

THE EFFECT OF FOREST STRUCTURE AND LEAF TRAITS ON FOLIICOLOUS LICHEN DIVERSITY

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Abstract: This study aims to fill this gap by investigating the effect of forest structure and leaf traits on the diversity of foliicolous lichens living in the understory of an Amazonian tropical rainforest. Our main hypothesis is that lichens diversity is negatively affected by forest structure and/ positively affected by leaf traits. We conducted samples in 20 sites in the Caxiuanã national forest, collecting leaf of nearest trees, palms and non-woody plant (NWP). For each site, we obtained three environmental metrics and three leaf traits for each plant group. We counted the species richness and evaluated the proportion of leaf cover by lichens. We performed PCA and PERMANOVA to asses difference between environmental variables and ANOVA to asses difference between richness and lichen cover for plants groups. We performed GLM to assess how environmental variables affect lichens richness and cover. Environmental variables are different for trees when compared with other two plants groups. Species richness not varied between plants groups, but lichen cover was higher in palms than in trees. We not find any variables affected species richness or lichen cover, either for trees or non-woody plants + palms. We explained the lack of effect by three possible ways: (i) maybe we used poorly metrics, or the relatively small spread of sampling sites was insufficient to capture enough environmental heterogeneity; (ii) species richness maybe a poor predictor of diversity patterns; (iii) foliicolous lichens are not affected by environmental factors.

Key-words: *Amazon Forest; Caxiuanã National Forest; Ferreira Pena Scientific station; Phorophyte*