

CLEMIRA, A NEW GENUS OF SOUTH AMERICAN AGARISTINAE MOTHS (NOCTUIDAE)

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Abstract - *Clemira* **gen. n.** is proposed to include six species of South American Agaristinae: *C. magnifica* (Schaus), **comb. n.**, *C. hilzingeri* (Berg), **comb. n.**, *C. schausi* (Jörgensen), **comb. n.**, *C. dolens* (Druce), **comb. n.**, *C. trita* (Druce), **comb. n.** and *C. sororcula* **sp. n.**, from Bolivia. One synonym is established: *Aucula hilzingeri* var. *albirubra* Köhler (= *C. schausi* (Jörgensen), **syn. n.**, and lectotypes are designated for the following species: *Heterocampa dolens* Druce, *Metagarista hilzingeri* Berg, *Euthysanotia magnifica* Schaus, *Aucula schausi* Jörgensen and *Erocha trita* Druce. A key and illustrations to enable their recognition are also included.

Key Words: Agaristinae, South America, new taxa, taxonomy.

Resumo - *Clemira*, um gênero novo de mariposas Agaristinae (Noctuidae) sul americanas. *Clemira* **gen. n.** é proposto para incluir seis espécies de Agaristinae da América do Sul: *C. magnifica* (Schaus), **comb. n.**, *C. hilzingeri* (Berg), **comb. n.**, *C. schausi* (Jörgensen), **comb. n.**, *C. dolens* (Druce), **comb. n.**, *C. trita* (Druce), **comb. n.** and *C. sororcula* **sp. n.**, da Bolívia. Um sinônimo é estabelecido: *Aucula hilzingeri* var. *albirubra* Köhler (= *C. schausi* (Jörgensen), **syn. n.**, e lectótipos são designados para as seguintes espécies: *Heterocampa dolens* Druce, *Metagarista hilzingeri* Berg, *Euthysanotia magnifica* Schaus, *Aucula schausi* Jörgensen and *Erocha trita* Druce. É também incluída uma chave e ilustrações para permitir o reconhecimento das espécies.

Palavras chave: Agaristinae, América do Sul, novos taxa, taxonomia.

The Agaristinae, often treated as a distinct family in the Noctuoidea, is a mostly pantropical group represented in the New World by 102 species referred to 27 genera (Kiriakoff, 1977); 27 species, in 12 genera reach the United States (Franclemont & Todd, 1983). They are mostly bright coloured moths, many of them diurnal.

The five previously described species treated here -- *Euthisanotia magnifica* Schaus, *Metagarista hilzingeri* Berg, *Aucula schausi* Jörgensen, *Erocha dolens* Druce and *Erocha trita* Druce -- are not congeneric with the type-species of the genera to which they were originally assigned as all of them bear asymmetrical genitalia; the sixth was undescribed. The first two species were transferred to *Aucula* Walker, 1862, then in the Acronyctinae, by Hampson (1910: 421). That genus was subsequently assigned to the Agaristinae (Draudt, 1919: 12; Kiriakoff, 1977: 19-20). Both species, together with *A. schausi*, were excluded from *Aucula* by Todd and Poole (1981: 194), who stated that they belong to "a new genus John G. Franclemont plans to describe". That was never done and Franclemont (1912—2004) is now deceased. These three species were again treated in 'Aucula of Authors' by Poole (1989: 142). Hampson (1910: 407) retained *E. dolens* and *E. trita* in *Erocha* Walker, 1854. *Erocha* was at that time assigned to the Acronyctinae, but was later transferred to the Agaristinae by Draudt (1919: 9). These placements were followed by subsequent authors (Kiriakoff, 1977: 16-17; Poole, 1989: 380). The remarkable modification of the male genitalia of this group of species (described below) is a uniquely derived trait within the Agaristinae. Therefore, a new genus is proposed here to unite these taxa.

The material studied here is deposited in the following institutions: The Natural History Museum, London (BMNH), Carnegie Museum of Natural History, Pittsburgh (CMNH), Museo Nacional de Historia Natural Bernardino Rivadavia, Buenos Aires (MNH), National Museum of Natural History, Washington (USNM) the author's collection, Reserva Serra Bonita, Camacan, Bahia (VOB), and in the Zoologische

Sammlung des Bayerischen Staates (ZSBS). The genitalia slides in the USNM were prepared by the late John G. Franclemont (JGF) who had planned to work on the neotropical Agaristinae.

Clemira gen. n.

Type-species: *Euthysanotia magnifica* Schaus, 1904: 150.

Diagnosis: *Clemira* is a superficially homogeneous group, with fore wings showing a variegated pattern distinct from all other genera in the subfamily. It belongs to a group of genera, among them *Aucula*, *Caularis* Walker, [1858] *Erocha* Walker and *Gerra* Walker, [1865] which share bipectinate antennae, but differ from the other genera by the asymmetrical male genitalia.

Description: Head densely covered with long, narrow scales; frons with a conical tubercle; labial palpi length about eye diameter, slightly upcurved; proboscis about 3x eye diameter; antennae bipectinate in both sexes, 2x diameter of flagellum in males, 1x in females. Thorax, including legs, densely covered with long, thin, hair-like scales. Fore wings with costa straight, slightly arched in females; apex round, termen slightly curved outwards; bands white: basal angled at middle, antemedial wavy, straight, postmedial strongly incurved near costa and on CuA1, then straight towards dorsum; R2 equidistant from R1 and R3; R3 to apex; M1, M2, CuA1, free. Hind wings with Rs + M1, and M3 + CuA1 respectively connate. Abdomen with pair of crests of long, thin scales at base dorsally.

Genitalia ♂: Uncus thin, cylindrical or tapering distad, evenly bent ventrad, tegument + viculum round, valvae unusually long and broad, asymmetrical; sacculus 1/3 length of valvae, subtriangular, slightly contrasting; juxta a broad, vertical, subretangular plate, with strong indentation distally. Aedoeagus short, about 4x its diameter; vesica armed with strong blunt cornutus often armed laterally with sharp teeth.

Remarks: The species are endemic to cool areas of Southern South America, ranging from Southern Brazil, Uruguay, Argentina and along the Andes north to Ecuador. These are the only members of the New World Agaristinae with remarkable large, asymmetrical male genitalia, so large that are unable to recede into the abdomen.

Etymology: Named after the author's wife, Clemira, for more than 40 years of unconditional, dedicated support.

Key to the species

1. Hind wing yellow, gray margin broad.....2
- Hind wing whitish, gray margin reduced to a line.....4

2. Gray margin of hind wing broad, though irregular internally.....3
 Gray margin of hind wing narrow, even internally..... *schausi*
3. Fore wing irrorated with reddish brown scales.....*hilsingeri*
 Fore wing without reddish brown scales.....*magnifica*
4. Fore wing postmedial band forming two arches between M2 and CuA2.....*dolens*
 Fore wing postmedial band slightly curved between M2 and CuA2.....5
5. Fore wing with orbicular spot.....*trita*
 Fore wing without orbicular spot..... *sororcula*

***Clemira magnifica* (Schaus) comb. n.**

Figs 1, 7

Euthysanotia magnifica Schaus, 1904: 150. Lectotype ♀, BRAZIL: [RJ], Petrópolis [no further data], genitalia slide JGF 208 (USNM), here designated [examined].

Aucula magnifica (Schaus); Hampson, 1910: 422, pl. 146, fig. 5; Draudt, 1919: 12, pl. 1 k; Kiriakoff, 1977: 20.

'*Aucula* of authors' *magnifica*; Poole, 1989: 142.

Very similar to *C. hilsingeri* both in pattern and genitalia, but with fore wings not irrorated with reddish brown scales; the apical expansion of left valva expanded distally in *magnifica* whereas narrow and cut in an angle in *hilsingeri*.

Described from an unspecified number of specimens, with no specification of sex, presumably the female labeled only "type", here designated as lectotype [see above], as no other specimen with identical data was found in the USNM collections.

Material studied (27 ♂♂, 9 ♀♀): BRAZIL: ♂, ES: 'Espírito Santo' (*Hoffmann*) (USNM); PR, ♀ Castro (*Schaus*) (USNM); 8 ♂, 2 ♀, Curitiba, 920 m, 19.x, 15.xii.1974, 15.ii., 25.ii, 12.iii, 20-29.viii, 15.xii.1975 (*Becker*, 4651-4659), ♂ genitalia slide VOB 3643 (VOB, USNM); ♂, Telémaco Borba, 750 m, 13-19.x.1995 (*Becker*, 97180) (VOB); 2 ♂♂, RJ, Parque Nacional do Itatiaia, 1700 m, 19.x.1985 (*Becker*, 66231, 66413) (VOB); 2 ♂♂, ♀, SP, Campos do Jordão, 1600 m, 20-27.ii.2001 (*Becker*, 130862) (VOB); ♂, SC (*Hoffmann*) (USNM); 2 ♂♂, 2 ♀♀, [Corupá] 'Hansa Humboldt', ([*Hoffmann*]) (USNM); ♂, Joinville (*Arp*) (USNM); ♂, [Seara], Nova Teutônia (*Plaumann*) (USNM); ♂, ♀, São Joaquim, 1400 m, 22-24.i.1983, 2.ii.1993 (*Becker*, 52143, 87627), ♀ genitalia slide VOB 5113 (VOB); ARGENTINA: 2♂, 2♀ Tucuman [no further data] (*Schreiter*); ECUADOR: 5 ♂ Oriente, Abitagua, 1.x.1936, xi.1937 (*MacIntire*) (USNM).

Remarks: This species was described from an unspecified number of specimens, with no specification of sex, presumably on the female, labeled "type" only, here designated as lectotype [see above], as no other specimen with identical data was traced in the USNM collections. Apart from the distribution mentioned above, its range extends to Uruguay (Biezanko, Ruffinelli & Carbonell, 1957: 65).

***Clemira hilzingeri* (Berg) comb. n.**

Figs 2, 8

Metagarista hilzingeri Berg, 1882: 176. Lectotype ♂, ARGENTINA: Buenos Aires (*Hilzinger*) (MNHN), here designated [image examined].

Aucula hilzingeri (Berg); Hampson, 1910: 421, fig. 200; Draudt, 1919: 12, pl. 1 k; Kiriakoff, 1977: 19.

'*Aucula* of authors' *hilzingeri*; Poole, 1989: 142.

Very similar to the previous species, both externally and in genitalia (see *magnifica* for differences). This species, *magnifica* and *schausi* are sympatric at least in part of their range, but only the former has been found in Brazil.

Described from an unspecified number of specimens. One male and two females syntypes [images examined] were found in the MNHN; the females are here designated as paralectotypes.

Material studied (2 ♂♂): ARGENTINA: ♂ Chaco (*Jörgensen*), genitalia slide JGF 202; PARAGUAY: [no further data], ♀, genitalia slide JGF 203 (USNM).

Remarks: This species, *magnifica* and *schausi* are sympatric in at least portions of their ranges, but only the former has been found in Brazil. Apart from the distribution recorded in the material studied, the range of *hilzingeri* extends to Uruguay (Biezanko, Ruffinelli & Carbonell, 1957: 65). The larvae feed on *Vitis hederacea* Ehrh. (Vitaceae), and *Fuchsia* sp. (Onagraceae) (Bourquin, 1958: 260), hosts also recorded for agaristine species in Australia (Common, 1990: 464).

***Clemira schausi* (Jörgensen) comb. n.**

Figs 3, 9

Alucula [*sic!*] *schausi* Jörgensen, 1935: 125, pl. 4, fig. 29; Kiriakoff, 1977: 21. Lectotype ♂, ARGENTINA: [Catamarca, El Candado, 2700 m] (*Jörgensen*) (MNHN, 32801), here designated [image examined].

Aucula hilzingeri var. *albirubra* Köhler, 1936: 73, pl. [1], fig. [3]. Types: ARGENTINA: Tucuman (ZSBS) [not examined]. Infrasubspecific name. **Syn. n.**

'*Aucula* of authors' *schausi*; Poole, 1989: 142.

Similar externally to both previous species, but easily distinguished by the narrow dark border of hind wings, however, its genitalia is more like those of the three following species.

Described from an unspecified number of specimens: "Habitat: Los cerros de Aconquija, provincia de Catamarca (La Playa, El Candado, El Suncho), y de Tucumán (El Saladillo), volando de noche y buscando la luz. Em El Candado, altura 2700 m encuentre um par em cópula sobre *Baccharis*". One male, bearing a red label "Typus", and two white labels: "32801" and "Aucula schausi Jörg." respectively, at the MNHN, here designated as lectotype, and the male mentioned below, at the USNM, here designated as paralectotype, were the only specimens found.

Material studied (1 ♂): ARGENTINA: ♂, Catamarca, La Playa (*Jörgensen*), genitalia slide JGF 204 (USNM), here designated as paralectotype.

Remarks: Poole (1989: 142) states: "Type(s) [of *albirubra*] Argentina: Tucuman [ZSBS, Munich]"; however Köhler (1936: 73) states "Dos ejemplares tipos en la col. Breyer". Breyer's collection was transferred to the Museo Nacional de Historia Natural, Buenos Aires. A. Roig (pers. comm.), confirmed that the type material could not be found in the MNHN collections. The wing patterns shown in the figures of the type of *albirubra* match the image of the lectotype of *schausi* very well. On that basis, I have placed the latter in synonymy.

***Clemira dolens* (Druce) comb. n.**

Figs 4, 10

Heterocampa dolens Druce, 1904: 248. Lectotype ♂, PERU: [Puno], Santo Domingo, 6000' (*Ockenden*), genitalia slide Noctuidae 5140 (BMNH), here designated [not examined].

Erocha dolens (Druce); Hampson, 1910: 407, fig. 192; Draudt, 1919: 9, pl. 1 g; Kiriakoff, 1977: 16; Poole, 1989: 380.

This species, *trita* and *sororcula* are distinguished from the other three members of the genus in their almost wholly whitish hind wings, with a gray border along the margin reduced to a thin line. *C. dolens* and *C. trita* are very similar in wing pattern, size, and shape of genitalia. In *dolens* the postmedial band is more waived, forming two arches between M2 and CuA2, and the hind wings are creamy. In *trita* the postmedial band is less curved and hind wings are whitish, slightly dusted with gray.

Material studied: ♂, PERU: Aqualani, 9000', v.1905 (*Ockenden*), genitalia slide JGF 198 (USNM), bearing an identification label, in Druce's handwriting "*Heterocampa dolens* Druce".

Remarks: Only one male of *dolens* and two males and one female of *trita* were available for study. After examination of additional material, especially from intermediate elevations, it might be found that these are geographic forms of a single species. Described from an unspecified number of specimens, presumably the single specimen in the BMNH labeled "Type".



Figs. 1-6. *Clemira* adults (right wings removed). 1) *magnifica* lectotype female (Brazil); 2) *hilsingeri* male (Argentina); 3) *schausi* male (Argentina); 4) *dolens* male (Peru); *trita* male (Peru); *sororcula* holotype male (Bolivia).

***Clemira trita* (Druce) comb. n.**

Figs 5, 11

Erocha trita Druce, 1910: 178; Draudt, 1919: 9, pl. 5 b; Kiriakoff, 1977: 17; Poole, 1989: 380. Lectotype ♂, PERU: [Puno], Aqualani 10000' (*Ockenden*) genitalia slide Noctuidae 5141 (BMNH), here designated [not examined].

This species is very similar to *C. dolens*, in size and genitalia [see *dolens* for diagnostic differences].

Material studied: 2 ♂♂, [PERU]: Carabaya, Rio Huacamaya [no further data], genitalia slide JFG 199 (USNM).

Remarks: *C. trita* might be only a high elevation form of *dolens*. Described from an unspecified number of specimens, presumably the single specimen in the BMNH labeled "Type".

***Clemira sororcula* sp. n.**

Figs 6, 12

Diagnosis: Male 1.5-1.7 cm. Wings similar to *dolens* and *trita* in pattern, but much shorter in length and with orbicular spot on fore wings absent. Male genitalia (fig. 6) with right valva less constricted at apex, not forming a distinct process as in *dolens* and *trita*; valval asymmetry less pronounced.

Material studied: Holotype ♂, BOLIVIA: Cochabamba, Incachaca (*Steinbach*) (USNM). Paratypes, 3 ♂♂, same data as holotype (USNM); 5 ♂♂, 2 ♀♀, Cochabamba [no further data] (*J. Steinbach*) (CMNH).

Etymology: "Sororcula" = "the little sister", in reference to its small size.

Remarks: This is the only species known to occur in Bolivia. However, considering the distribution of the other species in the genus it is very likely that, after more intensive collecting, all of them will be found in the country.

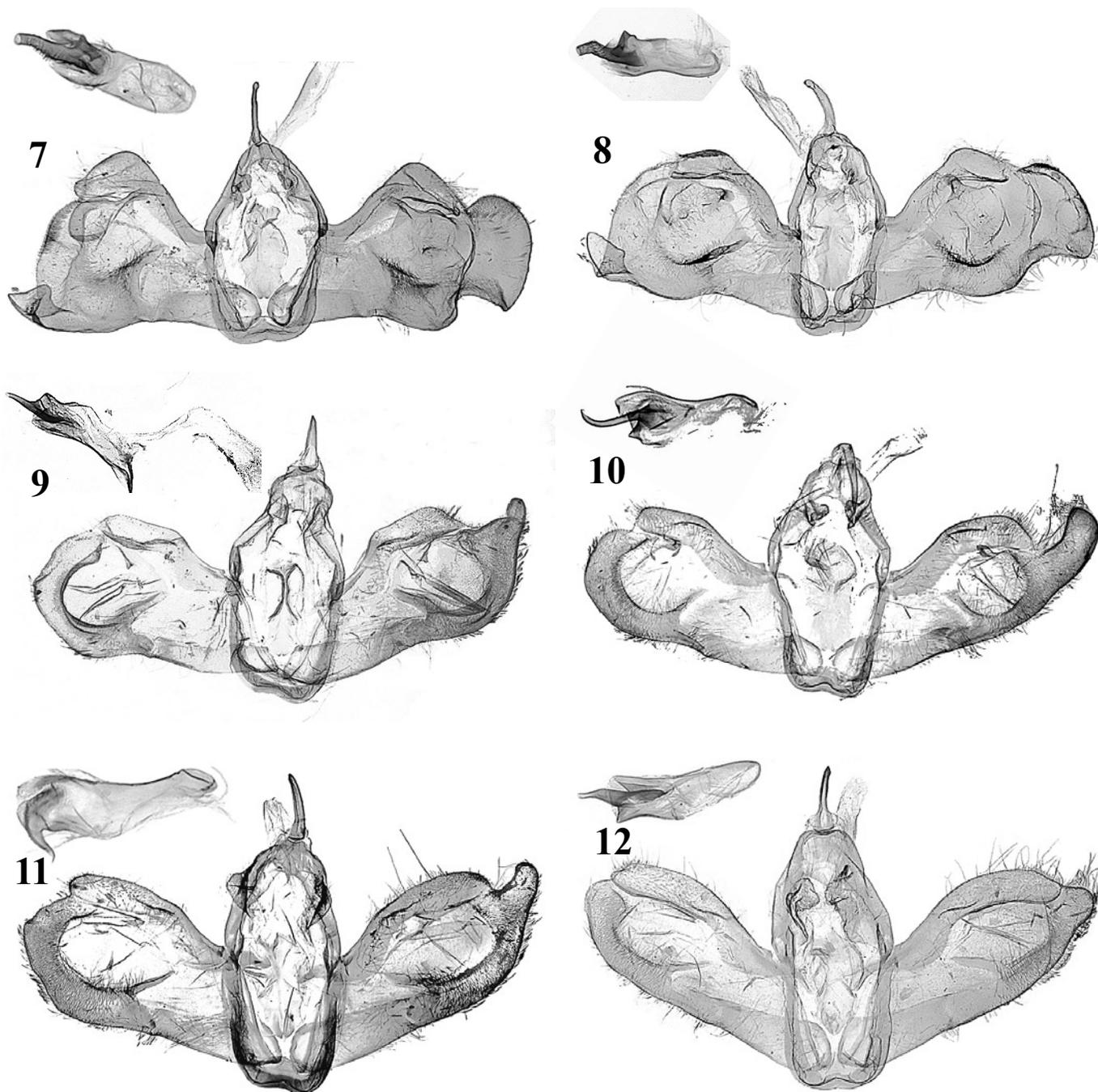
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Figs 7-12. *Clemira* male genitalia. 7) *magna* (Brazil); 8) *hilsingeri* (Argentina); 9) *schausi* (Argentina); 10) *dolens* (Peru); 11) *trita* (Peru); 12) *sororcula* paratype male (Bolivia).

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