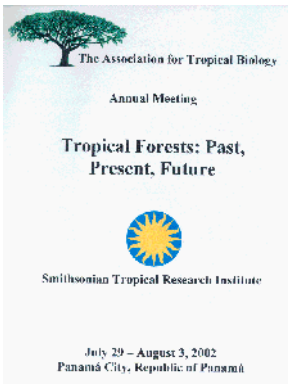
Leponce, M.; Missa, O.; Delabie, J.H.C. 2002. Estimation of tropical ant local diversity from partial inventories. Tropical forests: past, present, future. Association for Tropical Biology. Annual meeting. Panama City, July 29- Aug 3, p.64.



LEPONCE, M.[1], O. MISSA[1], J.H.C. DELABIE[2]. [1]Institut royal des Sciences naturelles de Belgique, [2]CEPLAC, Brazil. Maurice.Leponce@naturalsciences.be. Estimation of tropical ant local diversity from partial inventories.

Ants are ecologically dominant in tropical forests. Rigorous yet feasible methods are needed to allow reliable estimation of diversity of such speciose tropical insect assemblages, in order to evaluate among-site differences or to monitor efficacy of conservation measures. By subsampling a bench-mark dataset of 500 Winkler extracts of 1m² of leaf-litter collected in 0.87ha of brazilian cocoa plantation, the response of species richness, Shannon heterogeneity (H) and Buzas & Gibson's evenness (E) estimates was tested along with an increasing number of samples. Species abundances distribution conformed to a logseries. Our results suggest that for practical inventory purposes, in comparable conditions, 25 samples should already allow to reliably estimate logseries alpha, extrapolate S beyond the data and identify with little error locally common species. Among the 9 richness estimators tested, Soberón & Llorente logarithmic curve-fitting model performed best followed by the parametric logseries. Non parametric estimators only reached an asymptote beyond 150 samples. A doubling of sampling effort to 50 samples should allow to reliably estimate heterogeneity and with a slight overestimation, evenness. Overall these results confirm that ants from the leaf-litter, unlike other arthropod communities in the tropics can be properly studied relatively easily.