

## The role of mid- and large-sized mammals in the enrichment of a restored site in the APA Campinas, Campinas-SP.

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### Abstract

We used camera traps to monitor animal visits to a feeder in which we offered fruits, in order to evaluate the potential contribution of mid- and large-sized frugivorous mammals as seed dispersers to an area in the process of restoration.

### Key words:

Seed dispersers, frugivory, restoration.

### Introduction

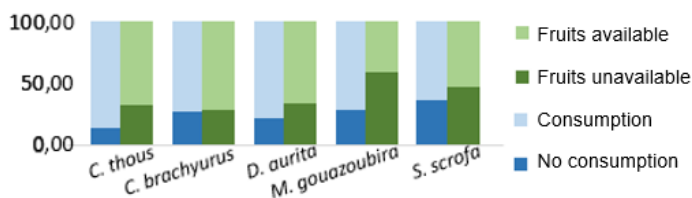
Forest restoration should reestablish important ecological functions in a degraded ecosystem, such as seed dispersal. Among other frugivorous animals, mid- and large-sized mammals have the capacity to disperse large seeds, facilitating the process of natural regeneration. Degraded areas, however, may have low fruit availability, compromising seed dispersal.

In this study, we used camera traps to monitor an artificial feeder in which we offered both native fruits and bananas, in order to assess the potential contribution of species as seed dispersers and to evaluate the composition of terrestrial frugivorous mammals in an area undergoing restoration in Campinas, SP.

### Results and Discussion

Between May 2016 and May 2018, the following species were recorded: *Cerdocyon thous*, *Chrysocyon brachyurus*, *Didelphis aurita*, *Didelphis albiventris*, *Eira barbata*, *Mazama gouazoubira* and *Sus scrofa*. We evaluated, for each species, visit's temporal variation, the number of visits with and without fruits available and with and without fruit consumption (Figure 1). Data concerning *D. albiventris* and *E. Barbata* was not statistically analyzed due to small sample sizes.

**Figure 1.** Comparison between frugivores visits with fruits available and unavailable and with consumption and no consumption.



Although not all species visited the feeder every month, total richness did not vary throughout the study ( $p=0.93$ ) suggesting that seed dispersal is homogeneous over time. On the other side, total number of visits was bigger in May ( $p=0.009$ ), during the dry season, when there are less fleshy fruits.

*Didelphis aurita* was more frequent when fruits were available ( $p=0.003$ ), which might be explained by olfactory attraction. It also consumed fruits in most visits ( $p<0.001$ ), suggesting a high dispersal potential. The visits

of *Cerdocyon thous* were approximately the same when fruits were or were not available ( $p=0.088$ ) and there was fruit consumption in general ( $p=0.004$ ). Its regularity to the feeder, the frequent consumption of offered fruits and its common use of degraded areas, indicate that this species might contribute effectively to natural regeneration.

Visits by *M. gouazoubira* were equally frequent when fruits were available and unavailable ( $p=0.303$ ). These constant visits may suggest that the feeder was located on a trail used by this species. There was no significant difference in visits with and without fruit consumption ( $p=0.109$ ), but the gray brocket deer consumed fruits in all of its visits in the dry season, emphasizing the species' seed dispersal potential in a season in which fruits are more scarce.

*Chrysocyon brachyurus* is possibly attracted by the fruits offered, as it visited the feeder more frequently when fruits were available ( $p=0.001$ ). Visits with fruit consumption were also more frequent ( $p=0.005$ ). The maned wolf visited the feeder every month after its first visit. Due to its large size, the wolf can disperse seeds of different sizes, which highlights the importance of this species for natural regeneration.

There was no difference in *S. scrofa*'s visits when fruits were or were not available ( $p=0.639$ ), nor with and without fruit consumption ( $p=0.209$ ). The species was more frequent in January, when guava trees are fruiting, and it is probable that it was attracted by the high density of this fruit in the study area.

### Conclusions

These frugivorous mammal species contribute differently to the natural regeneration of restored sites, dispersing the seeds of different fruits. As no temporal variation in the visiting pattern among species was found over time, seeds may be dispersed all year long, even during the dry season, assuring an important ecological service.

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