



**PHYSICO-CHEMICAL FACTORS AFFECTING THE DISTRIBUTION
PATTERN OF TREES ALONG THE ELEVATIONAL GRADIENT
OF MTS. PALAY-PALAY-MATAAS NA GULOD
PROTECTED LANDSCAPE, LUZON ISLAND**

An Undergraduate Research Presented to the
Faculty of Biological Sciences Department
College of Science and Computer Studies
De La Salle University-Dasmariñas

In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Biology major in Human Biology

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March 2013



ABSTRACT

The pattern observed in by organisms in forest ecosystems is a significant information used in modern methods of biological conservation, and one such pattern is the distribution of trees along spatial gradients, such as elevation. This study's goals focused in understanding that elevational pattern in trees in the study area Mts. Palay-palay-Mataas na Gulod Protected Landscape (MPP-MGPL), a rainforest found in Cavite and Batangas, by first identifying the trees species found in the area and the physico-chemical factors (namely humidity, temperature, light, soil moisture, and soil nitrogen, potassium, and phosphorus content) that govern it. The researchers used species richness, density, and basal area as parameters of distribution and correlated the gathered values, together with elevation, with the physico-chemical factors using simple regression in the SPSS software. Species richness and density were shown to follow a hump-shaped pattern with elevation, peaking at mid-elevation, along the 340-382 m a.s.l. elevational gradient. Correlation with the physico-chemical factors meanwhile showed that richness has a significant positive correlation with light, humidity, and soil phosphorus, while density is positively correlated with light and soil moisture. Basal area did not have any distinct relationship with both elevation and the factors measured. The pattern observed in the study is consistent with various literatures which conclude that the distribution of organisms in a forest is dictated by environmental factors and is as well affected by elevation.