Taxonomic Curation in a Multi-taxa Symbiota Portal

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Abstract

Symbiota is an open-source software that allows the creation of online portals for accessing, managing, and mobilizing biodiversity data (Gries et al. 2014, Symbiota Support Hub 2021). Most of the portals are focused on communities with specific taxonomic interests, which often allows the construction of specialized taxonomic thesauri by portal managers (Gilbert et al. 2020, Pearson 2021a). A portal dedicated to the full range of collections in one country (Portal de Biodiversidad de Guatemala 2022) has represented an interesting challenge for taxonomic management.

The Guatemala Biodiversity portal currently allows the digitization and active management of 29 natural history collections in this country, including collections of vertebrates, invertebrates, plants, fungi, lichens, and fossils. Additionally, two institutional observation collections are live managed within the portal (Orellana et al. 2022). This brings up the need to have a suitable taxonomic thesaurus that serves all the collection managers involved. Similar to other Symbiota portals, the Guatemala Biodiversity portal facilitates the incorporation of external catalogs such as Catalog of Life (Bánki et al. 2022), and the World Register of Marine Species (WoRMS Editorial Board 2022), resources which could easily constitute the base of the taxonomic thesaurus of the portal. However, due to the regional focus of this site, it is not ideal to add all the species available in these virtual catalogs.

A partial solution has been importing snapshot collections with Guatemalan records from different Symbiota portals, or from the Global Biodiversity Information Facility (GBIF.org 2022). This approach takes advantage of the specimens identified by specialists in different collections around the world, and the taxonomic cleaning tools available in Symbiota portals (Pearson 2021b) allow the curation of the scientific names.

Nevertheless, these automated tools are often not enough to maintain the taxonomic thesaurus in understudied regions, such as Guatemala, and the manual curation of species names is still necessary. The curation of the taxonomic thesaurus in this portal is a work in progress, and we are achieving this with the creation of curated checklists within the portal

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(Orellana 2022, Pearson and Walker 2021), with the incorporation of names in published catalogs (Cano 2006, Cano and Schuster 2012, Camacho et al. 2022), and with the curation of the available names according to institutional catalogs (CECON 2022). Additional information about the conservation status of the species is being added to the taxon profile pages, attaching recent data provided by the Red List of the International Union for Conservation of Nature and publications by local researchers (IUCN 2021, Elías et al. 2022).

The availability of a regional curated taxonomic thesaurus in the Guatemala Biodiversity portal is still limited and restricted to groups like vertebrates and certain groups of insects, yet this online resource is useful for researchers who are working in local collections or are compiling information to publish new catalogs and checklists for Guatemala. Continuing with the improvement of this taxonomic resource is necessary not only to advance the knowledge of the biodiversity of Guatemala but to aggregate this information into relevant global catalogs.

Keywords

biodiversity portals, natural history collections, digitization, taxonomy, checklists

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Conflicts of interest

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