



Report of Amphipod Editing Workshop

Flanders Marine Institute (Vlaams Instituut voor de Zee - VLIZ)

InnovOcean site, Ostend, Belgium

04-05th April, 2016

Participants:

WAD Editor Group: Tammy Horton; Jim Lowry; Claude De Broyer; Oliver Coleman; Mikhail Daneliya; Jean-Claude Dauvin; Cene Fišer; Rebeca Gasca; Michal Grabowski; Ed Hendrycks; Lauren Hughes; Krystof Jazdzewski; Traudl Krapp-Schickel; Anne-Nina Lörz; Tomasz Mamos; Cris Serejo; Anne-Helene Tandberg; Mike Thurston; Wim Vader; Risto Väinölä; Ronald Vonk; Kris White; Wolfgang Zeidler.

WoRMS Data Management Team (DMT): Leen Vandepitte, Bart Vanhoorne, Stefanie Dekeyzer, Wim Decock, Sofie Vranken.

Objectives of the workshop

The overarching aims of the workshop were to:

- Gather all WAD editors to meet and discuss editing methods and processes.
- To train the WAD Editorial Team in editing using the online interface.
- To discuss priority information for entry to the database.
- To encourage consistency in editing.
- To plan a work-flow for adding and editing new taxa.
- To discuss long-term plans and paper publications.

Outcomes of the workshop: All attendees will learn how to use the online editing interface and make progress in editing their taxon of responsibility. During the focused hands-on editing sessions, help will be provided to ensure the priorities are tackled and that all editors know how to:

- Document the original name
- Add literature sources to Aphia (including adding PDF files)
- Link the original description (and other source types) to a taxon
- Document the type locality
- Document the type species
- Document the environment
- Document missing authorships
- Represent synonymy, misspellings and misidentifications etc.
- Add notes and identification resources.

The workshop will facilitate discussion and progress on two current projects (non-marine Amphipoda & Deep-Sea Amphipoda checklists and associated publications). It is hoped that it will also stimulate further projects.

Following discussions at the 16th International Amphipod Colloquium (7th-11th September, 2015, Aveiro, Portugal) with some members of the Amphipod editorial team and an email poll with the remaining editors, 22 people expressed an interest in attending the training workshop.

World **Amphipoda** Database



Introduction and background to the World Amphipoda Database

1.1. Introduction to the World Amphipoda Database

The World Amphipoda Database (WAD) was launched in July 2013, when thirty amphipod taxonomists were contacted and agreed to donate their time to work on improving and updating the information on their specialist area of the database. However, since the launch of the WAD, there has not yet been a meeting of editors and it was evident that the editing team would benefit from being physically together with an opportunity to better organize the editorial responsibilities, to provide training on how the editing should take place in a consistent manner, to illustrate the methods and requirements of editing, to work on particular projects and propose new analyses for the future. The World Amphipoda Database currently holds taxonomic information on 9,915 valid species. There are a number of priority editing tasks that need to be completed to ensure that the database is an accurate reflection of the published literature, that it is up-to-date with newly published species, and that it remains *the* authoritative global list of Amphipoda species.

1.2. History

The World Amphipoda Database arose from a merger in 2010 of the World Amphipoda List compiled over many years by Jim Lowry (formerly of Australian Museum, now retired), with the European Register of Marine Species (ERMS) amphipod list, compiled by Mark Costello with the help of Denise Bellan-Santini and Jean-Claude Dauvin, and edited up until 2013 with significant additions from the RAMS Amphipoda (Antarctic) list (compiled by Claude De Broyer) and from other regional editors. The original editors of Amphipoda within WoRMS were Mark Costello, Denise Bellan-Santini, Jean Claude-Dauvin, & Wim Vader, with Claude de Broyer as Editor of the Register of Antarctic Marine Species (RAMS) Amphipoda. The north-Atlantic lists were compiled by Mark Costello with assistance from Louise Collier, from Costello et al. (1989), Brattegard (1997) and Vader et al (1997). The Mediterranean and south Atlantic lists were compiled from Bellan-Santini et al. (1998), Marques and Bellan-Santini (1990, 1991), and Lopes et al. (1993). Additional species were then found in Dauvin (1999), and for Arctic seas, in Palerud and Vader (1991) and Vader (1998). Jim Lowry's unpublished list was added to WoRMS in 2010 when he became Chief Editor of the Amphipoda.

In 2012, following efforts to compile a list of Deep-Sea Amphipoda for the World Register of Deep-Sea Species (WoRDSS), it was recognised that while the database had been running for several years, it had not been updated with new taxa since 2010 and did not have a front page introduction for the

database. Tammy Horton then enlisted 30 amphipod taxonomists to donate their time to each work on a specialist area of the database. With nearly 10,000 species to look after, more experts were needed. Particular expertise was required to cover the non-marine amphipod taxa. There are at > 1870 amphipod species and subspecies recorded from fresh or inland waters accounting for ~ 20 % of the total known amphipod diversity. The World Amphipoda Database was launched in July 2013 and presented at the 15th International Colloquium on Amphipoda held in Szczawnica, Poland in September, 2013. As of the launch of the database in 2013, there were just over 200 unchecked names and 30 quarantined taxa. The first job was to deal with these, followed by ensuring the large numbers of taxa that without an authority or original description linked are completed.

Information from the World Amphipoda Database is fed into the World Register of Marine Species (WoRMS), which, as the most comprehensive primary source of quality-assured information on marine species, is the international standard in its field. Beneficiaries of the information – which is often accessed through other databases that are fed by WoRMS – include scientists, consultants, conservationists, journalists, the general public, and many others.

The initiation and coordination of the World Amphipoda Database project was funded jointly by INDEEP (International network for scientific investigation of deep-sea ecosystems) and BP, both of which are committed to enhancing access to taxonomy.

Monday 4 April 2016 (day 1)

9h:

- *Introduction to the World Amphipoda Database [Tammy Horton]*

A presentation on the WAD was given. This was an update to the presentation at the 16th International Amphipod Colloquium in Aveiro, Portugal, September 2015. The presentation is included as an appendix to this report.

- *General introduction to WoRMS [Leen Vandepitte]*

A presentation covering an introduction to the WoRMS database was given, outlining the structure of and functionality of the Aphia database and the many links to other global databases.

11h:

- *WoRMS online editing [Stefanie Dekeyzer]*
 - o How to edit online
 - o Overview of existing tools & functionalities
 - o Alternatives to online editing, through Excel templates

Stefanie illustrated the methods of editing online through a live link to the WAD database, showing the editor team how to complete each step in the editing process. This was a very useful part of the workshop and there were many questions. The editors benefited greatly from seeing the processes first-hand and having the intricacies of the editing pointed out step-by step. The following tools and functions were outlined in the presentation: how to add a new source, how to add a new taxon, how to (semi-)automatically add new taxa through the Journal Importer Tool, how to change the status of a taxon, how to add relevant information to a taxon (literature, distributions, type locality, specimen information, traits, notes, images, etc.), how to use the Rapid Distribution Entry Tool, how to use the Checklist Publication Tool, how to use the Similar Sources (de-duplication tool), and how to use the taxon match tool.

13h30:

- *Priorities for entry & consistency in editing – the online editing manual [Tammy Horton]*

Following the lunch-break, a second presentation was given by Tammy Horton on the progress on the Online Editing Manual – a less technical summary of the editing process which aims to guide editors in consistency. While this is not yet finished (it will be discussed by the WoRMS Steering Committee in June 2016), it was decided that an early version could be used at this workshop as the Amphipoda editors can then edit in a consistent manner. The presentation is included as an appendix to this report. A copy of the first draft of the guidance was also provided to the WAD editors for use both during the workshop and after, with the proviso that it was not the final accepted version.

14h15:

- *Olli Coleman's literature Server – access to older literature – a demonstration [Olli]*

Oliver Coleman gave a short presentation on accessing his collection of literature. This is an incredibly useful resource and access is simple. Olli later provided a summary to all Amphipoda editors documenting how to access to the literature. Much discussion ensued on the uploading of PDFs to the Aphia database.

14h45:

- *Hands-on online data entry [all]*

For the rest of the afternoon the Amphipoda editors tried their hand at online editing. They were each requested to bring along data or papers to work with:

- Bring your own laptop
- Please can all participants bring with them a dataset. This can be a recent or not so recent publication (e.g. a revision or an excel file of associated data) which contains information to be entered to the World Amphipoda Database.
E.g. This can include a list of new (and/or old) taxa and may include information on synonymy, type material, distributions, diagnoses that can be added to the database. Training will be provided in how to carry out additions of new information and editing/updating of problematic data.
- Tammy will be bringing some of the latest revisions of the Lysianassoids (thank you Jim Lowry!) which still need to be entered/edited.

This part of the workshop gave the attendees the practical training and experience which they needed. This gave them the confidence to do their own editing once the workshop was over. It has been evident that while the editors have the expertise, the lack of hands-on experience with the Aphia database made many reluctant to make changes online.

During the workshop 135 edits were made to the WAD by the editors present, including the addition of 26 taxa (new and old). In the three weeks following the workshop a total of 720 edits and additions have been made (including the addition of 282 taxa). A clear illustration of the benefits of the workshop!

Tuesday 5 April 2016 (day 2)

9h:

- Discussion of current projects, new analyses and proposed publications [all]
- Outreach: how to promote the Amphipoda database (marine & non-marine)? [all]

The day began with a presentation of current projects related to the database. There are currently four LifeWatch data grants which come to an end in either mid-April or mid-May 2016.

- Current LifeWatch Data grants:
 - **non-marine Gammaroidean Amphipoda (excluding Baikalian taxa):** Michal Grabowski & Tomasz Mamos (**8 families, ~400 species**)
 - **non-marine, non-gammaroid subterranean taxa:** Risto Väinölä and Mikhail Daneliya (**~ 250 species**)
 - **Superfamily Lysianassoidea:** Tammy Horton & Mike Thurston (**22 families, 173 genera, 1042 species**)
 - **Niphargidae:** Cene Fišer (**9 genera, 274 species**)

The progress on each of these projects was presented by each of the grant-holding editors in turn. These short verbal reports noted that there has been significant progress on providing the priority information for more than 1200 taxa. These data grants constitute ongoing work which will be reported separately. The result of these projects will feed into two further projects which aim to improve the visibility for the WAD – A freshwater amphipod checklist paper and a deep-sea amphipod paper. These projects were discussed in greater detail and deadlines and next-steps were decided upon.

Two additional ongoing projects were discussed. These were the talitrid catalogue/book which Jim Lowry is working on and a global handbook/revision of the hyperiids which Wolfgang Zeidler is working on. A suggestion was made that the working files for these (Excel or Word files) could be sent to the DMT to organise the input to the WAD when they are near completion, and prior to final publication.

Environment discussion

A short discussion was had on the Environment tags used in WoRMS, their definitions and possible problems. The generally agreed definitions are:

- *Freshwater: species occur at a salinity range of 0-0.5 ppt*
- *Brackishwater (Oligohaline): species occur at a salinity range of 0.5-5 ppt*
- *Brackishwater (Mesohaline) species occur at a salinity range of 5-18 ppt*
- *Brackishwater (Polyhaline) species occur at a salinity range of 18-30 ppt*
- *Marine: species occur at salinities higher than 30 ppt.*

In WAD/WoRMS we have four flags available (Marine, Freshwater, Brackish, Terrestrial) and any combination of these can be checked. Therefore oligohaline, mesohaline and polyhaline species should be tagged as brackish and further information can be added in a Note (Habitat) on the taxon page if needed.

A discussion took place on non-marine species definitions. For example, when entering beach hoppers, which flags should be checked? Should we check both marine and terrestrial flags, or only the marine flag for these taxa? The discussion ended with the decision to flag as marine only as they depend on the marine environment. Other hoppers should be flagged terrestrial only (land hoppers) only or freshwater only (if they depend on the freshwater environment). The important thing is to be consistent.

The need for a FADA (Freshwater Animal Diversity Assessment) context flag was discussed – all ‘continental’ species (except terrestrial taxa) need to be checked with this context flag, which will indicate that their data will be exported to FADA so they will be mirrored in both databases. These include species with populations living in true fresh water through their life cycles, as well as those living in brackish waters that are permanently physically disconnected from the sea, such as brackish water of saline lakes, brackish wells and interstitial waters that are away from the seashore (but not e.g. in estuaries with fluctuating salinity or in beach interstitial habitats). This was implemented following the workshop.

10h

- *Roles & responsibilities of Amphipoda editors – a proposed action plan [Tammy/All]*
- *Short and long-term goals and planning [all]*

Further discussions took place regarding the roles of the Amphipod Editorial team and how to plan the work going forward. The priorities for addition of new taxa, original names, environment original descriptions (linked with PDF), type localities/ material, was emphasised in accordance with the priorities decided by the WoRMS Steering Committee.

Some issues and ambiguities were encountered in the addition of holotypes via the specimen module (and use of the gazetteer/geounits). Alternative methods were discussed.

A list of priorities to focus on following the workshop:

- Top priority is adding new or missing valid taxa.
- Names currently without Authority – this list returned 153 hits, mostly of unaccepted taxa, which are being dealt with as 2nd priority by the editors following the workshop.
- Accepted species names without environment tag (~450). It is hoped that these will be halved following the LifeWatch data grants. The remaining taxa will be the next priority.

- Names in OBIS but not WoRMS – this list was sent around to editors and some changes and updates made but needs to be followed up. A new list will be requested and sent to editors.

A workflow plan for adding new taxa was discussed. Every year a newsletter is produced which lists the new taxa described that year, along with a bibliography of amphipod related papers. This is an invaluable resource to Amphipodologists and is now also used to update the WAD with new taxa. Each year more than 120 new taxa are described. Currently as the list is being compiled by the newsletter editors, PDFs of the papers are also gathered on the Amphipod literature server. A workflow plan was agreed to ensure new taxa to be added are sent to editors on amphipoda@marinespecies.org on a regular basis. Anne Helene & Tammy Horton will lead on alerting editors to add new taxa. We will aim to add new taxa by close of the bibliography of each newsletter so that all new taxa are in the WAD by the time the Amphipod Newsletter is published each year.

Are we Sharing WAD with Catalogue of Life? Where do they get their list from currently? How do we do this?

Current editorial responsibilities

Throughout the workshop individual discussions took place on the breakdown of editorial responsibilities. We recognise there are some inactive editors, who will be contacted after the workshop to find out if they are happy to be replaced. In many cases taxa were originally covered by more than one editor. This is for a number of reasons. Sometimes editors choose to work in a team with one party carrying out the online editing for the team. This is the case with Tammy Horton and Mike Thurston, and with Anne-Helene Tandberg and Wim Vader and Traudl Krapp-Schickel. In other cases extra editors are no longer needed. New editors were suggested in some cases for 'orphaned' taxa currently covered by Tammy Horton, and some changes were made to current responsibilities. Jesser Sousa-Filhou has been recommended for Photidae and other Corophoidea and will be contacted regarding this opportunity. Tomasz Mamos and Damia Jaume have recently been added to the Editor Team. A number of changes will be made to editorial responsibilities in due course. It is important that we ensure the database citation is updated accordingly.

Adding Keys to the WAD (ID KEYS)

Amphipod workers have used DELTA as a platform for producing numerous keys and thus these datasets will be made available via the World Amphipoda Database. A new menu item has been added to the front page of the database titled 'ID Keys'. Currently there are links to excellent world keys to the families Epimeriidae and Synopiidae. These will need updating when new taxa are described. Linking of existing literature keys to the relevant taxon pages (as identification resources) was also discussed.

Sponsor and acknowledgments

The initiative was supported by LifeWatch, the E-Science European Infrastructure for Biodiversity and Ecosystem Research, through grants allocated by LifeWatch Belgium to the World Register of Marine Species (WoRMS) developed and maintained in VLIZ.

LifeWatch is a distributed virtual laboratory which is being used for different aspects of biodiversity research. The taxonomic backbone of LifeWatch aims at bringing together taxonomic and species-related data and at filling the gaps in our knowledge. In addition, it gives support to taxonomic experts by providing them logistic and financial support for meetings and workshops related to expanding the content and enhancing the quality of taxonomic databases.

Appendices:

Final Agenda

DMT Presentation: World Register of Marine Species – An introduction

Presentation 1: The World Amphipoda Database - updating the global species database

Presentation 2: Priorities for entry & consistency in editing



Workshop: World Amphipoda Database

The World Amphipoda Database was launched in July 2013, and thirty amphipod taxonomists agreed to donate their time to work on improving and updating the information on their specialist area of the database. However, since the launch of the WAD, there has not yet been a meeting of editors and the team would certainly benefit from being physically together with an opportunity to better organize the editorial responsibilities, to provide training on how the editing should take place in a consistent manner, to illustrate the methods and requirements of editing, to work on particular projects and propose new analyses for the future.

Outcomes:

All participants will learn how to use the online editing interface and make progress in editing their taxon of responsibility. During the focused hands-on editing sessions, help will be provided to ensure the priorities are tackled and that all editors know how to deal with the following:

- Document the basionym (original name)
- Document the original description (preferably with pdf)
- Document the type locality
- Document the type species
- Document the environment
- Document missing authorships
- Add synonyms
- Add notes and identification resources

The workshop will also help to progress two current projects (non-marine Amphipoda & Deep Sea Amphipoda checklists and associated publications) and stimulate further projects. A report of the workshop will be produced.

Venue:

Flanders Marine Institute (VLIZ) – Wandelaarkaai 7, 8400 Oostende
4-5 April 2016

Confirmed participants:

WAD Editor Group: Tammy Horton; Jim Lowry; Claude De Broyer; Oliver Coleman; Mikhail Daneliya; Jean-Claude Dauvin; Cene Fišer; Rebeca Gasca; Michal Grabowski; Ed Hendrycks; Lauren Hughes; Krystof Jazdzewski; Traudl Krapp-Schickel; Anne-Nina Lörz; Tomasz Mamos; Cris Serejo; Anne-Helene Tandberg; Mike Thurston; Wim Vader; Risto Väinölä; Ronald Vonk; Kris White; Wolfgang Zeidler.

WoRMS Data Management Team (DMT): Leen Vandepitte, Bart Vanhoorne, Stefanie Dekeyzer, Wim Decock, Sofie Vranken.

Monday 4 April 2016 (day 1)

9h:

- Welcome [Tammy Horton]
- Practical information [Leen Vandepitte]
- Round table [all]
- Introduction to the World Amphipoda Database [Tammy Horton]
- General introduction to WoRMS [WoRMS DMT]

10h30: coffee / tea break (30')

11h:

- WoRMS online editing [WoRMS DMT]
 - o How to edit online
 - o Overview of existing tools & functionalities
 - o Alternatives to online editing, through Excel templates

12h30: sandwich lunch

13h30:

- Priorities for entry & consistency in editing – the online editing manual [Tammy Horton]
- Olli Coleman's literature Server – access to older literature – a demonstration [Olli]
- Hands-on online data entry [all]

15h: coffee / tea break (30')

15h30:

- Hands-on online data entry (continued)

18h: end of day 1

19h: dinner in Ostend, offered by LifeWatch

Tuesday 5 April 2016 (day 2)

9h:

- Discussion of current projects, new analyses and proposed publications [all]
- Outreach: how to promote the Amphipoda database (marine & non-marine)? [all]
- Roles & responsibilities of Amphipoda editors – a proposed action plan [Tammy/All]
- Short and long-term goals and planning [all]

10h30: coffee / tea break (30')

11h:

- Hands-on online data entry (continued)

12h30: sandwich lunch

13h30:

- Hands-on online data entry (continued)

14h45: coffee / tea break (15')

15h:

- Hands-on online data entry (continued)

16h: Closure of workshop

Possibility for participants to stay later and continue working (18h)

Some important practical information for the hands-on online data entry

- Bring your own laptop
- Please can all participants bring with them a dataset. This can be a recent or not so recent publication (e.g. a revision or an excel file of associated data) which contains information to be entered to the World Amphipoda Database.
E.g. This can include a list of new (and/or old) taxa and may include information on synonymy, type material, distributions, diagnoses that can be added to the database.
Training will be provided in how to carry out additions of new information and editing/updating of problematic data.
- Tammy will be bringing some of the latest revisions of the Lysianassoids (thank you Jim Lowry!) which still need to be entered/edited.

World Register of Marine Species an introduction

Leen Vandepitte

On behalf of the WoRMS Data Management Team



Flanders Marine Institute

www.vliz.be

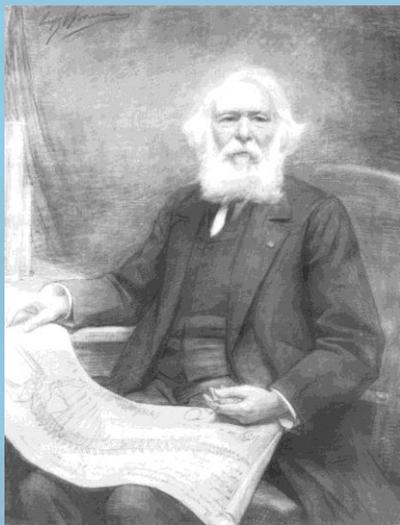
www.marinespecies.org

- **Flanders Marine Institute - VLIZ**
- **World Register of Marine Species (WoRMS)**
- **WoRMS & LifeWatch**

INNOVOCEAN SITE: "first marine station" (1843)



prof. P-J van Beneden



INNOVOCEAN SITE: more than just VLIZ...



InnovOcean site



Provinciaal Ankerpunt Kust



*Coördinatiepunt
Duurzaam Kustbeheer*



Steunpunt NME-Kust



Flanders Marine Institute - VLIZ

- Established in 1999
- Autonomous institute - non-profit organisation under Belgian law
- Objectives:
 1. Promoting Flemish **marine scientific research** and related marine and coastal **education**.
 2. Promoting the **international image** of Flemish marine scientific research and international marine education.
 3. Acting as a **catalyst** and as a **point of contact** – also internationally – in the field of marine sciences.
 4. Promoting the **visibility** of Flemish marine scientific research to the public at large (popularisation and awareness raising).
 5. Providing **scientific information** on the sea, the coast and tidal systems to policymakers so that it can be used for policy development and support with regard to marine affairs.

- 5 divisions



The VLIZ Data Centre provides assistance, technologies and tools to scientists and policymakers to support marine data management. Within international networks VLIZ participates in the development of data infrastructures and promotes the flow of marine data from Belgium.

- Data- and information centre
- Documentation
- Archival
- Integration
- Re-distribution
- International standards
- Service centre
- Websites

World Register of Marine Species - WoRMS

- Background

- 2004: MarBEF EU FP6 => creation of online ERMS
- 2007: further development to World Register

WoRMS aims to provide the most authoritative list of names of all marine species globally, ever published

- WoRMS:

- not just a name index, but expert-based taxonomic database
 - Almost 400 editors (both taxonomic and thematic)
 - Elected Steering Committee (SC)
 - Data management team
- Permanent host-institute: VLIZ
- Web-based system, including web-services
- International standards

- Aphia = data system behind WoRMS



- Data management team (DMT) @ VLIZ



Francisco Hernandez



Leen Vandepitte



Bart Vanhoorne



Wim Decock



Stefanie Dekeyzer



Sofie Vranken



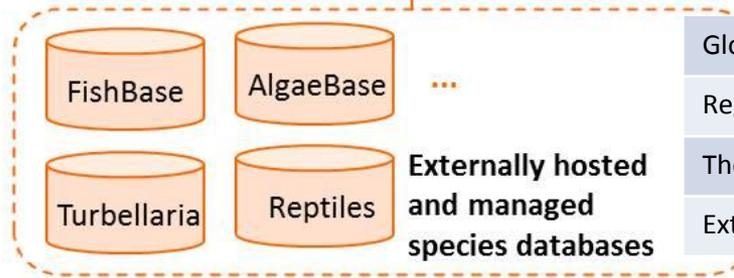
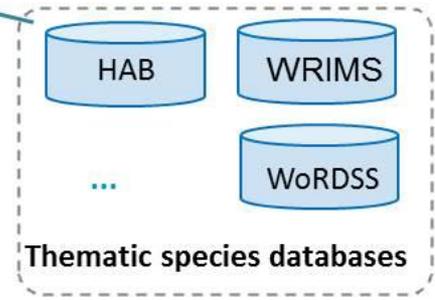
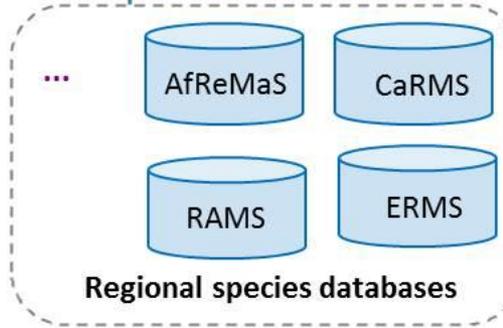
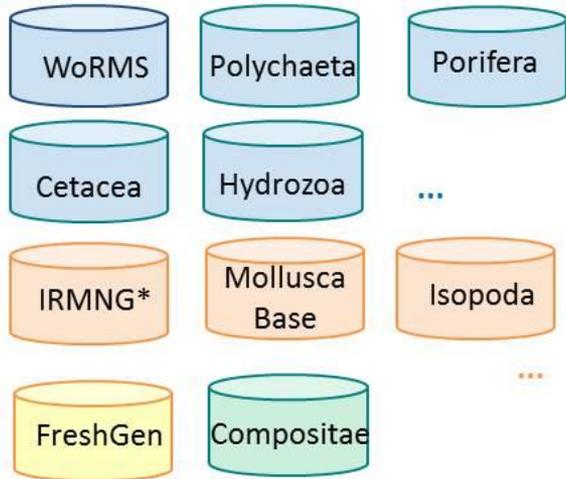
Short-term contracts, internships, summer students ...

Almost 400 editors (both taxonomic and thematic), worldwide



Aphia platform

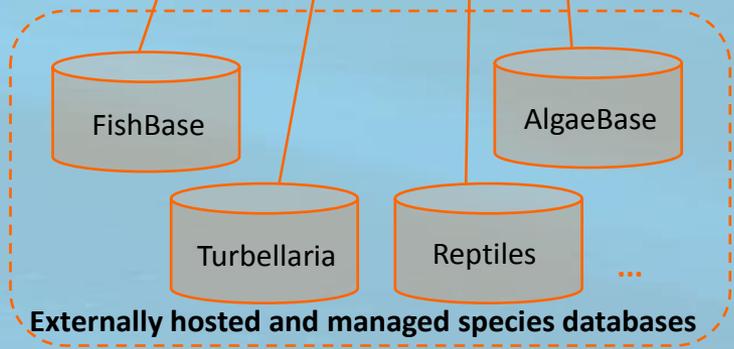
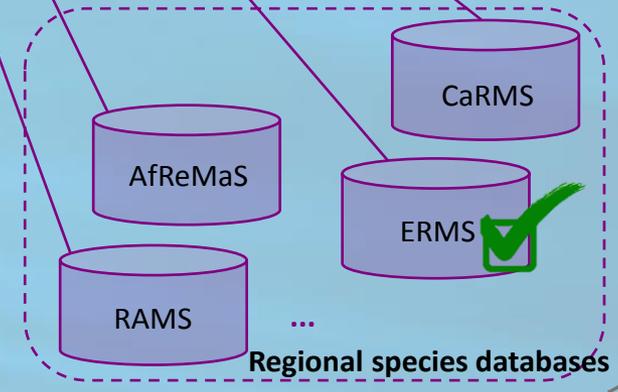
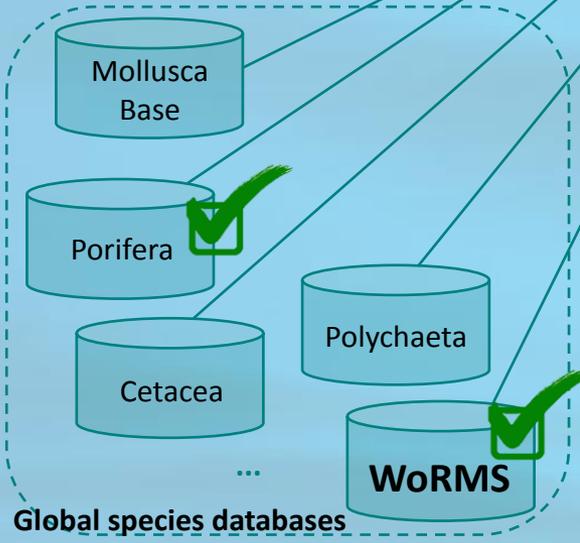
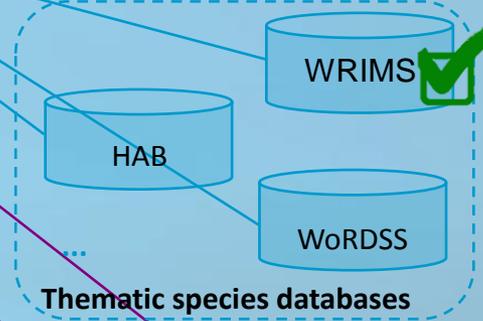
Databases hosted at VLIZ



Global Species Databases (GSD)	89 (24 + 46 + 19)
Regional Species Databases (RSD)	20 (8 + 9 + 3)
Thematic Species Databases (TSD)	8 (7 + 1)
External databases	10



Databases hosted at VLIZ



Aphia structure

Users

- As standard taxonomic reference for organizations and programmes
 - => *e.g. GBIF, OBIS, CoL, EoL, ICES, NODCs, ...*
 - => *> 80 organizations requested acces to monthly download*
 - => *user agreements*
- Is part of the LifeWatch Taxonomic Backbone
- Quality control purposes
 - => *through web services & taxon match tool*
- Website:
 - \pm 4,000 visitors per day
 - \pm 3 million hits per month
 - *> 1,500 citations of “World Register of Marine Species” through Google Scholar*
- Extensive use of the different web services
 - => *43 institutions/data systems use web services or provide deep links*

Latest taxon additions

Lirobarleeia gradata (d'Orbigny, 1842)	2016-04-01 05:13Z
Laonice galatheaee Sikorski & Pavlova, 2016	2016-03-31 21:07Z
Laonice cricketae Sikorski & Pavlova, 2016	2016-03-31 21:07Z
Laonice olgae Sikorski & Pavlova, 2016	2016-03-31 21:07Z
Australaugeneria iberica Ravara & Cunha, 2016	2016-03-31 21:07Z

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- Distribution
- Specimens
- Match taxa
- Editors
- Statistics
- Users
- Webservice
- Photogallery
- Info downloads
- Sponsors
- Activities
- Manual
- Log in
-  Add provider
-  @WRMarineSpecies

Search WoRMS

Common name
 contains

e.g. fish, whale

Scientific name
 begins with

e.g. Delphinus delphis

[\[advanced search\]](#)

News



NeMys launches two new identification keys: Rhynchonema & Monhysteridae

Added on: 2016-03-30 14:51:04 by Guillini, Katja

While the editorial team is working hard behind the scene to have the list of free-living marine nematodes as complete and up-to-date as possible by this summer, one of the first accomplishments was reached from the long run aims. That is adding new identification keys based on up to date taxonomic information. ...



Winner of the WoRMS Achievement Award

Added on: 2016-03-16 08:40:58 by Vandepitte, Leen

It is a great pleasure to be able to announce to the WoRMS community that the first winner of the WoRMS Achievement Award is Philippe Bouchet. ...



Launch of the Hong-Kong Register of Marine Species – HKRMS –, a new regional list within WoRMS.

Added on: 2016-03-14 13:25:49 by Vandepitte, Leen

Statistics

239,827 accepted species of which 224,445 checked (94%)
 441,014 species names including synonyms
 548,197 taxon names (infraspecies to kingdoms)
 51,537 images of which 25,844 checked (50%)
 Last update: 15 minutes ago

About WoRMS

With WoRMS we aim to provide the most authoritative list of names of all marine species globally, ever published.

WoRMS is a contribution to [Lifewatch](#), [Catalogue of Life](#), [Encyclopedia of Life](#), [Global Biodiversity Information Facility](#) and the [Census of Marine Life](#).
[Read more...](#)



Tweets by @WRMarineSpecies

[Read more](#)

 **WoRMS**
 @WRMarineSpecies

Currently at a @LifeWatchVLIZ partner meeting to report on progress lifewatch.be/en/project-bel... #lifewatch

  31 Mar

[Read more](#)

 **WoRMS**
 @WRMarineSpecies

Nemys launches two new identification keys: Rhynchonema & Monhysteridae marinespecies.org/news.php?p=sho... #marinespecies

WoRMS taxon details

✓ *Solea solea* (Linnaeus, 1758) Scientific Name + Authority + AphiaID

AphiaID: 127160

Classification: Biota > ✓ Animalia (Kingdom) > ✓ Chordata (Phylum) > ✓ Vertebrata (Subphylum) > ✓ Gnathostomata (Superclass) > ? Pisces (Superclass) > ? Actinopterygii (Class) > ✓ Pleuronectiformes (Order) > ✓ Soleidae (Family) > ✓ *Solea* (Genus) > ✓ *Solea solea* (Species)

Full classification

Status accepted **Status of taxon**

Rank Species

Parent ✓ *Solea* Quensel, 1806

Synonymised names ✓ *Pleuronectes solea* Linnaeus, 1758
✓ *Solea vulgaris* Quensel, 1806 (synonym) **Invalid names**
✓ *Solea vulgaris vulgaris* Quensel, 1806

Sources **original description** Linnaeus, C. (1758). Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. *Editio decima, reformata*. Laurentius Salvius: Holmiae. ii, 824 pp., available online at http://gdz.sub.uni-goettingen.de/no_cache/dms/load/toc/?IDDOC=265100
page(s): 270 [details]

[show all]

Literature sources

Vernacular Names

Language	Name	
Albanian	? gjuhëza e zakonshme [from synonym] ? gjuhëza e kanalit [from synonym] ? gjuhëza e detit [from synonym]	[details]
Basque	? mihi-arrain	[details]
Breton	? garlizen	[details]
Catalan	? palaia ? llenguado	[details]
Czech	? jazyk obecný	[details]
Danish	? tunge ? søtunge	[details]
Dutch	? zeetong ? tong	[details]
English	? sole ? slip ? Dover sole ? common sole	[details]
Finnish	? meriantura ? kielikampela ? kielikampala	[details]
French	? sole commune ? sole	[details]
Galician	? linguado común	[details]
German	? Zunge ? Seezunge	[details]
Hebrew	? סולית מצויה	[details]

Vernaculars '138 languages'

Environment marine, brackish, fresh, ~~terrestrial~~ **Environment + fossil flags**

Distribution FROM OTHER SOURCES

Baltic Sea

? Baltic sea [details]

? Polish Exclusive Economic Zone [details]

Belgium

? Oostduinkerke [details]

? Oostende [details]

Black Sea

? Black Sea [details]

France

? Bray-Dunes [details]

? Wimereux [details]

Mediterranean Sea - Eastern Basin

? Greek Exclusive Economic Zone [details]

? Israeli part of the Mediterranean Sea - Eastern Basin [details]

Distributions

- Host of**
- ✓ *Bomolochus soleae* Claus, 1864 (parasitic: ectoparasitic)
 - ✓ *Acanthochondria cornuta* (Müller O.F., 1776) [via synonym] (parasitic: ectoparasitic)
 - ✓ *Acanthochondria soleae* (Krøyer, 1838) (parasitic: ectoparasitic)
 - ✓ *Lepeophtheirus pectoralis* (Müller O.F., 1776) (parasitic: ectoparasitic)
 - ✓ *Lepeophtheirus thompsoni* Baird, 1850 (parasitic: ectoparasitic)
 - ✓ *Lernaeocera branchialis* (Linnaeus, 1767) (parasitic: ectoparasitic)
 - ✓ *Lernaeocera luscii* (Bassett-Smith, 1896) (parasitic: ectoparasitic)
 - ✓ *Sphyrion lumpi* (Krøyer, 1845) (parasitic: ectoparasitic)
 - ✓ *Acanthocolax exilipes* (Wilson C.B., 1911) (parasitic: ectoparasitic)
 - ✓ *Chondracanthus soleae* Krøyer, 1838 (parasitic: ectoparasitic)
 - ✓ *Ergasilus nanus* Beneden, 1870 (parasitic: ectoparasitic)
 - ✓ *Caligus solea* Demirkale, Özak, Yanar & Boxshall, 2014 (parasitic: ectoparasitic)

Ecological traits (host-parasite, feeding type, ...)

- Links**
- ? Encyclopedia of Marine Life of Britain and Ireland
 - ? Marine Life Information Network - UK
 - ? To Barcode of Life (65 barcodes)
 - ? To Biodiversity Heritage Library (88 publications)
 - ? To Dyntaxa
 - ? To Encyclopedia of Life
 - ? To FAO Species fact sheets
 - ? To FishBase
 - ? To GenBank (22532 nucleotides; 476 proteins)
 - ? To PEST
 - ? To ITIS

Deep links

Note FROM OTHER SOURCES

? **Dispersal** Estimating connectivity between juvenile and adult fish habitats can provide an important contribution to effective fisheries management, through a better understanding of population resilience to harvesting pressure. Otolith chemistry analysis is a firm basis for future investigations on nursery area contributions and quality, adult dispersal history and applications of population traceability. [details]

Free notes

Image ✓



Images

Solea solea (Linnaeus,...

? [show all]

LSID urn:lsid:marinespecies.org:taxname:127160 **LSID**

Taxonomic Edit history

Date	action	by
2004-12-21 15:54:05Z	created	van der Land, Jacob
2008-01-15 17:27:08Z	changed	Bailly, Nicolas

Edit session

[Taxonomic tree] [Occurrence map] [Google] [Google scholar] [Google images]

Citation

Citation: Bailly, N. (2014). Solea solea. In: Froese, R. and D. Pauly, Editors. (2014) FishBase. Accessed through: World Register of Marine Species at <http://www.marinespecies.org/aphia.php?p=taxdetails&id=127160> on 2015-02-19

License

WoRMS specimen details

Museum MPMP - National Museum of the Philippines

Notes **length:** cl 31.1 mm, pcl 26.1 mm
sex: male

Identification **Holotype:** *Dinochelus ausubeli* Ah Yong, Chan & Bouchet, 2010 [details]

Locality Philippines Exclusive Economic Zone (AURORA stn CP2748)

Start latitude 15.93333

Start longitude 121.75

Depthshallow 247 m

Depthdeep 249 m

Begindate 2007-06-02

Image

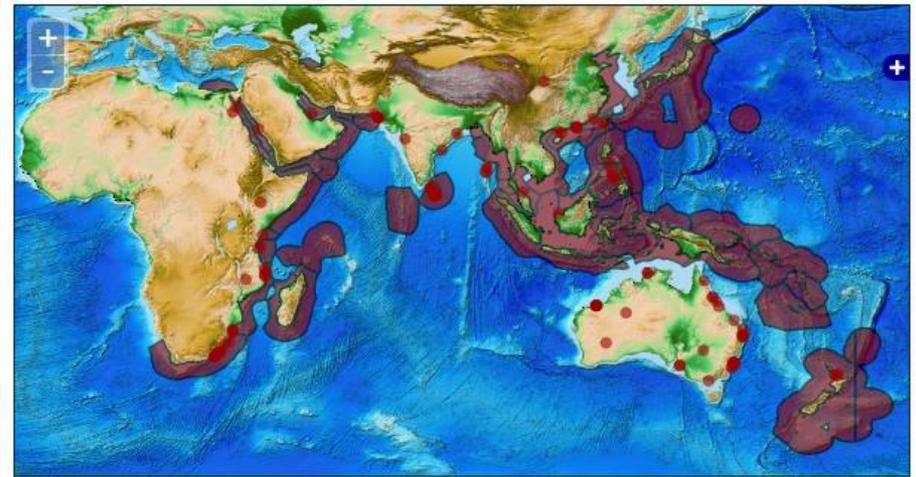
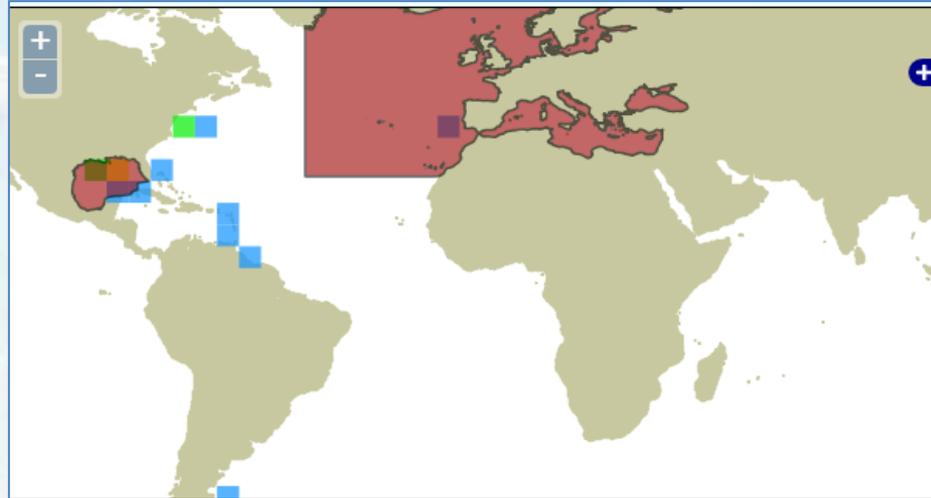


Dinochelus ausubeli

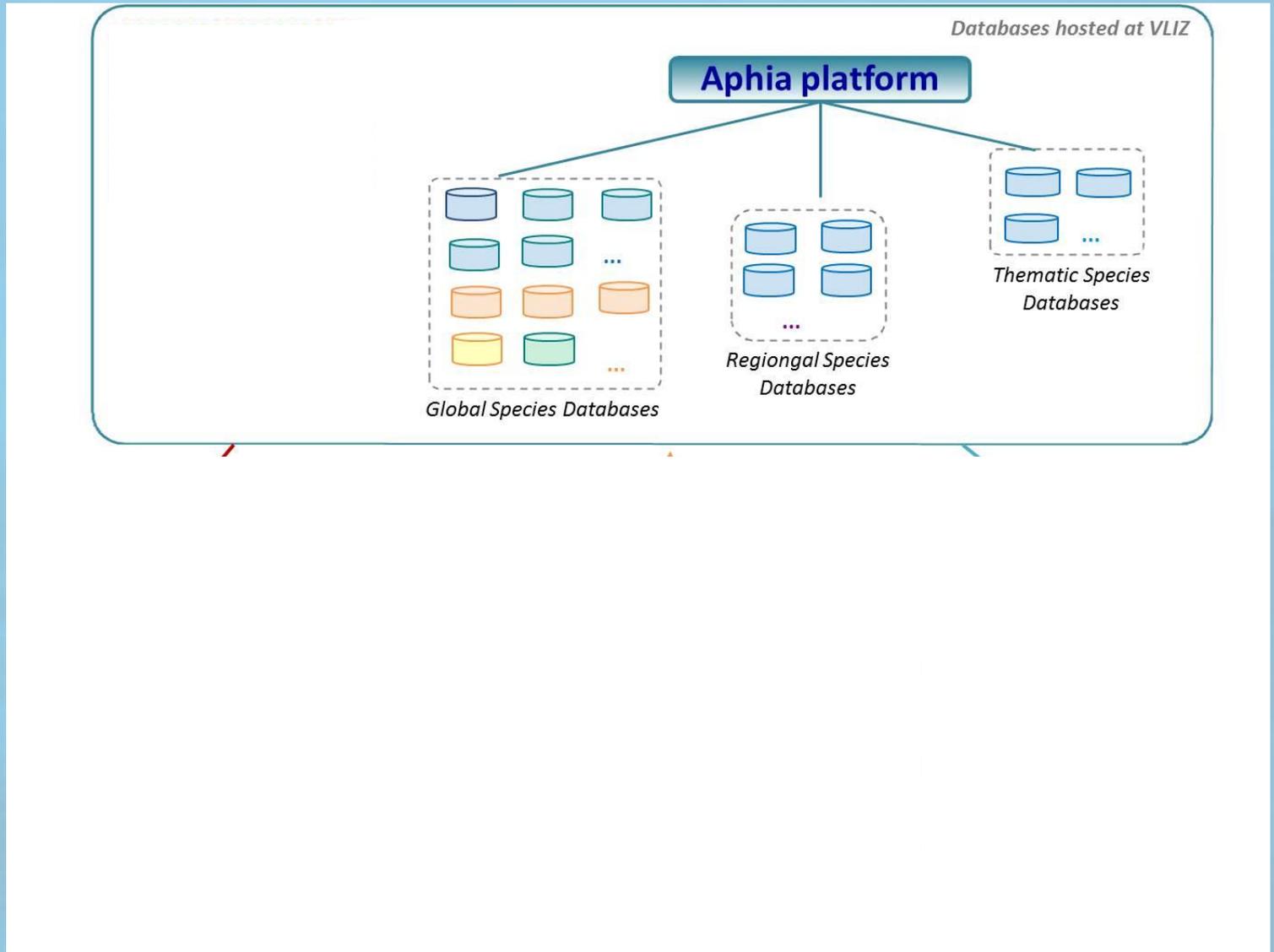
added on 2010-10-13 - author: Chan, Tin-Yam

Edit history	Date	action	by
	2010-10-13 09:02:21Z	created	Appeltans, Ward

Some GSDs (i.e. Echinoidea and Porifera) show distribution maps



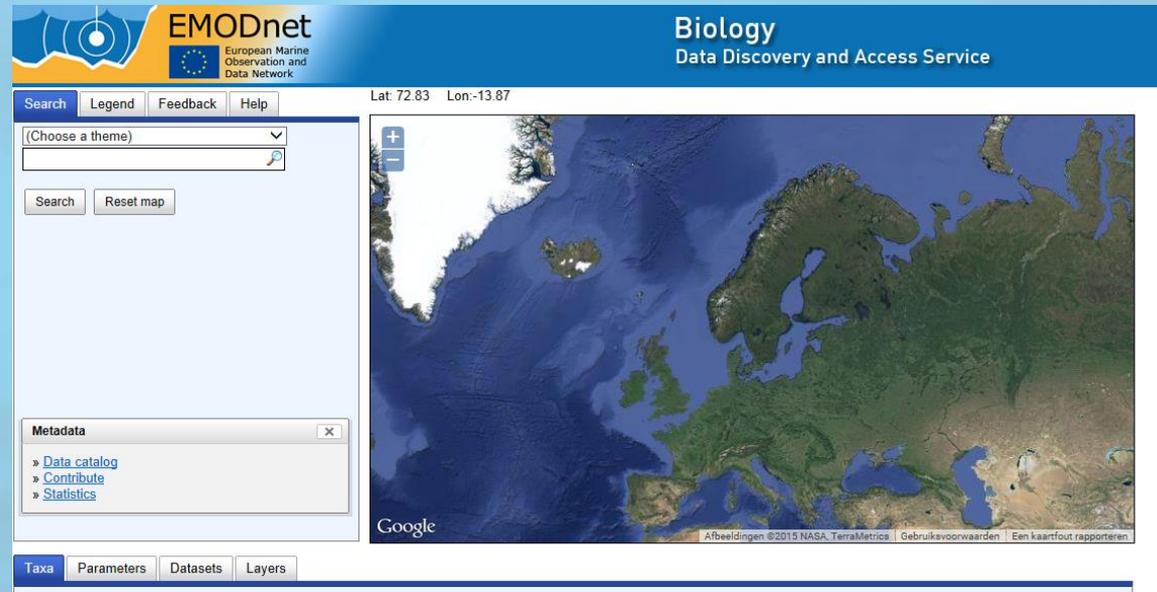
Relationships – flows with other systems & projects



Source: Vandepitte *et al.* (2015). How Aphia – the platform behind several online and taxonomically oriented databases – can serve both the taxonomic community and the field of biodiversity informatics. JMSE.

Relationships – flows with other systems & projects

- **EMODnet Biology**
 - Taxon name & hierarchical relations, synonyms, attributes



- **Ocean Biogeographic Information System (OBIS)**
 - Taxonomy



Relationships – flows with other systems & projects

- **Catalogue of Life (CoL)**

VLIZ provides Global (marine) Species Lists to CoL

- Current exchange:
 - 37 GSD's
 - = 101.870 species
 - = $\pm 7\%$ of CoL species (1.5 million) come from WoRMS



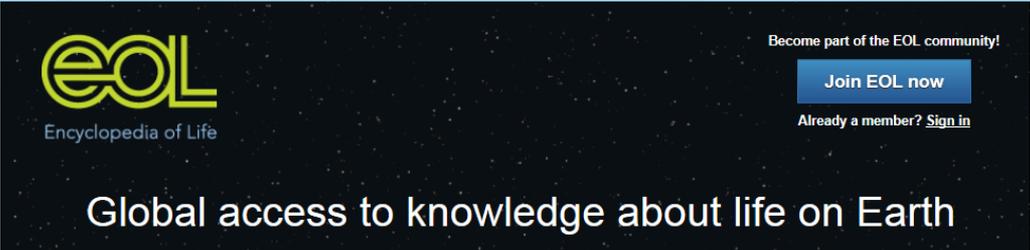
Catalogue of Life



www.species2000.org

Relationships – flows with other systems & projects

- **Encyclopedia of Life (EoL)**
 - EoL gets access to all the WoRMS content (↔ Catalogue of Life)
 - MoU between WoRMS & EoL
 - Selected information:
 - Accepted taxon names
 - Higher classification
 - Distributions
 - Selection of notes
 - Data transfer based on monthly exports from WoRMS



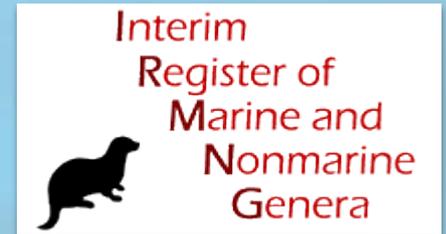
The screenshot shows the EoL website interface. On the left, the EoL logo is displayed in green, with the text "Encyclopedia of Life" below it. On the right, there is a dark blue button labeled "Join EOL now" and a link "Already a member? Sign in". Above the button, the text "Become part of the EOL community!" is visible. At the bottom of the screenshot, the text "Global access to knowledge about life on Earth" is displayed in white.

WoRMS: additional developments

- **AquaRES**
 - # planned technical developments:
 - Improved data exchange between FADA & WoRMS
 - Improved data entry interface for distributions
 - Checklist publication tool
 - Identification gaps & overlaps: solutions
- **Traits**
 - Ecological information, e.g. body size, feeding methods, host-parasite relationship ...
 - In collaboration with EMODnet Biology
 - Several pilot projects (benthos, plankton, birds, macro-algae, Nematoda, aliens)
- **Fossil species**
 - Add and label fossil taxa
 - Add stratigraphic time-ranges, following international standards

WoRMS: additional developments

- **IRMNG – Interim Register of Marine & Non-Marine Genera**
 - Hosted at VLIZ since end 2014
 - Transferred to Aphia structure
- Advantages:
 - Stronger link between IRMNG & WoRMS (cfr. taxonomic QC)
 - Filling gaps in both systems & thereby avoiding duplication of effort
 - WoRMS technology easily implemented onto IRMNG data



LifeWatch



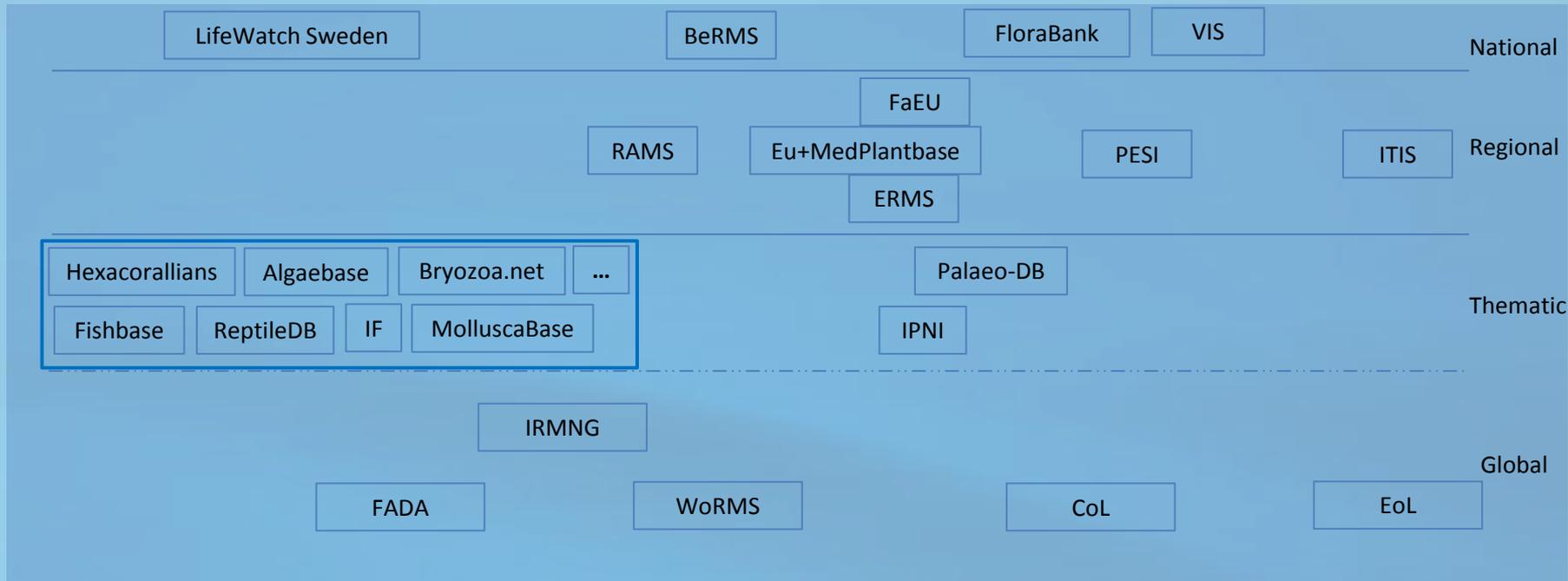
- Part of European Strategy Forum on Research Infrastructures (ESFRI)
- Distributed virtual laboratory
- Used for:
 - Biodiversity research
 - Climatological & environmental impact studies
 - Support development of ecosystem services
 - Provide information for policy makers
- Consist of:
 - Biodiversity observatories
 - Databases
 - Web services
 - Modelling tools
- Integration of existing systems, upgrades, new systems

LifeWatch Taxonomic Backbone

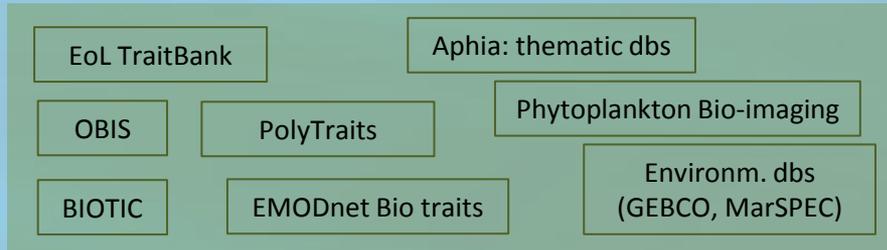
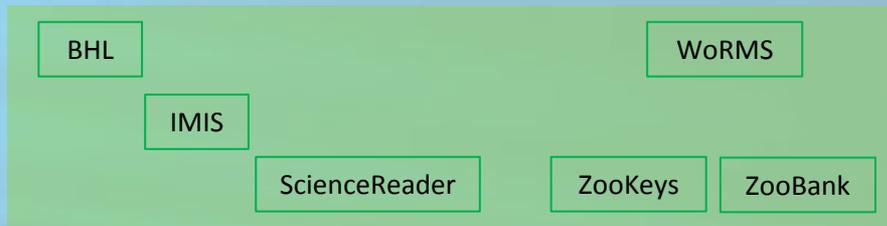
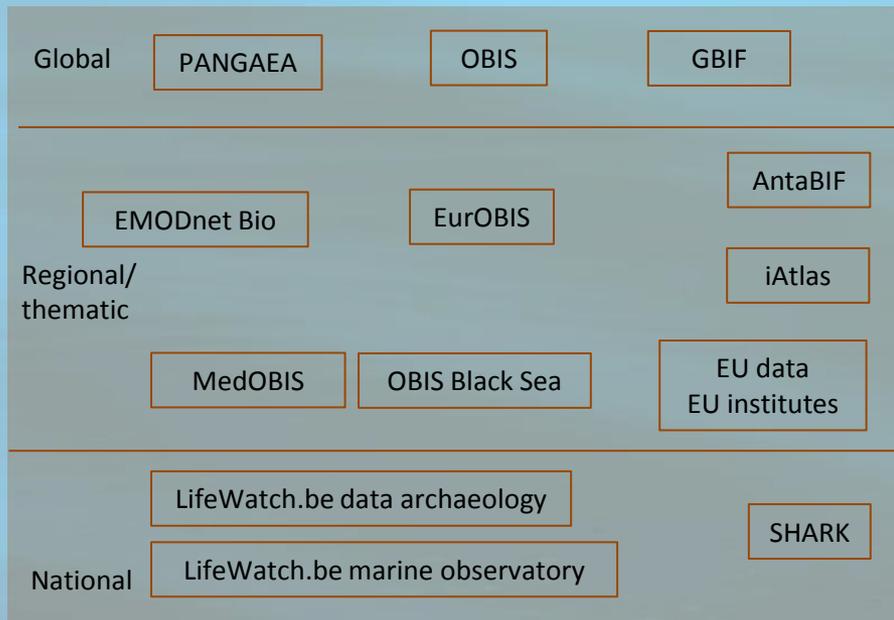


- LifeWatch wants
 - Standardization of species data
 - Integration of distributed biodiversity data repositories & operating facilities
- LifeWatch needs
 - Species information services
- These services = taxonomic backbone
 - Taxonomy access services
 - Taxonomic editing environment
 - Species occurrence services
 - Catalogue services

SPECIES REGISTERS



LifeWatch Taxonomic Backbone

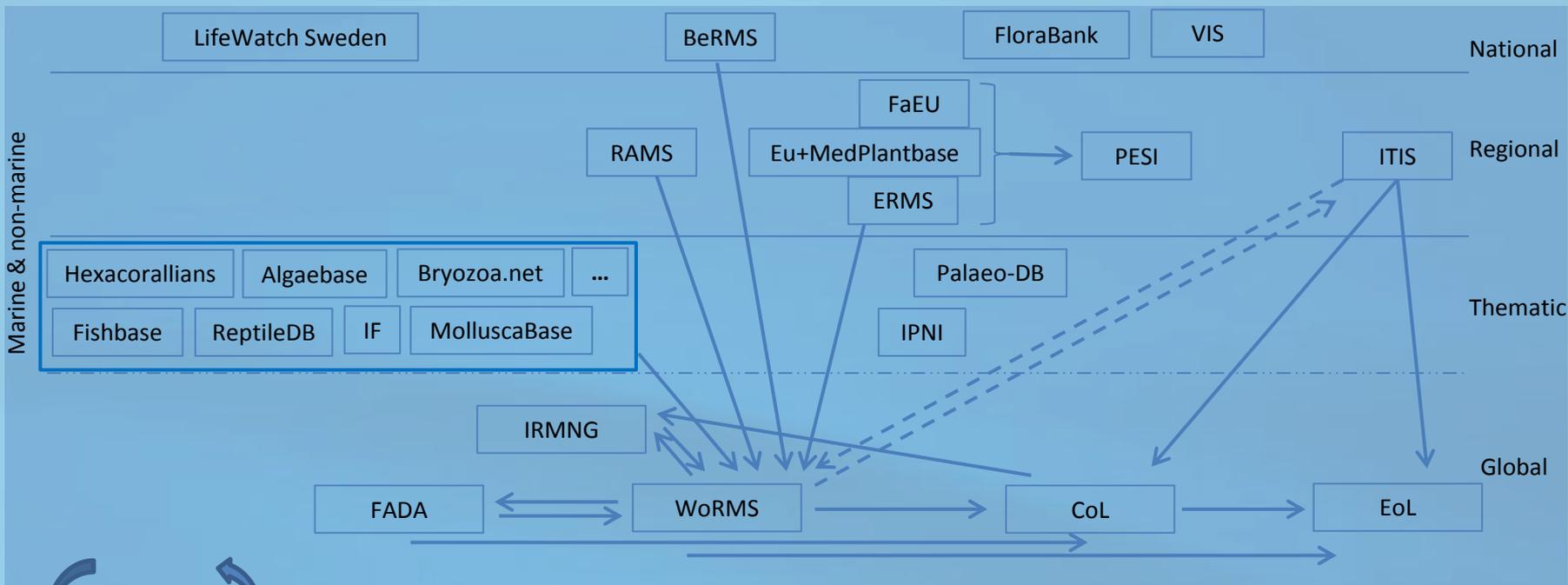


LITERATURE

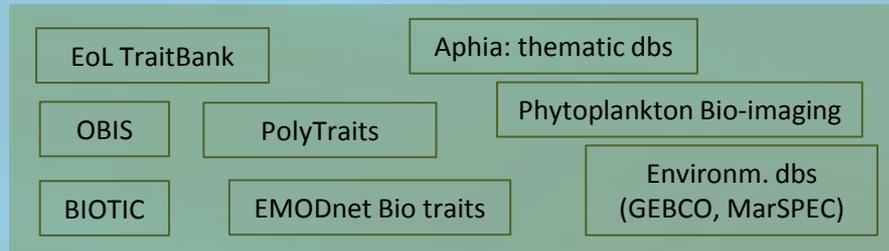
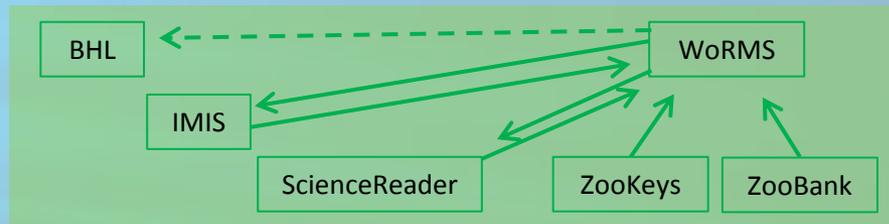
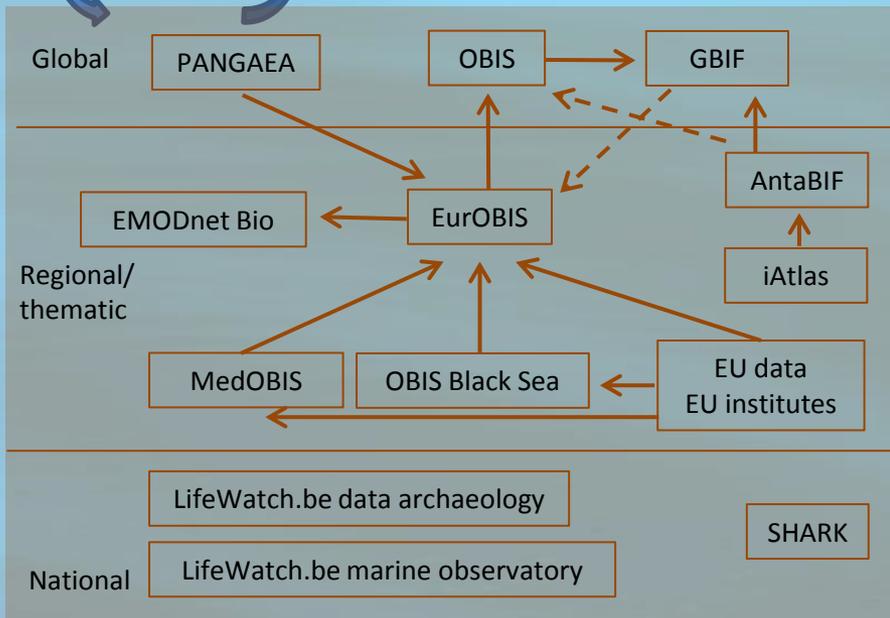
ECOLOGY (traits)

GENETICS

SPECIES REGISTERS



LifeWatch Taxonomic Backbone



LITERATURE

ECOLOGY (traits)

GENETICS

Goal of the taxonomic backbone = establishing workflows

QUESTION:

What is the maximum and minimum salinity where organisms with DNA sequence homology above x% with this given DNA sequence have been found?

1. Use DNA seq in BLAST/FASTA against genbank
Result: list of genbank entries above cut-off
2. Feed list to WoRMS hierachy match
Result: list of taxa matching this sequence list
3. Feed list to (Eur)OBIS mapping tool
Result: list of observations (positions, map, ...)
4. Spatial query to environmental databases
Result: option to select min/max salinity at these positions



Example questions to be answered by the taxonomic backbone:

- *Which (macro)benthic species live in the North Sea at depths between 50-100m?*
 - Input:
 - ✓ Trait(s): benthos (macro)
 - ✓ Biogeography: North Sea; defined depth-range
 - Output:
 - ✓ Taxonomy (based on WoRMS): species list

- ✓ — *Where does species X appear?*
- +/- — *Which invasive pelagic species are known to occur in the Black Sea?*
- +/- — *Which species from the Habitat/Bird Directive are on the IUCN Red List?*

- ✓ — *How does my marine species list relate to the African Register of Marine Species?*
- ...

=> *LifeWatch data services available (or in development) to answer these questions*

Thank you!

Questions?

Contact: info@marinespecies.org



The World Amphipoda Database – updating the global species database

HORTON, T.; LOWRY, J.; DE BROYER, C.; BELLAN-SANTINI, D.; COLEMAN, C. O.; DANELIYA, M.; DAUVIN, J-C.; FIŠER, C.; GASCA, R.; GRABOWSKI, M.; **GUERRA-GARCÍA, J. M.**; HENDRYCKS, E.; **HOLSINGER, J.**; HUGHES, L.; **JAUME, D.**; JAZDZEWSKI, K.; JUST, J.; **KAMALTYNOV, R. M.**; **KIM, Y.-H.**; **KING, R.**; KRAPP-SCHICKEL, T.; **LECROY, S.**; LÖRZ, A.-N.; **SENNA, A. R.**; SEREJO, C.; **SKET, B.**; TANDBERG, A.H.; **THOMAS, J.**; THURSTON, M.; VADER, W.; VÄINÖLÄ, R.; VONK, R.; WHITE, K.; ZEIDLER, W. (2016)



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL

noc.ac.uk

NERC SCIENCE OF THE
ENVIRONMENT

A Brief History

The World Amphipoda Database (WAD) is a merger in 2010 of:

- World Amphipoda List compiled by Jim Lowry
- European Register of Marine Species (ERMS) amphipod list, compiled by Mark Costello with the help of Denise Bellan-Santini and Jean-Claude Dauvin,
- Additions from the RAMS Amphipoda (Antarctic) list (compiled by Claude De Broyer) and other regional editors.

In 2013, the database was given a frontpage and an editorial team to provide sufficient editing by experts on each taxon.

- Amphipod Newsletter 1971 to present:
These lists are still used to compile & check the database. (Thanks Wim Vader!)



[About](#) | [Search taxa](#) | [Taxon tree](#) | [Distribution](#) | [Specimens](#) | [Literature](#) | [Images](#) | [Stats](#) | [Newsletter](#) | [Log in](#)

World Amphipoda Database

History of the database

The World Amphipoda Database arose from a merger in 2010 of the World Amphipoda List compiled over many years by [Jim Lowry](#) (Australian Museum), with the European Register of Marine Species (ERMS) amphipod list, compiled by [Mark Costello](#) with the help of [Denise Bellan-Santini](#) and [Jean-Claude Dauvin](#), and edited up until 2013 with significant additions from the RAMS Amphipoda (Antarctic) list (compiled by [Claude De Broyer](#)) and from other regional editors.

The original editors of Amphipoda within WoRMS were [Mark Costello](#), [Denise Bellan-Santini](#), [Jean-Claude-Dauvin](#), & [Wim Vader](#), with [Claude de Broyer](#) as Editor of the Register of Antarctic Marine Species (RAMS) Amphipoda. The north-Atlantic lists were compiled by Mark Costello with assistance from Louise Collier, from Costello et al. (1989), Brattegard (1997) and Vader et al. (1997). The Mediterranean and south Atlantic lists were compiled from Bellan-Santini et al. (1998), Marques and Bellan-Santini (1990, 1991), and Lopes et al. (1993). Additional species were then found in Dauvin (1999), and for Arctic seas, in Palerud and Vader (1991) and Vader (1998). Jim Lowry's unpublished list was added to WoRMS in 2010 when he became editor of the Amphipoda. To provide sufficient expert knowledge for maintaining the database, we have now (2013) formed an editorial team to whom the queries on particular taxa should be addressed.



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World Amphipoda Database



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Amphipoda taxon details

✓ *Cyclocaris* Stebbing, 1888
AphiaID: 101602

Classification: Biota > ✓ [Animalia](#) (Kingdom) > ✓ [Arthropoda](#) (Phylum) > ✓ [Crustacea](#) (Subphylum) > ✓ [Multicrustacea](#) (Superclass) > ✓ [Malacostraca](#) (Class) > ✓ [Eumalacostraca](#) (Subclass) > ✓ [Peracarida](#) (Superorder) > ✓ [Amphipoda](#) (Order) > ✓ [Gammaridea](#) (Suborder) > ✓ [Lysianassoidea](#) (Superfamily) > ✓ [Cyclocaridae](#) (Family) > ✓ [Cyclocaris](#) (Genus)

Status: accepted
Rank: Genus
Parent: ✓ [Cyclocaridae](#) Lowry & Stoddart, 2011
Orig. name: ✓ [Cyclocaris](#) Stebbing, 1888

Sources:
original description Stebbing T.R.R. (1888). Report on the amphipoda collected by H.M.S. Challenger during the years 1873-1876. Report on the Scientific results of the Voyage of H.M.S. Challenger during the years 1873-76. Zoology, 29, 1-1737., available online at <http://www.19thcenturyscience.org/HMSC/HMSC-Reports/Zool-67/htm/doc.html> [details]
identification resource Horton, T., & Thurston, M.H. (2014). A revision of the bathyal and abyssal necrophage genus Cyclocaris Stebbing, 1888 (Crustacea: Amphipoda: Cyclocaridae) with the addition of two new species from the Atlantic Ocean. Zootaxa 3796 (3): 507-527. [details]

Direct child taxa (5)
[\[show all\]](#)
[\[sort alpha..\]](#)
 Species ✓ [Cyclocaris franki](#) Horton & Thurston, 2014
 Species ✓ [Cyclocaris guilelmi](#) Chevreux, 1899
 Species ✓ [Cyclocaris lowryi](#) Horton & Thurston, 2014
 Species ✓ [Cyclocaris tahitensis](#) Stebbing, 1888
 Species ✓ [Cyclocaris faeroensis](#) Norman, 1900 accepted as ✓ [Cyclocaris guilelmi](#) Chevreux, 1899

Environment: marine

Links: ✓ [To GenBank](#)
 ? [To ITIS](#)

LSID: urn:lsid:marinespecies.org:taxname:101602

Taxonomic Edit history

Date	action	by
2004-12-21 15:54:05Z	created	Bellan-Santini, Denise
2004-12-21 15:54:05Z	checked	Costello, Mark
2007-02-10 20:29:11Z	changed	De Broyer, Claude
2009-11-23 08:16:45Z	changed	Lowry, Jim
2011-01-24 11:04:23Z	changed	De Broyer, Claude
2015-08-18 11:58:42Z	changed	Horton, Tammy

[\[Taxonomic tree\]](#) [\[Google\]](#) [\[Google scholar\]](#) [\[Google images\]](#)

Citation: De Broyer, C.; Lowry, J. (2015). Cyclocaris Stebbing, 1888. In: Horton, T.; Lowry, J. & De Broyer, C. (2013 onwards) World Amphipoda Database. Accessed through: Horton, T.; Lowry, J. & De Broyer, C. (2013 onwards) World Amphipoda Database at <http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=101602> on 2015-08-18

Taxon name

Authority

AphiaID

Taxon Rank

Classification

Reference Sources
(incl weblinks, DOI, PDFs)

Child taxa

Edit history and links

Page citation

Environment
(marine/brackish/
fresh/terrestrial)



✓ *Eurythenes* Smith in Scudder, 1882

AphiaID: 101607

✓ *Eurythenes* Smith in Scudder, 1882

AphiaID: 101607

Classification: Biota > ✓ *Animalia* (Kingdom) > ✓ *Arthropoda* (Phylum) > ✓ *Malacostraca* (Class) > ✓ *Eumalacostraca* (Subclass) > ✓ *Peracarida* (Superorder) > ✓ *Lysianassoidea* (Superfamily) > ✓ *Eurytheneidae* (Family) > ✓ *Eurythenes* (Genus)

Status accepted
Rank Genus
Typetaxon ✓ *Lysianassa magellanica* Milne Edwards
Parent ✓ *Eurytheneidae* Stoddart & Lowry, 2004
Synonymised names ✓ *Euryporeia* Sars, 1891 (Invalid Replacement name for *Eurythenes* Lilljeborg, 1865)
✓ *Eurytenes* Lilljeborg, 1865
✓ *Katius* Chevreux, 1905

Sources **identification resource** Stoddart H. *Eurythenes* (Crustacea, Amphipoda) pp. [details]
[show all]

Direct child taxa (9)
[show all]
[sort alpha..]
Species ✓ *Eurythenes andhakarae* d'Udekem d'Acoz & Lowry, 2004
Species ✓ *Eurythenes gryllus* (Lichtenstein in Mandt, 1822)
Species ✓ *Eurythenes magellanicus* (Lichtenstein in Mandt, 1822)
Species ✓ *Eurythenes maldoror* d'Udekem d'Acoz & Lowry, 2004
Species ✓ *Eurythenes obesus* (Chevreux, 1905)
Species ✓ *Eurythenes sigmiferus* d'Udekem d'Acoz & Lowry, 2004
Species ✓ *Eurythenes thurstoni* Stoddart & Lowry, 2004
Species ✓ *Eurythenes fusiformis* Birstein & M. Vinogradov, 1958
Species ✓ *Eurythenes microps* Birstein & M. Vinogradov, 1958

Environment marine

Links ? To GenBank
? To ITIS

Note **FROM EDITOR OR GLOBAL SPE**
✓ **Type species** According to the In Article 67.1.2 and Recommendation cited as: "*Lysianassa magellanica gryllus* Lichtenstein in Mandt, 1822

Classification: Biota > ✓ *Animalia* (Kingdom) > ✓ *Arthropoda* (Phylum) > ✓ *Crustacea* (Subphylum) > ✓ *Multicrustacea* (Superclass) > ✓ *Malacostraca* (Class) > ✓ *Eumalacostraca* (Subclass) > ✓ *Peracarida* (Superorder) > ✓ *Amphipoda* (Order) > ✓ *Gammaridea* (Suborder) > ✓ *Lysianassoidea* (Superfamily) > ✓ *Eurytheneidae* (Family) > ✓ *Eurythenes* (Genus)

Status accepted
Rank Genus
Typetaxon ✓ *Lysianassa magellanica* Milne Edwards, 1848 (type by original designation)
Parent ✓ *Eurytheneidae* Stoddart & Lowry, 2004
Synonymised names ✓ *Euryporeia* Sars, 1891 (Invalid Replacement name for *Eurythenes* Lilljeborg, 1865)
✓ *Eurytenes* Lilljeborg, 1865
✓ *Katius* Chevreux, 1905
Sources **additional source** D'Udekem d'Acoz, C.; Havermans, C. (2015). Contribution to the systematics of the genus *Eurythenes* S.I. Smith in Scudder, 1882 (Crustacea: Amphipoda: Lysianassoidea: Eurytheneidae). *Zootaxa*. 3971(1): 1-80., available online at <http://dx.doi.org/10.11646/zootaxa.3971.1.1> [details]
additional source De Broyer C., Lowry J.K., Jazdzewski K. & Robert H. (2007). Catalogue of the Gammaridean and Corophiidean Amphipoda (Crustacea) of the Southern Ocean, with distribution and ecological data. In: De Broyer C. (ed.). *Census of Antarctic Marine Life: Synopsis of the Amphipoda of the Southern Ocean. Vol. I. Bulletin de l'Institut royal des Sciences naturelles de Belgique, Biologie 77, suppl. 1: 1-325.* [details] [full text]
identification resource Stoddart H.E. & Lowry J.K. (2004). The deep-sea lysianassoid genus *Eurythenes* (Crustacea, Amphipoda, Eurytheneidae n. fam.). *Zoosystema*, 26, 3, 425-468 pp. [details]
original description (of ✓ *Katius* Chevreux, 1905) Chevreux E. (1905). Description d'un amphipode pelagique nouveau comme genre et comme espece. *Bulletin du Musée Océanographique de Monaco*, 49, 1-5; figs. 1-2;. [details]
original description (of ✓ *Eurytenes* Lilljeborg, 1865) Lilljeborg W. (1865a). Bidrag till kannedomen om underfamiljen Lysianassina inom underordningen Amphipoda bland kraftdjuren. *Nova Acta Regiae Societatis Scientiarum Upsaliensis, Ser. 3.* [details]

[hide]

Distribution and Ecology:

Direct child taxa (1)
Genus ✓ *Baikalogammarus* Stebbing, 1899
[\[show all\]](#)

Environment marine, brackish, fresh, terrestrial

Fossil range recent only

Distribution FROM EDITOR OR GLOBAL SPECIES DATABASE

Russia

✓ Baikal Lake (origin: native - endemic) [\[details\]](#) [\[edit\]](#) [\[delete\]](#)

[\[add distribution\]](#)

Specimen [\[add specimen\]](#)

Feedingtype [\[add feedingtype\]](#)



Aphia distribution details

Distribution editable: Yes, shown on website/context: Yes

Geonit Baikal Lake (Lake) (origin: native - endemic)

Source Kamaltynov R.M. (2001). Amfipody (Amphipoda: Gammaroidea). In: Timoshkin, O.A. (ed.) Annotirovannyi spisok fauny ozera Baikal i ego vodosbornogo basseina. Tom I: Ozero Baikal. Kniga 1 [Index of animal species inhabiting Lake Baikal and its catchment area. Vol. I: Lake Baikal. Book 1]. Nauka, Novosibirsk, pp. 572-831. [\[details\]](#)

Introduction

Origin Native - Endemic

Context Amphipoda

[\[edit contexts\]](#)

Edit history	Date	action	by
	2013-11-28 18:29:23Z	created	Väinölä, Risto



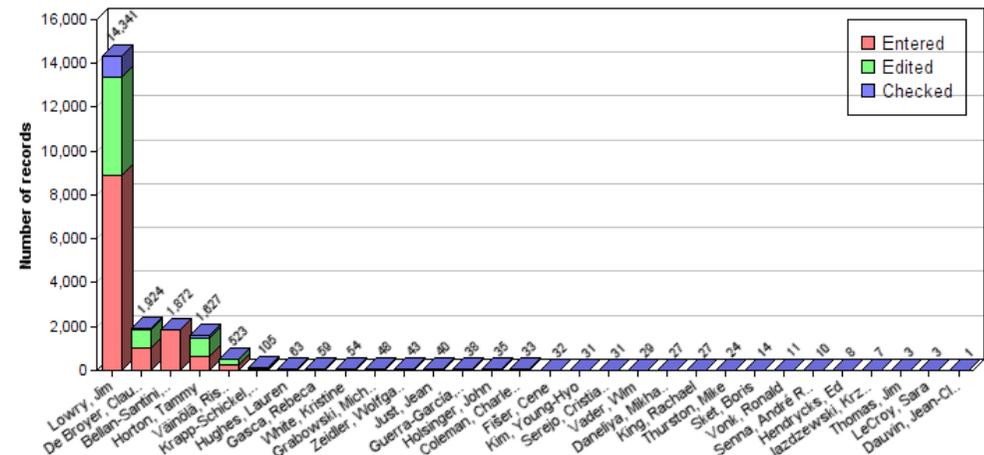
Achievements

Since the launch of the WAD in 2013:

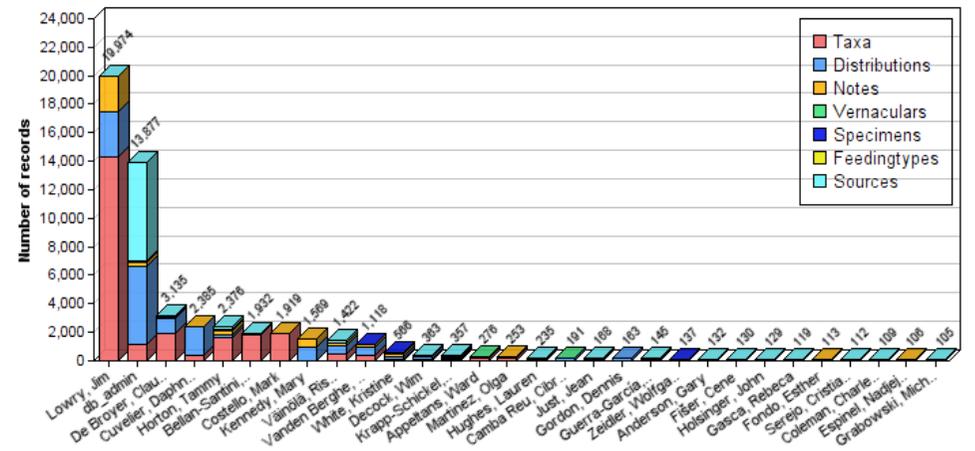
- **1300** taxa (names, new and old) added to the database! (>**1600**)
- >**500 (800)** by Horton, >**165 (377)** by Väinölä,
- >**600** taxa added by the DMT on behalf of editors, from 230 publications collated by Lowry. (~**1000** total edits)
- **150** unchecked accepted species - now all checked & edited/updated
- **169** identification resources linked (published keys & guides)

since August 2015 (Aveiro)

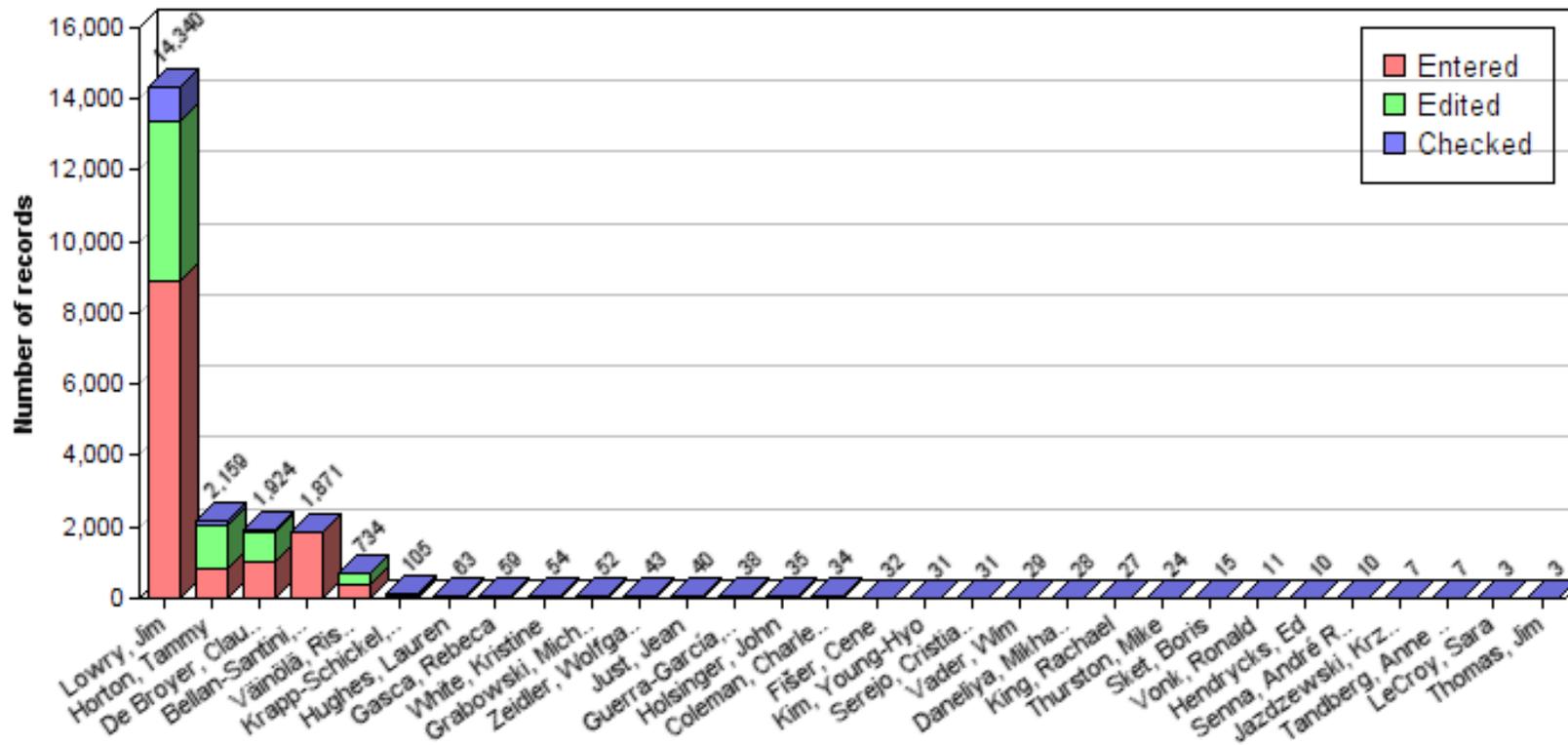
Number of records modified per taxonomic editor



Number of records modified for all users



Number of taxon name records modified per taxonomic editor



Most Amphipod Editors have not yet carried out much editing – I hope this workshop will change that...



I'm going
to change
the world
and this is
my plan...

Where are the Gaps. What are the priorities?

1. Keeping up to date with new taxa.

149 taxa added for 2013

125 taxa added for 2014

256 taxa added in 2015! (some from 2013 & 2012)

(Special thanks to the Amphipod Newsletter team)

- Authority & year of publication
- Environment flag
- Link original descriptions (to original name)
- Type localities
- Type species



Eurythenes sigmiferus d'Udekem d'Acoz & Havermans, 2015



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Where are the Gaps? What are the priorities?

- Amphipoda in OBIS, not yet in WoRMS = 400 taxa
- Amphipoda without Environment flag = 1,528 taxa
- Amphipoda without Authority = 135 taxa
- Amphipoda without original description linked (excludes synonyms)
#Amphipoda = 7,709 (out of 9,767)
- Species (names) with original name field completed (includes synonyms)
#Amphipoda = 9,560 (out of 14,450)

Adding synonyms...to be dealt with when the above are complete!

(as of August 2015).

How can I use WoRMS/WAD?

Taxon match tool



Aphia Taxon match

You can use the Aphia Taxon Match Tool (credits) to automatically match your species list or taxon list with Aphia. After match for performance reasons, the limit is set to 1,500 rows. You can send larger files to info@marinespecies.org and we will return

File No file selected.
 Allowed filetypes: Plain text [TXT], Comma Separated [CSV] & Excel Sheet [XLS, XLSX]

Row delimiter: Return & linefeed (CR+LF) First row contains column names
 Column delimiter: Tab
 Match authority:

	A	B	C	D	E	F	G	H	I	J	K
	Genus	Species		AphiaID	Match type	LSID	TSN	Qualitystatus	Taxon status	ScientificName	Authorit
1	Acanthonotozoma	cristatum		101872	exact	urn:lsid:marinespecies.org:taxname:101872	93299	Checked by Taxonomic Editor	accepted	Acanthonotozoma cristatum	(Ross, 18
2	Acanthonotozoma	sinuatum		101878	exact	urn:lsid:marinespecies.org:taxname:101878	202570	Checked by Taxonomic Editor	accepted	Acanthonotozoma sinuatum	Just, 19'
3	Amathillopsis	affinis		101879	exact	urn:lsid:marinespecies.org:taxname:101879	203054	Checked by Taxonomic Editor	accepted	Amathillopsis affinis	Miers, 18
4	Amathillopsis	atlantica		101880	exact	urn:lsid:marinespecies.org:taxname:101880	203056	Checked by Taxonomic Editor	accepted	Amathillopsis atlantica	Chevreur,
5	Ampelisca	abyssicola		101882	exact	urn:lsid:marinespecies.org:taxname:101882	202603	Checked by Taxonomic Editor	accepted	Ampelisca abyssicola	Stebbing,
6	Ampelisca	aequicornis		101883	exact	urn:lsid:marinespecies.org:taxname:101883	93340	Checked by Taxonomic Editor	accepted	Ampelisca aequicornis	Bruzelius,
7	Ampelisca	amblyops		101884	exact	urn:lsid:marinespecies.org:taxname:101884	202607	Checked by Taxonomic Editor	accepted	Ampelisca amblyops	Sars, 18
8	Ampelisca	compacta		101893	exact	urn:lsid:marinespecies.org:taxname:101893	202632	Checked by Taxonomic Editor	accepted	Ampelisca compacta	Norman, 1
9	Ampelisca	declivitatis		101895	exact	urn:lsid:marinespecies.org:taxname:101895	93337	Checked by Taxonomic Editor	accepted	Ampelisca declivitatis	Mills, 19
10	Ampelisca	gibba		101898	exact	urn:lsid:marinespecies.org:taxname:101898	202648	Checked by Taxonomic Editor	accepted	Ampelisca gibba	Sars, 18
11	Ampelisca	macrocephala		101908	exact	urn:lsid:marinespecies.org:taxname:101908	93322	Checked by Taxonomic Editor	accepted	Ampelisca macrocephala	Liljeborg, 1
12	Ampelisca	odontoplax		101912	exact	urn:lsid:marinespecies.org:taxname:101912	202685	Checked by Taxonomic Editor	accepted	Ampelisca odontoplax	G.O. Sars,
13	Ampelisca	pusilla		101918	exact	urn:lsid:marinespecies.org:taxname:101918	202696	Checked by Taxonomic Editor	accepted	Ampelisca pusilla	Sars, 18
14	Ampelisca	spinimana		101927	exact	urn:lsid:marinespecies.org:taxname:101927	202711	Checked by Taxonomic Editor	accepted	Ampelisca spinimana	Chevreur,
15	Ampelisca	spinipes		101928	exact	urn:lsid:marinespecies.org:taxname:101928	93341	Checked by Taxonomic Editor	accepted	Ampelisca spinipes	Boeck, 1
16	Ampelisca	uncinata		101934	exact	urn:lsid:marinespecies.org:taxname:101934	93358	Checked by Taxonomic Editor	accepted	Ampelisca uncinata	Chevreur,
17	Byblis	abyssi		101938	exact	urn:lsid:marinespecies.org:taxname:101938		Checked by Taxonomic Editor	accepted	Byblis abyssi	G.O. Sars,
18	Byblis	crassicornis		101940	exact	urn:lsid:marinespecies.org:taxname:101940	93362	Checked by Taxonomic Editor	accepted	Byblis crassicornis	Metzger, 1
19	Byblis	erythrops		101941	exact	urn:lsid:marinespecies.org:taxname:101941	206385	Checked by Taxonomic Editor	accepted	Byblis erythrops	Sars, 18

How can I use WoRMS/WAD?

- Data analyses – ask for a download.
- Species lists for use in papers
- Checking original descriptions (quick access to pdfs)
- Requesting updates/correcting errors



Please contact an editor!



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Who are the editors for WAD?

Editorial Team:

Coordinating Editors

- **Horton, Tammy:** edits higher level amphipod taxa, Lysianassoidea and groups without a specialist editor.
- **Lowry, Jim:** edits higher level amphipod taxa, Talitridae, Lysianassoidea and groups without a specialist editor.
- **De Broyer, Claude:** edits higher level amphipod taxa, Lysianassoidea and groups without a specialist editor. Also a RAMS editor.

Editors [tree]

- **Bellan-Santini, Denise:** Ampeliscidae
- **Coleman, Charles Oliver:** Acanthonotozomatidae, Acanthonotozomellidae, Amathillopsidae, Bateidae, Dikwidae, Epimeriidae, Iphimediidae, Maxillipiidae, Melphidippidae, Ochlesidae, Odiidae
- **Daneliya, Mikhail:** Acanthogammaridae, Austroniphargidae, Baikalogammaridae, Carinogammaridae, Crypturopodidae, Eulimnogammaridae, Gammaracanthidae, Macrohectopidae, Micrurpodidae, Ommatogammaridae, Pachyschesidae, Pallaseidae, Pontoporeiidae, Priscillinidae, Sandroidae, Typhlogammaridae
- **Dauvin, Jean-Claude:** Ampeliscidae
- **Fišer, Cene:** Anisogammaridae, Luciobliviidae, Mesogammaridae, Niphargidae, Seborgiidae
- **Gasca, Rebeca:** Hyperidea
- **Grabowski, Michal:** Behningiellidae, Caspicolidae, Corophiidae, Gammarellidae, Gammaridae, Iphigenellidae, Pontogammaridae, Sensoratoridae
- **Guerra-García, José Manuel :** Caprellidae, Caprogammaridae
- **Hendrycks, Ed:** Oedicerotidae, Pardaliscidae, Pleustidae, Valettiopsidae, Vitjazianidae
- **Holsinger, John:** Allocrangonyctidae, Artesiidae, Bogidiellidae, Crangonyctidae, Crangoweckeliidae, Crymostygiidae, Dussartiellidae, Kerguelenioidae, Kotumsaridae, Metacrangonyctidae, Pseudocrangonyctidae, Pseudoniphargidae, Salentinellidae, Sternophysingidae
- **Hughes, Lauren:** Amphithoidae, Aoridae, Kamakidae, Nuuanuidae, Paragammaropsidae, Podoceridae
- **Jazdzewski, Krzysztof:** Behningiellidae, Caspicolidae, Corophiidae, Gammarellidae, Gammaridae, Iphigenellidae, Pontogammaridae, Sensoratoridae
- **Just, Jean:** Ischyroceridae, Vicmusiidae
- **Kamaltynov, Ravil M.:** Acanthogammaridae, Baikalogammaridae, Carinogammaridae, Crypturopodidae, Eulimnogammaridae, Gammaracanthidae, Macrohectopidae, Micrurpodidae, Ommatogammaridae, Pachyschesidae, Pallaseidae, Pontoporeiidae, Priscillinidae, Typhlogammaridae
- **Kim, Young-Hyo:** Amphiloichidae, Atylidae, Dexaminidae
- **King, Rachael:** Chillagoecidae, Chiltoniidae, Giniphargidae, Neoniphargidae, Paracrangonyctidae, Paramelitidae, Perthiidae, Uronyctidae
- **Krapp-Schickel, Traudl:** Cheirocratidae, Hornelliidae, Maeridae, Melita, Nihotungidae, Stenothoidae
- **LeCroy, Sara:** Cheluridae, Colomastigidae, Cyamidae
- **Senna, André R.:** Cheidae, Condukiidae, Phoxocephalidae, Platyischnopidae, Zobrachoidae
- **Serejo, Cristiana:** Biancolinidae, Carangoliopsidae, Caspicolidae, Ceinidae, Chiltoniidae, Dogielinotidae, Eophliantidae, Hyaellidae, Hyalidae, Kairosidae, Kuriidae, Najnidae, Phliantidae, Plioplateidae, Temnophliantidae, Tulearidae
- **Sket, Boris:** Behningiellidae, Caspicolidae, Gammaridae, Iphigenellidae, Pontogammaridae, Sensoratoridae
- **Thomas, Jim:** Leucothoidae
- **Thurston, Mike:** Calliopiidae, Cressidae, Didymocheliidae, Eusiridae, Lafystiidae, Laphystiopsidae, Lepechinellinae, Miramarassidae, Pagetinidae, Paracalliopiidae, Phoxocephalopsidae, Pontogeneiidae, Pseudamphiloichidae, Sebidae, Sicafodiidae, Synopiidae, Thoriellidae, Valettiidae
- **Vader, Wim:** Bathyporeiidae, Haustoriidae, Stegocephalidae, Stilipedidae
- **Vainölä, Risto:** Acanthogammaridae, Baikalogammaridae, Carinogammaridae, Crypturopodidae, Eulimnogammaridae, Gammaracanthidae, Macrohectopidae, Micrurpodidae, Ommatogammaridae, Pachyschesidae, Pallaseidae, Pontoporeiidae, Priscillinidae, Typhlogammaridae
- **Vonk, Ronald:** Eriopisidae, Ingolfiellidae
- **White, Kristine:** Leucothoidae
- **Zeidler, Wolfgang:** Hyperidea

- ~~31 current editors joined in 2013.~~ **Now 34!**
- Some editors edit one taxon, others are responsible for many.
- Editors may use the online interface or edit through me or the Data Management Team at VLIZ.



New Citation

By downloading or consulting data from this website, the visitor acknowledges that he/she agrees that data from this website, if extracted for secondary analysis resulting in a publication, should be cited as follows:

Horton, T.; Lowry, J.; De Broyer, C.; Bellan-Santini, D.; Coleman, C. O.; Daneliya, M.; Dauvin, J-C.; Fišer, C.; Gasca, R.; Grabowski, M.; Guerra-García, J. M.; Hendrycks, E.; Holsinger, J.; Hughes, L.; Jaume, D.; Jazdzewski, K.; Just, J.; Kamaltynov, R. M.; Kim, Y.-H.; King, R.; Krapp-Schickel, T.; LeCroy, S.; Lörz, A.-N.; Senna, A. R.; Serejo, C.; Sket, B.; Tandberg, A.H.; Thomas, J.; Thurston, M.; Vader, W.; Väinölä, R.; Vonk, R.; White, K.; Zeidler, W.

(2016) World Amphipoda Database.

Accessed at <http://www.marinespecies.org/amphipoda> on 2016-04-02

If any data constitutes a substantial proportion of the records used in secondary analyses (i.e. more than 25% of the data are derived from this source, or the data are essential to arrive at the conclusion of the analysis), the authors/managers of the database should be contacted. It may be useful to contact us directly in case there are additional data that may strengthen the analysis or there are features of the data that are important to consider but may not have been apparent from the metadata.

Acknowledgements

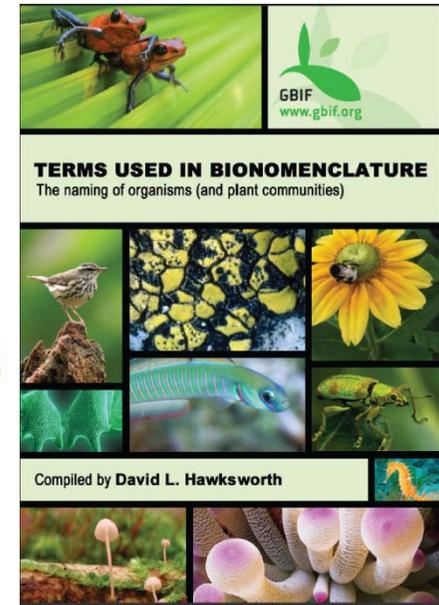
Thanks go to all editors on the World Amphipoda Database and the Data Management Team at the Flanders Marine Institute (VLIZ).

There remain some taxa without editors, and some editors may wish to pass on 'ownership' to another. Please come and discuss with me.

Hadziidae S. Karaman, 1943 now Damia Jaume	28 genera, 107 spp
Exoedicerotidae Barnard & Drummond, 1982	12 genera, 23 spp
Liljeborgiidae Stebbing, 1899	2 subfamilies, 3 genera, 161 spp
Unciolidae Myers & Lowry, 2003	2 subfamilies, 17 genera, 51 spp
Dulichiiidae Laubitz, 1983	7 genera, 38 spp
Photidae Boeck, 1871	17 genera, 270 spp
Neomegamphopidae Myers, 1981	6 genera, 24 spp
Urothoidae Bousfield, 1978	6 genera, 75 spp.

Priorities for entry & consistency in editing

- International Commission on Zoological Nomenclature. Fourth Edition, 1999.
- Hawksworth, D.L. (2010). Terms used in Bionomenclature:
- Welter-Schultes, F.W. (2012). Guidelines for the capture and management of digital zoological names information.
- info@marinespecies.org
- amphipoda@marinespecies.org



Guidelines for the Capture and
Management of Digital Zoological Names
Information
Francisco W. Welter-Schultes
Version 1.1



Name Status Terminology

- accepted name: (equivalent to **valid name** in Hawksworth, (2010)).
- unaccepted name: (equivalent to **invalid name** in Hawksworth (2010)).
- nomen nudum:
- nomen dubium:
- temporary name: (equivalent to **incertae sedis** in Hawksworth (2010)).
- taxon inquirenda:
- alternate representation:
- interim unpublished:
- **nomen oblitum:**
- **nomen protectum:**



Accepted name

- **Accepted** = (valid/current/correct)
- **Original name:** Accepted names, should be linked to their **original combination** (In WoRMS this is denoted the 'original name')

<http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=852206>

- Always link the 'original description' source to the 'original name'.

Unaccepted name

Aphia edit taxon details

You are logged in as:
Horton, Tammy
[\[Logout\]](#) [\[My Aphia\]](#)

AphiaID*	872376								
Taxon name*	<input type="text" value="cicadoides"/>								
Authority	<input type="text" value="Stebbing, 1888"/>								
Rank*	<input type="text" value="Species"/>								
Parent*	<input type="text" value="Anonyx"/> <small>⚠ Do not change this parent for new generic combinations, but create a new record and link this old combination to the current one. [edit anyway]</small>								
Status*	<input type="text" value="unaccepted"/>								
Accepted name	<input type="text" value="Cicadosa cicadoides"/> (leave empty if accepted) [pick]								
Unacceptreason	<input type="text" value="superseded original combination"/>								
Orig. name	<input type="text" value="Anonyx cicadoides"/>								
Environment*	<table><tr><td>marine</td><td>brackish</td><td>fresh</td><td>terrestrial</td></tr><tr><td><input type="text" value="Yes"/></td><td><input type="text" value="No"/></td><td><input type="text" value="No"/></td><td><input type="text" value="No"/></td></tr></table>	marine	brackish	fresh	terrestrial	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="No"/>
marine	brackish	fresh	terrestrial						
<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="No"/>						
Fossil range	<input type="text" value="(unknown)"/>								

* Mandatory field

'unacceptreason' field

- misspelling/lapsus calami
- recombination, new combination, superseded recombination,
- junior subjective synonym
- junior objective synonym
- junior homonym
- unavailable name – e.g. ICZN ruling or unpublished thesis
- unavailable name: published in a non-binominal work
e.g. <http://www.marinespecies.org/aphia.php?p=taxdetails&id=761840>.
- placed on the Official Index by ICZN Opinion
- incorrect original spelling
- incorrect grammatical agreement of specific epithet
- unjustified emendation of *Genus species* Author, year.

Synonymy

“The term synonym is used sloppily, making the term fuzzy. In my view, only heterotypic synonyms should be synonyms, new combinations are just that (= a subjective change in systematic hypothesis). But alas, current usage is not so precise.” Sabine Stohr, pers comm.

Subjective synonym (heterotypic synonym) = a published opinion that two names apply for same animal)

Objective synonym (homotypic synonym) = ??

- "If two or more nominal species-group taxa [*or just scientific names to biologists other than ICZN code warriors*] have the same name-bearing type, their names are objective synonyms". Geoff Read, on Taxacom.
- “Objective synonymy: when two different nominal taxa have the same type material, e.g. two different authors name a new species based on the same specimen; an author describing what he/she thought were two different species but inadvertently using the same specimen (yes, it has happened!), or in more deliberate cases where neotypes are selected to ensure that two different nominal taxa are synonymized by anchoring to the same primary type.” Shane Ahyong, on editors@marinespecies.org

New combinations/genus transfers

- The terms objective and subjective **synonym should not be used for simple recombinations.**
- For recombinations, we can just use 'recombination' as the *unacceptreason* rather than an ICZN term that carries more specific meaning.
 - superseded original combination
 - superseded recombination

<http://www.marinespecies.org/aphia.php?p=taxdetails&id=209687>
- The holotype should only be entered on the taxon page for the original name. Then it will appear on the taxon page when transferred to new combinations, but not to other original names.

Alternate representation

- **Contradictory taxonomic treatments.** One of the names must be “accepted” but the alternative treatment may be stated as “alternate representation” instead of “unaccepted”.

<http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=237124>

- **Subgenera, subfamilies etc.** Therefore, names of species with an interpolated subgenus name; *Genus (Subgenus) species* are an “alternate representation” of the plain binomen *Genus species*.

<http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=237637>

Temporary name

- Equivalent to *Incertae sedis*
- To create ad-hoc higher rank taxa of convenience to hold child taxa for which the classification is not yet finalised.
<http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=731859>
- You must create a temporary name "X incertae sedis", where 'X' is the name of the parent taxon.
- The placement of taxa within this category should be backed up with a 'status source' or 'basis of record'
<http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=550708>

Others

- nomen nudum:
- nomen dubium:
- taxon inquirenda:
- **nomen oblitum:**
- **nomen protectum:**



- Should only be used when given this status in a revisionary work, not when an editor deems it so, and should be supported by the published source flagged as 'status source'.
- If an editor has doubts about a name, that has not been stated in the literature, a note can be added to the name that must, for the time being, have the status 'accepted'.

Interim unpublished

- "an as yet unavailable name (until in a print issue), which has been published online only, in a work that does not show evidence of ZooBank registration (ICZN Article 8.5)"

<http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=872369>



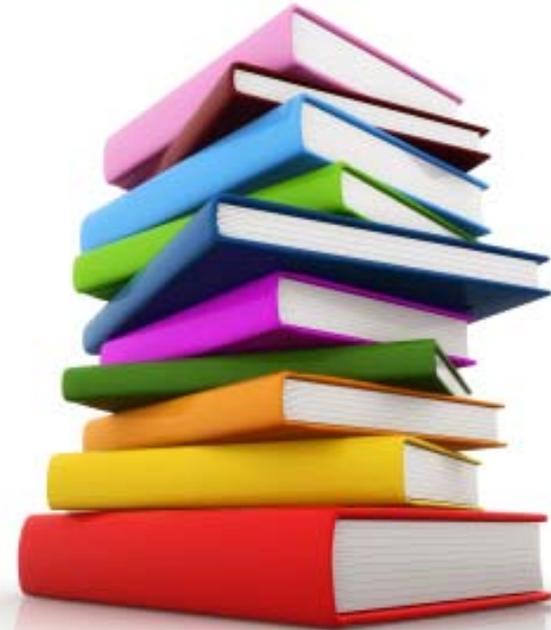
Misspellings and misidentifications

- Welter-Schultes, (2012): Read section 8.
- ***Incorrect subsequent spellings (misspellings)***
- ***Justified emendations***
- ***Mandatory changes in spelling consequent upon changes in rank or combination:*** original name to be added with status “unaccepted” and unacceptreason e.g. “incorrect grammatical agreement of specific epithet”
- ***Misapplications and misidentifications***
 - *Genus species* Author, date *sensu* Author-of-misidentification, date.
 - The unacceptreason field should contain ‘misapplication’ or ‘misidentification’.

<http://www.marinespecies.org/amphipoda/aphia.php?p=taxdetails&id=557522>

Source Types

- *Original description*
- *Redescription*
- *Status source*
- *New combination reference*
- *Source of synonymy*
- *Subsequent type designation*
- *Basis of record*
- *Taxonomy source*
- *Identification resource*
- *Additional source*
- *Original description (unavailable nomenclaturally)*
- *Context source*
- *Emendation (re-diagnosis of genus) (REMOVE/AMEND?)*
- *Toxicology source (REMOVE/AMEND?)*
- *Ecology source (REMOVE/AMEND?)*
- *Misapplication (REMOVE/AMEND?)*



Hands-on Editing Time!



Roles & responsibilities of Amphipoda editors – a proposed action plan

- Adding new taxa
 - Original description linked with PDF
- Amphipod Newsletter (Google document: Anne-Helene & Wim)
- Ollie Coleman Server ('to add to WoRMS' 'added to WoRMS' folders?)
- Edit your group according to the following priorities:
 - Add the original names (linked to currently accepted name)
 - Link the original descriptions (to original name - preferably link pdf)
 - Document any missing authorships (delete duplicate taxa if necessary)
 - Document the type species of genera
 - Document the environment
 - Document the type locality/type material
 - Document depth range
 - Document distributions
 - Add identification resources

Current projects, new analyses and proposed publications

- Current Lifewatch Data grants:
 - **non-marine Gammaroidean Amphipoda (excluding Baikalian taxa):** Michal Grabowski & Tomasz Mamos (**8 families, ~400 species**)
 - **Baikalian Gammaroidea and subterranean taxa:** Risto Väinölä and Mikhail Daneliya (**~ 600 taxa**)
 - **Superfamily Lysianassoidea:** Tammy Horton & Mike Thurston (**22 families, 173 genera, 1042 species**)
 - **Niphargidae:** Cene Fišer (**9 genera, 274 species**)

Lifewatch: Priorities for editing

- Document the basionym (original name)
- Document missing authorships
- Document the environment (fw/br/marine)
- Document the original description (preferably with pdf)
- Document the status reference (basis of current taxonomy)
- Document the type locality
- Document the type species
- Document depth range for deep-sea taxa
- Confirm deep-sea context (context source)
- Document the habitat (hypogean/troglophilic vs. epigean)
- Document distribution - (FADA & TWDG terms)
- Back up distributions with published sources.
- Add identification resources

Planned Publications

- **World checklist of freshwater Amphipoda**
 - Väinölä, Horton, Fišer, Grabowski, King, Serejo, Jazdzewski, Bradbury, Kamaltynov, Sket, Witt, Lowry, Vader.
 - about 2000 species, updating Väinölä 2008

- **Global review of Deep-Sea Amphipoda >500m**
 - Horton & Thurston
 - About 1500 species, updating Thurston 2000

Outreach: how to promote the Amphipoda database

- Correct citation
- Using data and information in taxonomic publications
- Posters & presentations
- Links with other databases?

Short and long-term goals and planning

- Complete and report on Lifewatch grants (Mid April 2016)
- Efforts towards global revision papers (separate discussions today: submissions end 2016)
- Ensure all new taxa are added (before publication of AN 40, Sept 2016 & ongoing)
- Editors to follow priority editing list according to discussed action plan (ongoing)

Hands-on Editing Time!

