

# The future of biodiversity collections

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Events such as the COVID-19 pandemic have highlighted the crucial role played by biodiversity collections in enabling rapid responses to crises and in facilitating ongoing research across numerous fields. Despite the recognized value of this infrastructure, the community nevertheless has further opportunities to maximize its value to the scientific enterprise.

Writing in *BioScience*, Barbara Thiers of the New York Botanical Garden and colleagues describe (<https://academic.oup.com/bioscience/article-lookup/doi/10.1093/biosci/biab036>) the necessary steps for the biodiversity collections community to vouchsafe its position as an important catalyst of research. The authors draw on recommendations from [recent reports](#) by the Biodiversity Collections Network (BCoN) and the National Academies of Science, Engineering, and Medicine (NASEM), arguing that an implementation plan for the previously described Extended Specimen Network (ESN) is a logical next step for the community.

According to Thiers and colleagues, the plan should draw on the existing capacity of biodiversity collections to provide researchers with a stable source of research materials, such as those needed to identify the evolution and origin of major pathogens. To undergird the plan, the authors highlight five pillars derived from the NASEM and BCoN reports: collecting new samples, continued digitization, [data integration](#), education and workforce training, and infrastructure and sustainability. With these themes in mind, say the authors, "[biodiversity](#) collections

data stakeholders can now begin the work of creating a set of action items, a timeline, metrics for measuring success, and an oversight mechanism for the implementation of the ESN by 2030."

The authors highlight that a fully implemented ESN will not only be imperative for collections and their users but also for nations seeking to equitably share specimen-derived benefits in compliance with [international agreements](#) such as the Nagoya Protocol. Compliance requires careful documentation of specimens and all of their associated records, as well as their use and any benefits derived therefrom. According to the authors, a globally implemented ESN will enable compliance by providing data transparency and maintaining critical records of specimen use and chain of custody.

Thiers and colleagues argue that it is imperative that the ESN be global in its scope. Only through broad international collaboration will it be possible to "develop a comprehensive, permanent federation of all biological collections that fulfills their mission to represent past and present life forms for scientific discovery, wise environmental policy, and a scientifically literate citizenry."

**More information:** Barbara Thiers et al, Implementing a Community Vision for the Future of Biodiversity Collections, *BioScience* (2021). [DOI: 10.1093/biosci/biab036](https://doi.org/10.1093/biosci/biab036)

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