



## **Phylogenetic analyses of the liverwort family Lepidoziaceae reveals the position of Micropterygioideae.**

Antonio L. Rayos, Jr. (School of Life and Environmental Sciences, University of Sydney and Institute of Biological Sciences, University of the Philippines Los Baños); Matthew A.M. Renner (National Herbarium of New South Wales, Australian Institute of Botanical Science, Royal Botanic Gardens and Domain Trust); Simon Y.W. Ho (School of Life and Environmental Sciences, University of Sydney).

Lepidoziaceae are the third-largest family of liverworts, with about 860 species found on all continents. With many taxa occupying a diverse range of habitats, these plants perform a variety of ecological roles. The evolutionary history of this family has not been satisfactorily resolved, with taxa such as the subfamily Micropterygioideae yet to be included in phylogenetic analyses. We inferred the position of the subfamily within Lepidoziaceae using a data set consisting of 13 genetic markers, sampled from 198 species. It was revealed that Micropterygioideae and Lembidioideae are sister lineages. Based on our phylogenetic estimate, we used statistical dispersal-vicariance analysis to reconstruct the biogeographic history of the family. Our study reveals the influence of past geological events and climatic conditions on the evolution and distribution of a widespread and diverse family of liverworts.

Antonio Rayos: [aray7117@sydney.edu.au](mailto:aray7117@sydney.edu.au)