

## Conference Abstract

# Implementation of Taxonomic Name Usages in Generating National Species Checklist in Taiwan

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## Abstract

The concept of Taxonomic Name Usage (TNU) involves the assertion of a recorded observation or fact associated with a scientific name. This reflects a taxonomic viewpoint on the usage of the name, but takes inspiration from the Global Names Usage Bank (GNUB). Like most taxonomic databases, earlier versions of the Catalogue of Life in Taiwan (TaiCOL), the national database that maintains the most complete authoritative list of Taiwan's species, were designed solely for collecting scientific names as well as related information, unable to reflect various taxonomic concepts represented by TNUs in different taxonomic literatures over time. To incorporate and preserve diverse taxonomic viewpoints essential for taxonomic studies, TaiCOL developed the Scientific Names Management Tool (TaiCOLNT) to record TNUs so that a species checklist reflecting the taxon circumscriptions (i.e., the concepts behind different TNUs) can be generated by TaiCOL. Based on the former TaiCOL checklist as the backbone (also saved as TNUs), all TNUs that present a circumscription of a taxon were aggregated for creating taxonomic groups, accompanied by a series of processes, including handling logic of homotypic synonyms and autonyms, identifying the most current name usage within these groups, processing misused names, reviewing taxonomic viewpoints, and then updating the taxon (including accepted name changes, taxon merges, splits, or newly added taxa). The status of a name within a group is determined based on the latest reference, which is prioritized in the following order: published literature (including books and journals), unpublished materials (such as research reports, theses, government documents, etc.),

and finally, TaiCOL's taxonomic backbone. By comprehensively recording taxonomic relationships and history provided by TNUs using TaiCOLNT, TaiCOL has effectively reduced taxon redundancies in synonyms and misapplied names. By implementing TaiCOLNT, TaiCOL will soon be able to provide multiple taxonomic opinions.

## **Keywords**

biodiversity informatics, data integration, taxonomy, portal

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## **Conflicts of interest**

The authors have declared that no competing interests exist.