

APPS SPECIAL ISSUE CALL FOR PAPERS

Non-model Plants: Challenges and Solutions

Proposal Deadline: January 20, 2025

Applications in Plant Sciences (APPS), the [Botanical Society of America](#)'s open access journal highlighting new tools and protocols across the plant sciences, is organizing a special issue to showcase new approaches in studying non-model plants.



Model organisms have been instrumental in advancing our understanding of fundamental biological processes. However, their limitations restrict our ability to fully appreciate the richness and complexity of the plant kingdom. This special issue aims to propel research on non-model plants, encompassing bryophytes, pteridophytes, fungi, algae, microalgae, gymnosperms, and angiosperms. By delving into these diverse groups, we can unlock a wealth of knowledge about plant evolution, adaptation, and ecological significance. Studying non-model plants presents unique challenges due to their often complex genomes, intricate life cycles, and limited research infrastructure. This special issue seeks submissions that not only address these challenges but also propose innovative solutions and resources. We welcome contributions focusing on:



Novel techniques: We encourage the development and application of new protocols in areas like genomic analysis, phenotyping, functional genomics, and biotechnologies.

Comparative approaches: Articles evaluating and comparing existing methods for their applicability to non-model plant research are particularly valuable.

Resource development: The creation of public databases, software tools, and molecular resources specifically tailored for non-model plant studies is highly encouraged.

We are particularly interested in submissions on the following topics:

1. **Genomic characterization:** Investigations into non-model organisms' genomic content and architecture that elucidate key features and variation.
2. **Phenotypic analyses:** Studies using novel developmental biology protocols and new quantitative genetic approaches to explain the adaptive strategies and ecological significance of the phenotypes of non-model organisms.
3. **Functional genomics:** New public databases and resources supporting the functional aspects of non-model organism genomes, including gene expression, regulation, and metabolic pathways.
4. **Biotechnological applications:** Comparisons of biotechnology developed for model plants and their performance in the manipulation, improvement, and conservation of non-model organisms for agricultural, environmental, or industrial purposes.
5. **Applied ecology:** Development of methods needed to use non-model plants (including algae and fungi) in ecological monitoring, restoration, and conservation endeavors.
6. **Bioinformatic tools and resources:** Modification or development of bioinformatic tools and databases tailored to the unique characteristics of non-model plants, enhancing our understanding of their biology and ecological significance.
7. **Challenges in experimental design:** Addressing challenges and proposing solutions related to experimental design, data collection, and analysis specific to non-model plants in the context of applied ecology.

How to submit a proposal?

Authors interested in contributing to this special issue should email a proposal that includes a **tentative title, proposed author list, [manuscript category](#), and a 200–300-word abstract**. *The abstract should **explicitly address the topics of the special issue** and explain how the proposed manuscript advances techniques, software, or resources in the plant sciences (note that reviews comparing different techniques and addressing analytical challenges are also welcome)*. Please send your proposals to apps@botany.org.

The deadline for proposal submission is January 20, 2025. The Editor-in-Chief and the special issue editors will review proposals. Authors will be notified by February 14, 2025, as to whether their proposal was accepted.

Authors whose proposals are accepted should submit their manuscripts by August 4, 2025. Note that acceptance of a proposal does not guarantee the eventual acceptance of the manuscript, as all manuscripts will be rigorously peer-reviewed and held to the journal's standards. **The target date for publication of the special issue is early 2026.**

Reduced [article publication charges](#) (at the BSA member rate) are available for papers accepted for publication in the special issue. Authors seeking a publication fee waiver should follow the process outlined on the [APPS APC page](#). For more information about journal scope, article types, and manuscript preparation, please see the [Author Guidelines](#). Any questions may be sent to the APPS editorial office (apps@botany.org).

The Botanical Society of America and its publications are committed to inclusive science that reflects disciplinary, human, and geographic diversity. Submissions are welcomed from applicants of all ethnicities, races, colors, religions, sexes, sexual orientations, gender identities, socioeconomic status, national origins, disabilities, ages, or other individual status.

Sincerely,
José M. Cunill-Flores, University of Miami
Guanjing Hu, Chinese Academy of Agricultural Sciences
Aarón I. Vélez-Ramírez, Universidad Nacional Autónoma de México
Special Issue Editors

Images, clockwise from top left: blue passionflower (*Passiflora caerulea* L.), *Fomitopsis pinicola* (Sw.) P. Karst. on tree trunk, prickly pear (*Opuntia ficus-indica* (L.) Mill.), unidentified moss. Photos by Diana V. Chagoya.