S05.P.47

Spatial distribution of three palm species in fragments of Brazilian Atlantic Rain Forest

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The spatial distribution of plants reflects the combined effects of various ecological forces and biological requirements. However, the kind and degree of dispersion can vary throughout ontogenetic stages both within and among species. Using palms as the object of study, can be a useful tool to understand how fragmentation may influence the spatial patterns of each stage. Here, we compared the spatial distribution of three tropical palm species, *Astrocaryum aculeatissimum* (Schott) Burret, *Euterpe edulis* Mart. and *Geonoma schottiana* Mart., in two fragments of different sizes (57 ha vs 3500 ha) in the threatened Brazilian Atlantic Rain Forest. Palms were censused in nine 30 x 30 m plots in the two forest fragments once a year from 2005 to 2007, from June to September. Each individual was assigned to one of the pre-established ontogenetic stages, which differed among species. The degree of clumping in each stage was determined by the Morisita index of dispersion and the statistical significance of each index was tested with the statistic χ^2. The spatial distribution of each species was, in general, clumped, except for *E. edulis* in the smaller fragment, which was randomly distributed in the three study years. This distinct observed pattern of distribution could be a result of human exploration of its palm heart. *Astrocaryum aculeatissimum*, showed no such differences between the fragments, which could be explained by its generalist habitat and biological requirements. *Geonoma schottiana*, however, showed a more aggregated pattern in the smaller fragment, possibly due to its preference for humid places. Finally, the main point to be drawn from the results found in this study is that the spatial distribution response of palm individuals to a habitat reduction seems to be highly dependent on the natural history of the species and on the type of harvest.