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Conference Abstract

Standardised Globally Unique Specimen Identifiers

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Abstract

A simple, permanent and reliable specimen identifier system is needed to take the informatics of collections into a new era of interoperability. A system of identifiers based on HTTP URI (Uniform Resource Identifiers), endorsed by the Consortium of European Taxonomic Facilities (CETAF), has now been rolled out to 14 member organisations (Güntsch et al. 2017).

CETAF-Identifiers have a Linked Open Data redirection mechanism for both human- and machine-readable access and, if fully implemented, provide Resource Description Framework (RDF) -encoded specimen data following best practices continuously improved by members of the initiative. To date, more than 20 million physical collection objects have been equipped with CETAF Identifiers (Groom et al. 2017).

To facilitate the implementation of stable identifiers, simple redirection scripts and guidelines for deciding on the local identifier syntax have been compiled (http://cetafidentifiers.biowikifarm.net/wiki/Main_Page). Furthermore, a capable "CETAF Specimen URI Tester" (http://herbal.rbge.info/) provides an easy-to-use service for testing whether the existing identifiers are operational.

For the usability and potential of any identifier system associated with evolving data objects, active links to the source information are critically important. This is particularly true for natural history collections facing the next wave of industrialised mass digitisation, where specimens come online with only basic, but rapidly evolving label data. Specimen identifier systems must therefore have components for monitoring the availability and correct implementation of individual data objects. Our next implementation steps will involve the development of a "Semantic Specimen Catalogue", which has a list of all existing specimen identifiers together with the latest RDF metadata snapshot. The catalogue will be used for semantic inference across collections as well as the basis for periodic testing of identifiers.

Keywords

specimen identifier; collection management; linked open data

Presenting author

Anton Güntsch

Author contributions

All authors contributed to the discussion, specification and implementation of stable identifiers in different natural history collections.

References

- Groom Q, Hyam R, Güntsch A (2017) Data management: Stable identifiers for collection specimens. Nature 546 (7656): 33-33. https://doi.org/10.1038/546033d
- Güntsch A, Hyam R, Hagedorn G, Chagnoux S, Röpert D, Casino A, Droege G, Glöckler F, Gödderz K, Groom Q, Hoffmann J, Holleman A, Kempa M, Koivula H, Marhold K, Nicolson N, Smith V, Triebel D (2017) Actionable, long-term stable and semantic web compatible identifiers for access to biological collection objects. Database 2017 (1): 1-9. https://doi.org/10.1093/database/bax003