Biosystematics 2023
Celebrating the past | Planning the future

Biosystematics is foundational to achieving our goals for nature.

Olwen M. Grace (Royal Botanic Garden Edinburgh)

Biosystematics is foundational to achieving goals to halt the biodiversity crisis and implement nature-based solutions to the challenges facing humanity. Specialist taxonomic knowledge and comprehensive reference collections of the Earth's biota—the core of our systematics community—are vital to identify, understand and conserve organisms that are hoped to hold such solutions, or to pose a management challenge. Valuable biodiversity information is being released at scale by the digitisation of natural history collections, and by innovations in their curation and use. Examples of how these data are useful includes the emerging species identification methods combining AI with computer vision, biochemical data including digital sequence information (DSI), and environmental monitoring. They are also integrated into identification tools available to anyone with an internet-connected device. Museomics, informatics tools to accelerate monographic work, and training for the next generation of taxonomists are other investment areas for systematists. To leverage these advances to maximum effect at this point in history, we must identify common goals and galvanize around delivering them: directing resources where the biodiversity challenge is greatest, focusing where extinction may outpace a description of the biota, and balancing pragmatism with high standards in our practice.