

Conference Abstract

Building the Biodiversity Heritage Library's Technical Strategy

Elisa Herrmann ‡

‡ Museum für Naturkunde & BHL, Berlin, Germany

Corresponding author: Elisa Herrmann (elisa.herrmann@mfn.berlin)

Received: 28 Sep 2020 | Published: 06 Oct 2020

Citation: Herrmann E (2020) Building the Biodiversity Heritage Library's Technical Strategy. Biodiversity Information Science and Standards 4: e59084. <https://doi.org/10.3897/biss.4.59084>

Abstract

In 2016 the United Nations published the [17 Sustainable Development Goals](#) (SDGs). It quickly became clear that information is a catalyst for almost every goal, and enhancing information access is necessary to achieve and ultimately improve global community life. The [Biodiversity Heritage Library](#) (BHL) is therefore an invaluable resource for redressing inequalities as it provides information and literature as an open access library. But there are also still hurdles to overcome to ensure information for all. In the following, we will focus on technical developments outlined in the BHL's technical strategy.

One challenge is the different digital infrastructures resulting in limited access to the web-based BHL. In 2019, only 53.6% of the global population accessed the internet (Clement 2020). Even if the reasons for this are diverse, we assume that network coverage is a problem we have to address. One focus of the BHL's technical strategy is to support and provide solutions for remote areas with no or low bandwidth connection.

Furthermore the technical strategy focuses on the provision of services and tools for various usage scenarios by implementing a responsive design. In 2019, mobile devices, such as mobile phones and tablets, accounted for 54% of all page views worldwide (Polshova 2020). Even though a differentiated view must be taken of which devices are used for which scenario, it can be assumed that mobile devices will be used more frequently in everyday scientific life, for example in field research. By a responsive design of the BHL website, we address this trend in technological development and media usage in order to remain a user-friendly research infrastructure in the future.

Another challenge is the multilingual user experience. The multilingualism of BHL will become an essential part of the technological development to address the global biodiversity community and to reflect the worldwide biodiversity research. We aim to achieve this through a multilingual user interface and multilingual search options.

The services and tools mentioned above require a high quality database, especially machine-readable text. The improvement of optical character recognition (OCR) is fundamentally important for further technological developments. Good OCR results ensure a comprehensive search in the entire corpus, and with further technological possibilities, data could be added that goes beyond the pure text. Currently taxonomic names are parsed and linked to the [Encyclopedia of Life](#) (EOL), giving users the opportunities to search for taxonomic synonyms. In the future, this enrichment could be used for more data, such as collection data, geographical names, etc. In the challenge of improving and enriching the data, the BHL will depend on its large community, for example in crowdsourcing transcription projects.

In order to reach those objectives and to continue to offer BHL's services to the global community in the best possible way, we need to monitor best practices in digital library and bioinformatics developments and implement them wherever possible. The BHL consortium will have to rely on partnerships and collaborations to fulfill this plan. We are therefore looking into cooperation with other consortia and will also explore alternative technological development models where third parties would develop apps and services from open BHL data.

Taking all the mentioned approaches into account, the BHL will develop from a mainly literature library to a data library. It will be our task to create open source software and tools, like better APIs, to support the re-use of the data. This goes along with the aim to increase the awareness of the BHL within the biodiversity community as it is set in the BHL Strategic Plan 2020-2025 (Biodiversity Heritage Library 2020).

To draw a conclusion, the BHL's technical strategy focuses on five main objectives to advance information access for the biodiversity community worldwide:

- Improve global awareness and accessibility
- Enhance machine-readability of BHL content for data re-use
- Identify resources needed to achieve the technical plan
- Ensure continued priorities and leadership for technical infrastructure
- Implement BHL 2020 Technical Priority Plan (Biodiversity Heritage Library 2020).

The principle of our work is to adapt BHL to current technological, scientific and social developments in order to provide the global community with the best possible research tool for biodiversity research and to enhance the achievement of the SDGs.

Keywords

technical development, information infrastructure, open access, open data

Presenting author

Elisa Herrmann

Presented at

TDWG 2020

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