

**STUDY ON THE DIVERSITY OF GROUND - DWELLING
ANT COMMUNITIES IN THE BATTICALOA DISTRICT
OF SRI LANKA**



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ABSTRACT

Ants are an essential biotic component in terrestrial ecosystems in Sri Lanka. Numerous researches have been conducted worldwide whilst a little is known about the systematic of Sri Lankan ants and particularly in the northern and eastern region. This study attempts to provide more information on the species diversity of ants at the Batticaloa District, the Eastern province of Sri Lanka. Worker ants were surveyed in four different habitats; Iluppadichenai Bare Land (IBL), Crop Farm at Faculty of Agriculture (FOA) in the Eastern University Sri Lanka, Kallady Beach and Cashew Forest Area (CFA) in Eastern University in Batticaloa District from August to October 2024. Ants were collected by employing several sampling methods simultaneously along three, 100 m transects in each location. Honey baiting, leaf litter sifting, soil sifting and pitfall trapping were employed to collect worker ants in the selected areas. Twenty-five pitfall traps were set up throughout each site. Ants captured by honey baits were collected after one hour and the specimens in pitfall traps were collected after three hours. Collected ants were preserved in 70 % ethanol. Mean air and soil temperature at each site were recorded. From four sampling sites total 26 ant species belonging to 15 genera in 4 subfamilies; Dolichoderinae, Formicinae, Myrmicinae were recorded whereas, the Pseudomyrmicinae (*Tetraponera allaborans*) were recorded for the first time from the Batticaloa District. Nineteen ant species in 09 genera of 2 subfamilies were recorded from the first survey of ants at Kallady beach can be considered as preliminary inventory of ants in this region. *Oecophylla smaragdina*, *Polyrhachis punctillata*, *Monomorium pharaonis*, *Monomorium sahlbergi*, *Solenopsis geminate* and *Tetramorium bicarinatum*; these six-ant species were commonly found from all four sampling locations. The calculated Chi-Square statistic (χ^2) was 3.2972, with an associated p-value of 0.348. Since the p-value is greater than the significance level this indicates that there is no statistically significant difference in species distribution across the four selected sampling locations. Further studies should expand the sampling effort to include a greater number of locations, covering different habitat types and increasing the number of ant collection techniques in considerable time periods across different seasons can improve species detection and reduce the sampling bias.

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