

Sasitorn Hasin 2008: Diversity and Community Structure of Ants at Sakaerat Environmental Research Station, Nakhon Ratchasima Province. Master of Science (Forestry), Major Field: Forest Biology, Department of Forest Biology. Thesis Advisor: Associate Professor Decha Wiwatwitaya, D.Agr. 94 pages.

Studies on diversity and community structure of the ant were carried out at Sakaerat Environmental Research Station, Nakhon Ratchasima Province during September 2004 to August 2005. Aims of this study were to study the diversity, community structure and microhabitat of ants in four different forest types: dry evergreen forest (DEF) dry dipterocarp forest (DDF) *Acacia auriculaeformis* forest plantation (FPT) and mixed dipterocarp forest (MDF). The ants were sampled by 3 method (1) leaf litter collecting (2) soil collecting and (3) honey bait trap. Ants were indentified by type specimens at Kasetsart Ant Museum, Kasetsart University.

The results showed that 9 subfamilies, 56 genera and 131 species of ant were found in all study areas. The seasonal changes has influenced on ant presenting in which the number of ants had highst in DEF in the dry season, 65 species, while, 86 species was found in DDF during the rainy season. The diversity and evenness indices had the highest value in DDF through the year. The values of similarity index among the forest types were higher than 50% indicating that most ant species can live in both deciduous and evergreen types. The some species found at both types was influenced by the connected of forest areas. The results of species composition showed that DEF had the highest abundance and average density both in leaf litter and soil were 91.4 and 4,125 ind./m², and 20.47 and 694.17 ind./m², respectively. The different habitats had affected on ant distribution both in leaf litter and soil. Most of dominant species in the DEF and MDF were leaf litter ants as *Anoplolepis gracilipes*, *Monomorium pharaonis* and *Technomyrmex kraepelini*. However, the ant diversity in the leaf litter had lower than in the soil due to the nests in the leaf litter were temporary nest, while, ant nest were permanent in he soil. The specific habitat of ant, showed that the number of species of 11, 5, 5, 8 and 2 species were found at in the soil, in the rotton log, on the ground surface, on the low vegetation or tree and under the substance, respectively. In contrast, about 10 species can live more than one microhabitats and the ant nests had highest number in the rotton log .

This study provided the basic knowledge about the ant community and species in specific microhabitats which can be used as an indicator to detect the negative effect of distrubance in ecosystem for future plan of sustainable utilization and forest conservation.

Student's signature

Thesis Advisor's signature