

ABSTRACT

Rachmat, Firlia. 2011. **The Study of Diversity and Distribution Pattern of Fern in Bromo Tengger Semeru National Park**. Thesis, Department of Biology, Faculty of Science and Technology, State Islamic University (UIN) Malang Maulana Malik Ibrahim. Advisor I: Dwi Suheriyanto, S.Si, M.P. Advisor II: Romaidi, M.Sc.

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Traditional Use Zone is one of the zones found in the Bromo Tengger Semeru National Park (TN.BTS). This area is used by many local people and visitors because it is inhabited by various species of flora and fauna diversity, one of which is ferns. Ferns are plants that are cosmopolitan kormus have spora which has many benefits. The research aims to identify the species diversity, to know the distribution patterns and to know the importance value index (INP) of ferns that make up the vegetation in TN.BTS.

The study was conducted in May 2011, in Traditional Use Zone, TN.BTS and Optics Laboratory of Biology, Faculty of Science and Technology of UIN Maliki Malang. The area sampling performed early ferns Use Zone of the city of Malang to Ranu Pani within ± 10 km. The design of the study is a quantitative descriptive of describing the diversity and the distribution patterns of species of terrestrial ferns. The method used is the beginning of the transect that the beginning of Traditional Use Zone to Ranu Pani into 10 observation points with a size of 1 km / observation points. At each observation point is placed along the transect line as much as 10 transects of 100 m². Made along the transect line plot size of 2 x 2 m² are with made specific places chosen randomly (Method of Purposive Random Sampling). The fern are then identified by fern using Ferns of Malaysia in Colour (Piggot, 1988), Flora of Thailand, Pteridophyta (Iwatsuki and Iwatsuki, 1979, 1985, 1988, 1989), Key to The Families Of Ferns And Fern Allies in Australia (McCarthy, 1998) and Jenis Paku Indonesia (LIPI, 1980).

The study found 12 Familys which consist of 17 species. The highest importance value index (INP) is a type of *Pteridium aquilinum* L (160, 38%) while the lowest importance value index is the type of *Selaginella intermedia* (Bl.) Spring and *Gleichenia linearis* (Burm) with the same value (1.70%). The diversity index 1.68 to 0.32 indicates the dominance of ferns in TN.BTS is classified as moderate. Based on the Morisita Index analysis the distribution patterns of ferns in TN.BTS tend to cluster (clumped).