# From Open Access to Open Science with the ARPHA publishing platform

#### Lyubomir Penev, Teodor Georgiev

Bulgarian Academy of Sciences & Pensoft Publishers, Sofia





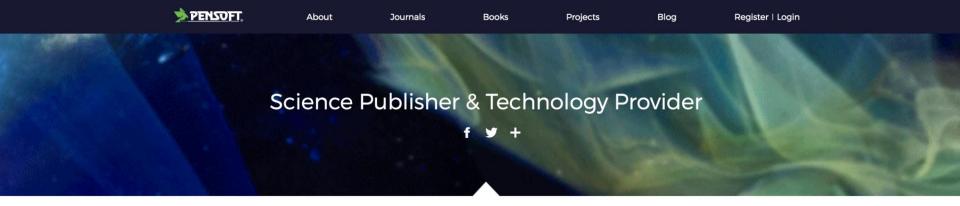


CAPSELLA Open Data Workshop, June 2, 2017, Chania, Greece

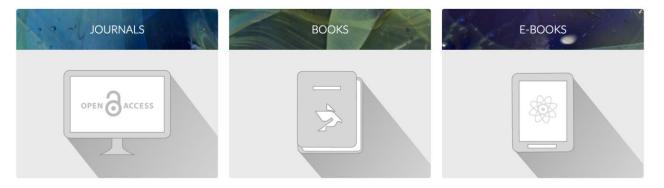
# Some facts about Pensoft -

PENSOFT

- Founded in 1992
- Headquarters in Sofia
- Now 25 permanent employees



#### PRODUCTS

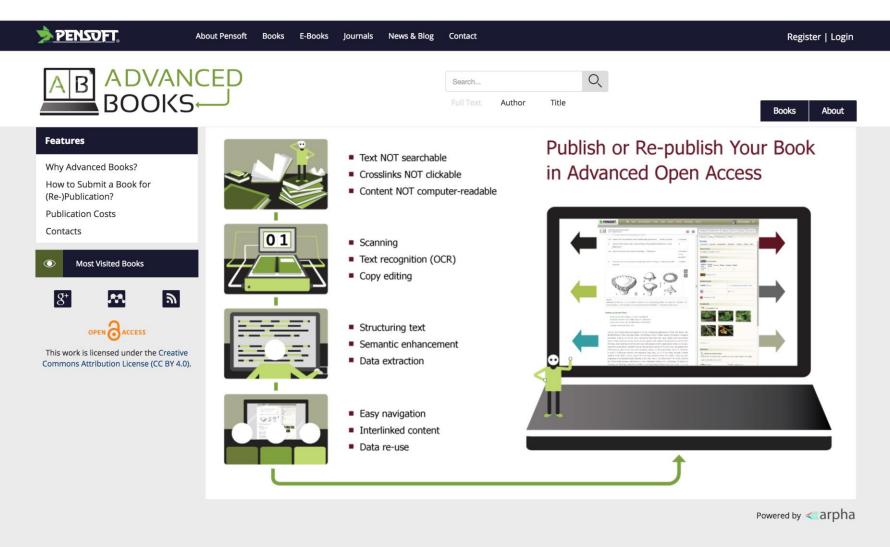




# Pensoft's Open Access Journals



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# - Now comes ARPHA-

arpha

Platform

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#### All in one place, for the first time!

1



#### Platform

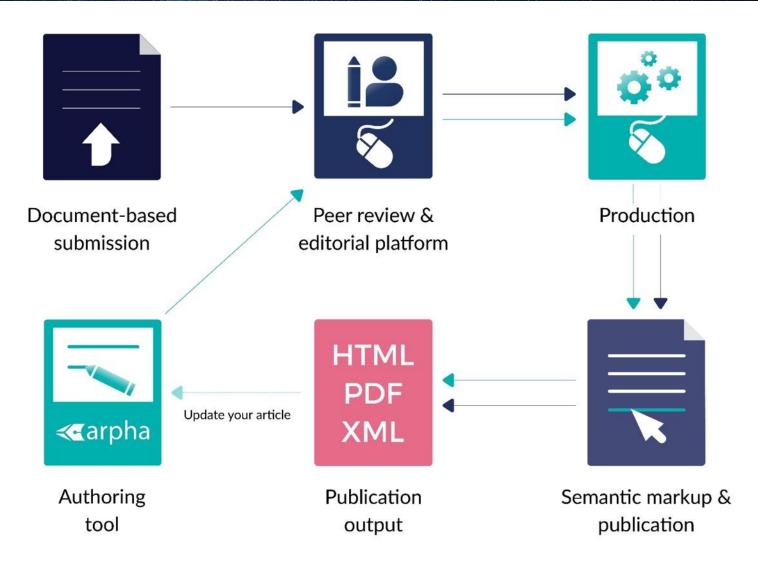
The first end-to-end journal publishing solution that supports the full life cycle of a manuscript, from authoring through submission, peer review, publication and dissemination.

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With ARPHA, journals and publishers enjoy an end-to-end set of services that enable tailored, technologically advanced publishing solutions.



# Two Journal Publishing Workflows: ARPHA-XML & ARPHA-DOC



The bottleneck in academic publishing (=claim of this presentation)

Non-machine-readability of the published content & data (PDF, paper) hampers progress in science!



## Open Access PDFs: Nice, but not enough!



#### Nixonia masneri van Noort & Johnson, sp. n.

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Figures 1A–F

http://zoobank.org/?lsid=urn:lsid:zoobank.org:act:51495B19 -AA60-4560-AAC6-2EED4110C0ED

**Type material.** Holotype male. SOUTH AFRICA, Western Cape, Kogelberg Nature Reserve, 34°16.481'S 19°01.033'E, 16 Jan–16 Feb 2000, S. van Noort, Malaise trap, KO98-M53, Mesic Mountain Fynbos, last burnt c. 1978, SAM-HYM-P025052, OSUC 256956 (SAMC). Paratypes: 2 males, same data SAM-HYM-P025052, OSUC 256940 (SAMC, OSUC); 1 male: South Africa, Northern Cape, Avontuur Farm,

# There are huge technical barriers to open data, besides the sociological ones



# The XML: the first step to open

Nixonia masneri van Noort & Johnson, sp. n.

urn:lsid:zoobank.org:act:51495B19-AA60-4560-AAC6-2EED4110C0ED

Figures 1A–F

http://zoobank.org/?lsid=urn:lsid:zoobank.org:act:51495B19 -AA60-4560-AAC6-2EED4110C0ED

**Type material.** Holotype male. SOUTH AFRICA, Western Cape, Kogelberg Nature Reserve, 34°16.481'S 19°01.033'E, 16 Jan–16 Feb 2000, S. van Noort, Malaise trap, KO98-M53, Mesic Mountain Fynbos, last burnt c. 1978, SAM-HYM-P025052, OSUC 256956 (SAMC). Paratypes: 2 males, same data SAM-HYM-P025052, OSUC 256940 (SAMC, OSUC); 1 male: South Africa, Northern Cape, Avontuur Farm,

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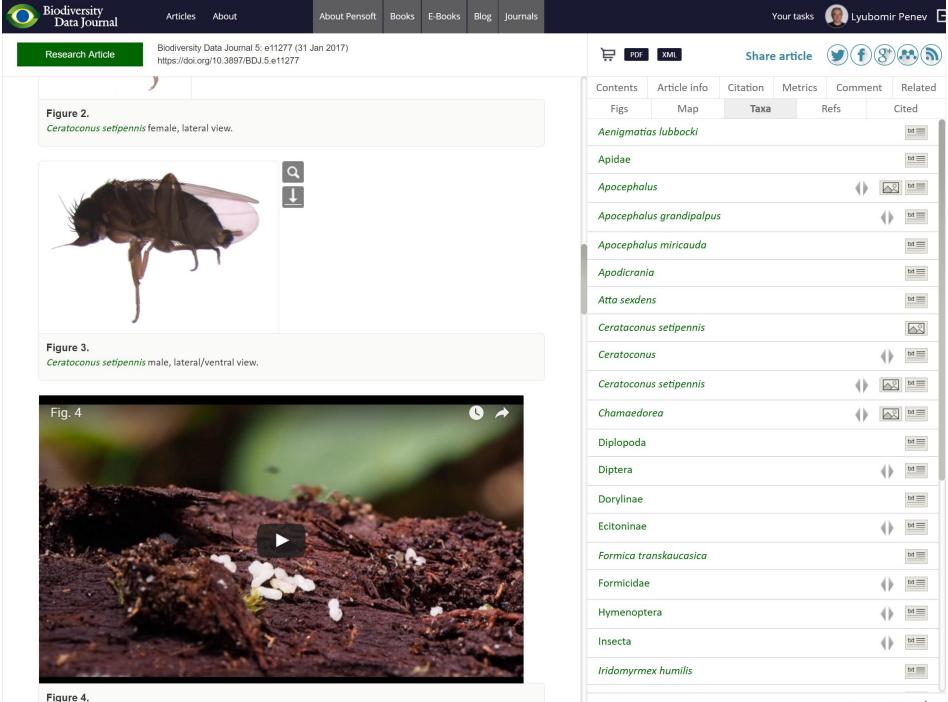
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- </taxon-author>

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# — Frequently Asked Question -



# Why do XML markup?



Adult workers of Linepithema sp removing exposed larvae and pupae.

## Automated mapping

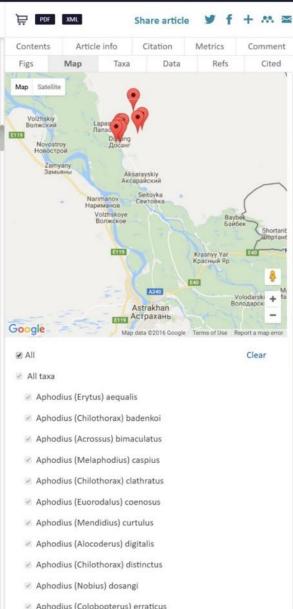
#### Biodiversity 💮 Lyubomir Penev 🛛 🕞 Articles About About Pensoft Books E-Books Blog Journals Your tasks Data Journal Biodiversity Data Journal 1: e979 (16 Sep 2013) Taxonomic Paper Share article doi: 10.3897/BDJ.1.e979 40.52, decimalcongitude. 47.52, sampling rotocol, noise dung washing, eventpate. 2007-04-17, Citation Contents Article info Metrics Comment individualCount: 1; recordedBy: A. V. Frolov, L. A. Akhmetova; collectionID: urn:lsid:biocol.org:col:3 Map Refs Figs Taxa Data Cited 4969: institutionCode: ZIN: collectionCode: Coleoptera Map Satellite Feeds on: Cattle dung. Distribution: Middle Asian deserts, Caspian lowland desert. Volzhskiv Волжский Aphodius (Acrossus) bimaculatus (Laxmann, 1770) Novostroy Новострой Materials Download as CSV Zamyany 3ambau Aksarayskiy Аксарайский a. country: Russia; stateProvince: Astrakhan'; locality: Dosang environs, fixed sands; decimalLatitude: 46.92; decimalLongitude: 47.92; samplingProtocol: horse dung washing; eventDate: 2007-04-17; Seitovka Narimanov Сеитовка individualCount: 2; recordedBy: A. V. Frolov, L. A. Akhmetova; collectionID: urn:lsid:biocol.org:col:3 Нариманов Volzhskove Bayb 4969; institutionCode: ZIN; collectionCode: Coleoptera Волжское b. country: Russia; stateProvince: Astrakhan'; locality: Dosang environs, fixed sands; samplingProtocol: horse dung washing; eventDate: 2007-04-17; individualCount: 6; recordedBy: A. V. Frolov, L. A. E119 Krasnyy Yar Akhmetova; collectionID: urn:lsid:biocol.org:col:34969; institutionCode: ZIN; collectionCode: Красный Яр Coleoptera c. country: Russia; stateProvince: Astrakhan'; locality: Dosang environs, fixed sands; decimalLatitude: A340 Volodarski + 0.00; samplingProtocol: horse dung washing; eventDate: 2008-04-04; individualCount: 1; Володарся Astrakhan Астрахань recordedBy: A. V. Frolov, L. A. Akhmetova; collectionID: urn:lsid:biocol.org:col:34969; E119 institutionCode: ZIN; collectionCode: Coleoptera

d. country: Russia; stateProvince: Astrakhan'; locality: Dosang environs, left bank of Akhtuba River, floodplain; decimalLatitude: 46.91; decimalLongitude: 47.91; samplingProtocol: horse dung washing; eventDate: 2008-04-06; individualCount: 2; recordedBy: A. V. Frolov, L. A. Akhmetova; collectionID: urn:lsid:biocol.org:col:34969; institutionCode: ZIN; collectionCode: Coleoptera

#### Feeds on: Adults and larvae feed on horse dung (Fig. 5).



Figure 5. Aphodius bimaculatus. Dosang environs, Astrakhan Province, Russia.



## Species Profiles on the Fly (1)

#### PhytoKeys 🚯 Lyubomir Penev 📑 E-Books Your tasks Articles About About Pensoft Books Blog Journals PhytoKeys 69: 71-103 (30 Aug 2016) **Research Article** Share article doi: 10.3897/phytokeys.69.9292 Article info Citation Contents Metrics Comment A nonet of novel species of Monanthotaxis Figs Tabs Map Taxa Refs Cited Inst.Code (Annonaceae) from around Africa Annonaceae Occurrences Genomics Nomenclature Treatments Literature Images Other Paul H. Hoekstra, Jan J. Wieringa, Lars W. Chatrou Occurrences GBIF 👆 Global Biodiversity Information Facility Abstract -Satellite Map As part of an ongoing revision of the genus Monanthotaxis Baill. (Annonaceae), nine new species are described and one variety is reinstated to species rank. Two new species from West Africa (Monanthotaxis EUROPE aquila P.H.Hoekstra, sp. nov. and Monanthotaxis atewensis P.H.Hoekstra, sp. nov.), four new species from NORTH MERIC Central Africa (Monanthotaxis couvreurii P.H.Hoekstra, sp. nov., Monanthotaxis latistamina P.H.Hoekstra, sp. nov., Monanthotaxis tripetala P.H.Hoekstra, sp. nov. and Monanthotaxis zenkeri P.H.Hoekstra, sp. nov.), one AFRICA new species from Tanzania (Monanthotaxis filipes P.H.Hoekstra, sp. nov.), one new species from the area around Maputo (Monanthotaxis maputensis P.H.Hoekstra, sp. nov.), one new species from the Comoro OCEANIA Islands (Monanthotaxis komorensis P.H.Hoekstra, sp. nov.) and Monanthotaxis klainei (Engl.) Verdc. var. angustifolia (Boutique) Verdc. is raised to species level leading to the replacement name Monanthotaxis atopostema P.H.Hoekstra, nom. nov. (not Monanthotaxis angustifolia (Exell) Verdc.). Complete descriptions, comparisons with related species, ecological information and IUCN conservation assessments are given for + the new species. Five species were classified as critical endangered, two species as endangered, one as vulnerable and one as least concern, warranting the need of further collecting and studying those species. Google Map data ©2016 Terms of Use ANTARCTICA

Genomics

Database

name Subtree

links

SNCBI Gene Sequences

836

PubMed

Barcode of Life

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Protein Taxonomy

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Popset

262

#### Keywords -

Monanthotaxis Annonaceae, Africa, Gilbertiella, new species, Mayotte, Comoros, Gabon, Cameroon, Tanzania, Mozambique, Ivory Coast, Ghana, South Africa, Republic of Congo, Atewa Range, Ottotomo, Rondo

#### Introduction -

The genus Monanthotaxis Baill, belongs to the tribe Uvariae in the family Annonaceae (Chatrou et al. 2012).

## Species Profiles on the Fly (2) -

#### \rm PhytoKeys

Articles About

Books E-Books Blog Journals

**Research Article** 

PhytoKeys 69: 71-103 (30 Aug 2016) doi: 10.3897/phytokeys.69.9292

margins; *inner petals* 3.0–4.5 × 1.2–1.5 mm, elliptic to narrowly ovate, outside with yellowish hairs at the apex and at the centre, inside glabrous or with a few hairs at the margins; *stamens* 13–15 in one whorl, connate at base, linear-obconic 0.8–0.9 mm, filaments 0.4 mm, anther cells lateral to extrorse, connective papillose, truncate, rounded from above, staminodes 0; *carpels* 9–12, 1.2–1.3 × 0.3–0.4 mm, subcylindric to ellipsoid, dense hairy, with 4 lateral ovules, stigma subsessile 0.2 mm, globose, glabrous. **Fruits**: Not seen, but according to collection Farron 7359 with 4 articles.

About Pensoft



Figure 4. Monanthotaxis ouvreurii P.H.Hoekstra. A–F photographs in the field of the type collection (TLP Couvreur 762). Photos: Thomas Couvreur.

#### Distribution

Cameroon, Central Province, Ottotomo Forest Reserve. Figure 5.

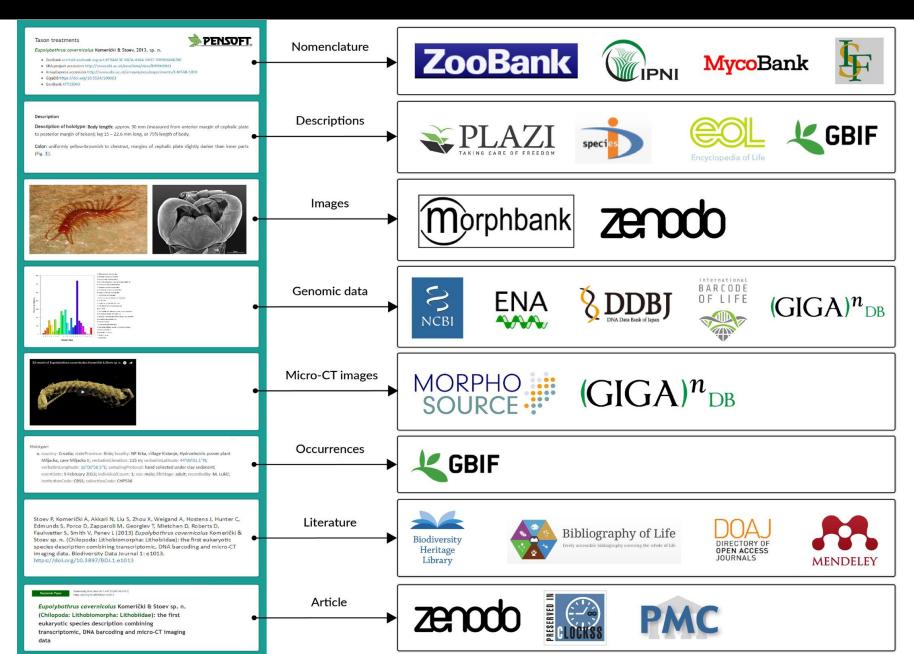


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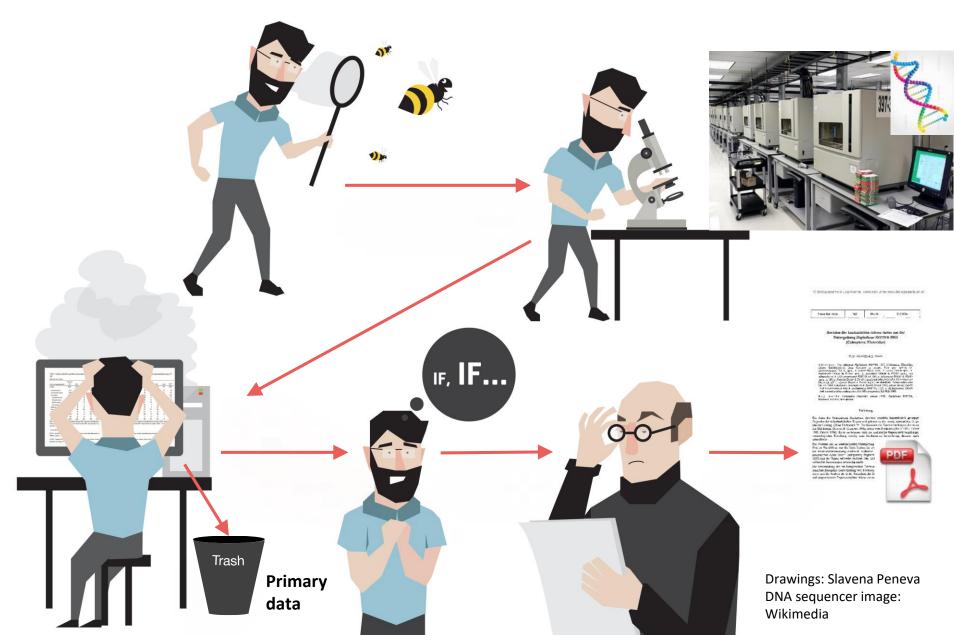
#### Text is not just structured, it is machine-readable!



# $\rightarrow$ All fine, but where are the data? $\leftarrow$



# The (mis)fortune of research data -



# Four Models of Open Data Publishing

- Supplementary data files published with the article
- Data deposited in repositories and linked to the article they underpin
  Data papers, describing data
  Integrated data and narrative publishing

# Here comes the ARPHA-XML Workflow



- Authoring
- Data import
- Peer review
- Publication
- Dissemination

#### All within a single online collaborative platform

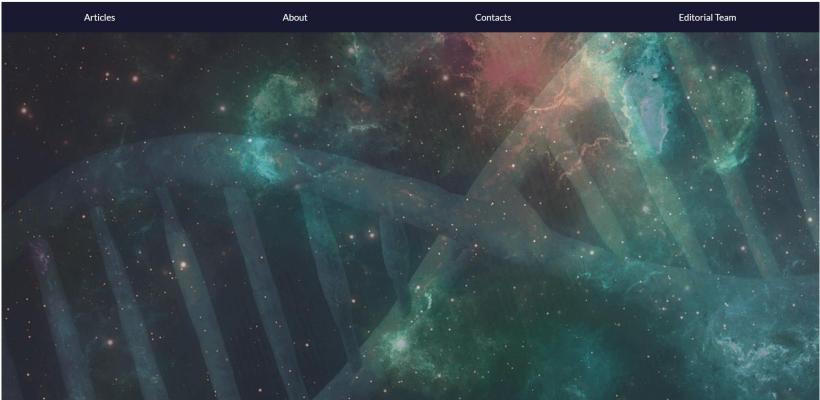
# Research Ideas and Outcomes

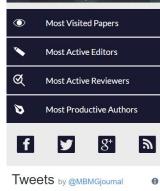
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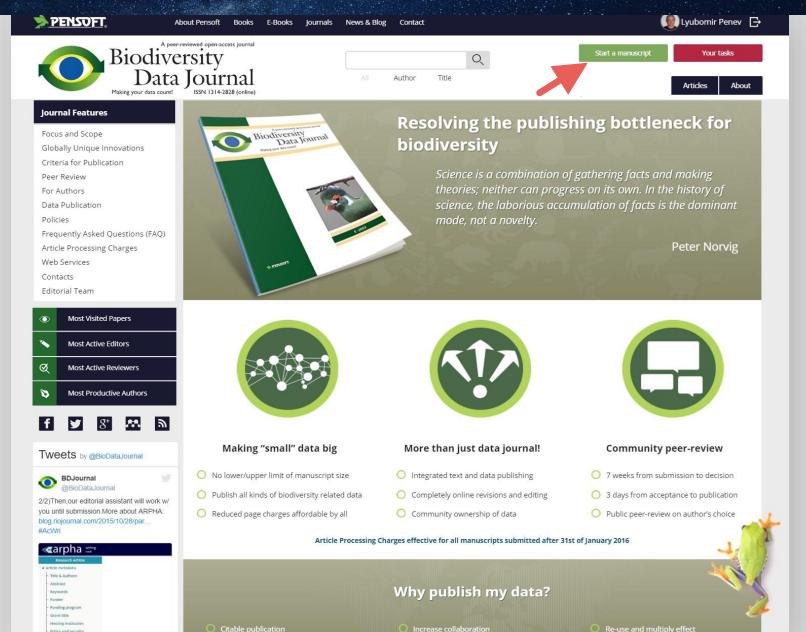
MBMG Journal

Metabarcoding and Metagenomics (MBMG) is an innovative open access journal which publishes papers on metabarcoding and metagenomics from both basic and applied aspects. The journal welcomes submissions documenting all types of outcomes throughout the research cycle: data, models, methods, workflows, software, perspectives, opinions, and conventional research articles. The journal will consider manuscripts for publication related (but not limited) to the following topics: Environmental MBMG, Microbial MBMG, Applied MBMG (biomonitoring, quarantine, environmental assessment, nature conservation, eDNA, species invasions and others), molecular ecology, DNA-based species delimitation and identification, and other emerging fields related to MBMG. Submissions of bioinformatic approaches to MBMG (algorithms, software) are also encouraged.

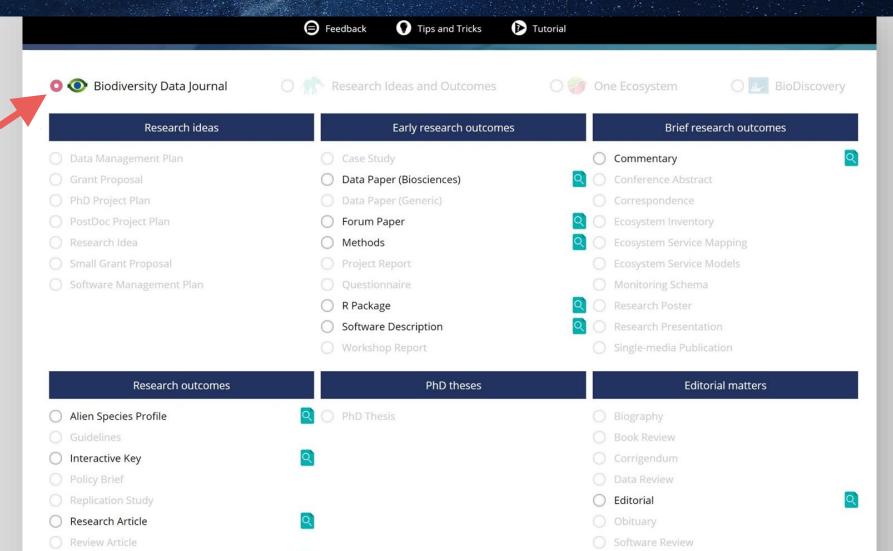
MBMG is published on the ARPHA journal publishing platform, which is the first workflow ever to support the full life cycle of a manuscript, from writing through submission, peer review, publication and dissemination within a single online collaborative platform.

# Step 1: Start a manuscript

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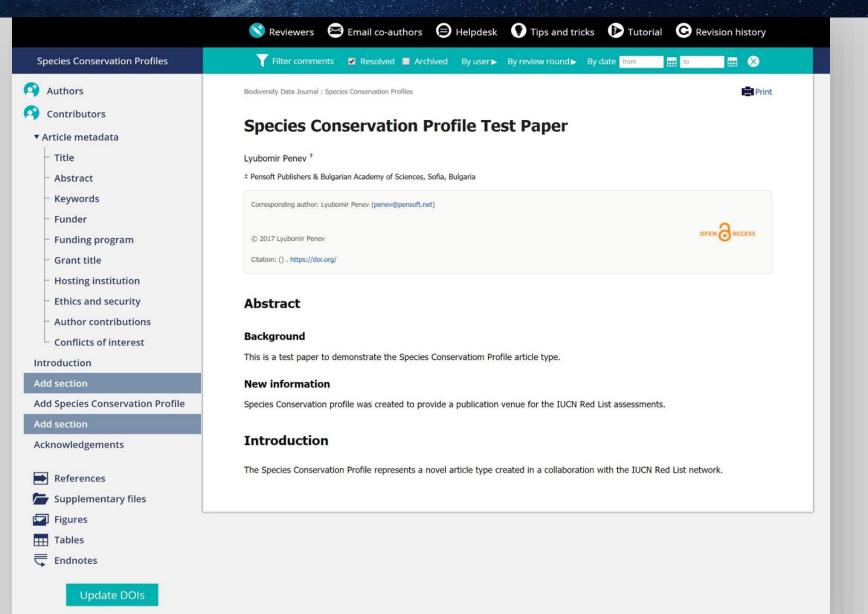
# Step 2: Select article template



- Single Taxon Treatment
- Species Conservation Profiles
- 🔿 Taxonomic Paper
- Millipadia Articl

# **Step 3: Manuscript opened**

Validate



# Invite Co-authors -

#### 

#### Species Conservation Profile

- Article metadata
- Title & Authors
- Abstract
- Keywords
- Contributors
- Reviewers
- Facilitators
- Editor
- **General information**
- UCN assessment information
- Ecology
- Geographic range
- Extent of occurrence
- Area of occupancy
- Locations
- Habitat
- Total population of species
- **Subpopulations**
- Viability analysis
- Classifications
- New occurrences
- Acknowledgement
- References

Species conservation profile of the cave spider *Turinyphia cavernicola* (Araneae, Linyphiidae) from Terceira Island, Azores,

New: Author		
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#### Comment

Show more

base. The requirement of deep diving is

Vasilis Gerovasileiou

10:25 PM 27.04.2016

It is explicitly stated throughout the

manuscript that we are specifically

#### Field trials and preliminary data gathering

Field trials for the implementation and optimization of the developed CS protocol took place in three countries: France (Marseille), Greece (National Marine Park of Zakynthos) and Turkey (Izmir). These included briefings to volunteer divers from local dive centres and associations, experimental dives for data collection followed by interviews, questionnaires and discussions, so as to come up with a more simplified list of requirements that clearly address the CIGESMED project objectives and make the data collection and reporting procedures as easy as possible for the participants. During these trials, the idea of developing an educational CS module to ensure a basic understanding of coralligenous bioherms and their associated communities also emerged, and was subsequently constructed.

Preliminary data gathering was performed by the researchers and divers involved in CIGESMED project, thus allowing the assessment of coralligenous sites in four regions: Western Mediterranean, Ionian Sea, Aegean Sea and Levantine Sea.

#### Results

The developed CS methodological protocol and CIGESMED for divers website (http://cs.cigesmed.eu/) comprise:

🍸 Filter comments 🛛 🗷 Resolved 🔲 Archived 🛛 By user 🕨 By review round 🕨 By date 🚺

- An educational module with simplified information regarding coralligenous assemblages, in order to ensure a basic understanding of these habitats by the diving community, answers to frequently asked questions that were identified during the field trials, and detailed guidelines for *in situ* data collection in five languages; English (Suppl. material 1), French (Suppl. material 2), Greek (Suppl. material 3), Italian (Suppl. material 4), and Turkish (Suppl. material 5).
- · A multilingual data submission infrastructure, using an online web platform, where one can readily download the datarecording dive slates and subsequently upload the recorded information after each dive; the printable dive slates include visual guides and fill-in forms in English (Suppl. material 6), French (Suppl. material 7), Greek (Suppl. material 8), Italian (Suppl. material 9), and Turkish (Suppl. material 10) while the web version is also available in Spanish.

The website requires registration from the user in order to be able to submit, view and review data. During the initial registration process, users are requested to submit basic personal data (e.g. name, country of residence, affiliation) and information on their diving profile (i.e. diving experience and certification level), dive computer brand and type (for standardizing temperature data records), past experience from any other CS projects, area of taxonomic interest in cases of professional scientists and enthusiast naturalists, and dive centre (Fig. 1). Users are also able to choose among two data entry form options: (a) Standard taxonomic, that is ranking taxa in a standard phylogenetic order for educational/scientific reasons, or (b) a guided version, following the arrangement on the printed slate version, where different taxa are ranked in a way optimized to facilitate reporting in situ, according to experience gained from the field trials.





6:53 PM 06.04.2016 Resolved by: Vasilis Gerovasileiou (27.04.16 22:37)

Are there citations backing up these findings?



Vasilis Gerovasileiou 10:37 PM 27.04.2016

Major marine life fora and networks were cited in the manuscript.



Unresolve

Resolved by: Vasilis Gerovasileiou (27.04.16 15:00) Missing information in brackets



Vasilis Gerovasileiou 10:27 PM 27.04.2016

Missing information was added to the manuscript.

Reply to this comment...



**Dimitrios Koureas** 4:33 PM 05.04.2016 Resolved by: Vasilis Gerovasileiou (27.04.16 15:00)

Missing information in brackets



Vasilis Gerovasileiou 10:27 PM 27.04.2016

Missing information was added to the

Materials and Methods Preparatory phase and methodological concept

Identifying the profile of citizen scientists

Website development and mobile applications

Subsection

**Research Article** 

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Keywords

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Funder

**Title & Authors** 

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Author contributions

Conflicts of interest

Data resources

Results

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Discussion

Conclusions

# Import a Figure or a Video -

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- Distribution
- Newly reported occurrences
- Impact
- Management
- Uses
- Discussion
- Conclusions
- Acknowledgements
- References
- 👉 Supplementary files
- Figures

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#### **General information**

#### **Species characteristics**

Environment system: Terrestrial

#### **Species description**

*R. pseudoacacia* is described as a leguminous deciduous tree that grows from 30 to 80 feet tall. Young saplings have smooth, green bark; older trees have deep, furrowed, shaggy, dark bark with flat-topped ridges. Leaves are alternate and pinnately compound with 7 to 21 leaflets. Leaves are thin, elliptical, dark green above, and pale beneath. Flowers are pea-like, fragrant, white to yellow, and born in large pring racemes. Seed pods are shiny, smooth, narrow, flat, 5cms to 10cms long, and contain 4 to 8 seeds as in Fig. 2 (DNR, 2003). Smaller branches are armed with a pair of setaceous stipules, or stipular spines, that occur at the base of each petiole. These stipular spines are very pronounced on resprouts, and make working among these plants somewhat hazardous (Gover, pers. comm., 2004).



Figure 1. Robinia pseudoacacia



**Figure 2.** Robina pseudoacacia

# Direct Search & Import of References-

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Species Conservation Profile		inited manes	
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General information		Simberloff et al. 2013 Anthropocene: action makes sense	
IUCN assessment information		Bertolini Genovesi, Antonio (1712â1769)	
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Geographic range		Genovesi et al. 2000	
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Locations			
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Total population of species		Mazza et al. 2015 Biological invaders are threats to human health: an overview	
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# Mandatory Validation Step-

	Email co-authors 😑 Helpdesk 🕥 Tips and tricks 🔀 Revision history	Lyui
- Research Presentation	🍸 Filter comments 🖉 Resolved 🔳 Archived 🛛 By user > By review round > By date 👫 🗰 🔛 🏛 😒	Comment 📕 🔺 🕨
- Keywords	Presentation	Iva Kostadinova 4:38 PM 20.09.2016 Resolved by: Viktor Senderov (21.09.16 11:26)
<ul> <li>Funder</li> <li>Funding program</li> <li>Grant title</li> <li>Hosting institution</li> <li>Ethics and security</li> <li>Author contributions</li> <li>Conflicts of interest</li> </ul>	A video recording of the presentation is available. More information can be found in the webinar information page. The slides of the presentation are attached as supplementary files and are deposited in Slideshare. During the presentation we conducted a poll about the occupation of the attendees, the results of which are summarized in Fig. 1. Of the participants who voted, about a half were scientists, mostly biologists, while the remainder were distributed across IT specialists and librarians, with 20% "Other." The other categories might have been administrators, decision-makers, non-biology scientists, collections personnel, educators, etc.	copying, nor Deborah Paul S+48 PM 20.09.2016 I think or is fine here. Nor goes with neither or not (usually). Na Kostadinova 4:39 PM 20.09.2016 Unresolve Bisolved by: Viktor Senderov (21.09.16 11:28) move after "manuscript". Also, change to "the AWT"
Introduction Presentation Methods Data resources Results and discussion Conclusions Presented at	Other       Image: Computer scientist, database admin.         Fit specialist, database admin.       Image: Computer scientist, database admin.         Data or computer scientist, database admin.       Image: Computer scientist, database admin.         Student or scientist in biology       Image: Computer scientist, database admin.         Ubtrahan or data manager       Image: Computer scientist, database admin.         0       1       2       3       4       5       6       7       8       9	Viktor Senderov 1:28 AM 21.09.2016 i think this will be too cumbersone, awt is a little bit like a name, like facebook. Deborah Paul 5:54 PM 20.09.2016 Resolved by: Viktor Senderov (21.09.16 11:30) May be easier reading as: More information can be found in the IbigBio webinar information page.
Acknowledgements	Figure 1. Poll results about composition of audience during live participation.	Viktor Senderov           11:30 AM 21.09.2016
<ul> <li>References</li> <li>Supplementary files</li> <li>Figures</li> <li>Tables</li> </ul>	At the end of the presentation, very interesting questions were raised and discussed. For details, see the "Results and discussion" section of this paper. Larry Page, Project Director at iDigBio, wrote: "This workflow has the potential to be a huge step forward in documenting use of collections data and enabling iDigBio and other aggregators to report that information back to the institutions providing the data."	done Shelley James 12:09 AM 22:09:2016 Resolved by: Viktor Senderov (22:09:16 20:58)
Endnotes	Neil Cobb, a research professor at the Department of Biological Sciences at the Northern Arizona University, suggested that the methods, workflows and tools addressed during the presentation could provide a basis for a virtual student course in biodiversity informatics.	Shelley James 12:12 AM 22:09:2016 Resolved by Viktor Senderov (22:09:16:20:42) Could also be non-biology scientists, collections personnel, educators
Validate	Methods	

#### 'Embedded' Copy-editor 😑 Helpdesk 🚺 Tips and tricks 🖂 Email co-authors G Revision history Reviewers Contributors X **Object** name Format names and versions Validation unsuccessful Missing field(s) - Background in "Abstract" - New information in "Abstract" Language License There are uncited tables - Table 1 is not cited in the text **Repository** name Repository location Publication date Re-use potential reproducibility Acknowledgements References Supplementary files Figures Tables Endnotes Close be given in the title or in the author keywords to find those articles whose authors explicitly wanted to refer to ES. $\odot$ To assure the articles are analysed properly regarding their topic, we split them to experts in the according scientific fields. The seven scientific fields we distinguished are indicated by a combination of author keywords (see first column of Table 1). The groups of

articles were filtered directly from Scopus advanced search (see our search query in the subchapter below) and were organized in

# **Revision History**

B Helpdesk Tips and tricks C Revision history 😂 Email co-authors

Biodiversity Data Journal : Research Article

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#### CIGESMED for divers: Establishing a citizen science initiative for the mapping and monitoring of coralligenous assemblages in the Mediterranean Sea

Vasilis Gerovasileiou<sup>‡</sup>, Thanos Dailianis<sup>‡</sup>, Emmanouela Panteri<sup>‡</sup>, Nikitas Michalakis<sup>‡</sup>, Giulia Gatti<sup>§</sup>, Maria Sini<sup>1</sup>, Charalampos Dimitriadis<sup>¶</sup>, Yiannis Issaris<sup>#</sup>, Maria Salomidi<sup>#</sup>, Irene Filiopoulou<sup>‡</sup>, Alper Doğan<sup>a</sup>, Laure Thierry de Ville d'Avray<sup>§</sup>, Romain David<sup>§</sup>, Melih Ertan Çinar<sup>®</sup>, Drosos Koutsoubas<sup>1,¶</sup>, Jean-Pierre Féral<sup>§</sup>, Christos Arvanitidis<sup>‡</sup>

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National Marine Park of Zakynthos, Zakynthos, Greece

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Department of Hydrobiology, Faculty of Fisheries, Ege University, Bornova, Izmir, Turkey

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Academic editor: Nicolas Bailly

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Citation: Gerovasileiou V, Dailianis T, Panteri E, Michalakis N, Gatti G, Sini M, Dimitriadis C, Issaris Y, Salomidi M, Filiopoulou I, Doğan A, Thierry de Ville d'Avray L, David R, Çinar M, Koutsoubas D, Féral J, Arvanitidis C () CIGESMED for divers: Establishing a citizen science initiative for the mapping and monitoring of coralligenous assemblages in the Mediterranean Sea. . doi:

#### Abstract

#### Background

Over the last decade, inventorying and monitoring of marine biodiversity has significantly benefited from the active engagement of volunteers. Although several Citizen Science projects concern tropical reef ecosystems worldwide, none of the existing initiatives has yet specifically focused on their Mediterranean equivalents. Mediterranean coralline reefs, known as "coralligenous". are bioherms primarily built by calcifving rhodophytes on hard substrates under dim-light conditions: they are

2016 Oct. 06 16:46 Maria Sini 2016 Sep. 27 20:44 Vasilis Gerovasileiou 2016 Sep. 03 20:07 **Teodor Georgiev** 2016 Sep. 02 10:03 Vasilis Gerovasileiou 2016 Jun. 04 15:45 Nicolas Bailly 2016 Jun. 01 11:51 Nicolas Bailly 2016 Jun. 01 11:48 Vasilis Gerovasileiou 2016 Apr. 27 14:49 Nicolas Bailly 2016 Apr. 19 17:50 **Nicolas Bailly** 2016 Apr. 19 17:43 Vasilis Gerovasileiou 2016 Apr. 01 14:05 **Editorial Secretary** 2016 Mar. 28 14:58 Vasilis Gerovasileiou 2016 Mar. 17 12:58 Maria Sini 2016 Mar. 17 12:05 Vasilis Gerovasileiou 2016 Mar. 17 11:38 Giulia Gatti 2016 Mar. 17 11:18 Laure Thierry de Ville d'Avray 2016 Mar. 11 13:54

**Revisions:** 

Lyubomir Penev

**Romain David** 

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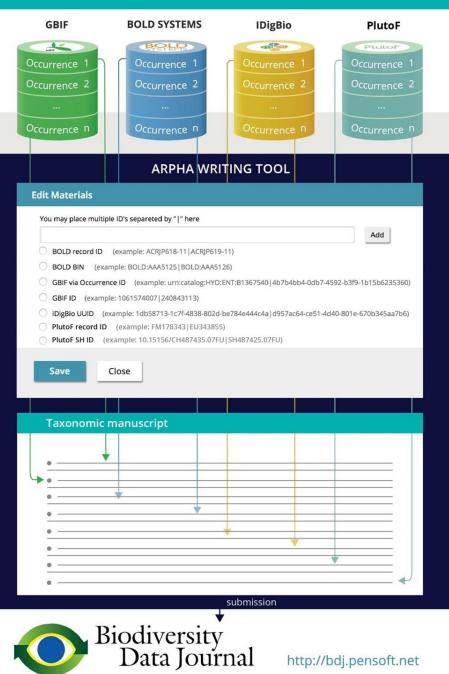
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# Species Occurrence Data -----

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	1 Other mater	i CAM0023				H. Goulet				Adult	
	1 Other mater	i BIOUG01088-A03				James Sones				Adult	
	1 Other mater	i CAM0036				H. Goulet				Adult	
	1 Other mater	i MIC 000034				Dom. Par. La	b.		Female	Adult	
	1 Other mater	i MIC 000041				N. C. D. A			Male	Adult	
	1 Other mater	MIC 000036				Phillips			Female	Adult	
	1 Other mater	BIOUG01631-B09				James Sones				Adult	
	1 Other mater	i CAM0104				H. Goulet				Adult	
)	1 Other mater	i MIC 000035				J. Vockeroth			Female	Adult	
	1 Other mater	ICNCHYM 00081				N. C. D. A				Adult	
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-	1 Other mater	i CAM0046				H. Goulet				Adult	
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	1 Other mater					C. Twinn			Female	Adult	
	1 Other mater								Female	Adult	
	1 Other mater					H. Goulet				Adult	
		I CNCHYM 00088				N. C. D. A				Adult	
	2 Other mater						Badiss, C. Bou	deault		Adult	
		i BIOUG10353-H05				F.Tremblay				Adult	
	2 Other mater						Badiss, C. Bou	deault		Adult	
		BIOUG00989-E12				Alex Smith				Adult	
		BIOUG01252-E11				James Sones				Adult	
		i BIOUG07019-B11				Cyndi Smith				Adult	
		BIOUG10403-A09				F.Tremblay			-	Adult	
	2 Other mater								Female	Adult	
		BIOUG10360-E02				F.Tremblay				Adult	
		BIOUG10358-C12				F.Tremblay				Adult	
		BIOUG00989-F01				Alex Smith				Adult	
		BIOUG11905-C04				F.Tremblay				Adult	
	2 Other mater						Badiss, C. Bou	deault	-	Adult	
	2 Other mater					J. McDunnou	igh		Female	Adult	
	2 Other mater					L. Masner				Adult	
		BIOUG11907-E10				F.Tremblay				Adult	
	2 Other mater					H. Goulet				Adult	
		BIOUG01631-H02				James Sones				Adult	
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Taxonomic Paper

Biodiversity Data Journal 1: e987 (16 Sep 2013) https://doi.org/10.3897/BDJ.1.e987

#### Taxon treatments

#### Oxyscelio arvi Burks, 2013

- Hymenoptera Name Server http://lsid.tdwg.org/urn:lsid:biosci.ohio-state.edu:osuc concepts:275548
- ZooBank urn:lsid:zoobank.org:act:491CF086-1501-4C6C-BB0E-1A9588FECF4F
- Species-ID http://species-id.net/wiki/Oxyscelio\_arvi

#### Nomenclature

Oxyscelio arvi Burks et al. 2013: 16, 19, 46. Original description, keyed, placed in florus species group.

#### Materials

#### Download as CSV

- a. scientificName: Oxyscelio arvi; taxonID: urn:lsid:biosci.ohio-state.edu:osuc names:275548; country: China; stateProvince: Zhejiang; locality: Mt Qingliangfeng; locationRemarks: label transliteration: "Zhejiang, Qingliangfeng, 2005.08.09, Zhang Hongying"; [浙江清凉峰 2005.08.09 张红英]: decimalLatitude: 30.0703; decimalLongitude: 118.8944; georeferenceProtocol: Google Earth; georeferenceRemarks: GPS coords. adjusted to place within Zhejiang Prov.; eventID: urn:lsid:biosci.ohio-state.edu:osuc\_occurrences:SCAU\_2011000627; samplingProtocol: none specified; eventDate: 2005-08-05; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: SCAU 2011000627; recordedBy: Zhang Hong-Ying; identifiedBy: Norman F. Johnson; dateIdentified: 2012; modified: 2013-07-17T11:03:59Z; language: en; collectionID: urn:lsid:biocol.org:col:34252; collectionCode: Insects; basisOfRecord: PreservedSpecimen; source: http://hol.osu.edu/spmInfo.ht ml?id=SCAU%202011000627
- b. scientificName: Oxyscelio arvi; taxonID: urn:lsid:biosci.ohio-state.edu:osuc names:275548; country: China; stateProvince: Zhejiang; locality: Mt Qingliangfeng; locationRemarks: label transliteration: "Zhejiang, Qingliangfeng, 2005.08.09, Zhang Hongying"; [浙江清凉峰 2005.08.09 张红英]; decimalLatitude: 30.0703; decimalLongitude: 118.8944; georeferenceProtocol: Google Earth; georeferenceRemarks: GPS coords. adjusted to place within Zhejiang Prov.; eventID: urn:lsid:biosci.ohio-state.edu:osuc\_occurrences:SCAU\_2011000626; samplingProtocol: none specified; eventDate: 2005-08-05; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: SCAU 2011000626; recordedBy: Zhang Hong-Ying; identifiedBy: Norman F. Johnson; dateIdentified: 2012; modified: 2013-07-17T11:03:59Z; language: en; collectionID: urn:lsid:biocol.org:col:34252; collectionCode: Insects; basisOfRecord: PreservedSpecimen; source: http://hol.osu.edu/spmInfo.ht ml?id=SCAU%202011000626
- c. scientificName: Oxyscelio arvi; taxonID: urn:lsid:biosci.ohio-state.edu:osuc names:275548; country: China; stateProvince: Zhejiang; locality: Mt Qingliangfeng; locationRemarks: label transliteration: "Zhejiang, Qingliangfeng, 2005.08.09, Shi Min"; [浙江清凉峰 2005.08.09 时敏]; decimalLatitude: 30.0703; decimalLongitude: 118.8944; georeferenceProtocol: Google Earth; georeferenceRemarks: GPS coords. adjusted to place within Zhejiang Prov.; eventID: urn:lsid:biosci.ohio-state.edu:osuc\_occurrences:SCAU\_2011000467; samplingProtocol: none specified; eventDate: 2005-08-05; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: SCAU 2011000467; recordedBy: Shi Min; identifiedBy: Norman F. Johnson; dateIdentified: 2012; modified: 2013-07-17T11:03:53Z; language: en; collectionID: urn:lsid:biocol.org:col:34252; collectionCode: Insects: basisOfRecord: PreservedSpecimen: source: http://hol.osu.edu/spmInfo.ht ml?id=SCAU%202011000467
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Oxyscelio longiventris

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Taxonomic Paper

Biodiversity Data Journal 2: e1071 (10 Mar 2014) https://doi.org/10.3897/BDJ.2.e1071

#### Review of the genus *Namadytes* Hesse, 1969 (Insecta: Diptera: Mydidae: Syllegomydinae)

Torsten Dikow, Stephanie Leon

#### Abstract

The Mydidae genus Namadytes Hesse, 1969 is reviewed. It is known from five species, primarily occurring in Namibia. The study of newly available material from both Namibia and South Africa deposited in several natural history collections results in the recognition of three species and new synonymy of two, *i.e., Namadytes pallidus* Hesse, 1972 is a new junior synonym of *Namadytes maculiventris* (Hesse, 1969) and *Namadytes prozeskyi* Hesse, 1969: 282 is a new junior synonym of *Namadytes vansoni* Hesse, 1969: 280. All three species are re-described and comments on sexual dimorphism and intraspecific variation are made, a dichotomous key for their identification is presented, and illustrations and photographs are provided to support the descriptions and facilitate future identification. Distribution, occurrence in biodiversity hotspots *sensu* Conservation International, and seasonal incidence with associated weather and climatic data are discussed for all species. A morphological structure ventral to the halter and posterior to the metathoracic spiracle, the infra-halter sclerite, is here newly termed.

#### Keywords

Diptera, Mydidae, Syllegomydinae, Namadytes, Afrotropical Region, taxonomy

#### Introduction

The southern African Mydidae fauna is the most diverse world-wide both in terms of species numbers and generic diversity. The seminal work by Hesse (1969) on the southern African mydids based primarily on specimens he collected himself throughout western South Africa, in which he described no fewer than 108 new species (106 of which are still valid) and 12 new genera (11 of which are still valid), provided a comprehensive overview of this unique fauna. Hesse (1972) added to the knowledge following the examination of additional material from Namibia (then South-West Africa).

#### Taxonomic history

At the start of this review, *Namadytes* Hesse, 1969 is known from five species with an interesting taxonomic history.

Hesse (1969) described the genus Namadytes (p. 278) based on two female specimens and
representing two distinct species, *i.e., Namadytes vansoni* Hesse, 1969: 280 from Seeheim, Namibia
and Namadytes prozeskyi Hesse, 1969: 282 from Arechadamab, Namibia. On page 284, Hesse
describes the genus Namamydas Hesse, 1969 based on a single male specimen, identified as
Namamydas maculiventris Hesse, 1969, collected by himself and his colleagues from the South African
Museum (now Iziko South African Museum) at Vioolsdrift on the South African bank of the Orange

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#### Supplementary material 1

PDF XML

Natural-language species descriptions in SDD format Authors: Dikow, T. and Leon, S. Data type: morphological Brief description: The XML file includes the natural-language species descriptions in SDD (Structure of Descriptive Data) format. Filename: namadytes\_dikow+leon\_2014.sdd Download file (238.32 kb)

#### Supplementary material 2

Average annual temperature at Aus Authors: World Weather Online Data type: image, graph Brief description: Average temperature Aus Filename: worldweatheronline\_aus\_temp\_2013-10-06.png Download file (77.71 kb)

#### Supplementary material 3

Average annual rainfall at Aus Authors: World Weather Online Data type: Image, graph Brief description: Average rainfall Aus Filename: worldweatheronline\_aus\_rainfall\_2013-10-06.png Download file (66.49 kb)

#### Supplementary material 4

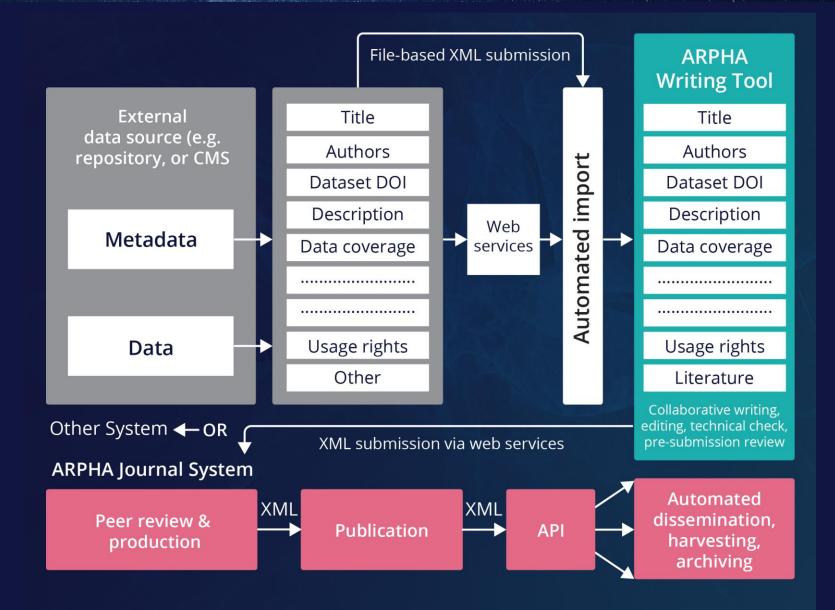
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Authors: World Weather Online Data type: Image, graph Brief description: Average temperature Gobabeb Filename: worldweatheronline\_gobabeb\_temp\_2013-10-06.png Download file (81.93 kb)

Supplementary material 5

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### A Dataset of Deep-Sea Fishes Surveyed by Research Vessels in the Waters around Taiwan

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The study of deep-sea fish fauna, due to the difficulty and high cost incurred in its surveys and collections, is hampered by the lack of data. Taiwan is situated along the edge of the Eurasia plate, and is at the junction of three Large Marine Ecosystems or Ecoregions of the East China Sea, South China Sea and the Philippines. Since nearly two-thirds of Taiwan's surrounding marine ecosystems are deep-sea environment, it is expected to hold a rich diversity of deep-sea fish. In the past, no research vessels had been employed to collect fish data on site. There were only

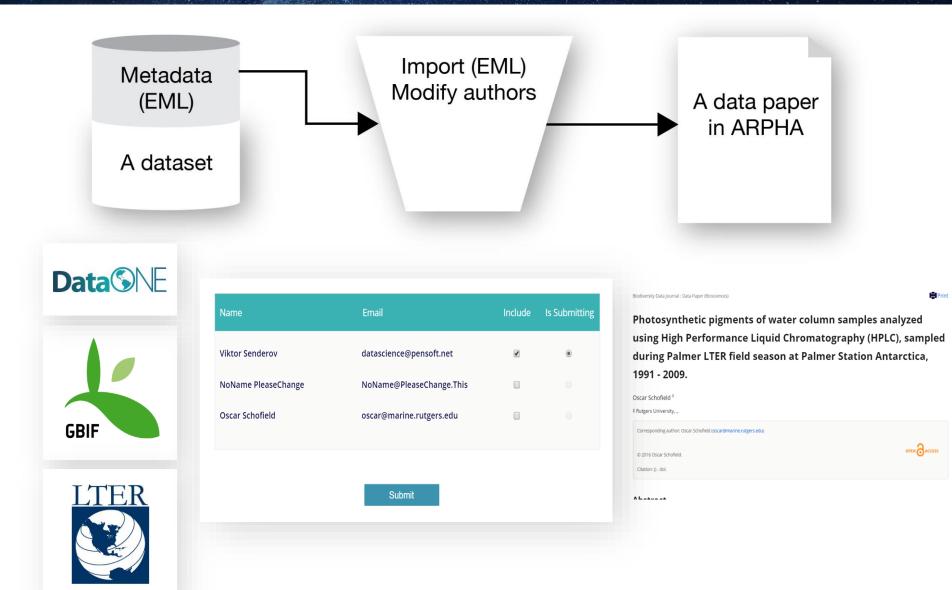


specimens from Dasi and Donggang fishing harbors caught by bottom trawl fishing in the water hundreds of meters deep and missing precise locality information. Began in 2001, with the support of National Science Council, research vessels were made available to take on the task of systematically collecting deep-sea fish specimens and occurrence records in the waters surrounding Taiwan. By the end of 2006, a total of 3,653 specimens, belonging to 26 orders, 88 families, 198 genera and 366 species, were collected in addition to data such as sampling site geographical coordinates, water depth, and fish body length and weight. All the information are open and accessible from the "Database of Taiwan's Deep-Sea Fauna and Its Distribution (http://deepsea.biodiv.tw/)" as part of the "Fish Database of Taiwan." It should be beneficial to the study of the temporal and spatial changes of the distribution and abundance of fish fauna in the context of global deep-sea biodiversity.

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PhytoKeys 25: 55–67 (2013) doi: 10.3897/phytokeys.25.3100 www.phytokeys.com





## Database of Vascular Plants of Canada (VASCAN): a community contributed taxonomic checklist of all vascular plants of Canada, Saint Pierre and Miquelon, and Greenland

Peter Desmet<sup>1</sup>, Luc Brouillet<sup>1</sup>

Université de Montréal Biodiversity Centre, 4101 rue Sherbrooke est, H1X2B2, Montreal, Canada

Corresponding author: Peter Desmet (peter.desmet@umontreal.ca)

Academic editor: Vishwas Chavan | Received 19 March 2012 | Accepted 17 July 2013 | Published 24 July 2013

**Citation:** Desmet P, Brouillet L (2013) Database of Vascular Plants of Canada (VASCAN): a community contributed taxonomic checklist of all vascular plants of Canada, Saint Pierre and Miquelon, and Greenland. PhytoKeys 25: 55–67. doi: 10.3897/phytokeys.25.3100 Resource ID: GBIF key: 3f8a1297-3259-4700-91fc-acc4170b27ce

**Resource citation:** Brouillet L, Desmet P, Coursol F, Meades SJ, Favreau M, Anions M, Bélisle P, Gendreau C, Shorthouse D and contributors\* (2010+). Database of Vascular Plants of Canada (VASCAN). 27189 records. Online at http://data.canadensys.net/vascan, http://dx.doi.org/10.5886/Y7SMZY5P, and http://www.gbif.org/dataset/3f8a1297-3259-4700-91fc-acc4170b27ce, released on 2010-12-10, version 24 (last updated on 2013-07-22). GBIF key: 3f8a1297-3259-4700-91fc-acc4170b27ce. Data paper ID: http://dx.doi.org/10.3897/phytokeys.25.3100

## **Open Peer Review**

Research Presentation

Research Ideas and Outcomes 2: e10617 (23 Sep 2016) doi: 10.3897/rio.2.e10617

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## Online direct import of specimen records into manuscripts and automatic creation of data papers from biological databases

Viktor Senderov, Teodor Georgiev, Lyubomir Penev

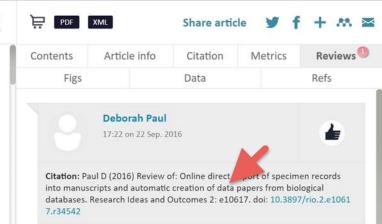
#### Abstract -

#### Background

This is a Research Presentation paper, one of the novel article formats developed for the Research Ideas and Outcomes (RIO) journal and aimed at representing brief research outcomes. In this paper we publish and discuss our webinar presentation for the Integrated Digitized Biocollections (iDigBio) audience on two novel publishing workflows for biodiversity data: (1) automatic import of specimen records into manuscripts, and (2) automatic generation of data paper manuscripts from Ecological Metadata Language (EML) metadata.

#### New information

Information on occurrences of species and information on the specimens that are evidence for these occurrences (specimen records) is stored in different biodiversity databases. These databases expose the information via public REST API's. We focused on the Global Biodiversity Information Facility (GBIF), Barcode of Life Data Systems (BOLD), iDigBio, and PlutoF, and utilized their API's to import occurrence or specimen records directly into a manuscript edited in the ARPHA Writing Tool (AWT).



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Do the title, abstract and keywords accurately reflect the contents and data?	Yes
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ZooKeys 527: 127-147 (15 Oct 2015) https://doi.org/10.3897/zookeys.527.6151

Additions and corrections to the check list of the Noctuoidea (Insecta, Lepidoptera) of North America north of Mexico III

#### J. Donald Lafontaine, B. Christian Schmidt

#### Abstract

A total of 124 additions and corrections are listed and discussed for the check list of the Noctuoidea of North America north of Mexico published in 2010. Twenty-eight species are added to the list, 16 through new species descriptions, eight as a result of taxonomic splits, and four based on newly recorded species. Fortyeight species are deleted from the list, 41 through synonymy, and seven that were based on misidentifications. Twelve changes are corrections in the spelling of names, or changes in parentheses on dates of publication. Twenty-seven are changes in taxonomy of names where no species are added or deleted; eight changes involve the renumbering of existing species for better taxonomic arrangement. Within the text 2 stat. n., 10 stat. rev., 27 syn. n., 5 syn. rev., and 1 comb. n. are proposed for the first time.

#### Keywords

Canada, United States, Noctuoidea, Erebidae, Eulepidotinae, Noctuidae, Dyopsinae, Litoprosopus

#### Introduction

Continuing work on the taxonomy and systematics of New World Noctuoidea has resulted in 124 additional changes to the check list of North American Noctuoidea (Lafontaine and Schmidt 2010). These are in addition to the 115 changes made to the list in in 2011 (Lafontaine and Schmidt 2011) and 64 changes made in 2013 (Lafontaine and Schmidt 2013). The new total of Noctuoidea species in North America north of Mexico is 3672 species.

#### Materials and methods

#### Repository abbreviations

Taxonomic changes are based on examination of material, especially type specimens, in the following collections:

AMNH The American Museum of Natural History, New York, NY, USA

ANSP The Academy of Natural Sciences, Philadelphia, Pennsylvania, USA

BMNH The Natural History Museum [statutorily: British Museum (Natural History)], London, UK

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ZooKeys 527: 127-147 doi: 10.3897/zookeys.527.6151

Received: 30 Jul 2015 | Approved: 10 Sep 2015 | Published: 15 Oct 2015

#### This article is part of:

ZooKeys 527: Contributions to the Systematics of New World Macromoths VI

#### Authors



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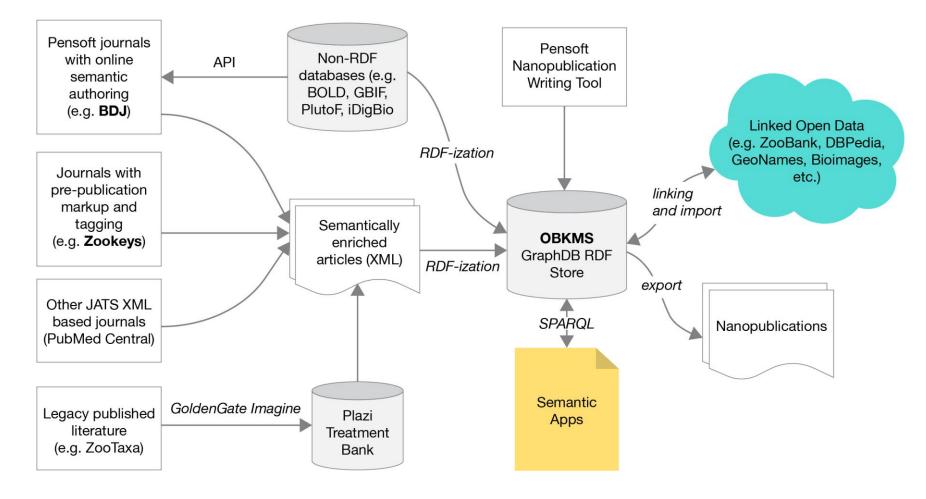
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# The Open Biodiversity Knowledge Management System (OBKMS)







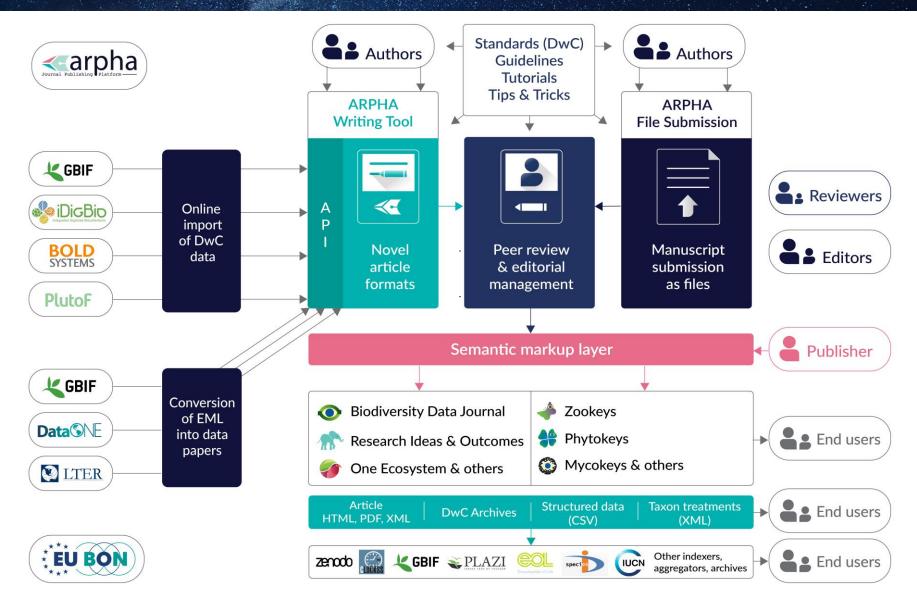
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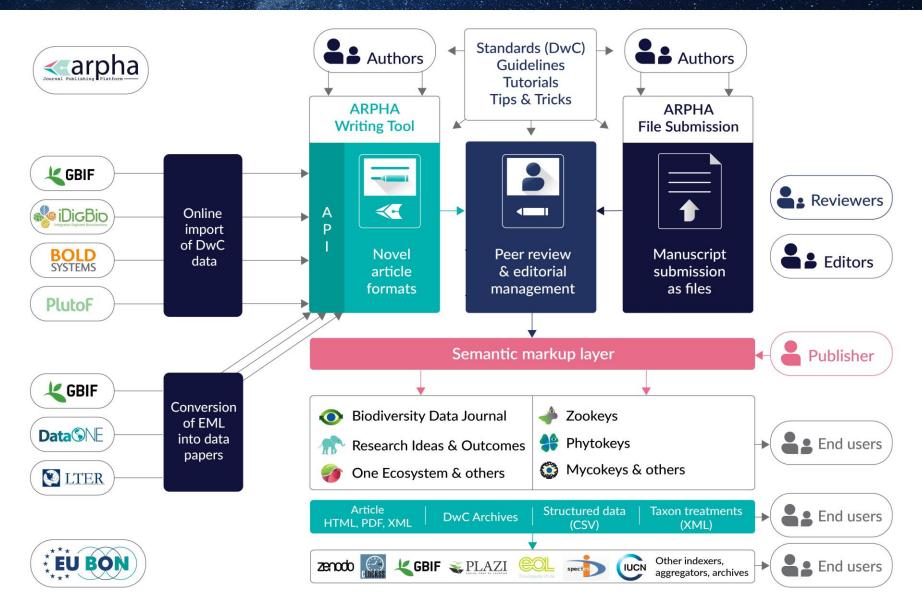
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> Groth, Gibson, and Velterop (2010) http://www.nanopub.org

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A peer-reviewed open-access journal

Agricultural Data Journal

Launched to accelerate biodiversity research

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### Open Data Journal for Agricultural Research



Agricultural research uses and produces many relevant data sets in studying agricultural systems across the globe, through its efforts in investigating conditions of global food (in)security at different spatial scales (from regional to national to continental. These data sets have a value to the specific research as these are analysed and investigated, leading to results and conclusions, that are published in peer-reviewed scientific journals or presented at scientific conferences. These data have a longer term value as a resource for the future than the specific research in which they are collected. Other researchers or experts can use these data in new analysis, meta-analysis, or different applications of modelling or statistical tools, leading to new insights for the future. The Open Data Journal for Agriculture Research (ODjAR) acts as a central hub for storing, curating and publishing the data sets as a resource for the future where publications and their authors get appropriate credit through citations and digital object identifiers for future reference.

Many different data sets exist, that are of value and deserve accreditation: experimental data, surveys, model inputs, model outputs, derived indicators and statistics, data assimilation and mark-ups, maps, measured data points. Unlike journal articles describing the main new insights and the most important lessons learned, these data sets are often lost when the funding period ends or the research is published, leading to a situation where these are difficult to reuse for other purposes, or difficult to re-use in reproducing the results described. With the advance of Open Access, Linked Open Data and Open data portals of governments, there is increasing awareness of the value of sharing data with others for further investigation, increased innovation, creation of jobs and better services. Also, governments and science funders are increasing their pressure for science to open up its data, as it is paid with tax-payer financial resources, and should thus have a public benefit.

These recent developments of Open Access to data and the acknowledge value of data archiving lead to four global networks in agricultural and food security research to come together to support the Open Data journal for Agricultural Research:

- + Agricultural Model Improvement and Intercomparison Project (AgMIP)
- + Global Yield Gap Atlas (GYGA)
- + Center for Integrated Modeling of Sustainable Agriculture and Nutrition Security (CIMSANS)
- + Modelling European Agriculture with Climate Change for Food Security (MACSUR)

Financial support and in-kind contributions towards realizing ODjAR is acknowledge from:

- + Center for Integrated Modeling of Sustainable Agriculture and Nutrition Security (CIMSANS), part of ILSI
- + Wageningen University and Research Centre Library
- + United Kingdom Department of International Development (UK DFID)



# **Transforming Publishing for Agriculture**

Open access ── → Open science

Human-readable — Machine-readable

Data publishing — Data re-use

Impact Factor — Article Level Metrics (ALM)

Publishing — Technology-driven service

Technology ——— Critical for journals' survival

Idenitify, use and link existing einfrastructures in agricultural science

- Data standards
- Ontologies and controlled vocabularies
- E-infrastructures that host content & data
- Data centres, repositories & aggregators
- Build a community around the "Agricultural data journal"
  - Suggestions and ideas welcome!

# I Open Science!







CAPSELLA Workshop Crete 2, June 2017





