semiramis* by the almost entirely yellowish HW costal cell above, while in *s. semiramis* (and other *semiramis* subspecies) the basal half of that cell is brown or brownish, like the ground color.

Paratypes (77 males, 4 females): 10 males, same data as holotype, in MIZA; 9 males, 1 female, same data as holotype; 2 males, same data, I.2004; 19 males, same data, III.2004; 4 males, Venezuela, Táchira, Junín, Fundo Piedras Blancas, 2700 m, ~ 7°32'N 72°23'W, I.2004 (local collectors); 7 males, idem, 2800 m; 4 males, idem, 3000 m; 1 male, idem, 3100 m, all in MBLI; 6 males, 1 female, same data as holotype; 4 males, same data, III.2004, all in MCCV; 2 males, same data as holotype, in ANLK; 5 males, same data as holotype, in ZMJU; 1 male, Venezuela, Táchira, Tamá, Picacho La Cueva Del Oso, 3100 m, 14.IV.1996; 1 female, Venezuela, Táchira, Rubio, Vega de la Pipa, 1000 m [sic!], 08.I.2004; 1 female, Venezuela, Táchira, Tamá, La Revancha, 2800 m, III.2004; 2 males, same data, III.2004, in FRSV; 1 male, [Colombia], Santander, El Tamá, 3200 m, in JLBC.

Additional specimens, not included in the type series: 2 males, Venezuela, Parque Nacional El Tamá, Páramo Tamá, 3100–3300 m, 17.IV.1996 (T. Pyrcz), in AJWP.

Distribution: Occurs between 2700–3200 m, on both the Colombian and Venezuelan sides of the El Tamá range. Individuals are not rare, although highly localized.

Derivatio nominis. Named after Mauro and Clara Costa (Caracas, Venezuela), for their contribution to our knowledge of Venezuelan butterflies. The personal name Costa is Latin, giving the genitive *costarum*.

***Catantixia socorrensis* Fassl, 1915**

A medium- to large-sized, sexually dimorphic species. FW with acute apex, and HW with outer margin strongly scalloped and slightly dentate anal lobe.

Distribution: Medium to high altitudes from the southern West Cordillera of Colombia (ssp. *socorrensis*) to the northern (Sucumbíos and Tungurahua) and south-central (Azua and Morona-Santiago) East Cordillera of Ecuador (ssp. *cotopaxiensis*). Always rare, with apparently disjunct distribution.

The name of this species was spelled in two different ways in its original publication (Fassl, 1915), as *soccorensis* (p. 176), and *sororrensis* (explanation to plate 6), both of which are incorrect original spellings, as the name was clearly derived from Mount Socorro, the type locality. Therefore, under Art. 32.5.1 of the Code, we correct the spelling to *socorrensis*, as was adequately cited in a subsequent paper by Fassl (1916: 16).

Annotated checklist

- 1a. *Catasticta amastris amastris* (Hewitson, 1874) (*Euterpe amastris*). LT female, "Bolivia", in BMNH (Lamas, 1993) [examined].
= *Catasticta niobe* Röber, 1908. LT male, "Bolivia", in ZMHB (Lamas, 1993) [examined].
- 1b. *Catasticta amastris dentata* Lathy & Rosenberg, 1912 (*Catasticta dentata*). LT male [here designated; see above], Peru, [Puno], Acopampa, 11,500', II–III.1910 (H. & C. Watkins), in BMNH [examined].
- 2a. *Catasticta striata striata* (Eitschberger & Racheli, 1998) (*Leodontoia amastris striata*). HT male, Peru, Huánuco, Pachitea Alta, 2500 m, XI.1972 (M. Rojas), in SMNS [examined]. **Comb. et stat. nov.**
- 2b. *Catasticta striata batesi* (Eitschberger & Racheli, 1998) (*Leodontoia amastris batesi*). HT male, Peru, [San Martín], "Tarapoto", in BMNH [examined]. The type locality has been redefined as Peru, Amazonas, Alto Río Nieva, 5°41'S, 77°47'W, 2025 m, by Bollino & Vitale (2003). **Comb. nov.**
- 2c. *Catasticta striata jimbura* Bollino & Vitale, 2002 (*Catasticta amastris jimbura*). HT male, Ecuador, Loja, near Jimbura, 2500 m, 14.V.1998, in MBLI [examined]. **Comb. nov.**
- 3a. *Catasticta marcapita marcapita* Röber, 1909 (*Catasticta marcapita*). LT male, "Bolivia", in ZMHB (Lamas, 1993) [examined].
- 3b. *Catasticta marcapita boettgeri* Bollino & Lamas, **ssp. n.** HT male, Peru, Pasco, Huanca-bamba District, Cueva Blanca, ~ 10°31'S, 75°34'W, 2600 m, IX.2003 (J. Böttger), presently in MBLI, to be deposited in MUSM [examined].
- 3c. *Catasticta marcapita roberti* Reissinger, 1972 (*Catasticta (Leodontoia) marcapita roberti*). HT male, Peru, Huánuco, "Chaupiyana" [= Chaupiyunca], 1900 m, I.1972 (F. König), in SMNS [examined].
4. *Catasticta paucartambo* (Eitschberger & Racheli, 1998) (*Leodontoia marcapita paucartambo*). HT male, Peru, Cuzco, 15 km NE Paucartambo, 3100 m, 3.II.1975 (G. Lamas), in MUSM [examined]. **Comb. et stat. nov.**

5. *Catasticta vilcabamba* Lamas & Bollino, **sp. n.** HT male, Peru, Cuzco, Cordillera de Vilcabamba, 3350 m, 11°40'S, 73°40'W, 11.VI.1997 (J. Grados), in MUSM [examined].
6. *Catasticta abiseo* Lamas & Bollino, **sp. n.** HT male, Peru, San Martín, Parque Nacional Abiseo, Huicungo, La Playa, 2480–2680 m, 24.VII.1990 (M. Medina), in MUSM [examined].
- 7a. *Catasticta semiramis semiramis* (Lucas, 1852) (*Euterpe semiramis*). LT male [here designated; see above], Colombia, [Cundinamarca; cf. Bollino & Rodríguez (2003)], in MNHN [examined].
- 7b. *Catasticta semiramis costarum* Bollino & Lamas, **ssp. n.** HT male, Venezuela, Táchira, Junín, Fundo Piedras Blancas, ~ 7°32'N, 72°23'W, 2700 m, I.2004 (local collectors), in MIZA [examined].
- 7c. *Catasticta semiramis palla* Brown, 1939 (*Catasticta semiramis* form *palla*). HT female, Colombia, Cauca, Popayán, [Machai, between Pitayó and Silvia, 2800 m], in ZMHB [examined].
= *Catasticta* (*Leodontoia*) *hammurabi* Reissinger, 1972. HT male, Ecuador, [Napó], Río Mulatos, 2800 m, 25.III.1971 (S. Velástegui), in SMNS [examined].
= *Leodontoia semiramis salomon* Eitschberger & Racheli, 1998. HT male, Ecuador, Morona-Santiago, Gualaceo-Limón, 3000 m, 23.X.1977 (L. E. Peña), in USNM [examined]. **Syn. nov.**
- 7d. *Catasticta semiramis belmira* Bollino & Rodríguez, 2003 (*Catasticta* (*Leodontoia*) *semiramis belmira*). HT male, Colombia, Antioquia, Belmira, 9.I.2002, 3000–3200 m, in MBLI [examined].
- 7e. *Catasticta semiramis willmotti* Bollino & Lamas, **ssp. n.** HT male, Ecuador, Zamora-Chinchipe, km 21 Loja-Zamora road, 2250 m (K. R. Willmott), in MBLI [examined].
- 8a. *Catasticta socorrensis socorrensis* Fassl, 1915 (*Catasticta soccorensis* [sic!]). HT male Colombia, [Quindío], Monte Socorro, [3500 m], in ETHZ [examined].
- 8b. *Catasticta socorrensis cotopaxiensis* (Eitschberger & Racheli, 1998) (*Leodontoia soccorensis* [sic!] *cotopaxiensis*). HT male, Ecuador, [Napó], Vía Salcedo-Napó, Río Mulatos, 2900 m, 10.IV.1972 (S. Velástegui), in SMNS [examined].

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