

GENERAL ABSTRACT

Local and seasonal changes in capture rates and sex ratios can provide indirect evidence for differential habitat use by bats. The proportion of juveniles and reproductive individuals, together with recapture rates and information on diet, can also provide hints on the persistence of population in a given location. The goal of this study was to determine the patterns of space use by *Artibeus lituratus* and *Sturnira lilium* in the municipality of Curitiba, PR through samples obtained in three urban forest fragments. Two populations were monitored monthly between April, 2003 and June, 2005 using mist nets and through mark-recapture methods. Capture and recapture rates were determined in all three locations in all seasons of the year, investigating possible differences in these frequencies among sexes. For the study of their reproduction, bats were classified according to their age class and reproductive stage. The diet was studied through the collection of fecal samples produced by the bats and by the phenology of the Solanaceae and Moraceae species recorded in the collection sites. A total of 384 captures of *A. lituratus* (157 males) and 384 captures of *S. lilium* (200 males) were obtained. The frequencies of females of *A. lituratus* differed among sites, whereas the frequency of males differed only among seasons. The frequency of *S. lilium* of both sexes differed only by location. Current evidence indicates that the locations were not randomly used by the species, and that the critical resource was the roost site. The average recapture rate was 18% for *A. lituratus* and 45% for *S. lilium*. The overall sex ratio departed from 1:1 in *A. lituratus*, but not in *S. lilium*. However, the sex ratio varied seasonally for both species. The continuous production of spermatozooids was recorded throughout the year for both species and the testicular production and the sperm storage was also recorded in males with abdominal testicles in both species. The highest frequencies of males with testes descended coincided with a period of highest frequency

of pregnant or lactating females (Oct-Jan). However, the main peak of males of *S. lilium* occurred in April/May. Simultaneously pregnant and lactating females were recorded in April and December for *S. lilium* and from October to January for *A. lituratus*. The occurrence of young of *A. lituratus* was most concentrated temporally (Nov-Fev) than that of *S. lilium* (Dez-Jan and Apr-May). Records of young and recurring estrus concentrated in a period of the year suggest seasonal polyestry for *A. lituratus*, whereas the records in disjunct periods suggest continuous polyestry in *S. lilium*. Pregnancy, lactation, and the presence of juveniles of *A. lituratus* also were more concentrated in time when compared to those of *S. lilium*. The proportion of fecal samples per bat did not differ among sites or seasons of the year for either species, but was higher for *S. lilium* than for *A. lituratus*. The proportion of fecal samples with seeds was higher than those with pulp alone, being the same for both species. The proportion of samples with seeds did not differ among sites and seasons for *S. lilium*, but the opposite was recorded for *A. lituratus*. *Solanum granulosoleprosum* (Solanaceae) was the most frequent species in fecal samples of both bat species, but *Ficus luschnatiana* (Moraceae) was also recorded, particularly in the feces of *A. lituratus*. The low proportion of fecal samples per capture in *A. lituratus* indicates that this species tended to feed farther from the collection points than *S. lilium*. The spatio-temporal constancy of *S. granulosoleprosum* in the feces of *S. lilium* suggests that this bat feeds in a manner less opportunistic than *A. lituratus*. These data strongly indicate that *S. lilium* tends to remain within the forest fragments, visiting at most their vicinities, whereas *A. lituratus* tends to travel both within and between them.