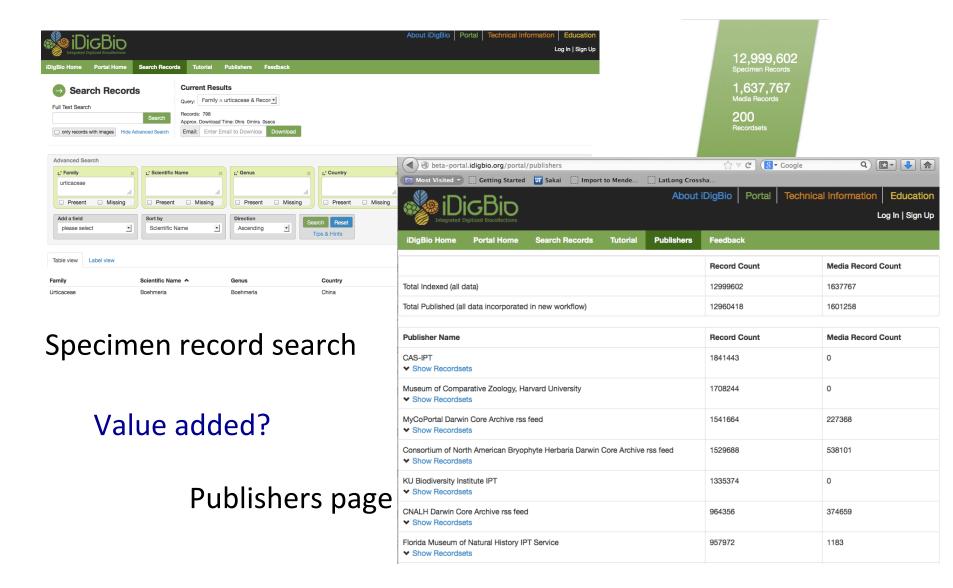
# **Evaluating data usage**

Reed Beaman
University of Florida
27 March 2014

## What happens with your data?

- Aggregation
- Globally unique identifiers
- Taxonomy and names
- Linkages to related resources
- Data standards and modeling data
- Attribution

# Is your data making it into iDigBio?



## Data usage: What does this mean?

Number of queries: 7783

Number of records queried: 1055175684

Number of downloads: 816

Number of records downloaded: 21218617

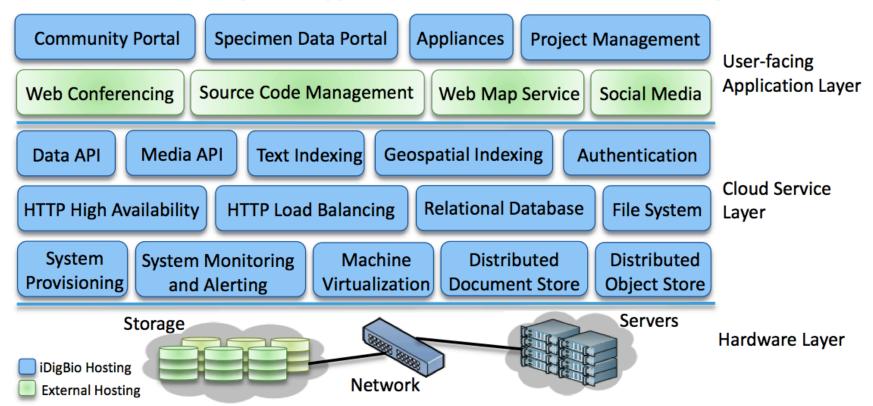
### Attribution

Are researchers and other downstream users, funded or not, providing sufficient level of attribution?

- Publishing data sets?
- Metadata Data providers, aggregators, source collections and institutions
- Object origin (collectors, geographic, political, cultural entities)

# iDigBio Cyberinfrastructure

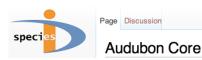
- Developed in consultation with stakeholders
- Implementation determined internally
- Feedback on prototypes solicited from community













Access to Biological Collections Data - ABCD

### dinimum Information about a (Meta)Genome Sequence

## XKCD on Standards



#### Darwin Core

HOW STANDARDS PROLIFERATE: (SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)



THERE ARE 14 COMPETING Z39.50<sub>8</sub> STANDARDS.

SITUATION:

14?! RIDICULOUS! WE NEED TO DEVELOP ONE UNIVERSAL STANDARD THAT COVERS EVERYONE'S USE CASES. YEAH!

500N:

SITUATION: THERE ARE 15 COMPETING STANDARDS.



ISO 19156:2011





#### **Ecological Metadata Language (EML)**



Herbarium Information Standards and Protocols for Interchange of Data





**ISO/TC 211** Geographic information/Geomatics



American National Standards Institute















## Guidelines for authors

**TAXON** 63 (1) • February 2014: 231–234

#### Sequence data

DNA or protein sequences must be deposited in public data bases (GenBank, EMBL, etc.), and accession numbers must be

Voucher specimens are to be cited and deposited in a public herbarium. Cite vouchers and order voucher data as follows: Taxon name including authority, country, largest political subdivision (where applicable; locality and date optional, depending on type of study), collector(s) and collector number, herbarium acronym (plus herbarium accession number or barcode if available). Names

• • •

in Appendix format (see recent issue of *Taxon* for style). Lengthy specimen lists will be provided as Electronic Supplement to the online version, but not published in print due to space limitation.

## Data publishing

### Providers need attribution for data usage

- Should journal publishers maintain the dataset
- Should the authors post datasets to on-line, accessible resources (e.g., Dryad, DataONE, iDigBio, GBIF)?
- Identifier usage
  - global, unique, persistent, resolvable
  - Dataset level (DOIs)
  - Record level (Arks, UUIDs?)
- What resources can be considered as long-term digital archives?
- The call for attribution needs to emanate from collections community, political entities, and cultural groups.

