



GoldenGATE Imagine XML Markup Editor

This is work in progress

**Introduction and Manual for the Generation of
XML-based Legacy Literature Documents
using the GoldenGATE Imagine Editor**

DRAFT 20161104

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The GoldenGATE release, demo files and detailed instructions are available at:

<http://plazi.org>





This version is for the GoldenGATE Imagine software.

This version should be used to teach colleagues, to contribute colleagues to enter data towards the 1 Million Treatment Goal, or pursue their own goals. It is a possible publication based observation record entry pathway into [EU BON](#).

It includes a basic workflow, an advanced section, each element used in the markup process and the 1MT is defined, the the respective user interfaces (UI) or Code provided.

As an introduction, please consult the [GG-Pro-iBiosphere](#) manual.

Every Monday morning a new version is being uploaded and available at
<http://plazi.cs.umb.edu/GgServer/Downloads/GgImagine-Default.imagine.zip>

Currently there is no auto-update in place, so the entire new version has to be downloaded. To keep your cache with vocabularies you create during the workflow, please copy the cache directory into the the new installation of GoldenGATE Imagine.

Version Control

20141124: Establishing of manual

20141203: Clean up, removing all GG manual parts that are not part of Imagine

20151103: Editing



Content

[Setup GoldenGATE-Imagine](#)

[Links](#)

[Installation requirement](#)

[Getting GoldenGate to work](#)

[Select the Default.imagine configuration](#)

[Start menu](#)

[The markup process](#)

[Opening an article](#)

[IMF](#)

[PDF](#)

[Detect Document Structure](#)

[Edit document structure](#)

[Remove incorrectly set blocks and paragraphs](#)

[Mark Taxon Names](#)

[Mark Tables](#)

[Parse Bibliography](#)

[Annotate and edit bibliographic references](#)

[How to split merged bibliographic references](#)

[Document Meta Data](#)

[Mark Treatments](#)

[Mark Treatment Tool](#)

[Manual markup of treatments](#)

[Treatment Structure](#)

[Mark Materials Citations](#)

[Parse Materials Citations](#)

[Editing](#)

[Edit Attributes](#)

[Editing and replacing wrong fonts and symbols](#)

[Opening a scanned document](#)

[Document structure](#)

[Reformatting blocks and paragraphs](#)

[Annotating blocks of texts \(names, treatments, etc\)](#)

[Annotate taxonomic names](#)



[Export treatment of document to SRS](#)

[Edit document metadata](#)

[Detect treatment structure](#)

[Link to external resources](#)

[Scientific names](#)

[Export](#)

[Minimal requirement for export to GG SRS](#)

[Figures](#)

[Edit and link figureCitations in the text](#)

[Trouble Shooting](#)

[File Format not valid](#)

[Loading of the file stalls](#)

[Opening a scanned PDF with underlying OCR as born digital](#)

[User Interface](#)

[Glossary](#)

[GoldenGate Expressions](#)

[TaxonX Expressions](#)

[Element Descriptions and Examples](#)

[GoldenGate Internal Markup Elements](#)

[Acknowledgments](#)



Setup GoldenGATE-Imagine

Links

- [Introduction and manual to GoldenGATE](#) This document includes an extensive coverage of the editing steps, analysers, vocabulary, and trouble shooting.
- Introduction to GG-Imagine
 - [Github](#)
 - [PPT](#) introduction to Imagine File Format and markup
 - [Test files](#)
- Download [test version](#). Currently, each Monday a new version of GG-Imagine is posted. Previous version will not be autoupdated.

Installation requirement

REQUIRED JAVA VERSION

The program requires Java 1.6 and above, and uses the Oracle Java run time environment.

To determine your computers current Java version, do the following.

Windows: go to “Command prompt” and type in “java -version”.

```
C:\Users\Donat>java -version
java version "1.8.0_31"
Java(TM) SE Runtime Environment (build 1.8.0_31-b13)
Java HotSpot(TM) Client VM (build 25.31-b07, mixed mode)
```

Mac: From terminal type “java /version”

The program requires Java 1.6 and above, and uses the Oracle Java run time environment.



Linux:

GoldenGate is built on Java, a free, cross-platform software development environment. Java comes in a number of versions, so it is important that you install the version that GoldenGate requires: Java 7 or 8. GoldenGate can run with both the Java "JRE" (Java Runtime Environment). For instructions about running Java on your operating system, see Oracle's [Installing Java](#) page.

Linux users: Unfortunately, Oracle's own pages (such as the link above) focus on commercial Linux distributions. Users of other distributions are better served by distribution-specific instructions.

Special note: It is recommended to use the Oracle Java VM, this is the safest choice. The OpenJDK 7 is a good open source alternative for the Oracle JVM.

Details of the Java VM can be obtained via the following command (two results displayed):

```
java -version
java version "1.7.0_55"
Java(TM) SE Runtime Environment (build 1.7.0_55-b13)
Java HotSpot(TM) 64-Bit Server VM (build 24.55-b03, mixed mode)
```

It is NOT recommended to use "OpenJDK6" (IcedTea) and "GNU Compiler for Java (GCJ) which are shipped by several Linux distributions.

REQUIRED GOLDENGATE VERSION

After you installed GoldenGATE, the program will be updated automatically (online access necessary).

Getting GoldenGate to work

Download [Imagine](#),

extract the files into a directory that is not the root directory
Start Imagine using the GgImagine.exe file



Name	Date modified	Type	Size
Configurations	7/21/2015 9:56 AM	File folder	
Data	7/21/2015 9:56 AM	File folder	
ImageMagick	7/21/2015 10:01 AM	File folder	
Logs	7/21/2015 10:01 AM	File folder	
OcrEngine	7/21/2015 10:01 AM	File folder	
PageImages	7/21/2015 10:01 AM	File folder	
Update	7/21/2015 10:01 AM	File folder	
CleanupLogFiles.bat	11/24/2007 4:00 PM	Windows Batch File	1 KB
CleanupOldFiles.bat	11/19/2007 7:14 PM	Windows Batch File	1 KB
ConfigHosts.cnfg	9/16/2013 7:33 PM	CNFG File	1 KB
EasyIO.jar	4/13/2015 6:10 AM	Executable Jar File	336 KB
Gamta.jar	4/13/2015 6:10 AM	Executable Jar File	1,359 KB
GamtaImagingAPI.jar	3/28/2015 1:55 PM	Executable Jar File	205 KB
GgImagine.bat	10/20/2014 9:06 PM	Windows Batch File	1 KB
GgImagine.cnfg	7/21/2015 10:03 AM	CNFG File	3 KB
GgImagine.cnfg.2015-07-21-10-03-13.old	7/21/2015 10:03 AM	OLD File	3 KB
GgImagine.exe	11/13/2014 10:08 PM	Application	78 KB
GgImagine.jar	7/11/2015 12:00 AM	Executable Jar File	263 KB
GgImagine.sh	11/13/2014 10:09 PM	SH File	1 KB
GgImagine-Default.imagine.zip	7/21/2015 9:56 AM	Compressed (zippe...)	34,337 KB
GgImagineStarter.jar	7/11/2015 12:00 AM	Executable Jar File	35 KB
GoldenGATE.jar	3/28/2015 1:56 PM	Executable Jar File	1,302 KB
HtmlXmlUtil.jar	4/13/2015 6:10 AM	Executable Jar File	283 KB
icepdf-core.jar	4/9/2013 4:58 PM	Executable Jar File	766 KB
ImageMarkup.jar	7/10/2015 11:58 PM	Executable Jar File	710 KB
ImageMarkupOCR.bin.jar	3/25/2015 3:43 PM	Executable Jar File	11,037 KB
ImageMarkupOCR.jar	7/10/2015 11:58 PM	Executable Jar File	52 KB
ImageMarkupPDF.bin.jar	3/25/2015 3:43 PM	Executable Jar File	2,305 KB
ImageMarkupPDF.jar	7/10/2015 11:58 PM	Executable Jar File	4,693 KB
License.txt	7/13/2008 6:32 PM	TXT File	2 KB

Fig xx. Unzipped GGImagine files.

Select the Default.imagine configuration

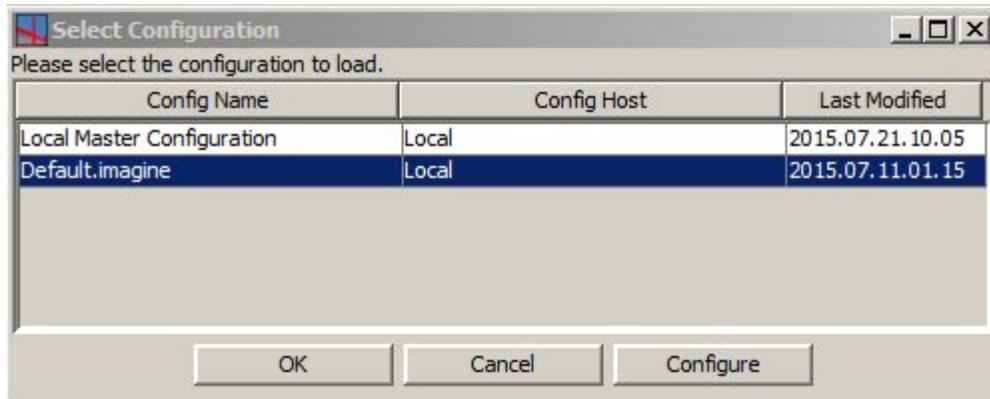


Fig XX. Configuration selecting UI.

Memory and other technical settings can be edited through the “Configure” button (recommended for advanced users only; Fig XX)

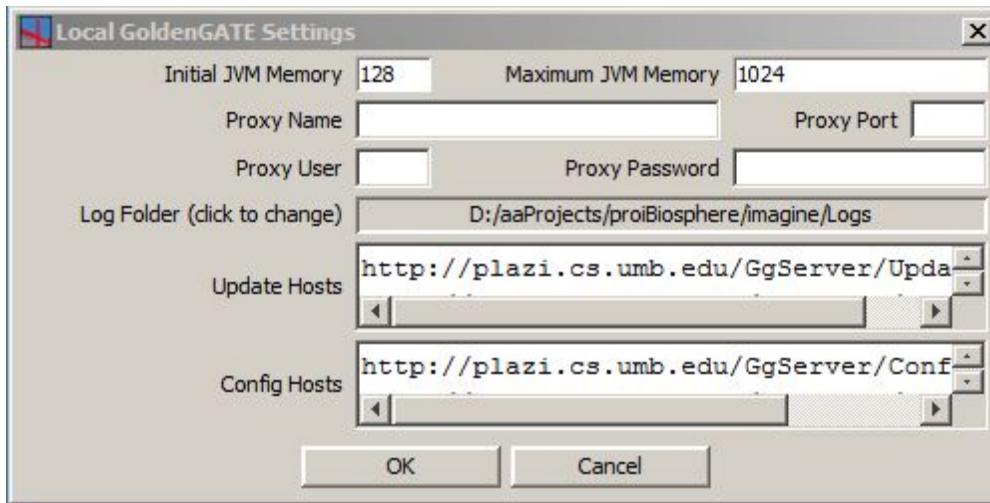


Fig XX. Configuration settings UI.

It is recommended to maintain the preset value, even if much more RAM is available on the machine. Depending on the Java installed, too high allocation leads to malfunction of GG-I.

Start menu



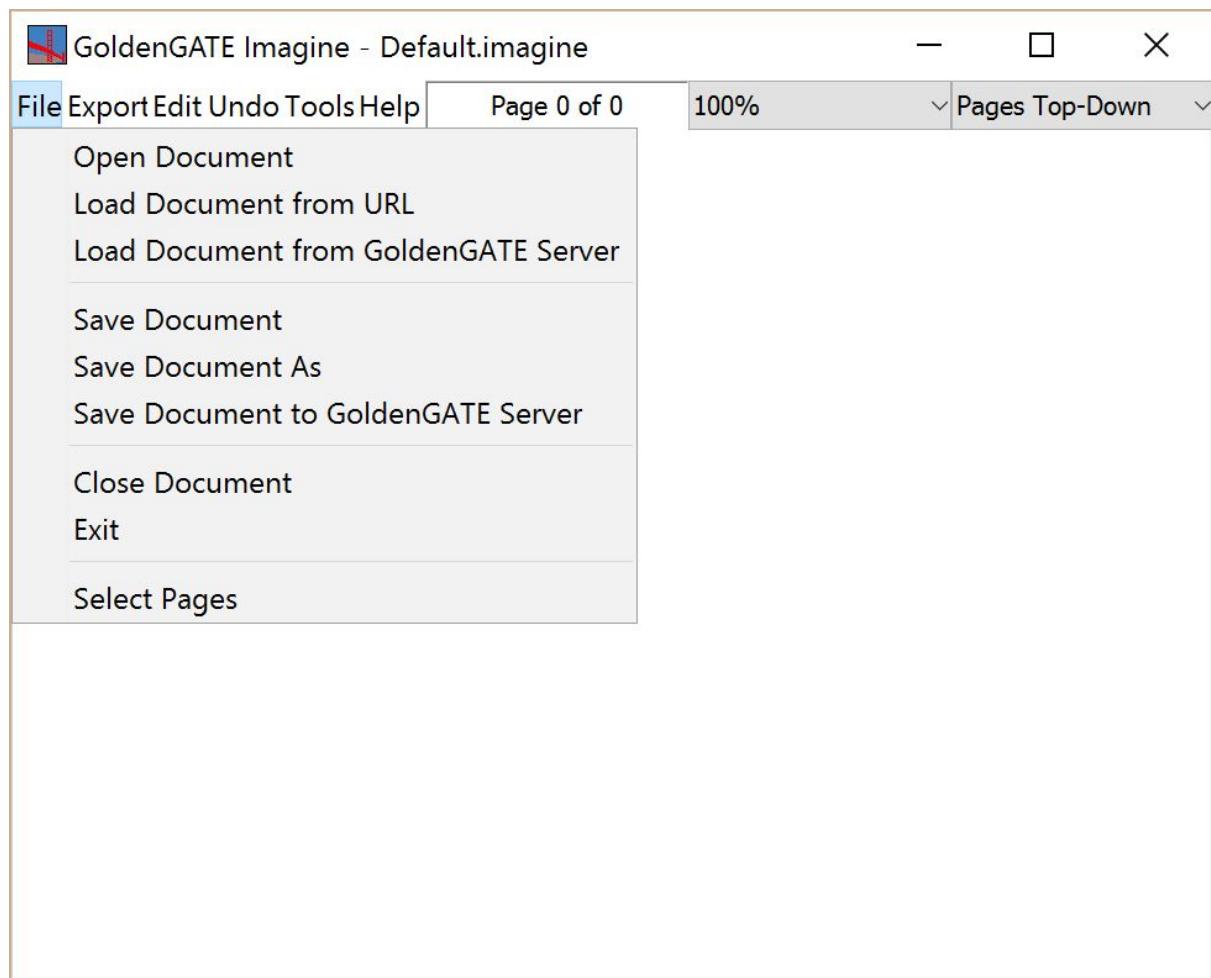
Fig XX: Start menu: 1 Functions; 2 Display zoom; 3 tiling of subwindows

The markup process

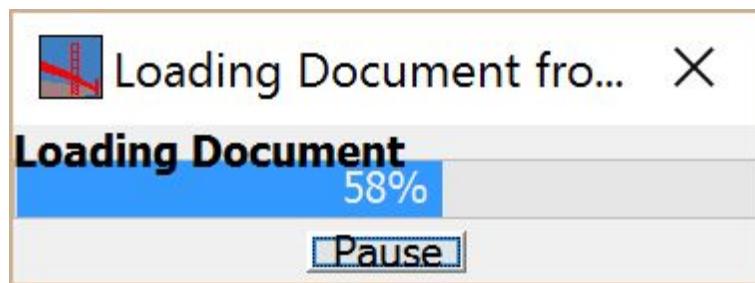
Opening an article

IMF

From the “File” menu select IMF file if the file is on the local drive and not uploaded to TreatmentBank, or uplod from Server, if the file is already on TreatmentBank.



To open a specific file, for example to do some further edits of an existing file, use "Load Document from GoldenGATE Server"



A list of all the available IMF files will be downloaded.



Select Document (9596 documents)

Document Name contains (use '+' for spaces)

Uploaded by	contains (use '+' for spaces)	<do not filter>
Uploaded ...	more than	<do not filter>
Last Updated by	contains (use '+' for spaces)	<do not filter>
Last Updated ...	more than	<do not filter>
Version	less than	
Doc Author	contains (use '+' for spaces)	<do not filter>
Doc Date	contains (use '+' for spaces)	<do not filter>
Doc Origin	contains (use '+' for spaces)	<do not filter>
Doc Pages	contains (use '+' for spaces)	<do not filter>
Doc Title	contains (use '+' for spaces)	<do not filter>
DOI	contains (use '+' for spaces)	<do not filter>
Hns Number	contains (use '+' for spaces)	<do not filter>
LSID	contains (use '+' for spaces)	<do not filter>
Zenodo Depo Nr	contains (use '+' for spaces)	<do not filter>

Cache	Document Name	Uploaded by	Last Updated by	Last Updated ...	Version
1091105	pdf	plazi	jeremv	2016-03-15 14:25:36	1
15544-5069-1-PR.pdf	Wesołowska &... plazi	jeremv	plazi	2016-03-17 12:46:17	3
15546-5069-1-PR.pdf	... plazi	jeremv	plazi	2016-03-06 19:37:52	+
15547-5069-1-PR.pdf	... donat	donat	donat	2016-03-08 14:11:03	+
15548-5070-1-PR.pdf	... donat	donat	donat	2016-03-08 16:55:38	+
15550-5072-1-PR.pdf	... donat	donat	donat	2016-03-08 17:53:35	+
15551-5073-1-PR.pdf	... donat	donat	donat	2016-03-08 18:44:00	+
15553-5074-1-PR.pdf	... donat	donat	donat	2016-03-08 18:44:39	+
15554-5077-1-PR.pdf	... donat	donat	donat	2016-03-08 19:23:47	+
15565-5090-1-PR.pdf	... donat	donat	donat	2016-03-08 19:16:45	2
15566-5096-1-PR.pdf	... donat	donat	donat	2016-03-08 19:16:46	2
15567-5097-1-PR.pdf	... donat	donat	donat	2016-03-08 19:16:46	2
15569-5088-1-PR.pdf	... donat	donat	donat	2016-03-08 19:16:46	2
15570-5091-1-PR.pdf	... donat	donat	donat	2016-03-08 19:52:10	3
15571-5089-1-PR.pdf	... donat	donat	donat	2016-03-09 19:16:45	2
15572-5094-1-PR.pdf	... donat	donat	donat	2016-03-09 19:16:46	2
15573-5093-1-PR.pdf	... donat	donat	donat	2016-03-09 19:16:47	2
15574-5095-1-PR.pdf	... donat	donat	donat	2016-03-09 19:16:46	2
15575-5104-1-PR.pdf	... plazi	plazi	plazi	2016-03-10 09:03:29	1
15576-5105-1-PR.pdf	... plazi	plazi	plazi	2016-03-10 10:00:31	1

Filter Read Timeout (in seconds, 0 means no timeout) 5 OK Cancel

The respective file can be found by entering the “Document Name”. This name is listed in the XML provided for the treatment



Dolichoraphidia , Liu, Xingyue, Lu, Xiumei & Zhang, Weiwei, 2016

Liu, Xingyue, Lu, Xiumei & Zhang, Weiwei, 2016, New genera and species of the minute snakeflies (Raphidioptera: Mesoraphidiidae: Nanoraphidiini) from the mid Cretaceous of Myanmar, Zootaxa 4103 (4), pp. 301-324: 302-303

publication ID	B6428194-1C7A-4A9F-9038-EE4A78222A06
publication LSID	lsid:zoobank.org:pub:B6428194-1C7A-4A9F-9038-EE4A78222A06
persistent identifier	http://treatment.plazi.org/id/03FBD81A-AF2E-FFA0-FF58-F955AC0BA5A1

Taxonomy

Specimens

Downloads

- [!\[\]\(7a3369118934fdb899739ee1b5695c2f_img.jpg\) Darwin Core Archive \(for parent article\)](#)
- [!\[\]\(a11be0e0b981d51fc4d32eab9d7d28a5_img.jpg\) Plain XML](#)
- [!\[\]\(776c6c64018d5a1b60cbe22b7799a2a8_img.jpg\) TaxonX](#)
- [!\[\]\(ba362555e469e84d5c70d51b3e1b95ad_img.jpg\) RDF](#)

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
▼<document ID-DOI="http://doi.org/10.11646/zootaxa.4103.4.1" ID-ISSN="1175-5326" ID-ZooBank="B6428194-1C7A-4A9F-9038-EE4A78222A06" generate="added" checkinTime="1460614658210" checkinUser="plazi" docAuthor="Liu, Xingyue, Lu, Xiumei & Zhang, Weiwei" docDate="2016" docId="03FBD81AAF2EFFA0FF58F955AC0BA5A1" docLanguage="en" docName="zootaxa.4103.4.1.pdf.imf" docOrigin="Zootaxa 4103 (4)" docStyle="DocumentStylede.uka.ipd.idaho.easyIO.settings.Settings@2b6fb197" docStyleName="zootaxa.2013.journal_article" docTitle="Dolichoraphidia Liu, Lu & Zhang, 2016, gen. nov." lastPageId="2" lastPageNumber="303" masterDocId="F0C2A062AF2FFA2FFCFFC0AF18A724" masterDocTitle="New genera and species of the minute snakeflies (Raphidioptera: Mesoraphidiidae: Nanoraphidiini) from the mid Cretaceous of Myanmar" masterLastPageNumber="324" masterPageNumber="301" pageNumber="302" updateTime="1460616460740" updateUser="ImsBioSync">  
  ▼<mods:mods xmlns:mods="http://www.loc.gov/mods/v3">  
    ▼<mods:titleInfo>  
      ▼<mods:title>  
        New genera and species of the minute snakeflies (Raphidioptera: Mesoraphidiidae: Nanoraphidiini) from the mid Cretaceous of Myanmar  
      </mods:title>  
    </mods:titleInfo>  
    ▼<mods:name type="personal">  
      ▼<mods:role>  
        <mods:roleTerm>Author</mods:roleTerm>  
      </mods:role>  
      <mods:namePart>Liu, Xingyue</mods:namePart>  
    </mods:name>  
    ▼<mods:name type="personal">  
      ▼<mods:role>  
        <mods:roleTerm>Author</mods:roleTerm>  
      </mods:role>  
      <mods:namePart>Lu, Xiumei</mods:namePart>  
    </mods:name>  
  ...
```

enter the name and select “Filter”, and the respective file entry will be shown. Select the entry and it will download.

Once editing is finished, save the file (it will upload the changes made, not again the entire file), and close. Closing is important to release the file for editing for a further users.

PDF

Open a file from the “File” menu, or drag and drop the selected file into the start menu

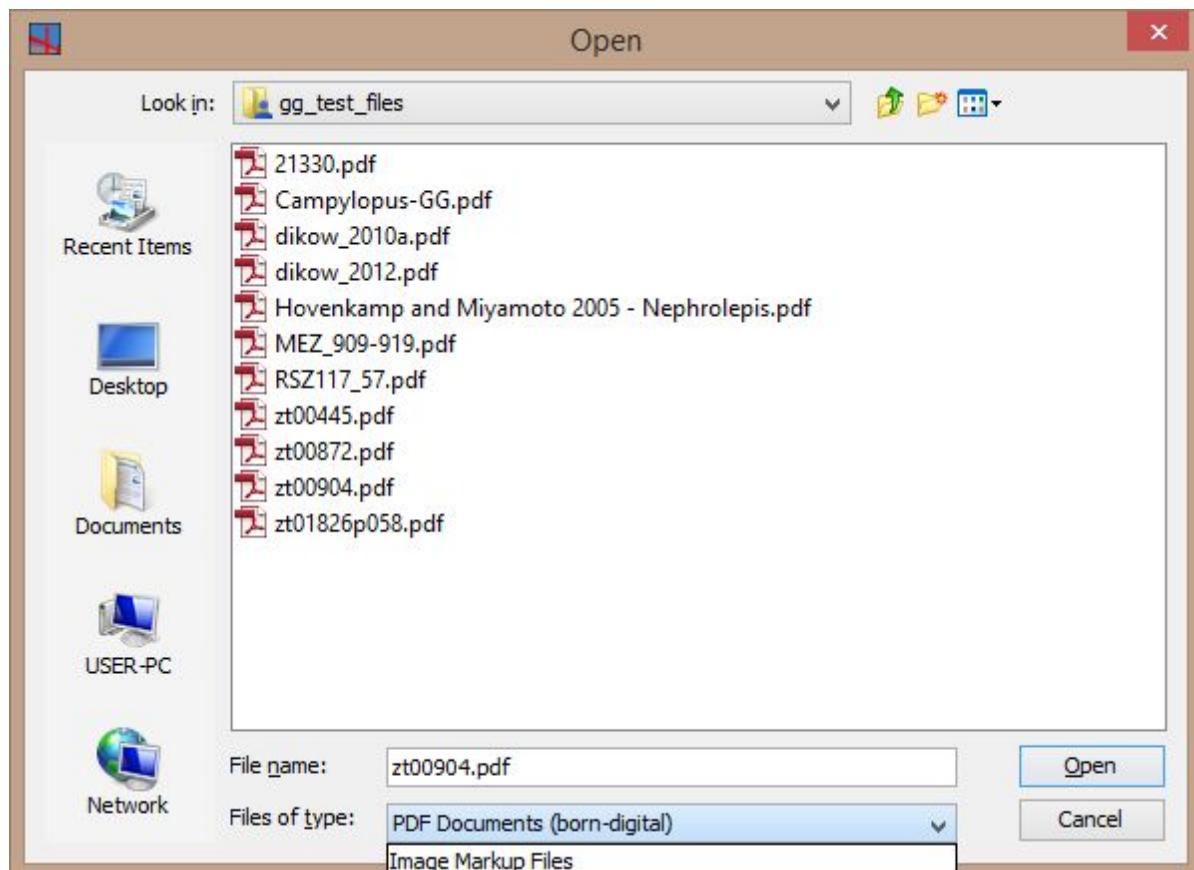


Fig XX. Open a file interface with pull down menu for selecting a file format.

- Select Image Markup Files to continue with an existing project
- Select PDF Document (born-digital) for a PDF file that has been converted from a text document. In case for choosing this version for a scanned PDF, the editor will close. In case of opening a PDF with OCR underlying, see troubleshooting.
- Select PDF Documents (scanned) for a PDF file that has been made from scanned images of the text
- Select PDF Document in case the origin is not known. GGIImagine will then decide how to proceed.

For comparison on an average PC (8GB RAM, 64-bit, Intel Core i7, 2.80Ghz. MS Windows 8.1 Pro) opening the test file [zt00904.pdf](#) will take 15 seconds.

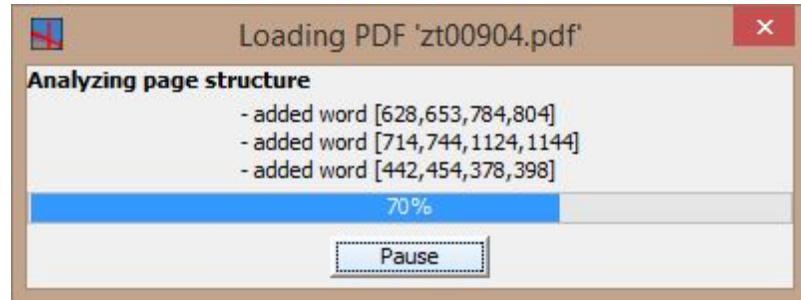


Fig XX Status of loading progress of a pdf

Run

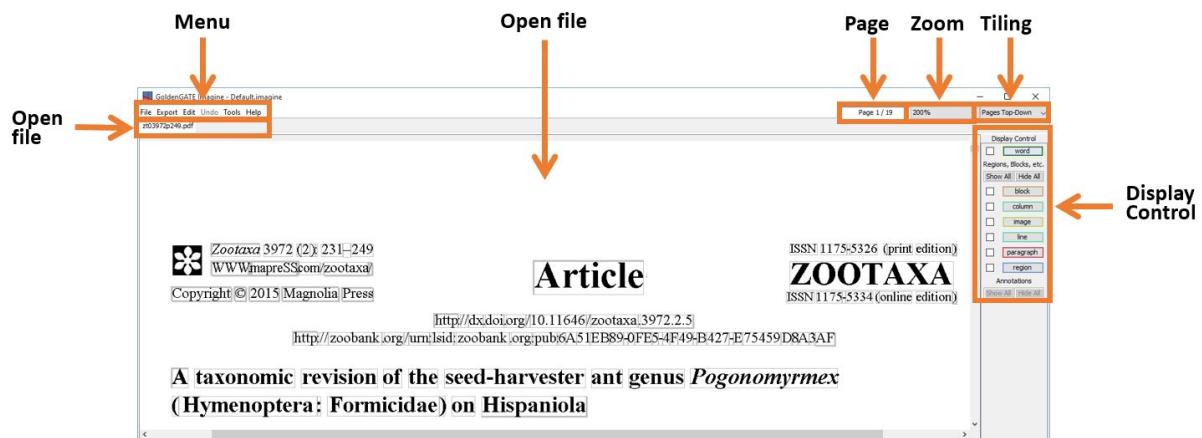


Fig. XX Main window. Display control on the right hand; Zoom control; Page display options; Menu; Tabs showing open files. Overview of menu with an opened pdf file.

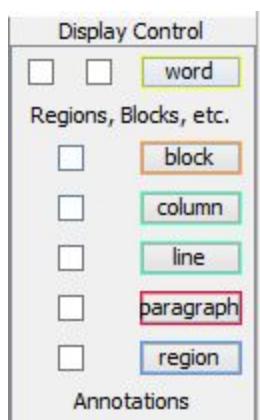




Fig XX Display control. word =, block = , column =; line =, paragraph = , region

Adjust the zoom to the extend that the letters can be properly read.

Generally, all the tools can be used in either sequence.

Detect Document Structure

From the “Tools” menu, run “Detect document structure”

This is necessary in order to assure that the page numbers are assigned.

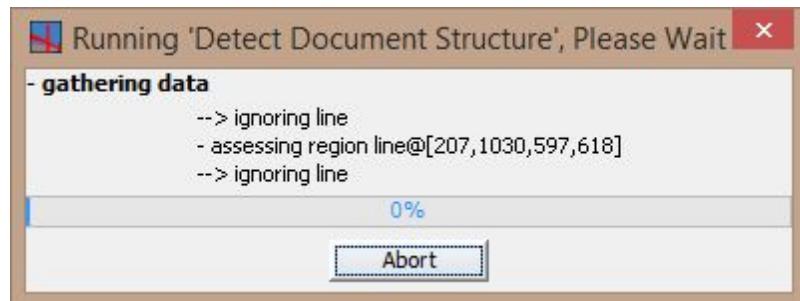


Fig XX Status window for the “Detect Document Structure” analyzer



Introduction

The spider genus *Nesticus* Thorell, 1869 (family Nesticidae) is taxonomically diverse in the southern Appalachian mountains of eastern North America, with at least 30 species distributed over a geographic area extending from southern West Virginia to central Alabama (Gertsch 1984; Coyle & McGarity 1992; Hedin 1997a). Appalachian *Nesticus* are habitat specialists, reflecting apparently strict physiological constraints that limit these spiders to cool, moist microhabitats. These constraints, in combination with habitat discontinuity in both space and over time, have promoted tremendous species diversification and endemism (see speciation models of Wiens 2004a, 2004b). This fine-scale diversification

Accepted by P. Jäger, 23 Feb 2005; published 18 Mar 2005

1

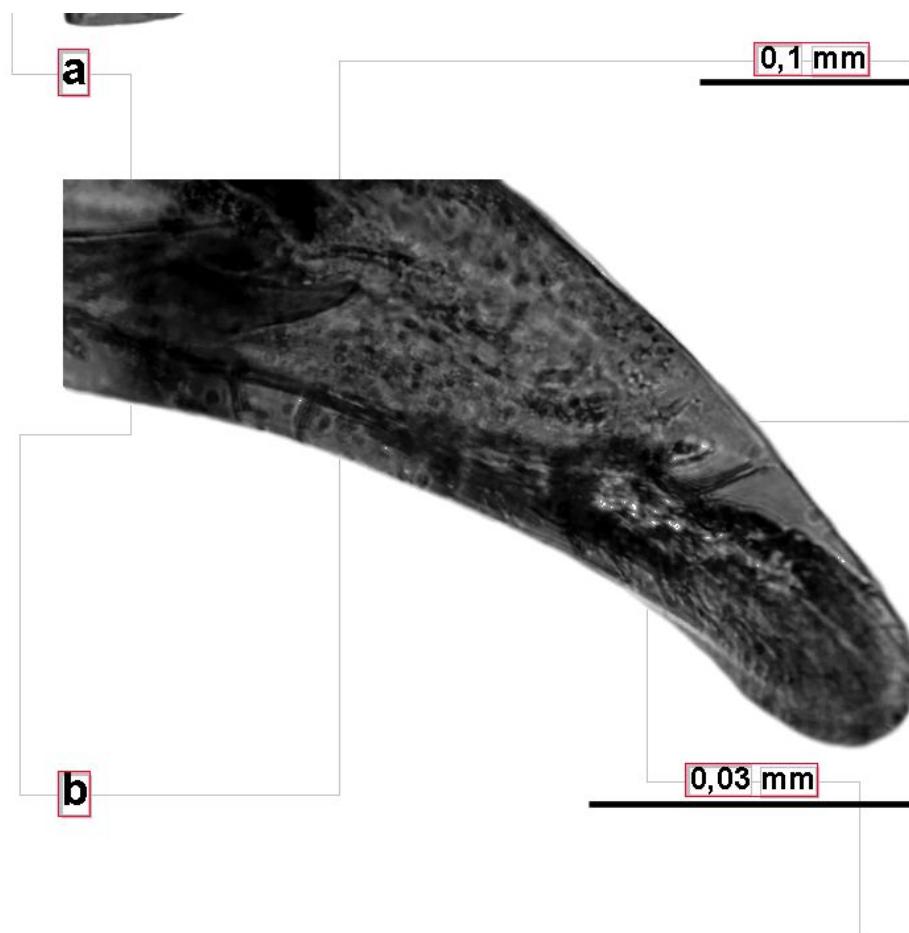
- Hide Page
- Annotate ▾
- Annotate All ▾
- Mark Region
- Mark Table
- Mark Caption
- Mark Footnote
- Mark Page Header**
- Mark Parenthesis
- Mark Artifact
- Mark Image
- Merge Words
- Make Stream

Fig. XX Modify document structure UI

The automated document structure detector misidentified a footnote and page number as being part of the document body text. This is indicated by the gray line (revealed by checking the “Word” box on the right panel) that traces document word order. Draw box around the footnote and page number, and select “Mark Page Header.” The word order will change to exclude the footnote and page number.

Edit document structure

Remove incorrectly set blocks and paragraphs



References

Draw a box around the item to be removed
Select “remove” from the popup menu.
Remove first paragraph, then block.

The text flow will be adjusted in the following step “detect document structure”.

Each of the mis-identified item has to be removed individually.

At this stage, there are several possible tools that can be used (order is not important). These are: Mark taxon names, Parse bibliography, and Document metadata



Mark Taxon Names

From the “Tools” menu, select “Mark Taxon Names”

Imagine will detect taxonomic names throughout the document and find higher rank taxa. To view/edit taxonomic name attributes, click on a name and select “Edit taxonomicName Attributes”. This tool finds associated higher taxonomic names by querying external online databases, so be aware of this in case you will be using Imagine off line.

In most cases, it is not necessary to use the “Parse Taxonomic Names” tool. This tool allows to check whether the inferred combinations of names are correct.

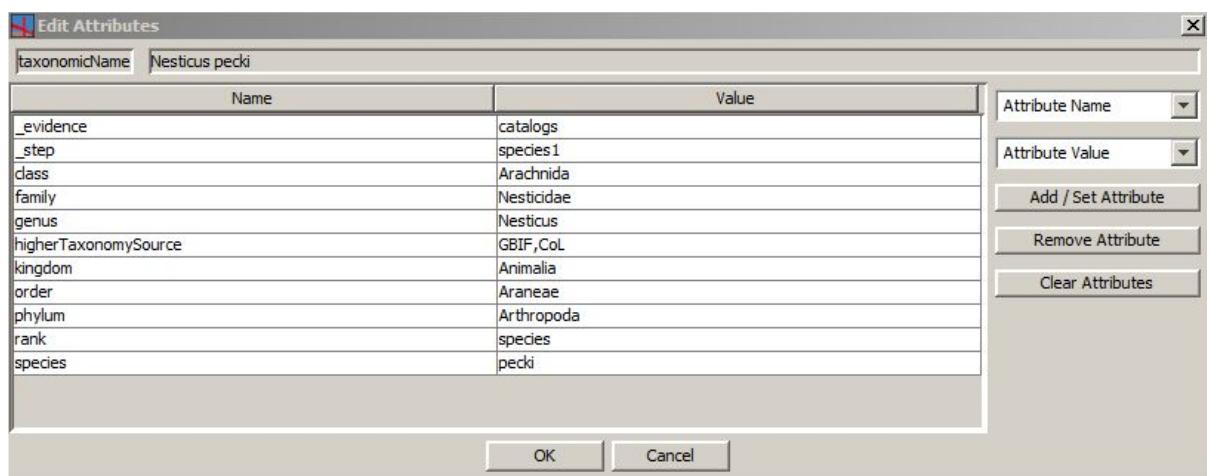


Fig XX Taxonomic name attributes

Mark Tables

This table has been discovered and automatically marked by Imagine, but there are some problems. Row names are not correct (character numbers are written with the 10s place digit above the 1s place digit and only on the first appearance), the table footnote is not recognized, and one of the rows is not correct (two rows treated as one).



Table 1. Distribution of characters scored for ten *Onomastus* taxa and subgroups

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>O. quinquepunctatus</i>	0	-	0	1	0	0	1	1	1	0	1	1	0
<i>O. nigromaculatus</i>	0	-	0	1	0	0	1	1	1	2	1	1	0
<i>O. nigricauda</i>	0	-	0	1	0	0	1	1	1	0	1	1	1
<i>O. paleatus</i>	0	-	0	1	0	1	1	1	1	1	0	1	0
<i>O. inderi</i> sp. nov.	0	-	0	1	0	1	1	1	1	1	0	1	0
<i>O. petaliyagodai</i> sp. nov.	0	-	0	1	0	0	1	1	1	1	1	1	0
<i>O. rufolensis</i> sp. nov.	0	-	0	1	0	0	1	1	1	0	1	1	1
<i>O. complexipalpis</i>	0	-	0	1	1	0	1	1	1	2	1	1	1
<i>O. kanol</i>	0	-	0	1	0	1	1	1	1	2	0	1	0
<i>O. kuharicum</i> sp. nov.	0	-	0	1	0	1	0	1	1	2	1	1	0
<i>Pandisus sarac</i> *	1	0	0	1	0	0	0	0	0	-	0	0	0
<i>Asemonea tenuipes</i> *	1	0	1	0	0	0	0	0	0	-	0	0	0
<i>Goleba puella</i> *	1	1	0	0	0	0	0	0	0	-	0	0	0
<i>Hipsa cingulata</i> *	0	-	0	0	-	0	0	0	0	-	0	1	0
<i>Lysomanes viridis</i> *	0	-	0	0	-	0	1	0	1	0	-	1	0

	1	5	6	7	8	9	10	11	12	13	14	15	16
<i>O. quinquepunctatus</i>	1	1	1	0	1	0	0	1	1	1	0	0	1
<i>O. nigromaculatus</i>	0	1	1	0	0	0	1	0	1	1	1	0	1
<i>O. nigricauda</i>	1	1	1	0	1	0	0	0	1	1	1	0	1
<i>O. paleatus</i>	1	1	1	1	1	1	0	1	1	1	1	0	1
<i>O. inderi</i> sp. nov.	1	1	1	1	1	1	0	1	1	1	1	0	1
<i>O. petaliyagodai</i> sp. nov.	1	1	1	0	1	0	1	0	1	1	0	0	1
<i>O. rufolensis</i> sp. nov.	1	1	1	0	1	1	0	1	1	1	1	0	1
<i>O. complexipalpis</i>	0	1	1	0	0	1	1	1	1	1	0	0	1
<i>O. kanol</i>	0	1	1	0	0	0	2	2	1	1	1	0	1
<i>O. kuharicum</i> sp. nov.	0	1	1	0	0	0	1	1	1	1	1	0	1
<i>P. sarac</i> *	-	0	0	0	0	0	1	0	0	1	0	0	1
<i>A. tenuipes</i> *	-	0	0	0	0	0	0	1	0	1	0	1	1
<i>G. puella</i> *	-	0	0	0	0	0	1	0	1	1	0	1	1
<i>H. cingulata</i> *	0	0	0	0	0	0	1	0	1	0	1	0	0
<i>L. viridis</i> *	0	0	0	0	0	1	0	1	1	0	1	0	1

Character states are scored 0 to 2; 0 for unknown, 1 for inapplicable. Outgroup taxa are denoted with an asterisk.

Right click on table and select remove table region (repeat for both).

Redraw tables including top row. Select Mark Table

Select the text below the table and select Mark Table Note

Draw a box defining the top part of the double row and select Split Table Row



Table 1. Distribution of characters scored for ten *Onomastus* taxa and outgroups

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Onomastus quinquepunctatus</i>	0	-	0	1	0	0	1	1	1	0	1	1	0
<i>Onomastus nigromaculatus</i>	0	0	0	1	0	0	1	1	1	2	1	1	0
<i>Onomastus nigricauda</i>	0	-	0	1	0	0	1	1	1	0	1	1	1
<i>Onomastus paleatus</i>	0	-	0	1	0	1	1	1	1	1	0	1	0
<i>Onomastus inderi</i> sp. nov.	0	0	0	1	0	1	1	1	1	1	0	1	0
<i>Onomastus pethiyagodai</i> sp. nov.	0	-	0	1	0	0	1	1	1	0	1	1	0
<i>Onomastus rufotinctus</i> sp. nov.	0	0	0	1	0	0	1	1	1	0	1	1	1
<i>Onomastus complexipalpis</i>	0	-	0	1	0	1	1	1	1	2	1	1	1
<i>O. kanol</i>	0	0	-	0	1	1	0	1	1	2	0	1	0
<i>O. kuharicum</i> sp. nov.	0	0	0	1	0	0	1	1	1	2	1	1	0
<i>Pandisus sarac</i> *	1	0	0	0	1	0	0	0	0	-	-	0	-
<i>Axemenes tenuipes</i> *	1	0	1	0	0	-	0	0	0	-	-	0	-
<i>Goleba puella</i> *	1	1	0	0	0	0	0	0	0	0	0	0	0
<i>Hippa cingulata</i> *	0	-	-	0	-	0	0	0	0	-	-	0	0
<i>Lissomarus viridis</i> *	0	-	-	0	-	0	1	0	0	0	1	0	0
	1	5	6	7	8	9	10	11	12	13	14	15	16
<i>O. quinquepunctatus</i>	1	1	1	0	1	0	0	0	1	1	0	0	1
<i>O. nigromaculatus</i>	0	1	1	0	0	0	1	0	1	1	0	0	1
<i>O. nigricauda</i>	1	1	1	0	1	0	0	0	1	1	0	0	1
<i>O. paleatus</i>	1	1	1	1	1	1	0	0	0	1	1	0	1
<i>O. inderi</i> sp. nov.	1	1	1	1	1	1	0	0	1	1	0	0	1
<i>O. pethiyagodai</i> sp. nov.	1	1	1	0	1	1	0	0	1	1	0	0	1
<i>O. rufotinctus</i> sp. nov.	1	1	1	0	1	1	0	0	1	1	0	0	1
<i>O. complexipalpis</i>	0	1	1	0	0	0	1	1	0	1	1	0	1
<i>O. kanol</i>	0	0	1	1	0	0	0	2	2	2	1	0	1
<i>O. kuharicum</i> sp. nov.	0	1	1	0	0	0	1	1	0	1	0	0	1
<i>P. sarac</i> *	0	0	0	0	0	0	1	0	0	1	1	0	1
<i>A. tenuipes</i> *	0	0	0	0	0	0	0	1	0	0	1	1	1
<i>G. puella</i> *	0	0	0	0	0	0	1	0	1	1	0	1	1
<i>H. cingulata</i> *	0	0	0	0	0	0	1	0	1	0	0	0	0
<i>L. viridis</i> *	0	0	0	0	0	1	0	0	1	1	0	0	1

Character states are scored 0 to 2; ? for unknown, - for unapplicable. Outgroup taxa are denoted with an asterisk.



Table 1. Distribution of characters scored for ten *Onomastus* taxa and outgroups.

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Onomastus quinquepunctatus</i>	0	-	0	1	0	0	1	1	1	0	1	1	0
<i>Onomastus nigrimaculatus</i>	0	-	0	1	0	0	1	1	1	2	1	1	0
<i>Onomastus nigricauda</i>	0	-	0	1	0	0	1	1	1	0	1	1	1
<i>Onomastus patellaris</i>	0	-	0	1	0	1	1	1	1	1	0	1	0
<i>Onomastus indra</i> sp. nov.	0	-	0	1	0	1	1	1	1	1	0	1	0
<i>Onomastus pethlyagodal</i> sp. nov.	0	-	0	1	0	0	1	1	1	0	1	1	0
<i>Onomastus rattoensis</i> sp. nov.	0	-	0	1	0	0	1	1	1	0	1	1	1
<i>Onomastus complexipalpis</i>	0	-	0	1	0	0	1	1	1	1	1	1	1
<i>O. kanol</i>	0	-	0	1	0	0	1	1	1	1	1	1	1
<i>O. kaharium</i> sp. nov.	0	-	0	1	0	0	1	1	1	1	1	1	0
<i>P. surae</i> *	-	-	0	0	0	0	1	0	0	1	1	1	0
<i>A. tenuipes</i> *	-	-	0	0	0	0	1	0	0	1	1	1	1
<i>G. puella</i> *	-	-	0	0	0	1	0	1	1	1	1	1	1
<i>H. cingulata</i> *	-	-	0	0	0	0	1	0	0	1	0	0	0
<i>L. viridis</i> *	0	0	0	0	0	1	0	1	1	1	1	1	1

	1	5	6
<i>O. quinquepunctatus</i>	1	1	
<i>O. nigrimaculatus</i>	0	1	
<i>O. nigricauda</i>	1	1	
<i>O. patellaris</i>	1	1	
<i>O. indra</i> sp. nov.	1	1	
<i>O. pethlyagodal</i> sp. nov.	1	1	
<i>O. rattoensis</i> sp. nov.	1	1	
<i>O. complexipalpis</i>	0	1	
<i>O. kanol</i>	0	1	
<i>O. kaharium</i> sp. nov.	0	1	
<i>P. surae</i> *	-	0	
<i>A. tenuipes</i> *	-	0	
<i>G. puella</i> *	-	0	
<i>H. cingulata</i> *	-	0	
<i>L. viridis</i> *	0	0	

Row Labels Not Matching

The row labels of the two tables are not the same:
Onomastus quinquepunctatus O. quinquepunctatus
Onomastus nigrimaculatus O. nigrimaculatus
Onomastus nigricauda O. nigricauda
Onomastus patellaris O. patellaris
Onomastus indra sp. nov. O. indra sp. nov.
...

Merge table rows anyway?

Character states are scored 0 to 1; ? for unknown, - for unapplicable. Outgroup taxa are denoted with an asterisk.

To merge the two table parts, click on a word in the first table row name and select Connect Table Rows. Then select a word in the corresponding row of the second table part. Because the row names are not identical (abbreviated in the second part), Imagine will confirm that this is what you want. Select Yes, Merge table rows anyway.

Click in an empty part of the table and select Copy Table Grid Data in the format you prefer (comma, semicolon, or tab delimited) and paste delimited data into another application, like Excel or a text editor.



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	0									1							
2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7
3	Onomastus quinqueonotatus	0 -	0	1	0	0	1	1	1	0	1	1	0	1	1	1	0
4	Onomastus nigricaudatus	0 -	0	1	0	0	1	1	1	2	1	1	0	0	1	1	0
5	Onomastus nigricauda	0 -	0	1	0	0	1	1	1	0	1	1	1	1	1	1	0
6	Onomastus patellaris	0 -	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1
7	Onomastus indra sp. nov.	0 -	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1
8	Onomastus pethiyagodai sp. nov.	0 -	0	1	0	0	1	1	1	0	1	1	0	1	1	1	0
9	Onomastus rattotensis sp. nov.	0 -	0	1	0	0	1	1	1	0	1	1	1	1	1	1	0
10	Onomastus complexipalpis	0 -	0	1	1	0	1	1	1	2	1	1	1	0	1	1	0
11	Onomastus kanoi	0 -	0	1	1	0	1	1	1	2	0	1	0	0	1	1	0
12	Onomastus kaharian sp. nov.	0 -	0	1	0	0	1	1	1	2	1	1	0	0	1	1	0
13	Pandisus saree *	1	0	0	1	0	0	0	0 -	-	-	0 -	-	0	0	0	0
14	Asemonea tenuipes *	1	0	1	0 -	0	0	0 -	-	-	-	0 -	-	0	0	0	0
15	Goleba puella *	1	1	0	0 -	0	0	0 -	-	-	-	0 -	-	0	0	0	0
16	Hispo cingulata *	0 -	-	0 -	0	0	0 -	-	-	-	1	0	0	0	0	0	0
17	Lyssomanes viridis *	0 -	-	0 -	0	0	1	0	0 -	-	1	0	0	0	0	0	0

Parse Bibliography

Before running this tool, it is advisable to check the paragraph structure of the bibliography in the Display Control. Be sure that “Paragraph” is checked. Each reference should be within a single paragraph (by default, indicated by a red rectangle), unless it spans a page break.

If there are any errors, these can be corrected. Draw a box using the click and drag function. Paragraphs can be removed, split, and created (Mark region/paragraph).

When the paragraphs are correct, select “Parse Bibliography” from the “Tools” menu. Check the suggestions for assigning elements of the reference to the appropriate field.

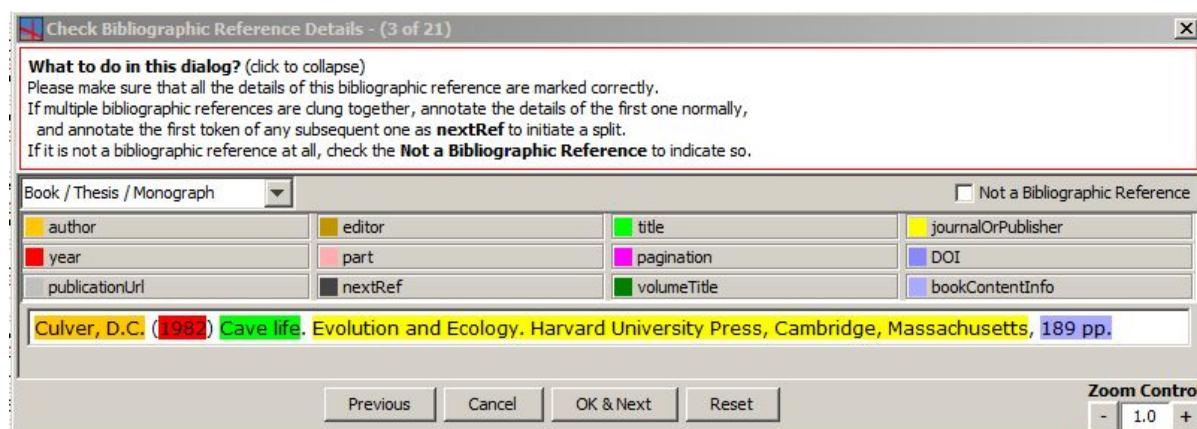


Fig XX. Parse Bibliography UI.

Make sure, that in the upper left corner the format of the article is selected. Then whether the elements are properly assigned. If not, then highlight the tokens (words) before and after where assignment needs be split. Use right mouse click and select the respective choice. Alternatively the entire annotation can be removed, and then each of the elements properly assigned.

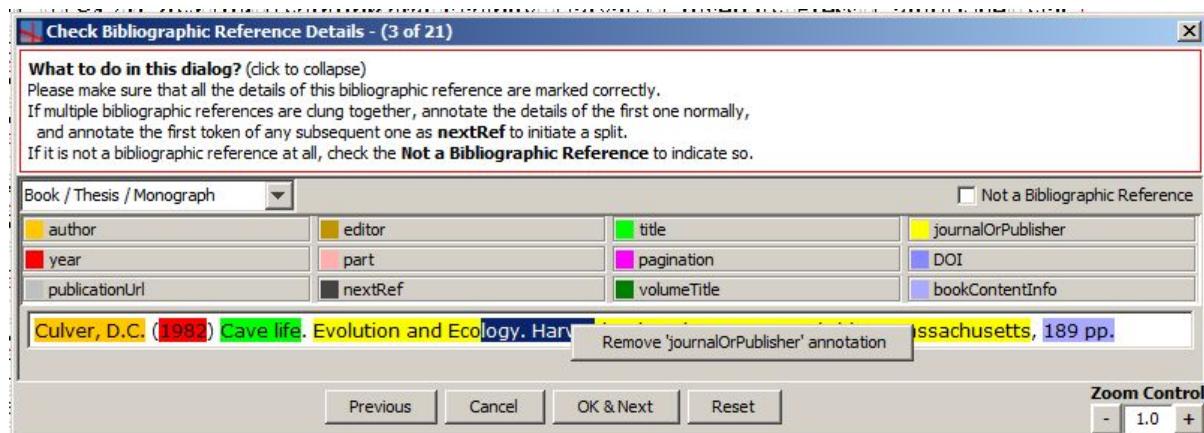


Fig. XX. Parse Bibliography UI. Remove an annotation

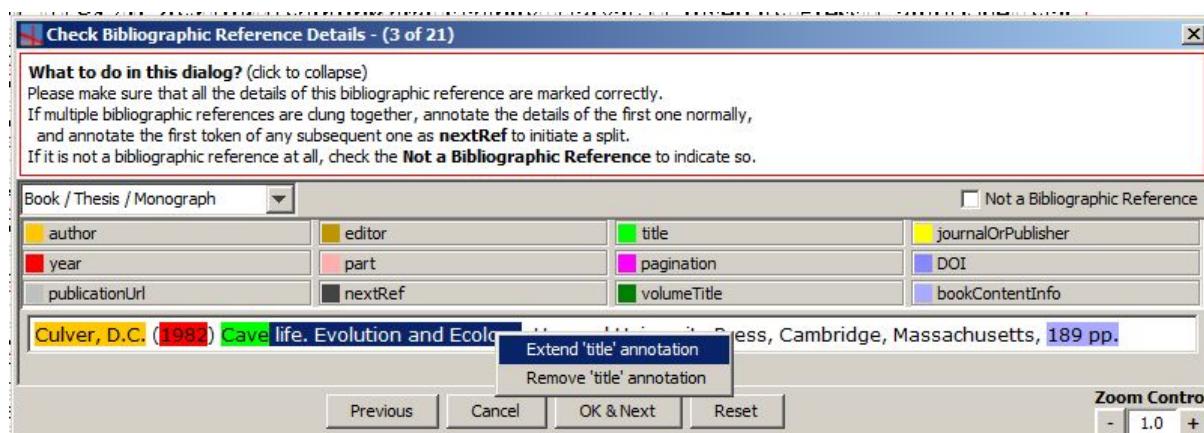


Fig. XX. Parse Bibliography UI. Extend an annotation.

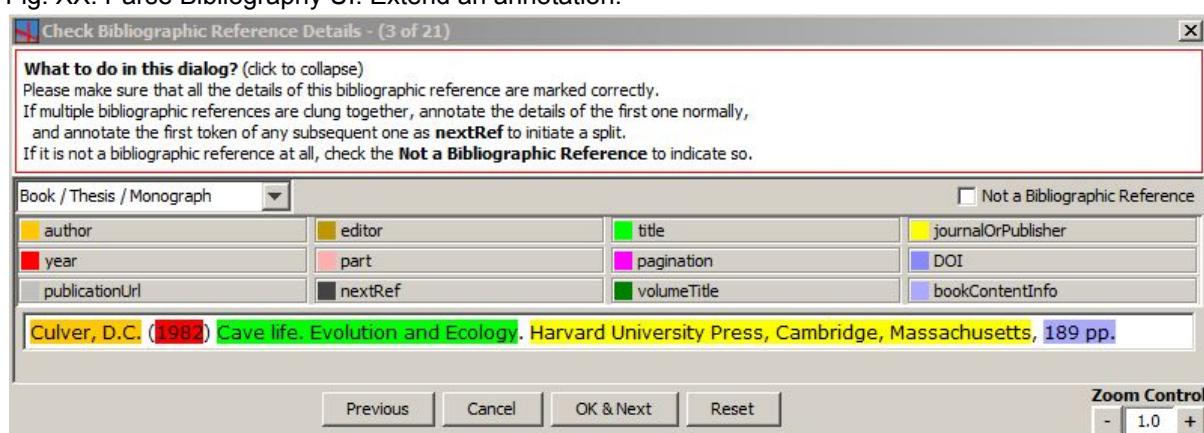


Fig. xx Parse Bibliography UI. Correctly set annotations.

Correcting bibliographic reference attributes. Selected text can be assigned to a field by clicking on the appropriate label above. Note that text can belong to only one field, so any interfering highlights must be removed first. To do this, highlight the problematic text and select “Remove...” from the context menu (Fig. XX).



Annotate and edit bibliographic references

In the “Display Control” menu select “Hide All” and then only activate the bibRef annotation. Click with the mouse on the target bibliographic reference, select “Edit Annotation Attribute” (Fig xx) and the respective UI appears (Fig. xx). How to edit attributes, see below.

The screenshot shows a list of bibliographic references in a GoldenGATE interface. A context menu is open over the second reference in the list, with the option 'Edit Annotation Attribute' highlighted by a red arrow. The 'Display Control' sidebar on the right shows that 'bibRef' is selected. The references listed include:

- Cuezzo, T. & Claver, S. (2009) Two new species of the ant genus *Pogonomyrmex* (Hymenoptera: Formicidae) from Argentina. *Revista de la Sociedad Entomológica Argentina*, 68, 97–106.
- Fernández, F.C. & Palacio, E.E. (1998, "1997") Clave para las *Pogonomyrmex* (Hymenoptera: Formicidae) del Norte de Suramérica, con la descripción de una nueva especie. *Revista Biológica Tropical*, 45, 1649–1661.
- Fontenla, J.L. (1997) Lista preliminar de hormigas de Cuba. *Cocuyo*, 6, 18–21.
- Gadau, J., Strehl, C.P., Oettler, J. & Hölldobler, B. (2003) Determinants of intracolonial relatedness in *Pogonomyrmex rugosus* (Hymenoptera: Formicidae) mating frequency and brood raids. *Molecular Ecology*, 12, 1931–1938. <http://dx.doi.org/10.1046/j.1365-294X.2003.01853.x>
- Gordon, D.M. & Kulig, A.W. (1996) Founding, foraging, and fighting: colony size and the spatial distribution of harvester ant nests. *Ecology*, 77, 2393–2409. <http://dx.doi.org/10.2307/2265741>
- Heinze, J., Hölldobler, B. & Cover, S.P. (1992) Queen polymorphism in *Imberbiculus*. *Insectes Sociaux*, 39, 267–273. <http://dx.doi.org/10.1007/BF01323947>
- Hölldobler, B. (1976a) The behavioral ecology of mating in harvester ants. *Behavioral Ecology and Sociobiology*, 1, 405–423. <http://dx.doi.org/10.1007/BF00299401>
- Hölldobler, B. (1976b) Recruitment behavior, home range orientation and territoriality in harvester ants. *Behavioral Ecology and Sociobiology*, 1, 3–44. <http://dx.doi.org/10.1007/BF00299951>
- Johnson, R.A. (2000) Seed-harvester ants (Hymenoptera: Formicidae: Pogonomyrmex). An overview of ecology and biogeography. *Sociobiology*, 36, 89–122.

The screenshot shows the 'Edit Attributes' dialog box for the reference 'Culver, D. C. (1982) Cave life. Evolution and Ecology. Harvard University Press, Cambridge, Massachusetts, 189 pp.'. The 'Attribute Name' dropdown is set to 'bibRef'. The table lists the following attributes:

Name	Value
_evidence	authorListYearBracketsStart.regEx.txt
author	Culver, D. C.
bookContentInfo	189 pp.
journalOrPublisher	Harvard University Press, Cambridge, Massachusetts
pageId	18
pageNumber	19
title	Cave life. Evolution and Ecology
type	book
year	1982

Buttons at the bottom include 'OK' and 'Cancel'.

Fig XX Check bibliographic reference attributes, select “bibRef...” Edit attributes as needed.



How to split merged bibliographic references

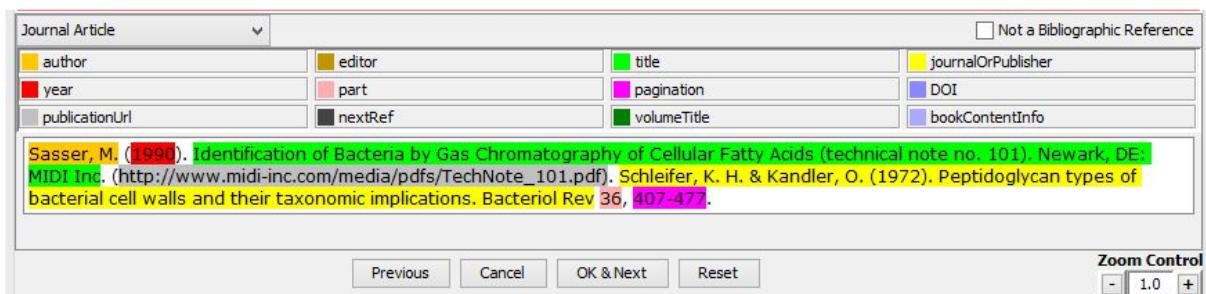


Fig. XX. Merged bibliographic references

Finish analyser (and remember the reference)
in main display close all highlights of tags and open only bibRef

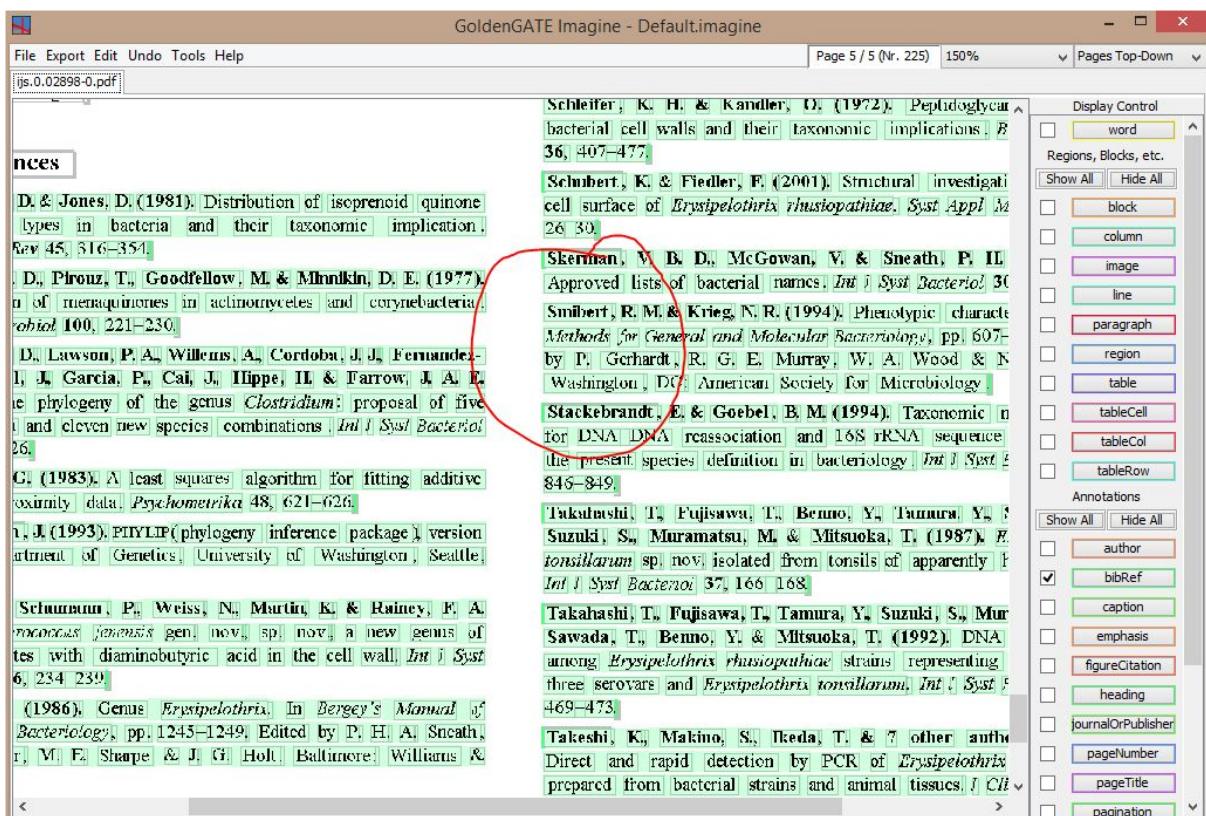


Fig. XX. Each bibRef is high-lited at the begin and end of the annotation with a darker hue (bar).

High-lite the begin of the omitted reference



GoldenGATE Imagine - Default.imagine

File Export Edit Undo Tools Help
js.0.02898-0.pdf

Page 5 / 5 (Nr. 225) 150% Pages Top-Down

nces

D. & Jones, D. (1981). Distribution of isoprenoid quinone types in bacteria and their taxonomic implication. *Rev* 45, 316–354.

D., Pirouz, T., Goodfellow, M. & Mlinarik, D. E. (1977). On menaquinones in actinomycetes and corynebacteria. *Cytobiol* 100, 221–230.

D., Lawson, P. A., Willems, A., Cordoba, J. J., Fernandez-L., J. Garcia, P., Cai, J., Flipse, H. & Farrow, J. A. E. The phylogeny of the genus *Clostridium*: proposal of five new and eleven new species combinations. *Int J Syst Bacteriol* 26,

G. (1983). A least squares algorithm for fitting additive proximity data. *Psychometrika* 48, 621–626.

J. (1993). PHYLIP (phylogeny inference package) version 3.6. Department of Genetics, University of Washington, Seattle.

Schumann, P., Weiss, N., Martin, K. & Rainey, F. A. *PROTEUS* gen. nov., sp. nov., a new genus of bacteria with diaminobutyric acid in the cell wall. *Int J Syst Bact* 6, 234–239.

(1986). Genus *Erysipelothrix*. In *Bergey's Manual of Bacteriology*, pp. 1245–1249. Edited by P. H. A. Sneath, R. M. F. Sharp & J. G. Holt. Baltimore: Williams &

Schleifer, K. H. & Kandler, O. (1972). Peptidoglycan bacterial cell walls and their taxonomic implications. *B* 36, 407–477.

Schubert, K. & Fiedler, E. (2001). Structural investigation of the cell surface of *Erysipelothrix rhusiopathiae*. *Syst Appl Microbiol* 26, 30.

Skerman, V. B. D., McGowan, V. & Sneath, P. H. A. Approved lists of bacterial names. *Int J Syst Bacteriol* 30,

Smibert

- Men... Annotate
- by... Annotate All
- Wa... Edit Word Attributes
- Sta... Edit bibRef Attributes
- for... Remove bibRef Annotation
- the... Remove All 'Smibert' bibRef Annotations
- 846... Change Annotation Type
- Tak... Start Annotation
- Suz... Split bibRef Before
- tions... Split bibRef After
- Int... Copy bibRef Text
- Tak... Copy bibRef XML
- Saw... Parse Reference
- arm... Parse Materials Citations
- thre... Edit Font
- 469... List bibRef Annotations
- Tak... Mark Caption
- Dire... Mark Footnote
- prep... >

Annotations

- Show All Hide All
- author
- bibRef
- caption
- emphasis
- figureCitation
- heading
- journalOrPublisher
- pageNumber
- pageTitle
- pagination

Select “Split bibRef Before”

Hover over the reference with the mouse, click and select “Parse Reference”

Document Meta Data

From the Edit menu, select Edit Document Meta Data (or alternatively, from the Tools menu, select Add Document Meta Data). There are three ways to enter the document meta data: Extract, Search, and manual entry. Values entered using the first two methods can be modified using manual entry.



Get Meta Data for Document zt00904.pdf

Publication Type: Book / Thesis / Monograph

Authors (use '&' to separate):

Title: Descriptions of a new species and previously unknown males of *Nesticus* (Araneae: Nesiidae)

Year: 1994 Pagination: 1-19

Journal:

Part Designators: volume: issue: numero:

Publisher:

Location:

Editors (use '&' to separate):

Volume Title:

Publication Url:

DOI Identifier:

Handle Identifier:

ISBN Identifier:

ISSN Identifier:

ZooBank Identifier:

HNS-Pub Identifier:

Extract Search Validate OK Cancel

Fig XX The Edit Document Meta Data window

The “Extract” method displays the first several lines of document text (expandable by using the “more” button). Highlight text corresponding to the fields outlined in red. Press the field button, which captures the selected text and turns the outline green.

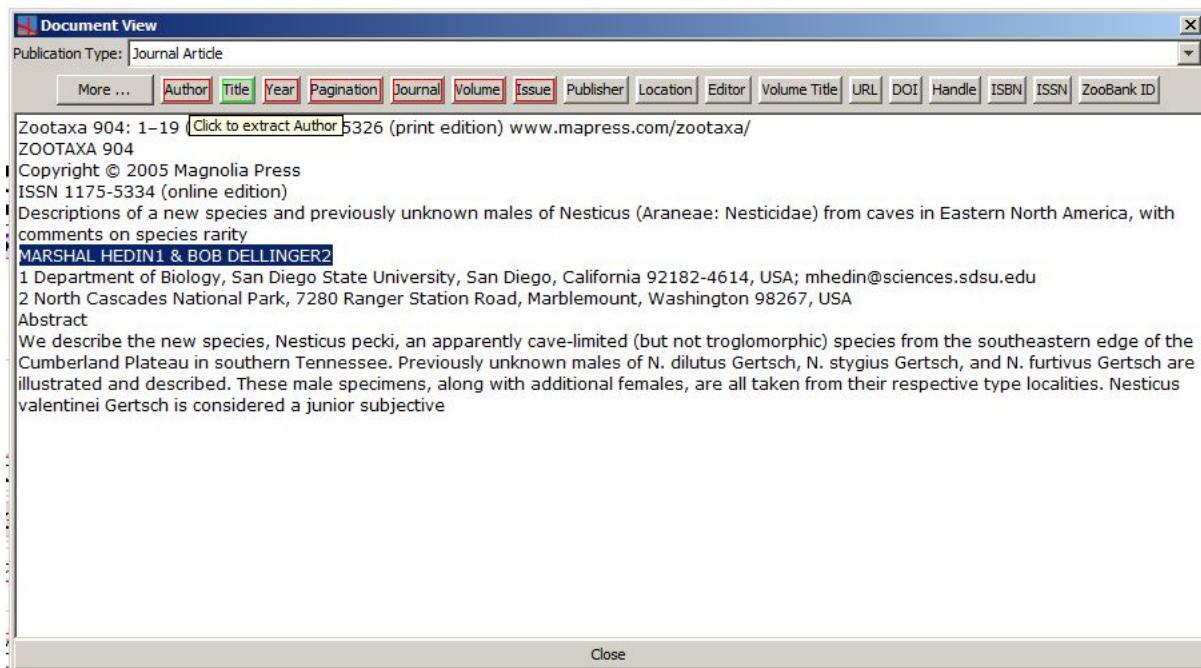


Fig XX Extracting bibliographic meta data. Highlight the appropriate text before clicking on the appropriate field.



Get Meta Data for Document zt00904.pdf

Publication Type:	Journal Article		
Authors (use '&' to separate):	Marshal Hedin1 & Bob Dellinger2		
Title:	eae: Nesticidae) from caves in Eastern North America, with comments on species rarity		
Year:	2005	Pagination:	1-19
Journal:	Zootaxa		
Part Designators:	volume: 904	issue:	numero:
Publisher:			
Location:			
Editors (use '&' to separate):			
Volume Title:			
Publication Url:			
DOI Identifier:			
Handle Identifier:			
ISBN Identifier:			
ISSN Identifier:			
ZooBank Identifier:			
HNS-Pub Identifier:			
<input type="button" value="Extract"/> <input type="button" value="Search"/> <input type="button" value="Validate"/> <input type="button" value="OK"/> <input type="button" value="Cancel"/>			

Fig XX Bibliographic meta data values found using the Extract method. The numbers following the author names can be removed by simply editing the text field.

The “Search” method checks the database for similar documents and offers these meta data.

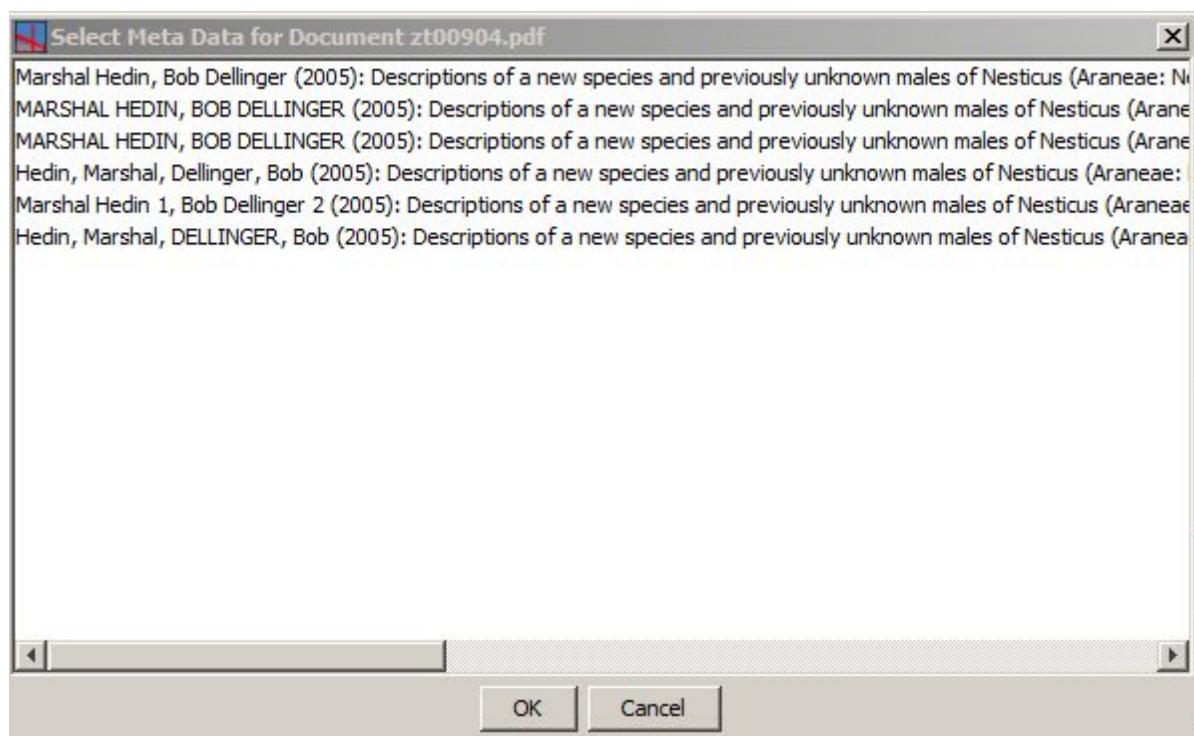


Fig XX Suggested document meta data based on parsed references available to Imagine. Select the best match and click OK



Get Meta Data for Document zt00904.pdf

Publication Type:	Journal Article		
Authors (use '&' to separate):	MARSHAL HEDIN & BOB DELLINGER		
Title:	eae: Nesticidae) from caves in Eastern North America, with comments on species rarity		
Year:	2005	Pagination:	1-19
Journal:	Zootaxa		
Part Designators:	volume: 904	issue:	numero:
Publisher:			
Location:			
Editors (use '&' to separate):			
Volume Title:			
Publication Url:	http://www.mapress.com/zootaxa/2005f/zt00904.pdf		
DOI Identifier:			
Handle Identifier:			
ISBN Identifier:			
ISSN Identifier:			
ZooBank Identifier:			
HNS-Pub Identifier:			
<input type="button" value="Extract"/> <input type="button" value="Search"/> <input type="button" value="Validate"/> <input type="button" value="OK"/> <input type="button" value="Cancel"/>			

Fig XX Document meta data fields populated using the “Search” method

To refine the data, manually edit. In this example, we have changed the author format (Lastname, Firstname with individuals separated by “&” is preferred) and added a DOI. Use the Validate button to check that all necessary meta data fields have content.



Get Meta Data for Document zt00904.pdf

Publication Type:	Journal Article		
Authors (use '&' to separate):	Hedin, Marshal & Dellinger, Bob		
Title:	eae: Nesticidae) from caves in Eastern North America, with comments on species rarity		
Year:	2005	Pagination:	1-19
Journal:	Zootaxa		
Part Designators:	volume: 904	issue:	numero:
Publisher:			
Location:			
Editors (use '&' to separate):			
Volume Title:			
Publication Url:	http://www.mapress.com/zootaxa/2005f/zt00904.pdf		
DOI Identifier:	http://dx.doi.org/10.11646/zootaxa.904.1.1		
Handle Identifier:			
ISBN Identifier:			
ISSN Identifier:			
ZooBank Identifier:			
HNS-Pub Identifier:			
<input type="button" value="Extract"/> <input type="button" value="Search"/> <input type="button" value="Validate"/> <input type="button" value="OK"/> <input type="button" value="Cancel"/>			

Fig XX Final document metadata.

Mark Treatments

Imagine offers two alternative methods for marking treatment boundaries: the “Mark Treatments” Tool, and manual method.

Mark Treatment Tool

From the Tools menu, select “Mark Treatments”. This brings up a dialog box that can be stepped through using the “OK & Next” button. In addition to treatments, several other domains can be marked

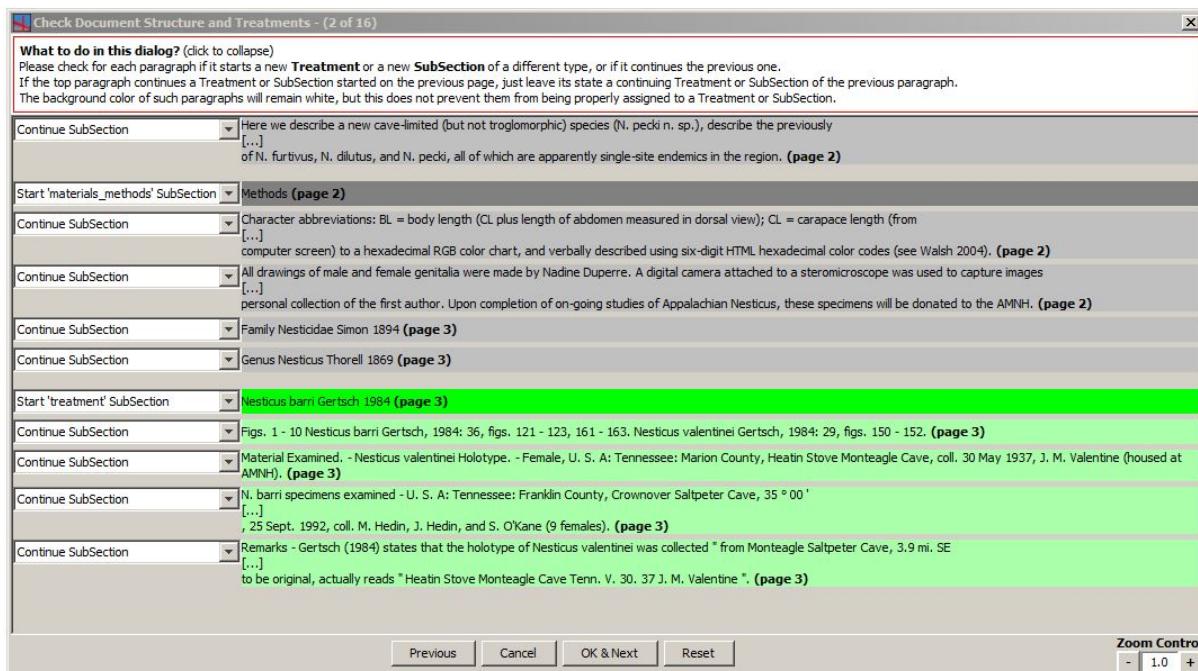


Fig XX Mark treatment boundaries using the Mark Treatments Tool

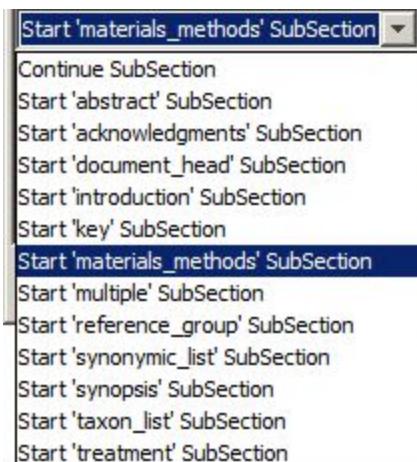


Fig XX The Mark Treatments Tool also allows users to designate several other document SubSections. Use 'multiple' for sections that do not fit with any other available category

Manual markup of treatments

Alternatively, treatments can be marked manually. Select the first word of the treatment, and select “Start Annotation” from the context menu. A red banner will appear across the top of the screen indicating that an annotation has been started. Scroll down to the end of the treatment. Select the end of the treatment (typically a period, so select carefully; cursor will change from standard arrow to “pencil” icon



when selection is possible). A dialog box will prompt the user to enter the type of annotation; select “treatment”.

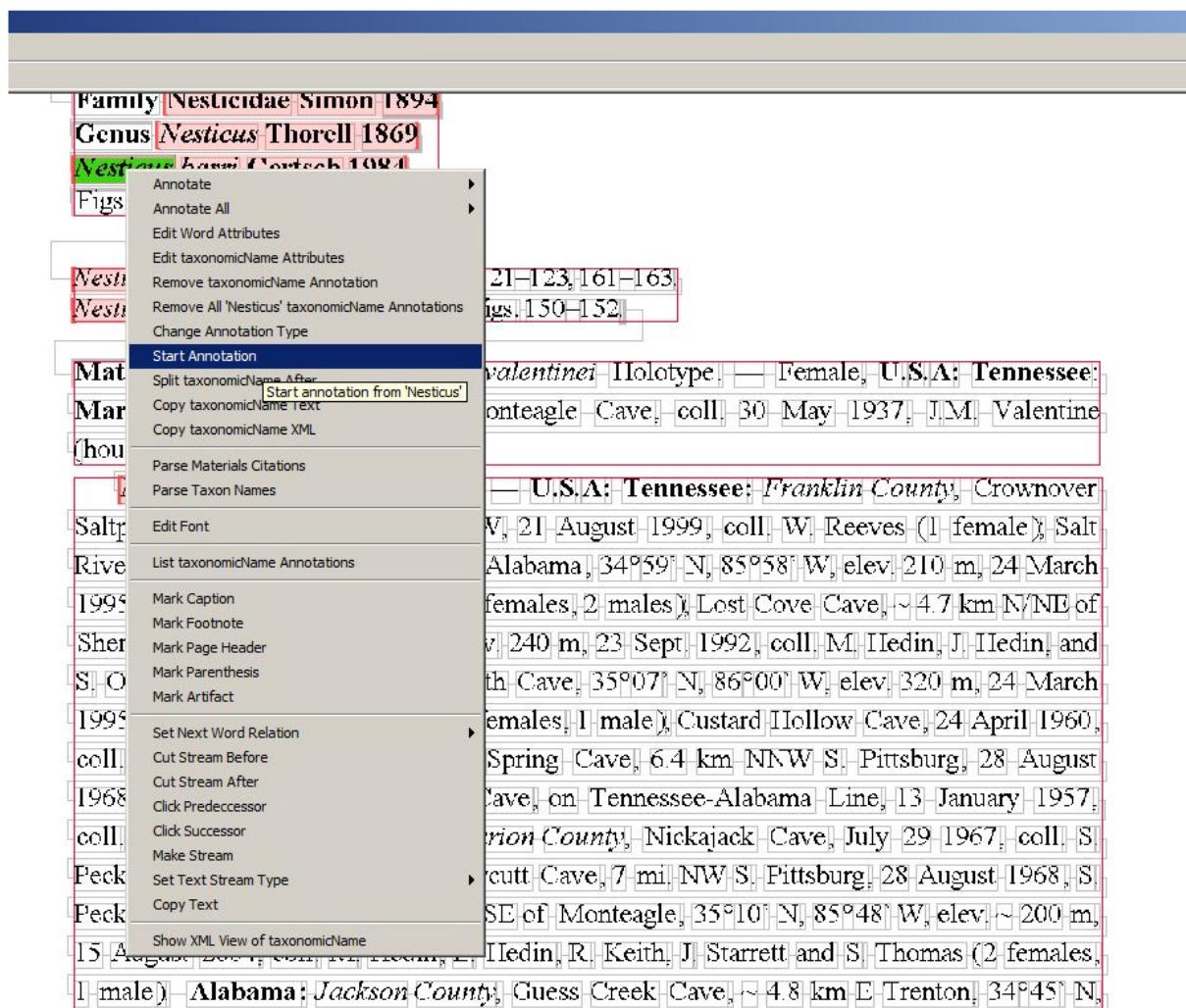


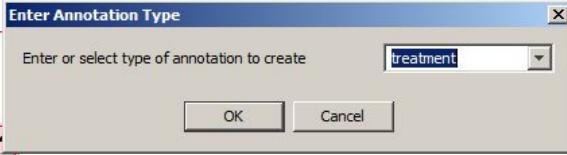
Fig XX Start manually marking treatment boundaries by selecting the first word of the treatment, and selecting “Start Annotation” from the context menu



Gertsch 1984, figs. 121–123). Add annotation starting from 'Nesticus' of the irregular apophysis across populations (Figs. 9 & 10), but the condition seen in the Tate Springs male is very close to that illustrated by Gertsch (figs. 121–123). Again, we interpret this as geographic variation in a single, dispersal-limited, species.

Although *N. valentini* has page priority, we prefer to merge the single *N. valentini* population with the many known *N. barri* populations. This decision is consistent with Article 24.2 (determination by first reviser) of the International Code of Zoological Nomenclature (ICZN, 4th edition).

DNA sequences. — Mitochondrial 16S (Genbank accession numbers AF004596 - 99) and nuclear ITS (AF003769 - 70) DNA sequences for several populations of *N. barri* were reported in Hedin (1997a).



Nesticus stygius Gertsch 1984.

Figs. 1, 11–12

Nesticus stygius Gertsch 1984: 36, figs. 170–172.

Material Examined; Holotype. — Female, U.S.A; Tennessee; Overton County, Obe Lee Cave, coll. 21 December 1958, T.C. Barr, I. Breeding, & C. Kacsur (housed at AMNH).

Additional Type Locality Material Examined. — Male and female, U.S.A; Tennessee; see: Overton County, Obe Lee Cave, 36°12'23" N, 85°15'08" W, elev. ~400 meters, coll. 11 October 1993, M. Hedin & C. Phillips (MCII male specimen #1882; MCII female specimen #1885).

Other Material Examined. — U.S.A; Tennessee; Overton County, Raven Bluff Cave, NW of Allons, 36°29'33" N, 85°21'36" W, elev. ~275 meters, coll. 1 October 1991.

Fig XX Finish manually marking treatment boundaries by selecting the last token of the treatment, and selecting "treatment" from the Enter Annotation Type dialog box

Once treatments are marked, it is advisable to check the paragraph boundaries. Be sure both paragraph and block are selected from the Display Control. In this example, separate lines of text at the beginning of the treatment have been erroneously placed within the same paragraph. Click within the paragraph and select "Revise Block Paragraphs" from the context menu. Select appropriate options as necessary; in this example, "Make each line a separate paragraph".

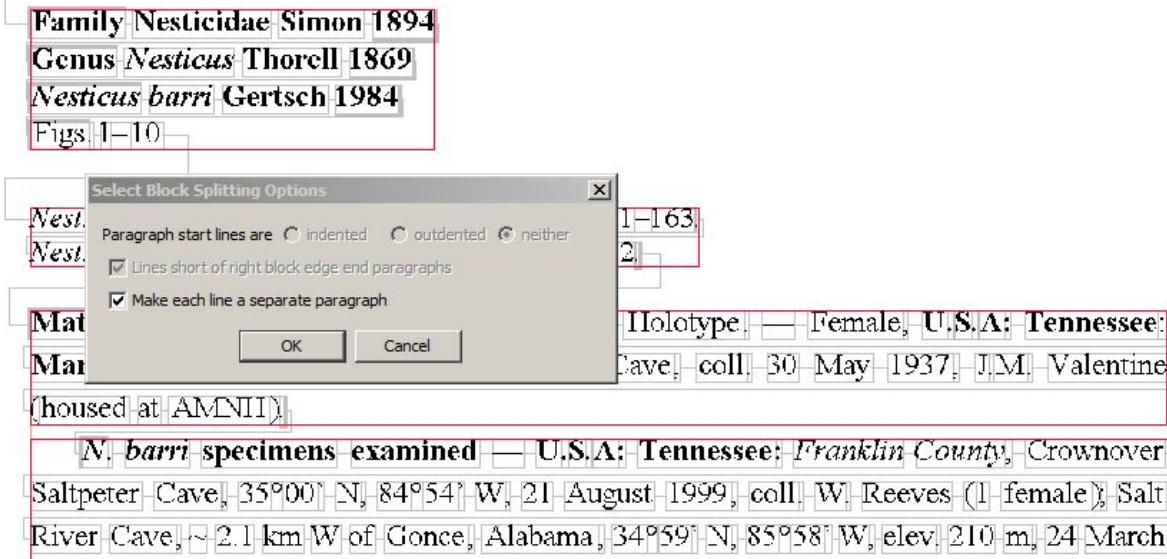


Fig XX Use Revise Block Paragraphs to efficiently split each line into its own paragraph

Treatment Structure

From the Tools menu, select “Treatment Structure”. This brings up a dialog box that can be stepped through using the “OK & Next” button.

The first line is typically the name of the taxon that this treatment concerns; this should be marked as “nomenclature”. References to previous literature on this species are marked as “reference_group”. Other typical treatment sections include diagnosis, description, materials_examined, etymology, biology_ecology; additional text can be categorized as discussion.

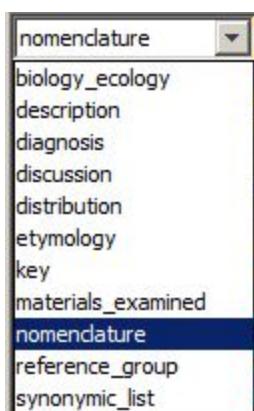


Fig XX The Treatment Structure Tool also allows users to designate treatment paragraphs according to the categories shown.



Check Substructure of Treatments - (2 of 5)

What to do in this dialog? (click to collapse)
Please select to which data domain (e.g. nomenclature or description) of the treatment these paragraphs belong.

nomenclature Nesticus stygius Gertsch 1984

description Figs. 1, 11-12

reference_group Nesticus stygius Gertsch 1984: 36, figs. 170 -172,

materials_examined Material Examined: Holotype. - Female, U.S.A; Tennessee; Overton County, Obe Lee Cave, coll. 21 December 1958, T.C. Barr, F. Breeding, & C. Kacsur (housed at AMNH).

materials_examined Additional Type Locality Material Examined. - Male and female, U.S.A; Tennessee; Overton County, Obe Lee Cave, 36°12'23" N, 85°15'08" W, elev. ~ 400 meters, coll. 11 October 1993, M. Hedin & C. Phillips (MCH male specimen #1882; MCH female specimen #1885).

materials_examined Other Material Examined. - U.S.A; Tennessee; Overton County, Raven Bluff Cave, NW of Allons, 36°29'33" N, 85°21'36" W, elev. ~ 275 meters, coll. 1 October 1991, M. Hedin, K. Crandall & A. Gerber (MCH female specimen #1018; MCH male specimens #1019, #1020).

discussion Remarks. - Gertsch (1984) lists a female from Webb Cave, Putnam County, Tennessee. Webb Cave is actually in Overton County.

diagnosis Diagnosis. - The troglomorphic features of *N. stygius* readily distinguish this species from smaller, surface-dwelling *Nesticus* found further east and north in the Appalachians. Compared to other large-bodied Appalachian troglomorphs, males of this species are distinguished by the unique shape of the dorsal paracymbial process (Fig. 11), and the distinctive thickened and chisel-like tegular apophysis (Fig. 12). The narrow median septum and bulging posterolateral edges of the epigynum distinguish females (Gertsch 1984).

description Description of male from type locality (MCH male specimen #1882) (Figs. 11 & 12; Table 1). - Color of appendages and cephalothorax uniform in coloration, approximating HTML color "dark orange" (#FF8C00). Abdomen darker, more flesh-colored, between "dark salmon" (#E9967A) and "gray" (#808080). Lenses of secondary eyes evident, without pigmentation. No external evidence of median eyes. Leg formula 1-2-3. Legs very long, leg I over 11 times longer than carapace width. Paracymbium of male palpus with translucent dorsal process, bowed dorsally, forward, wide at base then narrowing towards tip, shaped like a duck's head. Small paradistal process, distal paracymbium with fine serrations. Ventral paracymbium without modification. Tegular apophysis of palp well-sclerotized, thickened, blade-like, curving anteriorly. Small cuticular process arising near posterior origin of tegular apophysis. Median apophysis semi-translucent, approximately triangular, anterioromedial edge thickened.

description Redescription of female from type locality (MCH female specimen #1885) (Table 1). - Gertsch (1984) describes the holotype female as a "pale, eyeless, long-legged troglobite", with cephalothorax and appendages bright yellow, without pattern", "eyes obsolete or nearly so". The redescribed female is mostly consistent with this description, although coloration is not "bright yellow". Color of cephalothorax and legs similar to male, but with lighter, unpatterned abdomen. Lateral eyes only apparent as small patches of pearl-colored cuticle. No external lateral fovea, posterolateral edges thickened, rounded, and bulging conspicuously.

description Variation. - Two males from Raven Bluff Cave, Overton County, Tennessee with paradistal process of paracymbium more pronounced, drawn into three-sided sharp point, otherwise similar to described male.

biology_ecology Natural History. - Both Obe Lee and Raven Bluff caves are moist caves, Raven Bluff with a small (permanent?) stream, Obe Lee with a wet weather stream that flows into the mouth. Spiders were found beyond the twilight zone in both caves, occupying vertically-oriented webs in relatively high humidity crevices along cave walls. A female collected on 1 October, 1991 from Raven Bluff Cave carried an eggsac containing 22 eggs.

distribution Distribution. - This species is known only from four caves on the western margin of the Cumberland Plateau in Overton county, north-central Tennessee (Fig. 1).

Zoom Control - 1.0 +

Previous Cancel OK & Next Reset

Fig XX Example of treatment structure annotated using the Treatment Structure tool

Mark Materials Citations

From the Tools menu, select “Mark Materials Citations”. This brings up a dialog box that can be stepped through using the “OK & Next” button. This is a complex, multi-part tool. Note that the materials_examined sections marked in the treatment structure tool (above) are not utilized here.

The first stage of the Mark Materials Citations tool looks for text patterns consistent with collection codes and prompts to user to indicate whether or not they are (check the box if the bold text is a collection code).

The second stage refines which paragraphs contain materials citations and annotates these with country and major region names. Use the “Exclude paragraph” check box to indicate that the paragraph does not contain materials citations.

The third stage establishes boundaries between specimen records. Each record is represented as a line of text. Highlight the start of the first record and use “Split materialsCitation...” from the context menu; select text that is not materialsCitation and select “Remove ‘materialsCitation’ annotation” from the context menu. Use “Merge ‘materialsCitation’ annotations” to join parts of the same record spread across multiple lines.

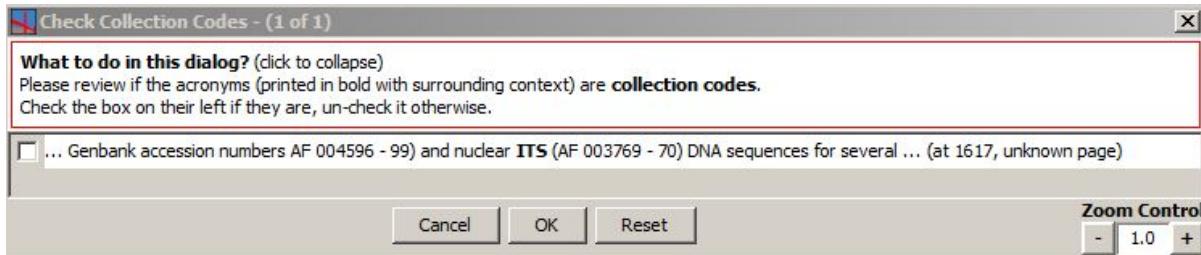


Fig XX The Mark Materials Citations tool first looks for collection codes

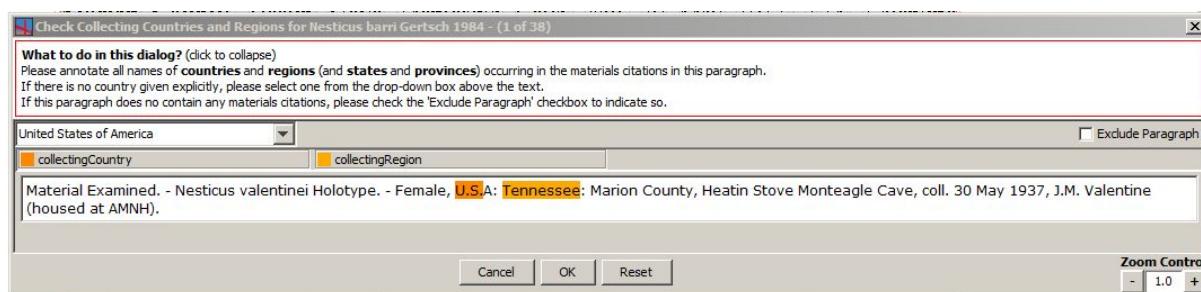


Fig XX The second stage of the Mark Materials Citations tool is to identify collecting countries and major regions

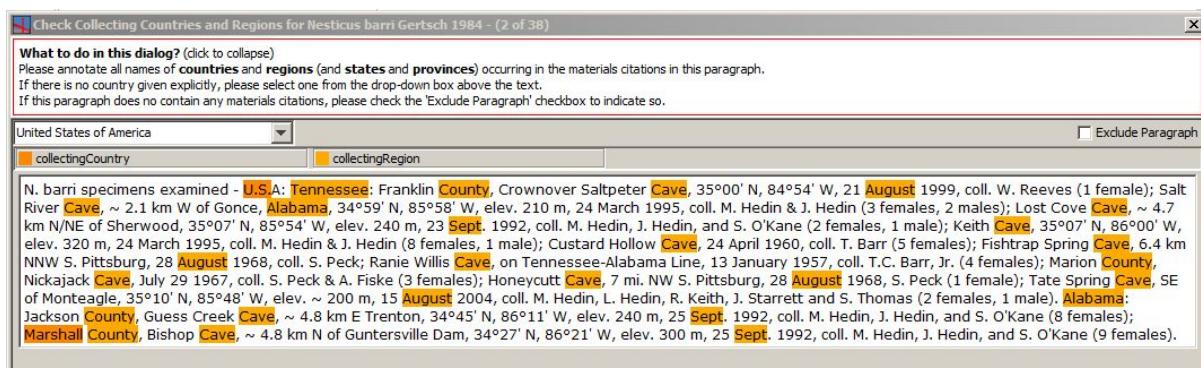


Fig XX The second stage of the Mark Materials Citations tool is to identify collecting countries and major regions. Select the country from the drop down menu, and highlight the appropriate text for the country (collectingCountry) and and region (collectingRegion). Imagine suggests country and region annotations; remove erroneously marked text by highlighting (one or more) and selecting “Remove...” from the context menu

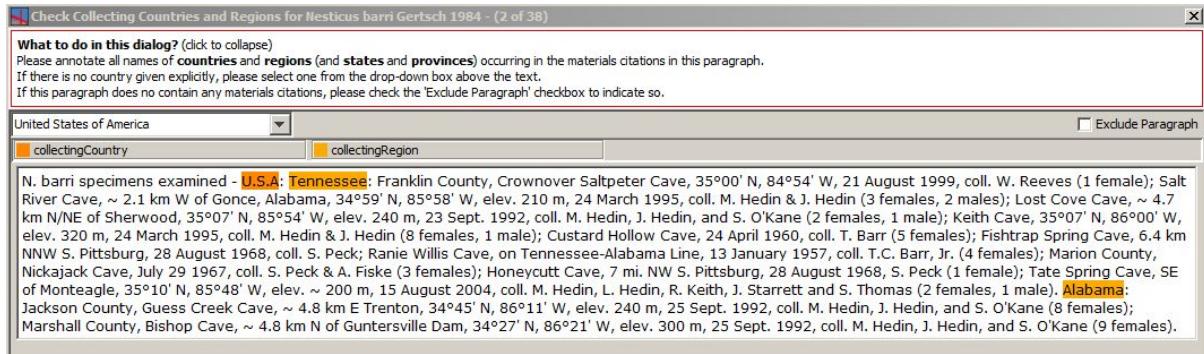


Fig XX Collecting country and region after manually removing erroneously marked text

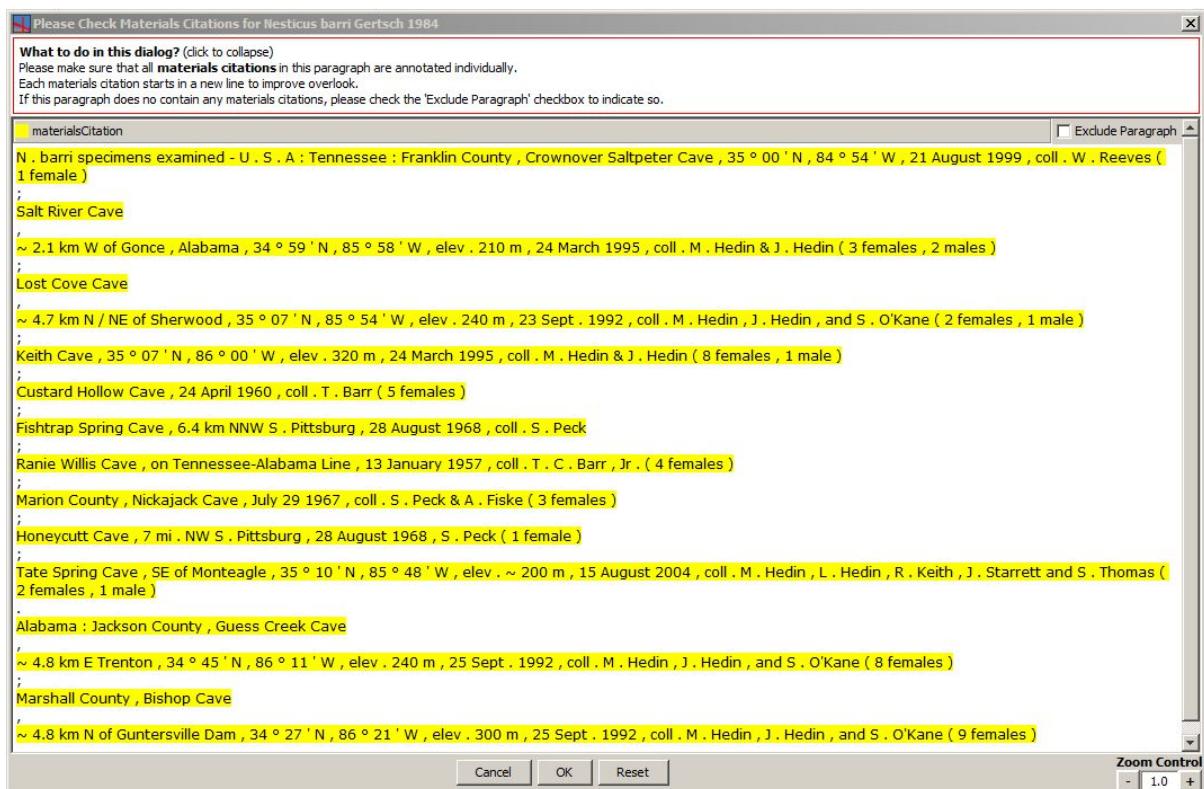


Fig XX automated parsing of materialsCitations into individual records. Modify so that each yellow highlighted line represents one record.

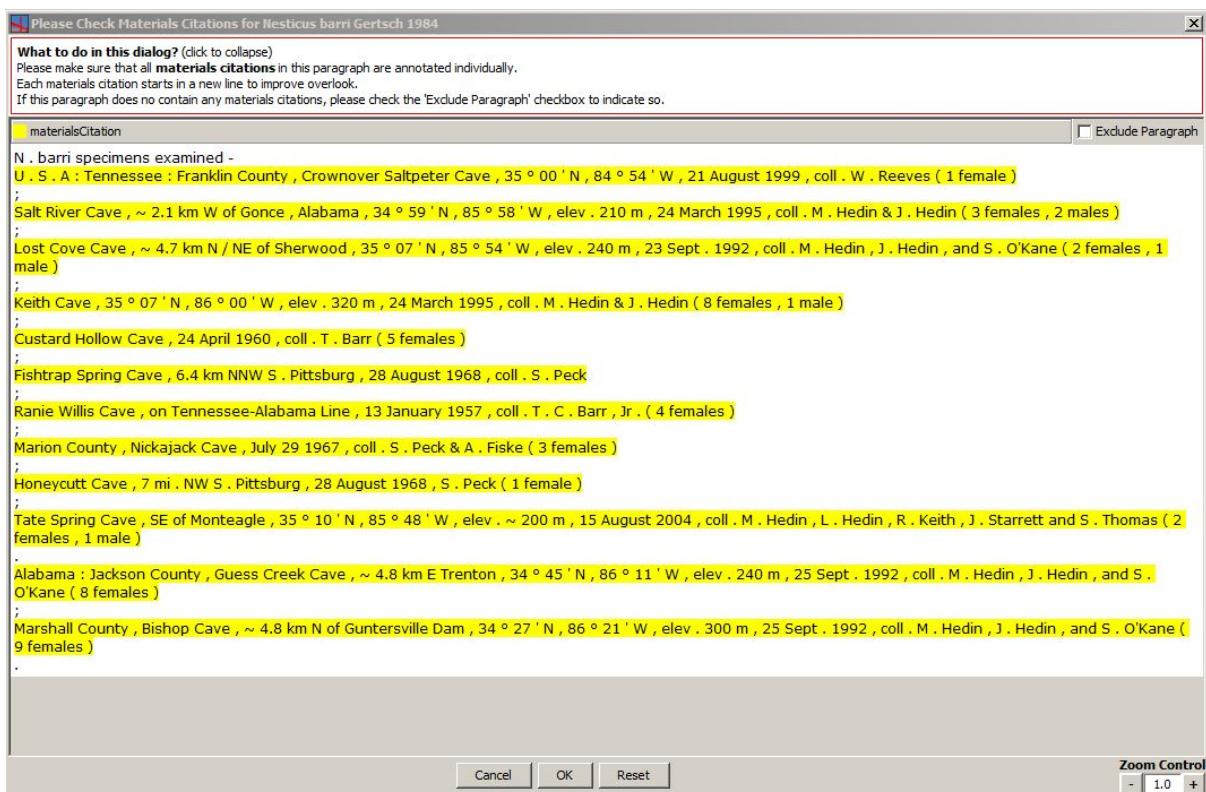


Fig XX manually corrected materialsCitations records

Parse Materials Citations

From the Tools menu, select “Parse Materials Citations”. This tool works much like the Parse Bibliography tool. Check the suggestions for assigning elements of the record to the appropriate field. Selected text can be assigned to a field by clicking on the appropriate label above. Note that text can belong to only one field, so any interfering highlights must be removed first. To do this, highlight the problematic text and select “Remove...” from the context menu.

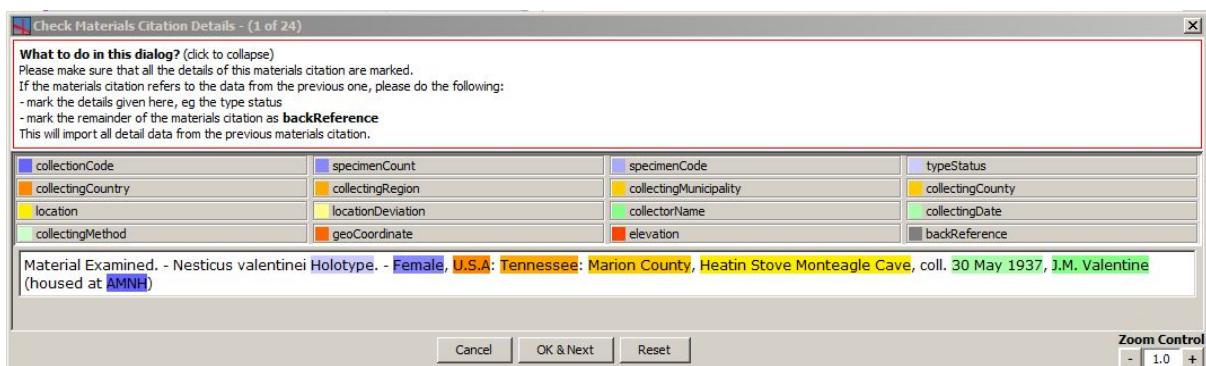
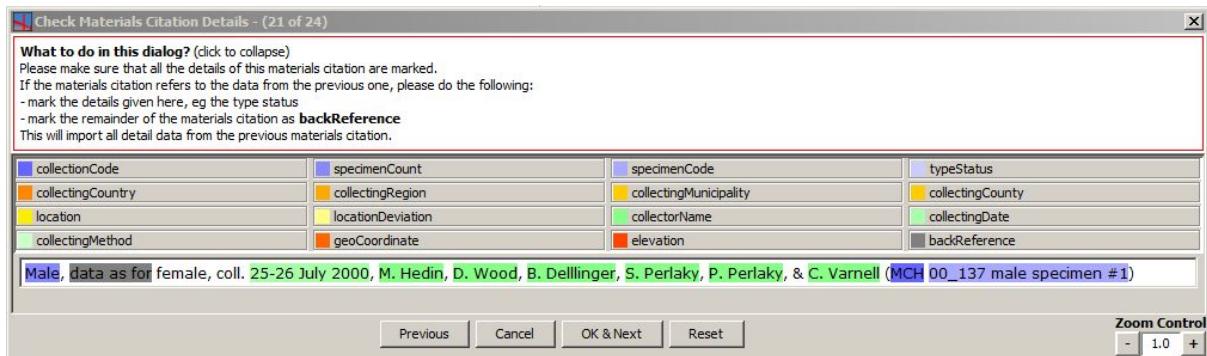




Fig XX Parse materials citations



Fix XX use backReference for materialsCitations that duplicate data in previous records. Double check such records later using Edit Attributes and correct as necessary

Editing

Edit Attributes

Edit attributes is an advanced function for refining the details of mark up. This tool is especially useful in the context of materials citations, and also bibliographic references, but can also be used to inspect or edit virtually any data element in the document.

There are two main ways to access the Edit Attributes dialog: in standard Imagine interface, and through the XML view.

Close all the attribute and select in the “Display Control” the target attribute. Hover with the mouse over the target element and select. The “Edit Attributes” UI opens (Fig. XX)



Johnson, R.A. (2000) Seed-harvester
biogeography. *Sociobiology*, 36, 89.

Johnson, R.A. (2001) Biogeography and
Entomology, 46, 1–29.
<http://dx.doi.org/10.1146/annurev.evol.46.111199.120620>

Johnson, R.A. (2002) Semi-claustral co-
analysis of founding strategies. *Oecologia*,
<http://dx.doi.org/10.1007/s00442-002-0900-0>

Johnson, R.A. (2006) Capital and incor-
poration in ant societies. *Ecology Letters*,
53, 316–322.
<http://dx.doi.org/10.1007/s00040-006-0874-9>

Johnson, R.A. (2015) A taxonomic revision of South American species of the seed-harvester ants (Hymenoptera: Formicidae). Part I. *Zootaxa*. [in press]

Edit Attributes

bibRef Johnson, R. A. (2000) Seed-harvester ants (Hymenoptera: Formicidae)

Name	Value
_evidence	authorListYearBracket...
author	Johnson, R. A.
journalOrPublisher	Sociobiology
pageId	18
pageNumber	249
pagination	89 - 122
part	36
title	Seed-harvester ants (...)
type	journal article
year	2000

Attribute Name

Attribute Value

Add / Set Attribute

Remove Attribute

Clear Attributes

OK Cancel

Fig. XX. High-lited bibliographic references with the open “Edit Attributes” UI.

Edit Attributes

bibRef Johnson, R. A. (2000) Seed-harvester ants (Hymenoptera: Formicidae)

Name	Value
_evidence	authorListYearBracket...
author	Johnson, R. A.
journalOrPublisher	Sociobiology
pageId	18
pageNumber	249
pagination	89 - 122
part	36
title	Seed-harvester ants (...)
type	journal article
year	2000

Attribute Name

Attribute Value

Add / Set Attribute

Remove Attribute

Clear Attributes

OK Cancel

Fig. XX Edit Attribute UI.

To edit a specific attribute, double click on it and it will open on the right side.

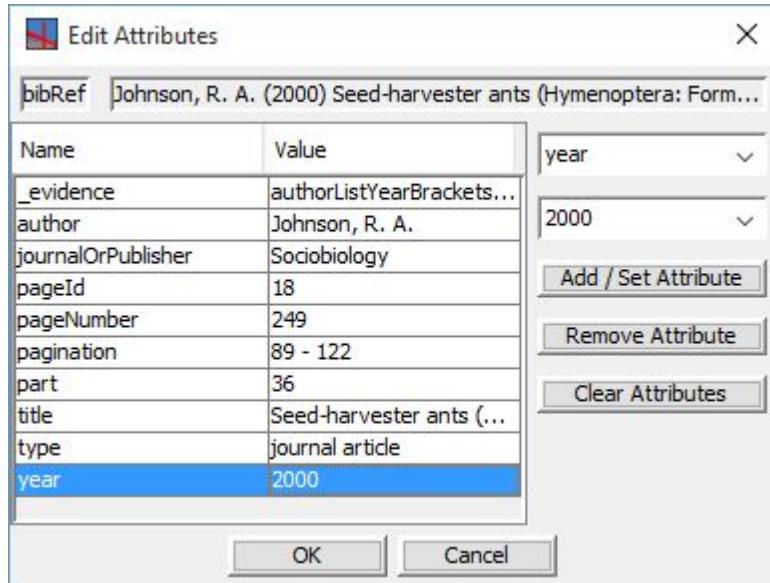


Fig xx. "Edit Attributes" UI with an attribute selected.

An attribute can be edited, removed individually or all at one (clear attributes). To edit an attribute, make the changes and then press the "Add / Set Attribute" to save the change.

To add a new attribute, select in the upper right window from a pull down menu or if the attribute is not available, create a new attribute. Add the respective value and press "Add / Set Attribute" ..

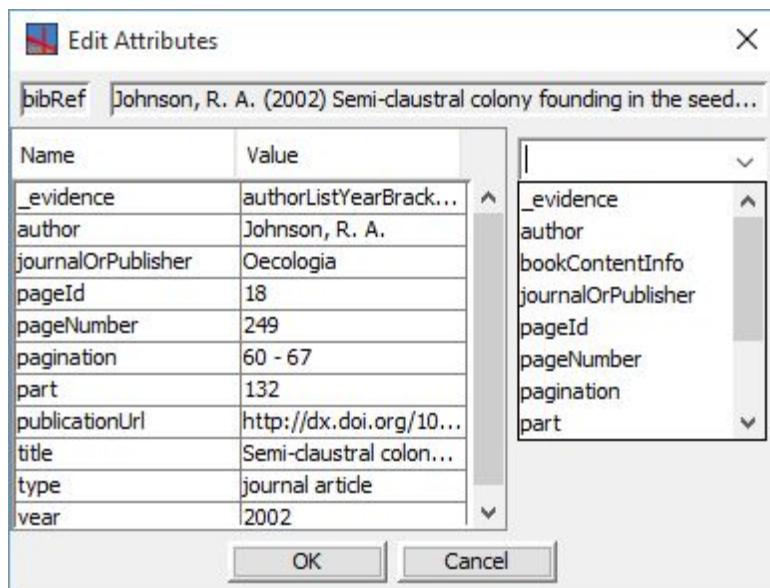


Fig xx. "Edit Attributes" UI with an attribute selected.



Editing and replacing wrong fonts and symbols

Select from the Edit menu “Edit embedded fonts”. Each changed symbol will be changed through the entire document, for example in cases where male and female symbols have been misapplied.

The ten most commonly changed symbols keep listed on the left hand menu.



Opening a scanned document

To view the OCR, make sure that the slider in the upper right corner is on the right side. If problems with the OCR are visible, then move the slider to left to see the underlying page image.

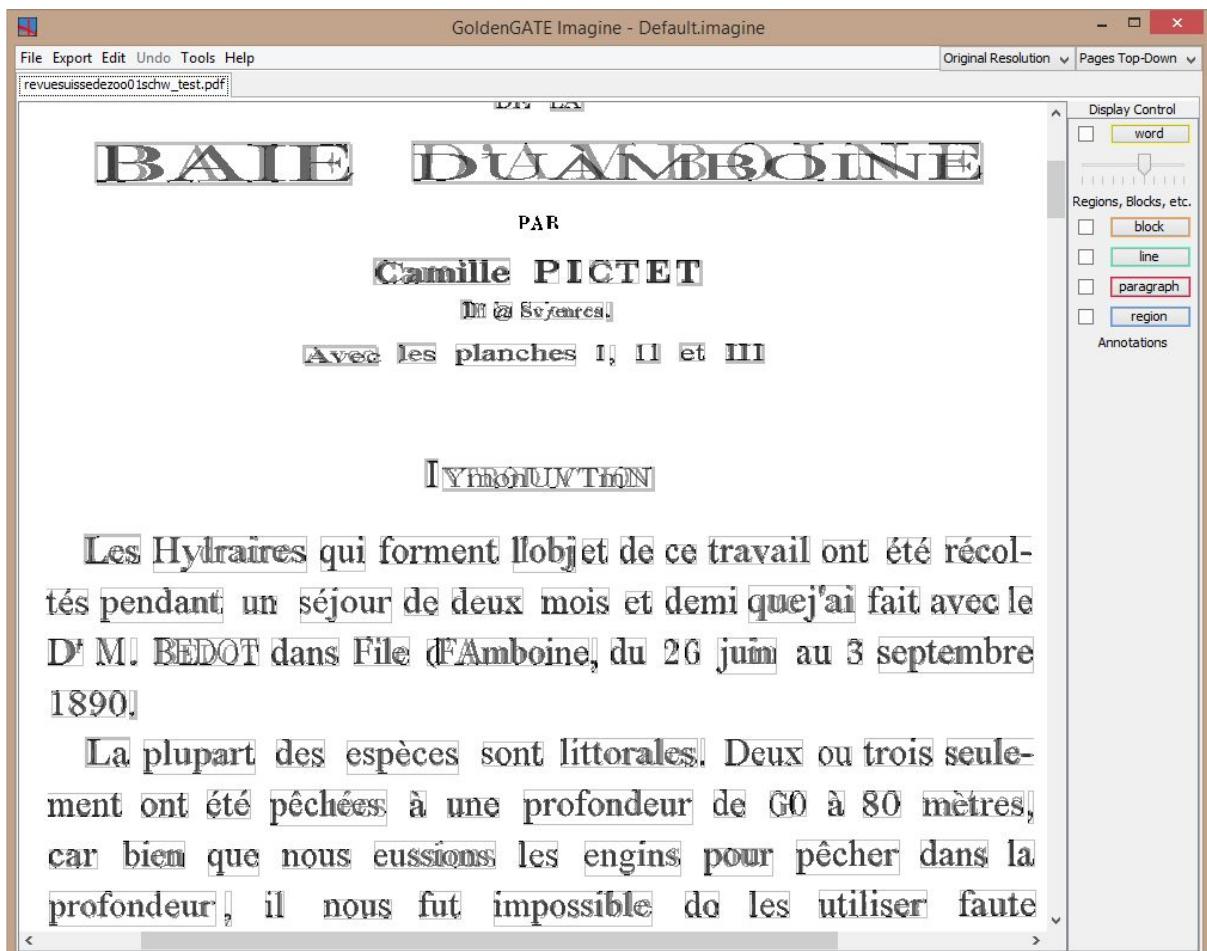


Fig. XX upper right: Slider to allows to regulate the transparency of the OCR result.

In case of OCR errors, click on the word

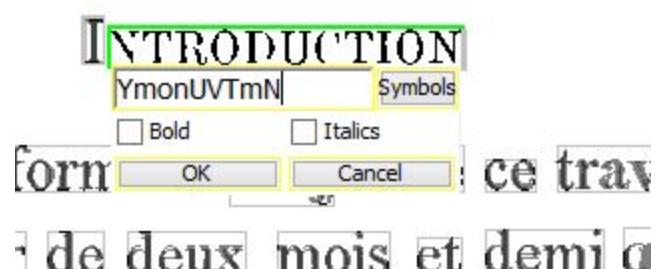


Fig. XX

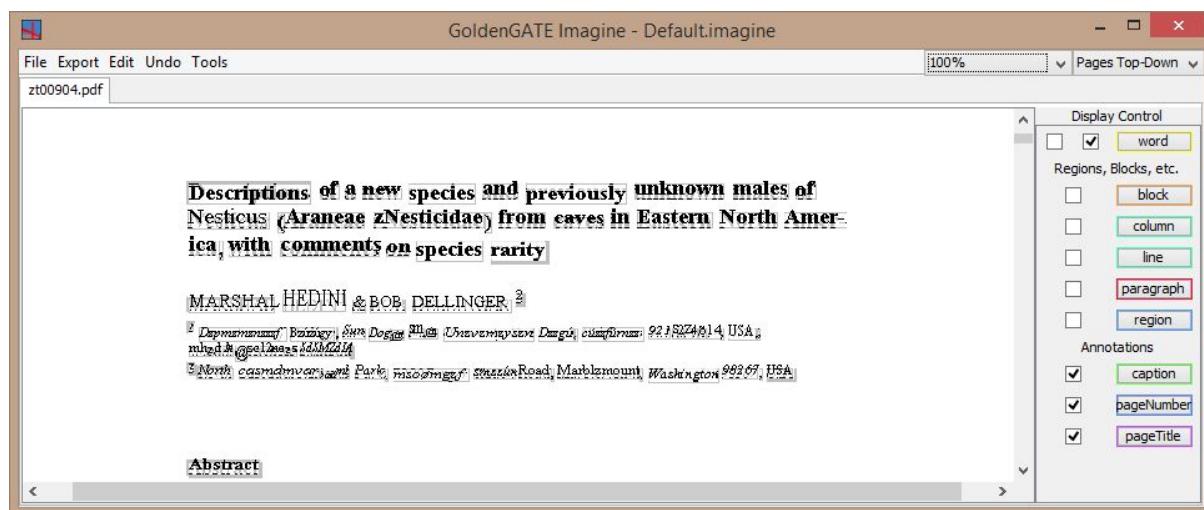


The original text is in the green box, and the box below can be used for editing. Special symbols can be selected through the “Symbols” button in the upper right corner.

Document structure

Though all the tools can be used at any time, detecting document structures

on the right hand appears the new annotations “caption”, “pageNumber” and “pageTitle”



To edit words (tokens), activate the right box left to the word in the upper left Display Control. Whilst highlighting a word, a popup menu will appear that allows the edit the word, choose from a symbol menu, and change the font to bold or italics

If a digital-born document is opened in the scanned mode, the Word display is different and allows editing the words.



and *N. furtivus*: Ge
fema re all tak

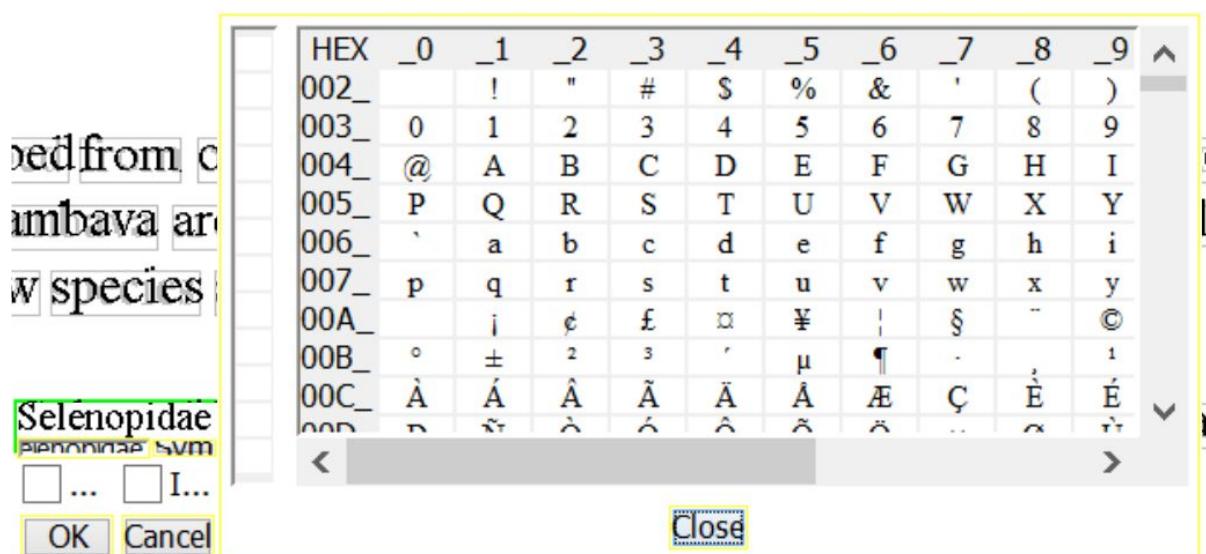


Fig. XX. Select special characters by clicking on the upper right corner of the popup menu. After the selection of a special character, the character will show up in the left column the next time the popup is called.

and *N. furtivus*: Ge and *N. furtivus* G
females are all tak Females are all tak



Reformatting blocks and paragraphs

6	Vardy New World <i>Pepsis</i> Introduction and <i>P. rubra</i> group Zool Verh Leiden 332 (2000)
MCZ =	Museum of Comparative Zoology, Cambridge, Massachusetts (Prof. Dr J.M. Carpenter, Dr G. Chavarria, Mr S. Cover and Mr C. Vogt)
MEM =	Mississippi Entomological Museum, Mississippi State (Dr T.L. Schiefer)
MHNGV =	Museum d'Histoire Naturelle, Geneva (Dr C. Besuchet, Dr I. Löbl)
MHNLIM =	Museo de Historia Natural "Javier Prado", Lima (Dr G. Lamas M.)
MHNNEU =	Musée d'Histoire Naturelle, Neuchatel, Switzerland (Dr J.-P. Haen ni)
MICR =	Museo de Insectos, Universidad de Costa Rica (Dr H. Lezama)
MIZAM =	Museo del Instituto de Zoología Agrícola, Maracay (Dr J.E. Lattke, Dr J.L. García)
MIZSU =	Museo ed Istituto di Zoologia Sistematica dell'Università, Turin (Dr

make sure blocks are displayed

- drag a box around the whole chunk of text, and use "Merge Blocks"

Do not "Mark Region", though ... that's a basic function, and really only adds the region. In contrast, "Merge Blocks" is sort of a macro, which also takes care of paragraphs, lines, and text flow.



Annotating blocks of texts (names, treatments, etc)

The screenshot shows the GoldenGATE Imagine software interface. The window title is "GoldenGATE Imagine - Default.imagine". The menu bar includes "File", "Export", "Edit", "Undo", "Tools". The toolbar has a "z00904.pdf" button. The main area displays a red banner at the top with the text "Add annotation starting from 'Nesticus'". The PDF content includes a text block about specimen deposition, a "ZOOTAXA (904)" logo, and a list of taxonomic names and material examined. The right side features a "Display Control" panel with checkboxes for "word", "block", "column", "line", "paragraph", and "region", all of which are checked. The "Annotations" section is also visible.

deposited in the American Museum of Natural History, New York (AMNH). All other specimens referenced with MCH numbers are currently housed in the personal collection of the first author. Upon completion of on-going studies of Appalachian *Nesticus*, these specimens will be donated to the AMNH.

Family Nesticidae Simon 1894
Genus *Nesticus* Thorell 1869
Nesticus barri Gertsch 1984
Figs. 1–10

Nesticus barri Gertsch, 1984:36, figs. 121–123, 161–163.
Nesticus valentinei Gertsch, 1984:29, figs. 150–152.

Material Examined. *Nesticus valentinei* Holotype. Female, U.S.A.: Tennessee: Marion County, Heatin Stove Monteagle Cave, coll. 30 May 1937, JM. Valentine (housed at AMNH).

scroll down to end of treatment and click on the last token.



GoldenGATE Imagine - Default.imagine

File Export Edit Undo Tools
zto0904.pdf

(904) ation of the Tate Springs Add annotation starting from *Nesticus* nymy with *N. barri*. The paracymbium is particularly similar, with a distal and ventral paracymbium that is essentially unmodified, and a simple, thin dorsal process (compare Figs. 9 & 10; also see Gertsch 1984, figs. 121–123). There is variation in the shape of the tegular apophysis across populations (Figs. 9 & 10), but the condition seen in the Tate Springs male is very close to that illustrated by Gertsch (figs. 121–123). Again, we interpret this as geographic variation in a single, dispersal-limited species.

Although *N. valentinei* [redacted] population with the many k Article 24.2 (determination Nomenclature (ICZN, 4th ed.)

DNA sequences — Mitochondrial 16S (Genbank accession numbers AF004596 – 99) and nuclear ITS (AF003769 – 70) DNA sequences for several populations of *N. barri* were reported in Hedin (1997 a).

Nesticus stygius Gertsch 1984
Figs. 1, 11–12

Nesticus stygius Gertsch 1984:36, figs. 170–172.

Enter Annotation Type

Annotations

Display Control

word

Regions, Blocks, etc.

block

column

line

paragraph

region

OK Cancel

materialCitation

Materials Citation

OK Cancel

Enter or select type of annotation to create

treatment

OK Cancel

select treatment

Enter Annotation Type

Annotations

Display Control

word

Regions, Blocks, etc.

block

column

line

paragraph

region

OK Cancel

Enter or select type of annotation to create

treatment

OK Cancel



GoldenGATE Imagine - Default.imagine

File Export Edit Undo Tools
zt00904.pdf

deposited in the American Museum of Natural History, New York (AMNH). All other specimens referenced with MCH numbers are currently housed in the personal collection of the first author. Upon completion of on-going studies of Appalachian *Nesticus*, these specimens will be donated to the AMNH.

ZOOTAXA (904)

Family Nesticidae Simon 1894
Genus *Nesticus* Thorell 1869
Nesticus barri Gertsch 1984
Figs. 1–10

Nesticus barri Gertsch, 1984: 36, figs. 121–123, 161–163.
Nesticus valentinei Gertsch, 1984: 29, figs. 150–152.

Material Examined. *Nesticus valentinei* Holotype, Female, U.S.A.: Tennessee; Marion County, Heatin Stove Monteagle Cave, coll. 30 May 1937, JM. Valentine (housed at AMNH).

N. barri specimens examined — U.S.A.: Tennessee: Franklin County, Crownover Salt peter Cave, 35°00' N, 84°54' W, 21 August 1999, coll. W. Reeves (1 female); Salt River Cave, ~2.1 km W of Gorce, Alabama, 34°59' N, 85°58' W, elev. 210 m, 24 March 1995, coll. M. Hedin & J. Hedin (3 females, 2 males); Lost Cove Cave, ~4.7 km N/NE of Sherwood, 35°07' N, 85°54' W, elev. 240 m, 23 Sept. 1992, coll. M. Hedin, J. Hedin, and S. O'Kane (2 females, 1 male); Keith Cave, 35°07' N, 86°00' W, elev. 320 m, 24 March 1995, coll. M. Hedin & J. Hedin (8 females, 1 male); Custard Hollow Cave, 24 April 1960, coll. T. Barr (5 females); Fishtrap Spring Cave, 6.4 km NNW S. Pittsburg, 28 August 1968, coll. S. Peck; Ranie Willis Cave, on Tennessee-Alabama Line, 13 January 1957, coll. T.C. Barr, Jr. (1 female); Marion County, Nickajack Cave, July 29 1967, coll. S. Peck & A. Fiske (3 females); Honeycutt Cave, 7 mi. NW S. Pittsburg, 28 August 1968, S.

Display Control

- word
- Regions, Blocks, etc.
- block
- column
- line
- paragraph
- region

Annotations

- treatment

Annotate taxonomic names

highlight *Nesticus barri* Gertsch 1984

Pars taxon name

Export treatment of document to SRS

upload not use, but use “export to GoldenGate SRS”



go edit

Edit document metadata

Edit document metadata

Get Meta Data for Document zt00904.pdf

Publication Type: Book / Thesis / Monograph

Authors (use '&' to separate):

Title:

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Volume Title:

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ISBN Identifier:

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Zootaxa 904: 1–19 (2005) www.mapress.com/zootaxa/
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ISSN 1175-5326 (print edition) ZOOTAXA ISSN 1175-5334 (online edition)
Descriptions of a new species and previously unknown males of *Nesticus* (Araneae: Nesticidae) from caves in Eastern North America, with comments on species rarity
MARSHAL HEDIN1 & BOB DELLINGER2
1 Department of Biology, San Diego State University, San Diego, California 92182-4614, USA;
mhedin@sciences.sdsu.edu
2 North Cascades National Park, 7280 Ranger Station Road, Marblemount, Washington 98267, USA
Abstract
We describe the new species, *Nesticus pecki*, an apparently cave-limited (but not troglomorphic) species from the southeastern edge of the Cumberland Plateau in southern Tennessee. Previously unknown males of *N. dilutus* Gertsch, *N. stygius* Gertsch, and *N. furtivus* Gertsch are illustrated and described. These male specimens, along with additional females, are all taken from their respective type localities. *Nesticus valentinei* Gertsch is considered a junior subjective synonym

Close

highlight all the content of the highlighted boxes, and then click the respective box



Get Meta Data for Document zt00904.pdf

Publication Type:	Journal Article		
Authors (use '&' to separate):	Marshal Hedin1 & Bob Dellinger2		
Title:	ae: Nesticidae) from caves in Eastern North America, with comments on species rarity		
Year:	2005	Pagination:	1-19
Journal:	Zootaxa		
Part Designators:	volume: 904	issue:	numero:
Publisher:			
Location:			
Editors (use '&' to separate):			
Volume Title:			
Publication Url:			
DOI Identifier:			
Handle Identifier:			
ISBN Identifier:			
ISSN Identifier:			

Detect treatment structure

Run Tools, Detect treatment structure

Link to external resources

Scientific names

[Zoobank](#) and IPNI are the reference name servers for nomenclatorial acts that cover the creation of new taxonomic names and other acts governed by the respective Codes. There is no other system that covers the subsequent acts, and the Catalogue of Life covers only names that currently are considered valid, but without the track that ultimately ends with the original acts.



Since there is currently no agreement on the kind of (persistent) identifiers, Imagine has no generic format to link to external name services.

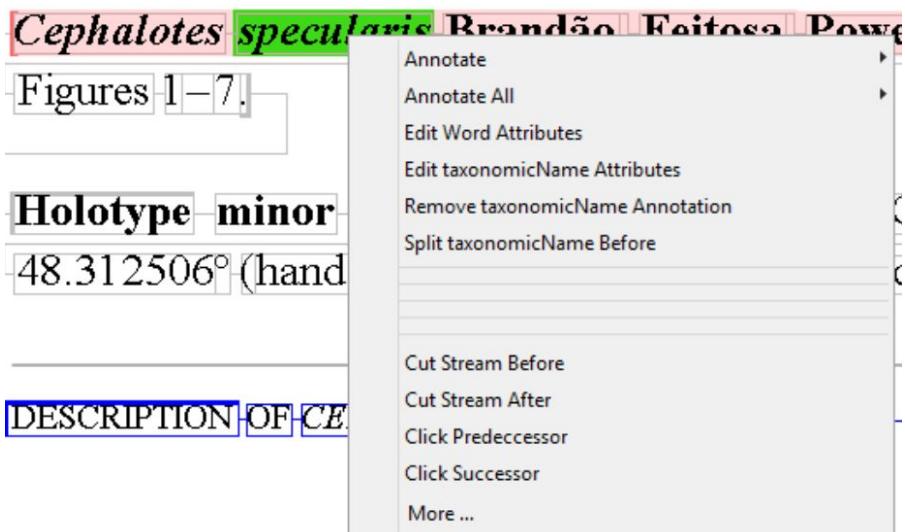
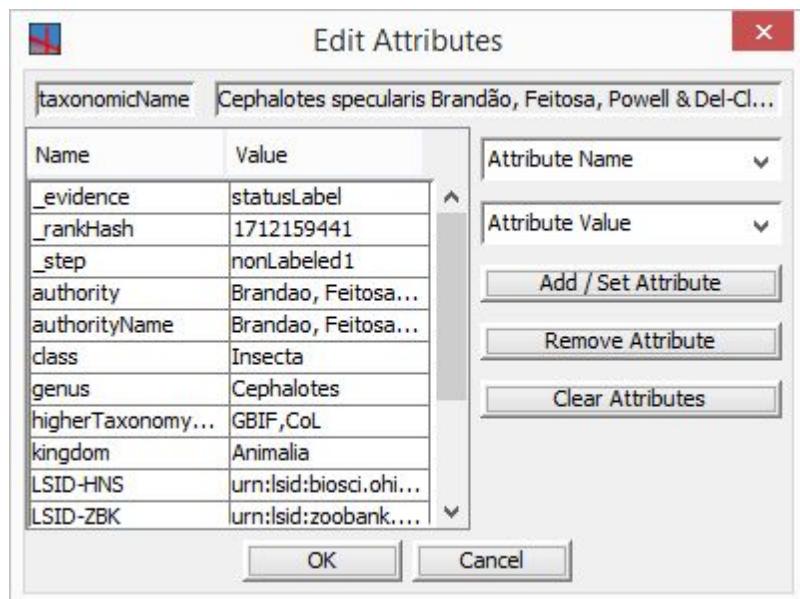


Fig.XX Annotation menu.

Select Edit taxonomicName Attributes



For Zoobank add AttributeName="LSID-ZBK", and as Value the URN, e.g. "urn:lsid:zoobank.org:act:B6C072CF-1CA6-40C7-8396-534E91EF7FBB".



For Hymenoptera Name Server (HNS) add AttributeName="LSID-HNS", and as Value the URN, e.g. urn:lsid:biosci.ohio-state.edu:osuc_concepts:235700

Make sure to select Add/Set Attribute, OK.

Export

Minimal requirement for export to GG SRS

1. Metadata for article added
2. Treatment marked up
3. Nominate taxon name marked up



check

Figures

Edit and link figureCitations in the text

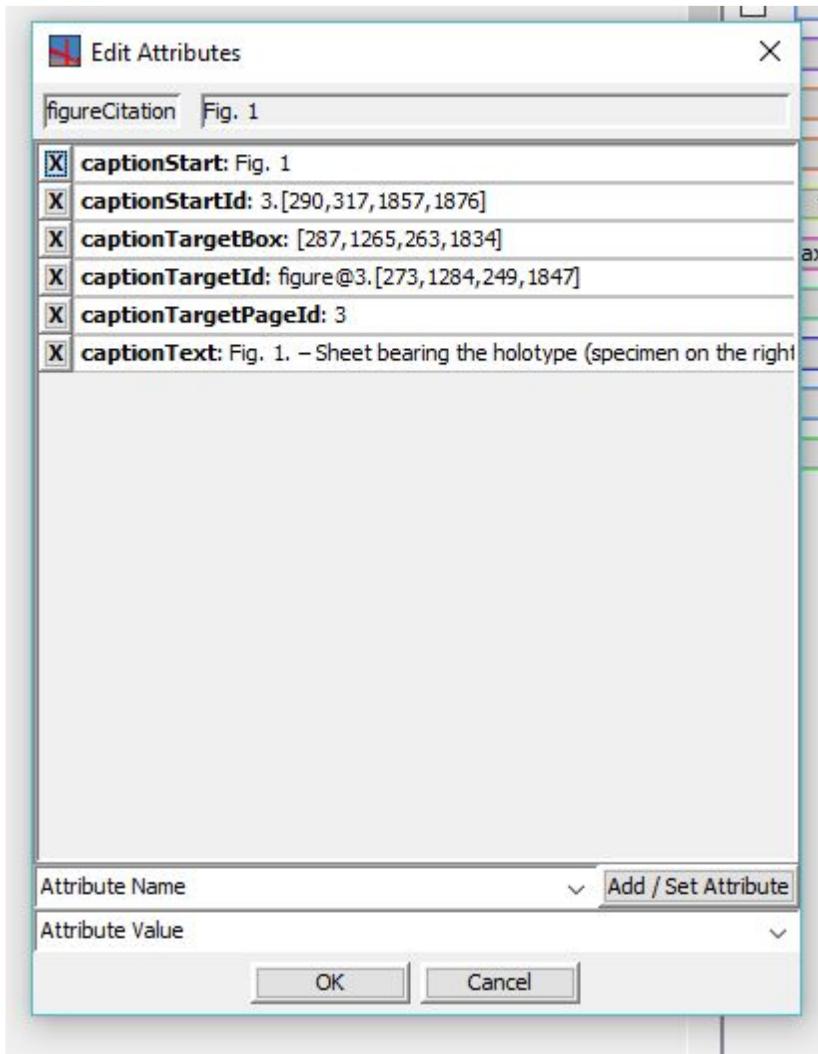
Link a figureCitation to the respective figure.

Generally, this is made during the “detect document structure” process. This does not occur with aberrant figure citations, such as “Figure 1” instead of “Fig 1”

1. Highlight the figure citation and annotate with “figureCitation”



2. Edit annotation attribute and add the following fields. The following field are required:



these values relate to



Candollea 73 (2016)

Lectotypification of *Silene galataea* Boiss.

Introduction

In the course of a taxonomic and phylogeographic study of *Silene* sect. *Italicae* (Rohrb.) Schischk. (Carophyllaceae) in the oriental part of the Mediterranean basin we have encountered three species that needs lectotypifications: *Silene astantes* C.II Blanche ex Boiss., *Sil. galataea* Boiss. and *S. splendens* Boiss. are endemic to Lebanon, Cyprus and southwest Turkey, respectively. A lectotype is designated for each of the species whereas the authorship of *S. astantes* is also discussed in details.

Nomenclature

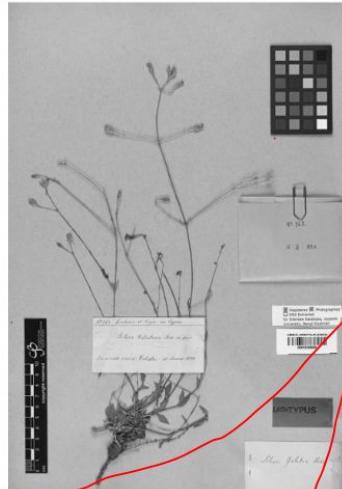
Silene astantes C.II Blanche ex Boiss. Fl. Orient. Suppl. 102: 1888.

Lectotypus (designated here): L.chanon 1 Prov. Mount-Lebanon: Djebail, ruines d'Akka VI-VII 1880; fl. & fr. Blanche 55 (G-BOIS [G 00330604]); islecto-; BENT G [G 00341654] (Fig. 1).

Notes: Boissier (1888) published *S. astantes* in the "Supplementum" of the Flora Orientalis. He wrote "*S. astantes* (Blanche in litt.)" before the Latin description. The mention of Blanche as the author "in litt." by Boissier has been interpreted in different ways in the literature. Floras of Lebanon have cited only C.II Blanche as the author of the species (sometimes with the mention "in Boiss."); Posti, 1896; 1932; Thiébaut, 1936; Mouterde, 1966; Tohmé & Tohmé, 2007); whereas Boulimoué Y. (1930) interpreted the authorship as "Boiss et Bl." (Boiss & C.II Blanche).

In the Boissier's Herbarium of the "Flora Orientalis" (G-BOIS) Blanche 55 contains a handwritten note by Blanche himself with a Latin description of the species (Fig. 1). However this description differs considerably from the protologue where Boissier published a new and more complete description by validating the name (Boissier, 1888; 102). We therefore ascribe Boissier as the author of *S. astantes* in accordance with Greuter et al. (1984) and not as C.II Blanche as mentioned in the latest Flora of Lebanon treatment (Tohmé & Tohmé, 2007).

Boissier (1888) clearly cited two gatherings in the protologue: "Hab. in Libano supra Djebail ad minas Afka (Bent)" and "ad Ain SuFar (Peyron)." Only Blanche 55 [G 00330604] is present in G-BOIS. We found three duplicates of the Peyron collection at G and one at P. Each of them bears the locality "Ain SuFar" and are dated June 11, 1882. Two of them have the collection number 1379 mentioned [G 00341656; P 04987226] and two [G 00341655; G 00341657] without any number. All these collections have a glandular-pubescent calyx and match fully with *S. natica* (L.) Pers. and not with *S. astantes* which has a calyx always glabrous. Therefore we choose Blanche 55 housed at G-BOIS as the lectotype which is the only material present at G-BOIS and exclude the remaining syntypes from *S. astantes*.



Silene galataea Boiss. Fl. Orient. Suppl. 102: 1888.

Lectotypus (designated here): Cypres 1 Prov. Troodos: circa Galata 15.VII.1880; fl. & fr. (Sintenis) U. Rigo 758 (G-BOIS [G 00330606]); islecto-; G-BOIS [G 00330606]; K [K 000728598; K 000728599] images seen; LD [LD 1403097; LD 1403157] images seen; P [P 05019189; P 05396106] (Fig. 2).

Notes: A single gathering was designated for *S. galataea* (Sintenis) U. Rigo 768 by Boissier (1888). Two sheets of this collection are housed in G-BOIS, on which two and one specimens are mounted respectively, all clearly labelled. These specimens apparently correspond to distinct individuals, although it is not clearly obvious on the first sheet. We know that Boissier's material is not always homogenous and corresponds sometimes to different species (Jeannmonod, 1985), especially in *Silene* L. with numerous convergences and potentially cryptic species. For this reason we prefer to fix

Edit Attributes

figureCitation Fig. 2

captionStart: Fig. 2

captionStartId: 2.[827,854,1252,1271]

captionTargetBox: [827,1477,279,1235]

captionTargetId: figure@2.[824,1479,276,1238]

captionTargetPageId: 2

captionText: Fig. 2. – Lectotype of *Silene galataea* Boiss. [Sintenis & Rigo 758].

Attribute Name Add / Set Attribute

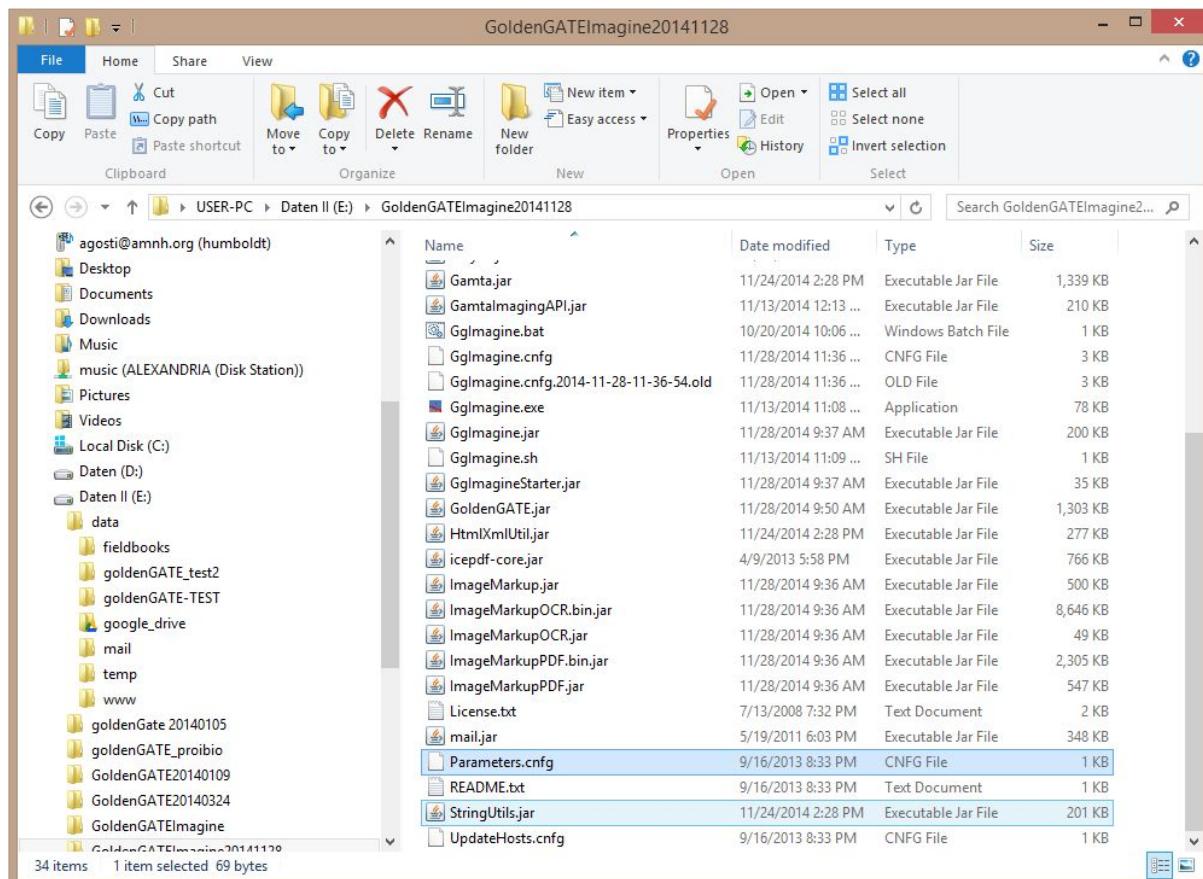
Attribute Value

Previous OK Cancel Next



Trouble Shooting

File Format not valid



This message appears if Imagine has been opened from GoldgenGATE, NOT the GoldenGATE-Imagine version. Close GG and restart from the GG-I version

Loading of the file stalls

A reason can be that not enough memory is available for GG. To change memory allocation, open "parameters.cnfg" in a text editor, and in

```
START_MEMORY=128  
MAX_MEMORY=512  
LOG_SYSTEM_OUT=LOG
```



```
LOG_ERROR=LOG  
change  
MAX_MEMORY=512  
to  
MAX_MEMORY=1536
```

Opening a scanned PDF with underlying OCR as born digital

Opening a non born digital pdf with underlying OCR with the option “born digital” results in the black image.



VILLEFRANCHE SUR MER, M. BEDET ET G. POCHE
DÉCOUVRANT LA FAUNE MARINE

ÉTUDE SUR LES FAUNES
BIE D'IVIBOINE
PAR
Camille PISETTE
PARIS
AVEC 10 planches en II et III.

Introduction

Les pêcheurs qui bordent l'île de la Gravelle ont été étonnés pendant un séjour de deux mois et demi que j'ai fait avec M. Redouté dans l'île d'Amboine, du 26 juin au 7 septembre 1891,

la plupart des espèces sont littorales. Deux ou trois seulement ont été pêchées à une profondeur de 60 à 80 mètres, mais bien que nous ayons les engins pour pêcher dans le profond, il nous est impossible de traîner sans faire d'une éminence ou plusieurs fonds. Nous avons également plus remarqué que la zone profonde paraît être très sèche et Hydroïde, tandis que la zone littorale est contractée et abondante en autres Invertébrés de toutes classes, surtout en Coraux, n'en ayant que très peu.

La plus grande partie des espèces a été rencontrée à marée basse sur des vieux pilotis ou sur des îles, soit dans la zone littorale proprement dite, partiellement ou temporairement marée, soit dans la zone des Sumbiris, Lette noire (qui n'est pas à marée basse), dont les Symphoblasses (25) Calyptoclastes, 70 coralliaires.

Env. Janvier de 1892 à 1893.



Page images generated under the wrong assumption (eg born digital vs not born digital):

In this case go into the GoldenGate directory /Pagelimages and delete the respective images created during the initial conversion process.

The screenshot shows a Windows File Explorer window with the following details:

- Toolbar:** Includes Copy, Delete, Rename, New folder, New item, Open, Properties, Select all, Select none, and Invert selection.
- Address Bar:** (E:) > GoldenGATEImagine20150305 > Pagelimages
- Search Bar:** Search Pagelimages
- Table:** A list of files with columns: Name, Date, Type, Size, and Tags. The table contains the following data:

Name	Date	Type	Size	Tags
BB5E2D42FFDC7F24...	3/5/2015 5:25 PM	PNG image	33 KB	
BB5E2D42FFDC7F24...	3/5/2015 5:25 PM	PNG image	32 KB	
BB5E2D42FFDC7F24...	3/5/2015 5:25 PM	PNG image	42 KB	
BB5E2D42FFDC7F24...	3/5/2015 5:25 PM	PNG image	43 KB	
BB5E2D42FFDC7F24...	3/5/2015 5:25 PM	PNG image	39 KB	
FFCE9A74FFF93E5D...	3/5/2015 4:27 PM	PNG image	107 KB	
FFCE9A74FFF93E5D...	3/5/2015 4:27 PM	PNG image	87 KB	
FFCE9A74FFF93E5D...	3/5/2015 4:27 PM	PNG image	83 KB	



User Interface

Start window

tiling of pages

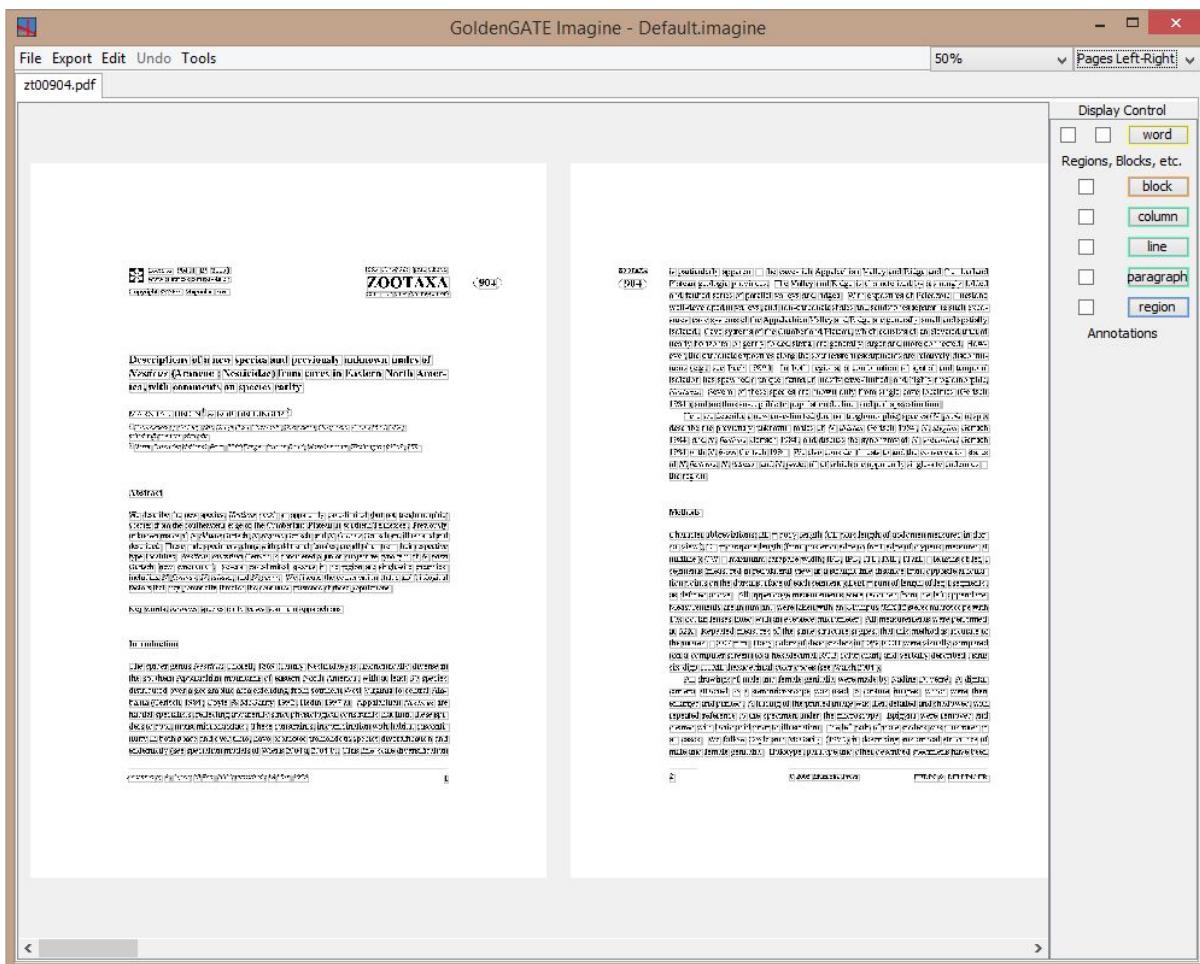


Fig: xx Tiling of pages: Lef-Right

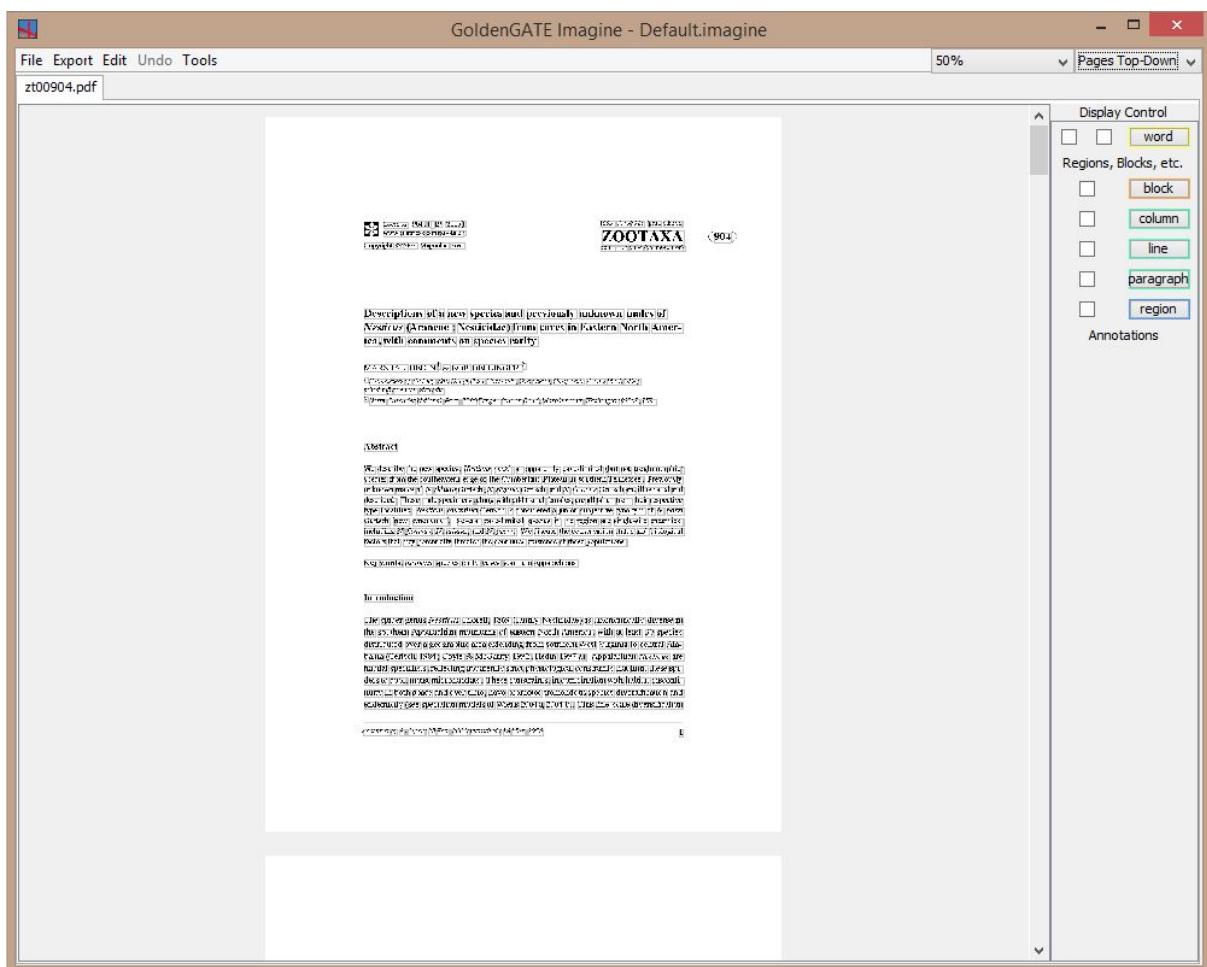
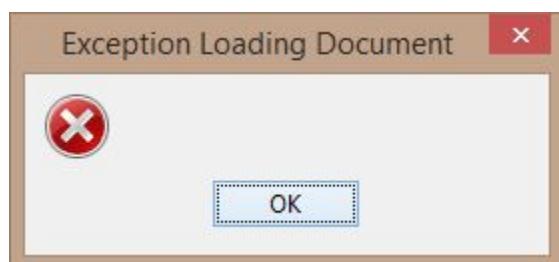
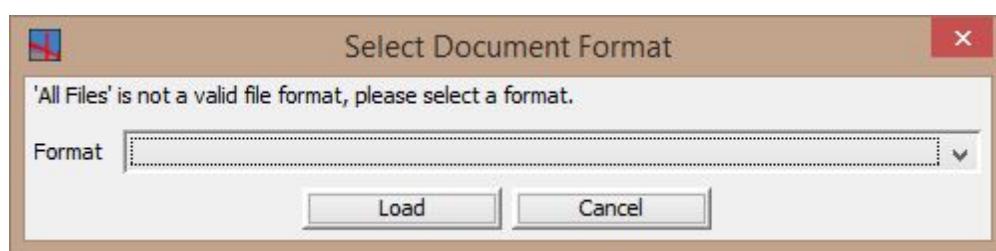
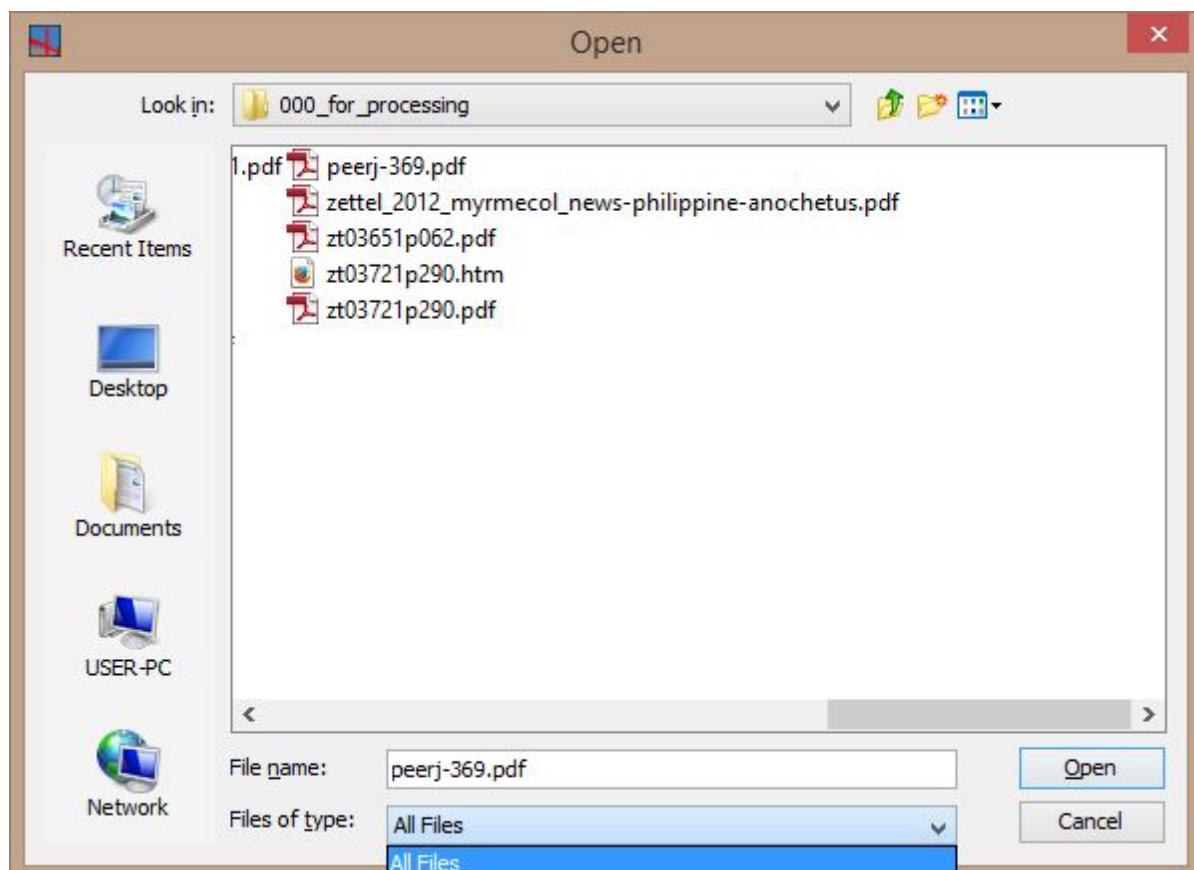


Fig: xx Tiling of pages: Top-Down



When opening the editor,



Glossary

GoldenGate Expressions

Word / Expression	Explanation
Token	A word, number or punctuation mark in the document. Treated as the atomic text unit by the Annotation Editor
Annotation	Representation of an XML tag in the GoldenGATE editor's data model
Type of an Annotation	The element name of the XML tag represented by the Annotation
Attribute of an Annotation	Representation of an attribute of the XML tag represented by the Annotation
Value of an Annotation	The textual content enclosed by the XML tag represented by the Annotation
Document Part	Special type of Annotation which can be edited as if it was a document of its own
Resource	Some object fulfilling some purpose related to handling or editing documents, or making editing more convenient
Annotation Source	Special type of resource for analyzing a document and creating Annotations marking some parts of it
Document Processor	Special type of resource for applying some processing to a document, whatever this might be for some particular document processor
Resource Provider	A sub-modul of the GoldenGATE editor managing and providing some type of resource (Annotation Source Provider and Document Processor Provider a have respective meaning)

TaxonX Expressions

Abstract	a summary of the present publication	A general element in modern scientific publications
Acknowledgements	a listing of acknowledgments to everybody who contributed to the	ACKNOWLEDGMENTS



	research leading to the present publication, often including a reference to the funding agencies	This work was supported by the National Science Foundation under Grant No. DEB-0344731 to B.L. Fisher and P.S. Ward. Fieldwork that provided (...)
Bibref	a bibliographic reference	Brown, 1974 or BROWN, W.L. 1974. A remarkable new island isolate in the ant genus <i>Proceratium</i> (Hymenoptera: Formicidae). <i>Psyche</i> 81:70–83.
Biology_ecology	content relating to the ecology, biology and behavior of the taxon	(...)this species is a subterranean nester and forager (...)
Citation	a reference to an earlier description or listing of the taxon described	<i>Proceratium avium</i> Brown, 1974: 71, figs. 1 and 2 (worker, gyne and male). Mauritius: Le Pouce Mt, 700- 800 m, Native forest, 1 Apr. 1969 (coll. W.L. Brown) [examined] AntWeb MCZTYPE32216 (MCZC)
Description	the morphological (and possibly molecular) description of the taxon	(...)Cranium (excluding median part of clypeus) entirely covered with decumbent / appressed hairs among which standing hairs are scattered [major]; (...)
Diagnosis	the characters which make his taxon unique and separate it from others, and often those allowing to recognize the taxon immediately	The following character combination differentiates <i>berlita</i> from all its congeners: scrobe absent, (...)
Discussion	anything which relates to the description, the nomenclatorial	<i>Discothyrea</i> of Madagascar belong to the first group...



	history, the behavior or comments relating to the taxon	
Distribution	a summary statement of the distribution of the species. The individual records are listed in "materials examined"	Distribution: North Borneo
Document head	the title, author and there addresses of the publication	
Etymology	the origin of the name of the taxon	The specific name is an arbitrary combination, to be treated as a noun in apposition.
Introduction	the introduction to the present paper; this is an element often marked with a specific title in recent publications or then the first general section in older publications proceeding the description of the taxa. Often general issues of the taxa are summarized, which is in modern paper more often to be found in the discussion.	A general element in modern scientific publications
Key	an identification tool to taxa. In most cases, these are dichotomous, that is a couplet of alternatives referring to the next and finally to a taxon name.	1. Red curved hair on occiput....2 Yellow straight hair on occiput3
Materials & methods	a section describing the techniques, measurements and methods used to derive the results in the respective publication	A general element in modern scientific publications
Materials examined	a listing of all the individual collecting events used in the description of this taxon, that is, not necessarily conclusively, a combination of locality, date, collector, sample number, habitat, etc.	Sample No. 4186; type locality: Poring Hot Spring, East ridge, 820 - 860 m a.s.l., Sabah, Malaysia (leg. Annette K. F. Malsch, 16.V.1998)
Multiple	Generally, anything that can not be assigned to any of the annotation above.	
Nomenclature	any elements pertaining to the naming of taxon according the International Code of Zoological Nomenclature	



Reference group	the section containing the bibliographic references <bibref> in the publication. This is an element hardly known in the old legacy literature	This refers to the “Literature cited section”, A general element in modern scientific publications
Synopsis	A list of taxa (e.g. all the taxa treated in a revision)	<i>Metapone</i> species: <i>M. leae</i>

Element Descriptions and Examples

The following table gives an overview about the TaxonX elements. A detailed description is available here <http://taxonx.org/documentation/taxonx1.xsd.html#h519182448>:

author	The author of the original description of a taxon in a nomenclature or synonymy section of a taxonomic treatment.
bibref	A bibliographical reference <tax:citation> <tax:xid identifier="doi:10.1046/j.1523-1739.1998.96177.x"/> SAFFORD, R.J., AND C.G. JONES. 1998. Strategies for Land-Bird Conservation on Mauritius. Conservation Biology 12:169-176. </tax:citation>
character	A morphological character.
citation	A bibliographic reference.
collection_event	Contains information regarding the collection of a specimen.
div	A block level textual division of a text. Attributes: n, number or name of division; type: type of division. If div occurs inside a treatment, suggested values are: abstract, acknowledgments, biology_ecology, description, diagnosis, discussion, distribution, etymology, introduction, materials_examined, materials_methods, multiple, synopsis.
figure	A figure or graphic.
figures	The statement identifying the figures related to a given treatment. <tax:nomenclature> <tax:name>Proceratum avium</tax:name> <tax:author>Brown</tax:author>, <tax:year>1974</tax:year>



	<tax:figures>Figs. 5-13.</tax:figures>...
head	A heading, such as the title of a section, etc.
locality	A geographical location.
name	A scientific name of a taxon as it appears in the source text.
nomenclature	The heading of a taxonomic treatment containing the scientific name of the taxon described.
note	A note, such as a footnote or endnote, in the source text. Use the place attribute to indicate the placement of the note in the source document (e.g., "foot", "end"). Use the n attribute to contain the number or symbol used to label the note in the source text.
p	A paragraph or other textual block. <tax:p> Venter very glossy. Ostiolar peritreme ligulate, gently curved, quite long, its apex nearly reaching lateral margin of plate. Rostrum reaching onto seventh abdominal sternite. Legs pale yellow, irregularly spotted and blotched with castaneous spots, terminal tarsal segment tending to become rosy. </tax:p>
pb	Page break. Indicates the point in the source text where a new page begins. Use the n attribute to record number of the new page; use the url attribute to link to an electronic graphical representation of the page.
ref_group	A group of bibliographic references.
seg	Segment. A phrase-level segment of text.
state	A character state.
TaxonX	Contains a single TaxonX document, including a TaxonXHeader and TaxonXBody (see also the documentation for taxonx: http://taxonx.org/documentation/taxonx1.xsd.html#h519182448)
TaxonXBody	Contains a single text including at least one taxonomic treatment.
TaxonXHeader	Contains identification and description of the TaxonX document and its source, expressed in the Metadata Object Description Standard (MODS).
treatment	A taxonomic treatment



xid	External identifier. A pointer to an identifier assigned to the parent object in an external system. Contains optional attributes "identifier", the identifier, "source", the system in which the identifier can be found, "uri" a uniform resource identifier.
xmldata	A wrapper element used to include data from an external schema.
year	A year in a citation of a document, a scientific name, or a specimen.

A complete TaxonX documentation can be found at
<http://taxonx.org/documentation/taxonx1.xsd.html>.

GoldenGate Internal Markup Elements

taxonomicName	The scientific name of a taxon	Formica rufa
taxonomicNameAuthority	The author of a scientific name of a taxon	Formica rufa Linnaeus Formica rufa Linnaeus, 1758
taxonomicNameLabel	A qualifier indication the status of the taxon	Nov.sp., comb.nov.

Acknowledgments

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