

# Defective taxonomic descriptions and the electronic publication fashion. A comment on Braby *et al.* (2024) and a rectification

Descripciones taxonómicas defectuosas y la moda de la publicación electrónica.  
Comentario sobre Braby *et al.* (2024) y una rectificación

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## ABSTRACT

Some reflections are presented on the global practice of publishing scientific works in electronic format, its demands and challenges. In this context, the recently published article by Braby *et al.* (2024) is discussed in relation to scientific best practice in the description of new zoological species. That article refers to numerous descriptive works that suffer from formal defects and irregularities that nullify the availability of the scientific names of the species described or proposed in them, due to non-compliance with the regulations established in the International Code of Zoological Nomenclature (ICZN). One such case is the description of *Redonda bordoni* Viloría & Pyrcz, 2003 (Insecta: Lepidoptera: Nymphalidae, Satyrinae), Bordón's brachypterous butterfly, a species endemic to a high Andean sector of western Venezuela, whose name would not be available because its description, together with its typification, mention of the repositories of the type specimens and the explanation of the etymology of the name, were relegated to an electronic appendix presumably inaccessible (at least for a period of time). To resolve this irregularity, the species is redescribed, complying with the fundamental recommendations of the ICZN.

**Key words:** Lepidoptera, Nymphalidae, Pronophilina, *Redonda bordoni*, Satyrinae, Satyrini.

## RESUMEN

Se presentan algunas reflexiones sobre la práctica global de la publicación de obras científicas en formato electrónico, sus exigencias y retos. En este contexto se comenta el artículo recientemente publicado por Braby *et al.* (2024) en relación a las mejores prácticas científicas en la descripción de nuevas especies zoológicas. En dicho artículo se hace referencia a numerosos trabajos descriptivos que adolecen de defectos formales e irregularidades que anulan la disponibilidad de los nombres científicos de las especies en ellos descritas o propuestas, por incumplimiento de la normativa establecida en el Código Internacional de Nomenclatura Zoológica (ICZN). Uno de tales casos es la descripción de *Redonda bordoni* Viloría & Pyrcz, 2003 (Insecta: Lepidoptera: Nymphalidae, Satyrinae), la mariposa braquíptera de Bordón, especie endémica de un sector altiandino del occidente de Venezuela, cuyo nombre no estaría disponible debido a que su descripción, junto con su debida tipificación, la mención de los repositorios de los especímenes tipo y la explicación de la etimología del nombre, fueron relegadas a un apéndice electrónico presuntamente inasequible (al menos durante un lapso de tiempo). Para solventar esta irregularidad se redescrive la especie, cumpliendo con las recomendaciones fundamentales del ICZN.

**Palabras clave:** Lepidoptera, Nymphalidae, Pronophilina, *Redonda bordoni*, Satyrinae, Satyrini.

## INTRODUCTION

The transition from the publication of scientific prints to the electronic publication of books, journals and specialized articles has taken nearly three decades. It has required the progressive consideration and incorporation of novel editorial aspects imposed by this fashion, as well as the implementation of new rules and practices that guarantee formality and professional ethics in the publication and dissemination processes, and above all that ensure the perpetual availability of electronic documents through their hosting in secure repositories, preferably institutional.

Many difficulties are being overcome to successfully couple numerous regulations to legitimize scientific production with the globalization of the practice of electronic publishing. However, the reduction of ecological and economic costs by decreasing the use of paper, global openness through electronic communication, as well as the reduction of time lapses in the editorial process, have been accompanied not only by the multiplication of electronic means of disseminating specialized information but also the number of people (researchers or not) who make almost frenetic use of them.

In response to the proliferation of unprofessional and irregular taxonomic work, Braby *et al.* (2024) have published an interesting, entertaining and necessarily critical essay on the formal procedures to describe animal species in the most appropriate way and in full compliance with the rules established in the International Code of Zoological Nomenclature (ICZN 1999, 2012). Not only is it an extraordinary theoretical review of the topic, which has also been previously treated by other authors, but it presents a notable number of examples of bad taxonomic practice, particularly in relation to the description of new species, providing no few recommendations to minimize the risks of making errors.

One such example refers to the publication of the first case of brachyptery in butterflies (Lepidoptera: Papilionoidea) (Viloria *et al.* 2003), represented in the female of a then undescribed species of the genus *Redonda* Adams & Bernard, 1981, which lives in the high elevations of the Andean mountains of Venezuela. Brachyptery in butterflies is a peculiar biological phenomenon, studied in the field by the authors of that article for one decade, the information about it was organized fundamentally as a descriptive ecological study, in which comparative morphology was necessary to describe the species involved, but also to carry out elementary morphometric calculations and a statistical analysis designed to mathematically demonstrate the physical limitations that prevent flight in females of said taxon, which derive from a disadvanta-

geous relationship between wing surface and body size. In addition to the corresponding considerations on the ecological conditions of the tropical highland environment as a source of possible selective forces involved in the loss of flight capabilities, the work included the diagnosis and complete taxonomic description of the species.

The resulting study, submitted for consideration for publication in the *Proceedings of the Royal Society B: Biological Sciences*, received approval from its editorial committee and reviewers. However, making its publication conditional on a reduction in the length of the text to accommodate it in the first issue of the supplement to the *Proceedings B*, called *Biology Letters*, established in 2003 and launched as an independent journal from 2005 (<https://royalsocietypublishing.org/journal/rsbl>). Not only were the authors committed to reducing the length of the work to meet the editorial demands of such a prestigious journal, but they were also compromised to separate the diagnosis from the taxonomic description, relegating the latter, along with some illustrations, to form part of an electronic appendix. Unfortunately, as has been pointed out by Braby *et al.* (2024), at the time, such actions could have led to the violation of some of the rules established by the International Code of Zoological Nomenclature (ICZN 1999) to guarantee the availability of scientific names assigned to animal species.

Braby *et al.* (2024) state that the electronic appendix in which the description of the aforementioned brachypterous butterfly appeared is no longer accessible, so it was not possible for them to access the data corresponding to the series of type specimens and their repositories. Consequently, in the opinion of those authors, the provisions of Article 16.4 of the ICZN have not been complied with, which is why the name of the species, proposed in 2003, is not available.

As can be seen in the next section of this work (below), the experience of the present author regarding the accessibility of electronic documents in question contradicts the statement of Braby *et al.* (2024), in that there is an access link to them on the Royal Society of London website. However, it is not possible to assert that the appendices to the article by Viloria *et al.* (2003) have been continuously available during the 21 years since their publication.

Given this situation of relative ambiguity and in the spirit of rectifying any past, present or future irregularity, in relation to procedures or acts that may affect the availability of a scientific name proposed more than two decades ago, and ever since used with relative frequency by several authors, the decision has been made to republish the taxonomic description of the butterfly species to which said name corresponds, and in whose content the

species is appropriately typified. Likewise, in compliance with the requirements of the most recent amendment to the International Code of Zoological Nomenclature (ICZN 2012), these acts are registered in ZooBank.

## MATERIAL AND METHODS

Electronic Appendix A to Viloría *et al.* (2003), currently available at [https://royalsocietypublishing.org/action/downloadSupplement?doi=10.1098%2Frsbl.2003.0015&file=bl030021\\_supp01.pdf](https://royalsocietypublishing.org/action/downloadSupplement?doi=10.1098%2Frsbl.2003.0015&file=bl030021_supp01.pdf), was retrieved by the author on May 12, 2024. The text of the primary taxonomic description of *Redonda bordoni* (Lepidoptera: Nymphalidae, Satyrinae) contained in this document was extracted for adequate electronic and printed publication in the present contribution. In this way, the transcription of full data of the type material, including its repositories, as well as the etymology of the name of the species and its registration in ZooBank solve the problem of the availability of its name.

Some collector names have been inserted into the original abbreviations (in square brackets), and an annotated synonymy is provided for this taxon.

### Abbreviations

A & B: [Michael J.] Adams & [George] Bernard; BMNH: The Natural History Museum, London, UK; JFLC: Jean-François Le Crom Collection, Bogotá, Colombia; MALUZ: Museo de Artrópodos, La Universidad del Zulia, Maracaibo, Venezuela; MHN: Museo de Ciencias Naturales, Universidad Nacional de Colombia; MIZA: Museo del Instituto de Zoología Agrícola, Universidad Central de Venezuela, Maracay, Venezuela; MZUJ: Zoological Museum of the Jagiellonian University, Krakow, Poland; P & V: [T. W.] Pyrcz & [Á. L.] Viloría; V & P: [Á. L.] Viloría & [T. W.] Pyrcz.

## RESULTS

Family Nymphalidae Rafinesque, 1815

Subfamily Satyrinae Boisduval, 1833

Genus *Redonda* Adams & Bernard, 1981

*Redonda bordoni*, sp. nov.

<http://zoobank.org/urn:lsid:zoobank.org:act:6D484533-A1B0-49D1-9D1D-7312461FC2E5>

Original figures in Viloría *et al.*, 2003: fig. 1a [male holotype, female paratype; ventral] (not reproduced here); e-Appendix A: fig 5 [female paratype, dorsal] (herein reproduced in Fig. 1), figs. 6a [male genitalia], 6b [female genitalia], 6c [female wing venation] (herein reproduced in Fig. 2), and in Viloría *et al.* 2015: figs. 14 [male, holotype], 15 [female, allotype].

### Type locality

Between Laguna El Cenegón and Laguna Grande, 3200-3400 m, Páramo El Batallón, Estado Táchira, Venezuela.

[*Redonda bordoni* Viloría and Pyrcz, MS, *nomen nudum*; Viloría, 1998: 319; Ferrer-Paris, 2000: 96 (tbl. C.9)]

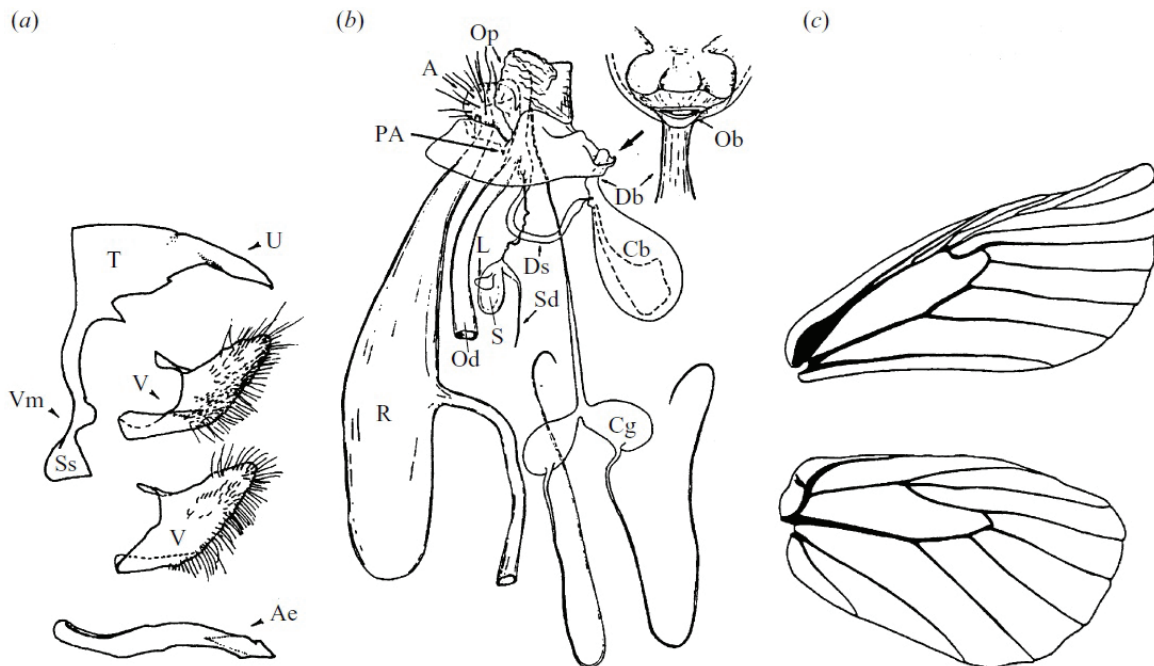
[*Redonda* sp. nov. 1; Ferrer-Paris, 2000: 27 (fig. 3.1, distribution), 29 (tbl. 3.1), 36, 37 (fig. 3.5), 38, 40, 41 (tbl. 3.6), 69, 91 (tbl. C.7); Viloría, 2000: 269; Ferrer-Paris & Viloría, [2004]: 628 (fig. 1); 629 (tbl. 1), 630 (fig. 3), 631]

[*Redonda bordoni* Viloría and Pyrcz, *in* Viloría *et al.*, 2003: 21–23 (figs. 1a, male, female, 2, 3, 4), e-appendices: [1], [4 (fig. 5, female)], [5 (figs. 6a male genitalia, 6b female genitalia, 6c female wing venation))] (in part misidentifications of *R. bolivari* Adams & Bernard, 1981 and *R. lathraia* Viloría & Camacho, 2015); [Anonymous], 2003: 24; Blackman, 2003: 26; Williams, 2003: R467; Lamas *et al.*, 2004: 215; Viloría, 2005: 459; 2008: 278; Bálint & Wojtusiak, 2006: 288; Pyrcz, 2007a: 40, 41; 2007b: 17, 18, 19; 2010a: 36 (fig. 17C, antennal club), 45 (fig. 35C, female venation), 87 (fig. 82, cladogram), 111, 179, 180 (fig. 131, wing area), 181 (figs. 132A, male; B, female, 133A, pair in copula), 182, 183, 184 (fig. 136, distribution), 244; 2010b: 265, 266 (figs. 1K male, 1L female, 267, 268 (fig. 2), 269 (figs. 3A, B, C females), 271 (fig. 5B pair in copula), 272, 273; Pyrcz *et al.*, 2007: [26] [3 figs., male & female], Łabno, 2007: 104; Davies & Butler, 2008: 33; Viloría *et al.*, 2015: 97, 105 (fig. 5 [female wing venation]), 107, 109 (figs. 14 [male, holotype], 15 [female, allotype]), 110, 111, 112, 135 (as misidentification of *R. lathraia* Viloría & Camacho, 2015), 136, 137, 138, 145 (fig. 48 [male genitalia]), 154, 160; Ferrer-Paris *et al.*, 2015: 322; Pyrcz *et al.*, 2017: 198, 221], *nomen nudum*

[*Steromapedaliodes bordoni* (Viloría & Pyrcz); Pyrcz *et al.*, 2017: 195, 197 (fig. 1B, distribution map), 200 (tbl. 1), 204 (fig. 4A [male wing venation]), 221, 222, 223, 224, 231 (figs. 10C [male], 10D [female]), 236 (fig. 15C [male genitalia]), 240 (fig. 19A [female genitalia]; Boyer, 2018: 122, 123 pl. 2 (figs. 5 [pair in copula], 6 [female]), 124, 125 pl. 3 (figs. 5, 7 [male], 6, 8 [female]), 129; 2019: 99, 104, 105 pl. 16 (fig. 14 [male], 129)], *nomen nudum*



**Figure 1.** *Redonda bordoni* female displaying the silvery dorsal surfaces of its wings [corresponding to original figure 5 in e-Appendix A to Viloria *et al.* 2003. Photo: J. Wojtusiak<sup>†</sup>].



**Figure 2.** Morphological features of *Redonda bordoni*. a. Male genitalia (aedeagus and valvae removed from their natural positions: Ae, aedeagus; Ss, saccus; T, tegumen; U, uncus; V, valva; Vm, vinculum). b. Female genitalia (A, anus; Cb, corpus bursae; Cg, colateral gland; Db, ductus bursae; Ds, ductus seminalis; L, lagena; Ob, ostium bursae; Od, oviduct; Op, ovipore; PA, post-apophysis; R, rectum; S, spermatheca; Sd, spermathecal duct). c. Venation of female wings [corresponding to original figure 6 in e-Appendix A to Viloria *et al.* 2003. Female genitalia drawing (b) by J. Wojtusiak<sup>†</sup>].

*Male*

Forewing length: 26–32 mm;  $n = 123$ ; mean = 29.56. Eyes hairy, reddish brown, circled with black and white scales. Palpi twice as long as head, light brown, flanked with white, with brown, dark brown and yellow hairs; first segment quarter length of first. Antennae up to two fifths length of costa, 32 segments; shaft orange brown, darker towards club; club 2.5–3 times longer than wide, concave (spoon-shaped). Body densely hairy, dorsally dark coffee brown, ventrally light brown, almost white on abdomen; hairs glossy light brown. Forewing triangular, tornus obtuse. Hindwing oval. Upperside ground colour shiny brown, darker towards basal half and marginal region; wing bases dark coffee brown; crossveins at distal extremity of discal cells covered by greyish white; series of five to six submarginal elongate white spots on both wings. Underside ground colour as above; forewing pattern as on upperside; hindwing veins greyish white, as well as longitudinal lines in discal and Cu2 cells, the former bifurcated near base; postdiscal series of five to six fusiform white ocellar marks; third Schwanwitsch's externa, first and second Schwanwitsch's media coffee brown (Schwanwitsch 1924); all discontinuous and dislocated to form a system of longitudinal lines parallel or oblique to veins and white marks, in basal half of wing and postdiscal-submarginal region, respectively. Genitalia illustrated in Figure 2a.

*Female*

Forewing length: 20–29 mm;  $n = 4$ ; mean = 20.87. Wings considerably shorter and narrower than in male; apex pronounced at hindwing vein M2. Upperside ground colour silvery white; wing bases very dark coffee brown; forewing densely dusted with dark brown in apical and discal region, and within discal cell. Underside colour pattern as in male, dark coffee brown much more dense in basal half of hindwing; white lines and veins more distinct; fusiform white ocellar marks heavily elongate; costal margin dark coffee brown. Genitalia illustrated in Figure 2b.

*Type material*

Holotype male, taken between Laguna El Cenegón and Laguna Grande, Páramo El Batallón, Estado Táchira, Venezuela, 3200–3400 m, 28-ii-1994, A. Viloría, M. García & J. Camacho colls.; Allotype female, same data as holotype (MALUZ). Paratypes: 27 males (3 in MHN, 3 in JFLC), 1 female, same data as holotype; 19 males (2 in MZUJ, 2 in BMNH), VENEZUELA: Estado Táchira, Páramo El Batallón, entre la Antena CANTV y la Laguna El Cenegón, 3100–3250 m; 27-ii-1994, A. Viloría, M. García & J. Camacho colls.; 4 males, Estado Táchira,

Municipio Jáuregui, Callejón del Cenegón, 16-xii-1994; M. García coll.; 6 males, 1 female, Estado Táchira, Parque Nacional Juan Peñaloza, Páramo El Rosal, 3000 m, 12/14-i-1995; J. Camacho & M. García colls.; 10 males, Estado Táchira, Páramo El Batallón, Entre El Cenegón y Laguna Grande, 3300–3400 m, 05-iii-1996, J. Camacho, M. García, T. Pyrcz, J. Wojtusiak colls. (MALUZ); 1 male, Estado Táchira, Páramo de La Negra, 30-ix-1951, P. Fenjues coll.; 1 male, same locality, 3200 m., 14-i-1982, C. Bordón coll. (MIZA); 51 males, 1 female, Estado Táchira, Páramo El Batallón, Vía El Pulpito, 3500–3800 m, 02/04-iii-1996, T. Pyrcz, J. Wojtusiak, J. Camacho, M. García colls.; 5 males, Estado Táchira, Páramo El Batallón, Vía El Cenegón, 04-iii-1996, T. Pyrcz, J. Wojtusiak, J. Camacho, M. García colls. (MZUJ).

*Etymology*

This butterfly species is named after Carlos Bordón (b. Trieste, Italy, 1921; d. Maracay, Venezuela, 2012. See Viloría 2018), prominent Italo-Venezuelan entomologist who collected the first known individual of this unusual butterfly.

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COMMENT ON BRABY *ET AL.* (2024)

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