# FAUNA AND FLORA OF REMNANT FOREST FRAGMENTS IN NORTHWESTERN SÃO PAULO STATE: BASIS FOR BIODIVERSITY CONSERVATION STUDIES

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*Above,* D. nanus*; and bellow,* H. raniceps

The fragmentation of forest habitats is an evident and growing process in tropical regions. The understanding of such 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 The remaining forested areas are nowadays restricted to 9% of the original forest coverage and have been replaced by pastures, several types of agricultural plantations and urban areas.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 it will not be apparently reverted without actions of ecological management. Despite such impact, it is a region of relevant species richness and that, paradoxically, have received little attention concerning to the study of its biodiversity.

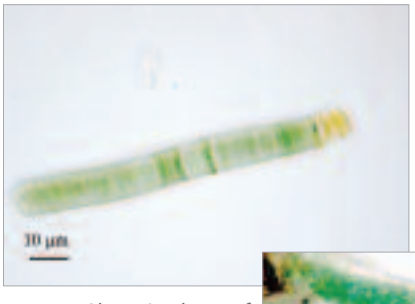
This investigation is proposed to survey several taxonomic groups (higher plants, pteridophytes, bryophytes, algae, fungi, aquatic and terrestrial invertebrates and vertebrates). Eighteen forest fragments will be sampled in the region, trying to incorporate those with distinct matrices (sugar cane and orange plantations, pastures, urban areas, etc) and sizes. The project aims are: i) to prepare an environmental diagnostic that will represent a sound basis to propose further actions for environmental conservation in the region; ii) to have a sketch on the possible effects of forest fragmentation to population dynamics and physiology animal and plant species; iii) to indicate the relevance of forest fragments or the maintenance of regional biodiversity; iv) evaluate the importance of forest fragments as a reservoir of specie with potential capacity in the colonization of deforested areas and in agricultural pest control.

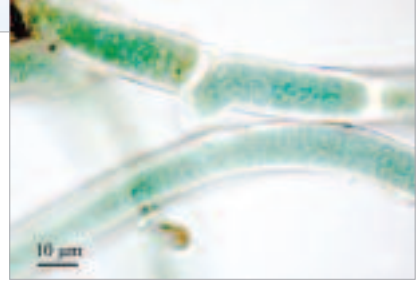
The project will effectively contribute to enlarge the knowledge on biological diversity in the northwest region of the State. The relevance of this study is even more meaningful, considering that it will provide essential subsides for future studies aiming at organizing strategies to conservation/maintenance of this valuable biological patrimony, which is tending, at the present rhythm, to a considerable decrease in short period of time.

## SUMMARY OF RESULTS TO DATE AND PERSPECTIVES

Based on the objectives of the project, we defined two classes of fragment size: small fragments, with area between 50 and 150 hectares; andlarge fragments, with areas greater than 200 hectares. The limits of the north-east region of the state of São Paulo, as defined in this project, includes entirely the Units for the Management of Hydric Resources (UGRHIs) of the Turvo-Grande and São José dos Dourados and parts of the UGHRIs of the Baixo Pardo, Baixo Tietê and Tietê-Batalha. This area includes the administrative regions of São José do Rio Preto, Araçatuba, and part of the administrative regions of Bauru (northern portion) and Ribeirão Preto (western portion). Forty seven forest fragments were visited and, 18 being selected to be included as sample areas for the project. The sample scheme consisted of nine large fragments (designated from G1 to G9) and nine small ones (designated from S1 to S9), divided in two sets of nine fragments, to be sampled during one year (one set in 2007/2008 and another in 2008/2009). Of the 18 fragments, two (one large – G9, and one small, S4) are being sampled for two years, so as to allow the evaluation of representativity and repeatability of each sampling. In this way, in each year a set of 10 fragments will be sampled, totaling 20 samplings. Each set will be sampled, as a rule, twice a year: in the dry season (June to August) and in the rainy season (December, January and February).

The principal results achieved up to the present, can be summarized in the number of species of the groups of animals and plants studied, considering each sub-project: 1) cryptogams - 12 lotic macroalgae, 14 aerophytic algae, 20 polypoid basidiomycetes; 2) phanerogams – 215 trees, 75 lianas and 45 shrubs; 3) aquatic invertebrates: 45 zooplankton and 35 aquatic insects; 4) terrestrial invertebrates: 167 plant mites; 4.400 insects (Hymenoptera); 5) aquatic vertebrates: 36 fish; 6) terrestrial vertebrates: 32 amphibians; 138 reptiles (Squamata); 121 birds and 44 mammals.




*Above,* Lynbgya *cf.* truncicola*; and on right,* Hassallia sp.

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