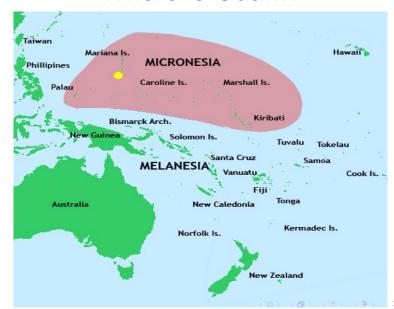
Evaluation of a Scratchpad Template as an Online Database for the University of Guam Insect Collection



Aubrey Moore Extension Entomologist University of Guam

Where is Guam?



Challenges

- Limited taxonomic expertise
- High endemism (~45%); many undescribed species
- · Very high introduction rate for alien insects

Resources

- Limited Literature
 - Hawaii Sugar Planters' Association survey of 1936 published by Bishop Museum in Insects of Guam (2 volumes)
 - Bishop Museum surveys of 1950s and 60s published in <u>Insects of Micronesia</u>
- Entomological Collections
 - University of Guam
 - Northern Marianas College, Saipan
 - Palau National Museum



University of Guam Insect Collection





University of Guam Insect Collection





Wilfred Leon Guerrero Museum of Entomology

Curators

- · Ross Miller, University of Guam
- Aubrey Moore, University of Guam

Board of Directors

- Richard Zack, Washington State University
- Robert Foottit, Agriculture Canada
- · Robert Sites, University of Missouri





Digitization

- Initial attempts at specimen level databasing failed.
- All data lost due to hardware failures / defective back-up procedures



Digitization

- Biodiversity Information Management System provided free by CSIRO, Australia
- Development and support discontinued in 2005, however, BioLink has recently been reborn as an open source project
- Written in Visual Basic 6/C++ and sits on top a MicroSoft SQL Server database
- Typically run in client / server mode on a LAN or Internet



Digitization

Current Status

 30,000 pinned specimens have been given a unique identifier and are recorded in our Biol ink database

Desirable Features for an Online Collection Database

- Free and open source
- Reliable data security / backup
- Flexible data security (user permissions)
- Web browser used for data entry and information delivery
- Specimen records compliant with Darwin Core
- Storage for images, bibliographic data, informal notes, etc.
- Data shared via GBIF



LifeDesks and Scratchpads





- LifeDesks is part of the Encyclopedia of Life Project.
- ScratchPads is a project managed by the Natural History Museum, London.
- Both are Drupal templates hosted for free.
- My evaluation sites are at: http://micronesianinsects.lifedesks.org/ http://guaminsects.myspecies.info/

Scratchpads

A multi-site implementation of Drupal



http://scratchpads.eu



Scratchpad Application Form

Free to any individual or community

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	Home	About	Sites	Training	Progress	Blogs	Help	1000000000
Apply								
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-About You-								
Details about the	maintainer of	his Scratchpa	d					
Title: *								
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Your email address								
Institution: *								
The institution with v	which you are n	ost closely assi	ociated. If n	etired or amateur,	please insert "N/A"			
Country:								
The country that you	are based in.							
About Your Sc	ratchpad-							
Information about	your Scratchp	ad, including	necesary.	API keys.				
Site Title:								
Taxonomic Scop	e: *							
The taxonomic grou	p which best de	scribes what ta	oxa will be fo	eatured on your si	te. e.g. Insecta, Av	es, Phithirapter	a, Dragons	
Proposed subdo		ecies.info:						
[INSERT HERE], mys								
Mission statemen								
miodioil statemen								
A description of your si	r site, includin	g what informa s can be chang	tion a user ed later).	of your site is like	ly to find there. By	default the m	ission statement	will appear on the
Google API Key:								

Flexible Template Site

With easy navigation



An Ecosystem of Communities





on 24 Aug 11

Sites: 280 Users: 3466 Pages: 363k

Countries: >60

Since March 07

Circa 2 new sites/wk







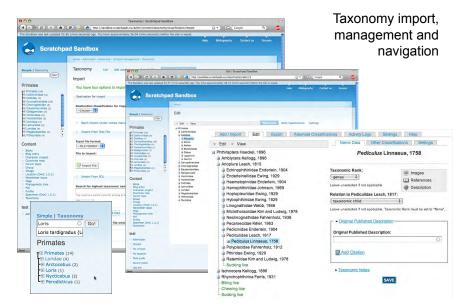


Scratchpad Functionality Summary

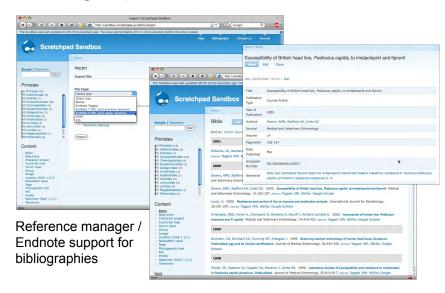




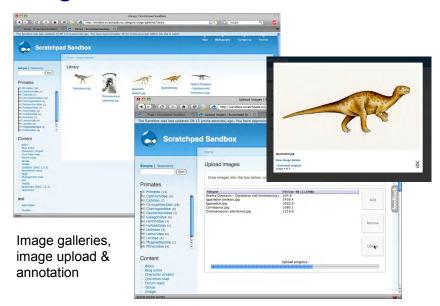
Taxonomy



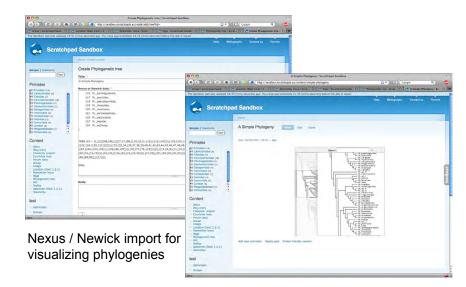
Bibliographic data



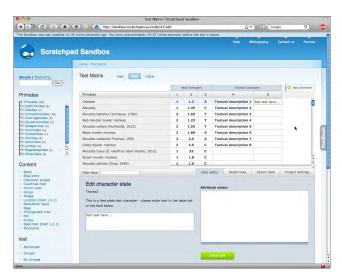
Images



Phylogeny



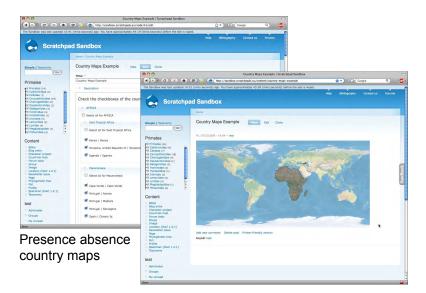
Character Matricies



Molecular & morphological character matricies (discrete, morphometric and text characters)



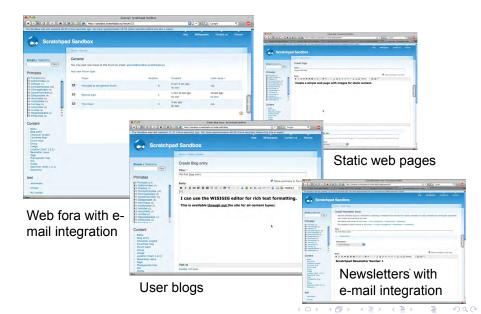
Distribution Maps



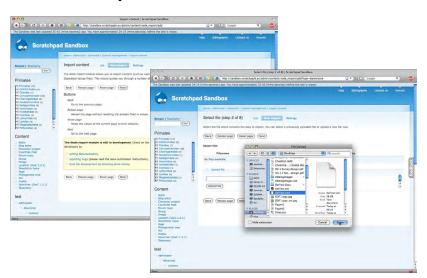
Specimens & locations



Pages, Forums, Blogs, Newsletters

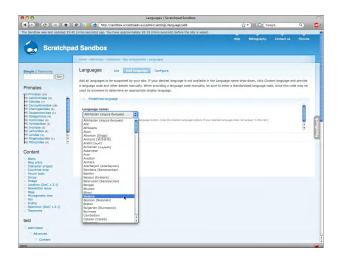


Mass Import



Import from CSV text file to any content type

Multilingual Support



Create & switch between content in any language

Administration



Simple & advanced admin.



Customized user profiles

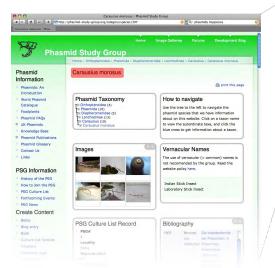


Private Groups



AutoTag content (automatically adds structure)

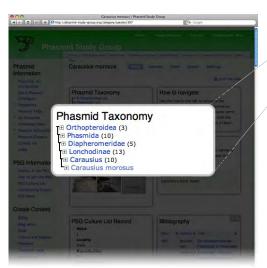
Integrating data & "publishing" in a Scratchpad



Dynamically built species pages



Integrating data & "publishing" in a Scratchpad



Browsed through a taxonomy







Including 3rd party content



Adjusting the layout



Control what to display

Available Panels for Taxon Pages

Internal Data

- Specimens
- Images
- Bibliographic refs
- Blogs

External Data

- References from Biodiversity Heritage Library, Google Scholar
- Images from MorphBank, Flickr, Yahoo
- GBIF Maps
- More



Content

hiblio

Group

Likes & Dislikes

- The Scratchpad template was not specifically designed as a collections database management system (DBMS)
- Missing features: label printer, loans forms, etc.
- Useful features not commonly found in collections DBMS:
 - Blogs and forums (for incidental observations, special projects)
 - Group pages with restricted access (bed bug reports, rare butterfly sightings)

Likes

- Free hosting, backups, development
- No installation: all interaction via web browser
- Open source will allow me the option of "rolling my own" site if I choose to
- Display of images at variable resolutions is good
- Darwin Core data standards used for specimens and locations
- Automatic discovery of associated data on the web via "Taxon Pages"



Dislikes

- · Batch import of data is extremely slow
- Having problems merging imported data with existing data when importing taxonomic hierarchies
- No direct access to underlying MySQL database for ad hoc queries using SQL
 - Note: the Drupal Views Module can be used to do almost anything with the data, if you know how to use it

Dislikes



Scrachpads: the name is lame

Acknowledgments

Many thanks to the Natural History Museum and the Scratchpad Developers:

- Simon Rycroft
- Vince Smith
- Irina Brake

Links to More Info

- Scratchpads: a data-publishing framework to build, share and manage information on the diversity of life. BMC BioInformatics 2009 10(Suppl. 14). PDF
- Streamlining taxonomic publication: a working example with Scratchpads and ZooKeys.
 ZooKeys 2010 (50) 17-28. PDF
- Scratchpads Sand Box