

2017 Awards in the *Journal of Plant Research*

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The Botanical Society of Japan honors excellence in publications of the *Journal of Plant Research* through the Best Paper Awards and the Most-Cited Paper Award every year. We are proud to announce this year's recipients.

Best paper awards

Satoko Iida, Miyuki Ikeda, Momoe Amano, Hidetoshi Sakayama, Yasuro Kadono, and Keiko Kosuge in the Graduate School of Science at Kobe University have studied responses to abscisic acid (ABA) and salinity stress in stomatal production in heterophyllous and homophyllous aquatic plants (Iida et al. 2016). Heterophyllous plants produce aerial and submerged leaves, whereas homophyllous plants produce only submerged leaves. In both species, submerged leaves lack stomata. They found that *Potamogeton wrightii* (heterophyllous) and *P. perfoliatus* (homophyllous) species can form stomata when treated with ABA but only *P. wrightii* forms stomata under salinity condition. Their results indicate that the two *Potamogeton* species have an innate morphogenetic ability to form stomata, but the actual production of stomata depends on ABA-mediated stress responses specific to each species and habitat.

Riichiro Yoshida, Nobuto Kamizono, Yudai Shichiri, Tet-suo Shimatani, Fumika Miyata, Kenji Honda, and Sumio Iwai in the Faculty of Agriculture at Kagoshima University and Izumi C. Mori in the Institute of Plant Sciences and Resources at Okayama University found that the amino

acid glutamate (Glu) functions as a novel signaling molecule in stomatal closure in *Arabidopsis thaliana* and *Vicia faba* leaves (Yoshida et al. 2016). Interestingly, Glu is known to play pivotal roles in the functioning of the central nervous system in mammals. Their results showed that ABA is not required for Glu signaling, but Glu receptor-like genes play crucial roles in this signaling process.

Most-cited paper award

Naoyuki Tajima, Kohsuke Sekine, Takashi Moriyama and Naoki Sato in the Graduate School of Arts and Sciences at The University of Tokyo, Shusei Sato in the Graduate School of Life Sciences at Tohoku University, Fumito Maruyama in the Graduate School of Medical and Dental Science at Tokyo Medical and Dental University, Ken Kurokawa in the Earth-Life Science Institute at Tokyo Institute of Technology, Hiroyuki Ohta in the Center for Biological Resources and Informatics at Tokyo Institute of Technology, and Satoshi Tabaka in the Kazusa DNA Research Institute determined the complete nucleotide sequence of the plastid genome of the unicellular marine red alga *Porphyridium purpureum*, belonging to the unsequenced class Porphyridiophyceae (Tajima et al. 2014). They found that the plastid has a relatively large number of introns, and two rRNA operons are not identical to each other. Phylogenetic analyses suggest that the plastids of Heterokontophyta, Cryptophyta, and Haptophyta originated from the subphylum Rhodophytina. Their results suggest that a large-scale rearrangement occurred in the plastid genome of *P. purpureum* after its separation from other Rhodophyta. This paper has been cited in 17 papers since 2014.

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