



XIII Congresso de ECOLOGIA

III International Symposium of Ecology and Evolution

Múltiplas ecologias: evolução e diversidade

08 a 12 de outubro de 2017 • UFV - VIÇOSA | MG

Endemic species population shifts in disturbed tropical rainforests

Alexandre M. Fogli^{1*}, Marcela V. Pyles^{2,3}, João A.A. Meira-Neto³

1. Department of Forestry Engineering, Federal University of Viçosa, Avenida Peter Henry Rolfs, s/n, Campus Universitário, Viçosa, Minas Gerais, Brazil; 2. Institute of Biological Sciences, Federal University of Juiz de Fora, Campus Universitário, Juiz de Fora, Brazil; 3. Laboratory of Ecology and Evolution of Plants (LEEP), Biology Institute, Federal University of Viçosa, Avenida Peter Henry Rolfs, s/n, Campus Universitário, Viçosa, Minas Gerais, Brazil. * Correspondence to alexandre.fogli@ufv.br

Tema/Meio de apresentação: Biologia da conservação/Pôster

The land-use change is currently the greatest threats of tropical biodiversity. Changes in environmental conditions caused by forest disturbances may increase and accelerate certain extinction processes, especially those linked to species with more specific ecological interactions. Endemic species are likely to be more sensitive to these changes and, from a conservation perspective, the loss of these species leads to a loss of biodiversity on a wider scale. Therefore, the objective of this study is to evaluate how forests submitted to deforestation (secondary forests) and to selective logging have their population of endemic species affected. The study was developed in nine fragments of Atlantic Forest with different sizes, categorized as unmanaged, logged and secondary forest. In each fragment we sampled all trees with diameter at breast high $\geq 4.8\text{cm}$ in 0.5 ha and to classify the species endemic to the Atlantic Forest domain, we used the database Flora do Brazil. Generalized mixed models with negative binomial distributions (count data) were used to analyze the effect of fragment size and disturbance regime on endemic species richness and abundance. The best model was indicated by the lowest AICc value. We found that the endemic species were impacted by forest disturbance regime ($F= 18.326$; $p < 0.001$), but not by forest size ($F= 11.714$; $p= 0.179$). The richness and abundance of endemic species did not differ significantly between the unmanaged and logged forests. However, secondary forests presented significantly lower values of endemic species richness ($Z= -5.298$; $p < 0.001$) and abundance ($Z= -3.813$; $p < 0.001$) when compared with other forests evaluated. We conclude that logged forests can still retain rates of endemism equivalent to those found in unmanaged forests and higher than those found in secondary forests. This suggests that efforts to conserve and recover biodiversity should also target to disturbed forests.

We thank the Brazilian Agency for Science and Technology (CNPq) for research support.