

- Login
- About PAG XXVII
- Scientific Program >
- Speakers >
- Abstracts >
- Attendees >
- Exhibitors >
- Social Media
- Maps
- Privacy Policy
- Local Places >

★ W744 De novo Genome Assembly and Annotation of *Sanionia uncinata* (Amblystegiaceae: Hypnales), a Pleurocarpous Moss Dominant in Antarctica

Number: W744


Authors

- Hyungseok Lee
- Hyun Park
- Mi Young Byun
- Mira Park
- Jungeun Lee
- Ralf Reski

Body

Mosses in Antarctica grow mostly in coastal areas and are expected to have developed various unique physiological/molecular mechanisms to survive in extreme environments. *Sanionia uncinata* (Amblystegiaceae: Hypnales) is a dominant moss species in the maritime Antarctic and considered as a good target to investigate genes associated with abiotic stress tolerance of mosses. It has several distinct characteristics when compared to *Physcomitrella patens*, the first model moss species. First, *S. uncinata* is a pleurocarpous moss. Second, it belongs to the order Hypnales which contains the largest number of moss species. Third, it is an alpine species that lives in cold regions unlike *P. patens* mostly found in temperate regions. Here, we report the draft genome sequence of an Antarctic *S. uncinata*, obtained using third-generation PacBio sequencing technology. About 1 million reads were attained from four Sequel sequencing runs and merged together into a single dataset of 21 Gb. The *de novo* assembly produced 673 contigs with an N50 contig length of 2.18 Mb, and a total of 28,651 coding genes were inferred. Our dataset can be useful as a comparative genome for evolution and speciation studies for bryophytes, as well as for the analysis of molecular adaptation of plants to harsh environment.

Sessions



W744 De novo Genome Assembly and Annotation of *Sanionia uncinata* (Amblystegiaceae: Hypnales), a Pleurocarpous Moss Dominant in Antarctica
Saturday, Jan 12 4:20 PM
Town and Country, Esquire - Meeting House