



The width of riparian habitats for understory birds in an Amazonian forest

Bueno, A. S.^{1,2}; Bruno, R. S.³; Pimentel, T. P.¹; Sanaiotti, T. M.¹; Magnusson, W. E.¹

¹ Instituto Nacional de Pesquisas da Amazônia

² Endereço atual: Instituto Federal Farroupilha – Campus Júlio de Castilhos

³ Universidade Presbiteriana Mackenzie

E-mail: buenoas@gmail.com

Riparian habitats are important for the maintenance of regional biodiversity. Many studies have compared bird distributions between riparian and non-riparian habitats but have not established how wide riparian habitats used by birds are, as measured by distance from the nearest stream. We investigated the distribution of understory birds along gradients of distance from streams, soil clay content, and slope in a central Amazonian forest, by mist-netting birds three times in 45 plots. We used nonmetric multidimensional scaling (NMDS) to reduce the dimensionality of species quantitative (abundance) and qualitative (presence–absence) composition to one multivariate axis. Estimates of the width of riparian habitats as indicated by understory birds depended on the community attribute considered, measuring 90 m for species quantitative composition and 140 m for species qualitative composition. Species distributions were correlated with clay content but were independent of slope, while distance from streams was positively correlated with clay content but independent of slope. Clay content affects plant species composition, which in turn, may influence bird species composition. However, distribution patterns of birds in relation to distance from streams are consistent among studies carried out in many different temperate and tropical regions, indicating an effect of distance from streams itself. Protection of riparian habitats is one of the most widely used conservation strategies, and Brazilian environmental legislation mandates the protection of a 30 m wide strip of riparian vegetation on either side of small streams. We show that the protected strip should be much wider and recommend strategies to place other forms of land protection contiguous with riparian areas so that Brazilian environmental legislation better fulfills its role of protecting biodiversity associated with riparian habitats.

Financiamento: Programa de Pesquisa em Biodiversidade (PPBio); CAPES; CNPq

