

## ABSTRACT

Miftakhul Istiqomah. 24020119120006. **Diversity and Similarity Relationships of Parmeliaceae Based on Morphology, Anatomy, and Chemistry on Mount Ungaran.** Under the guidance of Lilih Khotimperwati and Arina Tri Lunggani

Parmeliaceae is the largest family of lichens, comprising more than 2,700 species with varying thallus types. The diversity of this family is quite high in Indonesia. Mount Ungaran has the potential to have an abundant distribution of Parmeliaceae. This study aims to analyze the diversity and similarity of Parmeliaceae based on morphology, anatomy, and chemistry in Mount Ungaran. Sampling was conducted at 3 points in the Mount Ungaran area. Phenotypic analysis used MVSP software. A total of eight (8) lichen species were identified, 6 foliose and 2 fruticose, including *Parmelina tiliacea*, *Parmotrema sancti-angelii*, *Parmotrema reticulatum*, *Parmotrema hypotropum*, *Parmotrema tinctorum*, *Parmotrema subtinctorium*; and *Usnea baileyi*, *Usnea filipendula*. The most common microcrystals found were Lecanoric acid and Chloroatranorin. Phenotypic analysis showed two main clusters. Distinguishing characters include the type of thallus, the presence of rhizomes, branching, pycnidia, and several specific chemical reactions. The highest similarity relationship was found between *Parmotrema subtinctorium* and *Parmotrema reticulatum* (IS = 0.868), the lowest similarity between *Usnea filipendula* and *Parmotrema sancti-angelii*, and between *Usnea filipendula* and *Parmotrema hypotropum* (IS = 0.368).

**Keywords:** *Parmeliaceae, phenetics, morphology-anatomy, Mount Ungaran*