

## ABSTRACT

Syifa Nayyara Syarif. 24020121140124. **Inventory and Morphological Characterization of Liverworts (Marchantiophyta) in the Gedong Songo Temple Area, Bandungan, Central Java.** Ecology and Biosystematics Laboratory, Department of Biology, Faculty of Science and Mathematics, Diponegoro University, supervised by Lilih Khotimperwati and Aprilia Nurul Aini.

Liverworts (Marchantiophyta) are a group of non-vascular plants characterized by high species diversity and unique morphological features, such as the presence of trigones and oil bodies. The Gedong Songo Temple area, Bandungan, Central Java, is a volcanic mountainous region with diverse microhabitats. These environmental conditions potentially support liverwort diversity. However, information regarding liverwort species and their morphological characteristics in this area remains limited. This study aimed to investigate and document liverwort species (Marchantiophyta) and to describe their morphological characters in the Gedong Songo Temple area, Bandungan, Central Java. Sampling was conducted at four stations selected based on habitat variation, namely the temple area, sulfur source area, forest near a dormant crater, and natural forest. Plot sampling techniques were applied for terrestrial substrates and epiphytic liverworts. Morphological identification was carried out using macroscopic and microscopic characters, followed by the construction of a species identification key. The results showed that 19 liverwort species belonging to 10 families were recorded, consisting of five thalloid liverwort species (Marchantiopsida) and fourteen leafy liverwort species (Jungermanniopsida). Variations in species occurrence among stations were influenced by differences in environmental conditions, particularly moisture level, canopy cover, and substrate characteristics. Several species, such as *Solenostoma vulcanicola*, were found exclusively at stations with sulfur exposure, indicating specific habitat preferences in geothermal environments. This study provides baseline data on liverwort diversity and morphological characteristics in the Gedong Songo Temple area and may serve as a reference for biodiversity management and further studies on liverwort adaptation to extreme habitats.

**Keywords:** *environmental tolerance, geothermal environment, morphological characters, species distribution*