



FIRE EFFECTS ON PLANT DIVERSITY IN OPEN SAVANNA IN THE BRAZILIAN SEMIARID

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In Chapada Diamantina region (Bahia state, Brazil), savannas occur as islands in a Caatinga matrix. Endemism among plant species is high, and fire is a current disturbance in the region. Studies considering fire effects on plant diversity in the region are restricted to a few areas of rocky fields located at the mountaintops (*campo rupestre*). The objective of this study was to verify the effects of fire on plant diversity in open savannas known as campo sujo, at the Chapada Diamantina. Eight 20 x 20 m random plots were located in campo sujo (24 months since the last fire). Plant cover was estimated in ten 1m² sub-samples randomly located in each plot. Experimental burnings were conducted in four plots in Nov/2009, remaining four other plots unburned. The vegetation was resampled after five and 12 months. We compared through one way analysis of variance the burned (B) and unburned (U) plots concerning: substrate cover by plants (C), number of species (S), Simpson index (D), Shannon - Wiener index (H', nats), and evenness (E). Between B and U plots, only C was significantly different. C was lower in B plots five (F= 25.77; p = 0.002) and 12 months (F= 7.49; p = 0.034) after fire. Average values of C (%) varied between 140.6 ± 42.9 to 146.7 ± 42.2 in U plots, and in B plots, between 172.0 ± 44.0 (before experimental burning) to 87.9 ± 33.9 (five months after the fire), and 114.0 ± 29.3 (12 months after the fire). Plant diversity in the campo sujo was quickly reestablished, as also observed in other Brazilian savannas. Regrowth was the main strategy of plants to recover the substrate, denoting high resilience.