



Ascidiacea World Database Editor Workshop

Flanders Marine Institute (VLIZ) – Oostende, Belgium
15-17 February 2016

REPORT

Participants:

Ascidiacea Editors:

Marc Rius, Arjan Gittenberger, Gretchen Lambert, Rosana Moreira da Rocha, Noa Shenkar, Billie J Swalla, Xavier Turon, Françoise Monniot

WoRMS Data Management Team (DMT):

Wim Decock, Bart Vanhoorne, Stefanie Dekeyzer

This workshop was the first ever meeting of Ascidiacea editors. The workshop provided an invaluable opportunity for discussing more efficient ways to coordinate the work of the editors, as well as between the editors and the WoRMS Data Management Team (DMT) based at VLIZ. A key aspect of this workshop was the presence of the world-renowned ascidian taxonomist Françoise Monniot, who shared her extensive knowledge and a database that compiles decades of taxonomic research by Claude and Françoise Monniot. The editors learned how to use the available online tools, which will allow a more efficient editing of the Ascidiacea World Database (AWD) content. This workshop is seen as the start of a comprehensive revision of the AWD.

The workshop started with a presentation by Stefanie Dekeyzer to explain the background of the Flanders Marine Institute (host of the workshop), the Aphia system (interface used to run all WoRMS databases) and the Belgian LifeWatch infrastructure (provided funds to run the workshop). [full presentation is available in pdf]

The Ascidiacea editors' community

In order to facilitate communication and information exchange, a mailing list that included all the AWD editors and the WoRMS DMT was created (ascidiacea@marinespecies.org).

Françoise Monniot was formally asked to become an Ascidiacea editor. As she is retired, she preferred not to have an active role in updating the AWD content. As her knowledge and expertise is

invaluable, she accepted to receive email communication through ascidiacea@marinespecies.org, and comment if necessary. However, she will not receive the weekly digest.

Rosana Moreira da Rocha will contact Karen Sanamyan and invite him to become an editor again.

Improving the taxonomic information in the AWD

Missing authorities and original description references

- ⇒ It was identified that one of the priorities for completing and optimising the AWD was to add missing authorities and references with the original descriptions. The DMT circulated a spreadsheet with 129 accepted Ascidiacea species that lacked their original description reference, and a spreadsheet with 83 Ascidiacea taxa that lacked their authority. Some of the problems were solved during the workshop and Gretchen Lambert will go through the latter spreadsheet for a final check.

Revision of the International Code of Zoological Nomenclature

- ⇒ According to article 11.7.2 of the Code, (some of) the authorities of the Ascidiacea families were incorrect: *“If a family-group name was published before 1900, in accordance with the above provisions of this Article but not in latinized form, it is available with its original author and date only if it has been latinized by later authors and has been generally accepted as valid by authors interested in the group concerned and as dating from that first publication in vernacular form.”* It is however possible to consider some exceptions.
- ⇒ The AWD editors decided not to follow the code for family-group name published before 1900. For the authorities of the families they decided to use the publications in which those family-group names were first specified as being ‘a family’, regardless of whether or not this name was already used as a group name (latinized or not) before that time. Arjan Gittenberger, with the help of Billie J. Swalla, will check all family names and authorities and check whether this was done correctly or not. Based on the number of incorrect cases, he may prepare a manuscript that will be submitted to the Zoological commission. The idea of this manuscript is to request an exception to the code concerning authorities of certain families. However, before preparing this exception request, Arjan will ask committee members of the Zoological commission whether they think that this should be indeed considered as an exception of the code. In addition, based on this study and new data from several ongoing genetic studies, a manuscript will be prepared about the higher hierarchies (down to the family level) of the Tunicata and their authorities. For both manuscripts the advice and input of all editors will be asked and everyone is invited to join as co-author.

Actions:

- ⇒ If missing, the authority will be added.
- ⇒ In order to facilitate this, the DMT sent around an Excel file with 26 accepted Ascidiacea families. These families were divided among the editors (see table below).

Order	Family	Author	Remarks	Responsible Editor	
Aplousobranchia	Clavelinidae	Forbes & Hanley, 1848	Gittenberger		✓
	Didemnidae	Giard, 1872	Gittenberger	Moreira da Rocha	
	Euherdmaniidae	Ritter 1904			✓
	Holozoidae	Berrill, 1950			
	Placentelidae	Kott, 1992			✓
	Polycitoridae	Michaelsen, 1904			
	Polyclinidae	Milne Edwards, 1841	Gittenberger		✓
	Protopolyclinidae	Kott, 1992			
	Pseudodistomidae	Harant, 1931			✓
	Ritterellidae	Kott, 1992			
	Stomozoidae	Kott 1990			✓
	Vitrumidae	Kott, 2009	Shenkar		
Phlebobranchia	Agneziidae	Monniot & Monniot 1991			✓
	Asciidiidae	Herdman, 1882	Gittenberger		
	Cionidae	Lahille, 1887	Gittenberger		✓
	Corellidae	Lahille, 1888	Gittenberger	Lambert	
	Diazonidae	Seeliger, 1906		Shenkar	✓
	Dimeatidae	Sanamyan, 2001		Sanamyan?	
	Hypobythiidae		Turon		✓
	Octacnemidae		Monniot		
	Perophoridae	Giard, 1872	Gittenberger		✓
	Plurellidae	Kott, 1973			
Stolidobranchia	Molgulidae	Lacaze-Duthiers, 1877		Swalla	✓
	Plidaeuridae			Shenkar	
	Pyuridae	Hartmeyer, 1908		Lambert	
	Styelidae	Sluiter, 1895	Gittenberger	<i>Polycarpa</i> - Shenkar, <i>Styela</i> - Swalla	

Number of families and synonymies

- ⇒ The Ascidiacea editors recognized an issue with the taxonomic status of the Ascidiacea families. This was especially acute when the resurrected family names had been published by Patricia Kott (i.e. publications from eighties and nineties require revision).
- ⇒ It was also agreed that genetic tools are needed to further clarify this matter.
- ⇒ It was decided to wait for more genetic results (e.g. the mitochondrial DNA research on Aplousobranchia by Prof. Dorothee Huchon, Tel-Aviv University) to be published.
- ⇒ The taxonomic status of the Ascidiacea families will thus be solved in the coming years.

Checking of unreviewed taxonomy at higher level

- ⇒ During the workshop Arjan Gittenberger was appointed taxonomic editor for the Tunicata and Urochordata. This enabled him to “check as marked” higher taxonomic levels such as:
- Tunicata is now marked as checked.
 - Appendicularia is now marked as checked.
 - Larvacea is now marked as checked.
 - Urochordata is now marked as checked.
 - The authority was added for Urochordata.
 - Aspiraculata and Sorberacea were marked as unaccepted with reason “taxa divided into several other groups”.

Homonyms

During the workshop, eight homonymous genera were fixed by the Ascidiacea editors. Taxonomic notes were added to the genus details page when names were fixed. Regarding the genus *Exostoma*, a new Ascidiacea genus [e.g. *Exstoma*?] will need to be created, but this requires first a peer-reviewed publication. In due time, when the manuscript about the higher hierarchies of the Tunicata is prepared (i.e. “**Revision of the International Code of Zoological Nomenclature**”) the editors will decide whether this new Ascidiacea genus should be included in the same manuscript/paper or needs to be done separately.

- ⇒ Brunetti, 2007 paper (Brunetti, R. 2007. Nomenclatural Acts: homonymy in the Ascidiacea (Tunicata) and proposed nomina nova. Zootaxa 1613: 67–68) with proposed new names to replace homonyms will be considered in this case. The contents of this paper are already in the AWD, but need to be revised. Xavier Turon will take care of this revision.

Improving the non-taxonomic information in the AWD

Distributions:

- ⇒ The species distribution information in Aphia is far from complete. When you hover over the word “Distribution” on the taxon details page, it is stated that “data may be incomplete”, but this disclaimer needs to be more clearly displayed. It was agreed to change the format of this disclaimer, so it is clearer that some species distributions are incomplete.
- ⇒ The AWD editors will continue improving the level of detail of species distributions. They will enter the exact distribution (locality) as mentioned in the publication, or enter the distributions according to the option MEOW Ecoregions using the button “add map distributions”.
- ⇒ The word “origin” (one of the fields to be filled when a species is introduced) is misleading. It will be changed by the DMT to “status”.

Unreviewed information (?):

- ⇒ Some concern was raised about the orange question marks next that appear next to some information in the database. The question mark means that the information is unreviewed and has not been verified by a taxonomic editor. The DMT explained to the editors that unreviewed taxonomic names are legacy names that were added by the data management team before 2011. This date is important as it is prior to the decision that only taxonomic editors could add and edit taxonomic information. The AWD editors can now mark these names as checked. Thus, all taxonomic information is only added / modified by the taxonomic editors. Non-taxonomic information added by the DMT or thematic editors can now also be checked by taxonomic editors.
- ⇒ Gretchen Lambert asked if it would be an idea to have a [check all] button at the top of the taxon details page. The DMT suggested to email them when bulk checks are necessary.
- ⇒ Gretchen Lambert and other Ascidiacea editors (especially Billie J Swalla for the Molgulidae) noticed that many entries include incorrect information imported without any checking from other linked databases. We all agreed that while the databases can be linked, no information should be imported without the approval of an Ascidiacea editor.

Contexts:

- ⇒ When editing the context of a species, all contexts are currently visible while some contexts of the other Global Species Databases (GSDs) are no longer needed. DMT will fix this so that only contexts of Regional Species Databases (RSDs) and Thematic Species Databases (TSDs) are visible.
- ⇒ When adding an introduced species and its distribution through the AWD, one now needs to assign the introduced context to both the species and the distribution (this is currently only done automatically through the WRIMS portal). The DMT will make sure that the Ascidiacea and WRIMS contexts are assigned automatically.

Identification keys

- ⇒ The AWD editors would like to add identification keys to the database. Gretchen Lambert has been over the years updating tabular keys of the families and genera, originally composed by Françoise and Claude Monniot and subsequently revised by Gretchen Lambert and Françoise Monniot. Rosana Moreira da Rocha will convert the existing Word document into an Excel file, then send around to the AWD editors for approval, and finally send to the DMT. The DMT will make a first version of the identification key of the Ascidiacea families.

Incorporation of the Monniot & Monniot database and other Ascidiacea databases into the AWD.

- ⇒ Several files exist:
 - 1) Excel file with taxonomy (Monniot & Monniot database)
 - 2) Excel file with full references (Monniot & Monniot database)
 - 3) Endnote with more than 7000 ascidian references (Gretchen Lambert)
 - 4) Mediafire website with PDFs (Rosana Moreira de Rocha) => PDFs received by DMT
 - 5) Glossary in Excel (Rosana)
- ⇒ There is currently no links among these files. The DMT reckons that this could be done automatically for an estimated 50-80% of the cases.
- ⇒ DMT will add as much information as possible to Aphia, creating links between authority, full reference (including PDF version), and contacting the AWD editors.
- ⇒ There is an Excel with taxa from the Monniot & Monniot database that does not match some current entries of AWD.
- ⇒ Furthermore, Françoise Monniot also has a list with specimen information from the Natural History Museum in Paris that could be incorporated into AWD.

TaxaGloss (<https://stricollections.org/portal/glossary/index.php>)

- ⇒ A link is needed between morphological characters of the ID key and images in a glossary. However, an authorization from Rachel Collin (Smithsonian Tropical Research Institute, PI of the NSF project which generated the Glossary) is needed.
- ⇒ Some terms in the glossary, e.g. cerebral vesicle, were discussed in detail.
- ⇒ All Ascidiacea editors will further revise the glossary.
- ⇒ Priority to complete all terms in English and Spanish.
- ⇒ Noa Shenkar will translate the terms in Hebrew.

Incorporation of Aniseed into the AWD (<http://www.aniseed.cnrs.fr/>)

- ⇒ Aniseed is a database of ascidian genomics and development.
- ⇒ A link between AWD and certain pages in Aniseed is planned.

Traits

- ⇒ AWD will start documenting trait information. The Ascidiacea editors will send a spreadsheet to the DMT containing information for the following traits:
 - 1) Colonial – solitary (provided by Noa Shenkar, from Shenkar and Swalla 2011).
 - 2) Brooding – Non-brooding (provided by Gretchen Lambert).

- 3) Tailless – Non-tailless (provided by Billie J Swalla).
- 4) Introduced species (provided by Marc Rius).
- 5) Settlement substrate: hard or soft and natural or artificial (provided by Rosana Moreira de Rocha, Noa Shenkar and Marc Rius).

Images and weekly digest

- ⇒ Some images cannot be verified, so they remain as unreviewed in the weekly digest. Consequently, these images keep appearing in every email. The DMT will optimize and automate this by providing a button “unidentifiable” next to the images on the taxon details page. That way image marked as “unidentifiable” will no longer show up in the weekly digest.
- ⇒ Editors can also delete the images that do not have enough quality.

AWD outreach

- ⇒ Billie Swalla and Marc Rius wrote a news item for WoRMS (<http://www.marinespecies.org/news.php?p=show&id=4483>) and LifeWatch (<http://www.lifewatch.be/news?p=show&id=4483>).
- ⇒ Billie Swalla and Gretchen Lambert wrote a Tide Bites (<http://depts.washington.edu/fhl/tidebites/Vol32/>) summarizing the workshop. Tide Bites (http://depts.washington.edu/fhl/news_index.html) is a publication sent out once a month from the Univ. of Washington Friday Harbor Laboratories to over 6,000 people, including scientists and the general public.
- ⇒ Gretchen Lambert will write a news message on the next Ascidian News (see web page <http://depts.washington.edu/ascidian/>), which will be posted in early June.
- ⇒ The results of this workshop will be presented by Marc Rius and Gretchen Lambert in the next International Tunicata meeting, which will be held in summer 2017 in New York, USA.
- ⇒ The results of this workshop will be presented by one of the Ascidiacea editors (to be decided who) during the 4th World Conference on Marine Biodiversity, Montréal (Québec, Canada), which will be held 20-23 May 2018.
- ⇒ The results of this workshop will be presented by Noa Shenkar, Rosana Moreira da Rocha and Marc Rius during the next International Conference on Marine BioInvasions, which will be held in Argentina in October 2018.

A manual for the editors is permanently online and kept updated by the DMT:
<http://www.marinespecies.org/aphia.php?p=manual>
and also accessible through the “My Aphia” interface when logged in.

Any other doubts or issues that may arise can be consulted to the Data Management Team at:
info@marinespecies.org

Concrete actions

Database developments conducted by the DMT:

- Set up email list for Ascidiacea editors. **DONE**
- Add more visible and clearer disclaimer about the incompleteness of the species distributions in Aphia.
- Show only RSD and TSD contexts in the 'edit context window' on the GSD. **DONE**
- Auto-assign "introduced" context when the pertinent option in the 'Origin' field of distribution record is selected.
- Add 'unidentifiable' button for images in weekly digest and edit interface.

Data management actions by the DMT:

- Make first version of the Family identification key so AWD editors can revise.
- Incorporate Monniot & Monniot database and related spreadsheets and PDFs (50-80% can be done automatically). If something is unclear, the AWD editors will be contacted.
- Add links between AWD and the Aniseed webpage.
- Incorporate trait information compiled by the editors.

Actions for Ascidiacea editors:

- Contact Karen Sanamyan about becoming an editor (Rosana Moreira da Rocha).
- Go through a spreadsheet that contains 83 Ascidiacea taxa and add authorities (Gretchen Lambert).
- Sort out the authorities of the Ascidiacea families and ask for exceptions to the Code if necessary (Arjan Gittenberger and Billie Swalla).
- Fix homonym *Exostoma* (publication needed), to be decided when the "higher taxonomy for the Tunicata" manuscript is prepared by the editors.
- Add reference of Brunetti, 2007 paper to Aphia and revise its implementation into AWD (Xavier Turon).
- Convert Word document with tabular keys into Excel spreadsheet, which will be sent around to AWD editors for approval and finally sent to the DMT (Rosana Moreira da Rocha).
- Complete the glossary and translate terms in several languages (all Ascidiacea editors).
- Provide colonial / solitary trait information (Noa Shenkar) **DONE**
- Provide brooding / non-brooding trait information (Gretchen Lambert).
- Provide tailless / non-tailless trait information (Billie J Swalla).
- Check and update introduced Ascidiacea species (Marc Rius).
- Provide substrate information (hard / soft, natural / artificial) (Rosana Moreira da Rocha, Noa Shenkar and Marc Rius).