

## FAUNA AND FLORA OF REMNANT FOREST FRAGMENTS IN THE SÃO PAULO STATE NORTHWEST REGION

Orlando Necchi Junior

São José do Rio Preto Institute of Biosciences, Language Studies and Exact Sciences / Paulista State University (Unesp)

Main researchers: Denise de Cerqueira Rossa Feres, Neusa Luis Henrique Zanini Branco, Taroda Ranga,  
Reinaldo José Fazzio Feres

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The fragmentation of forest habitats is an evident and growing process in tropical regions. The understanding of these changes is essential to avoid important losses in biodiversity, as well as to manage the sustainable use of the remnant biodiversity. A perfect and astonishing example refers to the vegetation from northwestern São Paulo State, composed by semi-deciduous seasonal forest and savanna. The remaining forested areas are nowadays restricted to 9% of the original forest coverage and have been replaced by pastures, several types of agricultural plantations and urban areas. Such impact characterizes this region as the most deforested and fragmented in São Paulo State. In addition, it has the lowest number of conservation units, resulting in a condition that must not be reverted without actions of ecological management. Despite this impact, it is a region of relevant species richness and that, paradoxically, have received little attention concerning to the study of its biodiversity.

This investigation is proposed to survey several taxonomic groups (higher plants, pteridophytes, bryophytes, algae, fungi, aquatic and terrestrial invertebrates and vertebrates). Eighteen forest fragments will be sampled in the region, to be incorporated with distinct matrices (sugar cane and orange plantations, pastures, urban areas, etc) and sizes. The objectives of the project includes: 1) to prepare an environmental diagnostic to propose further actions for environmental conservation; 2)



*Aspects of forest fragments in the São Paulo State northwest region  
(Photos: João Marcos Rosa, Agência Nitro)*

to have a sketch on the possible effects of forest fragmentation for population dynamics and physiology of animal and plant species; 3) to indicate the relevance of forest fragments for the maintenance of regional biodiversity; 4) to evaluate the importance of forest fragments as a reservoir of species with potential capacity in the colonization of deforested areas and in agricultural pest control. The project will effectively contribute to enlarge the knowledge on biological diversity in the northwest region of the State. The relevance of this study is more meaningful considering that it is expected provide essential subsidies for future studies on conservation/maintenance of this valuable biological patrimony.

## SUMMARY OF RESULTS TO DATE AND PERSPECTIVES

Fourteen groups of animals, plants and fungi were surveyed in 18 fragments of semi deciduous seasonal forest, resulting in the identification of almost 2,000 species. Only 205 species (11.8%) occurs in more than half of the fragments, whereas only eight species (0.5%) occurs in all sampled fragments. Consequently, the similarity in species composition between the fragments was very low and the species composition shows a strong pattern of nesting when the forest fragments were ordered in terms of species richness. The species richness is directly related to the area of the forest fragments. The results has shown that, despite the fact that large fragments holds higher species richness than the smaller fragments, species distribution among the fragments is more heterogeneous than expected, resulting mainly from stochastic events due to fragmentation process than to the characteristics of forest fragments. Thus, the conservation of biodiversity in the northwest region of São Paulo State should not involve only the preservation of the largest or the best preserved fragments, since the species are distributed into fragments of different sizes and degrees of conservation.

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## MAIN PUBLICATIONS

Necchi Jr. O. (ed) 2011. Fauna and flora of remnant forest fragments of the northwest region of São Paulo State. Holos Editora, Ribeirão Preto. Due September 2011.

Lemes-Silva NM, Branco LHZ, Necchi Jr. O. 2010. Corticolous green algae from tropical forest remnants in the northwest region of São Paulo State, Brazil. *Revista Brasileira de Botânica*. **33**: 215-226.

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Orlando Necchi Junior

Instituto de Biociências, Letras e Ciências Exatas  
de São José do Rio Preto  
Universidade Estadual Paulista (Unesp)

Rua Cristóvão Colombo, 2265 – Jardim Nazareth  
CEP 15054-000 – São José do Rio Preto, SP – Brasil

+55-17-3221-2406  
orlando@ibilce.unesp.br