

INSECTA MUNDI

A Journal of World Insect Systematics

0487

New antlion records (Neuroptera: Myrmeleontidae) from Paraguay

Olga Petko
Para La Tierra
Reserva Natural Laguna Blanca
Santa Rosa del Aguaray
San Pedro, Paraguay

Paul Smith
Fauna Paraguay, Encarnación, Paraguay

Lionel Stange
Florida State Museum of Arthropods,
Gainesville, Florida, U.S.A.

Sergio D. Rios
Museo Nacional de Historia Natural del Paraguay
San Lorenzo, Paraguay

Date of Issue: June 24, 2016

Olga Petko, Paul Smith, Lionel Stange. and Sergio D. Rios
New antlion records (Neuroptera: Myrmeleontidae) from Paraguay
Insecta Mundi 0487: 1-8

ZooBank Registered: LSID: urn:lsid:zoobank.org:pub:993FD21B-645E-475B-BFDD-34947FD71595

Published in 2016 by

Center for Systematic Entomology, Inc.
P. O. Box 141874
Gainesville, FL 32614-1874 USA
<http://www.centerforsystematicentomology.org/>

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. **Insecta Mundi** will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. **Insecta Mundi** publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc. **Insecta Mundi** is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology. Manuscript preparation guidelines are available at the CSE website.

Chief Editor: Paul E. Skelley, e-mail: insectamundi@gmail.com

Assistant Editor: David Plotkin

Head Layout Editor: Eugenio H. Nearn

Editorial Board: J. H. Frank, M. J. Paulsen, Michael C. Thomas

Review Editors: Listed on the Insecta Mundi webpage

Manuscript Preparation Guidelines and Submission Requirements available on the Insecta Mundi web-page at: <http://centerforsystematicentomology.org/insectamundi/>

Printed copies (ISSN 0749-6737) annually deposited in libraries:

CSIRO, Canberra, ACT, Australia
Museu de Zoologia, São Paulo, Brazil
Agriculture and Agrifood Canada, Ottawa, ON, Canada
The Natural History Museum, London, Great Britain
Muzeum i Instytut Zoologii PAN, Warsaw, Poland
National Taiwan University, Taipei, Taiwan
California Academy of Sciences, San Francisco, CA, USA
Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA
Field Museum of Natural History, Chicago, IL, USA
National Museum of Natural History, Smithsonian Institution, Washington, DC, USA
Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

Electronic copies (On-Line ISSN 1942-1354, CDROM ISSN 1942-1362) in PDF format:

Printed CD or DVD mailed to all members at end of year. Archived digitally by Portico.
Florida Virtual Campus: <http://purl.fcla.edu/fcla/insectamundi>
University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>
Goethe-Universität, Frankfurt am Main: <http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:hebis:30:3-135240>

Copyright held by the author(s). This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. <http://creativecommons.org/licenses/by-nc/3.0/>

Layout Editor for this article: Michael C. Thomas

New antlion records (Neuroptera: Myrmeleontidae) from Paraguay

Olga Petko

Para La Tierra
Reserva Natural Laguna Blanca
Santa Rosa del Aguaray
San Pedro, Paraguay

Paul Smith

Fauna Paraguay, Encarnación, Paraguay
Corresponding author: faunaparaguay@gmail.com

Lionel Stange

Florida State Museum of Arthropods,
Gainesville, Florida, U.S.A.
glenurus@gmail.com

Sergio D. Rios

Museo Nacional de Historia Natural del Paraguay
San Lorenzo, Paraguay

Abstract. New records of Myrmeleontidae from Paraguay are presented: *Dimares elegans* (Perty, 1833), *Glenurus croesus* Banks, 1922, *Glenurus penningtoni* (Navás, 1918a) and *Vella fallax* (Rambur, 1842). The total number of species now recorded from the country is fourteen among 11 genera. Specimens of *Dimares elegans* from east (Cerrado) and west (Chaco) of the Paraguay River are phenotypically distinct; those west of the Paraguay River are assigned to the form “*lepida*” Navás, 1912. More research is required to understand the taxonomic limits in this genus.

Key words. *Dimares*, *Glenurus*, *Vella*

Introduction

The myrmeleontid fauna of Paraguay is poorly known, and a recent review of the family confirmed just eight genera and 10 species as documented in the country (Stange, 2010): *Dimarella praedator* (Walker, 1853); the endemic *Eremoleon pulcher* (Esben-Petersen, 1933); *Glenurus peculiaris* (Walker, 1860); *Ameromyia dimidiata* Navás, 1915; *Argentoleon irrigatus* (Gerstaecker, 1893); *Argentoleon longitudinalis* (Navás, 1914b); *Austroleon dispar* Banks, 1909; *Myrmeleon (Nehornius) obscurus* (Navás, 1912); *Myrmeleon (Myrmeleon) argentinus* Banks; and *Porrerus famelicus* Navás, 1915. An additional three genera and seven species were listed because of their occurrence in neighboring Argentina or Brazil: *Dimares elegans* (Perty); *Dimarella riparia* (Navás, 1918b); *Elachyleon punctipennis* Esben-Petersen, 1927; *Vella fallax* (Rambur); *Ameromyia hirsuta* Navás, 1914a; *Ameromyia protensis* (Gerstaecker, 1893) and *Austroleon immitus* (Walker, 1853). In this note, we confirm the presence of two of these species in Paraguay, and add two further species to the Paraguayan fauna that were not listed by Stange (2010), bringing the total number of species documented in the country to fourteen. This also marks the first time that the genera *Dimares* and *Vella* are reported from Paraguay. Furthermore, we confirm the presence of two morphotypes of *Dimares elegans* in Paraguay, the taxonomic status of which remains to be clarified.

Materials and Methods

All Paraguayan material studied is deposited at the Colección Zoológica Para La Tierra (CZPLT), based at Reserva Natural Laguna Blanca, San Pedro Department, Paraguay and the Museo Nacional de

Historia Natural del Paraguay (MNHNP), San Lorenzo, Central Department. Locality information for non-Paraguayan material is provided in Appendix 1.

Subfamily Palparinae

Tribe Dimarini

Dimares elegans form “*lepida*” Navás, 1912 (Fig. 1)

Dimares elegans lepida Navás 1912: 41. Fig. 3. **Syntypes**, Catamarca and Mendoza, Argentina (Copenhagen).

Specimens examined. Boquerón (1): Cruce Loma Plata (estimated S22°34'38.1" W059°50'11.1") (MNHNP 9 I 1993, Col. C. Aguilar). No ecological data accompanies this specimen, but the habitat in this area is Dry Chaco scrub. **Presidente Hayes** (3): Laguna Capitán (S22°33' W059°42"), CZPLT 3382-3384 (23-24 III 2015, Col. P. Smith). All Laguna Capitán specimens were collected at house lights in an area of Dry Chaco scrub surrounded by salt lagoons.

Dimares elegans form “*elegans*” (Perty, 1833) (Fig. 2)

Myrmeleon elegans Perty 1833: 125. **Holotype female**, Brasilia (Munich).

Specimens examined. San Pedro (3): Reserva Natural Laguna Blanca (S23°48'43.0" W056°17'40.8"), CZPLT 1423A (19 III 2013, Col. V. Pinion); CZPLT 2872 (10 II 2013, Col. D. Greves); CZPLT 3106 (24 I 2015, Col. O. Petko). All specimens were collected at house lights or a light trap in a transitional area between Cerrado, Cerrado gallery forest and Atlantic Forest at the Reserva Natural Laguna Blanca. Prior to the collection of these specimens an individual of this species was photographed during the day on 17 February 2010 in campo sucio, sandy-soiled Cerrado at the same locality by P. Smith (www.faanaparaguay.com/myrmeleontidae.html, FPMYR003PH).

The San Pedro specimens are here tentatively assigned to form “*elegans*” as they differ from the Chaco specimens, (which we assign to the form “*lepida*” Navás, 1912) most obviously in their less boldly-marked wings. The presence of a thin yellow lateral line along the side of the abdomen, that is present in our specimens from west of the Paraguay River and absent in those from San Pedro, does not appear to be a consistent difference as this line is variably present in examined Argentine and Uruguayan specimens ascribed to *lepida*, and Bolivian and Brazilian specimens of typical *elegans*. Stange (1989) considered all *Dimares* to belong to a single species *Dimares elegans*, but noted the marked geographic variability and commented that variation may be clinal. More study is warranted to elucidate relationships in this genus. We refrain from making any taxonomic judgments regards the specific status of these forms pending the results of these studies.

Subfamily Myrmeleontinae

Tribe Nemoleontini

Glenurus croesus Banks, 1922 (Fig. 3)

Glenurus croesus Banks 1922:59. **Syntypes**, Sara, Bolivia, 450 m (MCZC; type # 2031)

Specimens examined. San Pedro (1): Reserva Natural Laguna Blanca (S23°48'43.0" W056°17'40.8"), CZPLT 2872 (29 XI 2014, Col. O. Petko). The specimen was collected at a light trap in a transitional area between Cerrado, Cerrado gallery forest and Atlantic Forest at the Reserva Natural Laguna Blanca. Prior to the collection of this specimen, an individual of this species was photographed on 19 XII 2008 in the same location by P. Smith (www.faanaparaguay.com/myrmeleontidae.html, FPMYR006PH), having been attracted to house lights. This species was previously known only from Bolivia (Banks, 1922).

***Glenurus penningtoni* (Navás, 1918a) (Fig. 4)**

Ledoscius penningtoni (Navás) 1918a: 493, fig. 2 (hind wing). **Holotype male**, La Rioja, Argentina, Pennington (not located).

Specimens examined. Alto Paraguay (1): Parque Nacional Defensores del Chaco (estimated S20°38'00.7" W059°52'45.4") (MNHNP XI 1984, Col. R.T. Bonace). No ecological data accompanies this specimen. This species was previously known only from Argentina (La Rioja, Misiones, Santiago del Estero, Santa Fe, Tucumán) (Miller and Stange in prep.).

Tribe Acanthaclisini***Vella fallax* (Rambur, 1842) (Fig. 6)**

Myrmeleon fallax Rambur 1842: 385. **Type**, "La Guyane" (not located).

Specimens examined. San Pedro (9): Reserva Natural Laguna Blanca (S23°48'43.0" W056°17'40.8"), CZPLT 500 (7 XI 2010, Col. K. Atkinson); CZPLT 969 (VIII or IX 2012, Col. K. Atkinson); CZPLT 969 (VIII or IX 2012, Col. K. Atkinson); CZPLT 2761 (17 XI 2014, Col. O. Petko); CZPLT 2762 (14 XI 2014, Col. O. Petko); CZPLT 2871 (21 XI 2014, Col. O. Petko); CZPLT 2762 (14 XI 2014, Col. O. Petko); CZPLT 3167 (7 II 2015, Col. O. Petko); CZPLT 3168 (7 II 2015, Col. O. Petko). All specimens were collected at house lights or a light trap in a transitional area between Cerrado, Cerrado gallery forest and Atlantic Forest at the Reserva Natural Laguna Blanca. Prior to the collection of these specimens an individual of this species was photographed during the day on 17 February 2010 at the same locality by P. Smith (www.faanaparaguay.com/myrmeleontidae.html, FPMYR009PH).

Closing remarks

The Paraguayan Myrmeleontidae fauna remains incomplete and further collecting will no doubt continue to increase the national inventory. Myrmeleontidae are uncommon in collections and we suggest that targeted collection of this group is required to increase our understanding of diversity and distribution in Paraguay. With the addition of two further species here, three species of *Glenurus* (Tribe Nemoleontini) have now been documented as occurring in Paraguay, *Glenurus croesus* Banks, 1922, *Glenurus peculiaris* (Walker, 1860) and *Glenurus penningtoni* (Navás, 1918a). A key to adults of these species is presented here to aid identification and supplement the key in Stange (2010).

- 1 Pterothoracic pleura dark brown above and pale brown below ***Glenurus penningtoni* (Navás)**
 — Pterothoracic pleura not divided into dark brown above and pale brown below **2**
- 2(1). Fore coxa nearly all dark brown; mesoscutellum without long white setae posteriorly; apex of forewing mostly solid black with transparent areas limited to anterior margin (Fig. 3) ***Glenurus croesus* Banks**
 — Fore coxa mostly pale brown or with only dorsal half dark brown; mesoscutellum with moderately long white setae laterally near posterior margin, some of which are longer than postnotum; apex of forewing with extensive transparent areas (Fig. 5) ***Glenurus peculiaris* (Walker)**

Acknowledgments

Thanks to the volunteers and interns at Para La Tierra who help support the inventory project at Reserva Natural Laguna Blanca. Funding for PS and SDR for this work was partly provided by the

PRONII program of CONACYT. Special thanks to Dr. Kevin Williams and Robert B. Miller for review of the manuscript. Thanks to Gabor Pozsgai for taking photos of the specimens in his care at CZPLT.

Literature Cited

- Banks, N. 1909.** New genera and species of tropical Myrmeleonidae. *Journal of the New York Entomological Society* 17: 1-4.
- Banks, N. 1922.** South American *Glenurus* and some other Myrmeleonidae. *Canadian Entomologist* 54: 58-60.
- Esben-Petersen, P. 1927.** New and little-known species of Neuroptera in British Collections. Part III. *Annals and Magazine of Natural History* (9)20: 343-350.
- Esben-Petersen, P. 1933.** New and little-known Neuroptera. *Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening*, (Kjobenhaven) 94: 109-123.
- Gerstaecker, C. E. A. 1893.** Ueber neue und weniger gekannte Neuropteren aus der Familie Megaloptera Burm. *Mitteilungen des Naturwissenschaftlichen Vereins für Neu-Vorpommern u. Rugen in Greifswald* 25: 93-173.
- Navás, L. 1912.** Bemerkungen über die Neuropteren der zoologischen Staatssammlung in München. II. Myrmeleonidae. III. Nachtrag zu den Familien Nemopteridae-Myrmeleonidae, Tribus Acanthaclisini. IV. Myrmeleonidae. *Mitteilungen der Münchener entomologischen Gesellschaft* 3: 89-95.
- Navás, L. 1912.** Notas sobre Mirmeleónidos. *Broteria Serie Zoología* 10: 29-97.
- Navás, L. 1913.** Bemerkungen über die Neuropteren der Zoologischen Staatssammlung in München. V. *Mitteilungen der Münchener Entomologischen Gesellschaft* 4: 9-15.
- Navás, L. 1914a.** Neurópteros sudamericanos. *Primera [I] Bróteria (Serie Zoológica)* 12: 45-56, 215-234.
- Navás, L. 1914b.** Neurópteros nuevos o poco conocidos (Segunda y Tercera series). *Memorias de la Real Academia de Ciencias y Artes* (3) 11 (13): 193- 215.
- Navás, L. 1915.** Neurópteros nuevos ó poco conocidos. (Series VI). *Memorias de la real Academia de Ciencias y Artes Barcelona* (3) 11: 455-480.
- Navás, L. 1918a.** Algunos insectos neurópteros de la República Argentina. *Revista de la Real Academia de Ciencias Exactas Físicas y Naturales de Madrid* 16: 491-504.
- Navás, L. 1918b.** *Insecta nova*. IV serie. *Memorie dell'Accademia Pontifica der Nuovi Lincei (Rome)* (2)4: 4-23.
- Perty, M. 1833.** *Delectus animalium articulorum*. Monachii: Author. 222 p.
- Rambur, J. P. 1842.** *Historie Naturelle des insectes. Névroptères*. Librairie encyclopédique de Roret. Fain et Thunot; Paris, France. 534 p.
- Stange, L. A. 1989.** Review of the New World Dimarini with the description of a new genus from Peru (Neuroptera: Myrmeleontidae). *Florida Entomologist* 72: 451-463.
- Stange, L. A. 2010.** Preliminary report on the Myrmeleontidae (Neuroptera) of Paraguay. *Insecta Mundi*, 114: 1-14.
- Walker, F. 1853.** List (Catalogue) of the specimens of neuropterous insects in the collection of the British Museum. Part II (Sialides Nemopterides). London: British Museum, pages 193-476.
- Walker, F. 1860.** Characters of undescribed Neuroptera in the collection of W. W. Saunders. *Transactions of the Linnean Society of London (N.S.)* 5: 176-199.

Received February 25, 2016; Accepted March 30, 2016.

Review Editor David Bowles.

Appendix 1: Non-Paraguayan specimens examined:***Dimares elegans* (Perty)**

Material studied: 45 males, 41 females. November to May.

Argentina. Catamarca: Belén, 19.XII.1971, Porter and L. Stange (2f, FSCA, IMLA); 6 km. south Santa Maria, 21.III.1974. L. Stange (2m, 5f, 3 larvae, FSCA); Tinogasta, 8.II.1966, Stange (6m, 2f, FSCA, IMLA). Entre Rios: Concordia, Salto Grande, I.1975 (1m, FSCA). La Pampa: Sierra Lihuel Calel, 1.II.1968, L. Stange (2m, 1f, FSCA). La Rioja: Campanas, II.1966, Stange (1m, FSCA); La Rioja, 6.III.1970, Porter and L. Stange (1m, FSCA); Mazan, 14.III.1969, Stange (1m, FSCA). Santiago del Estero: Las Termas de Rio Hondo, 12.I.1966, Stange (1m, FSCA); Los Tigres, 16.I.1970, Golbach (3m, FSCA). San Luis: Luan, 23.II.1966, Stange (1m, FSCA). San Juan: Chicum, 20.I.1959 (1f, FSCA). Tucumán: Vipos, 21.III.1971, Fidalgo (1m, FSCA).

Bolivia. Santa Cruz: 3 km. north Brasilio, 7.III.1999, Stange (13m, 12f, FSCA, TAMU); El Palmar Oratoria, 25.I.1980, Stange (1m, 5f, FSCA).

Brazil. Ceara: Barbalha, V.1960, Alvarenga (2m, 6f, FSCA). Goiás: S. Isabel do Morro, Ilha do Bananal, VI.1961, Alvarenga (2m, 1f, FSCA); 48 km. south Peize, 2.VI.1956, Truxal (3m, 2f, FSCA, LACM). Mato Grosso: Barracao Queimado, XI.1960, Alvarenga (3m, 1f, FSCA); Gustavo Dutra, Cioaba. XI.1963, Alvarenga (3f, FSCA). Pernambuco: Petrolandia, V.1969, Alvarenga (1m, 3f, FSCA). Rondonia: Vilhena, XI.1960, Alvarenga (2m, FSCA).

Uruguay. Paysandú: Arenitas Blancas, 3.II.1962, San Martin (1f, FSCA).



Fig. 1. *Dimares elegans* form “*lepida*” Navás, 1912, female; Laguna Capitán, Presidente Hayes Department. Photo by Gabor Pozsgai.



Fig. 2. *Dimares elegans* form “*elegans*” (Perty, 1833), female; Reserva Natural Laguna Blanca, San Pedro Department. Photo by Gabor Pozsgai.



Fig. 3. *Glenurus croesus* Banks, 1922, Reserva Natural Laguna Blanca, San Pedro Department. Photo by Gabor Pozsgai.



Fig. 4. *Glenurus penningtoni* (Navás, 1918) Parque Nacional Defensores del Chaco, Alto Paraguay Department. Photo by Sergio Ríos.



Fig. 5. *Glenurus peculiaris* (Walker, 1860) Location unknown.



Fig. 6. *Vella fallax* (Rambur, 1842), Reserva Natural Laguna Blanca, San Pedro Department. Photo by Gabor Pozsgai.