

## FEEDING BEHAVIOUR OF BRADYPUS VARIEGATUS IN PARQUE ESTADUAL DAS FONTES DO IPIRANGA AND ITS RELATION WITH PHENOLOGICAL CHANGES OF ARBOREAL COMMUNITY

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### RESUMO

One of the most striking features of the *Bradypus* genus is the relatively low basal metabolic rate, which is related to its strictly folivore diet. Despite the brown-throated sloth (*Bradypus variegatus*) be a widely distributed species and one of the best known among all sloth species, observations on its feeding behaviour are still limited. Little is known about the adaptive strategies of the species in the face of natural changes such as phenological cycles, which, in this case, imply in changes in the food supply. Considering the phenological study and the monitoring of plant organisms as important tools for understanding the dynamics of ecosystems, this work aimed at evaluating the relationship between the availability of food resources and the feeding behaviour of a population of *B. variegatus*. We hypothesized that the availability of food items and their consumption would occur heterogeneously throughout the months, with a correlation between the index of activity (IA - percentage of species in the community showing a certain phenophase over the months) and the frequencies of feeding events of the items over the months. The study was conducted at Parque Estadual Fontes do Ipiranga, a conservation unit of the Atlantic Forest in São Paulo, Brazil, which is under great anthropogenic influence. Subjects were located by active search and monitored between 8 am and 6 pm. All feeding events where there was partial or total consumption of each leaf, flower, floral bud or inflorescence were noted. In case of items difficult to individualize, each branch exchange performed by the animals was considered a different event. The animals were observed by focal animal sampling or by scan method when there was the necessity for simultaneously sampling more than one individual. Forty-five trees were monitored over a period of 11 months for the phenological study and identified at least at the gender level. This arboreal community was selected because it is known to usually belong to the *Bradypus* diet. The trees were monthly visited for information regarding the occurrence of immature/mature leaves and reproductive structures. Behavioral samples of 24 *B. variegatus* specimens were collected over 12 months. The study comprised 210 hours of behavioral observations, and 477 records of diet consumption. The phenological indices (IA) pointed to a not statistically significant variation in the availability of leaves over the months, which would indicate some asynchrony for the community here studied. No correlation was found between the phenological indices and the frequencies of feeding events for each item over the months or between seasons. However, there was a

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strong negative correlation between the consumption of mature leaves and the consumption of reproductive structures at the dry season, which would indicate that the subjects observed adopted the consumption of fruit and flower buds in colder months as a strategy. This could be explained by the sloth trying to maximize the nutrient gain as possible changes of the mature leaves could be noticed in dry season due to hydric stress, like higher concentration of difficult-to-digest fibers and secondary compounds.

**PALAVRAS-CHAVE:** Atlantic forest, Bradypus, Diet, Phenology, Folivory