The Rhino Foobler: Adapting a Dog Puzzle Feeder for Rhino Enrichment

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Abstract

Providing foraging opportunities throughout an animal's day can decrease stress and improve well-being. We crowdfunded the adaptation of a timed puzzle feeder toy designed for dogs, the Foobler, into an enrichment for one of the San Francisco Zoo's black rhinoceroses (*Diceros unicornis*) and assessed the behavioral impact of the puzzle feeder on the rhino..

Introduction

Providing environmental enrichment for animals in zoos and aquariums can reduce stress, improve breeding success, and increase species appropriate behaviors. A common approach for enriching large herbivores is to provide browse throughout the day; however this can be difficult due to protected contact constraints or time limitations.

We assessed the behavioral impact of a time-delay puzzle feeder enrichment on the San Francisco Zoo's 8 year old male black rhinoceros, Boone. Working with the design firm that invented the Foobler© a time-delay puzzle feeder for dogs, we built, deployed and assessed the behavioral impact of a rhino-sized Foobler©.

Predictions

Providing puzzle -feeding opportunities throughout the day will:

1) **Increase** foraging activity
2) **Decrease** inactivity
3) **Increase** engagement with enrichment

Learn more about the project at: **www.experiment.com/sfzoo**

Methods

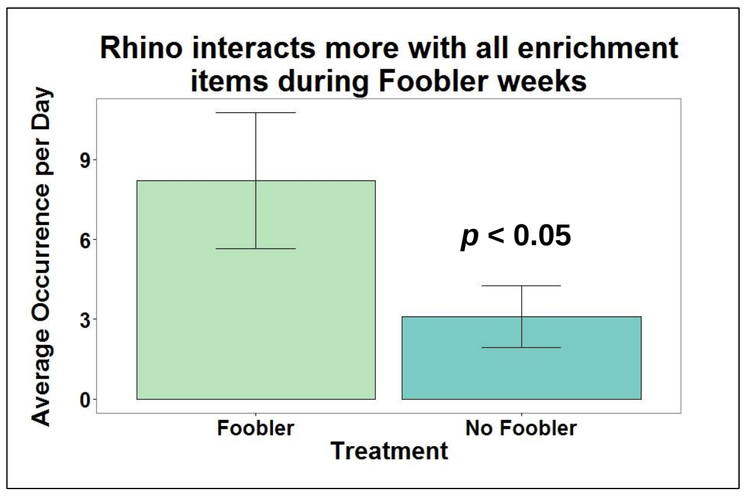
We crowdfunded the rhino Foobler©.project in June 2015 on Experiment.com.

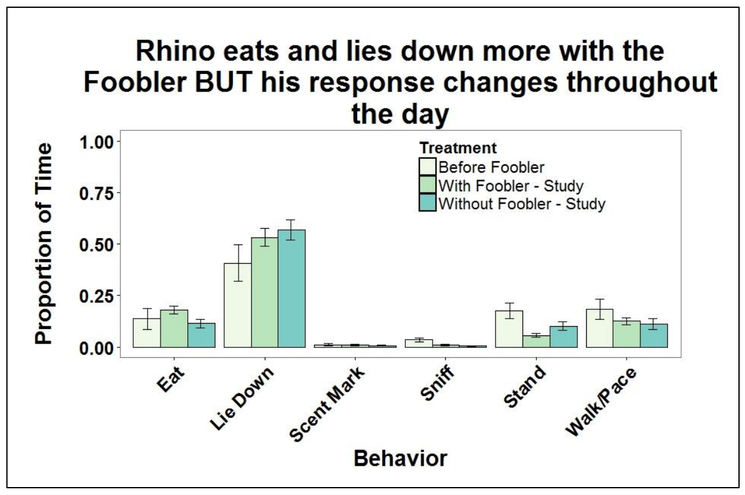
We studied the rhino's behavior before and after we trained him to use the Foobler©..

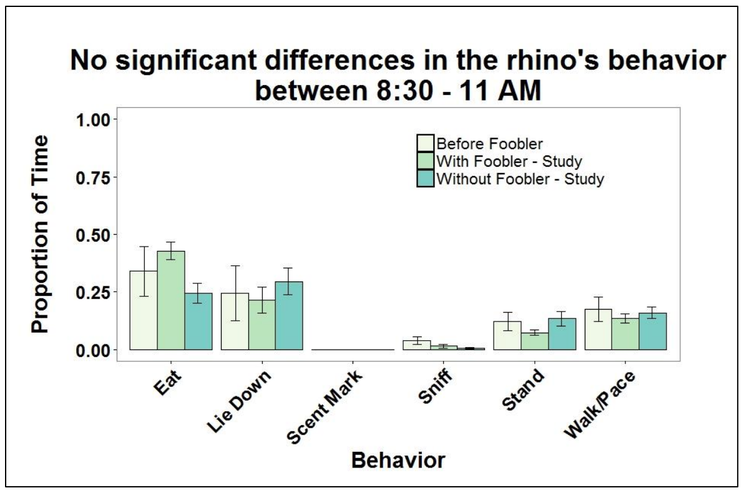
ZOOMONITOR

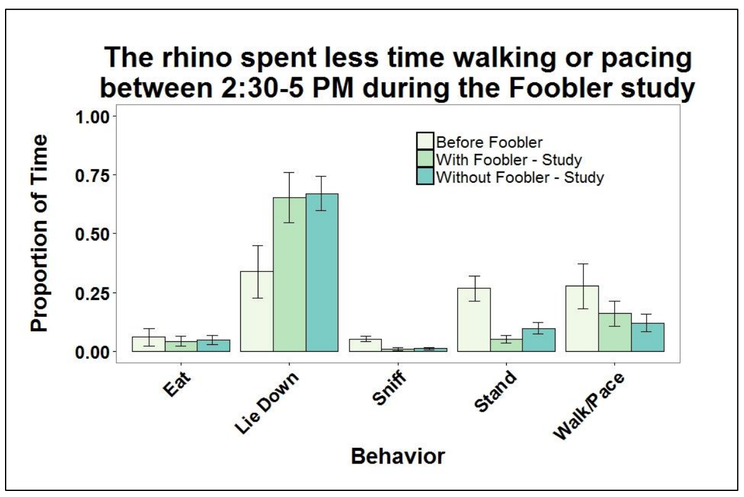
We used ZooMonitor to record scan sampling data of the rhino's behavior and location at one-minute intervals. We recorded each occurrence of interaction with an enrichment item, defined as the rhino touching, pushing, pulling, or manipulating an object in the enclosure.

Results









Conclusions

1) **Increase** foraging activity ✓
2) **Decrease** inactivity X
3) **Increase** engagement with enrichment ✓

We observed an increase in foraging and engagement with enrichment and a decrease in afternoon pacing during the study. The rhino Foobler© successfully spread foraging throughout the day and decreased afternoon anticipation of the rhino's evening feeding.

Acknowledgments
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