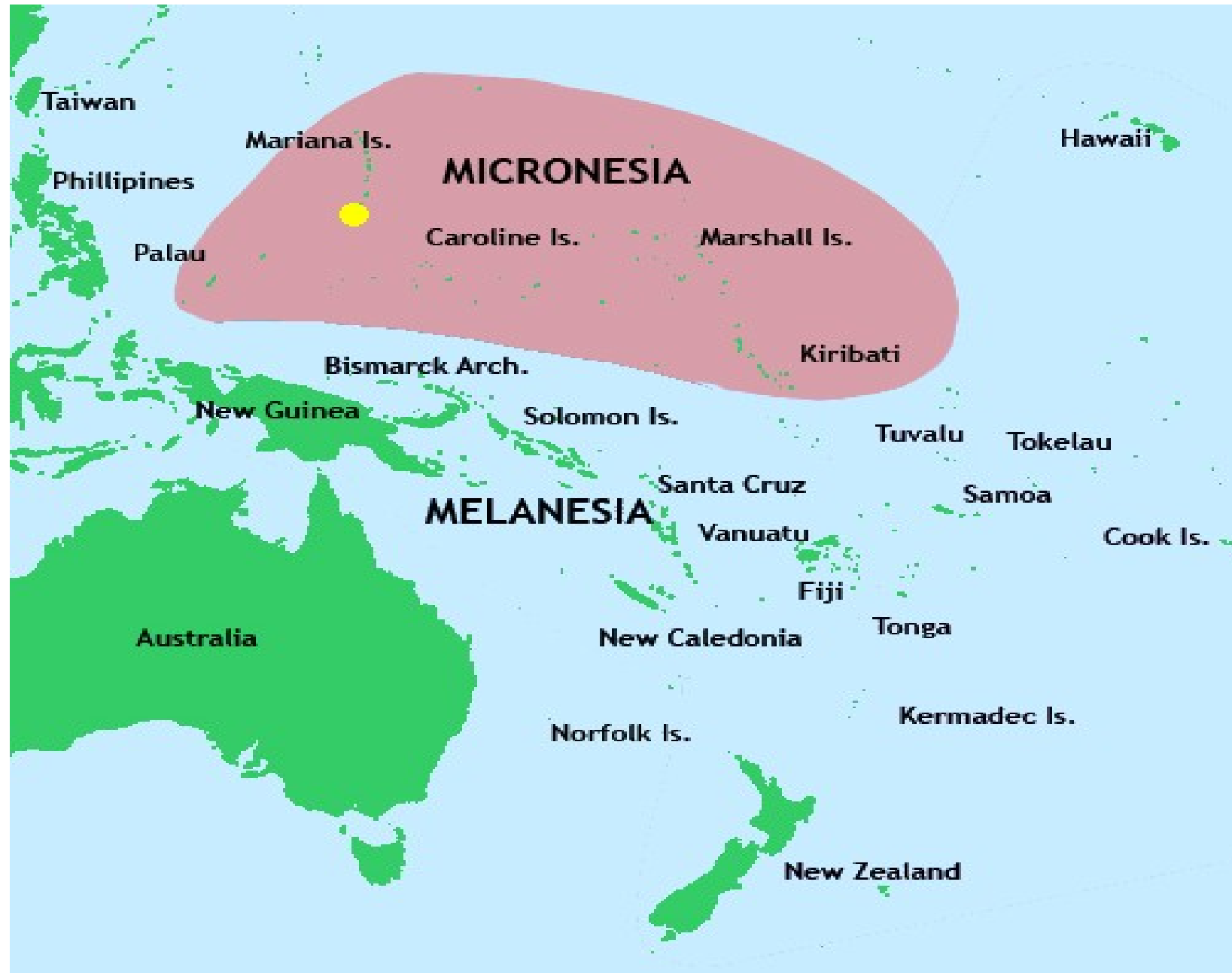


Evaluation of a Scratchpad Template as an Online Database for the University of Guam Insect Collection



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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 [Insects of Micronesia](#)
- Entomological Collections
 - University of Guam
 - Northern Marianas College, Saipan
 - Palau National Museum

University of Guam Insect Collection



University of Guam Insect Collection



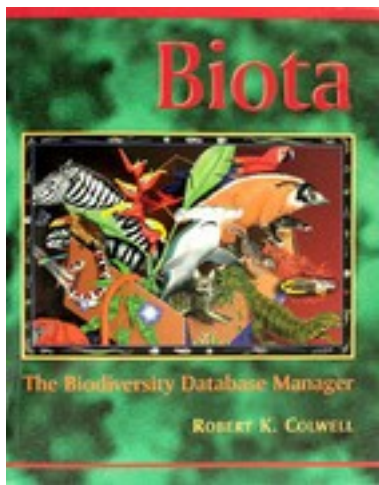
University of Guam Insect Collection

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 BioLink 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/>

Insert PDF pages 14-17 from
ScratchPadIntroTrainingOpt.pdf

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

Go!

Taxonomy

- [+ Animalia \(1\)](#)
- [+ Arthropoda \(3\)](#)
- [+ Insecta \(28\)](#)
- [+ Hymenoptera \(104\)](#)
- [+ Formicidae \(1\)](#)
- [+ Wasmannia \(1\)](#)
- [+ Wasmannia auropunctata](#)

Who's online

There are currently *1 user* and *3 guests* online.

Online users

- [○ Aubrey Moore](#)



Content

- [○ biblio](#)
- [○ Biography](#)
- [○ Blog entry](#)
- [○ Character project](#)
- [○ Countries map](#)
- [○ Forum topic](#)
- [○ Group](#)
- [○ Hypolimnus octocula marianensis sighting](#)

Wasmannia auropunctata

Flickr Images

Sort → ↓



Yahoo! Images

Sort → ↓

We have no content for this dynamic view

Biodiversity Heritage Library

Sort → ↓

- [○ American fern journal. \(4 pages\)](#)
- [○ Annales de la Société entomologique de Belgique. \(1 page\)](#)
- [○ Annales de la Société entomologique de France. \(1 page\)](#)
- [○ Annals of the Missouri Botanical Garden \(1 page\)](#)
- [○ Archiv für Naturgeschichte. \(2 pages\)](#)
- [○ Archiv für Naturgeschichte. \(1 page\)](#)
- [○ Biologia Centrali-Americana : \(1 page\)](#)
- [○ Biologia Centrali-Americana; \(1 page\)](#)
- [○ Bulletin - American Museum of Natural History. \(2 pages\)](#)
- [○ Bulletin of miscellaneous information / \(1 page\)](#)
- [○ Bulletin of the Museum of Comparative Zoology at Harvard College. \(2 pages\)](#)
- [○ Bulletin of the U.S. Department of Agriculture. \(3 pages\)](#)

Google Scholar

Sort → ↓

- [○ Changes in the native fauna of the Galapagos Islands following invasion by the little red fire ant, Wasmannia auropunctata](#)
- [○ The tramp ant Wasmannia auropunctata: autecology and effects on ant diversity and distribution on Santa Cruz Island, Galapagos](#)

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](#)