

ASSESSMENT OF FAUNAL DIVERSITY OF A NATURAL FOREST AND AN ADJACENT PINUS MIXED PLANTATION FOREST IN YAGIRALA

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Faunal diversity of the natural forest (Pamaragala Aranya Forest) and the University of Sri Jayewardenepura Pinus-mixed forest, in Yagirala forest reserve was assessed. The University Pinus - mixed forest has a dense undergrowth and tropical lowland tree species. The natural forest is a highly degraded forest due to past logging and prevailing illicit felling. m. The University Pinus forest is a mixed forest which has a dense undergrowth and tropical lowland tree species.

In this study, random line sampling method was used to enumerate fauna. Five plots of 100 m x 5 m each leaving gaps of 50 m, were used as a transect line. Fifteen survey lines having 60 plots in the Pinus - mixed forest and 11 survey lines having 51 plots in the natural forest were assigned. The study was restricted to some selected faunal groups such as birds, mammals, reptiles, fishes and some invertebrates (butterflies, land snails etc.). Pitfall trapping was used to assess the diversity of selected ground active invertebrate groups such as ants, beetles and spiders. For each forest, 10 survey lines were selected and 2 pitfall sampling points were located in each sampling plot for the location of pitfall traps. Two independent samples t-Test and the Wilcoxon Signed Rank Test were used to compare the faunal diversity between the two forests.

The results showed that there is no significant difference in the diversity of birds, mammals, butterflies, and ground active invertebrates such as ants, beetles and spiders between two forests. The diversity of land snails in the natural forest is significantly higher than the diversity of land snails in the Pinus - mixed forest. The diversity of invertebrates of the Pinus - mixed forest is significantly higher than the natural forest.

According to the results of the present study, the Pinus - mixed forest also has a rich faunal diversity. Therefore, it can be assumed that one or more reasons such as food, nesting places, protection for fauna in the Pinus - mixed forest, edge effects of the surrounding home gardens, and the effect of the rich faunal diversity in the natural have been affected considerably to increase the diversity of some fauna in the Pinus - mixed forest.