A CASE STUDY: VEGETATION STUDY AT THE MEETHIRIGALA FOREST RESERVE

A PROJECT REPORT PRESENTED BY

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to the Board of Study in Plant Sciences of the

POSTGRADUATE INSTITUTE OF SCIENCE

in partial fulfilment of requirement

for the award of the degree of

MASTER OF SCIENCE IN PLANT SCIENCE

of the

UNIVERSITY OF PERADENIYA

SRI LANKA

2009

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A study was undertaken to gather baseline information on structure and composition of the vegetation in the Meethirigala Forest Reserve, one of the fragmented forest patches located in the wet zone of Sri Lanka. This reserve is surrounded by an urbanized area and as a result it is frequently disturbed by human activities. For the study, I have identified four sites as highly disturbed, disturbed, less disturbed and undisturbed area. Vegetation was investigated by plot sampling using quadrates. Twelve, 20 m x 20 m quadrates and thirty six sub plots, (each 5 m x 5m) were enumerated. All trees with a diameter at breast height (dbh) larger than 10 cm or greater than >1 m in height were recorded and identified. Density and Shannon Diversity Index were calculated accordingly.

The vegetative structure and composition varied between the sites. According to the results the site located within the monastery (undisturbed area) has a significantly different vegetative stucture and composition compared to the sites at boundary (highly disturbed), near the public road (disturbed) and site located close to the stream(less disturbed). Endemicity and diversity are also higher than the other three sites hence suppose to be an undisturbed area. Stratification showed a very similar pattern to a dipterocarp forest type. Identified forest species in study sites gave a total of 164 plant species belonging to 44 tree species, 33 genera and 27 families in the greater than 10 cm dbh woody species. Of this total 164 species, 38 (23%) species are endemic to Sri Lanka.

Further, 41 (25%) timber species, 16 (10%) fuel wood species, 33 (22%) medicinal species and seven (4%) invasive species were recorded.

The distribution of *Ochlandra stridula* was observed over the other plant associations. Influenceof *O. stridula* on other plant communities were identified as a threat to the biodiversity and should be prioritized for further research on it, for conservation of forest species and monitoring of biodiversity in forest reserve.