

Revolutionising Collection Management at the National Museum of Namibia

Willem Coetzer[‡], Francois Becker[§]

[‡] South African institute for Aquatic Biodiversity, Grahamstown, South Africa

[§] National Museum of Namibia, Windhoek, Namibia

Corresponding author: Willem Coetzer (w.coetzer@saiab.ac.za)

Abstract

Despite its aridity, Namibia contains a surprisingly species-rich biota with high levels of endemism and an unprecedented land portion of intact wilderness. However, as a developing country, the expanding human population is increasing pressure on the country's rich, but severely understudied ecosystems. An efficient flow of baseline biodiversity data is key for facilitating biosystematics and biogeographic research, which inform conservation planning and sustainable development. The National Museum of Namibia (NMNW) is the custodian of important specimen collections representing Namibian biodiversity, with holdings of about 500 000 specimens from a broad range of vertebrate and invertebrate groups. The NMNW is increasing its drive to make these data available to the necessary stakeholders to facilitate research and conservation assessments, based on digitised specimen collections. The first digitisation initiatives, in the 1980s and 1990s, used software such as FileMaker Pro. These collection-specific database development projects were not aligned with each other or standardised, and resulted in separately developed, heterogeneous databases. Recent changes in research priorities, standards (e.g., Darwin Core Darwin Core Task Group 2009), and data-types (e.g. multimedia files, genomic samples and DNA sequences) now necessitate the use of the latest technologies to revolutionise collection management and data management, facilitate workflows and integrate data into a single platform. We describe plans to implement Specify software (Specify Collections Consortium 2022) for collections / biodiversity data management at NMNW. We will form a small team to execute the required data cleansing and migration operations in-house, to develop a Specify database to manage the herpetology collection, in the first instance. Proper management of genomic and image metadata, and the longevity of database management in a staff-constrained environment, will require special database design considerations. Of particular importance is the representation of both individual organisms and the specimen-lots containing them, and we describe the capability of Specify software to handle such data. We also describe the approach that will be followed in introducing new users to a conceptually complex database schema and application. This will draw from previous experience in developing Specify databases for, and undertaking training courses with, several natural history museums in South Africa.

Keywords

biodiversity data, collections management, Specify software

Presenting author

Willem Coetzer

Presented at

TDWG 2022

Hosting institution

South African Institute for Aquatic Biodiversity

Author contributions

Willem Coetzer: Conception of the project and writing of the abstract

Francois Becker: Conception of the project and writing of the abstract

Conflicts of interest

References

- Darwin Core Task Group (2009) Darwin Core. Biodiversity Information Standards (TDWG). <http://www.tdwg.org/standards/450>
- Specify Collections Consortium (2022) Specify Software. <https://www.specifysoftware.org/>. Accessed on: 2022-7-27.