

DIVERSITY AND DISTRIBUTION OF ANTS IN THE MEEWATURA AGRICULTURE FARM AT PERADENIYA UNIVERSITY PARK

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Ants play many important roles in terrestrial ecosystems as pests, predators, scavengers, seed harvesters, fungus cultivators, social parasites and vectors of diseases. Furthermore, ants are considered as one of the best indicators of habitat quality. The present study explores the diversity and distribution of ants in six different habitats with different vegetation types and land use patterns, in the Meewatura Agriculture Farm, University of Peradeniya, which is 11 hectares in extent. The study was conducted over a 12-month period from April 2005 to 2006. Six habitats were selected as study sites; garbage dump, grassland, footpaths, a banana plantation, several vegetable cultivations and the medicinal plant garden. Ants were collected using several methods; random hand collection, from nests, using baits, pit fall traps and by Winklersac extraction. Nest morphology and distribution were recorded. Regional Keys were used for identifying mounted specimens to generic level and reference ant collections for species level identification.

A total of 19 ant species in 17 genera and five subfamilies were collected from the entire study area. Majority of the ants (10 spp.) belonged to the subfamily Myrmicinae. Most of the ant species were common in all the habitats except, *Phedologeton* sp.1 and *Solenopsis* sp.2 confined to the garbage dump, *Cardiocondyla* sp.1 to the footpaths, *Cerapachys* sp.1 and *Monomorium* sp.1 to the grassland.

Sampling of ants using baits was carried out to compare species diversity in the different habitats. According to Shannon Diversity Index, the highest diversity (1.9177) of ants was recorded from the garbage dump. Species evenness was highest (0.7698) in the grassland while in other sites ants showed a patchy distribution.

Most of ants were generalists in their food habits. The seed harvesters such as *Pheidole* spp., *Solenopsis* spp., *Meranoplus bicolor* were common in the grassland and footpaths. *Diacamma* sp.1, *Odontomachus* sp.1 and *Oecophylla smaragdina* are aggressive predators, which show recruitment behavior towards baits. *Cardiocondyla* sp.1 was present only in leaf litter while *Monomorium* sp.1 was collected only from pit fall traps. Ground nests of 8 ant species were located and each had its characteristic tumulus. The most abundant ant species in the entire study area were *Pheidole* spp. and their nests were common in all the habitats.

