

Summary

Natural history collections are collections of specimens or observations of plants, animals and fungi previously collected or observed in a specific place in the world. These collections help scientists study the diversity of life on Earth. Unfortunately, such collections, available only in museums or, even worse, not available at all because they are stored in university warehouses, cannot be used in educational pursuits or for nature conservation. Fortunately, projects to digitize natural history collections are increasing, and modern digital technologies are being developed, thanks to which online access to such datasets is possible. Additionally, these technologies, supported by tools for searching collections, and statistical or spatial analysis, enable us to get to know the world around us even better.

An example of a project whose aim was to digitize natural history collection and build a system for sharing and analyzing online data was funded by a grant implemented at the Faculty of Biology of Adam Mickiewicz University in Poznań, Poland. The project was entitled "AMU Nature Collections – online (AMUNATCOLL): Digitization and sharing of the nature data resource of the Faculty of Biology University of Adam Mickiewicz University in Poznań". As part of the project, the AMUNATCOLL IT system was created. It consisted of a natural history collection digital database as well as a portal and a mobile application, thus enabling work with the online database. The wealth of knowledge coming from the AMUNATCOLL IT database and a set of tools for searching and analyzing it in spatial and statistical terms, as well as a mobile application connected to the database for collecting natural observations in the field, make this system quite extensive. Therefore, the proposal, in the form of this handbook, is intended to support teachers and nature conservation practitioners in the application of the AMUNATCOLL IT system in their everyday work. This textbook will enable one to learn about the AMUNATCOLL IT system through using the database and tools in education and nature protection through practical examples. Several lesson plans have been prepared for teachers, and there is a schematic describing the environmental monitoring possibilities enabled by using the AMUNATCOLL IT system for nature conservation practitioners.

Reading the textbook will allow a practitioner to acquire the skills to monitor biodiversity by using historical nature data and mapping the presence

of native and alien species, including invasive ones. In addition, continuous monitoring of the selected areas will increase researchers' alertness to the factors contributing to the expansion or extinction of the analyzed species and will make the researchers even more sensitive to the fate of the natural environment. The use of the AMUNATCOLL IT system can therefore help build and extend an active social attitude, which promotes the social participation approach, the so-called citizen science, for administrative decision-making.