Exploring the Who What Where

Quick overview of some acronyms, projects, software, etc. affiliated with natural history collections data use and digitization initiatives

Orientation Session, ADBC Summit VI
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Tuesday 1 November 2016
An acronym rich environment (ARE)
A framework for this walk-through

- ADBC, TCNs and PENs
- Digitization related acronyms
- Aggregators and beyond
- And just a few more...

- Glossary in program
- Full glossary on the Wiki

From NIBA to the ADBC & BCoN

- Networked Integrated Biocollections Alliance (NIBA)
- Resulted in Advancing the Digitization of Biological Collections (ADBC)
- Biodiversity Collections Network (BCoN)
  - AIBS (American Institute for Biological Sciences), iDigBio & NSC Alliance (Natural Science Collections Alliance)

http://bcon.aibs.org/
Advancing the Digitization of Biological Collections (ADBC)

• iDigBio, that’s Integrated Digitized Biocollections
  – Funded by National Science Foundation (NSF) to develop an integrated national infrastructure and resource for digitization of existing biodiversity collections in the U.S. iDigBio

• Thematic Collection Networks (TCNs)
  – A network of collaborative institutions
  – Digitize around a particular research theme.
  – Charged with defining and delineating subprojects for technology development or content generation; identifying deliverable goals, metrics for assessment, and specific needs for community support; providing technical support; and strengthening communications and outreach to other collections

• Partners to Existing Networks (PENs)
  – Must increase the number of specimens digitized in the ongoing project and fill gaps not addressed by the specimens in the existing TCN.
iDigBio – the Home Uniting Biocollections (HUB)

- **Sustainability, digitization, facilitating research and educational use of collections data, cyberinfrastructure, ...**
- Advanced Computing and Information Science (ACIS)
  - Implementing the cyberinfrastructure for iDigBio
- Libraries of Life (a free app)
  - Collections coming to life in 3-D, classroom applications, collaboration with TCNs, ASU (Arizona State University)
- **WeDigBio (Worldwide Engagement for Digitized Collections)**
  - Planet-wide collaborative 4-day event to engage the public, including students, to transcribe collections data and meet scientists
- **The FOSSIL Project**
  - Engaging amateur fossil clubs and societies as downstream users of digitized data
Thematic Collections Networks (TCNs) and Partners to Existing Networks (PENs)

TCN: network of institutions strategically digitizing information for a particular research theme, such as impacts of climate change or biota of a region.

The Cretaceous World

The Mid-Atlantic Megalopolis

Lichens & Bryophytes

Macroalgal Consortium

Macrofungi Consortium

Microfungi Consortium

Mid-Atlantic Megalopolis (MAM)

NEVP

PALEONICHES

SCAN

SERNEC

Tri-Trophic

Voucherized Animal Communication Signals
Digitization

Collection Management Software

• Arctos
• Symbiota
• Specify
• Axiell EMu
• collectionspace

Community Building

• SPNHC
• GRBio
• SCNet
• ECN
• Working Groups: DROID, GWG etc.

Data Mobilization

• TDWG – Biodiversity Information Standards (tdwg)
• DwC - Darwin Core
• AC - Audubon Core
• IPT – Integrated Publishing Toolkit (from GBIF)
• Kurator and Akka
• GEOLocate
• DAMS – Digital Asset Management
• ABBYY
• Unique identifiers - GUID, UUID, ARK, IGSN
Data aggregation and Data use

Biodiversity Data Mobilization and Use

- **EoL** - Encyclopedia of Life
- **BHL** – Biodiversity Heritage Library
- **NEON** – National Ecological Observatory Network
- **CyVerse** (iPlant) - facilitating scientific research in the cloud

- **GBIF** – Global Biodiversity Information Facility
- **iDigBio**
- **VertNet** – Vertebrate data portal, Data mobilization and cleaning services
- **BISON** – Biodiversity Serving our Nation – GBIF North American Node
- **USVH** – United States Virtual Herbarium
- **ALA, DigiVol** – Atlas of Living Australia
- **Canadensys** - unlocking specimen information held by Canadian university-based biological collections
- **SiBBr** – Brazilian Biodiversity Information System or Sistema de Informação sobre a Biodiversidade Brasileira)
- **CONABIO** (Mexico)
- **CRIA** (Brazil) and **SpeciesLink**
Education, Outreach, Inreach

• AIM-UP!
  – Advancing Integration of Museums into Undergraduate Programs; exploring the use of collections data in undergraduate education

• Notes from Nature
  – Crowdsourcing collections transcription, creating communities

• iNaturalist
  – observation app, connecting scientists and the general public

• ePandda
  – Enhancing Paleontological and Neontological Data Discovery API, connecting scientific literature with specimens

• Data Carpentry & Software Carpentry (DC and SwC)
  – Biodiversity informatics skills for graduate students and researchers. Focus on tidy data, fit for reproducible research. DC – novices, SwC for self-taught programmers in the sciences.
Publishing

- **Pensoft**
  - ARPHA Writing Tool (AWT): Authoring, Reviewing, Publishing, Hosting and Archiving

- **DataCite, DOI (Digital Object Identifier)**
  - Find, share and reuse, cite data, connect and get credit

- **Mendeley**
  - Free reference manager; organize papers, read & annotate your PDFs, collaborate in private or open groups, and securely access your research from everywhere.

- **ORCiD**
  - Open Researcher and Contributor ID

- **DataONE**
  - Data Observation Network for Earth (DataONE) – data repository and data management best practices

- **Data Dryad**
  - Curated resource making the data underlying scientific publications discoverable, freely reusable, and citable’ general-purpose home for a wide diversity of datatypes

- **Figshare**
  - online digital repository where researchers can preserve and share their research outputs, including figures, datasets, images, and videos. Open data
Got more?

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twitter.com/iDigBio
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