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EFFECT OF LANDSCAPE STRUCTURE ON GENETIC DIVERSITY OF TWO CERRADO TREE SPECIES

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Landscape structure influences the dispersal of individuals either facilitating or hampering their movements, which has implications for population dynamics and persistence. Different dispersal and pollination strategies may lead the species to respond in different ways to landscape changes. Here we studied the effects of landscape structure in genetic diversity of two tree species from Cerrado biome with different life histories. *Caryocar brasiliense* is a bat-pollinated tree species, which seeds are dispersed by mammals, whereas *Tabebuia aurea* is a bee-pollinated and anemochoric species. We collected leaves of adult individuals of both species in eight fragments of savanna in four different landscapes with radius of 2km each. Using ten microsatellite loci for *C. brasiliense* and seven for *T. aurea,* we tested whether landscape variables such as fragment size, savanna cover in the neighborhood (500m buffer from the sampled fragment), land use diversity within the buffer and dominant class of land use in the landscape were correlated with genetic diversity (*He*, expected heterozygosity), allelic richness (*Ar*) and inbreeding coefficient (*f*). Our results showed significant effects of savanna cover in the neighborhood and dominant class of land use for *T. aurea*'s allelic richness but not for any genetic parameter of *C. brasiliense*. Considering the long lifetime of both species, the time since fragmentation may not have been enough yet to affect genetic diversity. However, despite the recent fragmentation, *T. aurea's* allelic richness was higher in landscapes with agriculture dominance and low savanna cover in the neighborhood. The lower density of *T. aurea* compared to *C. brasiliense* can lead their pollinators to cross long distances to forage. Furthermore, the seeds of *T. aurea* can travel greater distances in open areas maintaining the connectivity among fragments.