

## ABSTRACT

Mutiara Syafila Salsabila. 240020121140122. **Exploration of Leaf Moss Species (*Bryophyta*) in the Gedong Songo Temple Area, Bandungan, Central Java.** Laboratorium Ekologi, Departemen Biologi, Fakultas Sains dan Matematika, Universitas Diponegoro, supervised by Lilih Khotimperwati and Anggiresti Kinasih.

Gedong Songo Temple Area is located on the slopes of Mount Ungaran, Central Java, and exhibits a high diversity of microhabitats, ranging from open areas around the temple structures, humid natural forests, to geothermal zones influenced by sulfur. These conditions potentially support a high diversity of mosses (*Bryophyta*); however, information on species composition and morphological characteristics in this area remains limited. This study aimed to explore moss species, describe the morphological characters of each species, and examine differences in characters among species. The research was conducted in four sites: the area near Temple I, the area near sulfur sources, the forest area near an inactive crater, and natural forest areas, using a plot method. Epiphytic moss sampling was carried out on ten host trees at each station, with four quadrats measuring 10 cm × 10 cm taken from each tree. Meanwhile, terrestrial moss sampling was conducted using five plots measuring 1 m × 1 m on soil or rock surfaces at each station. The exploration recorded 32 moss species belonging to 20 genera, 13 families, and one class, Bryopsida. The highest species richness was found in the natural forest area, with 16 species. The family with the greatest number of species was Dicranaceae, comprising eight species. *Scopelophila* sp. showed a relative frequency value of 71.4%, making it the most frequently encountered species in the area near sulfur sources. These results indicate that differences in microhabitat conditions, particularly humidity, light intensity, substrate type, and sulfur exposure, influence the occurrence and distribution of moss species in the Gedong Songo Temple Area.

**Keyword:** *Scopelophila* sp., Sulfur Area, Relative Frequency, Microhabitat