



Phaenochitonia pseudodebilis (Lepidoptera: Riodinidae): First Description of the Female and Updated Geographic Distribution

Authors: Siewert, Ricardo Russo, Mielke, Olaf Hermann Hendrik, and Casagrande, Mirna Martins

Source: Florida Entomologist, 97(2) : 801-803

Published By: Florida Entomological Society

URL: <https://doi.org/10.1653/024.097.0263>

The BioOne Digital Library (<https://bioone.org/>) provides worldwide distribution for more than 580 journals and eBooks from BioOne's community of over 150 nonprofit societies, research institutions, and university presses in the biological, ecological, and environmental sciences. The BioOne Digital Library encompasses the flagship aggregation BioOne Complete (<https://bioone.org/subscribe>), the BioOne Complete Archive (<https://bioone.org/archive>), and the BioOne eBooks program offerings ESA eBook Collection (<https://bioone.org/esa-ebooks>) and CSIRO Publishing BioSelect Collection (<https://bioone.org/csiro-ebooks>).

Your use of this PDF, the BioOne Digital Library, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Digital Library content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne is an innovative nonprofit that sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

***PHAENOCHITONIA PSEUDODEBILIS* (LEPIDOPTERA: RIODINIDAE):
FIRST DESCRIPTION OF THE FEMALE AND UPDATED GEOGRAPHIC
DISTRIBUTION**

RICARDO RUSSO SIEWERT*, OLAF HERMANN HENDRIK MIELKE AND MIRNA MARTINS CASAGRANDE
Laboratório de Estudos de Lepidoptera Neotropical, Departamento de Zoologia, Universidade Federal do Paraná,
P.O. Box 19.020, 81.531-980, Curitiba, Paraná, Brazil

*Corresponding author; E-mail: ricardo.siewert@gmail.com

Supplementary material for this article in Florida Entomologist 97(2) (2014) is online
at <http://purl.fcla.edu/fcla/entomologist/browse>

Phaenochitonina Stichel, 1910 (Riodinidae: Symmachiini) contains 7 species distributed on Neotropics, and they are easily confounded with species of *Comphotis* (Incertae Sedis section) but can be distinguished by the presence of concealed androconial scales in the abdominal tergites of the males (an exclusive character of Symmachiini) and the Sc vein not fused with R, (Hall & Willmott 1996; Callaghan & Lamas 2004). The females, usually with orange or red transverse bands on the forewings or on both wings, are very different from the males which possess red markings traversing both wings or restricted to the inner margins of the hind wings (Hall & Willmott 1996).

Phaenochitonina pseudodebilis Hall & Willmott, 1996 was described based on a single male specimen from Cuiabá - River System, Mato Grosso, Brazil (Hall & Willmott 1996). Since then, the female of *P. pseudodebilis* has been unknown. Here we provide the first description of the female of *P. pseudodebilis* and an update on its geographical distribution, which until now was known only from its type locality.

DESCRIPTION OF
PHAENOCHITONIA PSEUDODEBILIS FEMALE

Description (Figs. 1 and 2): Forewing length 7 mm. Ground color of dorsal and ventral surfaces dark brown with an orange transverse band on both wings. The basal area of both wings on ventral surface with general spot pattern similar to male. Abdomen entirely brown, different from that of the male, which has a red stripe on dorsum. Female genitalia: sterigma formed by a rectangular lamella antevaginalis and an inverted U-shaped postvaginalis lamella; ductus bursae thinned, with apical third sclerotized and about three times length of bursa copulatrix; bursa copulatrix totally membranous, with a hook-shaped signum dorsally.

REMARKS ON THE DISTRIBUTION
OF *PHAENOCHITONIA PSEUDODEBILIS*

The only known record of *P. pseudodebilis* was from its type locality, Cuiabá - River System, Mato

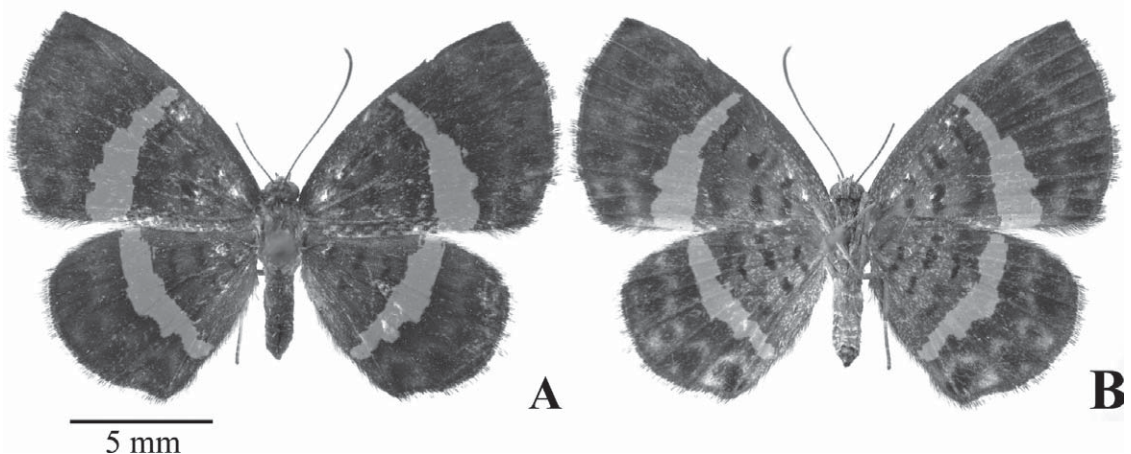


Fig. 1. Female of *Phaenochitonina pseudodebilis* Hall & Willmott, 1996: A, dorsal view, and B, ventral view.

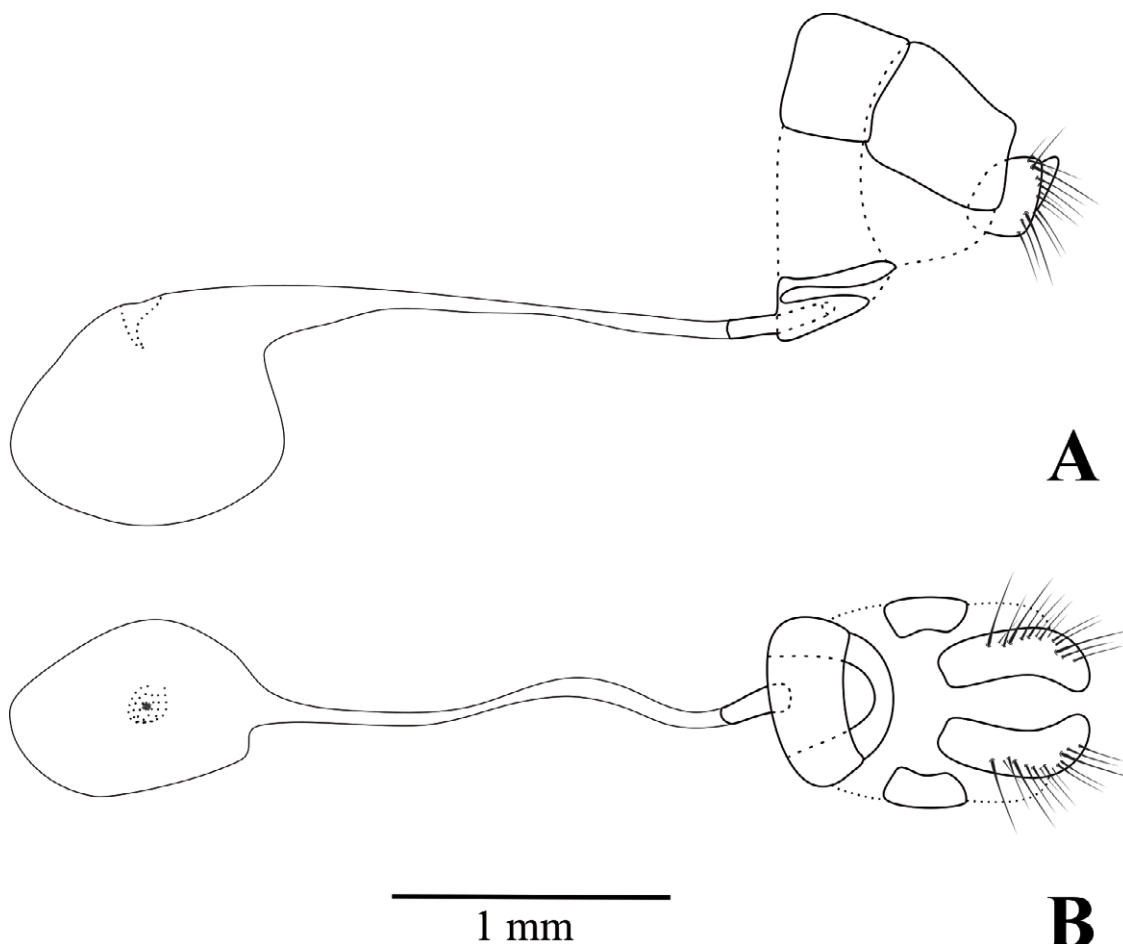


Fig. 2. Female genitalia of *Phaenochitonina pseudodebilis* Hall & Willmott, 1996: A, lateral view, and B, ventral view.

Grosso, Brazil. However, by the examination of the Riodinidae deposited in the Collection of Entomology Padre Jesus Santiago Moure, Department of Zoology of the Federal University of Paraná (DZUP), 13 specimens of *P. pseudodebilis* collected in the 1970s at Alto Rio Arinos, Diamantino, Mato Grosso, were identified. Later, in the 1990s, 5 males and 1 female were also observed and collected in gallery forests about 18 km from Ribeirão Cascalheira, which is 530 km northeast of Diamantino. The individuals were always associated with a gallery forest, a humid forest characteristic of the Cerrado (Brazilian savanna) vegetation.

The Cerrado domain has a heterogeneous physiognomy, ranging from open areas to dense forests, and is highly threatened due the loss of many of its native areas (Myers et al. 2000). The gallery forests play an key role in the maintenance of diversity of the Lepidoptera of the Cerrado (Camargo 2001; Brown & Gifford 2002;

Scherrer et al. 2013), which underscores the importance of preserving these habitats.

The records of *P. pseudodebilis* are scarce, as are those of many other butterflies that occur in the Cerrado biome. Thus it is important to emphasize the need to intensify the development of well-sampled inventories of butterflies in the Cerrado domain, as well as in the transitional areas between the Cerrado and Amazonia. Probably new records of *P. pseudodebilis* will be revealed as new inventories are performed in this area, enabling a better assessment of its distribution and its conservation status.

Material Examined

BRAZIL – Mato Grosso: Diamantino - Alto Rio Arinos, S 14° 24' -W 56° 25', Faz. S. João, 28-VIII-1976, 1 male, Mielke & Furtado leg., DZUP

26.492 (DZUP). 15-I-1978, 1 female, Mielke & Furtado *leg.*, DZUP 26.489 (DZUP). 16-I-1978, 1 male, Mielke & Furtado *leg.*, DZUP 26.493 (DZUP). 17-I-1978, 1 male and 1 female, Mielke & Furtado *leg.*, DZUP 26.494, DZUP 26.495 (DZUP). 20-I-1978, 1 male and 1 female, Mielke & Furtado *leg.*, DZUP 26.496, DZUP 26.490 (DZUP). 3-IX-1978, 6 males, Mielke & Furtado *leg.*, DZUP 26.497, DZUP 26.498, DZUP 26.499, DZUP 26.500, DZUP 26.501, DZUP 26.502 (DZUP). *Ribeirão Cascalheira*: 11-18 KM N Ribeirão Cascalheira, S 12° 56' -W 51° 49', 21-23-VIII-1997, 5 males and 1 female, Mielke *leg.*, DZUP 26.503, DZUP 26.504, DZUP 26.505, DZUP 26.506, DZUP 26.507, DZUP 26.508 (DZUP).

The authors are grateful to Vitor Nardino (TaxonLine – UFPR) for the photographs; colleagues of the Laboratório de Lepidoptera Neotropical (LELN-UFPR), especially Diego Rodrigo Dolibaina for helpful comments on the manuscript; two anonymous reviewers for their comments and suggestions; and the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) for the fellowship granted to the authors.

SUMMARY

Phaenochitonina pseudodebilis Hall & Willmott, 1996 (Lepidoptera: Riodinidae) was described based on a single male specimen from Mato Grosso State, Brazil. Here we provide the first description of the female of *P. pseudodebilis* as well an update on its geographical distribution

Key Words: Cerrado, *Comphotis*, concealed androconial scales, Neotropical, *Symmachiini*

RESUMO

Phaenochitonina pseudodebilis Hall & Willmott, 1996 (Lepidoptera: Riodinidae) foi descrita com

base em um único exemplar macho proveniente do estado de Mato Grosso, Brasil. O objetivo deste estudo é descrever pela primeira vez a fêmea de *P. pseudodebilis* bem como fornecer novos registros de ocorrência da espécie.

Palavras-Chave: Cerrado, *Comphotis*, escamas androconiais ocultas, Neotropical, *Symmachiini*

REFERENCES CITED+-

- BROWN JR, K. S., AND GIFFORD, D. R. 2002. Lepidoptera in the cerrado landscape and the conservation of vegetation, soil and topographical mosaics, pp. 201-217 *In* P. S. Oliveira and R. J. Marquis [eds.], The cerrado of Brazil: ecology and natural history of a neotropical savanna, Columbia University Press, New York, 398 pp.
- CALLAGHAN, C. J., AND LAMAS, G. 2004. Riodinidae, pp. 141–170 *In* G. Lamas [ed.], Checklist: Part 4A. Hesperioidea – Papilionoidea, *In* J. B. Heppner [ed.], Atlas of Neotropical Lepidoptera 5A. Association for Tropical Lepidoptera/Scientific Publishers, Gainesville, 439 pp.
- CAMARGO, A. J. A. 2001. Importância das Matas de Galeria para a conservação de lepidópteros do Cerrado, pp. 607-634 *In* J. F. Ribeiro, C. E. L. Fonseca and J. C. Sousa-Silva [eds.], Cerrado: caracterização e recuperação de Matas de Galeria, Embrapa – CPAC, Planaltina. 899 pp.
- HALL, J. P., AND WILLMOTT, K. R. 1996. Systematics of the riodinid tribe *Symmachiini*, with the description of a new genus and five new species from Ecuador, Venezuela and Brazil (Lepidoptera: Riodinidae). *Lambillionea* 96(4): 637-660.
- MYERS, N., MITTERMEIER, R. A., MITTERMEIER, C. G., FONSECA, G. A. B., AND KENT, J. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858.
- SCHERRER, S., FERRO, V. G., RAMOS, M. N., AND DINIZ, I. R. 2013. Species composition and temporal activity of Arctiinae (Lepidoptera: Erebididae) in two cerrado vegetation types. *Zoologia* 30(2): 200-210.