

# AN ECOLOGICAL STUDY ON TERMITES INHABITING GRASSLAND AND FOREST ECOSYSTEMS IN THE UNIVERSITY OF PERADENIYA

I.G.S. WIJAYANTHI AND P.K. DE SILVA

*Department of Zoology, Faculty of Science, University of Peradeniya*

The termites are soft-bodied insects and their activities are mostly correlated with ecological factors. The objectives of this study were to examine the termite species in two ecosystems: grassland and forest and to study the influence of some ecological factors on their activities.

The data presented here were collected over a period of six months from May to October 2000. A forest patch and grassland between road leading to Upper Hantana and Uda-Peradeniya was selected as study sites. The area selected was examined for termite colonies/nests.

Few soldier termites from each colony were collected and preserved in 70% alcohol. Termites were identified using taxonomic keys. Their abundance was also recorded. Weather parameters such as temperature, humidity and rainfall were collected and termite activity in relation to these weather factors were observed.

Nine termite species including three unidentified species were recorded from the forest and only four species were recorded from the grassland. *Odontotermes redemanni* was the most abundant species in both grassland and forest ecosystems. Except for *Coptotermes ceylonicus*, all other identified termite species belong to family Termitidae, which include subterranean or mound builders. There were no live wood or dry wood termite species which live in live-trees or dry-timber without any direct contact with soil. All the termite species except *Hospitalitermes monoceros* nest in burrows in soil and forage in live trees and decaying wood through surface runways constructed in soil. *Hospitalitermes monoceros* lives in arboreal nests and forage in leaf litter devoid of soil cover. There was no significant difference in the weather parameters between the two habitat sites except for the difference in shade. Except for *Hospitalitermes monoceros*, termite activities in both habitats were correlated with weather factors; they show all peripheral activities few days after a rain when the environment is humid and has low light intensity. *Hospitalitermes monoceros* shows all the peripheral activities during the period of study.

Based on these results, it may be concluded that the ecological factors do not determine termite species or their distribution within the study sites, but it affects their activity. Since there are more microhabitats and different food sources in the forest, it is likely that there would be more termite species than the grassland.