Morphological and molecular evidence supports recognition of *Cithaerias cliftoni* (Constantino, 1995) as a species distinct from *C. pireta* (Stoll, 1780) and *C. aurorina* (Weymer, 1910)

*Luis Miguel Constantino*
Remarks on the nominal taxon *Cithaerias cliftoni* (Constantino, 1995)

*Cithaerias cliftoni* Constantino, 1995 is a member of the tribe Haeterini (Lepidoptera: Nymphalidae: Satyrinae) confined to the Neotropical region. The butterflies of this tribe, are for the most part, readily distinguished from all other groups of the Satyrinae by having largely transparent wings with one or two ocelli and patches of color on the hindwing margin (Constantino 1992). *C. cliftoni* is a good species inhabiting the rainforests of the upper Amazon basin in the eastern slopes of the Andes of Colombia, Ecuador and North of Peru, not sympatric with *C. aurora* (C. Felder & R. Felder, 1862) (Penz *et al.* 2014). *C. cliftoni* was synonymized by Lamas (2004) with *C. phantoma* (Fassl, 1922) from Manicoré at Rio Madeira, Tefé and São Paulo de Olivença, Amazonas, Brazil, a very distant population from Colombia, however Lamas (1998) was not able to locate the type material of *C. phantoma*. As a result of this Penz *et al* (2014) synonymized *C. phantoma* with *C. aurora* and reinstated *C. cliftoni* as a full species based on morphological differences of the genitalia.

**Geographical distribution**

*C. cliftoni* is found in the east slope of the Andes of Colombia, Ecuador and North of Peru. In Colombia is found in the departments of Meta, Caquetá and Putumayo at an altitudinal range of 100 up to 800 m. It is sympatric with *C. aurorina* (Wymer, 1910) in lowland regions of the upper Amazon (Putumayo, Orteguaza and Caqueta rivers). In Ecuador is present in the provinces of Napo, Sucumbios and Pastaza and in Peru in the department of Loreto (Yurimaguas).

**Diagnosis**

**Male** (Figure 2a) HW marginal band very thin; male HW submarginal band usually thin, clearly separated from marginal band and slightly staggered; male HW postmedial band that outlines the ocellus complete, reaching vein M3, or incomplete, not reaching M3; male HW postmedial band usually thin, and usually complete across cells M3 through Cu2, forming a staggered pattern; male distance between HW submarginal and postmedial bands usually similar to the width of the cells, but variable between cells; male HW rose scaling more diffuse than *C. aurora*, less than *C. pireta*, usually entering discal cell.

**Female** (Figure 2b) with much wider HW brown bands than male, forming arches in each cell; female HW scaling usually limited to postmedial area but sometimes reaching the
medial area, varying in color from white to rose. In both sexes, FW brown bands vary from incomplete (below discal cell only) to nearly absent. The female of *C. aurorina* can be confused with the female of *C. cliftoni*. In Penz *et al.* 2014) figures 3e and 3h correspond to the female of *C. aurorina*.

**Male genitalia** (Figure 1g): in lateral view the tall valva is narrow, and in ventral view it lacks an inner projection; in dorsal view the lateral edges of uncus plus tegument are rounded; in ventral view the triangular shape of the weakly sclerotized subscaphium bears small spines—a key difference between *C. cliftoni* and *C. aurora* (Penz *et al.* 2014).

**Taxonomic position of Cithaerias cliftoni in the tribe Haeterini**

The rose colored *Cithaerias* species were recently revised by Penz, Alexander and DeVries (2014) due to the confusion generated in the checklist of Lamas (2004). Lamas (2004) placed incorrectly most of the rose colored *Cithaerias* with *C. pireta* (Stoll, 1780), despite that Constantino (1995) showed that *C. pireta* (previously known as *C. menander*) was morphologically different from *C. aurorina* (Figure 1g), observation corroborated by Penz *et al.* 2014).

Based on the revision of Constantino 1994 and Penz *et al.* 2014 the tribe Haeterini is composed by the following genera and species:

**DULCEDO** d’Almeida, 1951.

*D. polita* (Hewitson, 1869). Central America to W. Colombia and W. Ecuador.

**PARADULCEDO** Constantino, 1992.

*P. mimica* (Rosenberg & Talbot, 1914). W. Colombia.

= *Callitaera mimica* Rosenberg & Talbot, 1914.

= *Cithaerias gilmouri* Okano, 1986.

**PSEUDOHATERA** F.M. Brown, 1943.

*P. hypaesia* (Hewitson, 1854). Andes of Venezuela, Colombia to Bolivia.

**HAETERA** Fabricius, 1807.

**H. piera** (Linnaeus, 1775). Amazon basin.

a) *H. piera piera* (Linnaeus, 1775). Brasil (Amazon basin).

**CITHAERIAS Hubner, 1819**

= Callitaera Butler, 1868.

**C. andromeda** (Fabricius, 1775).

a) *C. andromeda andromeda* (Fabricius, 1775). Surinam, Brazil.
b) *C. andromeda azurina* (J. Zikan, 1942). Colombia.

**C. bandusia** Staudinger, 1887. Brasil (Amazonas).

**C. esmeralda** (Doubleday, 1845). Brasil (Pará).

= *C. rubina* (Fassl, 1922).

**C. pireta** (Stoll, 1780).

= *Papilio menander* Drury, 1782.

a) *C. pireta pireta* (Stoll, 1780). Central America.

**C. cliftoni** (Constantino, 1995). Colombia (Meta, Caquetá, Putumayo), Ecuador (Napo).

= *C. ereba* Clifton M/S. *Nomen nudum*.


= *Callitaera phantoma* Fassl, 1922.

= *Callitaera pireta aura* Langer, 1943.

= *Cithaerias juruaënsis* [sic] D’Almeida, 1951.


**C. aurorina** (Weymer, 1910). Upper Amazon (Colombia, Peru, Brasil).

= *C. merolina* (J. Zikan, 1942).

**C. pyritosa** (Zikán, 1942). Brasil, Colombia, Peru (Amazonas).
Table 1. DNA analyses of specimens of *Cithaerias* used in molecular phylogenetic analyses and their GenBank (NCBI) accession numbers for the genes sequenced.

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Supplementary Material: Constantino, 2016. Revision of the tribe Haeterini (Lepidoptera: Satyirnae)

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GenBank
DQ338756.1
Peña et al. 2006

Figure 2. *Cithaerias*. a-b. *C. cliftoni* ♂ ♀ (Putumayo, Colombia) c-d. *C. pyritosa* ♂ ♀ (Amazonas, Colombia) e-f. *C. aurorina* ♂ ♀ (Rio Amazonas, Colombia) g. *C. aurora* (Huanuco, Perú) h. *C. pireta pireta* ♂ (Chocó, Colombia).
Supplementary Material: Constantino, 2016. Revision of the tribe Haeterini (Lepidoptera: Satyrinae)

Figure 3. a. C. pireta pireta ♀ (Chocó, Colombia) b. C. pireta magdalenensis (Rio Porce, Antioquia, Colombia) c. C. pyropina (Junín, Peru). d. C. andromeda andromeda (Manaus, Brazil) e. C. bandusia (Amazonas, Brazil) f. C. esmeralda (Pará, Brazil). g. Paradulcedo mimica (Chocó, Colombia) h. Dulcedo polita (Rio Anchicayá, Valle, Colombia).
Figure 4. **a. Pseudohaetera hypaesia** (Valle, Cordillera Occidental, Colombia) **b-c. Haetera macleannania ♂ ♀ (Rio Raposo, Valle, Colombia) d-e. Haetera piera negra (Puerto Nariño, Amazonas, Colombia) f-g. H. piera sanguinolenta ♂ ♀ (Serrania de La Macarena, Meta, Colombia). h. Haetera diaphana (Bahia, Brazil).
REFERENCES


Cite as:

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