

Shaping our taxonomic legacy – tools to accelerate biodiversity discovery and make data openly accessible



Torsten Dikow

ORCID 0000-0003-4816-2909



@TDikow #asiloidflies #USNM-Diptera



Smithsonian
NATIONAL
MUSEUM of
**NATURAL
HISTORY**

◊ PDF = text document that can easily be transferred – really nothing more

African Invertebrates Vol. 44 (2) Pages 1–131 Pietermaritzburg December, 2003

**Revision of the genus *Euscelidia* Westwood, 1850
(Diptera: Asilidae: Leptogastrinae)**

by

Torsten Dikow

(Institut für Biodiversitätsforschung, Universität Rostock, Germany; current address:
Cornell University, Department of Entomology, Comstock Hall, Ithaca, NY 14853,
USA; e-mail: torsten@tdvia.de)

ABSTRACT

The genus *Euscelidia* Westwood, 1850 is revised. Sixty-eight species (55 Afrotropical, 11 Oriental, 4 Palaearctic) are recognised, of which 40 are newly described: Afrotropical - *acuminata*, *adusta*, *atrrata*, *bechuanae*, *cacula*, *cana*, *capensis*, *crena*, *erichthenii*, *fistula*, *hesperia*, *hyalina*, *insolita*, *kasungu*, *lata*, *longibifida*, *luciooides*, *milva*, *mururonata*, *natalensis*, *notialis*, *obtusa*, *obudu*, *peteraxi*, *picta*, *pipinna*, *pulchra*, *senegalensis*, *tsavo*, *vallis*, *venusta*; Oriental - *abbreviata*, *cobice*, *flava*, *glabra*, *lepidia*, *livida*, *popa*, *prolata*, *splendida*. *Dolichoscius* Janssens, 1953 is synonymised with *Euscelidia*. Four species, *Dolichoscius francoisi* Janssens, 1953, *Leptogaster brunneus* Loew, 1858, *L. nenemusha* Speiser, 1910, *L. ochricornis* Loew, 1858, are newly combined with *Euscelidia*. Four species are newly synonymised, *Dolichoscius longipes* Janssens, 1954 with *D. francoisi*, *Euscelidia oldroydi* Lindner, 1955 and *Leptogaster stigmatical* Loew, 1852 with *Leptogaster procula* Walker, 1849, and *Lasiocnemus pilipes* Curran, 1927 with *Leptogaster datis* Walker, 1849. *Euscelidia pilensis* Oldroyd, 1972 is transferred to *Leptogaster* Meigen, 1803. The status of *Leptogaster setifer* Frey, 1937 and *L. simplex* Bigot, 1878 is revised as species of *Leptogaster*. Redescriptions and descriptions of the genus and all species and an identification key to species are provided. The distribution, seasonality, and biology are discussed. Comments on the subfamily Leptogastrinae are given.

Keywords: *Euscelidia*, Leptogastrinae, Asilidae, Diptera, revision, biogeography

Dikow 2003
doi:10.5281/zenodo.32467

Type material - The ♂ holotype is labelled ‘SOUTH WEST AFRICA 2217Ca Windhoek Dist. Auasberge 21 km. S. Windhoek, 1800 m. 31-1-1974, ME Irwin sandy wash in mountains / HOLOTYPE *Euscelidia acuminata* sp. nov. det. T. Dikow 2001 (red label)’. The specimen is double mounted (minuten in block of foam), is in excellent condition, and is deposited in the NMSA.

The 3 ♀ ♀ 4 ♂♂ paratypes have same labels as holotype except ‘PARATYPE *Euscelidia acuminata* sp. nov. det. T. Dikow 2001 (yellow label)’. The specimens are double mounted (minuten in block of foam), are in very good condition (1 ♀ with cracked sct), and are deposited in the NMSA.

Type locality and distribution (Fig. 29): Namibia, Auasberge (21 km S Windhoek), 22°44'S 17°00'E. Angola, Namibia.

Material examined: ANGOLA: 1 ♂ Capangombe, 15°05'S 13°10'E, 17–20.x.1974; NAMIBIA: 1 ? Outjo, 20°14'S 15°40'E; 1 ♂ Khan River, 21°47'S 15°55'E, 27.iii.1984; 1 ♀ 2 ♂♂ 1 ? Hochfeld, 21°29'S 17°50'E, 18.iii.1984; 1 ♂ Regenstein, 22°43'S 17°01'E, 8.ii.1972; 1 ♀ 1 ♂ Witvlei, 22°26'S 18°31'E, 17.iii.1984. Depository: BMNH, NMSA.

› PDF prison ‹
› Donat Agosti at Plazi ‹

- ◊ high-quality taxonomic output by one of us is not just
 - › detailed species descriptions and re-descriptions
 - › precise taxon delimitations
 - › easy-to-use keys
 - › comprehensively undertaken and illustrated revisions
- ◊ I will argue that high-quality taxonomic output is also
 - › dissemination of captured and published data in structured formats to data repositories
 - › embracing digital workflows
 - › make data openly accessible
 - › open-access to data — **cybertaxonomy** ↵
(and its synonyms)

- ◊ Imagine . . . digitally online
- › you have every original description and every subsequent re-description of a species at your fingertips
- › you have every specimen photograph from others
- › you can take advantage of existing, openly accessible data and resources

Biodiversity Heritage Library (BHL)

The Biodiversity Heritage Library improves research methodology by collaborative literature openly available to the world as part of a global biodiversity community. BHL also serves as the foundational literature component of the Encyclopedia of Life.

BioStor

Articles from the Biodiversity Heritage

Recent additions

Tweets

Geography

Zenodo

Biodiversity Literature Repository

Recent uploads

Community

Biodiversity Literature Repository

A community to share publications related to biosystematics. The goal is to provide

- open access to publications cited in publications or in combination with scientific names
- a digital object identifier (DOI) to enable citation of the publications including direct access to its digital representation.

For additional search functionality can be used. This includes also searches in CrossRef, DataCite, PubMed, RefBank, GNB, and Mendeley.

› BHL

› BioStor

› BioLitRepo

- ◊ automation
 - › data gathering
 - › data dissemination to structured repositories
- ◊ unique identifiers
 - › specimen = USNMENT01115184
 - › article = DOI
 - › objects / data points = DOI, ARK, G UID / LSID, ORCID
- ◊ cyberspace
 - › XML Extensible Markup Language
 - › API Application Programming Interface
 - › Web 2.0



Trichoura tankwa, image by Karie Darrow



Plyomydas adelphus, image by Stephanie Castillo

data gathering

descriptions + keys



TaxonWorks



collaborative tools



collections



data repositories

specimen occurrences



keys



distribution maps

SimpleMapp'r

images



ZooBank

names
data sets, illustrations,
ecology, + other data

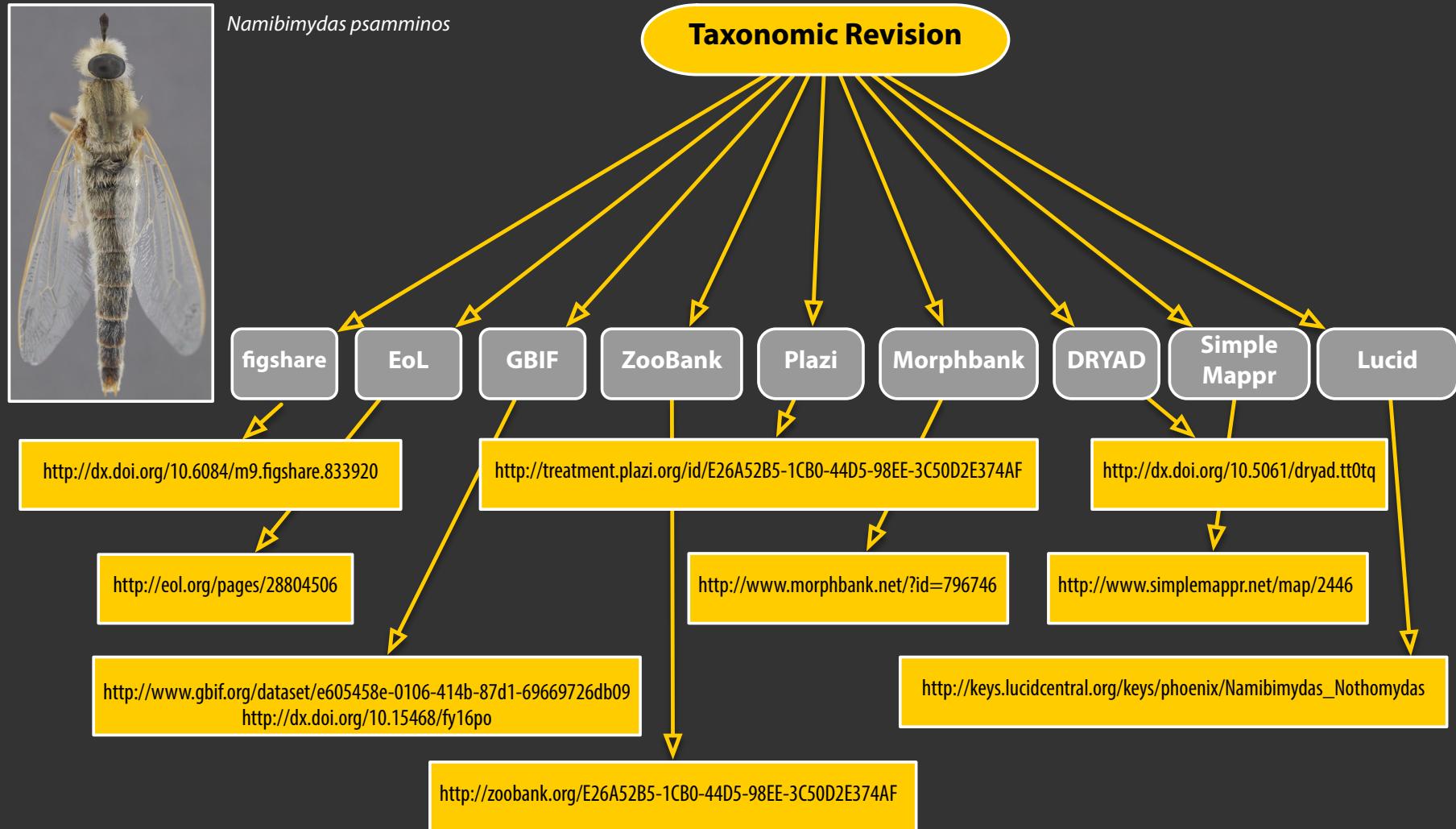


articles



descriptions / treatments





Dikow 2012

doi:10.5733/afn.053.0105

Review of Namibimydas Hesse, 1972 and Nothomydas Hesse, 1969 (Diptera: Mydidae: Syllegomydinae: Halterorchini) with the description of a new species from Namibia
BibTeX Annote Abstract RSS-Description

Cite Key	Dikow:2012ya	article
Author	Dikow, Torsten	
Title	Review of <i>Namibimydas</i> Hesse, 1972 and <i>Nothomydas</i> Hesse, 1969 (Diptera: Mydidae: Syllegomydinae: Halterorchini) with the description of a new species from Namibia	
Journal	African Invertebrates	
Year	2012	
Volume	53	
Number	1	
Pages	79-111	
Month		
Keywords	Mydidae, asiloidflies, Syllegomydinae, Namibimydas, Nothomydas, Afrotropical, sp. nov.	
Simplemappr-Url	http://simplemappr.net/map/2446	
Altmetric	<div data-badge-details="right" data-badge-type="donut" data-doi="10.5733/afn.053.0105" data-condensed="true"> 10 citations </div>	
Bionames-Url	http://bionames.org/references/d61abf528074625dd6be3af32ba8822d	
Doi	10.5733/afn.053.0105	
Dryad-Doi	http://dx.doi.org/10.5061/dryad.tt0tq	
Figshare-Doi	http://dx.doi.org/10.6084/m9.figshare.833920	
Gbif-Url	http://www.gbif.org/dataset/e605458e-0106-414b-87d1-69669726db09	
Morphbank-Url	http://www.morphbank.net/myCollection/index.php?collectionId=799366	
Reprint/Pdf	pdf original	
Url	http://africaninvertebrates.org/ojs/index.php/AI/article/view/25	
Zenodo-Url	https://zenodo.org/record/11273	
Zoobank-Url	http://zoobank.org/?lsid=urn:lsid:zoobank.org:pub:80A41D13-814F-4527-B5F4-89B7EFOAEAEA	

Rating Read

dikow_2012.pdf
WEBLOC
africaninvertebrates.org...
WEBLOC
zoobank.org/?lsid=urn:...
T. Dikow

◊ links to openly accessible data in public repositories – make access easy

Data resources

- [DRYAD](#): natural-language species descriptions from Lucid Builder in SDD format (also available as Suppl. material 1).
- [GBIF](#): specimen occurrence data – [5e6acf4c-e913-45fd-9276-b0b8-5c792b499223](#) – DOI [10.15468/tiymja](#).
- [Morphbank](#): [Biological Imaging](#): high-resolution photographs.
- [SimpleMappr](#): distribution map – [2368](#) (as in figure 1) KML file.
- Lucid Builder: illustrated, multi-entry, matrix-based [asilodflies.si.edu](#) and [IdentifyLife](#).
- Lucid Phoenix: illustrated, dichotomous identification key

Castillo & Dikow 2017
doi:[10.1016/j.rbe.2017.03.002](#)

Dikow & Leon 2014
doi:[10.3897/BDJ.2.e1071](#)

Data resources

GBIF: specimen occurrence data-set – [7f2de377-9f9f-4276-b0b8-5c792b499223](#) – DOI [10.15468/tiymja](#).

figshare: illustration collection ID – DOI [10.6084/m9.figshare.c.3650510](#).

Lucid Builder: illustrated, multi-entry, matrix-based identification key – [keys.lucidcentral.org/keys/v3/plyomydas/](#).

Lucid Phoenix: illustrated, dichotomous identification key – [keys.lucidcentral.org/keys/phoenix/plyomydas/](#).

Morphbank: image collection ID – [860614](#).

Plazi TreatmentBank taxon treatments:

Wilcox and Papavero, 1971 – [AD29FFB3FF8E2724FFC56619FFF](#) DFFF6

SimpleMappr: distribution map – [6102](#) (as in Fig. 27) – Google Earth KML file [6102](#).

Zenodo: natural-language species descriptions from Lucid Builder in SDD format – DOI [10.5281/zenodo.154750](#).

ZooBank nomenclatorial acts:

Wilcox and Papavero, 1971 [B57257ED-AF72-4AEB-AF09-9047](#) AEDF7D3F

Castillo and Dikow 2017 [FF635991-5F13-4B7D-A3E4-D314ABB](#) E9E98.

- ◊ cybercatalog of Afrotropical *Apiocera*
- › interactive
- › links to openly accessible data in public repositories

- ◊ Dikow & Agosti 2015
- › doi:[10.3897/BDJ.3.e5707](https://doi.org/10.3897/BDJ.3.e5707)

 Biodiversity Data Journal 3: e5707
doi: [10.3897/BDJ.3.e5707](https://doi.org/10.3897/BDJ.3.e5707)

 open access

Taxonomic Paper

Utilizing online resources for taxonomy: a cybercatalog of Afrotropical apiocerid flies (Insecta: Diptera: Apioceridae)

Torsten Dikow[#], Donat Agosti^{\$}

[#] National Museum of Natural History, Smithsonian Institution, Washington, DC, United States of America
^{\$} www.plazi.org, Bern, Switzerland

Apiocera (Ripidosyrma) alastor (Walker, 1849)

- ZooBank [urn:lsid:zoobank.org:act:C4D38C42-45E5-48A0-B55A-29BC06FFB72A](https://urn.nbn.se/resolve?urn=urn:lsid:zoobank.org:act:C4D38C42-45E5-48A0-B55A-29BC06FFB72A)
- original description page online BHL <http://biodiversitylibrary.org/page/38706155>
- original article online BLR <http://dx.doi.org/10.5281/zenodo.30972>
- original article online BHL <http://www.biodiversitylibrary.org/item/119308>
- GBIF <http://www.gbif.org/species/1611657>
- Plazi <http://treatment.plazi.org/id/03EF3D32-FFB6-5C2C-FFF5-FAD25186B0F7>
- Plazi taxon query <http://plazi.cs.umb.edu/GgServer/search?taxonomicName.isNomenclature=true&taxonomicName.exactMatch=true&taxonomicName.order=Diptera&taxonomicName.species=alastor>
- Morphbank (by taxon) <http://www.morphbank.net/Browse/ByImage/?tsn=999022155>
- Encyclopedia of Life <http://eol.org/pages/718862/overview>
- asiloidflies.si.edu distribution map <http://asiloidflies.si.edu/specimen-map-Apioceridae?genus=Apiocera&species=alastor>
- asiloidflies.si.edu specimen table <http://asiloidflies.si.edu/specimen-table-Apioceridae?genus=Apiocera&species=alastor>

Nomenclature:

Asilus alastor Walker 1849: 444

Apiocera (Ripidosyrma) alastor, new combination by Stuckenberg 1968 : 124

Apiocera (Ripidosyrma) africana Paramonov, 1950, new junior synonymy by Yeates 1994 : 124

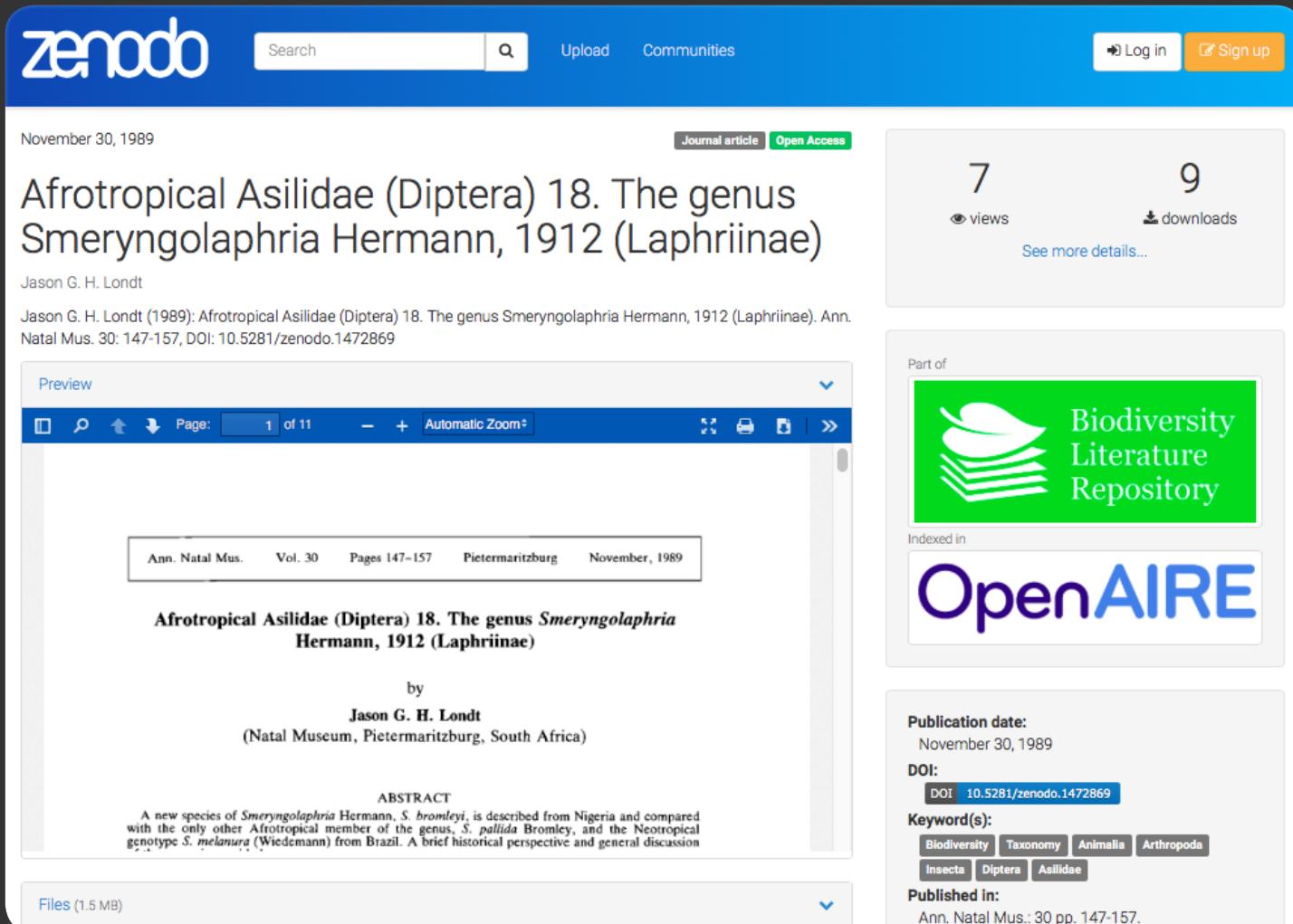
- ZooBank GUID [B745D2C2-8CB6-4C95-970E-B3C3246B7A73](https://guid.zoobank.org/treatment/B745D2C2-8CB6-4C95-970E-B3C3246B7A73)
- Plazi original treatment GUID [B745D2C2-8CB6-4C95-970E-B3C3246B7A73](https://guid.zoobank.org/treatment/B745D2C2-8CB6-4C95-970E-B3C3246B7A73)

Distribution: South Africa (Northern Cape, Western Cape)

Notes: Institutions with specimens: [BMNH](#), [SAMC](#), [ZSMC](#).

zenodo.org

Londt 1989
doi:10.5281/zenodo.1472869



The screenshot shows a publication record on the zenodo.org platform. The title is "Afrotropical Asilidae (Diptera) 18. The genus Smeryngolaphria Hermann, 1912 (Laphriinae)" by Jason G. H. Londt. The record includes a preview of the document, publication details (Ann. Natal Mus., Vol. 30, Pages 147–157, Pietermaritzburg, November, 1989), an abstract, and a file section (1.5 MB). The record is marked as "Open Access".

DOI: DOI 10.5281/zenodo.1472869

Keyword(s): Biodiversity, Taxonomy, Animalia, Arthropoda, Insecta, Diptera, Asilidae

Published in: Ann. Natal Mus.: 30 pp. 147-157.

Related identifiers:

- Has part: <http://treatment.plazi.org/id/03EB87E51014FFF3>, [8E8CF934CC90C41](http://treatment.plazi.org/id/03EB87E51014FFF6), <http://treatment.plazi.org/id/03EB87E51014FFF6>, [8E0EF7C9CD3D06A9](http://treatment.plazi.org/id/03EB87E51011FFF6), <http://treatment.plazi.org/id/03EB87E51011FFF6>, [8E64FCE4C8FC01FE](http://treatment.plazi.org/id/03EB87E51011FFF7), <http://treatment.plazi.org/id/03EB87E51011FFF7>, [8E35FA7DCC8800DBC](http://treatment.plazi.org/id/03EB87E51013FFFA), <http://treatment.plazi.org/id/03EB87E51013FFFA>, [8E10F815CFOF075A](http://treatment.plazi.org/id/03EB87E51013FFFA), [10.5281/zenodo.1472871](http://treatment.plazi.org/id/03EB87E51013FFFA), <urn:lsid:plazi.org:fig:1-404-1699-232-1475> (LSID), <http://zenodo.org/record/1472871>, <10.5281/zenodo.1472873>, <urn:lsid:plazi.org:fig:2-225-1642-1062-2424> (LSID), <http://zenodo.org/record/1472873>, <10.5281/zenodo.1472875>, <urn:lsid:plazi.org:fig:3-323-1795-998-1670> (LSID), <http://zenodo.org/record/1472875>, <10.5281/zenodo.1472877>, <urn:lsid:plazi.org:fig:3-341-1784-1925-2439> (LSID), <http://zenodo.org/record/1472877>, <10.5281/zenodo.1472879>, <urn:lsid:plazi.org:fig:6-233-1606-246-1694> (LSID), <http://zenodo.org/record/1472879>, <10.5281/zenodo.1472881>, <urn:lsid:plazi.org:fig:7-397-1774-785-2384> (LSID), <http://zenodo.org/record/1472881>, <10.5281/zenodo.1472883>, <urn:lsid:plazi.org:fig:8-274-1554-832-1530> (LSID), <http://zenodo.org/record/1472883>

Alternate identifiers:

- <urn:lsid:plazi.org:pub:FFD2FF9D01015FFF28C64FF9ACE650454> (LSID)

Communities:

- Biodiversity Literature Repository

plazi.org – @plazi_treat

Londt 1989 – doi:10.5281/zenodo.1472869

treatment.plazi.org/GgServer/summary/FFD2FF9D1015FFF28C64FF9ACE650454

The screenshot shows a web page from the Plazi TreatmentBank. At the top, there is a navigation bar with links for News, Resources, Projects, Activities, Cooperation, API & Tools, About, Community, and a Search bar. Below the navigation bar, the title of the publication is displayed: "Jason G. H. Londt, 1989, Afrotropical Asilidae (Diptera) 18. The genus Smeryngolaphria Hermann, 1912 (Laphriinae)". To the right of the title are two buttons: "Specimens" and "Downloads". Underneath the title, there is a brief summary: "Jason G. H. Londt, 1989, Afrotropical Asilidae (Diptera) 18. The genus Smeryngolaphria Hermann, 1912 (Laphriinae), Ann. Natal Mus. 30, pp. 147-157". Below this summary, there is a table with three rows of information: publication ID (http://dx.doi.org/10.5281/zenodo.1472869), link to original document (http://dx.doi.org/10.5281/zenodo.1472869), and document provided by (Admin). A section titled "Treatments (5)" contains a table with five rows, each listing a treatment name and its corresponding page numbers: Smeryngolaphria (148), Smeryngolaphria melanura (148-151), Smeryngolaphria (key) (151), Smeryngolaphria pallida (151-152), and Smeryngolaphria (sp. n.) (153-155). At the bottom of the page is a "Copyright notice" section.

Treatments (5)		
Smeryngolaphria		148
Smeryngolaphria melanura		148-151
Smeryngolaphria	key	151
Smeryngolaphria pallida		151-152
Smeryngolaphria	sp. n.	153-155

Londt 1989 – doi:10.5281/zenodo.1472869
treatment.plazi.org/GgServer/html/03EB87E51011FFF78E35FA7DC8800DBC

PLAZI
TAKING CARE OF FREEDOM

News Resources - Projects - Activities - Cooperation API & Tools - About - Community -

Smeryngolaphria pallida Bromley, 1935

Jason G. H. Londt, 1989, Afro tropical Asilidae (Diptera) 18. The genus Smeryngolaphria Hermann, 1912 (Laphriinae), Ann. Natal Mus. 30, pp. 147-157: 151-152

publication ID	10.5281/zenodo.1472869
persistent identifier	http://treatment.plazi.org/id/03EB87E5-1011-FFF7-8E35-FA7DC8800DBC
treatment provided by	Admin (2018-10-27 17:37:25)
scientific name	Smeryngolaphria pallida Bromley, 1935
status	

Taxonomy

Specimens

Downloads

Show all

Treatment

Figures

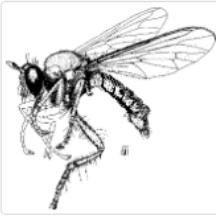


Fig. 1. Smeryngolaphria pallida Bromley, holotype o.



Fig. 28 Distribution of Afro tropical Smeryngolaphria species, - = S. pallida Bromley. • = S. bromleyi sp. n.

Gallery Image

Figs 2-4. Smeryngolaphrill species, wing venation. 2. S. melanura (Wiedemann). 3. S. pallida Bromley. 4. S. bromleyi sp. n.



Figs 5-11. Smeryngolaphria



- ◊ revisionary taxonomy as a testable, hypothesis-driven research field
 - › data can be retrieved instantaneously by peers and scientific community at large
 - › data can be easily re-used, re-evaluated, and scientifically tested
 - › observations can be replicated (*e.g.*, high-resolution images)
- ◊ make your ... online
 - › data ready for re-use and re-purposing by others within and outside of taxonomy
 - › species hypotheses testable by providing data in machine-readable form
 - › taxonomic revisions + catalogs more user friendly + link to openly accessible data repositories
- ◊ benefits
 - › researcher, taxonomic community, scientific community at large, and the public
 - › institutions
 - › funding sources demand open-access of data

◊ main data repositories

- › ZooBank – names – zoobank.org
 - › GBIF – Global Biodiversity Information Facility – specimen occurrence data – gbif.org
 - › Morphbank – images – morphbank.net
 - › figshare or Zenodo – data, illustrations, XML-files – figshare.com + zenodo.org
 - › BioLitRepo – Biodiversity Literature Repository – articles – biolitrepo.org
 - › Plazi TreatmentBank – taxon treatments – plazi.org/resources/treatmentbank
-
- › re-use, re-purpose, and test previously gathered data easily <
 - › make work of future taxonomists easier <
 - › move taxonomy into 21st century <
 - › your taxonomic legacy <

- ◊ discussions
 - › Donat Agosti @myrmoteras
- ◊ Sharing taxonomic research to benefit life sciences at large:
open access, unique identifiers, and cybertaxonomic tools
doi:[10.6084/m9.figshare.1583349](https://doi.org/10.6084/m9.figshare.1583349)
- ◊ Taxonomic revisions and catalogs as current science:
cybertaxonomic tools to accelerate dissemination of and access to data
doi:[10.6084/m9.figshare.1602603](https://doi.org/10.6084/m9.figshare.1602603)



@TDikow #asiloidflies #USNM-Diptera



presentation PDF doi: [10.6084/m9.figshare.7403708](https://doi.org/10.6084/m9.figshare.7403708)