



POPULATION DISTRIBUTION OF *Diplazium esculentum* (VEGETABLE FERN) IN CORRELATION WITH ENVIRONMENTAL FACTORS IN MTS. PALAY-PALAY, STRICT PROTECTION ZONE, TERNATE, CAVITE, PHILIPPINES

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ABSTRACT

Diplazium esculentum is commonly known as vegetable fern or “paco” in the Philippines. It is commonly found in the lowland forest. It served as food and herbal medicine many people especially in the indigenous community. It serves as their livelihood for it can be sold in the market. But because of too much destruction in the forest, climate change and lack of knowledge of the people regarding the abundance of vegetable fern, it result to gradual loss of its biodiversity and food to other herbivores in the forest. This study was conducted to determine the correlation between the environmental factors in Mts. Palay-Palay, Ternate, Cavite, in relation to the population distribution of the *Diplazium esculentum* from three stations of Mts. Palay-Palay. The research site, Mts. Palay-Palay, Ternate, Cavite, has a total land area of approximately 3518 hectare. The biodiversity of flora which is located in the strict protection zone has a total area of 250 hectare.

Environmental factors and physico-chemical factors were determined and tested using different methodologies. The elevation including height, distance and top of Mt. Palay-Palay in meters were determined using GPS (global positioning system). The rope of belt transect line size is about 100 meter long and was used to determine the distributions of vegetable ferns. Ferns were counted to determine the number of ferns per quadrant. Sample of soil were collected in 3 stations to identify the soil texture, soil pH and soil nutrients (nitrogen, potassium and phosphorus) using soil test kit and USDA guide and was determined at the DLSU-D Biology Research Laboratory. Air and soil temperature were tested using thermometers. Data gathering and statistical analysis were computed using different formulas and was checked by a statistician/research adviser. Herbarium preparations were also considered. The results of soil temperature range from 26-28 C, air temperature ranges from 27-28C. The soil nutrients affect the growth and distribution of species which include nitrogen with low content and potassium with high content and phosphorus with low content. All in all the study ascertains that there exist a correlation between environmental factors and *Diplazium esculentum* in Mts. Palay-Palay, Ternate, Cavite because of the changes in the population distribution of *Diplazium esculentum*.



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