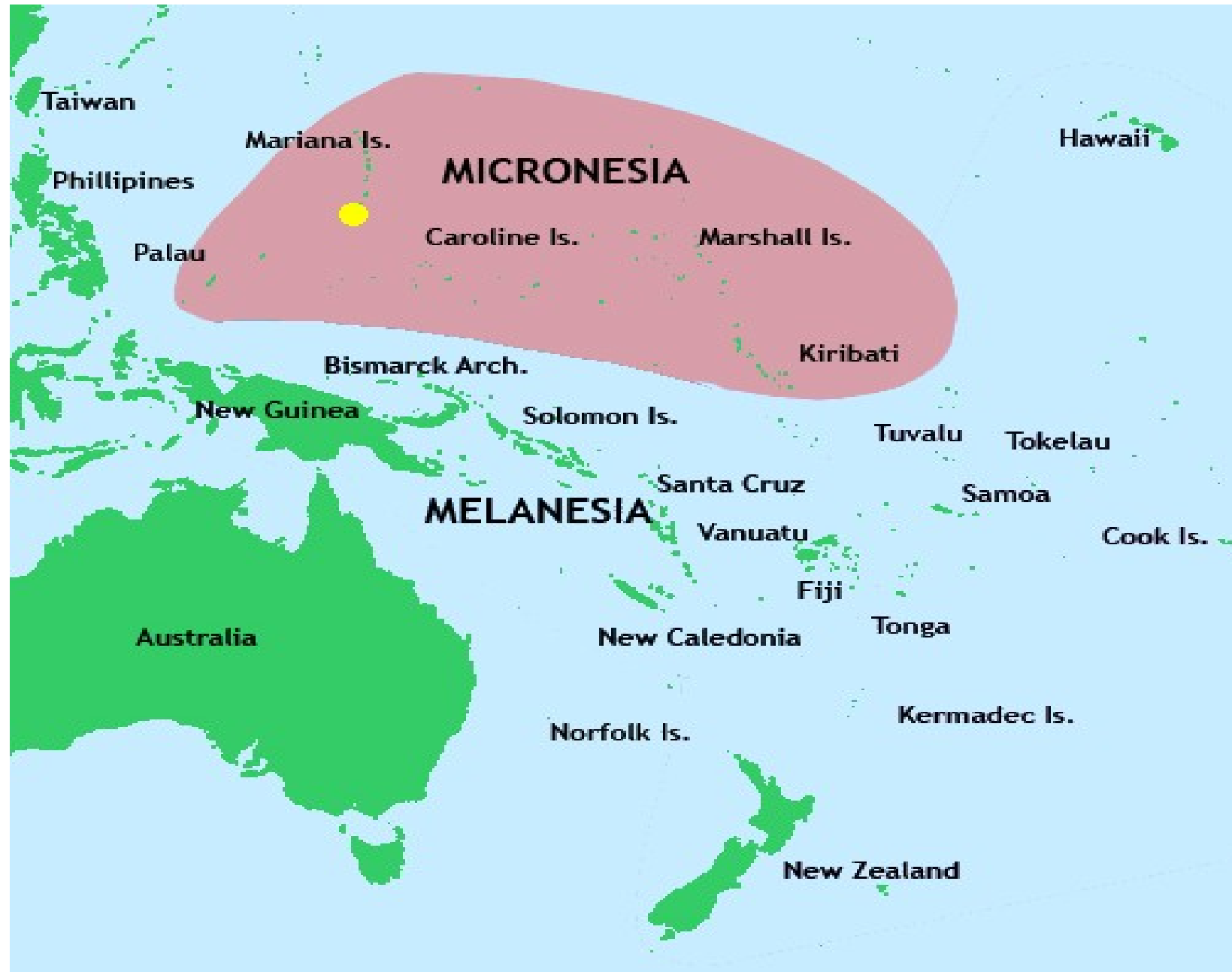# Evaluation of a Scratchpad Template as an Online Database for the University of Guam Insect Collection

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 <u>1936</u> 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

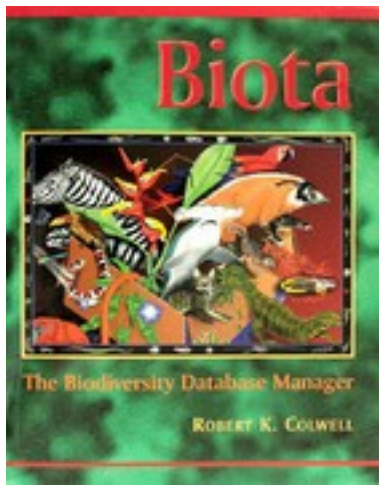# University of Guam Insect Collection

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 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

Wasmannia auropunctata

[ ] 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

2,708 Visitors
15 Oct 2010 - 9 Nov 2011

ClustrMaps®   Click to see

Content

- biblio
- Biography
- Blog entry
- Character project
- Countries map
- Forum topic
- Group
- Hypolimnus octocula marianensis sighting

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

Issues...

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**