A new *Gamelia* from Western Colombia (Lepidoptera: Saturniidae, Hemileucinae)

Thibaud DECAËNS, Diego BONILLA, & Luz Dary RAMIREZ

Abstract: A new species of *Gamelia* of the group of *G. neidhoeferi* is described. ***G. cimarrones* new species** can be identified due to its small size, the elongated shape and sharp apex of its forewings, the black ground color of its wings, and significant genitalia patterns. It was collected in the Chocó department, at an altitude of 1,500 meters on the pacific slopes of the Western Cordillera of Colombia. The holotype ♂ is deposited in the Institute of Natural Sciences (ICN-MHN) of the Colombian National University, Santafé de Bogota, Colombia.

Résumé: Une nouvelle espèce de *Gamelia* du groupe de *G. neidhoeferi* est décrite. ***G. cimarrones* espece nouv.** est identifiable à sa petite taille, la forme allongée et l'apex saillant de ses ailes antérieures, la couleur noire des ailes et des caractères significatifs des genitalia. L'espèce à été collectée à une altitude de 1500 m dans le département du Chocó, sur le versant pacifique de la cordillère occidentale de Colombie. L'holotype ♂ est déposé à l'Institut des Sciences Naturelles (ICN-MHN) de l'Université Nationale de Colombie, Santafé de Bogota, Colombie.

Resumen: Se describe una nueva especie de *Gamelia* del grupo de *G. neidhoeferi*. ***G. cimarrones* nov. species** se identifica por su tamaño reducido, la forma alargada y el apex agudo de sus alas anteriores, su coloración negra y algunas caracteristicas de sus genitalia. Se conoce del departamento del Chocó, a una elevación de 1500 m en el pendiente pacífico de la cordillera occidental de Colombia. El holotipo ♂ está depositado en el Instituto de Ciencias Naturales (ICN-MHN) de la Universidad Nacional de Colombia, Santafé de Bogota, Colombia.

Zusammenfassung: Eine neue Art der Gattung *Gamelia* aus der Gruppe um *G. neidhoeferi* wird beschrieben. ***G. cimarrones* nov. species** wird charakterisiert durch ihre geringe Größe, die längliche Form und den spitz zulaufenden Apex des Vorderflügels, der schwarzen Grundfärbung sowie signifikanten Merkmalen der Genitalstrukturen. Sie wurde im Departamento

del Chocó in 1.500 m Höhe in den pazifischen Ausläufern der West-Cordillere in Kolumbien gefangen. Der männliche Holotypus wird im Instituto de Ciencias Naturales (ICN-MHN) de la Universidad Nacional de Colombia, Santafé de Bogota, Kolumbien, deponiert.

Key Words: Andes, Colombia, *Gamelia cimarrones* n. sp., taxonomy, Neotropical entomofauna.

Introduction

The genus *Gamelia* HÜBNER, 1819 ("1816") groups together species mainly characterized by their small size, dark colour pattern, and the presence of a vivid eyespot with a red iris on the dorsal side of the hindwings. This last trait made this genera commonly treated in the literature as a synonym of *Automeris* HÜBNER 1819 ("1816") (e.g. in DRAUDT 1929 and BOUVIER 1929), and was definitely separated from it only after MICHENER (1952). It actually comprises 20 superficially homogeneous species, which are classified into 3 groups according to the position of the postmedial line and to genitalia characters (LEMAIRE 1974, 2002).

Species are widely distributed through the neotropical region, from Mexico to south-eastern Brazil and northern Argentina. The new species described in this paper falls into the group of representatives of the genus associated with mountain habitats. It was collected in the pacific slopes of the Northern Andean Cordillera, a region reputed for its high rate of endemic Saturniidae species (LEMAIRE & VENEDICTOFF 1976, DECAËNS et al. in press).

Gamelia cimarrones DECAËNS, BONILLA, & RAMIREZ new species

Holotype: ♂, Colombia, department of the Chocó, San José del Palmar, 1,500m, UV light, VII 2002, leg. T. Decaëns, D. Bonilla, & J. Salazar in coll. T. Decaëns (genitalia prep. T. Decaëns # 110).

Paratype: 1 ♂, Colombia, department of the Chocó, San José del Palmar, 1,500m, UV light, X 2002, leg. D. Bonilla, & L.D. Ramirez in coll. T. Decaëns (genitalia prep. T. Decaëns # 137).

Type deposition: The holotype specimen is deposited in the Institute of Natural Sciences (ICN-MHN) of the Colombian National University, Santafé de Bogota, Colombia (registration # ICN-L 17507). The paratype specimen remains in the collection of the senior author.

Etymology: This species is dedicated to the escaped slaves, the "cimarrones", who colonized the western slopes of the Colombian Andes from the XVIth century to the abolition of slavery in the middle of the XIXth century. Their colonies, the so called "palenques", constituted the basis of the Afro-American population and culture that still characterize this region of Colombia.

The name of this new species is therefore formed from the name of a group of persons. Although this choice is accepted but not recommended by the International Code of Zoological Nomenclature (ICZN 1999: Article 31.1., recommendation 31A.), it was decided to form the name as a noun in apposition instead of a noun in the genitive case or an adjective or participle. This was motivated by the wish to remain the more possible faithful with the original name, and justified by the fact "cimarrones" is not a personal name which would represent a risk of confusion with the authorship of *Gamelia* or any other genera.

Description: Wingspan ♂ 50–51 mm.

♂ (figs. 1–3): Head: dark brown; labial palpi same color; antennae yellow brown, 7 mm in length, maximal rami length 1.5 mm. Body: thorax and legs dark brown dorsally, reddish brown ventrally; legs black; abdomen black dorsally, turning to grey laterally and reddish brown ventrally. Forewing (fig. 1 and 3): length 28–29mm; elongated; sharp and prominent apex; slightly convex border, above background color dark grey, covered with black scales on the antemedian area, submarginal band concolorous; antemedian line indistinct; postmedian line fine, dull orange, distally and proximally bordered with a fine black line, straight to slightly convex, slightly preapical (1.5–2 mm); small and rounded discocellular spot, dull orange, circled with a fine black line. Ventral side (fig 2) dark grey; extensively covered with reddish orange scales in the costa region; discal spot black; postmedial line light grey, proximally and distally bordered with black. Hindwings: periocellar area grey with abundant black hair-like scales in the anal region; large and black periocellar ring; iris vivid red, pupil covered with white scales; postmedial line large and black, immediately followed by a grey strip; postmedian area dark grey; submarginal band black. Ventral side dark grey, almost totally covered with reddish orange scales; small and black discal spot, rounded with a light area; postmedial line as in forewings.

♀: Unknown. ©Kreis Nürnberger Entomologen; download unter www.biologiezentrum.at

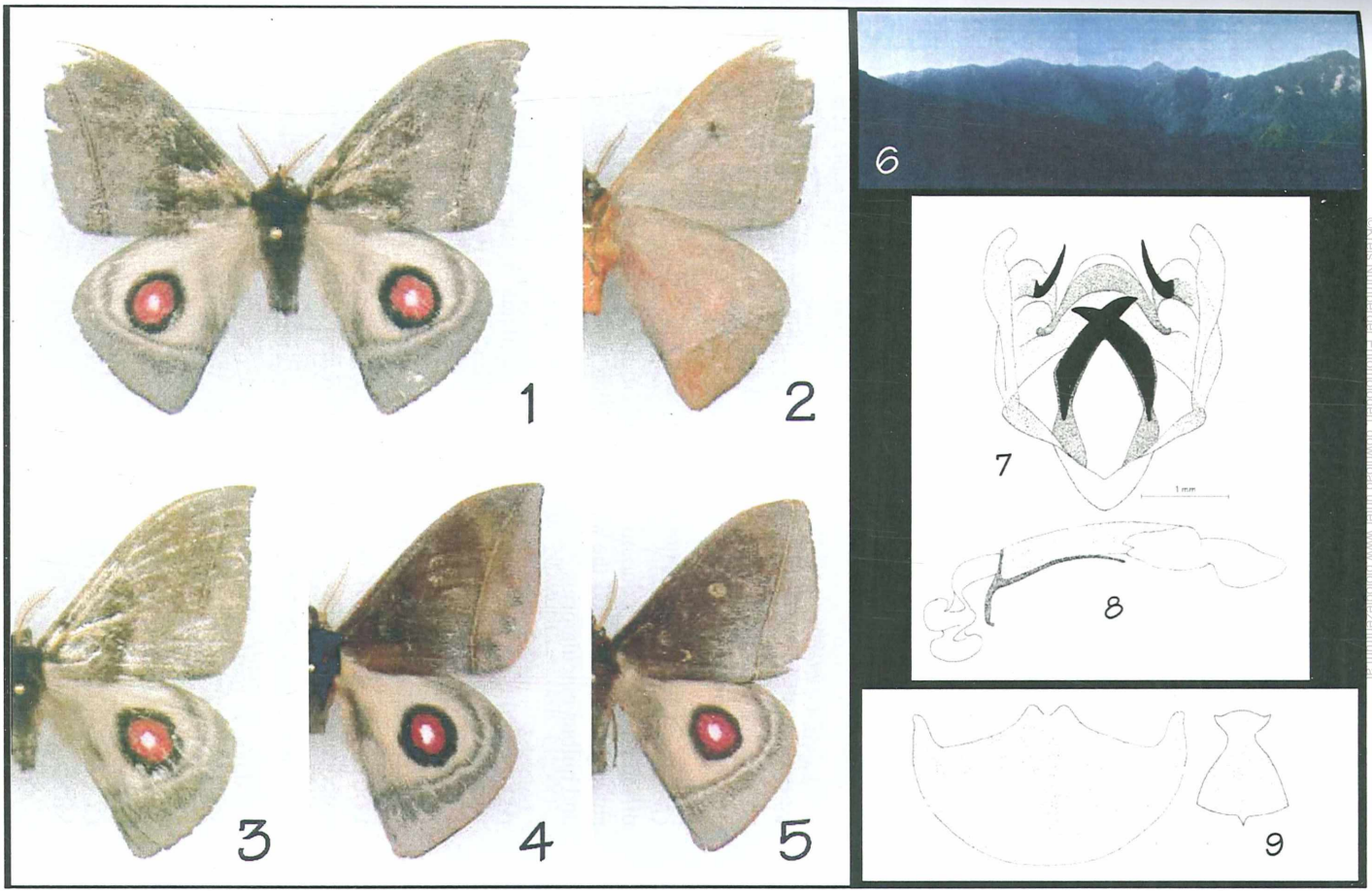
♂ **genitalia** (figs. 7–8): Uncus rounded. Valves relatively short; slender sacculum; strong and finely dentate inner spine of the valves. Lobes of the vinculum long and highly sclerotized, basally remote from each other. Aedeagus with a long ventral spine; bulbus ejaculatorius approximately as long as the aedeagus; well developed vesica.

Immature stages: Unknown.

Distribution: To date, *G. cimarrones* is only known from the type locality. The climate of this region is characterized by the very high levels of annual precipitations, and the natural vegetation is represented by tropical Andean forests (fig. 3). This kind of habitat is characteristic of the medium elevations in the Pacific slopes of the Andean Cordillera, a region known to host a highly diversified community of Saturniidae with high rates of endemism. At the locality of San José del Palmar, 59 species were collected in a few nights of light trapping, including 25 endemics (DECAËNS et al., in press). *G. cimarrones* is probably one of these endemic species, although its exact distributional extent within the biogeographic region needs additional data to be accurately described.

Colour figs. 1–6:
Fig. 1: *Gamelia cimarrones* new species holotype ♂ (dorsal, wingspan 50 mm).
Fig. 2: Same specimen (ventral).
Fig. 3: *G. cimarrones* new species paratype ♂ (dorsal, wingspan 51 mm).
Fig. 4: *Gamelia pyrrhomelas* ♂ (dorsal, wingspan 66 mm) (Colombia, Caldas department, road Manizales – Alto de Letras, Km11, 2600m, UV light, VIII 2002, leg. T. Decaëns & D. Bonilla in coll. T. Decaëns).
Fig. 5: *Gamelia neidhoeferi* ♂ (dorsal, wingspan 56 mm) (Bolivia, La Paz department, Nor Yungas province, Inca Huara, 1,500m, UV light, XI 1991, leg. T. Decaëns & G. Lecourt in coll. T. Decaëns).
Fig. 6: The Andean hyper-humid forests of San José del Palmar (Chocó department, Colombia).

Genitalia drawings (figs. 7–9):
Fig. 7: *Gamelia cimarrones* new species, holotype ♂ genitalia, ventral view, aedeagus removed (genitalia prep. T. Decaëns # 82).
Fig. 8: Lateral view of aedeagus.
Fig. 9: Dorsal and ventral sclerotized structures of the 8th sternite.



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Diagnosis: Due to the structure of its genitalia, *G. cimarrones* clearly belongs to the group of *G. abasia* (STOLL *in* CRAMER, 1781). Within this group, it is closer to *G. neidhoeferi* LEMAIRE, 1967, *G. pyrrhomelas* (WALKER, 1855), *G. musta* SCHAUS, 1912, *G. viettei* LEMAIRE, 1967 and *G. kiefferi* LEMAIRE, 1967 than to any other species. When compared with these species (cf. LEMAIRE, 2002: plates 23 and 24), the main characters that allow a rapid identification of *G. cimarrones* are:

- The smaller size of the known specimens, which do not exceed 50mm in wingspan while most ♂♂ of the close relatives present a wingspan of more than 60mm;
- The more elongated shape of the forewings, which contrasts with the classical habitus of the genus;
- The sharp and prominent apex, which differs from the non-prominent one of *G. neidhoeferi* and *G. pyrrhomelas* and from the acute one of *G. musta*, *G. kiefferi* and *G. viettei*;
- The dark grey to black ground colour of the forewings, instead of brown to dark brown for other species, lacking the purplish postmedial area present on the forewings of *G. kiefferi*.

Genitalia are very similar to those of *G. neidhoeferi*. The few observed differences chiefly concern the lobes of the vinculum that seem more sharply slerotized, and the aedeagus which presents a longer ventral spine and bulbus ejaculatorius.

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