ANALYSIS OF DISTRIBUTION OF BUTTERFLY SPECIES IN SRI LANKA

A PROJECT REPORT PRESENTED BY

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to the Board of Study in Statistics and Computer Science of the

POST GRADUATE INSTITUTE OF SCIENCE

in partial fulfillment of the requirement
for the award of the degree of

MASTER OF SCIENCE IN APPLIED STATISTICS

of the

UNIVERSITY OF PERADENIYA

SRI LANKA

2010

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ABSTRACT

Insects undoubtedly play a key role in terrestrial ecosystems; distributions of most insects remain poorly characterized. The distribution of species across ecological landscape is very important in conservation of species. Various groups of insects have adapted to live and develop under certain ecological conditions. There are two general approaches to investigate the distribution of species in different landscapes. The first approach emphasizes the ecological process underlying the relationship between species distribution and landscape. The second approach uses statistical models. This approach involves regression or other statistical modeling techniques applied to species data and one or more environmental variables.

The total butterfly species in Sri Lanka described to date include 244 species in which 20 species are endemic to our country. Their distribution is governed by climate, topography and vegetation types. Understanding species' responses to habitat is very important for the ecologist and conservation biologist.

We examined data from 204 plots from the forests in Sri Lanka. The number of butterflies from each species in the plot has been counted. In this survey they have paid attention on 64 butterfly species. Effect of various environmental factors on these species was analysis. Therefore multivariate techniques and logistic regression have to be applied to find out natural grouping within species. So it was discovered that distribution pattern of butterfly species in Sri Lanka is not homogeneous and it depends on environmental factors. The species richness is also changed according to the environmental factors.

R is a free software environment for statistical computing and graphics. It is very useful to handle ecological data. Due to the effective data handling and graphical facilities we decided to use R software for our data analysis.