EFFECT OF FOREST STRUCTURE AND LEAF TYPE ON FOLIICOLOUS LICHEN DIVERSITY AND COVER IN AN AMAZONIAN FOREST

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Abstract: Foliicolous lichens are important components of tropical forests, attaining high biodiversity levels and playing relevant roles in ecosystem processes. To date, most studies on this ecological group have focused on taxonomy and checklists, and their ecology remain poorly known. In this study, we investigate the effect of forest structure and leaf type on understory foliicolous lichens in Caxiuanã National Forest, eastern Brazilian Amazon. We sampled 20 sites, recording forest structure (canopy openess, basal area of trees and density of understory vegetation) and colecting leaf samples. In the lab, we sorted leaves into three categories (dicot, Arecaceae or Marantacea) and screened them for lichen morphospecies richness and cover (proportion of leaf surface covered by lichens). The effects of forest structure and leaf type on lichen richness and cover were evaluated through generalized linear models. We did not detect any effect of predictor variables on lichen richness and cover, but we found a positive relationship between lichen cover and species richness on leaves. Though these results suggest that foliicolous lichens are insensitive to measured environmental factors, they may be attributed to shortcomings in study design, since environmental conditions where too homogeneous between sampling sites. Future studies should sample wider environmental gradients in order to get more robust conclusions.

Keywords*: Amazonia; Caxiuanã National Forest; Foliicolous lichens; Forest structure; Species richness*