

Special Issue

The Role of Plant Organellar Genomes in Plant Development and Responses to Environmental Stimuli

Message from the Guest Editor

Mitochondria and chloroplast are cellular organelles that have been regarded to have originated by endosymbiosis. In plants, mitochondria and chloroplast are not only dedicated to their well-known roles (respiration and photosynthesis), but also take part in other important processes in plant development and responses. In comparison to interactions between phenotypes and nuclear genomes, phenotypes caused by organellar genomes or interaction with nuclear genome have not been analyzed in plants. Extremely limited segregation of polymorphic sequences by crosses and lack of efficient mutagenesis or transformation technologies have been obstacles of organellar functional genomics study. However, recent improvements in sequencing technologies, targeted mutagenesis and phenotype analysis systems are providing new opportunities to get answers to problems that have not been solved in this field. In this Issue, we focus on the role of organellar genomes in plant development and responses to environmental stimuli. We also welcome research on methodologies to enhance the efficiency of functional genomics studies for plant organelles, and interactions between nuclear and organellar genomes.

Guest Editor

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Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

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