



## **Deliverable 6.1: XML mark up tool and services**

**Leading partners:** Pensoft, NHM

**Compiled by:**

Lyubomir Penev, Vladimir Blagoderov, Teodor Georgiev, Simon Rycroft, Benjamin Scott, Sarah Faulwetter

November 2011

## **Explanation note**

This document represents the workflow of creating an XML-tagged manuscript within the publishing module of Scratchpads, its export into the XML file, submission to ZooKeys, and its publication in three electronic versions: PDF, semantically enhanced HTML and XML.

The workflow is illustrated on the example of a new polychaete species description by Faulwetter et al. (2011), to be published in the special issue of ZooKeys commissioned by ViBRANT project at the end of November.

## **Description of the workflow:**

1. An author creates a Publication project within a Scratchpad to which only a restricted set of users have access. The author(s) also provide additional information required by the article (e.g., title, author's details).
2. The author(s) prepare species pages (including descriptions, images, specimens etc.) within the Scratchpad. In case of a new taxon description author(s) use a temporary name (a placeholder). This placeholder acts as a surrogate for the final taxon name to ensure that the new name is not disclosed until the description has been accepted by the journal. The placeholder is linked (tagged) to data on their site, and the placeholder taxon name is linked to the final name. The author(s) select data to be included in the manuscript. Additional sections are added to the manuscript using a structure that will accommodate most taxonomic descriptions (Fig. 1) and images uploaded (Fig. 2.). Different stages of the manuscript preparation are illustrated on Fig. 3 When the preparation stage is complete, the author(s) preview the manuscript to make sure it is satisfactory (Fig. 4).
3. Author(s) submit the manuscript, which creates an archive of the manuscript components. The submission process automatically generates an XML representation of the document according to the TaxPub extension of the NLM/NCBI Journal Archiving DTD (<http://sourceforge.net/projects/taxpub/>). This document is automatically sent to the journal ZooKeys.
4. ZooKeys organises the peer review (see discussion on peer review). The reviewed paper, including reviewer's comments, is sent by e-mail back to the corresponding author.
5. Author(s) revise their manuscript and supporting data on their Scratchpad in response to the reviewers' comments.

Sphaerosyllis levantina sp. n. (Annelida: Polychaetes) from the eastern Mediterranean

View

Edit

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Revisions

Track

XML

Metadata

Taxa

Default fields

Sections

Images

Bibliography

Privacy

Title	Operations
+ Introduction	Edit Remove
+ Material and methods	Edit Remove
+ Specimen collection and processing	Edit Remove
+ Morphometric analyses	Edit Remove
+ Electronic publication	Edit Remove
+ Results	Edit Remove
+ Taxonomic Results	Edit Remove
+ Sphaerosyllis levantina sp. nov.	Edit
+ Comparative material examined	Edit Remove
+ Type locality	Edit Remove
Sphaerosyllis sp. nov. taxon description	Edit term fields
Morphology	

Figure 1. Sections of the manuscript. Terms listed under taxon name correspond to the fields of the Species Profile Model (SPM) to be automatically included in the manuscript. Custom sections can be organised hierarchically.

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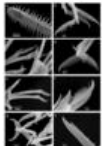
Images


Bibliography

Privacy

Images

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Figure 2. Selecting images to be included in the manuscript.

Sphaerosyllis levantina sp. n. (Annelida: Polychaetes) from the eastern Mediterranean

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Export publication:

- None -

- None -  
Pensoft

Please select the publication export format.

Export

Sphaerosyllis levantina sp. n. (Annelida: Polychaetes) from the eastern Mediterranean

[View](#) [Edit](#) [Export](#) [Revisions](#) [Track](#) [XML](#)

Export publication:

Pensoft

Please select the publication export format.

Your details

Title: \*

Ms.

First name: \*

Sarah

Surname: \*

Faulwetter

Initials: \*

SF

Institution

Affiliation:

Department of Zoology-Marine Biology, Faculty of Biology, National and Kapode



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Simple | Taxonomy

Polychaeta

- Syllidae (5)
  - Anoplosyllinae Aguado and San Martín, 2009 (3)
  - Autolytinae Langerhans, 1879 (8)
  - Eusyllinae Malaquin, 1893 (12)
  - Exogoninae Langerhans, 1879 (8)
  - Syllinae Grube, 1850 (10)

Content

- Biblio
- Blog entry
- Character project
- Countries map
- Forum topic
- Group
- Image
- Location (DwC 1.2.1)

Home » Groups » Syllidae Israel

Sphaerosyllis levantina sp. n. (Annelida: Polychaetes) from the eastern Mediterranean

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Edited by Sarah Faulwetter on Wed, 10/05/2011 - 07:32

*Sphaerosyllis levantina* sp. n. (Annelida: Polychaetes) from the eastern Mediterranean, with notes on character variation in *Sphaerosyllis hystrix* Claparède, 1963

Sarah Faulwetter<sup>1</sup>, Georgios Chatzigeorgiou<sup>2</sup>, Bella S. Galil<sup>3</sup>, Artemis Nicolaidou<sup>4</sup>, Christos Arvanitidis<sup>5</sup>

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5. —

**Figure 3.** Different stages of the manuscript export process.

Edited by Sarah Faulwetter on Wed, 10/05/2011 - 07:32

## *Sphaerosyllis levantina* sp. n. (Annelida: Polychaetes) from the eastern Mediterranean, with notes on character variation in *Sphaerosyllis hystrix* Claparède, 1963

Sarah Faulwetter<sup>1</sup>, Georgios Chatzigeorgiou<sup>2</sup>, Bella S. Galil<sup>3</sup>, Artemis Nicolaidou<sup>4</sup>, Christos Arvanitidis<sup>5</sup>

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### Abstract:

Examination of polychaete specimens from Haifa Bay (Israel, Eastern Mediterranean Sea) revealed several individuals exhibiting morphological characteristics similar to *Sphaerosyllis hystrix* Claparède, 1863. A detailed morphometrical analysis of the Israeli specimens in comparison to specimens of *S. hystrix* and *S. boerei* Musco, Çinar and Giangrande, 2005 supported the description of the former as a new species, *S. levantina* sp. n. Individuals of *S. hystrix* formed a very heterogeneous group with strong character variations in the analysis and the presumed cosmopolitan distribution of the species is discussed based on literature records.

### Keywords:

Polychaetes, Syllidae, Exogoninae, *Sphaerosyllis*, new species, Mediterranean, Cybertaxonomy, Scratchpads

### Introduction

The genus *Sphaerosyllis* Claparède, 1863 is one of the most species-rich genera of the syllid subfamily Exogoninae. At present, ca. 48 species are considered valid within *Sphaerosyllis* after the recent split of the group into the three genera *Sphaerosyllis*, *Prosphaerosyllis* and *Erinaceosyllis* (San Martín 2005). Up to date, 18 species of the genus have been recorded from the Mediterranean Sea (Musco and Giangrande 2005), one of them described but yet unnamed (San Martín 2003), another one in the process of description (Del Pilar-Ruso and San Martín, in press). In the framework of a project focusing on the soft bottom benthos of Haifa Bay (Israel, Eastern Mediterranean Sea), a number of individuals of the genus *Sphaerosyllis* were found to exhibit morphological features which did not entirely correspond to any description of known *Sphaerosyllis* species, namely falcigers with a strong serration and with a subdistal spine present in all chaetigers. A subdistal spine on the blades of at least some chaetigers has been described for the two species of the genus, *S. boerei* Claparède, 1863 and for *S. boerei* Musco, Çinar and Giangrande, 2005. The presentation of material

**Figure 4.** Preview of the manuscript. This is not intended to show a final layout but to ensure that all necessary components are included and occur in the correct order.

6. Author(s) re-submit the manuscript, which generates an updated XML file that is automatically sent back to ZooKeys. The publisher parses the final accepted XML document, adding additional XML mark-up for nomenclatural acts required by ZooBank registration, in addition to other semantic enhancements.

7. ZooKeys publishes the paper adding DOIs for the paper and supplementary material. The printed published paper includes a link back to the accepted manuscript on the Scratchpad. The Scratchpad version of this article also includes link(s) to the dynamic descriptions of each taxon page showing versions of updated descriptions if they have been edited after publication. New taxa descriptions are registered online by the journal's editorial office. In the future, ZooBank will provide receipt of an XML file from ZooKeys and create new records for published nomenclatural acts. The manuscript is submitted to PubMed /PubMedCentral for optimal distribution archival purposes.

8. The manuscript and all supplementary data are unlocked on the Scratchpad and made public on the day of printed publication. At this time the placeholder taxon names are automatically substituted by the final published taxon name.

By default all Scratchpad data concerning the ZooKeys publication are kept private for steps 1 to 8 and made public at step 9, although the original taxon pages are normally public. However, the author(s) have the capacity to make all these data public from the outset.

**Technical Implementation.** A single Drupal module (called “Publication”) has been written to support the technical implementation of this workflow within the Scratchpads. This is available from the Scratchpad Subversion repository (<http://svn.scratchpads.eu/svn/scratchpads/trunk/modules/publication/>) along with other Scratchpad project written dependencies. Software dependencies include the Drupal community’s Organic Groups module (<http://drupal.org/project/og>) and Content Construction Kit (<http://drupal.org/project/cck>) modules, in addition to the Scratchpad project’s Species Profile Module (SPM) and Taxonomy Tree modules. The Publication module provides a new Drupal content-type (also called “Publication”) that is set to be an “Organic Group”. This enables an author to assign other users to a publication object and optionally restrict access to content associated with that publication. The Publication module creates three other simple content types that are used to provide additional sections for the publication. The first of these supports general sections common to most publications (e.g. Discussion, Materials and Methods) and taxon specific sections that allow users to add sections to each taxon treatment (e.g. Citations, Type Material). The second of these enables users to control which data fields appear in each taxon treatment and their relative order in the text. Finally, an image caption content type is provided to enable users to annotate their images.

In summary the Publication module provides an intuitive interface that allows users to select and order content from their site and associate this with the publication, providing a many-to-many link between publication objects and other content types (e.g. Image, Bibliography). Thus for example, a single image can be used in many publications, and a single publication can have many images. The module also supports the communication between the user’s Scratchpad and the publisher transferring the TaxPub XML representation of the manuscript to ZooKeys during submission, revision and final acceptance. TaxPub is an extension of the National Library of Medicine (NLM) / National Center for Biotechnology Information (NCBI) Journal Archiving Document Type Definition (DTD) for the markup of taxonomic treatments.

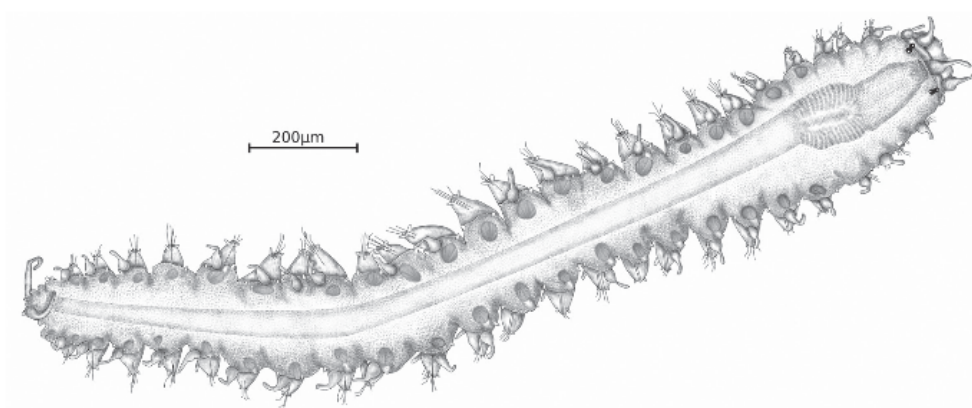
## ***Sphaerosyllis levantina* sp. n. (Annelida) from the eastern Mediterranean, with notes on character variation in *Sphaerosyllis hystrix* Claparède, 1863**

Sarah Faulwetter<sup>1,4,†</sup>, Georgios Chatzigeorgiou<sup>2,4,‡</sup>, Bella S. Galil<sup>3,§</sup>,  
Artemis Nicolaidou<sup>1,||</sup>, Christos Arvanitidis<sup>4,¶</sup>

**1** Department of Zoology-Marine Biology, Faculty of Biology, National and Kapodestrian University of Athens, Panepistimiopolis, 15784, Athens, Greece **2** Department of Biology, University of Crete, 71409 Heraklion, Crete, Greece **3** National Institute of Oceanography, Israel Oceanographic & Limnological Research, POB 8030, Haifa 31080, Israel **4** Institute of Marine Biology and Genetics, Hellenic Centre for Marine Research, 71003 Heraklion, Crete, Greece

*Sphaerosyllis levantina* sp. n. (Annelida) from the eastern Mediterranean...

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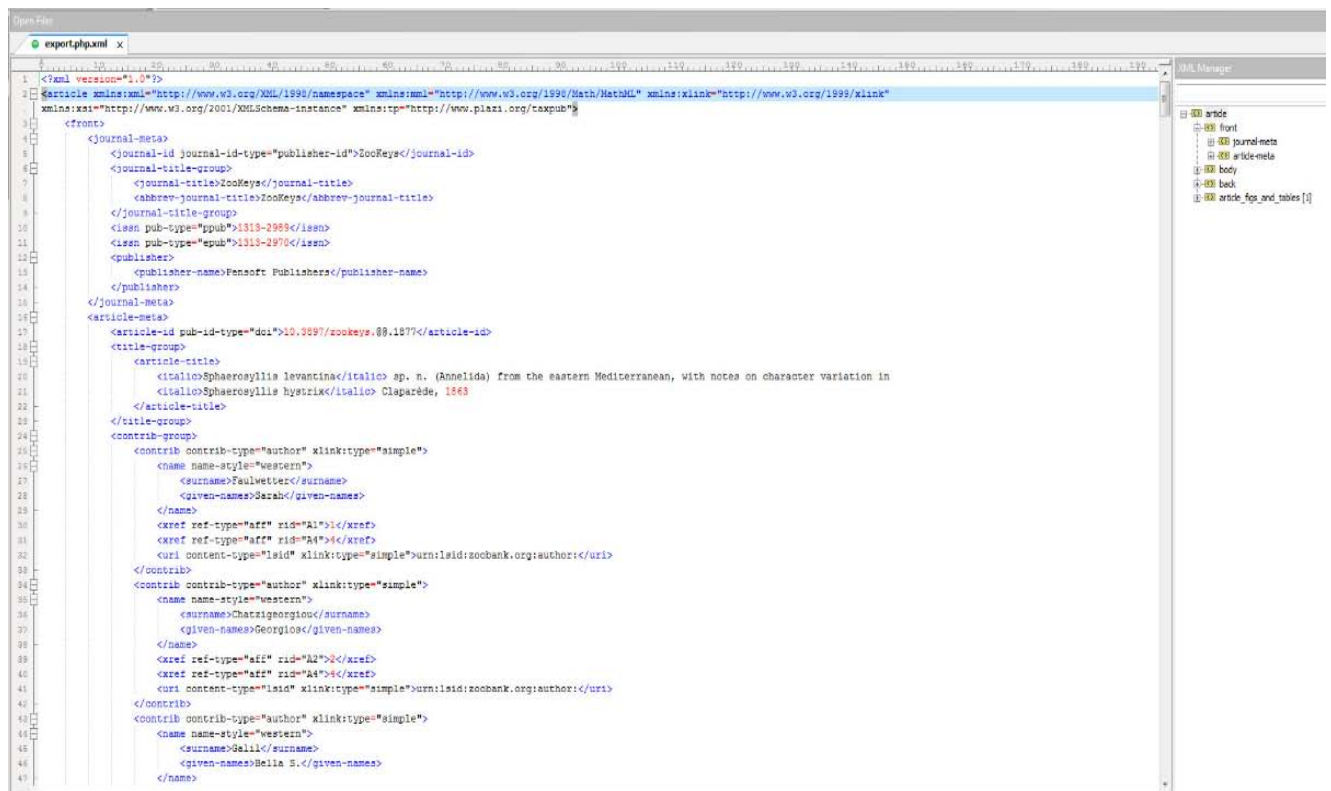
**Figure 1.** *Sphaerosyllis levantina* sp. n. holotype, dorsal view

lenic Centre for Marine Research, Anavyssos, Greece; Chalkida, Aegean Sea, Greece: 1 specimen [Label: 56 – *Sphaerosyllis hystrix*, κατώτερη μεσοπαλαική Χαλκίδας, Στενά Ευρίπου, Ξενοδοχείο Λούσι, St. 18, 25.9.97 0-0.5m, Άτομα: 1, Διδακτορικού Μίλτου] (= lower intertidal zone, Chalkida, Eviros Strait, Hotel Lousi, coll. M.S. Kitsos), Chalkida, Aegean Sea, Greece: 1 specimen [Label: 26 – *Sphaerosyllis hystrix*, κατώτερη



Taxon treatments	Taxon names	
<a href="#">Top</a>   <a href="#">Abstract</a>   <a href="#">Introduction</a>   <a href="#">Material and methods</a>   <a href="#">Results</a>   <a href="#">Discussion</a>   <a href="#">Supplementary material</a>   <a href="#">Acknowledgements</a>   <a href="#">References</a>		
ZooKeys @@: @-@, doi: 10.3897/zookeys.@@.1877		
<b><i>Sphaerosyllis levantina</i> sp. n. (Annelida) from the eastern Mediterranean, with notes on character variation in</b>		
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Academic editor: C. Glasby		
Received 3 August 2011   Accepted 18 October 2011		
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For reference, use of the paginated PDF or printed version of this article is recommended.		
<b>Abstract</b> Examination of polychaete specimens from Haifa Bay (Israel, eastern Mediterranean Sea) revealed several individuals exhibiting morphological variation. A detailed morphometrical analysis of the Israeli specimens in comparison to specimens of <i>S. hystrix</i> and <i>S. boeroi</i> Musco of the former as a new species, <i>S. levantina</i> sp. n. Individuals of <i>S. hystrix</i> formed a very heterogeneous group with strong character variation. The distribution of the species is discussed based on literature records.		
<b>Keywords</b> Polychaetes, Syllidae, Exogoninae, <i>Sphaerosyllis</i> , new species, Mediterranean, Cybertaxonomy, Scratchpads		
<b>Introduction</b> The polychaete genus <i>Sphaerosyllis</i> Claparède, 1863 (Annelida) is one of the most species-rich genera of the syllid subfamily Exogoninae. <i>Sphaerosyllis</i> after the recent split of the group into the three genera <i>Sphaerosyllis</i> , <i>Prosphaerosyllis</i> and <i>Erinaceusyllis</i> (San Martín 2005). Until now, <i>S. hystrix</i> (from the Mediterranean Sea (Musco and Gianrande 2005). one of them described but yet unnamed (San Martín 2003). another one in the		

**Figure 6.** Final proofs of the manuscript after peer-review (HTML)



**Figure 7.** Final proofs of the manuscript after peer-review (XML)