



## Shifts on reproductive phenology of tropical cerrado savanna trees and climate changes

Patricia Morellato

UNESP - Universidade Estadual Paulista, Biociências, IB, Botânica, Rio Claro, Brazil (pmorella@rc.unesp.br, 55 19 35264205)

Phenology is the study of cyclic biological events and its relationship to abiotic factors. Timing of flowering, fruiting and leafing is highly correlated to environmental factors such as temperature, precipitation, irradiance and isolation. Accordingly, any change in these factors may have a direct effect on the initiation, intensity and duration of different phenophases.

Tropical phenology has not contributed much for climatic change research since historical data sets are scarce and the absence of sharp seasons and distinct factors driving phenology makes difficult the detection of changes over time. One way to have insights on climate driven phenology shifts on tropical plants is through the comparison of plant phenology under different environmental conditions.

Fragmentation of natural landscape has exposed plants to edge effects - the interaction between two adjacent ecosystems, when the two are separated by an abrupt transition – the edge, including both abiotic and biological changes on environmental conditions that likely affect plant phenology. The microclimatic conditions along edges have important direct biological effects on the reproductive phenology and fitness of plant species. One can expect that the abiotic edge effects on plant phenology may be similar to some extent to certain effects induced by climate change on plant phenology since both involve shifts on environmental conditions.

Due to the threatened status and rich biodiversity of Brazilian Neotropical savanna, or the Brazilian Cerrado, the present study aimed to understand edge effects on cerrado savanna species. We compared micro environmental factors and phenology of several species on the edge and in the interior of cerrado savanna. Our first results indicated that shifts on the micro environmental condition may have driven changes in time, duration and intensity of species phenology and may give us insights on savanna responses to climate changes.