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Sweep samples of tropical forest foliage ants: Regional, forest-type and stratification differences

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Abstract

The surface area of tree crown and lower vegetation consists of leaves and twigs and serves as the primary area of photosynthesis, growth and reproduction in plants. The area is also the home of many insects for living and foraging. Ants are a dominant component of the insect fauna found on the foliage surface. Ants nest in plant structures, forage on plants, protect plants, and rear honeydew-producing insects. A complete inventory of the ant fauna in foliage is essential to advance understanding of ant ecology, evolution and behaviour, and to take full advantage of their demonstrated value in conservation priority setting, bio-monitoring, and biological control. However, the ant fauna, especially at tropical forests, is little known. We examined the species composition and community structure in samples of tropical foliage ants taken by sweeping in Danum Valley and Lambir Hills National Park in Borneo, and Sakaerate Field Station in Thailand. The samples were the ants taken with 1,884 sweeping units (one sample unit consisted of 10 sweeps) using a net of 50 cm diameter and 100 cm deep, from the surface of the understorey vegetation and the canopy crown. We compared the species richness, relative abundance, and level of composition among species and genera of foliage ants between the tropical rainforest and seasonal forest, and between the canopy and under-storey in the rainforest.

Key words: ant, tropical forest foliage, species composition, abundance, inventory

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