

BIGCB 2014 Meeting – Saturday working group report communicated by Robert Peet

See <http://taxonbytes.org/bigcb-workshop-at-uc-berkeley-tackling-the-taxon-concept-problem/>

In our group we discussed the need for an international data infrastructure with 5 entities needing globally unique identifiers. Below is my interpretation and expansion of what we discussed.

*=Required fields

1. Observation Event

- 1.1 * Globally unique identifier
- 1.2 * Agent
- 1.3 * Date
- 1.4 * Geolocation (or polygon)
- 1.5 Geolocation precision & method
- 1.6 Method of observation or observation protocol (e.g., vegetation plot, binoculars, heard in field, examination of scat content, etc)
- 1.7 Attributes of site (e.g., elevation, vegetation type, weather)
- 1.8 Agent attributes (e.g., experience, ability, etc.)

2. Biologically Meaningful Entity (BEM)

- 2.1 * Globally unique identifier
- 2.2 Type (e.g., individual, collective, others)
- 2.3 Traits observed (e.g., gender, leaf area index, etc)
- 2.4 Importance (e.g., abundance, %cover, biomass, size)
- 2.5 * Many-to-Many linkage with Observation Events (one BME could be observed multiple times, and one obs could include many BMEs)
- 2.6 Identifier for specific organism (e.g., location if sessile, barcode, chip ...]
- 2.7 Collection identifiers

3. Interpretation [a.k.a. Determination, Identification]

- 3.1 * Globally unique identifier
- 3.2 * Linkage to Taxon Concept (multiple if uncertainty)
- 3.3 * Agent
- 3.4 * Date
- 3.5 * Many-to-Many linkage to Biologically Meaningful Entity
- 3.6 Type (need ontology; e.g., examine specimen, observation in field, BLAST, interpretation of duplicate collection, etc.)
- 3.7 Agent attributes (e.g., experience, ability, etc.)

4. Taxon Concept

- 4.1 * Globally unique identifier
- 4.2 * Name sec. Reference
- 4.3 Many-to-Many linkage with other Taxon Concepts (including set-theory relationships)
- 4.4 Many-to-many linkage to Names
- 4.5 Linkages to phylogenies

5. Name

- 5.1 * Globally unique identifier
- 5.2 * Name
- 5.2 * Link to publication of type
- 5.3 Link to Taxon Concept created by type description
- 5.4 Link to type specimen (in Biologically Meaningful Entity)
- 5.5 Many-to-many linkage to other names with synonym relationships