

**Similarities and differences of species composition of worker ant fauna
(Family: Formicidae) in three types of habitats in four Districts of
Sri Lanka**



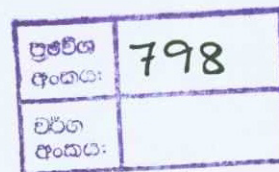
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Abstract

Worker ant fauna in the Districts, two dry zone, one arid zone and one intermediate zone, were investigated to list them and to determine the similarities and differences of worker ant fauna in the lands under different disturbance levels. Thirty six lands in Anuradhapura, Polonnaruwa, Puttalam and Kurunegala Districts were surveyed from February, 2008 to February, 2010 by soil sifting, litter sifting, hand collection and honey baiting along five, 100 m transects laid at each land. Twenty honey baited pitfall traps kept for four hours also collected ants from each sampling area. Air and soil temperatures, soil pH and soil moisture were also recorded.

Higher species richness was observed by employing several sampling methods than that observed by a single method in each land. Worker ants belonging to 8 subfamilies, 31 genera and 66 species were recorded from Anuradhapura District while 7 subfamilies, 25 genera and 52 species were observed in Polonnaruwa District. Current findings increased worker ants recorded from Anuradhapura District to 8 subfamilies, 40 genera and 91 species; Polonnaruwa District inventory is updated to 31 genera and 79 species. Inventory of the dry zone, resulted from Anuradhapura and Polonnaruwa Districts is updated to 44 genera and 102 species.

Forty species were common at the three types of lands in Anuradhapura and Polonnaruwa Districts; Seven species were restricted to the forest lands ($H' = 2.6$). Very rare four species and other 6 species were observed only at the cultivated lands ($H' = 2.7$) and the uncultivated lands, respectively ($H' = 2.8$). *Pheidole* sp. 4 was common at all lands surveyed in the dry zone.

Six subfamilies, 25 genera and 56 species can be considered a preliminary inventory of the ants in Puttalam District. Twenty two ant species were common at the lands surveyed in Puttalam District. Nine species were observed only at the forest lands (H'

= 2.7) whereas other 4 species and 6 species were restricted to the cultivated lands ($H' = 2.6$) and uncultivated lands, respectively ($H' = 2.6$).

Eight subfamilies, 29 genera and 63 species can be considered a preliminary inventory of Kurunegala District; fourteen species were common at the three types of lands; eighteen, 10 and 5 species were restricted to the forests ($H' = 2.5$), cultivated lands ($H' = 2$) and uncultivated lands, respectively ($H' = 2.5$).

The existing database on ants of Sri Lanka was improved by adding the species lists from Anuradhapura, Polonnaruwa (dry zone), Puttalam (arid zone) and Kurunegala (intermediate zone) Districts and this can be used as a quick reference guide on ants of Sri Lanka.