

Abundance of the neotropical and invaders drosophilids as a tool for evaluating the edge effect

Theme: Biodiversity Information Systems

Lilian Madi Ravazzi

Key words: edge effect, bioindicators, *Drosophila*, Financial Support: FAPESP, CAPES

The edge effects negatively affect diversity in forest remnants, especially in small areas. However, after isolation, these fragments can harbor a great diversity of organisms, being important management strategies for the preservation of these areas. This study compared the effect of edge in two fragments of seasonal forest from São Paulo with areas of different extensions, using the abundance of drosophilid species, mainly species of the genus *Drosophila*. Two collecting areas of the Biota project / FAPESP named "Flora and Fauna of remaining forest fragments in the Northwest State: Basis for the Study of Biodiversity Conservation" (04/04820-3). The smallest fragment (108.3 hectares) is located in Turmalina city (20°00'13"S and 50°26'02"W) and the highest (2189.6 hectares) in Matão (37°14'21"S and 48°32'14"W). Four samples were taken in each fragment, in three edge-interior transects with 200 meters long, demarcated in eleven equidistant points of collection, in which a kind of trap shut was placed. We collected a total of 10,581 drosophilids distributed in 19 species, and some flies from cardini and repleta groups and saltans subgroup which were not classified. The highest abundance was obtained in the smallest fragment (63.4%) and the highest species richness was observed in the largest wood (19 species). In the largest fragment the neotropical species were more abundant (92%), while in the smallest fragment invaders species predominated (62%). The two categories of species occurred at all points of the transect, in both areas. However, in the large fragment, neotropical species were dominant at every point, but in the small fragment this occurred only in the final points of the transect (from 160m); at other points (edge), the invasive species, which are characteristics of impacted areas, with environmental stress, were more abundant. The results obtained indicate that the large fragments are better preserved than the small. This is inferred from the high abundance of native species and the richness observed in this environment. The best conditions in the fragment of Matão may be associated with the largest area of this fragment, which, among other factors minimizes edge effects and preserves the natural environment, especially in regions farthest from the edge.