



Milestone 6.11: Prototype and beta version of XML submission from Scratchpads to publishers

Leading partners: Pensoft, NHM

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Explanation note

This document represents a prototype of a workflow designed to facilitate creation and export of manuscripts from Scratchpads to publishers.

Description of the workflow:

The workflow is illustrated on Fig 1. A single Drupal module (called "Publication") has been prototyped 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.

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.

The different steps in creating a manuscript are illustrated on Fig 2-10.

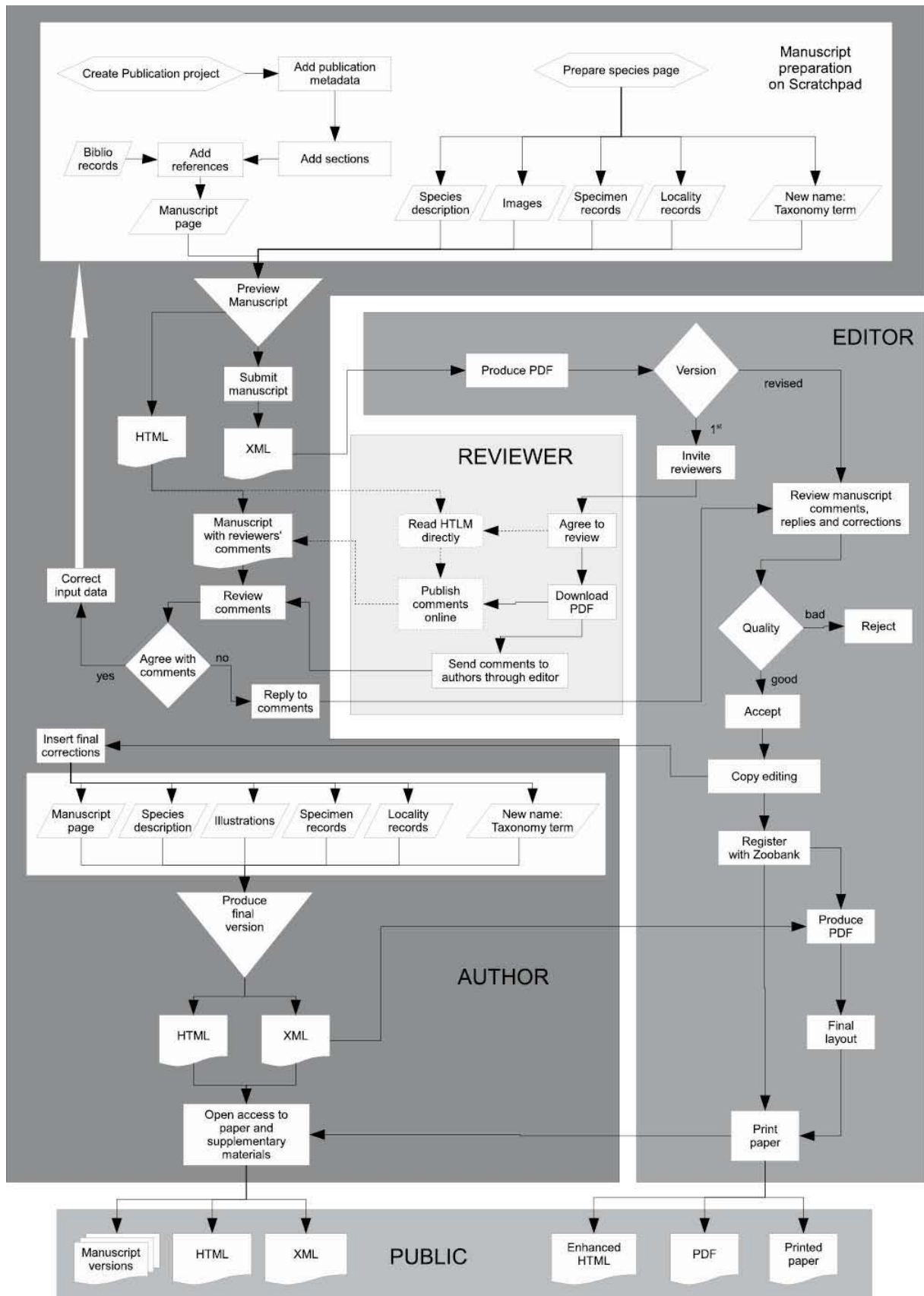


Figure 1. General workflow of Scratchpads/Journal publishing module

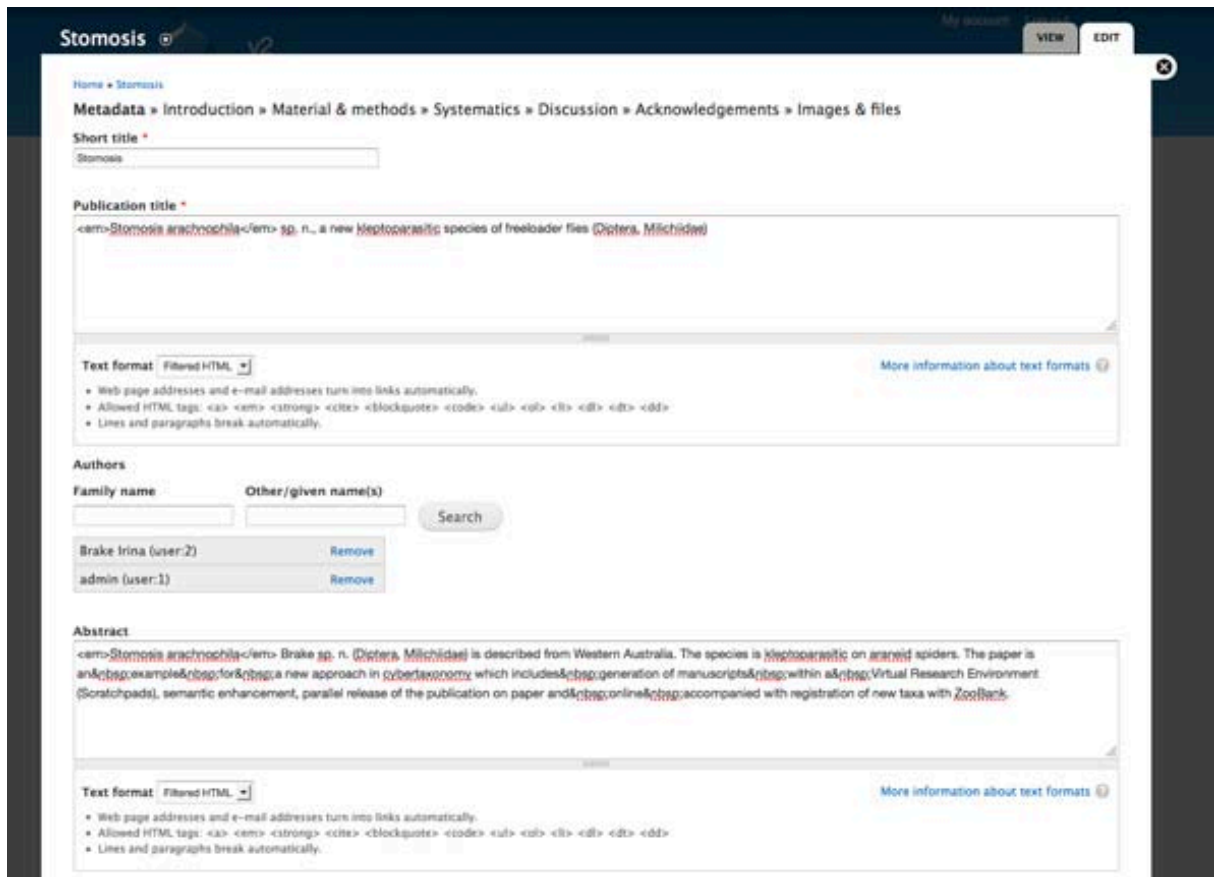


Figure 2. Entering metadata of a manuscript (title, authors, abstract, etc.)

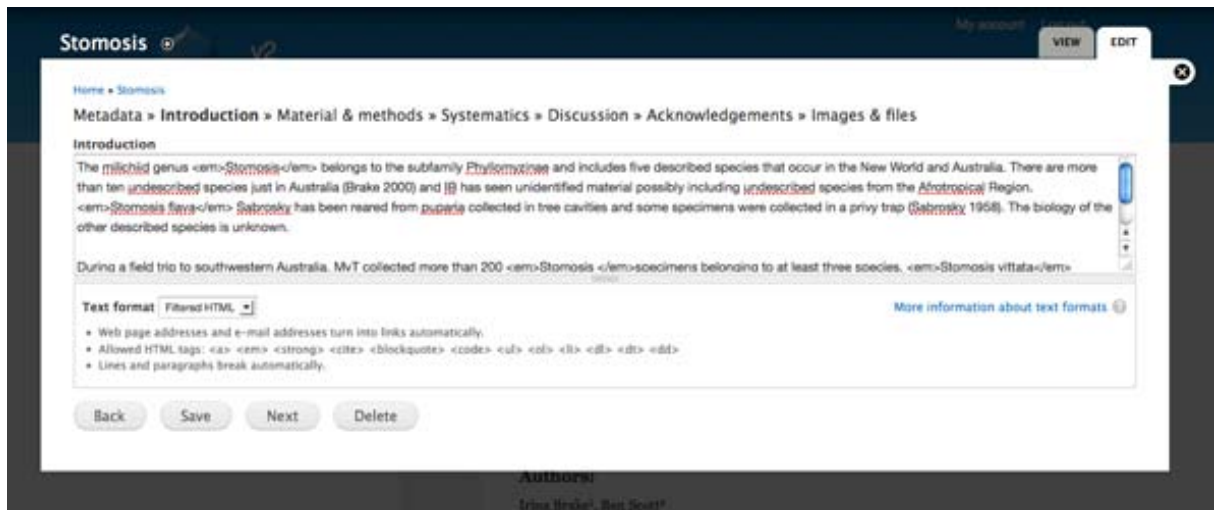


Figure 3. Introduction.

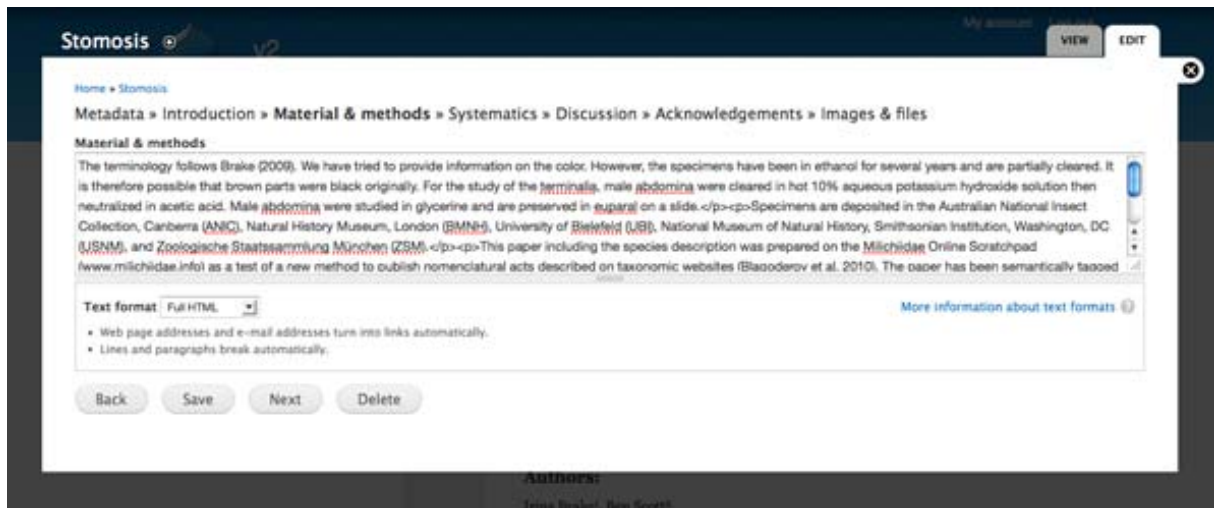


Figure 4. Material and methods

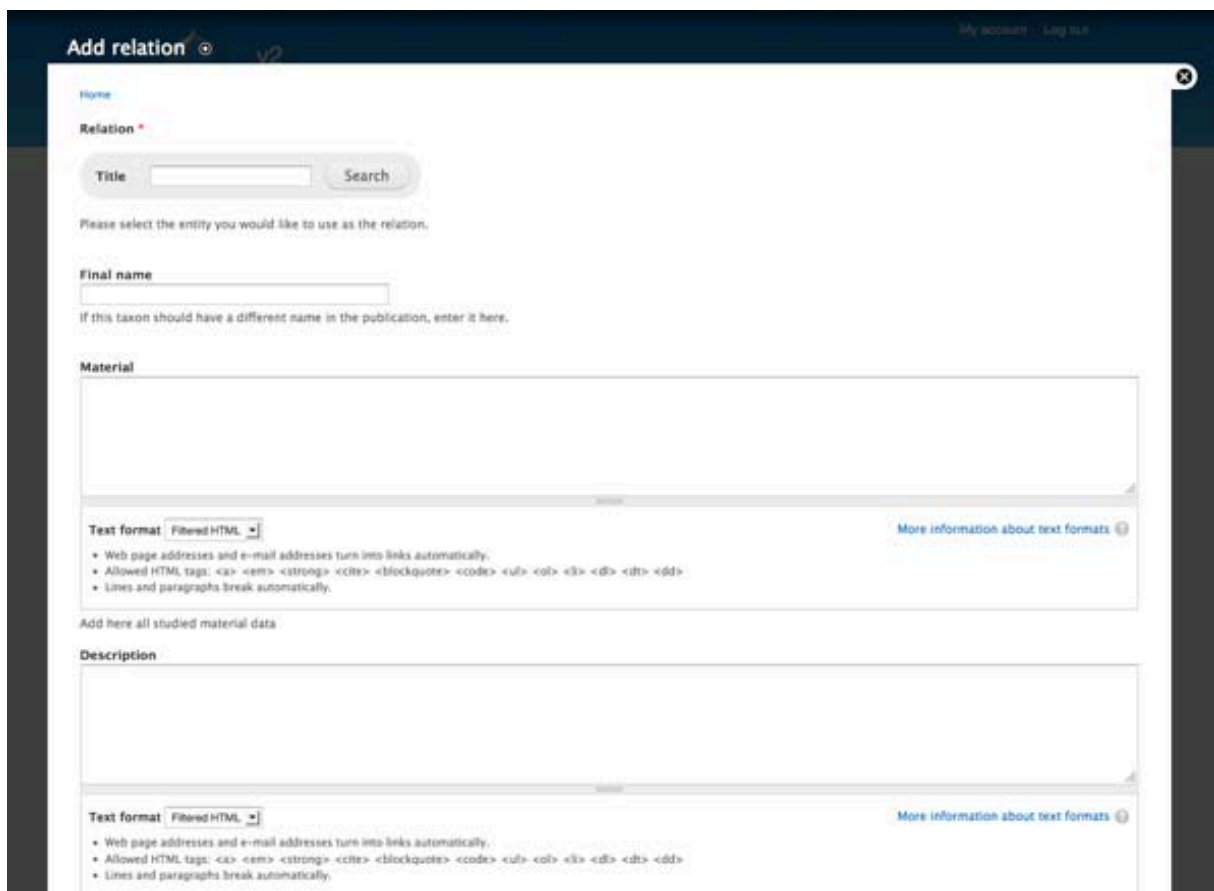


Figure 5. Taxon treatment section

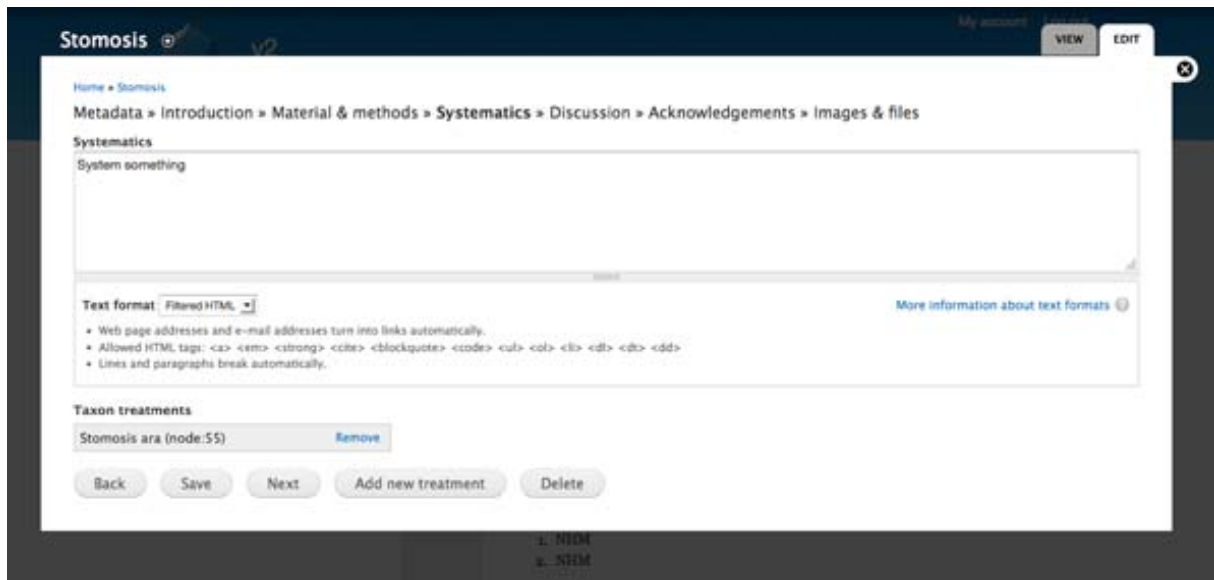


Figure 6. Systematics section

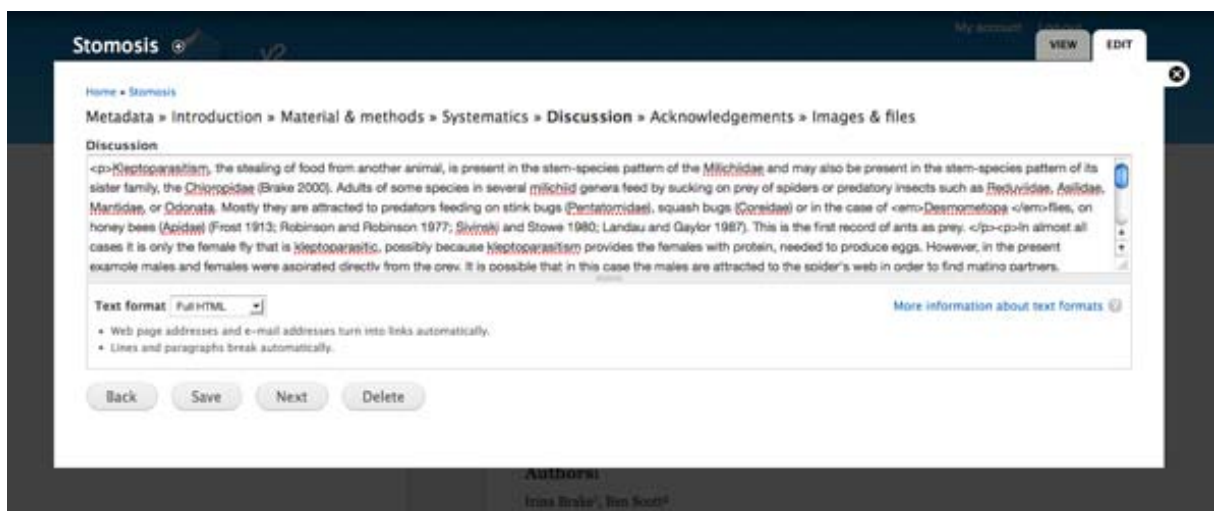


Figure 7. Discussion section

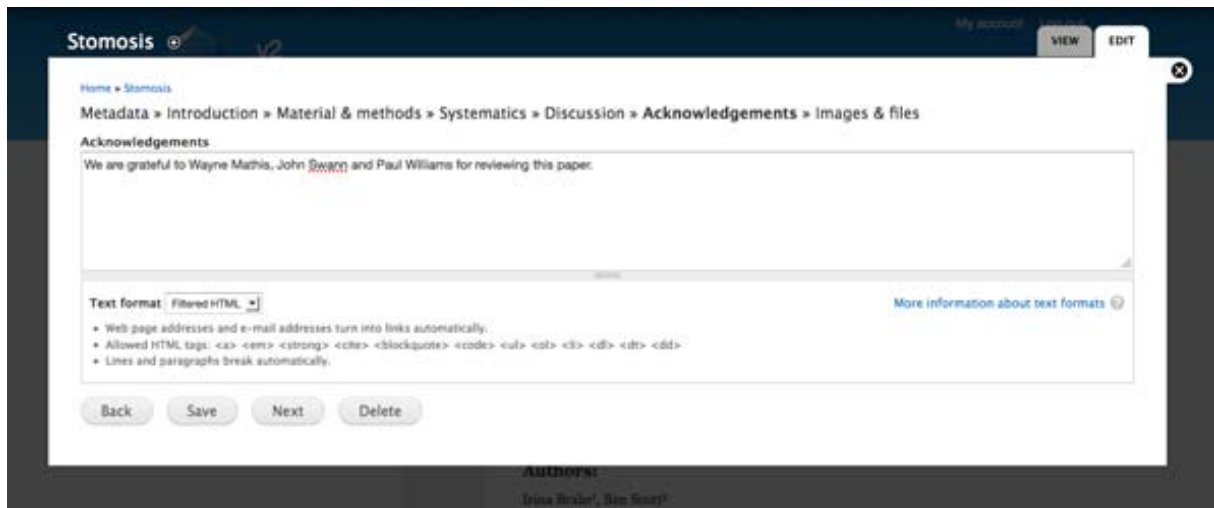


Figure 8. Acknowledgments section

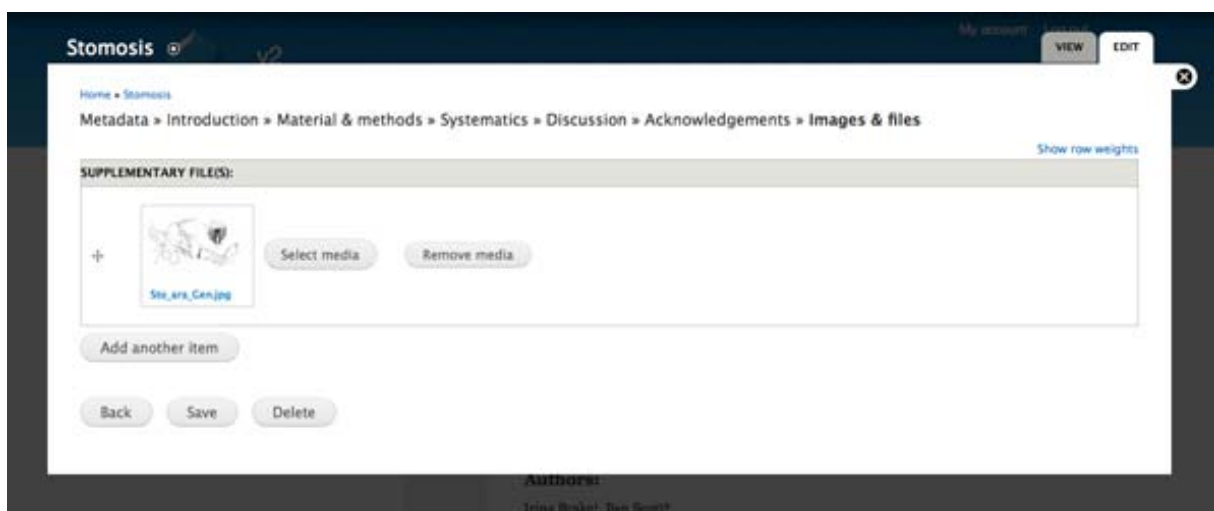


Figure 9. Images and files upload module

v2

Home

Navigation

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User login

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Password *

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- Request new password

Log in

Stomosis

View Edit

Stomosis arachnophila sp. n., a new kleptoparasitic species of freeloader flies (Diptera, Milichidae)

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- NHM
- NHM

Abstract:
Stomosis arachnophila Brake sp. n. (Diptera, Milichidae) is described from Western Australia. The species is kleptoparasitic on araneid spiders. The paper is an example for a new approach in cybertaxonomy which includes generation of manuscripts within a Virtual Research Environment (Scratchpads), semantic enhancement, parallel release of the publication on paper and online accompanied with registration of new taxa with ZooBank.

Keywords:
New species Australia kleptoparasitism

Introduction:
The milichiid genus *Stomosis* belongs to the subfamily Phylomyzinae and includes five described species that occur in the New World and Australia. There are more than ten undescribed species just in Australia (Brake 2000) and 18 has been unidentified material possibly including undescribed species from the Afrotropical Region. *Stomosis flavo* Sabrosky has been reared from puparia collected in tree cavities and some specimens were collected in a privy trap (Sabrosky 1956). The biology of the other described species is unknown.

During a field trip to southwestern Australia, MVT collected more than 200 *Stomosis* specimens belonging to at least three species, *Stomosis vitina* Malloch and two or three undescribed species of which one was used for a phylogenetic analysis of Milichidae (Brake 2000). The aim of this paper is to describe the latter species to make its name available. A revision of the whole genus is badly needed but not feasible for the authors at this time.

Material & methods:
The terminology follows Brake (2000). We have tried to provide information on the color. However, the specimens have been in ethanol for several years and are partially cleared. It is therefore possible that brown parts were blank originally. For the study of the terminalia, male abdomina were cleared in hot 10% aqueous potassium hydroxide solution then neutralized in acetic acid. Male abdomina were studied in glycerine and are preserved in eusparal on a slide.

Specimens are deposited in the Australian National Insect Collection, Canberra (ANIC), Natural History Museum, London (BMNH), University of Bielefeld (UBI), National Museum of Natural History, Smithsonian Institution, Washington, DC (USNM), and Zoologische Staatssammlung München (ZSM).

This paper including the species description was prepared on the Milichidae Online Scratchpad (www.milichidae.info) as a test of a new method to publish nomenclatural acts described on taxonomic websites (Bogdanov et al. 2010). The paper has been semantically tagged and enhanced using the Pensoft Mark Up Tool (PMT) which is based on the US National Library of Medicine's DTD (Document Type Definitions) TaxPub extension (Revision #123) (<http://sourceforge.net/projects/taxpub>). The final XML output of the paper has been archived in PubMedCentral, a POF uploaded in the Biodiversity Heritage Library (BHL), and all revised species registered in ZooBank (Penev et al. 2010).

Systematics:
System something

Stomosis ara

- General description:**
Desc

Discussion:
Kleptoparasitism, the stealing of food from another animal, is present in the stem-species pattern of the Milichidae and may also be present in the stem-species pattern of its sister family, the Chloropidae (Brake 2000). Adults of some species in several milichiid genera feed by sucking on prey of spiders or predatory insects such as Reduviidae, Asilidae, Mantidae, or Odonata. Mostly they are attracted to predators feeding on stink bugs (Pentatomidae), squash bugs (Coreidae) or in the case of *Desmometopu* flies, on honey bees (Apidae) (Frost 1913; Robinson and Robinson 1977; Sivasaki and Stowe 1980; Landau and Gaylor 1987). This is the first record of ants as prey.

In almost all cases it is only the female fly that is kleptoparasitic, possibly because kleptoparasitism provides the females with protein, needed to produce eggs. However, in the present example males and females were aspirated directly from the prey. It is possible that in this case the males are attracted to the spider's web in order to find mating partners.

Kleptoparasitism on spiders is known to be a habit of adults of some species in the genera *Desmometopu*, *Milichidae*, *Neophyllognata*, *Paromyia*, *Phyllognata* (Dik 1898; Biró 1899; Kertész 1899; Lundström 1900; Frost 1913; Kramer 1917; Robinson and Robinson 1977; Lopez 1984; Landau and Gaylor 1987; Sivasaki and Stowe 1980; Neuhig 1983; Eimer et al. 1991; Stark and Schellhorn 2003). McMillan (1976) observed *Desmometopu* flies on *Araneus* and *Nephila* spiders (Araneidae) in Western Australia and these flies appeared to be acting as cleaners of the spiders, with the spiders spreading their wet and sticky chelicerae thus allowing the flies to feed actively all over the bases, fangs and mouth. McMillan also observed the flies to feed at the anal opening when the spiders defecated. This behaviour appears to be more a case of commensalism, which is beneficial to both parties, than of kleptoparasitism.

Acknowledgements:
We are grateful to Wayne Mathis, John Swann and Paul Williams for reviewing this paper.

Meta-data

Introduction

Material & Methods

Systematics

Discussion

Acknowledgements

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Figure 10. Final structure of a manuscript