

Introduction to iDigBio

Integrated Digitized Biocollections

- Gil Nelson (gnelson@bio.fsu.edu)
(Florida State University)

24 April 2013

Field Museum

Chicago



This material is based upon work supported by the National Science Foundation under Cooperative Agreement EF-1115210. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Advancing Digitization of Biodiversity Collections

- **Facilitate use of biodiversity data to address environmental and economic challenges**
 - Researchers
 - Educators
 - General public
 - Policy-makers
- **Enable digitization of biodiversity collections data**
 - Develop efficient and effective digitization standards and workflows
 - Respond to cyberinfrastructure needs
- **Provide portal access to biodiversity data in a cloud-computing environment**
- **Plan for long-term sustainability of the national digitization effort**
 - Expand participation: partners and data sources



Seven Thematic Collections Networks (TCNs)

- InvertNet: An Integrative Platform for Research on Environmental Change, Species Discovery and Identification (*Illinois Natural History Survey, University of Illinois*) <http://invertnet.org>
- Plants, Herbivores, and Parasitoids: A Model System for the Study of Tri-Trophic Associations (*American Museum of Natural History*) <http://tcn.amnh.org>
- North American Lichens and Bryophytes: Sensitive Indicators of Environmental Quality and Change (*University of Wisconsin – Madison*) <http://symbiota.org/nalichens/index.php>
<http://symbiota.org/bryophytes/index.php>
- Digitizing Fossils to Enable New Syntheses in Biogeography-Creating a PALEONICHES-TCN (*University of Kansas*)
- The Macrofungi Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs (*New York Botanical Garden*)
- Mobilizing New England Vascular Plant Specimen Data to Track Environmental Change (*Yale University*)
- Southwest Collections of Anthropods Network (SCAN): A Model for Collections Digitization to Promote Taxonomic and Ecological Research (*Northern Arizona University*)
<http://hasbrouck.asu.edu/symbiota/portal/index.php>

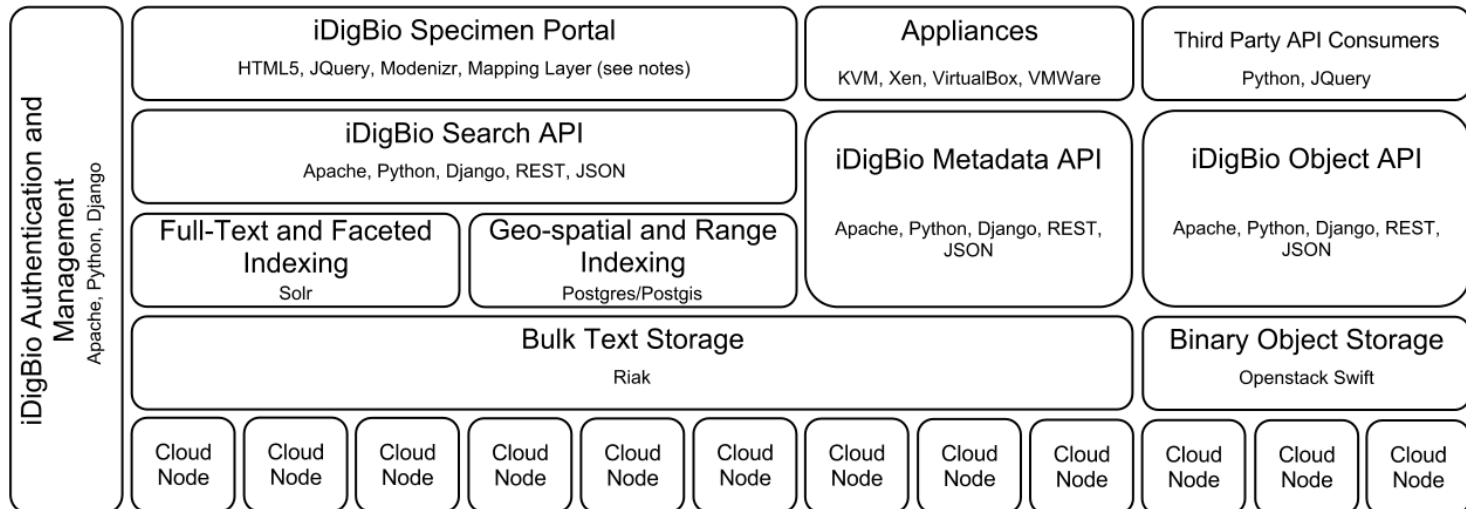
National Resource (iDigBio), Thematic Collection Networks (TCNs), and Collaborators



7 TCNs, 130+ participating institutions, 49 states

Building the iDigBio Cloud

- Cloud-based strategy
 - Providing useful services/APIs (programmatic and web-based Application Programming Interface)
 - Federated scalable object storage and information processing
 - Digitization-oriented virtual appliances
 - Reliance on standards, proven solutions, and sustainable software
- Continuous consultation with stakeholders
 - Surveys, working groups, workshops, person-to-person



What Makes iDigBio Unique?

- Ingest all contributed data with emphasis on GUIDs, not only a restricted set of selected data elements
- Maintain persistent datasets and versioning, allowing new and edited records to be uploaded as needed
- Ingest textual specimen records, associated still images, video, audio, and other media
- Ingest linked documents and associated literature, including field notes, ledgers, monographs, related specimen collections, etc.
- Provide virtual annotation capabilities and track annotations back to the originating collection
- Facilitate sharing and integration of data relevant to biodiversity research
- Provide computational services for biodiversity research

Recent and Ongoing Activities

- Assessment of common and effective practices (paper in *ZooKeys*)
- Minimum information for scientific collections working group
- Collaborative georeferencing pilot project at Godfrey Herbarium
- Digitization workflows working groups
- Biodiversity Informatics Manager working group
- Public Participation in Digitization of Biodiversity Specimens workshop
- Georeferencing working group & train-the-trainers workshop
- OCR/natural language processing working group & Hackathon
- ASB symposium and workshop
- Series of digitization training workshops (herbaria, wet collections, entomology, paleontology, fluid-preserved invertebrate imaging)
- Call for appliances
- Specimen data portal implementation
- Server hosting





iDigBio

Integrated Digitized Biocollections