



Donat Agosti

September 30, 2016, International Congress of Entomology, Orlando
Symposium 647, #4332

20 years of *Open Access*.
**Where do we come from – where do
we go to?**

Donat Agosti
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Plazi

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September 30, 2016, ICE, Orlando, USA



- Maintain a digital taxonomic literature repository to enable archiving of taxonomic treatments.
- Enhance submitted taxonomic treatments, extracts the facts and make them widely accessible.
- Participate in the development of new models for publishing taxonomic treatments in order to maximize interoperability with other relevant cyberinfrastructure components (e.g., name servers, biodiversity resources, etc...)
- Advocate and educate about the vital importance of maintaining free and open access to scientific discourse and data



A virtual, global organization with real people behind



2002 first projects
2008 Plazi Verein
2012 Plazi GmbH



A virtual organization with broad expertise and track record

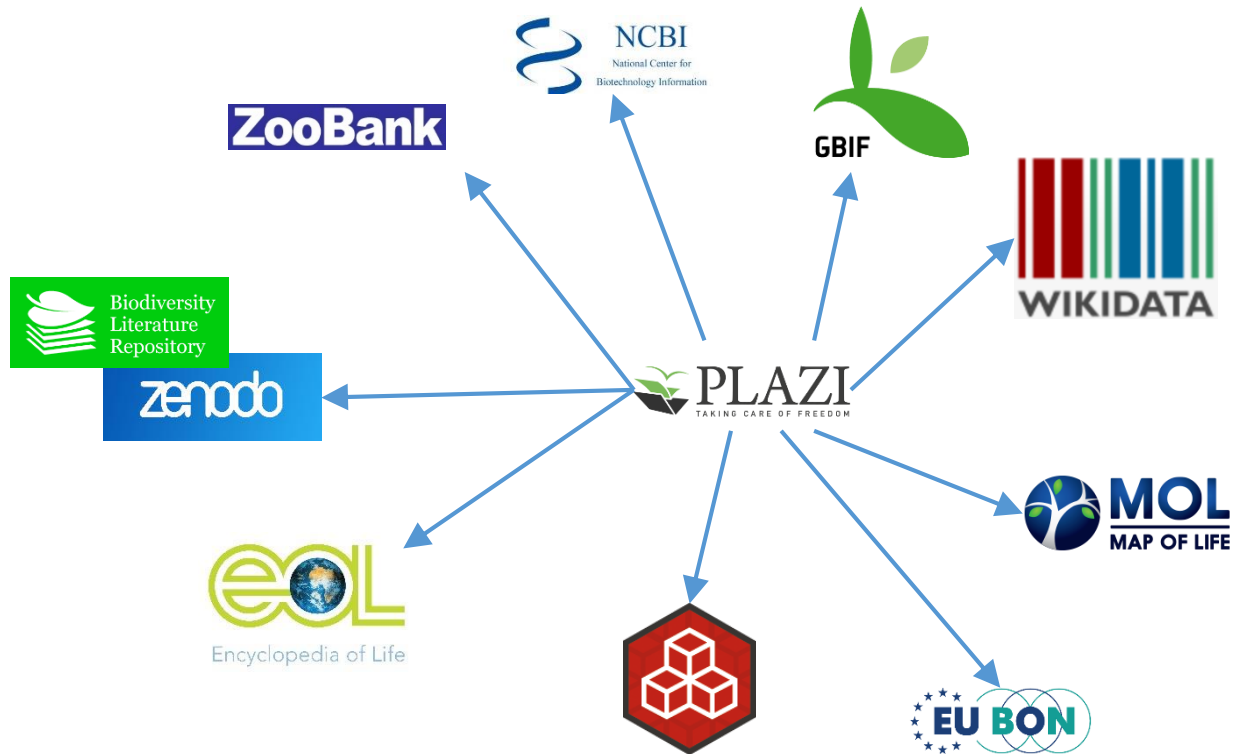
- Life science
- Legal affairs
- Library sciences
- Computer sciences
- Publishing
- Taxonomy
- Organizing scientific meetings
- Semantic enhancement

The collage consists of several overlapping screenshots:

- ZooKey:** A peer-reviewed open-access journal website for accelerating biodiversity research. It features a search bar, navigation menu, and a list of articles. One article is titled "Open exchange of scientific knowledge and European copyright: The case of biodiversity information" by Will Egloff, David J. Patterson, Donat Agosti, and Gregor Hegedorn.
- BMC Research Notes:** A journal website with a search bar and navigation menu. It displays a list of articles, including one titled "Taxonomic information exchange and copyright: the Plazi approach" by Will Egloff and Donat Agosti.
- Access to scientific and technical information - between social needs and private interests:** A document or article snippet discussing the balance between public access and private interests in scientific information.
- Bouchout Declaration for Open Biodiversity Knowledge Management:** A central document with a blue header. It outlines the purpose of the declaration, which is to help make digital data about biodiversity openly available. It includes sections for "Declaration", "News", and "Sign".
- PLAZI: Making sense of Biodiversity:** A website with a navigation menu and a section titled "The Blue List". This section explains that the Blue List identifies taxonomic information that is not subject to copyright and is available for open sharing.



A partner in a global science network

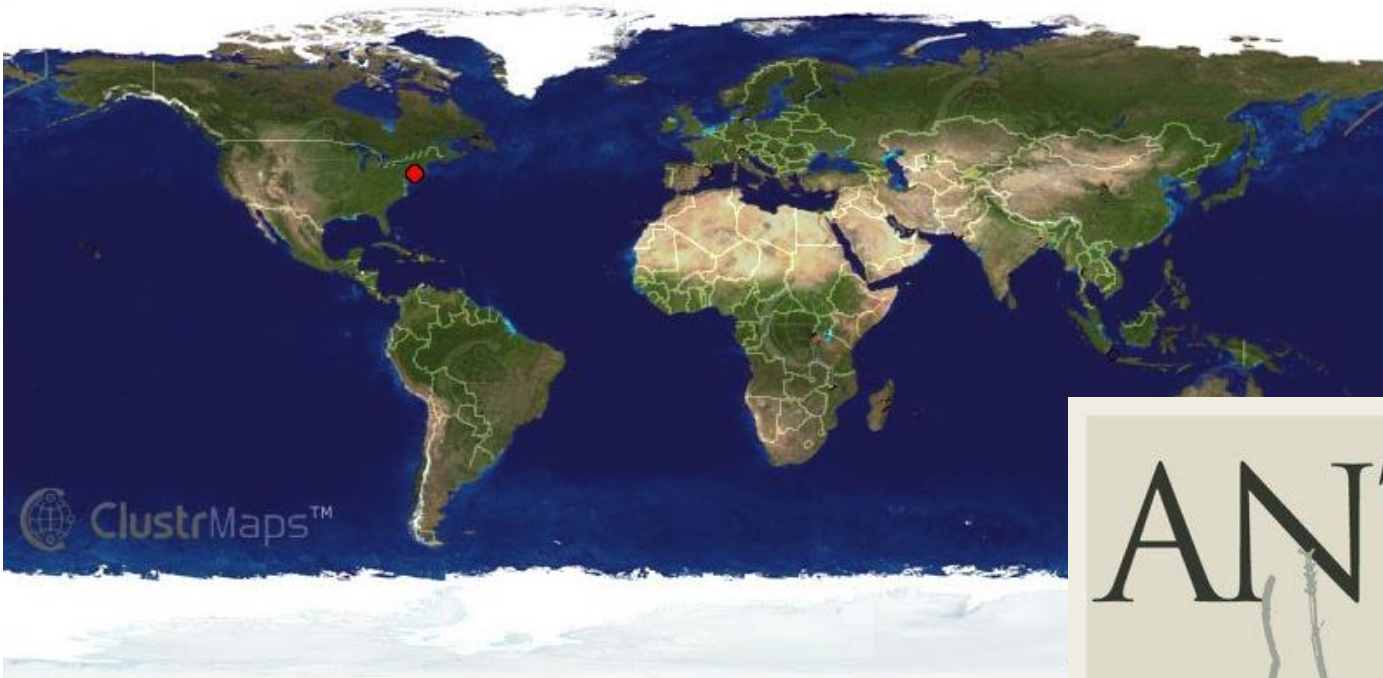




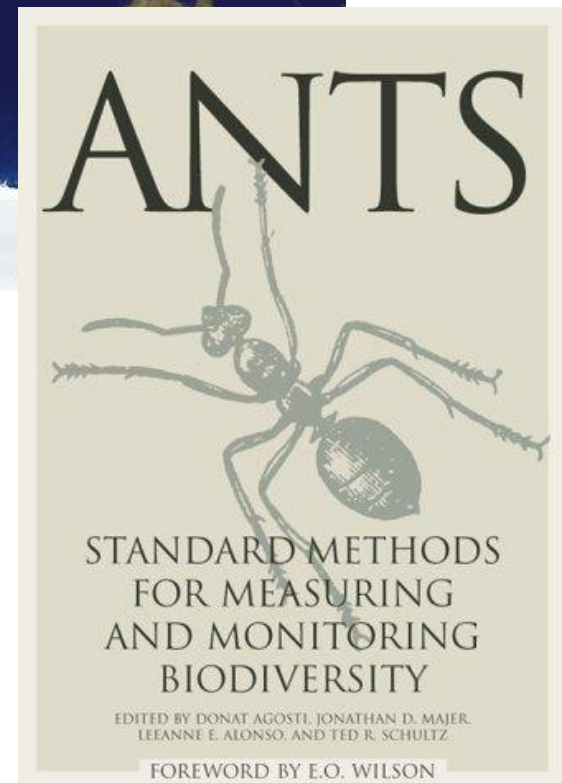
1996

4 years after the Rio Earth Summit





1996: The Museum of Comparative Zoology at Harvard University as the only place on Earth with a complete collection of ant taxonomic publications. The ant community got together to create a standard protocol to collect ants





Who is this?
What do I know about her?
Where does she live?

Biodiversity Knowledge: 20 years ago





- Internet
- WWW
- Digitization
- Computing power



nature

International weekly journal of science

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Correspondence

Nature **417**, 222 (16 May 2002) | doi:10.1038/417222b

Taxonomists need better access to published data

Donat Agosti¹ & Norman F. Johnson²

1. American Museum of Natural History, New York, New York 10024-5192, USA

2. Insect Collection, Ohio State University, Columbus, Ohio 43210-1220, USA

Sir

The biodiversity community must learn from its counterparts in the physical and biomedical sciences and move towards the provision of unhindered access to its baseline data: taxonomic descriptions, imagery, geographical and temporal distribution, and characters — molecular, morphological and behavioural (see H. C. J. Godfray's Commentary "Challenges for taxonomy", *Nature* **417**, 17–20; 2002).

International codes of nomenclature require taxonomic actions to be published, and the data thus made available. Yet much of the underlying information is accessible only by examination of the specimens involved, so access is in effect limited to all but a few potential users. The assertion of copyright by publishers further limits the distribution of published information.



2006

14 years after the Rio Earth Summit



Online catalogue

naturenews

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Ants make web

News

Formidable catalogue puts army of ants online.

[Tom Clarke](#)



After four years of cooperation and tenacity worthy of their quarry, ant experts have completed Antbase, a centralized, online information resource cataloguing all 11,000 known species of ant.

Its creators hope that Antbase will one day become the ant equivalent of GenBank, the public database of genetic sequence data, and a boon not just for ant specialists, but for entomologists and ecologists of every kind.

Ant taxonomists Donat Agosti of the American Museum of Natural History in New York and Norman Johnson of Ohio State University in Columbus built Antbase using funds from general research budgets and small institutional grants. Having compiled a full list of ant names, they hope their homespun project will now win long-term funding and a permanent home. "It needs to be institutionalized," says Agosti.

Researchers can now crawl through data on 11,000 ant species.

© Antbase

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most recent

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10 August 2010
- [Upbeat oil report questioned](#)
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- [France digs deep for nuclear waste](#)
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- [Physicists get political over Higgs](#)
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• 13 comments
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• 12 comments
19 July 2010

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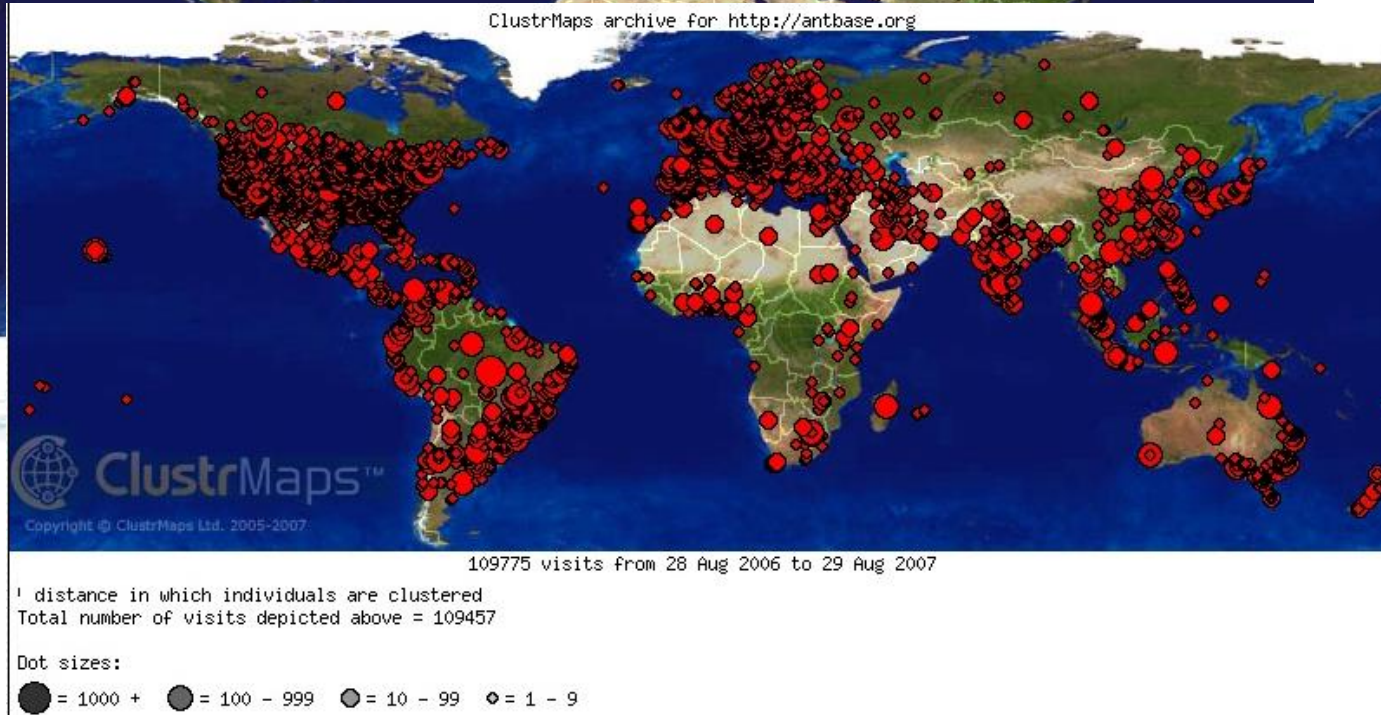
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- [web site](#)
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- [antbase](#)
- [entomology](#)

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- [Add to Digg](#)
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- ***Antbase.org*** together with ***Hymenoptera Name Server*** allowed as a first of its kind online open access to all the literature with up to 10,000 visitors per month.
- ***Biodiversity Heritage Library*** funded



Taxonomic Treatment

Formica obsoleta Linnaeus, 1758: 580

name

obsoleta. 5. F. supra nigra, subtus testaceo rufa, abdomine subglobofo.

Habitat in Europæ terra.

description

distribution

Treatment: a well defined part of an article that defines the particular usage of a scientific name by an authority at a given time (a page(s) in a publication).

Linnaeus has to be credited for Latin Binomen AND **Treatment**.



- Semantic Web
- WWW
- Digitization
- e-publications



2016

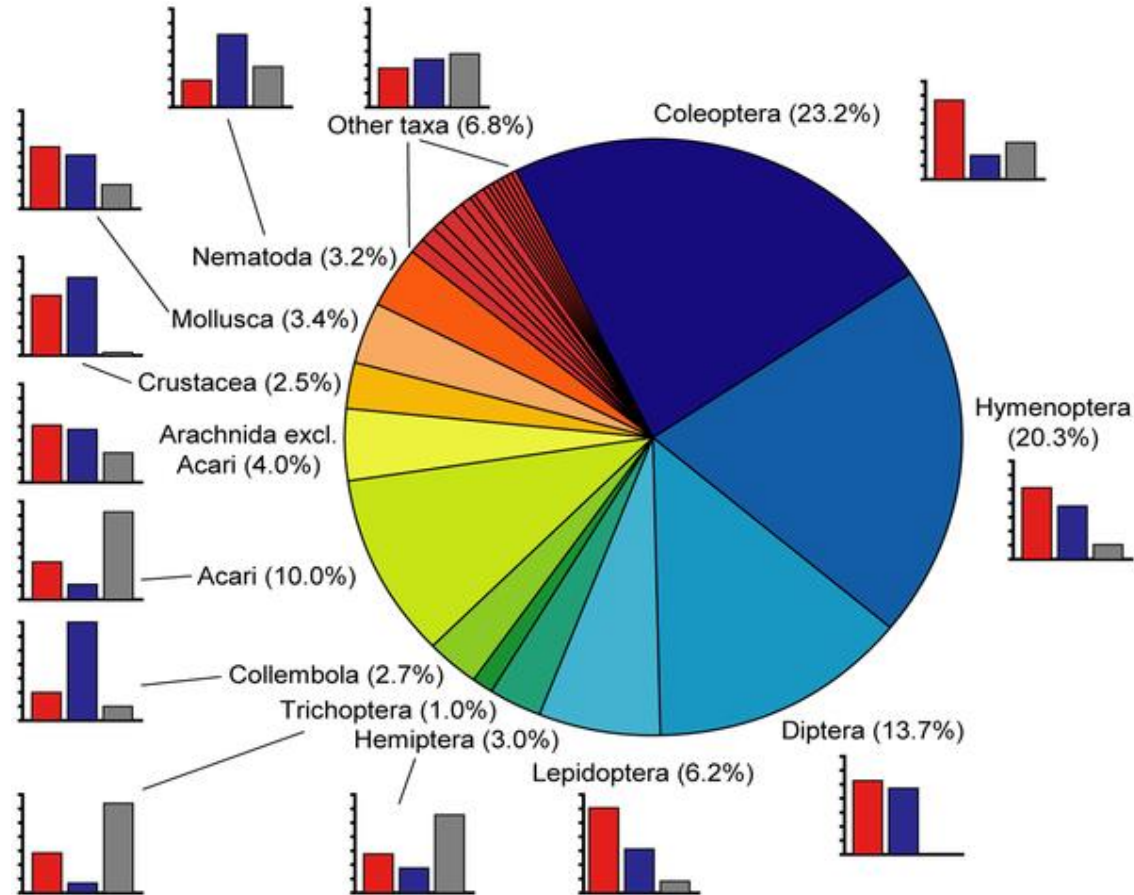
24 years after the Rio Earth Summit

Biodiversity Knowledge: 20 years ago, and still today





Current descriptions of new species in Europe: 10 years, 1998-2007: 5881 species.

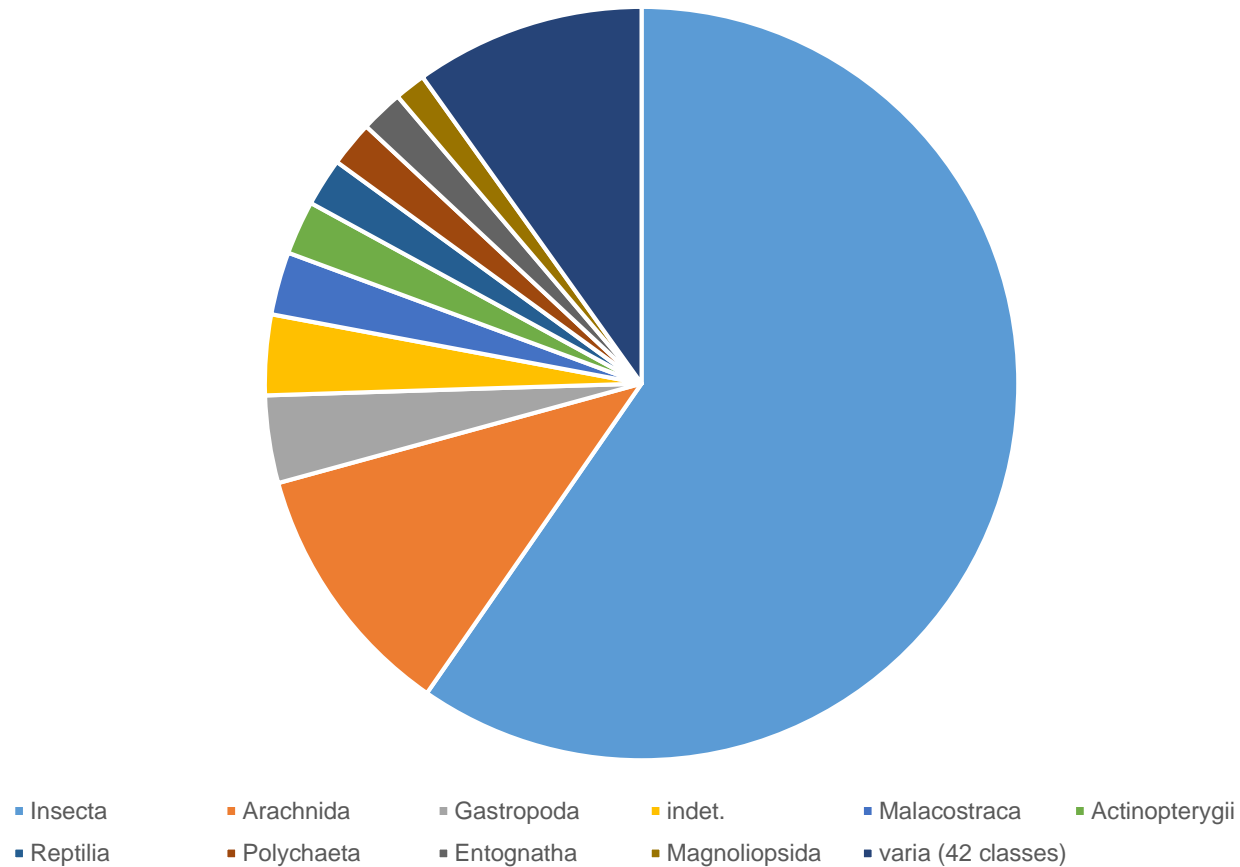


2012: Fauna Europaea: > 450 participants



Current descriptions of new species in 2016: 3951 species.

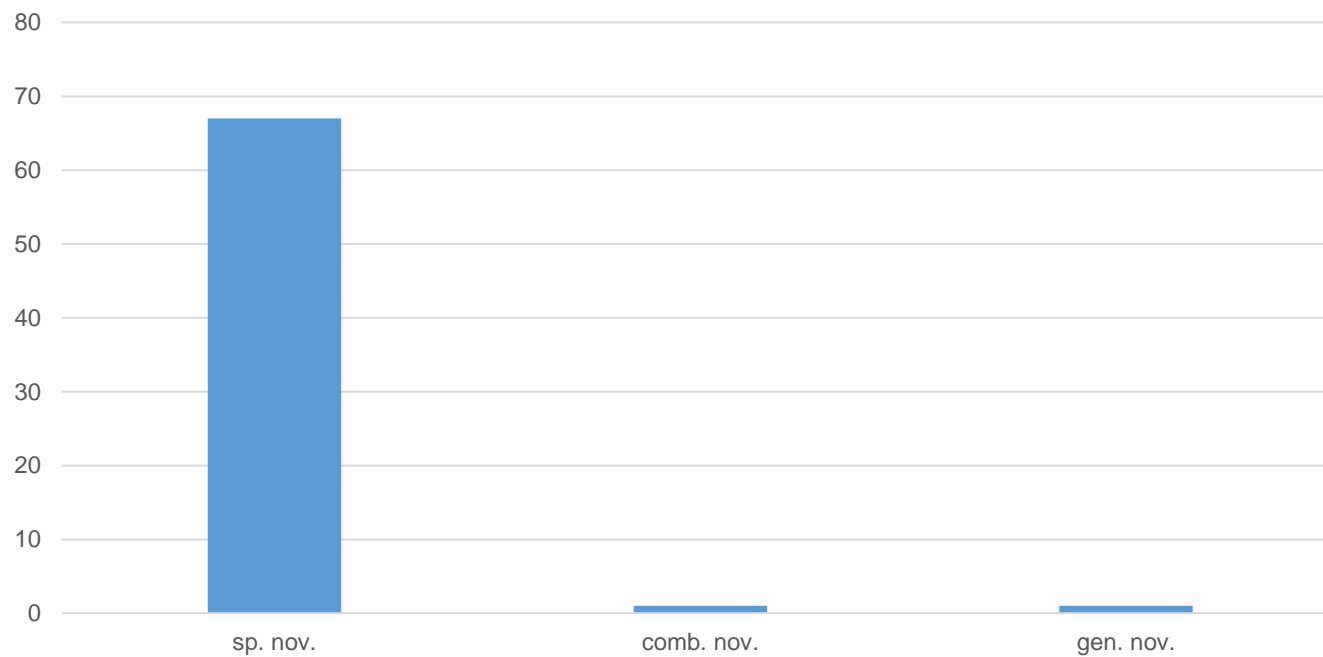
Number of Treatments per Class, 2016



2016: TreatmentBank. Automated import



Nomenclatural acts, Sept. 26-30, 2016





TreatmentBank is a resource that stores and provides access to the taxonomic treatments and data therein.

TreatmentBank

What is TreatmentBank?

Scientists describe and communicate the discovery of new biological species with taxonomic treatments that are bound to the names used to refer to these taxa. Often they are very rich in content and increasingly linked to external resources. TreatmentBank is a resource that stores and provides access to the treatments and data therein.

Search TreatmentBank

TreatmentBank can be searched using fulltext search or the extended search allowing more precise searches related to taxonomic names, bibliographic records or observation records.

[read more](#)

Desktop data mining and extraction

The GoldenGATE Document Editor is a visual editor for marking up documents in XML. It is designed to do most of the markup automatically.

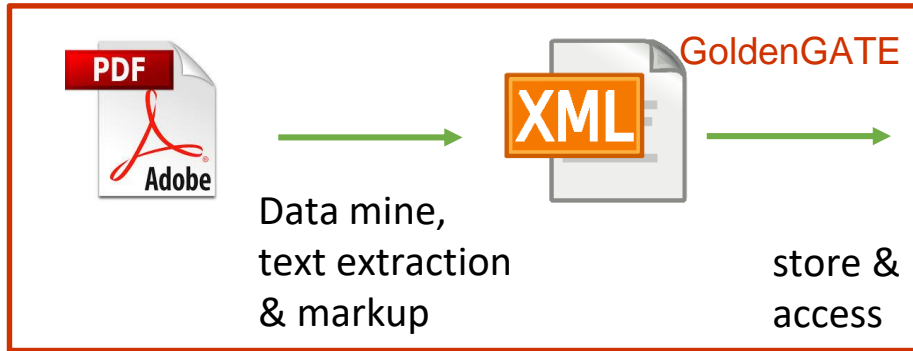
[read more](#)

Visualization

Here is a selection of the visualization of the very rich data contained in taxonomic treatments

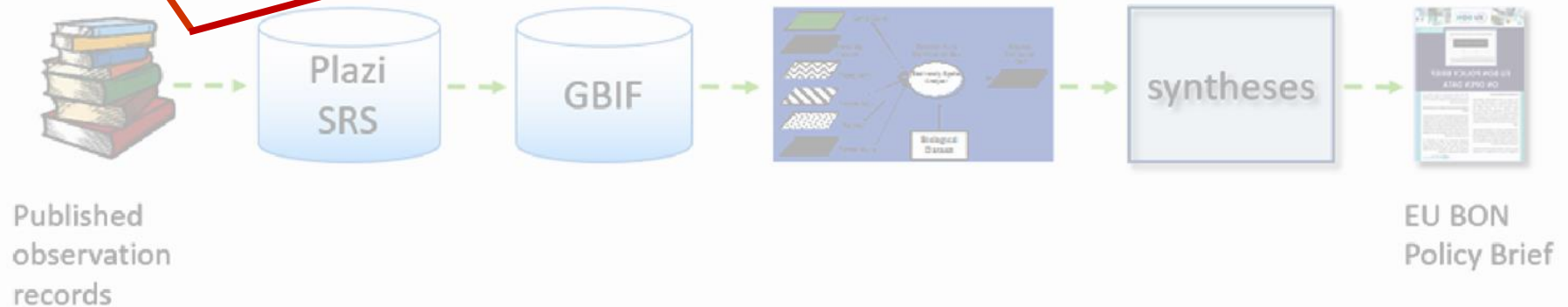
[read more](#)

<http://treatmentBank.org>



GoldenGATE

- Native version
- Customized versions
- Batch mode



Alternatively, direct import of XML-based articles



@plazi_treat

The screenshot shows a vertical list of four tweets from the account @plazi_treat. Each tweet features a profile picture of a bar chart with four bars in green, blue, and red. The tweets are as follows:

- Tweet 1:** **Plazi Treatment Repo ...** 22h
Discovered 2 new #Sarcoptiformes in 1 publication today (3 overall)
tb.plazi.org/GgServer/stati...
- Tweet 2:** **Plazi Treatment Repo ...** 22h
Discovered 1 new #Perciformes in 1 publication today -
tb.plazi.org/GgServer/stati...
- Tweet 3:** **Plazi Treatment Repo ...** 22h
Discovered 1 new #Passeriformes in 1 publication today (2 overall)
tb.plazi.org/GgServer/stati...
- Tweet 4:** **Plazi Treatment Repo ...** 22h
Discovered 1 new #Cumacea in 1 publication today (3 overall)
tb.plazi.org/GgServer/stati...

Each tweet includes a set of interaction icons: a left-pointing arrow, a refresh icon, a heart, and a three-dot menu.



[@plazi_treat](#)

<http://tb.plazi.org/GgServer/static/newToday.html>

Plazi Treatment Repo ... 22h
Discovered 2 new
#Sarcoptiformes in 1
publication today (3 overall)
tb.plazi.org/GgServer/stati...

Plazi Treatment Repo ... 22h
Discovered 1 new
#Perciformes in 1 publication
today -
tb.plazi.org/GgServer/stati...

Plazi Treatment Repo ... 22h
Discovered 1 new
#Passeriformes in 1 publication
today (2 overall)
tb.plazi.org/GgServer/stati...

Plazi Treatment Repo ... 22h
Discovered 1 new #Cumacea
in 1 publication today (3
overall)
tb.plazi.org/GgServer/stati...

Plazi Treatment Repo ... 22h
Discovered 3 #Coleoptera in 1
publication today -
tb.plazi.org/GgServer/stati...

Plazi Treatment Repo ... 22h
Discovered 2 new #Astigmata
in 1 publication today (4
overall)
tb.plazi.org/GgServer/stati...

Plazi Treatment Repo ... 22h
Discovered 1 new #Amphipoda
in 1 publication today (2

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2016-09-29 (74)

Animalia

Arthropoda

Carsidara limbata (Enderlein, 1926) (Zootaxa)
Catapterix tianshanica, sp. nov. (Nota Lepidopterologica)
Eukoenenia cavatica, sp. nov. (Zootaxa)
Eukoenenia jequitinhonha, sp. nov. (Zootaxa)
Farfantepenaeus isabelae (Zootaxa)
Farfantepenaeus subtilis (Pérez Farfante, 1967) (Zootaxa)
Hemithyrsocera sp. (Subterranean Biology)
Kingsleya attenboroughi, sp. nov. (Zootaxa)
Kingsleya Ortmann, 1897 (Zootaxa)
Kingsleya Ortmann, 1897 (Zootaxa)
Leptobasis linda, sp. nov. (Zootaxa)
Leptogomphus tioman, sp. nov. (Zootaxa)
Nocticola gonzalezi Lucanas & Lit, sp. nov. (Subterranean Biology)
Periplaneta banksi Hanitsch, 1931 (Subterranean Biology)
Platystoma (Zootaxa)
Platystoma arcuatum Loew, 1856 (Zootaxa)
Platystoma dalia, sp. nov. (Zootaxa)

Earlier Dates

2016-09-30 (20)
[2016-09-29 \(74\)](#)
2016-09-28 (26)
2016-09-27 (227)
2016-09-26 (25)
2016-09-23 (37)
2016-09-22 (71)
2016-09-21 (47)
2016-09-20 (325)
2016-09-19 (66)
2016-09-18 (8)
2016-09-16 (62)
[Earlier ...]



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2016-09-29 (74)

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Arthropoda

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- Kingsleya attenboroughi, sp. nov. (Zootaxa)**
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- Nocticola gonzalezi Lucanas & Lit, sp. nov. (Zootaxa)**
- Periplaneta banksi Hanitsch, 1931 (Subterranean Biology)
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- Platystoma arcuatum Loew, 1856 (Zootaxa)
- Platystoma dalia, sp. nov. (Zootaxa)**

Carsidara limbata (Enderlein, 1926)

Cho, Geonho, Inoue, Hiromitsu, Burckhardt, Daniel & Lee, Seunghwan, 2016, The identity of the *Carsidara* species (Hemiptera: Psylloidea: Carsidaridae) associated with *Firmiana simplex* (Malvaceae) in Japan and Korea, *Zootaxa* 4171 (2), pp. 395-400: 396-397

publication ID	http://doi.org/10.11646/zootaxa.4171.2.13
publication LSID	lsid:zoobank.org:pub:AA9250AC-ECE9-4B7B-A1DA-A7E7F2F3E5BB
persistent identifier	http://treatment.plazi.org/id/03D7375D-8B2E-1E15-FF3C-FD714C1E87F1
treatment provided by	Plazi (2016-09-29 12:32:46)
scientific name	Carsidara limbata (Enderlein, 1926)
status	

Show all

Treatment

Carsidara limbata (Enderlein, 1926) [Edit](#)

(Figs. 1–11 [View Figure](#) [View Figure](#))

Thysanogyna limbata Enderlein, 1926: 397 [Edit](#) .

Carsidara limbata (Enderlein) [Edit](#) ; Hodkinson, 1986: 303; Hollis, 1987: 93; Li, 2011: 1295. Thysanogyna

Taxonomy

Specimens

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Carsidara limbata (Enderlein, 1926)

Cho, Geonho, Inoue, Hiromitsu, Burckhardt, Daniel & Lee, Seunghwan, 2016, The identity of the *Carsidara* species (Hemiptera: Psylloidea: Carsidaridae) associated with *Firmiana simplex* (Malvaceae) in Japan and Korea, *Zootaxa* 4171 (2), pp. 395-400: 396-397

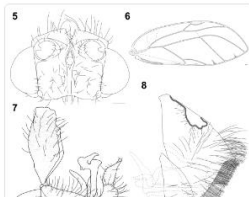
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persistent identifier	http://treatment.plazi.org/id/03D7375D-8B2E-1E15-FF3C-FD714C1E87F1
treatment provided by	Plazi (2016-09-29 12:32:46)
scientific name	<i>Carsidara limbata</i> (Enderlein, 1926)
status	

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Treatment

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Figures

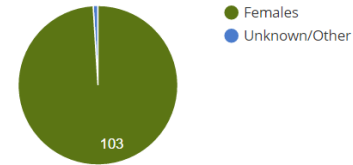


Taxonomy

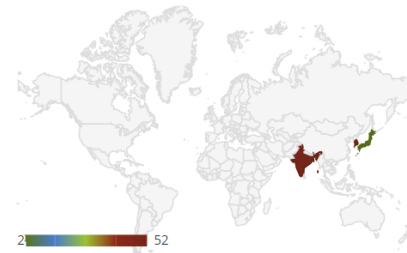
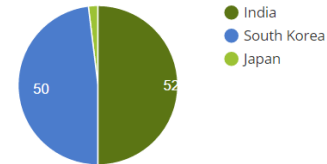
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Specimens

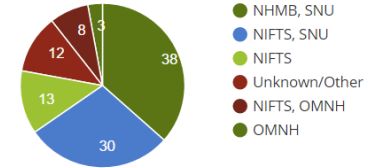
Carsidara limbata (Enderlein, 1926): Specimens by Sex (n=104)



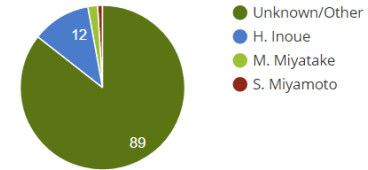
Carsidara limbata (Enderlein, 1926): Specimens by Country (n=104)



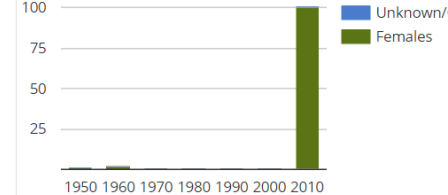
Carsidara limbata (Enderlein, 1926): Specimens by Collection (n=104)



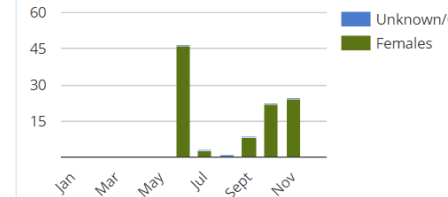
Carsidara limbata (Enderlein, 1926): Specimens by Collector (n=104)




Carsidara limbata (Enderlein, 1926): Specimens by Decade (n=104)



Carsidara limbata (Enderlein, 1926): Specimens by Month (n=104)







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Cataglyphis turcomanicus (Emery)

Agosti, Donat, 1990, Review and reclassification of Cataglyphis (Hymenoptera, Formicidae), Journal of Natural History 24, pp. 1457-1505: 1490

publication ID	10.5281/zenodo.14982
persistent identifier	http://treatment.plazi.org/id/87F5BDFA-6C63-C7B7-4A85-A1B39AE6CACE
treatment provided by	Donat (2015-02-10 19:50:43, last updated 2016-02-28 23:20:20)
scientific name	Cataglyphis turcomanicus (Emery)
status	

Show all

Treatment

Cataglyphis turcomanicus (Emery)

Myrmecocystus viaticus var. turcomanica Emery, 1898: 126. Syntypes workers, USSR (Samarkand, Merw, leg. Shalberg), MHNG View Cited Treatment [examined]. [Later changes: Cataglyphis bicolor var. turcomanica, Crawley, 1920: 177 View Cited Treatment, Cataglyphis ssp. turcomanica, Arnoldi, 1964: 1804.] [Cataglyphis (Cataglyphis) bicolor ssp. setipes var. turcomanica, Emery, 1925: 266; Cataglyphis (Cataglyphis) bicolor st. setipes var. turcomanica, Santschi, 1929a: 49; names not available.] (Description of male: Karavaiev, 1912b: 591, Arnoldi, 1964: 1805.)

Formica longipedum Eichwald, 1841: 224. Syntypes workers USSR ('In arenosis Krasnowodskiensibus') View Cited Treatment. [Synonymy by Kolossov, 1932: 118 View Cited Treatment.]

Copyright notice

Taxonomy

Kingdom	Animalia
Phylum	Arthropoda
Class	Insecta
Order	Hymenoptera
Family	Formicidae
Genus	Cataglyphis

Myrmecocystus viaticus var. turcomanica Emery, Carlo, 1898

Emery, Carlo, 1898, Beiträge zur Kenntniss der palaearktischen Ameisen, Öfversigt af Finska Vetenskaps-Societetens Förhandlingar 20, pp. 124-151: 126

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treatment provided by	Donat (2015-02-10 13:37:10)
scientific name	Myrmecocystus viaticus var. turcomanica Emery
status	n. var.

Show all

Treatment

Myrmecocystus viaticus var. turcomanica Emery n. var.
Samarkand, Merw.

Copyright notice

Cataglyphis bicolor var. turcomanica

Crawley, W. C., 1920, Ants from Mesopotamia and north-west Persia (concluded), Entomologists Record and Journal of Variation 32, pp. 177-179: 1

publication ID	10.5281/zenodo.15001
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treatment provided by	Donat (2015-02-10 19:15:47)
scientific name	Cataglyphis bicolor var. turcomanica
status	

Show all

Treatment

Taxonomy

Kingdom	Animalia
Phylum	Arthropoda
Class	Insecta
Order	Hymenoptera
Family	Formicidae
Genus	Cataglyphis

Specimens

Downloads



Persistent identifiers allow citing treatments

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Cataglyphis turcomanicus (Emery)

Agosti, Donat. 1990. Review and reclassification of Cataglyphis (Hymenoptera, Formicidae). Journal of Natural History 24, pp. 1457-1505: 1490

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Show all

Treatment

Copyright notice

Taxonomy	
Kingdom	Animalia
Phylum	Arthropoda
Class	Insecta
Order	Hymenoptera
Family	Formicidae
Genus	Cataglyphis

Cataglyphis turcomanicus (Emery)
Agosti, Donat 1990

1964 turcomanica
Arnoldi 1964: 1804

Cataglyphis (Cataglyphis) bicolor st. setipes var. turcomanica
Santschi 1929: 49

1925 Cataglyphis (Cataglyphis) bicolor ssp. setipes var. turcomanica
Emery 1925: 266

Cataglyphis bicolor var. turcomanica
Crawley 1920: 177

1896 Myrmecocystus viaticus turcomanica
Emery 1898: 126

Specimens

Downloads

RDF output allows sharing of data

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30 June 1992

Book Open access

Revision of the ant genus *Myrmoteras* in the Malay Archipelago (Hymenoptera, Formicidae)

Agosti, Donat

(show affiliations)

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Accept Reject

Publication date:

30 June 1992

DOI

DOI 10.5281/zenodo.10693

Keyword(s):

systematics, biology, taxonomy, Oriental Region, Myrmoteras, revision

Published in:

Revue Suisse de Zoologie: 99 (1992) pp. 405-429

Collections:

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2016-09-29 (74)

Earlier Dates

2016-09-30 (20)

2016-09-29 (74)

Animalia

Arthropoda

Carsidara limbata (Enderlein, 1926) (Zootaxa)

Catapterix tianshanica, sp. nov. (Nota Lepidopterologica)

Eukoeneria

Eukoeneria

Farfantepen

Farfantepen

Hemithyrso

Kingsleya

Kingsleya O

Kingsleya O

Leptobasis

Leptogom

Nocticola

Periplaneta

Platystoma

Platystoma

Platystom



Catapterix tianshanica

Mey, Wolfram & Rutjan, Evgeniy, 2016, Catapterix tianshanica sp. nov. Palaeartic Region (Lepidoptera, Acanthopteroctetidae), Nota Lepidopterologica

publication ID <http://dx.doi.org/10.3897/nl.39.9882>

publication LSID [lsid:zoobank.org/pub:DF60D3D0-F5](http://zoobank.org/pub:DF60D3D0-F5)

persistent identifier <http://treatment.plazi.org/id/20BDD944-51DA-49A4-8578-4F8C6F0D45FE>

taxon LSID [lsid:zoobank.org/act:20BDD944-51DA-49A4-8578-4F8C6F0D45FE](http://zoobank.org/act:20BDD944-51DA-49A4-8578-4F8C6F0D45FE)

treatment provided by Nota Lepidopterologica by Pensoft (2016)

scientific name **Catapterix tianshanica**

status sp. n.

show all

Taxon classification Animalia Lepidoptera Acanthopteroctetidae

Catapterix tianshanica [Edit](#) sp. n.

Material.

Holotype ♂, labeled: "Kyrgyzstan/ Tian-Shan/ prov. Dzhahal-Ab-Toskool/ fauc. Alash-Saj/alt. 1100M, 16-17.v.2003/E. Rutjan leg. Museum für Naturkunde Berlin.

Research Article

Nota Lepidopterologica 39(2): 145-150 (28 Sep 2016)
doi: 10.3897/nl.39.9882

Taxonomy ▾

Catapterix tianshanica sp. n.

<http://zoobank.org/20BDD944-51DA-49A4-8578-4F8C6F0D45FE>

Material

Holotype ♂, labeled: "Kyrgyzstan/ Tian-Shan/ prov. Dzhahal-Abad/ distr.:Kotshkor-Ata/ prope pag. Toskool/ fauc. Alash-Saj/alt. 1100M, 16-17.v.2003/E. Rutjan leg. Lum.[at light]". Genitalia slide Mey 34/16, Museum für Naturkunde Berlin.

Description

Adult (Fig. 1). Head (Figs 2, 3): Frons, vertex and occipital area fuscous; vestiture consisting of bundles of erect, grey, hairlike scales on frons, vertex and occipital margin; vertex convex and extended dorsad, becoming flat toward the eyes; head capsule around compound eyes with grey, appressed scales; interocular index 0.6 (vertical eye diameter/interocular distance); ocelli absent. Antennae with 29 intact flagellomeres (apical ones broken off); scape covered by grey-brown scales; proximal part of pedicellus and flagellomeres with complete ring of 12-14 elongate, piliform scales, as long as antennal segment and notched at apex; cilia absent. Maxillary and labial palpi rough-scaled. Proboscis pale brown. **Thorax:** Pronotum with erect, hairlike scales; tegulae small; mesothorax with lamellar, grey-brown scales; metascutellum with few scales. Venter pale grey. Legs light fuscous to grey; epiphysis absent; spur formula 0.1.4.; tibial segments with pairs of apical, short spines. Length of forewing 3 mm; wingspan 7 mm; wings very slender with acute tips; forewings light brown, with bronzy iridescence, but without spots or fascia; some darker scales randomly scattered over apical half; fringe grey. Hindwings paler than

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Contents Article info Citation

Figs Taxa Refs

Catapterix tianshanica

Occurrences

No data on this taxon in GBIF

Genomics

No data on this taxon in NCBI

Barcode of Life

Nomenclature

ZooBank ZooBank

International Index

Index Fungorum

ION

Catalogue of Life

Treatments

No images on this taxon in EOL

PLAZI Plazi

Literature

Biodiversity Heritage Library

It seems that this taxon name is not present in any BHL publication

Direct access to articles in Journals published by **Pensoft**, e.g.. **Zookeys**, **Biodiversity Data Journal**, **Journal of Hymenoptera Research**.



Data

The data mining begun 2015

Publications (year of publishing): 17,799 (2016: 3,500)

Taxonomic treatments: 165,692 (50,000)

Observation Records: 53099

Observation Records geo-referenced: 23068

Taxonomic names: 152,641 (45,000)

Bibliographic references: > 800,000

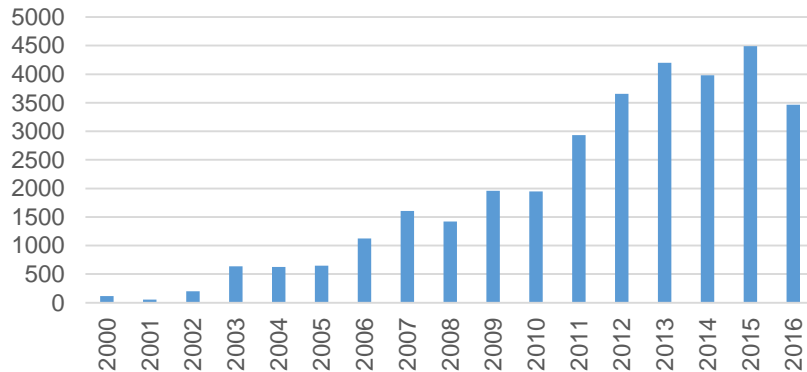
RDF triples: > 100 Million (1M)

Interlinking and contributions

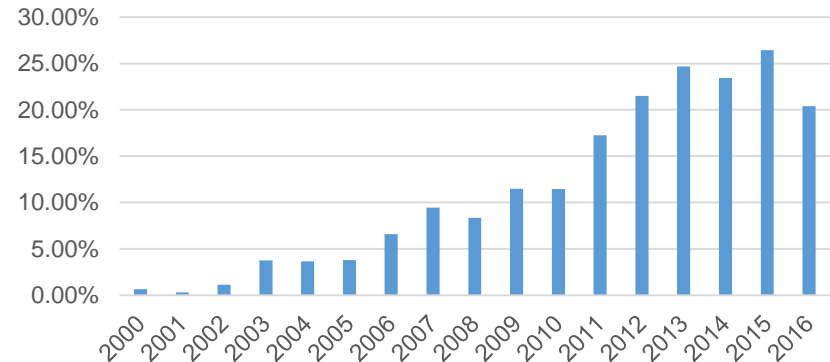
Scientific illustrations: >140,000 (being uploaded to BLR/Zenodo)



annually described new species in TreatmentBank



% annually described new species in TreatmentBank



17631 new species described from 2000-2009 (<http://www.esf.edu/species/documents/sosretro.pdf>)
ca 17,000 described annually (ION: Index of Organism Names)



year	journal	#treatment	#articles
2016	Zootaxa	14968	1334
2016	Biodiversity Data Journal	10955	61
2016	ZooKeys	5478	338
2016	PhytoKeys	355	63
2016	Deutsche Entomologische Zeitschrift	142	10
2016	Journal of Hymenoptera Research	114	15
2016	Zoosystematics and Evolution	104	7
2016	Subterranean Biology	41	6
2016	MycoKeys	27	4
2016	Insect Systematics & Evolution	17	3
2016	African Invertebrates	14	5
2016	Nota Lepidopterologica	9	7
		32224	1853



Number of Treatments of new species	Collection Code
86	USNM
53	MNHN
45	INPA
40	KIZ
37	ANIC
28	AMNH
27	MZUSP
26	CAS
26	NHMHUK
23	CNC



Top ranking of authors of taxonomic treatments in 2016

Number of Treatments	Author
3259	Broad, Gavin R.
2213	Dale-Skey, Natalie & Askew, Richard R. & Noyes, John S.
1680	Broad, Gavin R. & Shaw, Mark R. & Godfray, H. Charles J.
1463	Neubauer, Thomas A.
1127	De, Gilberto J. & Britto, Erika P. J. & De, Jefferson L.
1086	Dean, David Allen
1044	Monné, Miguel A. & Monné, Marcela L.
966	Else, George R. & Bolton, Barry & Broad, Gavin R.
544	Murvanidze, Maka & Mumladze, Levan
427	Buhl, Peter N. & Broad, Gavin R. & Notton, David G.



Top ranking of authors of new species in 2016

Number of Treatments	Document Author
89	Fallon, Phillip J.
81	Randall T. Schuh & Michael D. Schwartz
43	Araújo, Maíra Xavier & Bravo, Freddy
39	Fu, Zhao & Toda, Masanori J. & Li, Nan-Nan & Zhang, Ya-Ping
33	Alberto T. Barrion & Aimee Lynn A. Barrion-Dupo
28	Dong, Tingting & Zheng, Guo & Yao, Zhiyuan & Li, Shuqiang
28	Vásquez-Vélez, Laura M.
27	Webster, Reginald P. & Klimaszewski, Jan & Bourdon, Caroline
24	Riedel, Alexander & Taenzler, Rene
24	Zhang, Guanyang & Hart, Elwood R & Weirauch, Christiane
21	Fernandez-Triana, Jose & Boudreault, Caroline & Dapkey, Tanya



journal	#treatment	#articles	#treatment/ #article
Zootaxa	14968	1334	11
Biodiversity Data Journal	10955	61	180
ZooKeys	5478	338	16
PhytoKeys	355	63	6
Deutsche Entomologische Zeitschrift	142	10	14
European Journal of Taxonomy	133	14	10
Journal of Hymenoptera Research	114	15	8
Journal of Natural History	110	12	9
Zoosystematics and Evolution	104	7	15
Bulletin of the American Museum of Natural History	102	1	102
Zoological Journal of the Linnean Society	84	6	14
Zoological Systematics	67	12	6
UPLB Museum Publications in Natural History	53	1	53
Revue suisse de Zoologie	52	11	5
Copeia	47	5	9
Subterranean Biology	41	6	7
Current Biology	27	2	14
MycoKeys	27	4	7
Soil Organisms	25	1	25
Sociobiology	19	1	19



Number of Articles	Number of Treatments
4132	0
4548	1
3066	2
1929	3
1408	4
1042	5
735	6
604	7
512	8
370	9
377	10
276	11
225	12
181	13
181	14
138	15
138	16
117	17
115	18
97	19
90	20

Number of Treatments	Taxonomic Status	Number of Materials Citations
32810	sp. nov.	0
402	sp. nov.	1
309	sp. nov.	2
207	sp. nov.	3
151	sp. nov.	4
103	sp. nov.	5
65	sp. nov.	6
60	sp. nov.	7
40	sp. nov.	8
36	sp. nov.	9
27	sp. nov.	10
25	sp. nov.	11
17	sp. nov.	12
15	sp. nov.	13
23	sp. nov.	14
13	sp. nov.	15
13	sp. nov.	16
8	sp. nov.	17
14	sp. nov.	18
14	sp. nov.	19
7	sp. nov.	20



Linking of treatments to external resources

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(Diagnosis, Syn. 14, 1801; 20, 1801)

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Anochetus boltoni Fisher

Publication Data, Additional Information (status, external links, etc)	
citation of original description	Fisher, B. L. & Smith, M. A., 2008. A revision of Malagasy species of Anochetus Mayr and Odontomachus Latreille (Hymenoptera: Formicidae), <i>PlosOne</i> (3), pp. 1-23. 4
publication ID	21401
link to original	http://hdl.handle.net/10199/15447
additional text versions	Plain XML, TaxonX
scientific name	Anochetus boltoni Fisher
status	sp. nov.
description page, figures	
external databases	ZBK HNS
distribution map	GoogleMaps



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ZooBank Name: Internal Act
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TimeStamp: 2008-01-07T02:33:39.717 Registered by: Richard L. Pyle

Anochetus boltoni Fisher in Fisher & Smith 2008

Fisher, Brian L., & M. Alex Smith, 2008. A revision of Malagasy species of *Anochetus* Mayr and *Odontomachus* Latreille (3): 1-23.

Act Type: Original Description
Rank: Species
Epithet: boltoni
Full Name: *Anochetus boltoni*
Authorship: Fisher in Fisher & Smith

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 Updated: 2/26/2008 4:03:04 PM

Results for the species *Anochetus boltoni* Fisher:

Identified by: [Vladimir Bruneau](#) [Dimitrie Bruneau](#) [Dimitrie Bruneau](#)
 Status of name: Valid, Original combination
 Date of description: 2008
 Described by: Fisher, Smith 2008, pp. 23, 5.
 Circumstances of description:
 * Fisher, B. L. and M. A. Smith, 2008. A revision of Malagasy species of *Anochetus* Mayr and *Odontomachus* Latreille (Hymenoptera: Formicidae). *PLOS ONE* 3(1): 1-23.

Divergence of valid name:
 * None yet recorded in database

The valid name and its synonymy have been cited as:
 * *Anochetus boltoni* Fisher

Have references for the Family [Formicidae](#)
 * [Fisher, 2008](#)

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Anochetus boltoni

Species Info: INV1084542

Species: *Anochetus boltoni* Fisher in Fisher & Smith 2008, pp. 1-23. 4

Figure Information:
 Photo Index: BLF00885
 Size: 1000x1000
 Subject: rainforest

Date: 18 Nov 2008
Method: EIC 2.0 wet-dry bag
Transect Type: Transect Sample #1

Figure Information:
 Page: 1 of 4
 Name: BLF00885
 Type: Other
 EARK: EARK:USNM:ENTOM:1084542

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Search: Nucleotide for

GenBank 5 Send to Hide all but gene, CDS and rRNA Change from begin to end Reverse complement strand Features Refresh

EF161089.1 Reports Anochetus sp. Mad. [414837423]

LOCUS EF161089 657 bp DNA linear INV 21-MAY-2008
DEFINITION Anochetus sp. Mad-02 cytochrome oxidase subunit 1 (COI) gene, partial cds; mitochondrial.
ACCESSION EF161089
VERSION EF161089.1 GI:14837423

KEYWORDS mitochondrial Anochetus sp. Mad-02

ORGANISM *Anochetus* sp., Mad-02
 Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Hymenoptera; Apoidea; Antaeoidea; Vespoidea; Formicidae; Ponerinae; Ponerini; Anochetus.

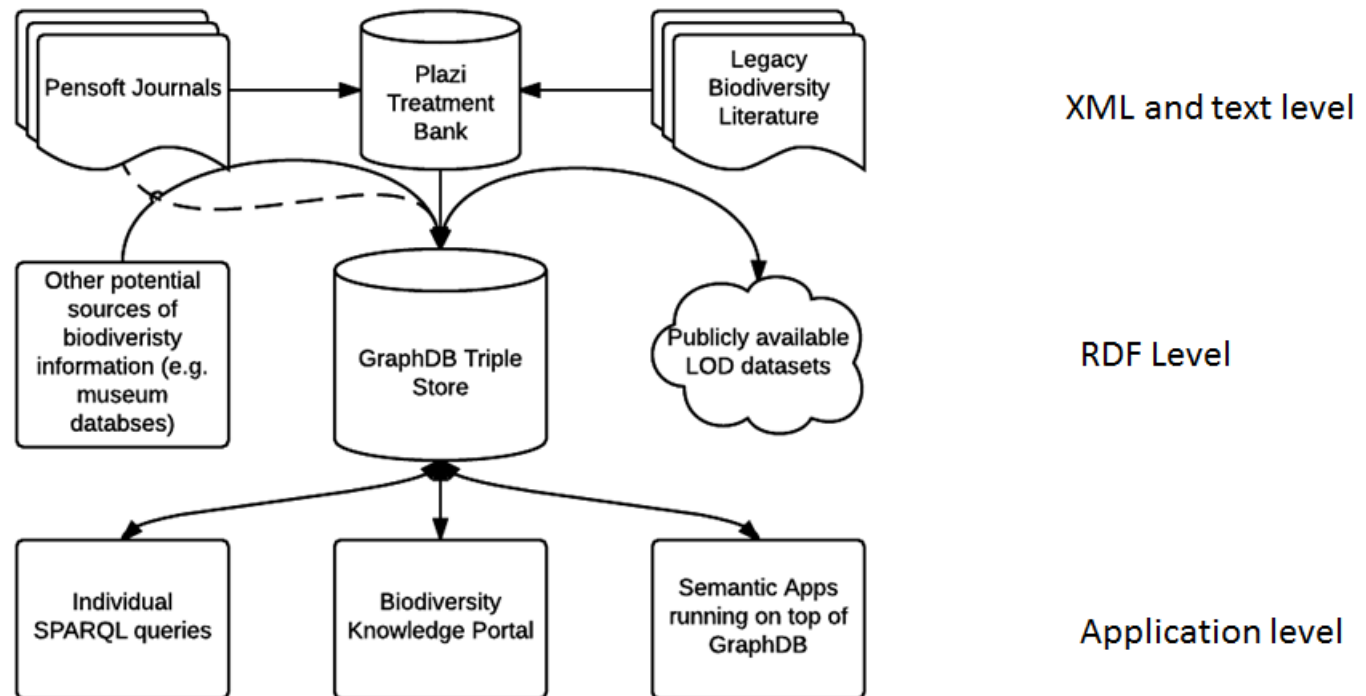
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 Smith, R.A. and Fisher, B.L.
TITLE A Revision of Malagasy Species of *Anochetus* Mayr and *Odontomachus* Latreille (Hymenoptera: Formicidae)
JOURNAL (res) PLoS ONE 3 (5): e1797 (2008)
SOURCE 2 (bases 1 to 657)
 Smith, R.A. and Fisher, B.L.
TITLE Direct Submission
JOURNAL Submitted (07-MAY-2007) University of Guelph, Biodiversity Institute of Ontario, 579 Gordon Street, Guelph, Ontario N1G 2W1, Canada

FEATURES
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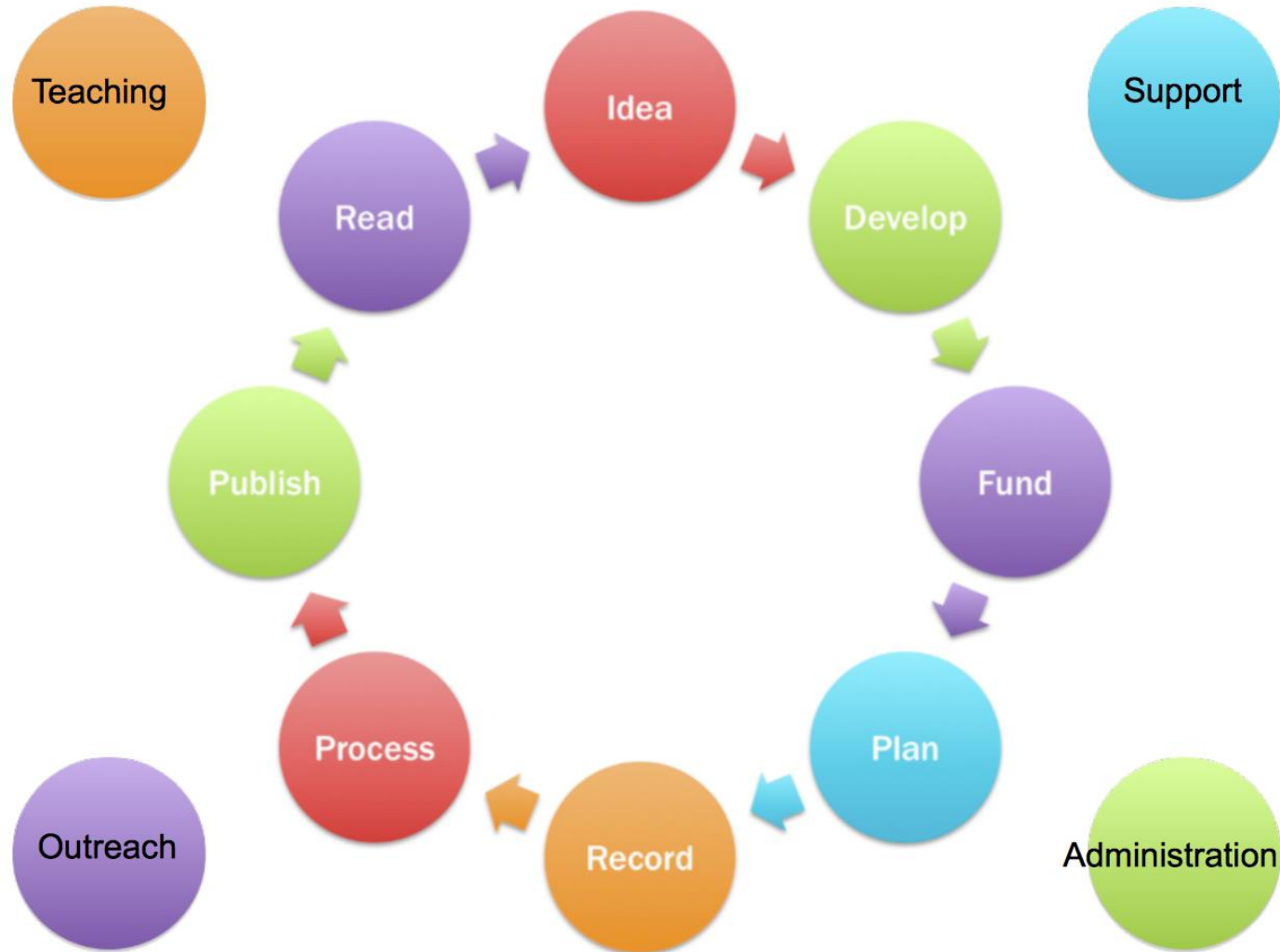
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....and due credit and recognition will follow.

Thank you!

Donat Agosti
agosti@plazi.org