

I like to move (it)

Use of outdoor space in a mixed exhibit of ring-tailed lemurs (*Lemur catta*) and red ruffed lemurs (*Varecia rubra*) at Furuvik Zoo

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Introduction

By studying how captive animals use outdoor space, we can determine which areas fulfill their biological and behavioral needs to improve enclosure design for animal welfare and visitor experience.

Aim

Determine the differential use of outdoor space in a mixed exhibit of captive ring-tailed lemurs and red ruffed lemurs and assess both the effect of adding environmental enrichment and possible visitor and weather effects on the lemurs' use of space.

Methods

Five-minute interval scan sampling was used to record lemur location and behavior, as well as the weather conditions and the presence of zoo visitors in the enclosure over a month. That baseline was followed by four alternating two-week periods of food or structural enrichment, both with and without visitors.



Ring-tailed lemurs interacting with the food enrichment



Red ruffed lemurs interacting with the food enrichment



Both species interacting with the structural enrichment

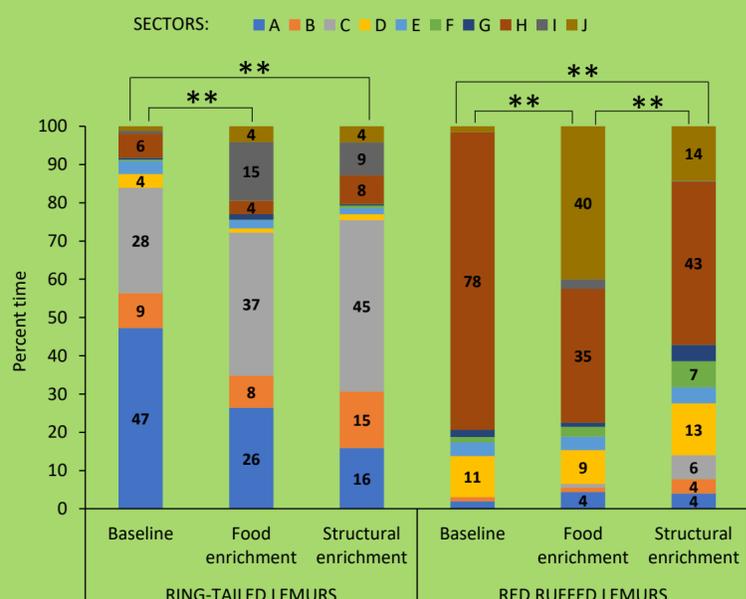
Results

Enrichment increased the lemurs' use of the enriched sectors, decreased resting and increased locomotion.

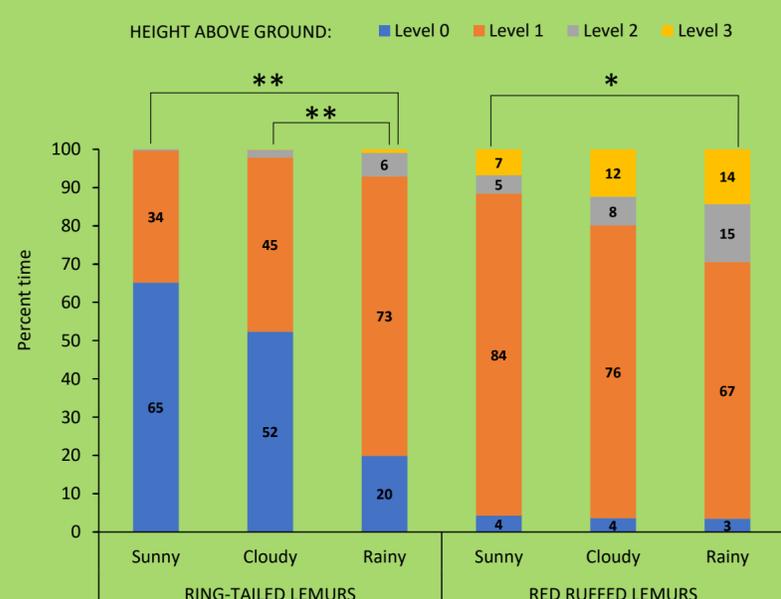
Structural enrichment increased exploratory behaviors and stimulated arboreal locomotion.

Both species preferred sunny and warm conditions for sunbathing and resting, while moving more around the enclosure in cooler and cloudier weather.

The visitor effect was weaker than the effects of enrichment or weather conditions on the lemurs' use of space.



Lemurs' use of outdoor space by sector and enrichment period. ** p < 0.01 (χ^2 test)



Lemurs' use of outdoor space by level and weather type. * p < 0.05 / ** p < 0.01 (χ^2 test)

Conclusion

The results of the study show inter-specific differences in the lemurs' use of space and behavior and a complex combined effect of enrichment, visitors, and weather conditions.