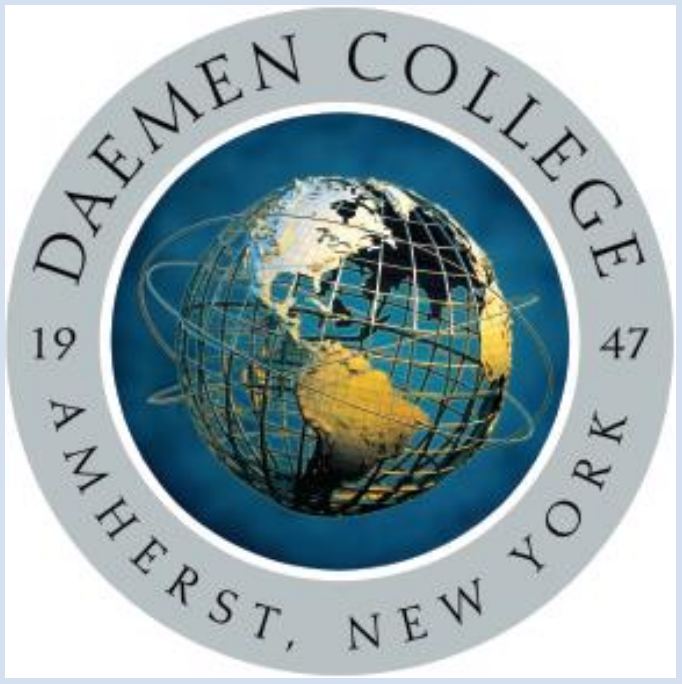




Activity Budget of Black-Capped Squirrel Monkey (*Saimiri boliviensis*)

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Natural Sciences



BACKGROUND

- Black-Capped squirrel monkeys (*Saimiri boliviensis*) are one of four squirrel monkey species
- Have dark coloration around their mouth, a “white mask”, and dark coloration on the top of their head.
- Found through the Amazon basin, into the Guyanas, and occasionally found on the western coasts of Panama and Costa Rica.
- Are omnivorous, feed mostly on fruit and insects
- Population density varies by habitat from 5/km² to 527/km²
- Their major predators are raptors such as eagles, wild cats and snakes.
- Becoming severely threatened due to the loss of habitat.
- One of the most commonly used primates for research purposes.
- Will form groups with different species of capuchin monkeys.
- Social hierarchies may form with codominance shared between male and female monkeys.

Methods

- Conducted an ethogram to determine a functional activity budget for the two female black-Capped squirrel monkeys residing at the Buffalo Zoo.
- Study enclosure was inside the “Rainforest Falls” building at the Buffalo Zoo.
- My study animals shared their enclosure with Japanese saki monkeys.
- Enclosure contains four artificial trees with their branches extending throughout the cage.
- Used scan sampling, recording the behavior of each female at 30 sec intervals for 5 min sessions.
- Activity budget will be used to determine the percentage of time that an individual will spend engaging in various behaviors.



2a)



2b)

Figures 2a and 2b. Enclosure for the Black-capped squirrel monkey at the Buffalo Zoo

Results

I observed 7 different behaviors for the monkeys as defined in Table 1. Using data collected, I made an activity budget to show how the two squirrel monkeys spent their time. I used artificial data on percentages for the behaviors that I observed, which may be representative of normal activity. The behavior I saw the most was that of locomotion, mostly due to the monkeys exploring their habitat. They would jump from branch to branch and would sometimes climb the mesh directly in front of you.

Locomotion	Changing of positions, excluding movement while feeding or movement during the other behaviors listed	Grooming	Being engaged in solitary grooming, conducting non-aggressive grooming of another individual, or being groomed by another individual
Resting	Being inactive in a sitting, lying, or standing position	Play	Actively involved in a range of voluntary activities, normally associated with enjoyment and recreation, that is not related to the direct survival of the individual
Feeding	Foraging, handling, processing, or consuming any food item	Agonistic	Provoking, attacking, or showing fear towards another individual with the intent of showing aggression
Vocalization	Act of communication to another individual inside or outside of the exhibit using auditory noises, excluding vocalizing during play and agonistic behaviors	Other	Any behavior that may not be defined due to lack of a group to put it in or due to the squirrel monkeys not showing this behavior when originally observed

Table 1. Behaviors for Buffalo Zoo squirrel monkeys with definitions.

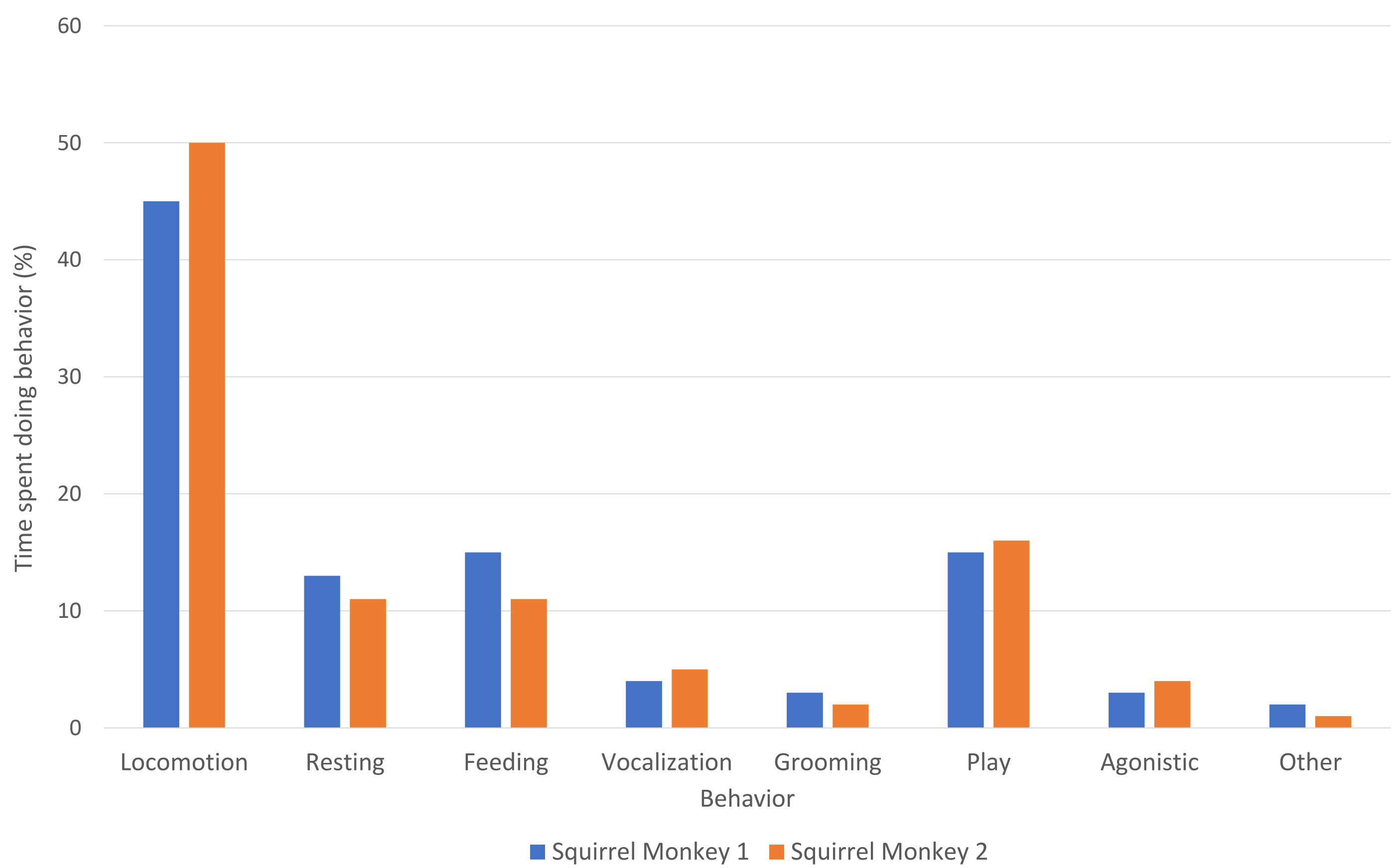


Figure 1. The percentage of times spent exhibiting a behavior for each individual squirrel monkey. The behaviors are an exhaustive list for an activity budget and are out of 100%.

Conclusions

Data collection was limited due to Covid-19 restrictions and zoo closure. I had to extrapolate data for the normal activities from my limited observations. I compared my data to published research to consider the activity of captive black-capped squirrel monkeys.

My high percentages of locomotion and exploration were similar to a study by Baldwin and Baldwin (1974) in the wild. Their study looked at social play and reported that one of the main forms exhibited was distance play and chasing. I had seen this occur on multiple occasions as the two females would periodically chase each other around the cage playfully as well as chase some birds that would get too close to the outside of the mesh.

Similar to the wild, the squirrel monkeys coexisted well with another set of monkeys, the saki monkeys. The two species did not interact much, but did not seem to exhibit any overtly agonistic behaviors.

I observed little grooming behavior, similar to a study by Fragaszy et al. (1991), which recorded that mothers had groomed infants or themselves on very rare occasions, unlike capuchin monkeys that exhibited grooming regularly.

My observations compared well with research on wild squirrel monkeys. One factor that could have caused differences is the minimal competition for food in a zoo, which may reduce agonistic behaviors. Also due to only two squirrel monkeys, there may have been less social interaction than observed in that of a troop in the wild.



Figure 3. Individual Black-capped squirrel monkey at the Buffalo Zoo



Figure 4. Black-Capped squirrel monkeys located in the wild

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