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## Diversity and frugivory of phyllostomide bats (Chiroptera, Phyllostomidae) in secondary habitats and *Pinus* spp. plantations in Anhembi – SP

Patrícia Tavoloni

### Abstract

In the Neotropical region, the Phyllostomidae family is the most diverse, in species and dietary habits, interacting with several species of animals and plants. In literature, the abovementioned bats are noted as crucial for the dynamics of tropical forests, given that they are the main seed dispersers of many pioneer plants found in the area. The objective of this study was to investigate structural aspects of phyllostomide bats assemblages and the frugivorous diet in three distinct secondary environments at the Experimental Station in Anhembi: *Pinus* spp. stands, with understorey; shrub areas at the initial stage of regeneration; fragments of secondary semideciduous forest at the intermediate stage of regeneration. The collections were made with 8 mist-nets, which were set in each area one evening per month between July 2004 and June 2005, totaling 1728 net-hours. 160 captures of 8 different species took place (including 29 recaptures): *Micronycteris megalotis*, *Carollia perspicillata*; *Glossophaga soricina*; *Artibeus fimbriatus*; *Artibeus lituratus*; *Platyrrhinus lineatus*; *Sturnira lilium*; *Desmodus rotundus*. The assemblage of phyllostomide bats at EECFA follows the pattern found in other studies carried out in altered locations in the southeastern area, and present species associated with traits found in secondary areas; *Carollia perspicillata*, *Sturnira lilium*, and *Artibeus lituratus*, the most abundant species of frugivorous bats, corresponded to approximately 80% of the total captures. *C. perspicillata* turned out to be the dominant species in *Pinus* spp plantations; *A. lituratus* prevailed in the forest fragment and *S. lilium* in shrub areas. The *Pinus* plantation was the location which showed the highest rate of captures (45%), followed by the forest fragment and the shrub areas, with 38% and 17% respectively. However, the *Pinus* plantations presented the lowest range of diversity, followed by the shrub areas and forest fragment. The phenological observations of chiropterocory plants studied at EECFA indicate that the availability of fruits is even throughout the year, and do not show correlation with the erratic precipitation. The analyses concerning the dietary habits were limited to the three most abundant species. Consumption of 13 species of plants of 4 different families was registered, namely: Cecropiaceae, Moraceae, Piperaceae and Solanaceae. The rate frequency of the dietary items presented considerable statistical variation ( $\chi^2$ ;  $p < 0,001$ ). The piper genus, represented by five species, demonstrated

the highest rate of total incidence, approximately 70,0% (n=76), standing out in the diet of *C. perspicillata* (91%) and *S. lilium* (62%). *Ficus* spp seeds demonstrated incidence rate of 19% (n=21) and were the most abundant in the feces of *A. lituratus* (75%). *Cecropia* spp. and *Solanum* spp. were present in 15% (n=16) and 0% (n=11) of the collected samples, respectively. The studied species showed low values of dietary amplitude and niche overlapping between species, which demonstrate the sharing of food resources, except between *C. perspicillata* and *S. lilium* species. These presented high levels of niche overlapping, which indicates that other factors might be into play in the sharing of these resources. These factors may include differences in foraging patterns, or even the abundance of Piperaceae fruits in the area.

**Key-words:** bats, diet, frugivory, seed dispersal

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