

GROUND-FORAGING ANTS AND RAINFALL EFFECT ON PITFALL TRAPPING IN AN AREA OF CAATINGA

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In this study, a ground-foraging ant assemblage of a Caatinga area was surveyed during one year and the effect of rainfall on pitfall trapping was assessed. The study was performed in an area located in the municipality of Pentecoste, in the State of Ceará. A 200m transect with 20 equidistant sampling points was established. Transect sampling was performed once a month during 12 months, over the period 08/2008–08/2009. At each sampling point, a pitfall trap partially filled with a mixture of ethanol and monoethylene glycol was placed at the beginning of each month and remained in the field for seven days. Thirty-nine species belonging to six subfamilies and 19 genera, plus two unidentified species, were collected, with *Pheidole* (10 spp) and *Camponotus* (8 spp) being the most speciose taxa. Only two species (*Strumigenys elongata*, *Thaumatomyrmex mutilatus*) (perhaps three, considering *Platythyrea* sp.n.) were litter specialist predators. Twenty-three species were frequent, being found in more than 50% of the 12 transect samplings. Five species had an intermediate frequency (25 to 50%), while 13 were relatively infrequent (less than 25%). Most of the species (22) showed low occurrence, being found in less than 10% of the 240 samples (20 samples each month, during 12 months). Only five species were collected in more than 50% of the samples, those species being also responsible for most of the total abundance (number of captured individuals of all species) observed each month. The species-accumulation curves (observed and estimated) indicated that sampling sufficiency was attained, and that about 92% of the estimated ground-foraging ant fauna had been collected. Forty and 29 species were collected in the dry and rainy season, respectively, with monthly species richness ranging from 13 to 28. The total ant abundance showed a drastic decrease during the rainy season, and a negative linear correlation was found between rainfall and total ant abundance ($R^2=0.68$). A similar negative linear correlation was found for species occurrences against rainfall ($R^2=0.71$), and for mean number of species per pitfall trap against rainfall ($R^2=0.71$). However, some species showed equal abundance, occurrence and mean number of individuals per pitfall trap in both seasons, while others showed a much higher abundance and occurrence during the rainy season. Our results suggest that pitfall trapping is a satisfactory method if the aim is to obtain data about species composition of ground-foraging ant assemblages of the Caatinga biome. However, if the aim is to obtain reliable abundance and/or occurrence data, pitfall trapping in different seasons should be considered with caution and dry season should be preferred since the trappability of most (but not all) ant species is reduced with rainfall. (CAPES, CNPq, FUNCAP)