InvertEBase

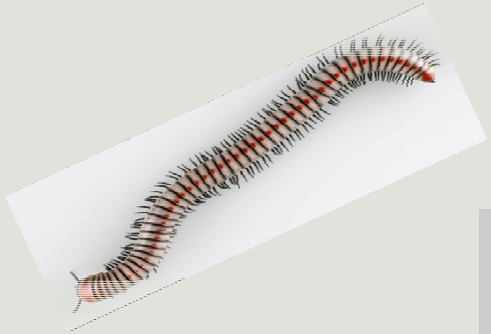
Reaching Back to See the Future:

Species-rich Invertebrate Faunas Document Causes and Consequences of Biodiversity Shifts in North America

Petra Sierwald, PI
Rüdiger Bieler, Co-PI
Field Museum of Natural History, Chicago

iDigBio is funded by a grant from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program (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.

More Digitizing



Petra Sierwald, PI InvertEBase

current PI on new Parasite Tracker TCN:
bat flies, feather lice, fleas, mosquitos

current PI on SCAN PEN, digitizing US specimens of four beetles families:
meal worms or darkling beetles (Tenebrionidae),
featherwing beetles (Ptiliidae),
Pselaphinae (they are really really small)
ironclad beetles (Zopherinae)

Rudiger Bieler, PI InvertEBase

Senior collaborator on new TCN PILS, subaward to FMNH, data to be mirrowed on InvertEBase

InvertEBase: North American terrestrial & aquatic invertebrates

- **Selected insects (e.g., dragonflies, water beetles); arachnids, myriapods, mollusks**
- **Digitize, georeference, mobilize up to 3 million specimen data**
- **Several museums serve data online for the first time (DMNH, AUMNH, CMNH)**
- **Arthropod data served on** SCAN Symbiota Collections of Arthropods Network
- **2019: UMMZ Insects added to SCAN:** 285,758 occurrence, 16% georeferenced
- **Invertebrate data served on InvertEBase**

InvertEBase Portal moved to Arizona State University in 2019

Eight institutions, 13 collections, 2nd year no-cost extension

EF 14-02667, Petra Sierwald, Rüdiger Bieler, 2nd year no-cost extension

EF 14-00993, Andy Deans, 2nd year no-cost extension

EF 14-02697, Elizabeth Shea, 2nd year no-cost extension

EF 14-01176, Jason Bond, Melissa Callahan, completed, on iDigBio

EF 14-04964, Diarmaid O'Foighil, Taehwan Lee, completed

EF 14-02785, Gavin Svenson, 2nd year no-cost extension

FilteredPush
EF 14-01450, James Hanken, completed

PEN 2016: Chicago Academy of Sciences

EF 16-01700, Dawn Roberts completed

PEN 2018: Museum of Northern Arizona

EF 17-01842, Lawrence Stevens, Gary Alpert, ongoing

iDigBio
Integrated Digitized Biocollections

Collections

California Academy of Sciences – Inverts
Invertebrate Collection at the Natural History Collection of Utah
Carnegie Museum of Natural History – Mollusks
Naturalis Biodiversity Center (NL)-Mollusca
Chicago Academy of Sciences – Mollusks
North Carolina Museum of Natural Sciences –Mollusk Collection
Colorado Plateau Biodiversity Center –
Mollusks Sam Noble Oklahoma Museum of Natural History – Inverts
Mollusks Texas A&M University Biodiversity Research and Teaching Collections
Eastern Kentucky University Mollusk Collection
University of Alaska Museum – Inverts
Florida Museum of Natural History – Mollusks
Yale University Peabody Museum – Inverts
Illinois Natural History Survey- Mollusk Collection

iDigBio is funded by a grant from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program (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.

Lessons learned

Pre-curation, pre-curation, pre-curation

Voice recognition is popular with students, not with data entry staff (works well for field notes)

Collection databases developed during period of grant, slowing down data entry speed

IPT development problems for certain databases

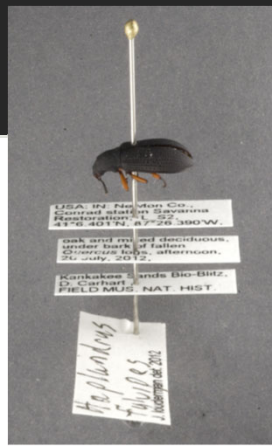
Data entry requires extensive training, long-term personnel increases speed and accuracy

2018-2019: extensive Georeferencing effort:

Outreach: DMNH Exhibit development completed

iDigBio is funded by a grant from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program (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.

iDigBio
Integrated Digitized Biocollections



2019 accomplishments:

2018-2019: extensive Georeferencing effort, monitored trial, time and accuracy assessments

Outreach:

<u>Completed Digitization Exhibit:</u>
Little creatures, Big Data

Delaware Museum of Natural History

<u>High-throughput pin and vial imaging:</u> in progress

Argonne NATIONAL LABORATORY

<u>Contribution to taxonomic authority files</u>

MOLLUSCABASE

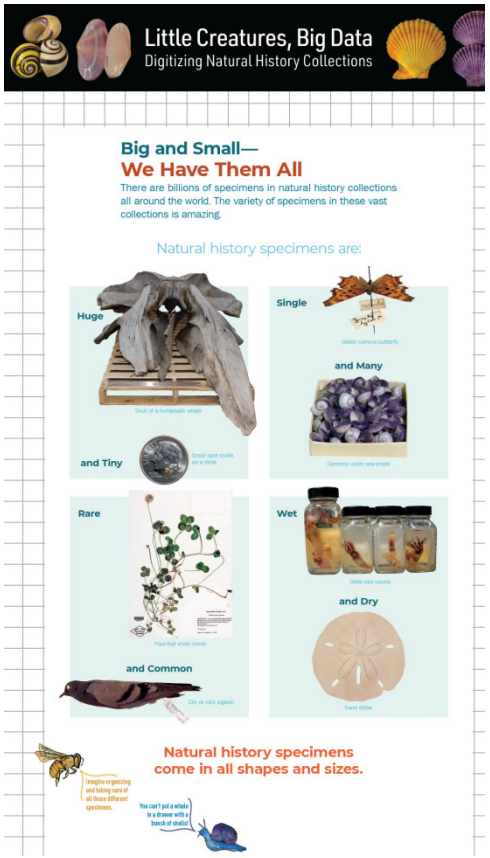
MilliBase

Invert EBase

Outreach: Elizabeth Shea, DMNH

Completed Digitization Exhibit: Little creatures, Big Data

Six poster panels as retractable banners



Outreach:Elizabeth Shea, DMNH

Completed Digitization Exhibit: Little creatures, Big Data

Six poster panels as retractable banners