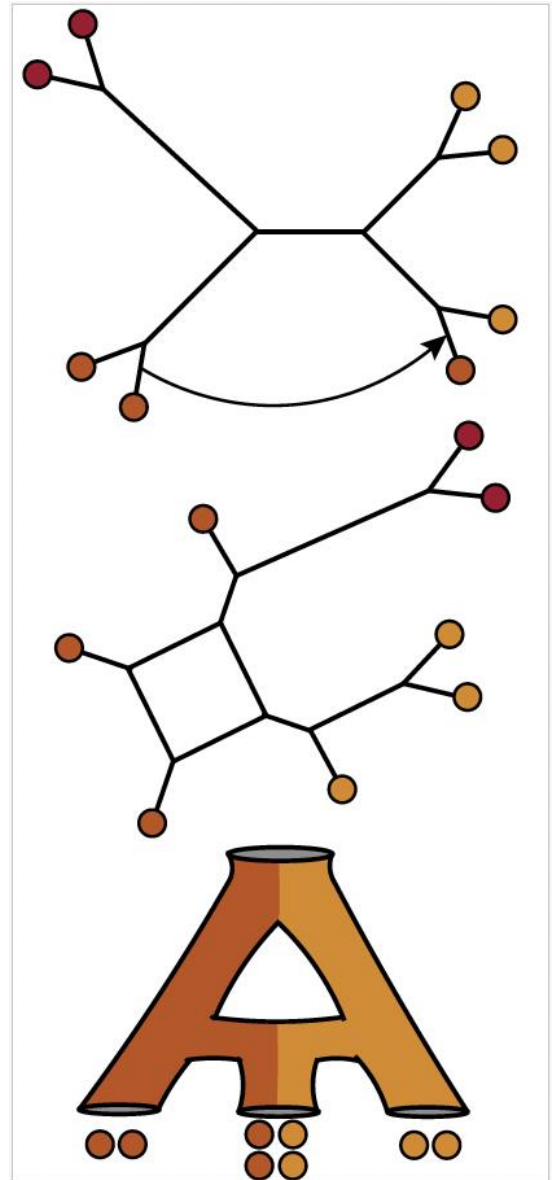


APPS SPECIAL ISSUE CALL FOR PAPERS
Branching out: Resolving plant evolution through phylogenetic networks
Proposal Deadline: August 26, 2024

[Applications in Plant Sciences](#) (APPS), the [Botanical Society of America's](#) (BSA) open access journal highlighting new tools and protocols across the plant sciences, is organizing a special issue titled “Branching out: Resolving plant evolution through phylogenetic networks.”

The sequencing of complete and error-free genomes has become increasingly trivial, however, some relationships in the plant tree of life remain difficult. This has led to increasing recognition that trees can be an oversimplified representation of evolution, and that network thinking can offer a way forward in understanding species tree uncertainty, complicated patterns of trait evolution, and taxonomic ambiguities. While concepts such as historical gene flow and hybridization have long been appreciated by plant biologists, phylogenetic network models and the bioinformatic tools that implement them have rapidly developed over the past decade. Most of the existing methods are agnostic to features of plant biology such as polyploidy, reproductive mechanisms, and rapid shifts in life history characters. To better detect patterns of reticulate evolution in plants and infer the mechanisms underlying those patterns, new method development and increased accessibility of bioinformatic tools that especially consider plants are needed.



This special issue will highlight methods and programs for investigating patterns of reticulate evolution that can be applied to or make specific considerations for plants. Databases and other resources that facilitate broad investigations into the importance of hybrid speciation or adaptive introgression in plants are also welcome. We are interested in topics such as:

- New methods and software for estimating or comparing phylogenetic networks

- Software and wrappers that address scalability of existing methods or improve their access to users
- Software or strategies for insightful visualization of networks that can be challenging due to display of rich metadata or sheer size
- Tools that facilitate the distinction of non-tree-like processes in data from technical artifacts or a lack of information
- Applications of machine learning to detecting reticulate evolution or providing insights into trait evolution
- Rigorous evaluations of existing methods on exciting problems in plant evolution
- Development of openly accessible databases that synthesize patterns of reticulate evolution on plant phylogenies or catalog hybrid species in one or multiple plant groups
- Reviews of the challenges and progress in understanding reticulate evolution in plants
- Reviews of how phylogenetic network method development has been consequential in the understanding of specific plant groups

How to submit a proposal: Authors interested in contributing to this special issue should email a proposal consisting of 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; reviews comparing different techniques are also welcome. Please send your proposals to apps@botany.org.

The deadline for proposal submission is August 26, 2024. Proposals will be reviewed by the Editor-in-Chief and the special issue editors. Authors will be notified by September 16, 2024, as to whether their proposal was accepted.

Authors whose proposals are accepted should submit their manuscript by March 21, 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 standards of the journal. **The target date for publication of the special issue is January 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 details 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,

Claudia Solís-Lemus (University of Wisconsin-Madison)

George P. Tiley (Southern Genetics LLC)

Special Issue Editors

Image credit: George P. Tiley