

## Conference Abstract

# The Impact of Digitization and Digital Data Mobilization on Biodiversity Research and Outreach

Gil Nelson<sup>‡</sup>, Shari Ellis<sup>§</sup><sup>‡</sup> Florida State University, Tallahassee, Florida, United States of America<sup>§</sup> Florida Museum of Natural History, Gainesville, Florida, United States of AmericaCorresponding author: Gil Nelson ([gnelson@bio.fsu.edu](mailto:gnelson@bio.fsu.edu))

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## Abstract

The first two decades of the 21<sup>st</sup> Century have seen a rapid rise in the creation, mobilization, research, and educational use of digital museum data, especially in the natural and biodiversity sciences. This has thrust natural history museums and especially the biodiversity specimen collections they hold into the forefront of biodiversity research in systematics, ecology, and conservation, underscoring their central role in the modern scientific enterprise. The advent of such digitization and data mobilization initiatives as the United States National Science Foundation's Advancing the Digitization of Biodiversity Collections program (ADBC), Australia's Atlas of Living Australia (ALA), Mexico's National Commission for the Knowledge and Use of Biodiversity (CONABIO), Brazil's Centro de Referência em Informação (CRIA), Europe's SYNTHESYS, and China's National Specimen Information Infrastructure (NSII) has led to a rapid rise in regional, national, and international digital data aggregators and has precipitated an exponential increase in the availability of digital data for scientific research.

The international Global Biodiversity Information Facility (GBIF) now serves about 130 million museum specimen records, and Integrated Digitized Biocollections (iDigBio), the U.S. national biodiversity portal, has amassed over 109 million records representing over 300 million specimens that are international in scope. These digital resources raise the profiles of museums, expose collections to a wider audience of systematic and

conservation researchers, provide the best biodiversity data in the modern era outside of nature itself, and ensure that specimen-based research remains at the forefront of the biodiversity sciences. Here we provide a brief overview of worldwide digital data generation and mobilization, the impact of these data on biodiversity research, new data underscoring the impact of worldwide digitization initiatives on citation in scientific publications, and evidence of the roles these activities play in raising the public and scientific profiles of natural history collections.

## **Keywords**

Digital data; Biodiversity; Digitization; Data mobilization; Research

## **Presenting author**

Gil Nelson (iDigBio, Florida State University)

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## **Conflicts of interest**

None