

# TWO NEW SPECIES OF *COTAENA* WALKER (LEPIDOPTERA: GLYPHIPTERIGIDAE) FROM BRAZIL

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**Abstract** – *Cotaena magnifica* n. sp. and *Cotaena tchalla* n. sp. are described from male specimens collected from Brazil. Both new species are compared to the known species of *Cotaena*. Photographic images are provided for the imagines and the genitalia of the two new species.

**Key words:** *Cotaena*, *Eucamina*, *Myrsila*, Neotropical Region, taxonomy, Yponomeutoidea

The Neotropical genus *Cotaena* was designated by Walker (1865) for the type species *Cotaena mediana* Walker. *Cotaena* was originally assigned to Aegeriidae (now Sesiidae), but later transferred to Heliodinidae auct. (Meyrick, 1913; Fletcher, 1929; Naumann, 1971) which then included Schreckensteiniidae and Stathmopodidae, two unrelated families according to the most recent classification (van Nieukerken *et al.*, 2012). Heppner & Duckworth (1981) placed *Cotaena* in Glyphipterigidae, followed by Heppner (1982a, b) and Becker (1999). Two genera, *Myrsila* Boisduval and *Encamina* Meyrick, had undergone similar changes as *Cotaena* in family assignment. Becker (1999) found the first two names are synonyms of *Cotaena*. Meyrick (1914) proposed that *Cotaena* is derived from a putative heliodinid genus *Trichothyrsa*. However, Kyrki in Nye & Fletcher (1991) rejected the yponomeutoid association of *Trichothyrsa* and thus invalidated Meyrick's (1914) proposal.

In the original description (Walker, 1865), *Cotaena* was characterized with a few superficial features. Such a terse description is not sufficient to distinguish *Cotaena* from other glyphipterigids. *Cotaena* is similar to *Sericostola* Meyrick in the large size of its species, but differs from the latter in having a protrusion on the costa of the male valva (on sacculus in *Sericostola*). A more comprehensive definition of *Cotaena* is in preparation by the second author (JBH). *Cotaena* comprises four named species: *C. mediana* Walker, 1865 and *C. auripennis* (Boisduval, 1875) from Brazil; *C. phlegyrota* (Meyrick, 1915) from Guyana; and *C. plenella* (Busck, 1914) from Panama; plus the two species described herein and three others awaiting description from Peru and Guyana. *Cotaena phlegyrota* is very similar to *C. mediana* and the taxa may be conspecific (Becker, 1999). The species of *Cotaena* differ remarkably from one another in external appearance but they are very similar in genitalic features (Heppner, 2010). It is known that the adult moths of *C. plenella* fly diurnally, but they are occasionally attracted to lights at night (Busck, 1914; Heppner, 2010). Other congeners are also very likely diurnal. Nothing is known about the host plants of *Cotaena*, although Heppner (2010) illustrated a wild-collected cocoon of *C. plenella* from Panama.

The aim of this article is to describe two new species of *Cotaena* from Brazil. These species are compared to other congeners. Our finding suggests that the species diversity of *Cotaena* is highest in Brazil and that there are more undescribed congeners in the Neotropical Region.

## DESCRIPTIONS OF NEW SPECIES

### *Cotaena magnifica* Sohn and Heppner, n. sp.

**Diagnosis:** This species is superficially somewhat similar to *Cotaena plenella* from Panama (illustrated in Heppner, 2010) but differs from the latter in the forewing pattern, including the fasciae being more expanded near the posterior margin and the forewings being mostly orange (reddish in *C. plenella*). The hindwing has a yellow patch basally (uniformly fuscous in *C. plenella*), and in the male genitalia, the valva is broader and shorter (least width/greatest length = 0.3 in *C. magnifica* vs. 0.17 in *C. plenella*).

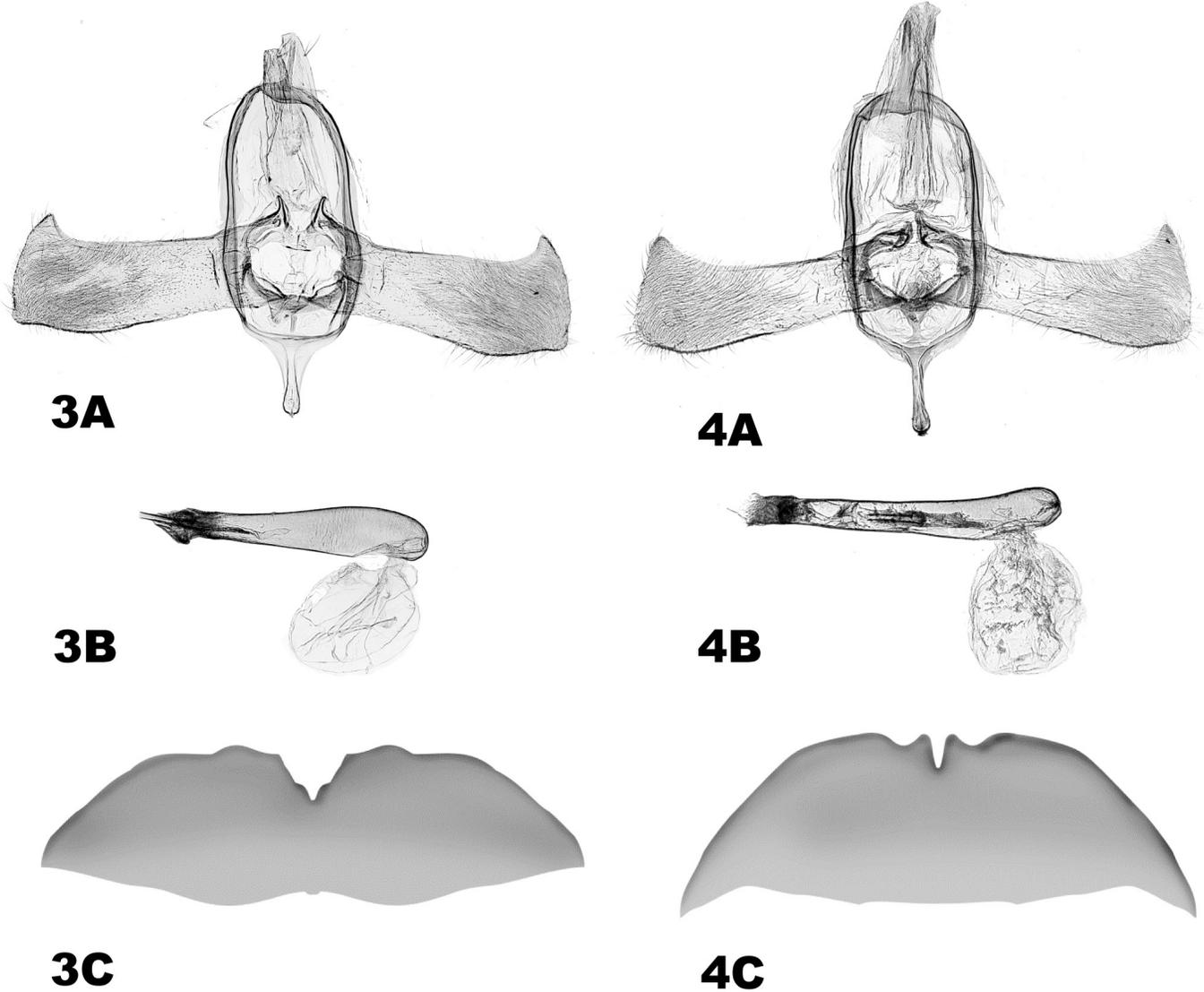
**Description:** MALE: Head – Vertex and frons dark brown. Antenna 2/3 as long as forewing, grayish brown. Labial palpus upcurved, pale reddish brown.

Thorax – Patagium yellowish brown, tinged with dark grayish brown medially; tegula dark brown in anterior half, yellowish brown in posterior half; mesonotum dark brown. Foreleg dark brown dorsally, pale reddish brown ventrally; tarsomeres with pale reddish brown ring distally. Midleg with coxa and femur pale reddish brown; tibia and 1st basal tarsomere pale reddish brown, with a broad dark brown patch at distal 1/3 dorsally; 2nd and 3rd tarsomeres dark brown dorsally, pale reddish brown ventrally; 4th and 5th tarsomeres dark grayish brown. Hindleg with coxa and femur pale reddish brown; tibia reddish brown, tinged with dark grayish brown dorsodistally; tarsomeres dark brown dorsally, pale reddish brown ventrally, with pale yellowish brown ring distally. Forewing (Fig 1) length 9.7 mm, yellowish brown; basal line black; subbasal line black, with purplish luster, triangularly broadened near to posterior margin; antemedian line in costal half slightly oblique, black, with purplish luster except margins; median line black, with purplish luster except margins, broadened to posterior margin; postmedian line black, with purplish luster except margins, curved outward; a semicircular, black patch in tornal area with purplish luster except margins; subterminal line arched along outer margin, with purplish luster; terminal line black; fringe dark grayish brown. Hindwing yellowish orange in anterior half, dark brown in posterior half; fringe dark grayish brown.

Abdomen – Terga and sterna yellowish brown, tinged with dark brown in posterior 1/3; a complex of tergum VII and



**Figs. 1–2:** Adults of *Cotaena*: 1. *C. magnifica* n. sp. (holotype ♂), 2. *C. tchalla* n. sp. (holotype ♂).



**Figs. 3–4:** Male genitalia of *Cotaena* (A: genital capsule, B: phallus C: complex of tergite VIII and pleuron VIII): 3. *C. magnifica* n. sp. (holotype), 4. *C. tchalla* n. sp. (holotype).

pleural lobes semi-elliptical, emarginated medially, slightly protruding on both sides of medial emargination (Fig 3C).

Male genitalia (Fig 3) – Uncus slender, 2/3 as long as saccus. Valva rectangular, triangularly protruding dorsodistally, with semi-elliptical bulge ventrodistally. Juxta arched, with slender arm medially. Saccus 2/5 as long as valva, broadened in distal 1/3, narrowly round apically, with triangular lobes expanded from vinculum. Phallus broadened anteriorly, densely spinulate in distal 1/6; two needle-like cornuti 1/3 as long as phallus.

**Holotype:** Male, “Holo- | type” [round label with red margins], “HOLOTYPE | *Cotaena* ♂ | *magnifica* | SOHN 2014” [red label with black marginal lines], “Amazons | BRAZIL | Saunders | Stn. Coll. 1893-134 | 401255”, “B.M. ♂ | Genitalia slide | No. 32843”, one antenna in a gelatin capsule attached on the specimen pin. Deposited in the Natural History Museum, London.

**Distribution:** Brazil (Amazon basin).

**Etymology:** The species name is derived from the Latin ‘magnificus’ meaning “splendid” and refers to the beauty of the new species.

#### *Cotaena tchalla* Sohn and Heppner, n. sp.

**Diagnosis:** This species is similar to *Cotaena mediana* (illustrated in Becker, 1999) in external appearance but differs from the latter in the forewing pattern, including the lack of orange patches on the forewing and the abdomen, and in the male genitalia, which has the costal protrusion on the valva more elongate and the uncal process longer.

**Description:** MALE: Head – Vertex and frons dark brown, with purplish luster. Antenna dark brown, with bluish luster. Labial palpus dark brown; 1st segment 1/4 as long as 2nd; 3rd segment as long as 2nd, acute apically.

Thorax – Patagium, tegulae, and mesonotum dark brown, with purplish luster. Legs dark brown. Forewing (Fig 2) length 10.7 mm, dark brown, with purplish or bluish luster, depending on angle; fringe dark grayish brown. Hindwing dark brown, paler anteromarginally.

Abdomen – Terga and sterna dark brown with with purplish or bluish luster, depending on angle; a complex of tergum VII and pleural lobes semi-elliptical, notched medially, sinuous on both sides of medial notch (Fig 4C).

Male genitalia (Fig 4) – Uncus slender, slightly broadened to base; subscaphium 2× longer than uncus. Valva rectangular, slightly broadened to outer margin, triangularly protruding dorsodistally. Juxta U-shaped, with triangular extension medially. Saccus elongate, clubbed terminally. Phallus slightly broadened anteriorly; two needle-like cornuti 1/4 as long as phallus, followed by an elongate sclerite.

**Holotype:** Male, “Holo- | type” [round label with red margins], “HOLOTYPE | *Cotaena* | *tchalla* | SOHN 2014” [red label with black marginal lines], “Campo Bello, | Estado Rio, | 2. II. 27. | (J. F. Zikan)”, “Rothschild | Bequest | B.M. 1939-1.”, “B.M. ♂ | Genitalia slide | No. 32844”. Deposited in the Natural History

Museum, London.

**Distribution:** Brazil (Rio de Janeiro).

**Etymology:** The species name is after the “T’Challa”, also known as the Black Panther, a fictional character appearing in Marvel Comics, and refers to the dark coloration of the new species.

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