ABSTRACT

Ichika Fasya Darmawan, 24020120130063. **Diversity of Ferns (Pteridophyta) in the Umbul Songo Waterfall Area, Semarang Regency**. Ecology and Biosystematics Laboratory, Department of Biology, Faculty of Science and Mathematics, Diponegoro University, under the guidance of Lilih Khotimperwati and Anggiresti Kinasih.

Ferns (Pteridophyta) are a type of plant commonly found in humid habitats such as forests, riverbanks, and around waterfalls in Indonesia. Research on ferns along the tourist route of the Umbul Songo Waterfall Area in Semarang Regency is still very limited, so research is needed to obtain scientific information that can support conservation efforts and sustainable use of natural resources. This study aims to examine the diversity and structure of fern communities in the Umbul Songo Waterfall Area in Semarang Regency. The study was conducted at 3 different stations, namely Station 1 (Waterfall), Station 2 (Swimming Pool), and Station 3 (Resort). The results of the study obtained 30 species belonging to 11 families (23 terrestrial species and 7 epiphytic species). The highest diversity index (H') and evenness (E) values were found at Station 2 (Swimming Pool) with a value of H' = 2.87, classified as moderate, and E = 0.92, classified as even. The highest similarity index value was found between Station 1 (Waterfall) – Station 2 (Swimming Pool) and – Station 3 (Resort) with a value of 69.76%. The highest Importance Value Index (INP) of terrestrial ferns was found in *Adiantum diaphanum* with a value of 38.94%. The highest Importance Value Index (INP) of epiphytic ferns was found in *Nephrolepis* sp. with a value of 145.2%. These findings indicate that the fern community in Umbul Songo is relatively diverse with high evenness in the pool tourism area, which indicates that the conditions and environmental factors in the Umbul Songo Waterfall Area, Semarang Regency are suitable for fern habitat.

Keywords: *Umbul Songo, Environmental Factors, Diversity, Community Structure, Ferns (Pteridophyta)*