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Two new satyrine butterflies from Venezuela (Insecta: Lepidoptera: Nymphalidae)

Dos nuevas mariposas satíridas de Venezuela
(Insecta: Lepidoptera: Nymphalidae)

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ABSTRACT

Two new satyrine butterflies known so far only from the Venezuelan territory are diagnosed, described, illustrated and compared: *Rudyphthimoides isei* **gen. nov.** et **sp. nov.** (Cordillera de la Costa, northern Venezuela) and *Stephenympha pauliana* **gen. nov.** et **sp. nov.** (Serranía del Cuao, Amazonas, southern Venezuela). Seven new combinations, two new synonymies are established, and the specific status of two taxa are revised: *Rudyphthimoides affinis* (Butler, 1867) **comb. nov.**, *R. erigone* (Butler, 1867) **sp. restit., stat. rev. et comb. nov.**, *R. guenzeli* (Anken, 1994) **stat. rev. et comb. nov.**, *R. maepius* (Godart, [1824]) **comb. nov.** (= *Euptychia argyrospila* Butler, 1867 **syn. nov.**, = *Euptychia perfuscata* Butler, 1867 **syn. nov.**), *R. mythra* (Weymer, 1911) **comb. nov.**, *Stephenympha arius* (Weymer, 1911) **comb. nov.** and *S. eriphule* (Butler, 1867) **comb. nov.**

Keywords: Amazon, Aragua, Coastal range, Cuao Mountains, nomenclature, new combinations, Satyrini, synonymy.

RESUMEN

Se diagnostican, describen, ilustran y comparan dos nuevas mariposas satíridas conocidas hasta ahora únicamente del territorio venezolano: *Rudyphthimoides isei* **gen. nov.** et **sp. nov.** (Cordillera de la Costa, norte de Venezuela) y *Stephenympha pauliana* **gen. nov.** et **sp. nov.** (Serranía del Cuao, Amazonas, sur de Venezuela). Se establecen siete nuevas combinaciones, dos nuevas sinonimias y se revisa el status de dos especies: *Rudyphthimoides affinis* (Butler, 1867) **comb. nov.**, *R. erigone* (Butler, 1867) **sp. restit., stat. rev. et comb. nov.**, *R. guenzeli* (Anken, 1994) **stat. rev. et comb. nov.**, *R. maepius* (Godart, [1824]) **comb. nov.** (= *Euptychia argyrospila* Butler, 1867 **syn. nov.**, = *Euptychia perfuscata* Butler, 1867 **syn. nov.**), *R. mythra* (Weymer, 1911) **comb. nov.**, *Stephenympha arius* (Weymer, 1911) **comb. nov.** y *S. eriphule* (Butler, 1867) **comb. nov.**

Palabras clave: Amazonas, Aragua, Cordillera de la Costa, nomenclatura, nuevas combinaciones, Satyrini, Serranía del Cuao, sinonimia.

INTRODUCTION

The objective of this work is to describe two new species of butterflies of the family Nymphalidae, subfamily Satyrinae, coming respectively from two distant localities

of the Venezuelan territory. The first case corresponds to a series of individuals of a previously unnoticed taxon, captured 70 years ago by Francisco Fernández-Yépez in the surroundings of the town of El Limón, currently part of the city of Maracay, in the foothills of the Cordillera de La

Costa (450–500 m a.s.l.), Aragua state. This series of eight specimens, preserved in the collection of the Museo del Instituto de Zoología Agrícola of the Universidad Central de Venezuela, was rediscovered in 2014 and studied by the present author while making taxonomic identifications to update the inventory of satyrine butterflies in Venezuela. The second case concerns the unexpected finding made in 2016 by Mauro Costa on his first expedition to the Seranía del Cuao, Amazonas state (Costa *et al.* 2019) of a hitherto undescribed species of Satyrinae, related to *Euphybia eriphule* Butler, 1867. As a result of this expedition we had a single specimen from the slopes of Cerro Woroi at 500 m above sea level. In 2020, two additional individuals were obtained at the base of Cerro Paraka (600 m), not far from the type locality, whose study confirmed the peculiar characteristics and identity of this taxon.

It was not possible to classify the new species within the known genera of Neotropical Satyrinae. The peculiar combinations of their morphological characteristics merited the proposal and diagnoses of two new genera for the respective allocation of each of these taxa. The generic traits diagnosed in each case are shared with a few butterfly species formerly assigned to genera such as *Erichthodes* Forster, 1964 or *Ypthimoides* Forster, 1964. These species have been consequently transferred to the new genera.

MATERIAL AND METHODS

A comparative study has been carried out on the morphology of the venation and the design pattern and coloration of the wings, particularly the ocellar formula, as well as the male genital chitinous structures of the genera and species of papilionoid Lepidoptera (Nymphalidae: Satyrinae) described here and some of the taxa that are apparently related to them. Once the peculiarities of each taxon were detected, the unique combinations of characters were used as criteria for the definition of the new genera and new species. For the establishment of taxonomic hierarchies, the congruence of the localities of origin or geographic distribution areas of the different species was also considered.

Descriptions follow the nomenclature of wing venation (and cells) of the Comstock-Needham system (Miller 1970), and the modified terminology of Klots (1970) was used for the description of male genital structures. A system of homological equivalences of the ocelli in the wings was used based on the basic concepts of the ground plan developed by Schwanwitsch (1924). Dry-preserved, pinned, and displayed specimens were examined. The observations, photographs and drawings were made with and without magnification (in the first case with manual

magnifying glasses and stereoscopic microscopes of different models and brands, natural and artificial lighting and accessories such as the camera lucida and photographic camera), the lengths were taken with a drawing compass and ruler, manual and ocular microscales. Wing diaphanizations were performed using diluted commercial chlorine and immediate washing with distilled water, dehydration with ethanol and preservation by immersion in euparal between glass slides and covers. The softening and digestion of fleshy tissues and abdominal fat for the microdissection of the chitinous structures of the male genitalia of butterflies was carried out by controlled immersion in caustic solution and subsequent washing in water. Once these preparations were examined, they were stored in a solution of ethanol and glycerin. These technical procedures have been described in more detail by Viloría & Costa (2022).

Abbreviations and acronyms: **FW**: Forewing; **FWL**: Forewing length; **HW**: Hindwing; **IVIC**: Centro de Ecología, Instituto Venezolano de Investigaciones Científicas, Altos de Pipe, Venezuela; **MC**: Mauro Costa collection, Caracas, Venezuela; **MIZA**: Museo del Instituto de Zoología Agrícola, Facultad de Agronomía, Universidad Central de Venezuela, Maracay, Venezuela; **NHMUK**: The Natural History Museum, London, United Kingdom; **SNSB**: Zoologische Staatssammlung München, Germany.

RESULTS

Rudypthimoides Viloría, gen. nov.

(Figs. 1a [type species, wing venation], b [type species, male genitalia], 2a [type species male, dorsal], b [type species, male, ventral], c [type species, female, dorsal], d [type species, female, ventral], 3a–f [male genitalia of different species])

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Type species: *Rudypthimoides isesai* Viloría, sp. nov., herein designated.

Diagnosis: Similar in size and habitus to *Emeryus* Zacca, Casagrande & Mielke, 2020, especially on ventral view, sharing the possession of all postdiscal ocelli with double pupils. However, it differs from *Emeryus* in having distinctive male genitalia; *Emeryus* is characterized by elongate, rectangular and spatulate valvae, while species of *Rudypthimoides* gen. nov., have a different shape in their valvae, which are triangular, broad at base, with a distal projection in the shape of a hook, more similar to those of the species of *Malaveria* Viloría & Benmesbah, [2021]; however they differ from the latter, apart from other characters mentioned below, in a more developed

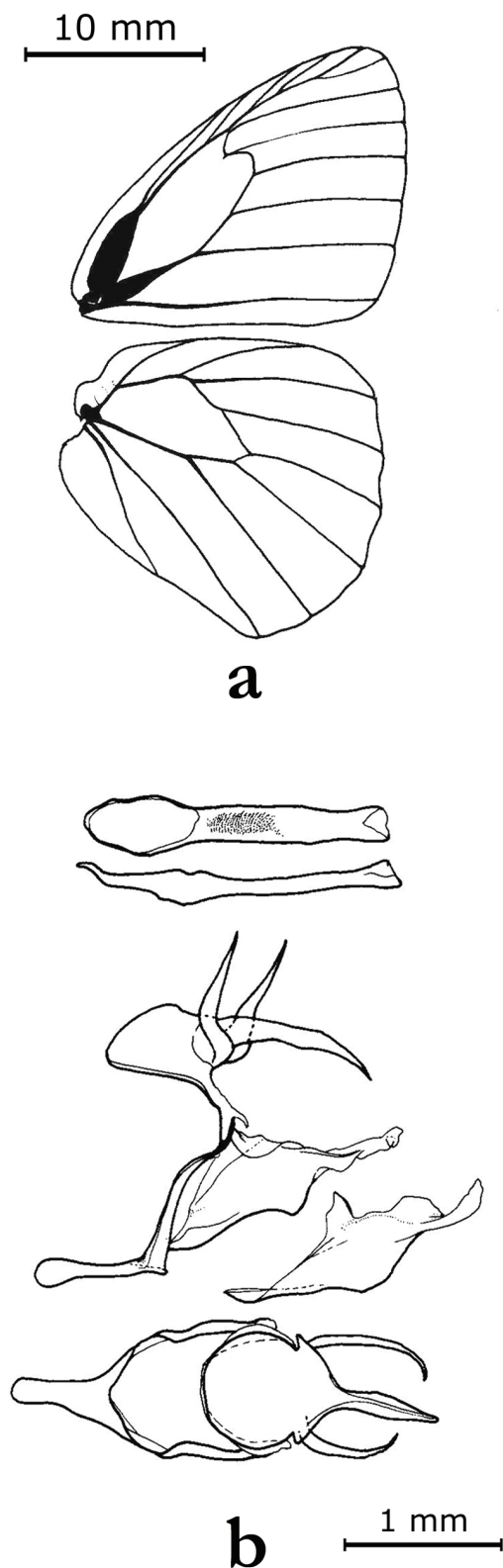


Figure 1. Morphological features of *Rudyphthimoides iseai* gen. et sp. nov.; **a.** Wing venation of a male individual; **b.** male genitalia: above, dorsal and lateral view of aedeagus; center, lateral view of genital armature, left valva detached; below, dorsal view of tegumen, uncus, subunci, vinculum and saccus.

inner ampullar process at the base of the hooked extremity. In *Rudyphthimoides* gen. nov., FW veins R2-R5 and M1 originate together from anterior angle of the distal extremity of discal cell (R2-R5 separated from M1 in *Malaveria*); in *Rudyphthimoides* gen. nov., the recurrent vein in FW discal cell emerges as a prolongation of M2, thus dividing m1-m2 from m2-m3 (emerging approximately in the middle of m1-m2 in *Malaveria*); *Cissia* Doubleday, 1848, *Magneptychia* Forster, 1964, *Paryphthimoides* Forster, 1964 and *Emeryus*, all lack a recurrent vein in FW discal cell and have well developed humeral vein in HW (apparently absent or not developed in *Rudyphthimoides* gen. nov.). Double pupils are present in all ventral ocelli (even reduced or vestigial) of all species of *Rudyphthimoides* (unlike *Modestia* Viloria & Benmesbah, [2021] and *Malaveria* which have monopupilled ventral FW ocelli, and usually – but not always– single pupils in HW R5 and M1). Wings of the species of *Modestia*, *Malaveria*, *Magneptychia*, and *Stephenympha* gen. nov., have no dorsal ocelli, the same occurs in *Emeryus*, in which sometimes there appears a diffuse ocellar dark mark on HW Cu1; in contrast, members of *Rudyphthimoides* gen. nov., always bear at least one HW dorsal ocellus with single pupil in Cu1 (another one smaller in Cu2 may also appear in some species or in females, plus dark dots on R5, M1 and M3).

Etymology: *Rudyphthimoides* is an arbitrary combination of the existing generic name of satyrine butterflies *Yphthimoides*, and the name of the outstanding Venezuelan singer, composer and musician, Rudy Márquez (b. Rodolfo Márquez van Stenis, Caracas, December 7, 1942). The author of the present discovery and description wants to honor Master Rudy Márquez for his remarkable and long professional career, and for his notable contribution to the cultural development of rock and pop music in Venezuela during the last six decades.

Distribution: Tropical lowlands of South America, east of the Andes.

Taxonomic comments: During the process of the present publication, Barbosa *et al.* (2022, March) produced a relevant and extensive article on the phylogenetic systematics of the genus *Yphthimoides*. They established the following new combinations: *Malaveria affinis* (Butler), *Malaveria maepius* (Godart) and *Malaveria mythra* (Weymer), while considering *Yphthimoides argyrospila* (Butler) a valid taxon in uncertain generic position, and *Euptychia eriphule* Butler a representative of a new genus. The latter hypothesis is herein independently confirmed (see below), but the author of the present contribution disagrees with the assignments of the other taxa to *Malaveria*. Several morphological characters pointed out in its diagnosis discriminate *Rudyphthimoides* gen. nov., from

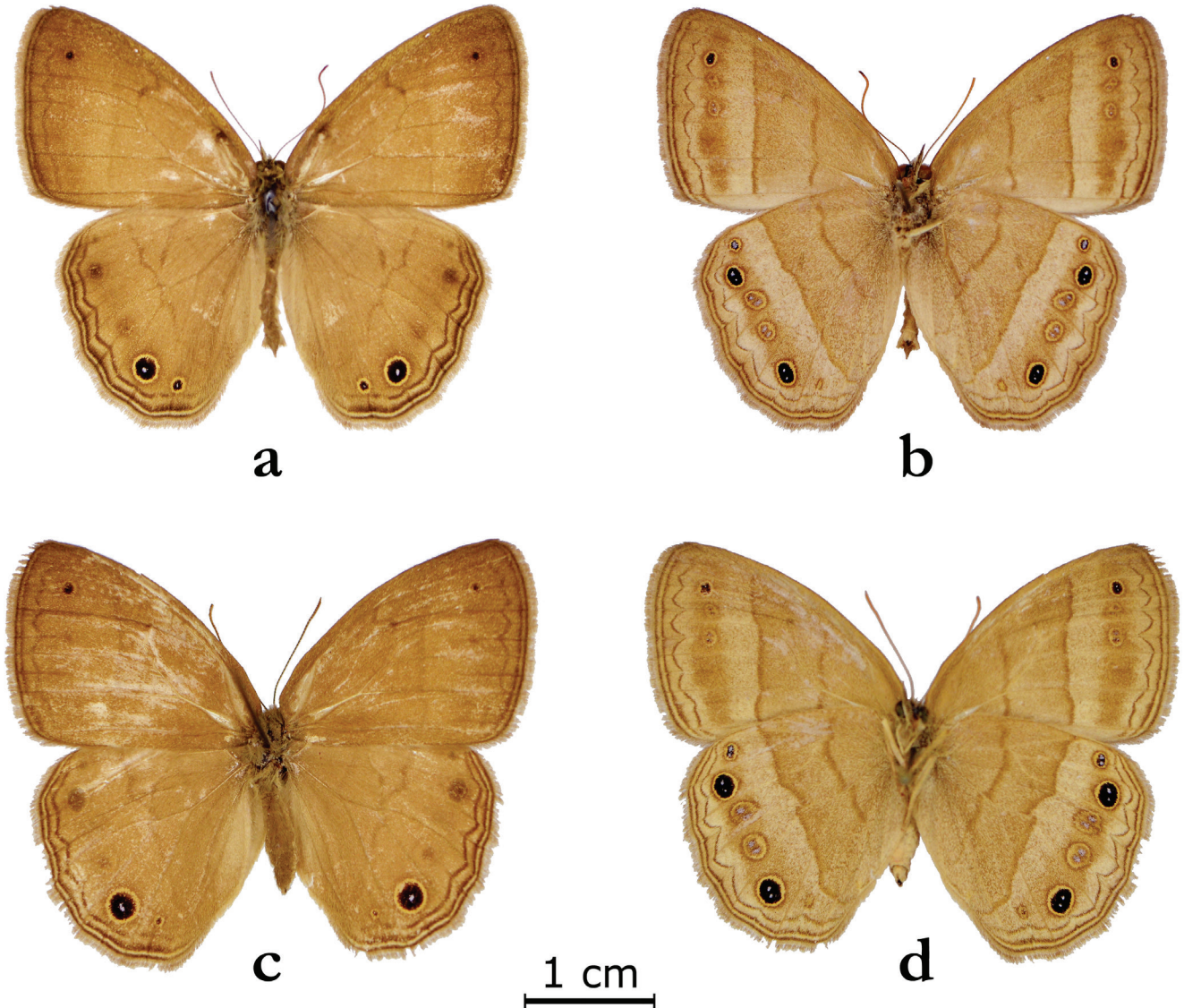


Figure 2. Habitus of *Rudyphthimoides iseai* gen. et sp. nov. (both sexes); a. male Holotype, dorsal view; b. same, ventral view; c. female Allotype, dorsal view; d. same, ventral view.

Malaveria. These characters are unequivocally shared by the following taxa.

Species belonging to *Rudyphthimoides*:

Rudyphthimoides affinis (Butler, 1867), **comb. nov.**

Euptychia affinis Butler, 1867a: 469, pl. 39, fig. 9. [♀, Rio de Janeiro, Brazil]

Euptychia affinis Butler; Butler, 1868: 20; 1877a: 118; Kirby, 1871: 49; 1877: 132;

Weyermer, 1911: 204; Riley & Gabriel, 1924: 5; Gaede, 1931: 437; D'Abbrera, 1988: 789, 873; Lamas, 2006: 122-123, fig. 5 (female lectotype).

Neonympha thobiei Capronnier, 1881: 102. [♂, Campos, Brazil]

Euptychia thobiei (Capronnier); Weyermer, 1911: 199; Gaede, 1931: 465; D'Abbrera, 1988: 762 [row 6] male dorsal and ventral (misidentifications), 877.

Euptychoides affinis (Butler); Forster, 1964: 98; Brown & Mielke, 1967: 91; Brown, 1987: 157.

[*Euptychia argyrospila* Butler; D'Abbrera, 1988: 772-773 row 1, figs. male dorsal & ventral (misidentification)]

"*Euptychia*" nr. *thobiei* (?) (Capronnier); Emmel & Austin, 1990: 10.

Ypthimoides wuerttembergiae Anken, 1999: 269, 275-278, figs. 9 (male dorsal), 10 (male ventral), 11 (male genitalia) [male, Poté, Minas Gerais, Brazil]

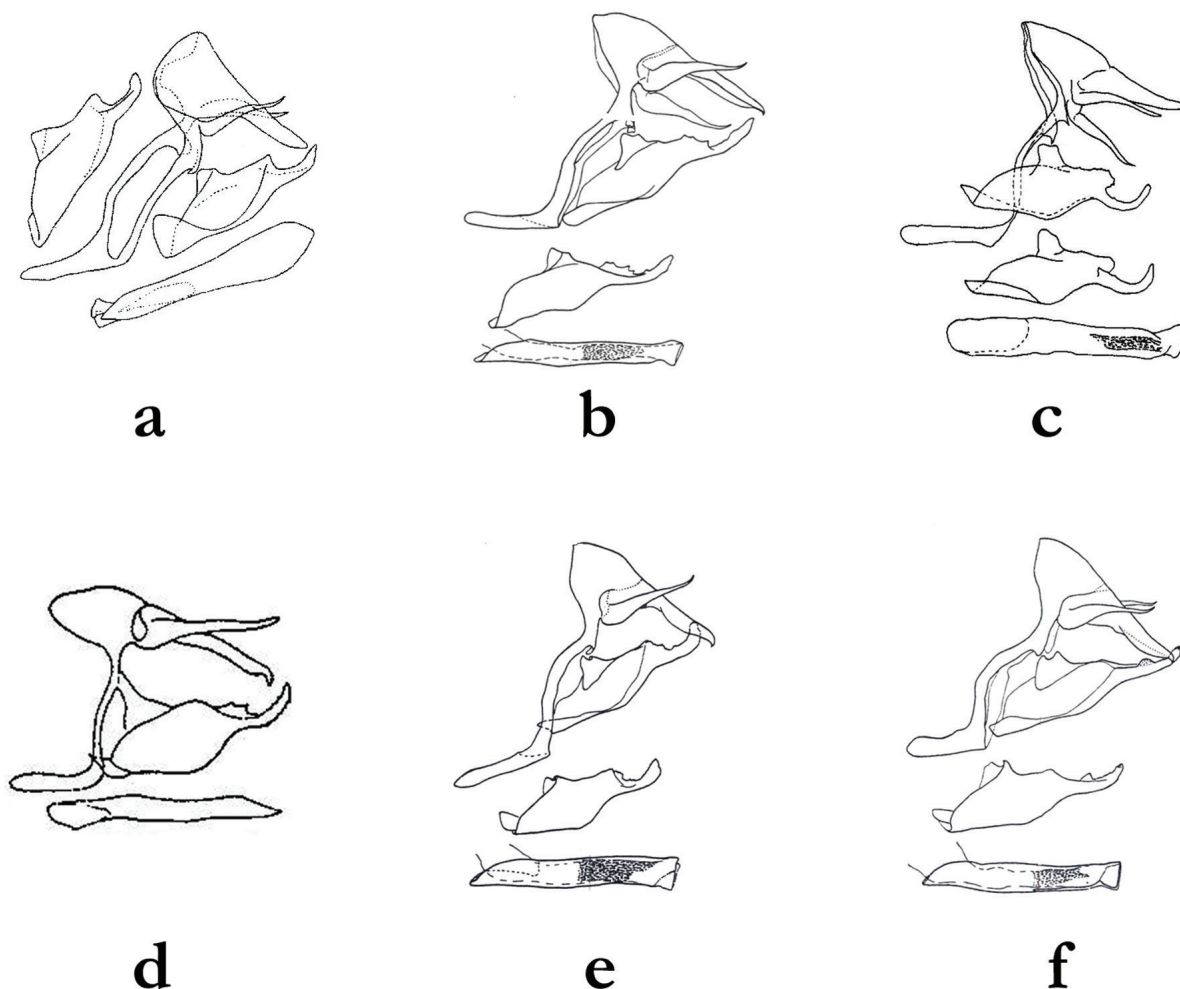


Figure 3. Lateral view of the male genitalia of five different species of *Rudyphthimoides* gen. nov.; **a.** *R. affinis* (Butler) **comb. nov.** (= *Yphthimoides wuerttembergiae* Anken, reproduced from Anken 1999); **b.** *R. erigone* (Butler) **sp. restit., stat. rev., comb. nov.** (reproduced from Forster 1964); **c.** *R. guenzeli* (Anken) **stat. rev., comb. nov.** (reproduced from Anken 1994); **d.** *R. maepius* (Godart) **comb. nov.** (reproduced from Hayward, [1964]); **e.** *R. maepius* (Godart) **comb. nov.** (= *Euptychia argyrospila* Butler, **syn. nov.**, reproduced from Forster 1964); **f.** *R. mythra* (Weymer) **comb. nov.** (reproduced from Forster 1964).

Cissia thobiei (Capronnier); Canals, 2003 (misidentification of *Paryphthimoides terrestris grevei* Zacca, Casagrande & Mielke, 2021; Zacca *et al.*, 2021: 86 (as a misidentification).

Yphthimoides affinis (Butler); Freitas, 2004: 10, fig. 3 row b [2]; Lamas, 2004: 223; 2006: 123; Pettitrossi, 2010: 19, 21; Marín, 2011: 50, fig. 79 (male habitus, dorsal and ventral), 56, fig. 6 (phylogenetic tree), 60, fig. 7 (phylogenetic tree), 67, 69, 71, 73, 75, 108; Silva *et al.*, 2015: 6; Marín *et al.*, 2019: 96; Zacca *et al.*, 2021: 86; Barbosa *et al.*, 2022: 1, 4, 9, 11, 16.

Magneuptychia thobiei (Capronnier); Piñas-Rubio, 2004: 33, 81, 86, figs. 255-258 (misidentification of an undescribed taxon).

Yphthimoides wuerttembergiae Anken; Lamas, 2004: 223 (synonymy established); 2006: 123 (as a synonym).

Neonympha thobiei Capronnier; Lamas, 2006: 122-123, fig. 6 [male lectotype] (synonymy established); Zacca *et al.*, 2021: 86 (as a synonym).

Malaveria affinis (Butler); Barbosa *et al.*, 2022: 9, 16.

Rudyphthimoides erigone (Butler, 1867), **sp. restit., stat. rev., comb. nov.**

Euptychia erigone Butler, 1867a: 466, pl. 39, fig. 5 [♂, São Paulo [de Olivença], Brazil]

Euptychia erigone Butler; Butler, 1868: 18; 1877a: 118; 1877b: 112; Kirby, 1871: 48; 1877: 132; Druce, 1876: 213; Staudinger, 1887: 226, pl. 81; Weymer, 1911: 203, pl. 47 [row d]; Riley &

- Gabriel, 1924: 20; Gaede, 1931: 445; D'Abbrera, 1988: 789, 874; Lamas, 2004: 223 [erroneously as a synonym of *Ypthimoides maepius* (Godart)].
- Ypthimoides erigone* (Butler); Forster, 1964: 101, fig. 97 (male genitalia), 103; Anken, 1994: 331; DeVries *et al.*, 1997: 355, 359; Brown & Freitas, 2000: 104; Murray & Prowell, 2004: 70, 72, fig. 1, 73, fig. 2; 75, fig. 3; 76, fig. 4 (all figures phylogenetic trees).
- Ypthimoides maepius erigone* (Butler); T. Racheli & L. Racheli, 2001: 326.
- Ypthimoides erigone* ? (Butler): Motta, 2002: 158.
- [*Cissia maepius* (Godart); Piñas-Rubio, 2004: 31, 76, 80, figs. 227 (female, habitus, dorsal), 228 (female, habitus, ventral), 229 (male, habitus, dorsal), 230 (male, habitus, ventral), 231 (male, habitus, dorsal), 232 (male, habitus, dorsal) (misidentifications)].
- Rudypthimoides guenzeli* Anken, 1994, **stat. rev., comb. nov.**
- Ypthimoides guenzeli* Anken, 1994: 327, 328-331, figs. 1a (male, habitus, dorsal), 1b (male, habitus, ventral), fig. 2 (male genitalia). [♂, Navirai, Mato Grosso do Sul, Brazil]
- Ypthimoides guenzeli* Anken; Anken 1999: 269, 277, 278.
- Ypthimoides maepius guenzeli* Anken; Lamas, 2004: 223; Marín *et al.*, 2019: 97.
- Rudypthimoides isesai* Viloria, **sp. nov.** [♂ & ♀, El Limón, Aragua, Venezuela]
- Rudypthimoides maepius* (Godart, [1824]), **comb. nov.**
- Satyryx maepius* Godart, [1824]: 490. [♀, Guyane]
- Euptychia maepius* (Godart); Westwood, 1851: 373; Butler, 1867a: 465; 1868: 28; 1877a: 122; Kirby, 1871: 51; Weymer, 1911: 202, pl. 47 [row] d; Gaede, 1931: 453-454; Hayward, [1964]: 512, 513, fig. 97 (male genitalia).
- Neonympha maepius* (Godart); Herrich-Schäffer, 1865: 70.
- Euptychia argyrospila* Butler, 1867a: 467, pl. 11, fig. 12, **syn. nov.** [♀, Ega, Amazonas, Brazil]
- Euptychia argyrospila* Butler; Butler, 1868: 18; 1877a: 118; Kirby, 1871: 48; Weymer, 1911: 203; Möschler, 1877: 323; Gaede, 1931: 439.
- Euptychia perfuscata* Butler, 1868: 18, **syn. nov.** [♂, Pará, Brazil]
- Euptychia argyrospila* Butler; Butler, 1868: 18; Kirby, 1877: 132; D'Abbrera, 1988: 772-773 [row 1, figs. male dorsal & ventral (misidentification of *R. affinis* (Butler))].
- Euptychia perfuscata* Butler; Butler, [1870]: 13; Kirby, 1871: 48; Weymer, 1911: 209, pl. 48 [row] d; Gaede, 1931: 460.
- Euptychia nausiaca* Möschler, 1883: 320, pl. 17, fig. 14 [♀, Surinam] (synonymy established by Lamas, 2004c: 223)
- Euptychia* sp.; Sanders, 1904: 364, 371, pl. 6, fig. 8 (male habitus, dorsal).
- Euptychia nausiaca* Möschler; Weymer, 1911: 203.
- Euptychia argyrospila* Butler var. *nausicaa* [sic] Möschler; Gaede, 1931: 439.
- Ypthimoides argyrospila* (Butler); Forster, 1964: 103, 104, fig. 102 (male genitalia), 105; Mielke & Casagrande, 1992: 180; Anken, 1994: 327, 330, 331; 1999: 269, 277, 278; Kochalka *et al.*, 1996: 210; Lamas, 2004: 223; Emery *et al.*, 2006: 90; Gareca *et al.*, 2006: 52; Gareca & Reichle, 2007: XII; Brévignon, 2008: 81; Pulido & Andrade, 2010: 541, 556; Marín *et al.*, 2019: 97; Barbosa *et al.*, 2022: 2, 9, 11, 15.
- Ypthimoides nausicaa* [sic] (Möschler); Forster, 1964: 103
- [*Ypthimoides maepius* (Godart); Lewis, 1973: 58, fig. 10 (female habitus, ventral) (misidentification of *Cissia penelope* (Fabricius))]
- Euptychia moepius* [sic] (Godart); D'Abbrera, 1988: 772 [rows 6 & 7, figs. (3 males)].
- "*Euptychia*" *perfuscata* Butler; Emmel & Austin, 1990: 10.
- Ypthimoides maepius* (Godart); Kochalka *et al.*, 1996: 210; Lamas *et al.*, [1997]: 65; T. Racheli & L. Racheli, 2001: 326; Murray, 2001: 115, 128, 129, 130, 220, fig. 3.29, 236, 237, 268, 282, fig. 4.2, 290, fig. 4.6; 297, fig. 4.9, 301, fig. 4.11, 303, fig. 4.12, 308, fig. 4.4 (all figures phylogenetic trees); Beccaloni *et al.*, 2008: 345 (hostplant); Marín *et al.*, 2019: 97; Espeland *et al.*, 2019: 118, fig. 1 (phylogenetic tree); Garwood *et al.*, 2021: 148; Ramos-Artunduaga *et al.*, 2021: 62; Barbosa *et al.*, 2022: 1, 4, 9, 11, 16.
- Ypthimoides moepius* [sic] (Godart); T. Racheli & L. Racheli, 2001: 326 (as a misspelling).
- Maressia maepius* (Godart) *nom. nud.*; Murray, 2001: 238.
- Marissia maepius* (Godart) *nom. nud.*; Murray, 2001: 331, 335, fig. 5.1, 339, fig. 5.3, 343, fig. 5.4 (all figures phylogenetic trees).
- Ypthimoides maepius maepius* (Godart); Lamas, 2004: 223; Emery *et al.*, 2006: 90; Brévignon, 2008: 81; Marín *et al.*, 2019: 97.

Ypthimoides maepius perfuscata (Butler); Lamas, 2004: 223; Marín *et al.*, 2019: 97.

Cissia maepius (Godart); Piñas-Rubio, 2004: 31, 76, 80, figs. 227 (female, habitus, dorsal), 228 (female, habitus, ventral), 229 (male, habitus, dorsal), 230 (male, habitus, ventral), 231 (male, habitus, dorsal), 232 (male, habitus, dorsal) (misidentifications of *Rudypthimoides erigone* (Butler), **comb. nov.**)

[?] *argyropila* (Butler); Barbosa *et al.*, 2022: 9.

Malaveria maepius (Godart); Barbosa *et al.*, 2022: 9, 16.

Rudypthimoides mythra (Weymer, 1911), **comb. nov.**

Euptychia mythra Staudinger, *in litt.*; Weymer, 1911: 205, pl. 47 [row e]. [♂, Bolivia]

Euptychia mythra Weymer; Gaede, 1931: 456; D'Abbrera, 1988: 774, 775 [row 1, figs. Male dorsal & ventral]

Ypthimoides mythra (Weymer); Forster, 1964: 103, 104, fig. 104 (male genitalia), 106; Brown & Mielke, 1967: 91; Anken, 1994: 331; 1999: 273, 278; Lamas, 2004: 223; Emery *et al.*, 2006: 90; Gareca *et al.*, 2006: 52; Marín *et al.*, 2019: 97; Barbosa *et al.*, 2022: 1, 2, 9, 11, 16.

Ypthimoides mythe Staudinger, *in litt.*, Forster, 1964: 106, *nomen nudum* (synonymy established by Lamas, 2004: 223).

Ypthimoides cf. mythra (Weymer); Kochalka *et al.*, 1996: 210.

Ypthimoides mythra ? (Weymer); Motta, 2002: 158.

Malaveria mythra (Weymer); Barbosa *et al.*, 2022: 9, 16.

***Rudypthimoides iseai* Viloria, sp. nov.**

(Figs. 1a, b; 2a, b, c, d)

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Type material: HOLOTYPE ♂, Venezuela, AR[agua], El Limón, 450 m, 30-I-[19]53, F. Fernández Y. col.; ALLOTYPE ♀, Venezuela, edo. Aragua, Maracay, El Limón, 5-I-[19]53, F. Fernández Y. col.; PARATYPES: (3 ♂♂, 3 ♀♀) 1 ♂, Venezuela; AR[agua], El Limón cr. Maracay, 8-IV-[19]52, F. Fernández Y. col.; 1 ♀, same data, 17-IV-[19]52; 1 ♂, Venezuela, E. Aragua, Maracay, El Limón, 500 m, 11-XII-[19]52, F. Fernández Y. col. (genit. prep. ALV518-14); 1 ♀, same data, 12-XII-[19]52; 1 ♀, same data as holotype, 23-I-[19]53; 1 ♂, same data as holotype, 24-II-[19]53 (wing prep. ALV059-19) [MIZA].

Description: Male (Figs. 1a, b, 2a, b). FWL: 20-22 mm (mean: 20.87; n = 4). Body brown, ventrally lighter. Palpi twice as long as head, creamy ochraceous with brown elongated scales below. Antenna thin, dark brown, club formed gradually, reaching two thirds of the length of the costa. FW triangular, costal margin slightly arched, anal margin almost straight, outer margin regular and smooth; HW rounded, suboval, costal and anal margins slightly curved, outer margin slightly wavy. Dorsal ground color brown, slightly darker towards distal quarter; one wavy submarginal dark line, faded on FW; two marginal dark lines running parallel to each other, lighter brown in between; dense marginal scaling forming fringes along outer margins. FW with darker color over the veins distally closing discal cell; one dark (almost black) subapical ocellar spot in cell M1, with orange halo. HW upperside with irregular postdiscal darker line, and a darker mark over vein m1-m2; darker postdiscal circular spots, very diffuse on R5, M1 and M3; prominent postdiscal black ocellus on Cu1, with centered white pupil, ringed with yellow-orange, finely circled with dark brown; another similar but smaller (a third of Cu1's diameter) on Cu2. Ventral ground color very light, creamy brown; basal half of wings densely dusted with brown; irregular postbasal darker lines on both wings, almost straight; another one similar, limiting discal and postdiscal areas, more regular and straight; diffuse umbra developed on both wings in the middle of discal area, above which a series of double-pupilled ocelli, as follows: FW, three to four ocelli in cells M1 (black), M2, M3 and (sometimes) Cu1, last three not black but brown and less well defined, all three or four circled with yellow; HW, five to six double-pupilled ocelli occupying cells R5, M1, M2, M3, Cu1 and Cu2 (vestigial), those on R5, M1, and Cu1 black, others brown, all circled with yellow, pupils of R5, M2 and M3 silver, the others white; both wings with submarginal dark brown line, wavy or zig-zagging; two parallel fine lines running along outer margins.

Genitalia (Fig. 1b). Tegumen well developed, semi-globular; uncus almost twice as long as tegumen's dome, laceolate; subunci stylized, two thirds length of uncus, emerging laterally from below base of uncus and directed upwards; vinculum thin but strong; saccus as long as subunci, semitubular, flattened at base, moderately inflated at anterior extremity; valvae subtriangular, very broad at base, with an inner aileron developed from ampulla as a process at the base of the digitiform extremity, which is curved inwards as a hook; aedeagus straight, depressed, with broad basal opening (dorsal).

Female (Figs. 2c, d). FWL: 19-23 mm (mean: 21.25; n = 4). Similar to male, but larger on average, slightly lighter in color. Dorsal FW ocellar spot reduced, as well as

dorsal HW Cu2 ocellus. HW ventral lines on both sides of discal area more irregular and zig-zagging.

Etymology: This butterfly is named *in memoriam* of the Venezuelan composer, arranger and virtuoso musician, Professor Dr. Douglas Isea (b. Douglas Alcíades Isea Rrevilla, Maracaibo, September 27, 1951; d. April, 24, 2020). Isea's exceptional abilities and own style in the execution of the Venezuelan cuatro was influential in the development of modern trends of local folk and popular music, as well as pioneering the adaptation of cuatro performing to accompany classic orchestra. He was responsible for introducing cuatro in worldwide recognized examples of rock and pop music.

Distribution, habitat and behaviour: Nothing is known about the habitat preferences of *Rudyphthimoides isei* **gen. et sp. nov.** This species is probably locally common in northern Venezuela, but only known so far at low elevations on the foothills of the Cordillera de La Costa. There is no mention of it, or any other taxon with similar aspect that could have been confused with it, in previous records or species lists for the region (Martorell 1939, Forster 1949, Beebe 1951, Osuna 2000, Sandoval-Cabrera *et al.* 2008, Ríos-Málaver *et al.* [2021]). Two records of *Emeryus argulus magnum* Zacca, Casagrande & Mielke (Zacca *et al.* 2020) in the Parque Nacional Henri Pittier (Rancho Grande, 1,125 m) might be either mislabelled specimens or misidentifications of *R. isei* **gen. et sp. nov.** The present author does not know of any reliable record of butterflies of the genus *Emeryus*, north of the Orinoco River, in Venezuela.

Stephenympha* Viloría, **gen. nov.*

(Figs. 4a [type species, wing venation], b [wing venation *S. eriphule* (Butler) **comb. nov.**]; 5a [type species, male habitus, dorsal,], b [type species, male habitus, ventral,], c [male habitus *S. eriphule* (Butler) **comb. nov.**, dorsal], d [male habitus, *S. eriphule* (Butler) **comb. nov.**, ventral]; 6a [type species, male genitalia], b [male genitalia, *S. eriphule* (Butler) **comb. nov.**], c [male genitalia, *S. arius* (Weymer) **comb. nov.**])

<http://zoobank.org/urn:lsid:zoobank.org:act:91261755-8F4D-4944-8B10-3FCBC0E9CD0D>

Type species: *Stephenympha pauliana* Viloría, **sp. nov.**, herein designated.

Diagnosis: The members of *Stephenympha* **gen. nov.**, may look superficially similar to many related medium-sized neotropical lowland satyrine butterfly (*e. g.*, species of *Cissia* and *Vareuptychia* Forster, 1964), but they are unlike any other in several aspects: 1. They lack any visible dorsal marking or ocelli (several other genera do, like *Mag-*

neptychia, *Emeryus*, *Modestia*, *Malaveria* and *Hermeuptychia* Forster, 1964); 2. They have five postdiscal, monopupilled ocelli on ventral HW (R5 to M3), sometimes a sixth, supranumerary, minute ocelli, also develops on the anal margin (cell A2), and a well-developed to vestigial ocellus may appear on ventral FW M3, which is peculiar; 3. In the male genitalia the uncus is unique, as it is heavily bended downwards, either at its base or half way its length; the subunci emerging laterally, usually elevated above the base of the uncus. The character of its uncus is unique and might represent a synapomorphy. As for its wing venation, *Stephenympha* **gen. nov.**, is similar to several other genera (*e. g.*, *Cissia*, *Magneuptychia*, *Paryphthimoides*, *Emeryus* and *Malaveria*) in that their FW veins R2, R3-R5 and M1 all emerge together from the anterior angle of the distal extremity of discal cell, and in having no recurrent vein in FW discal cell, and a similar disposition of crossveins m1-m2 and m2-m3.

Etymology: This genus of nymphalid butterfly is named in remembrance of the internationally renowned Venezuelan musician, actor, composer and extraordinary singer, Henry Stephen (b. Henry Augustus Stephen Pierre, Cabimas, July 15, 1941; d. Caracas, April 5, 2021).

Distribution: West of the Andes, Amazonian lowlands and Pantepui.

Taxonomic comments: De Lesse (1967: 36-38, fig. 2) dissected, examined, and illustrated the male genitalia of a butterfly from Coroico, Bolivia, in all its appearance consistent with the species *Euptychia arius*, originally described and illustrated by Weymer (1911: 198, pl. 47 [row a]). In this way, he detected the disparity between the image of the male genitalia illustrated by Forster (1964: 100 fig. 93) for *Yphthimoides arius* (Weymer) and the structure dissected and illustrated by him. Judging by the presence of the intact abdomen in the cotype from Mapiří [Bolivia] preserved at the Zoologische Staatssammlung München, and despite the fact that it bears the label "Präparat Nr SA25" placed by Forster, it is evident that it was not dissected and therefore consequently never illustrated, so it follows that Forster's Figure 93 necessarily corresponds to the genitalia of an indeterminate species that is not *arius*.

Thus, relying on De Lesse's excellent illustration (reproduced here in Figure 6c) it is possible to confirm the extraordinary orientation of the uncus in this species, pointing directly downwards, due to its emergence at right angle in relation to the natural axis of the tegumen. Such character led De Lesse to suggest the creation of a new genus for *Euptychia arius*.

We have discovered in our comparative studies the existence of at least two other species of Amazonian distribution (both found in Venezuela, one described here)

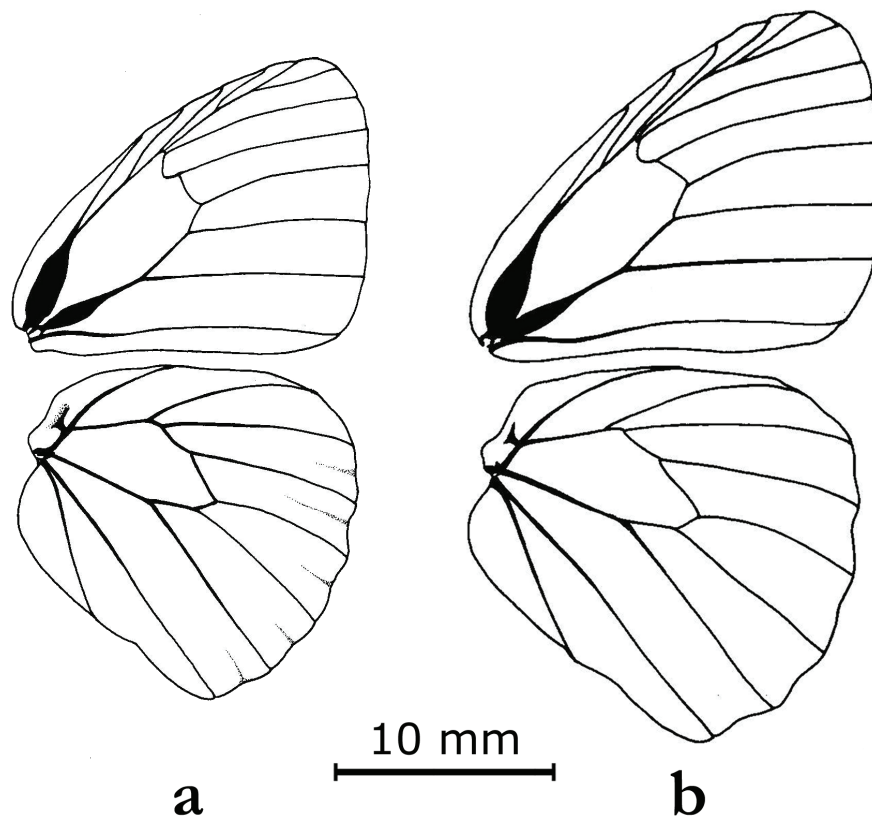


Figure 4. Wing venation of male individuals of *Stephenympha* gen. nov.; a. *S. pauliana* sp. nov.; *S. eriphule* (Butler) comb. nov.

that share a similar trait, although less extreme than that of *arius*. These species, mentioned below, also share with *arius* the basic ocellar pattern on the ventral side of their wings. These homologies allow for grouping these three taxa within *Stephenympha* gen. nov.

Species belonging to *Stephenympha*:

Stephenympha arius (Weymer, 1911), **comb. nov.**

Euptychia arius Weymer, 1911: 198, pl. 47 [row a].

[♂, Mapiro, Bolivia]

Euptychia arius Weymer; Gaede, 1931: 439; D'Abbrera, 1988: 789, 873.

Ypthimoides arius (Weymer); Forster, 1964: 100, fig. 93 (male genitalia, erroneous), 102, 103; Anken, 1994: 331.

Euptychia (*s. l.*) *arius* Weymer; De Lesse, 1967: 36, fig. 2 (male genitalia), 37-38.

Erichthodes arius (Weymer); Lamas, 2004: 219; Garcia *et al.*, 2006: 50.

Erichthodes s. l. arius (Weymer); Brown *et al.*, 2007: 473.

Stephenympha eriphule (Butler, 1867), **comb. nov.**

Euptychia eriphule Butler, 1867a: 468, pl. 39, fig. 6.

[♂, Pernambuco, Brazil]

Euptychia eriphule Butler; Butler, 1868: 19; 1877a: 118; Kirby, 1871: 49; Weymer, 1911: 203; Riley & Gabriel, 1924: 20; Gaede, 1931: 446; D'Abbrera, 1988: 773 [row 5, fig. female ventral].

Ypthimoides eriphule (Butler); Lamas, 2004: 223; Brévignon, 2008: 80-81, 82, 84, 90 figs. 67a, b (male genitalia), 67c (male habitus, dorsal left, ventral right), 94; Brévignon & Benmesbah, 2012: 52; Marín *et al.*, 2019: 97; Barbosa *et al.*, 2022: 1, 3, 9, 11, 16.

[New genus 1] *eriphule* (Butler); Barbosa *et al.*, 2022: 9.

Stephenympha pauliana Viloria, **sp. nov.** [♂, Cerro Cuao, Amazonas, Venezuela]

Stephenympha pauliana Viloria, **sp. nov.**

(Figs. 4a; 5a, b; 6a)

<http://zoobank.org/urn:lsid:zoobank.org:act:713D5AA1-B5CC-4E8A-9ED0-AE5749C562DB>

Type material: HOLOTYPE ♂, Venezuela, Amazonas, Serranía del Cuao, subida al Cerro Woroi, 500 m, 20-III-2016, M. Costa (genit. prep. ALV361-17) [MIZA]; PARATYPES, 2 ♂♂, Venezuela, Amazonas, Serranía del Cuao, Cerro Paraka, 600 m, 14/21-II-2020, M. Costa [1 IVIC (wing prep. ALV060-21), 1 MC].

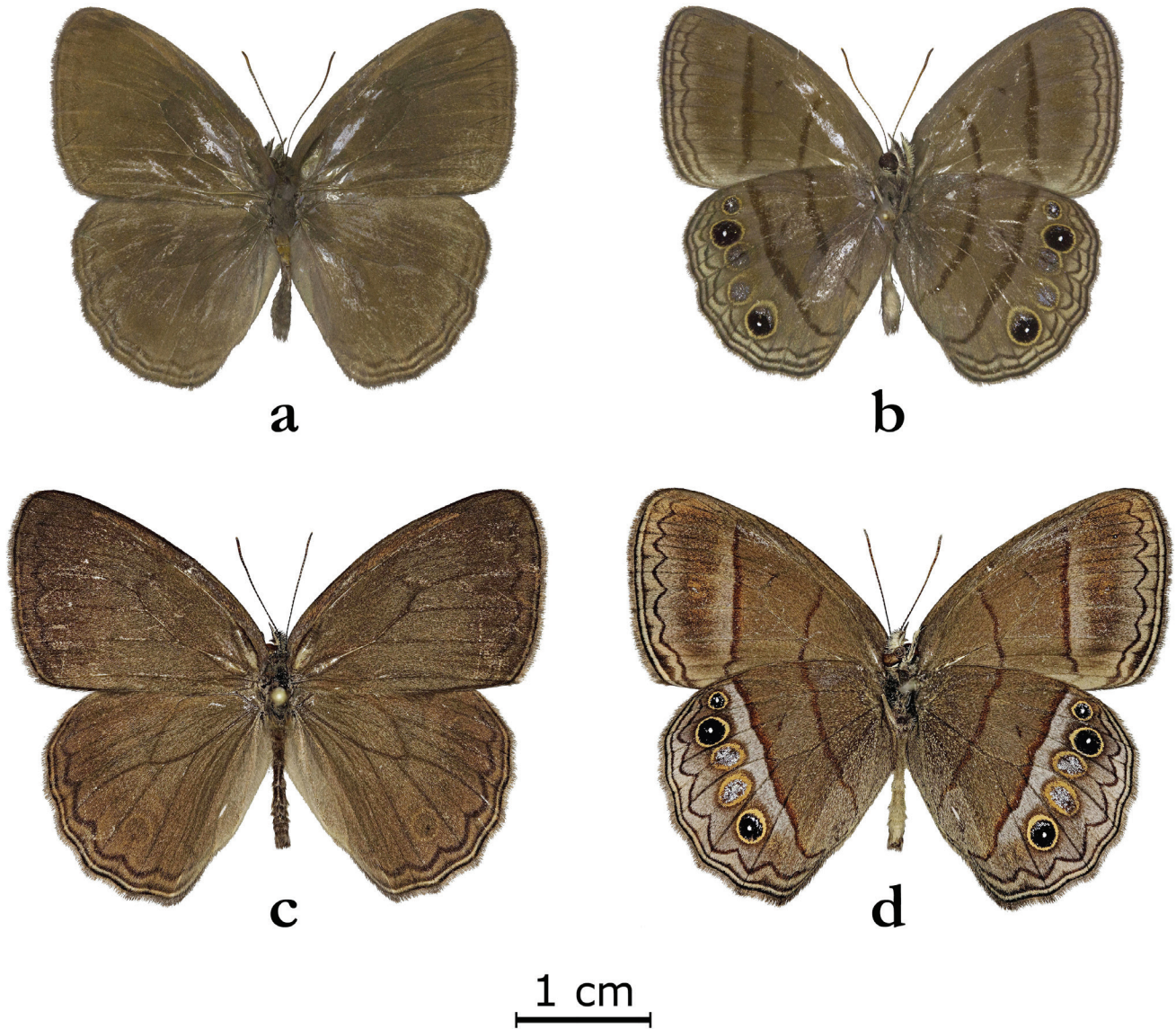


Figure 5. Habitus of male individuals of two species of *Stephenympha* gen. nov.; **a.** *S. pauliana* sp. nov., Holotype, dorsal view; **b.** Same, ventral view; **c.** *S. eriphule* (Butler) comb. nov., Venezuela, edo. Bolívar, Auyántepeui, Guayaraca, 1,000 m, dorsal view; **d.** Same, ventral view.

Description: Male (Figs. 4a; 5a, b; 6a). FWL: 18–21.5 mm (mean: 19.33, $n = 3$). Body dorsally dark chocolate brown, ventrally lighter; antennae, dark brown, thin, club formed gradually, reaching two fifths of costa; palpi almost twice as long as head, dark brown, with sparse elongated light brown scales, laterally very light brown. FW subtriangular, costa moderately curved, outer margin smooth, anal margin straight, apex and tornus rounded; HW suboval, costa moderately curved, as well as anal margin, outer margin barely scalloped, apex and tornus rounded. Upperside ground color dark chocolate brown, slightly darker on anterior tip of FW apex and especially on discal cell and adjacent costal area, where there appears to

develop an androconial patch (Fig. 5a); both wings with three marginal lines running parallel, the inner one wavy, the middle one more regular, and the outer one running through margin and forming the fringes, all three diffuse on FW, distinct on HW. Underside ground color light chocolate brown, tending to olive green towards center of wings; submarginal and marginal areas lighter, darker postdiscal umbra on FW; two dark brown stripes limiting both sides of discal area, the postbasal one slightly curved distally, as well as the distal one on HW; the latter straight on FW; small dark maculae at distal extremity of discal cells; submarginal dark line wavy, more markedly on HW; two neat, dark marginal lines running parallel along outer

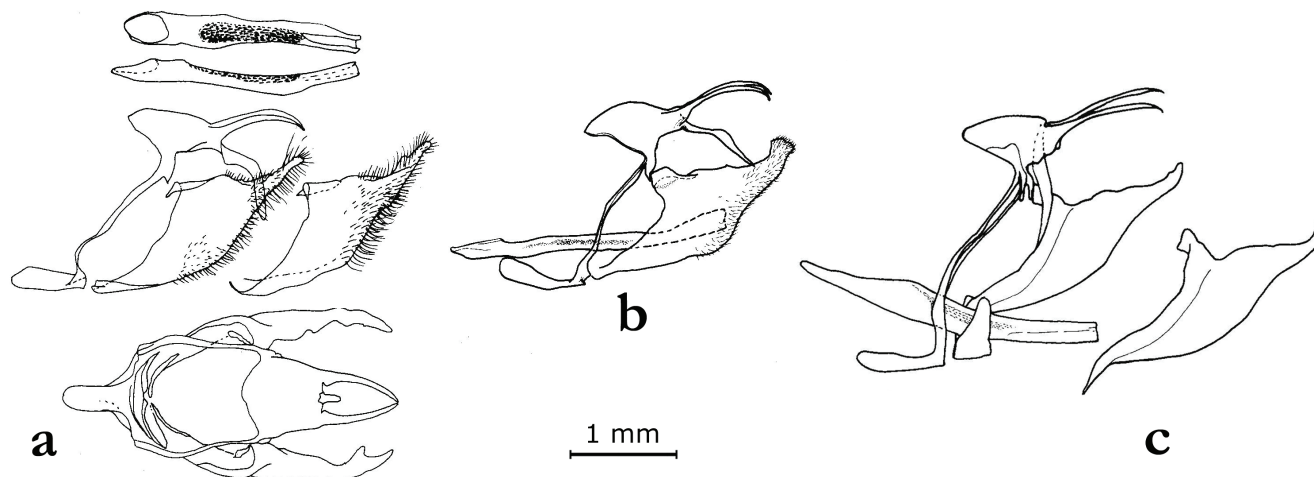


Figure 6. Comparison of the male genitalia of three species of *Stephenympha* gen. nov.; a. *S. pauliana* sp. nov., Holotype (genit. prep. ALV361-17): above, dorsal and lateral view of aedeagus; center, lateral view of genital armature, left valva detached; below, dorsal view of male genital armature (aedeagus removed); b. *S. eriphule* (Butler) comb. nov., lateral view of entire genital capsule, aedeagus in natural position (genit. prep. ALV516-14); c. *S. arius* (Weymer) comb. nov., lateral view of entire genital capsule, aedeagus in natural position (reproduced from De Lesse 1967).

margins; a series of five postdiscal ocelli on HW underside, occupying cells R5 to Cu1, respectively, finely ringed with ochraceous yellow, the first one smaller than the others; those on R5, M1 and Cu1 black, with white central pupils, but with silver scales, either scattered (R5 more than M1) or concentrated at basal border of ocellus (Cu1) forming a silver lunula; two ocelli, M2 and M3, silver, without a visible white pupil, but with some dusting of black and white scales. This ocellar pattern is very similar to that of *S. eriphule* (Butler) comb. nov.

Genitalia (Fig. 6a). Tegumen semiglobular, somewhat depressed, basally 1.5 times wider than distally; uncus thin and stylized, as long as tegumen, rising at the lowest level of distal extremity of the latter, emerging inclined downwards approximately 45° in relation to it, halfway its length it bends further 30–40° downwards; subunci as long as uncus, but more stylized and regularly curved, emerging laterally at distal extremity of tegumen, inclined upwards and inwards at base, developing at about same position of maximum elevation of tegumen, their tips touching each other in middle axis; vinculum stylized, more or less straight both in lateral and dorsal views; saccus slightly shorter than tegumen, tubular and slightly depressed at base; valva subtriangular, large and broad, ending in a digitiform distal process, nearly a fifth of its maximum length; a subterminal, shorter, secondary inner process; aedeagus regular, depressed; both extremities slightly curved upwards.

Female. Unknown.

Etymology: This new species is named after Paul McCartney (b. James Paul McCartney, Liverpool, UK, June

18, 1942), an animal rights advocate, but best known and celebrated as a highly creative and original songwriter, singer and musician. His remarkable artistic work has achieved an unprecedented cultural impact worldwide over the last sixty years.

Distribution, habitat and behaviour: *Stephenympha pauliana* gen. et sp. nov., might be a widespread Amazonian species. However, it is known only from the foothills of the Serranía del Cuaó (500–600 m), a Tepuyan mountainous region in northwestern Amazonas state in Venezuela, which belongs in the Guiana Shield. The habitat of *S. pauliana* gen. et sp. nov., is somewhat particular. It is within an area in which there are many rocks and stones and little soil filling the space between them, with small and thin trees, which makes it possible to walk freely among them. The floor is always covered by dry leaves where this butterfly rests from time to time. It has neither been found anywhere else nor at different elevations. The fact that the only individuals known where found exactly in the same kind of places indicates that this is the habitat preferred by this species (M. Costa, pers. comm. 2022). More data on the geographical position, the environment and some features of the vegetation of this sector of the Serranía del Cuaó have been described by Costa *et al.* (2019, 2020, [2021]), although mainly what corresponds to the pan-tepuyan life zone, which develops at higher altitudes.

Additional material examined: *Stephenympha arius* (Weymer) comb. nov.: 1 male, cotypus *Euptychia arius* Weymer, [Bolivia], Mapiri, collection v. Rosen, Präparat Nr SA25 Zoolog. Staatssammlung München [SNSB];

Stephenympha eriphule (Butler) **comb. nov.**: 1 male, syn-type, *Euptychia eriphule* Butler Monog., [Brazil], Pernambuco, pres. By M. S. Smith 45-70, B. M. Type No. Rh.3204 [NHMUK]; 1 female, (ST-068-1), [Venezuela], edo. Bolívar, Qda. El Jaspe, 24-XII-1983, [M. Costa] (genit. prep. ALV516-14); 1 male, Venezuela, edo. Bolívar, Auyántepeui, Guayaraca, 1,000 m, 28.III.2013, [M. Costa] (genit. prep. ALV517-14); 1 male, (12z), same data, 28-III-2015; 2 males (10z, 11z), same data, 5-IV-2015 (1 wing prep. ALV061-19); 2 males (28b), Venezuela, edo. Bolívar, Akopán Tepui, entre Yunek y Piaima Parú, 900 m, 31-XII-2013, M. Costa; 1 male (4a), Venezuela, edo. Bolívar, Ptari Tepui, Salto Iworé, 1,400 m, 19-XII-2014, M. Costa [MC].

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