

Leveraging historical lichen specimens for modern collections-based research

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Lichen specimens have been collected for over two centuries, resulting in millions of samples already deposited in herbaria and fungaria worldwide. These collections have historically provided the basis for morphological studies assessing species boundaries, distributions, and phenotypic variation. More recently, cutting-edge methodologies have generated molecular data from specimens in herbarium collections that challenge many of the earlier assessments based strictly on morphology, anatomy, and/or chemistry. Additionally, artificial intelligence (AI) research applied to digital images of herbarium specimens has opened new avenues for studying trait evolution, and other ecological trends over time. This symposium will highlight the importance of historical collections and modern digital and molecular tools in different areas of collections-based research while emphasizing the importance of accurate species documentation to advance biodiversity knowledge.