Rhinoceros Hornbill

Frank Bolek | Jordan Perrin | Michael Mallory





Inquiry to Innovation Seminar

Innovation Inquiry - Class Overview

This class was focused on working in multi-disciplinary teams to generate concepts and create prototypes for zoo animal enrichment. The team consisted of a mechanical engineer, a chemical engineer and an industrial designer. We worked directly with a number of faculty members including two keepers Aimee Owen and Kim Klosterman, as well as the enrichment coordinator David Orban.

Behaviors & Enrichment

Overview

The rhinoceros hornbill, named for the horn-shaped casque on its beak, is a large arboreal bird found in forests in the Malay peninsula and Borneo. In captivity, the birds' diet mainly consists of fruit and diced mixed vegetable, along with bugs and nutritional pellets. Hornbills mate for life and exhibit pair bonding. At the Cincinnati Zoo and Botanical Garden, the two sister hornbills on display have shown some pair bonding characteristics; such as











⁴https://www.besgroup.org/2008/01/13/what-do-hornbills-eat-in-thailand/ Rhinoceros Hornbills consume a large variety of fruit, as well as insects and rodents ⁴

Enrichment

Animal enrichment is the practice of providing environmental stimuli to create the optimal state of well-being in an animal, both physically and physiologically. Some of the more common forms of enrichment are:

Cognitive

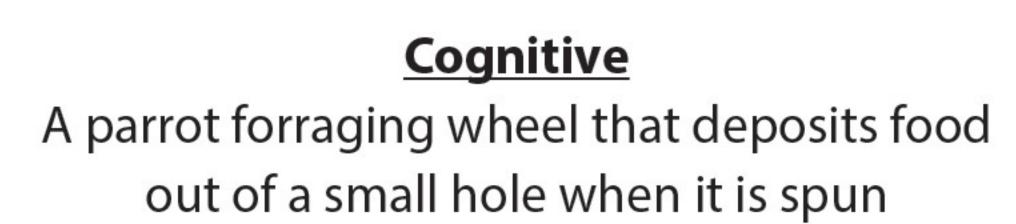
Enrichment design to increase curiosity and engagement. Often times puzzle feeders are toys are stuffed with food to encourage foraging behaviors and delay feeding.

Dietary

Animals are provided with a source of food that differ from their normal diet to provide variety and stimulus.

Physical Habitat

This form of enrichment takes the form of the features present in an animals environment. Often times these will mimic the naturally occurring features of an animals natural habitat such as running water or leafy plants. 3





Dietary A rhinoceros hornbill being thrown a grape

http://entertainmentstar.blogspot.com/2014/07/beautiful-images-of-rhinocreos-hornbill.html?m=1



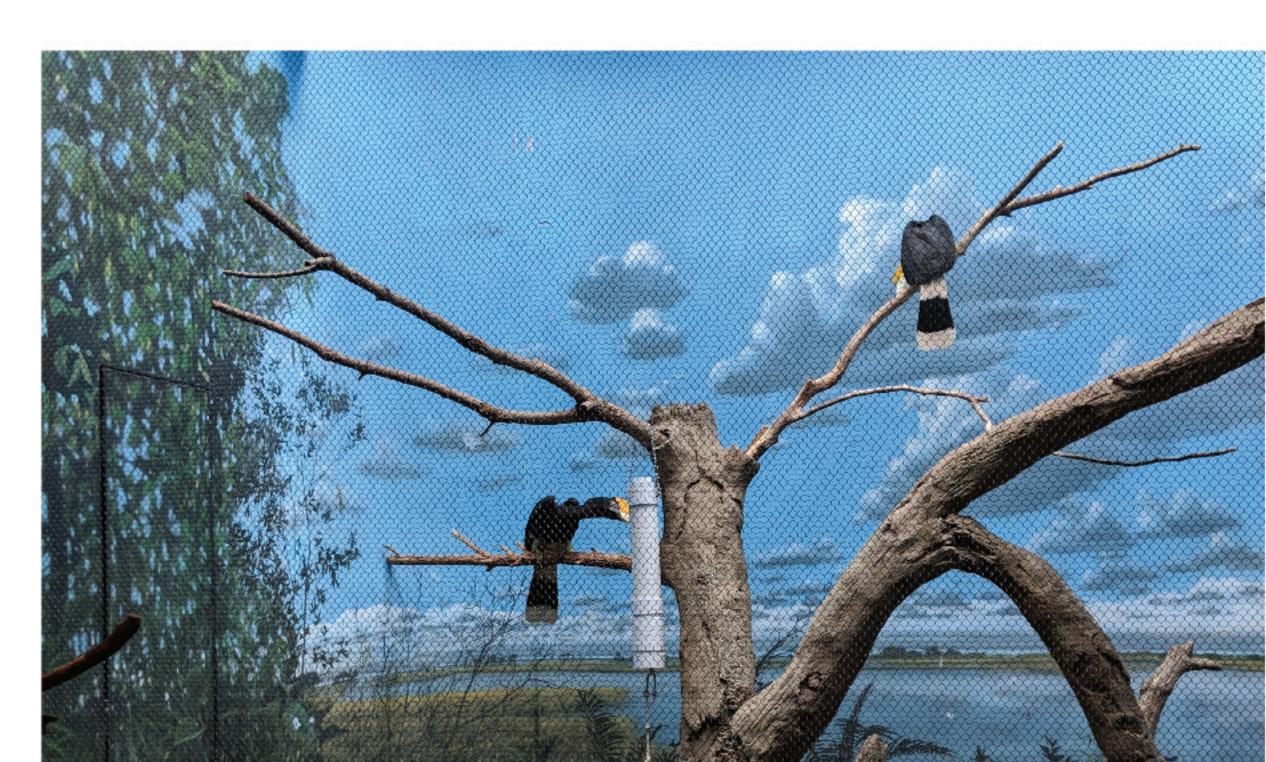
Physical Habitat A cockatoo enjoying the spray of water from a sprinkler

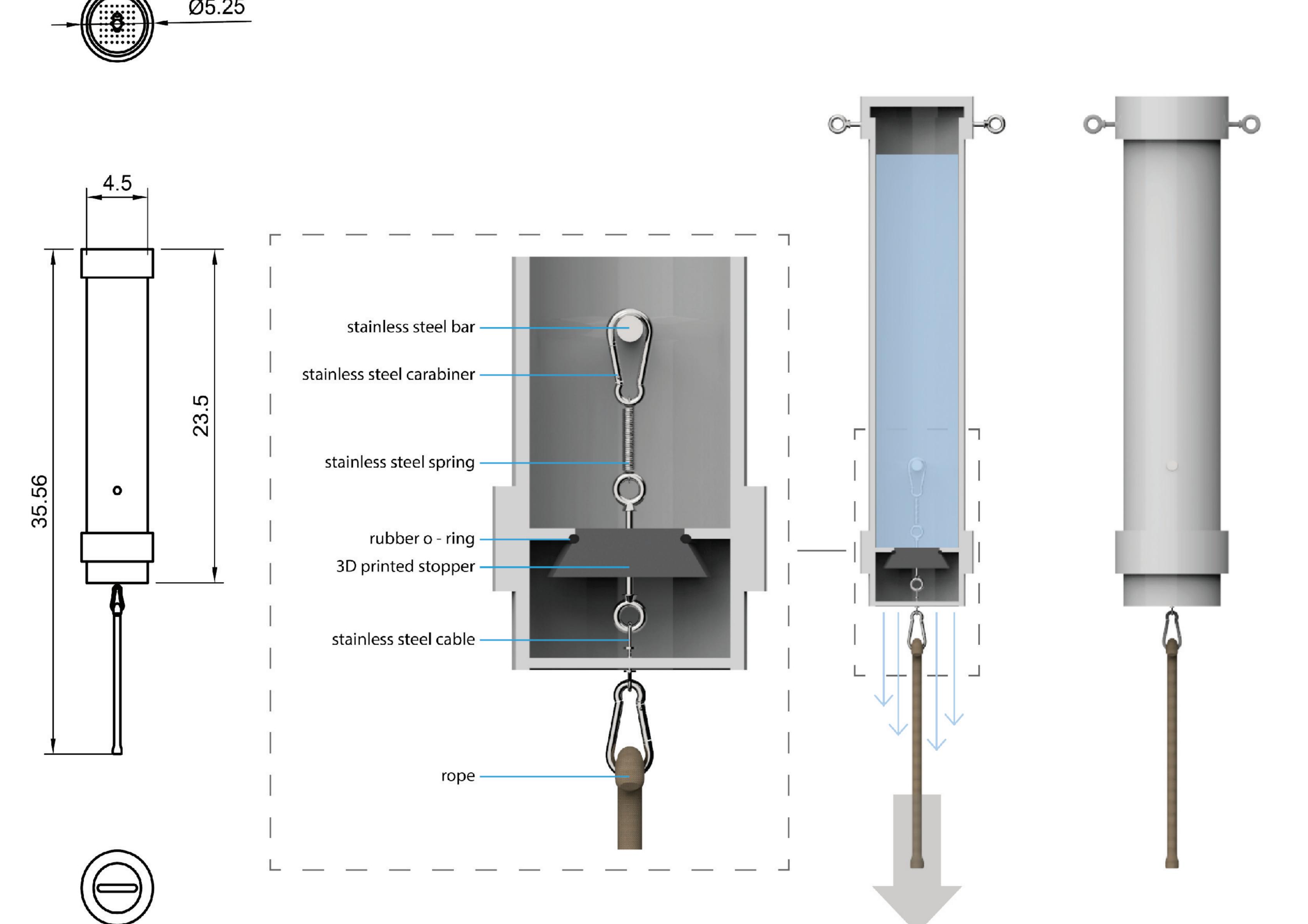


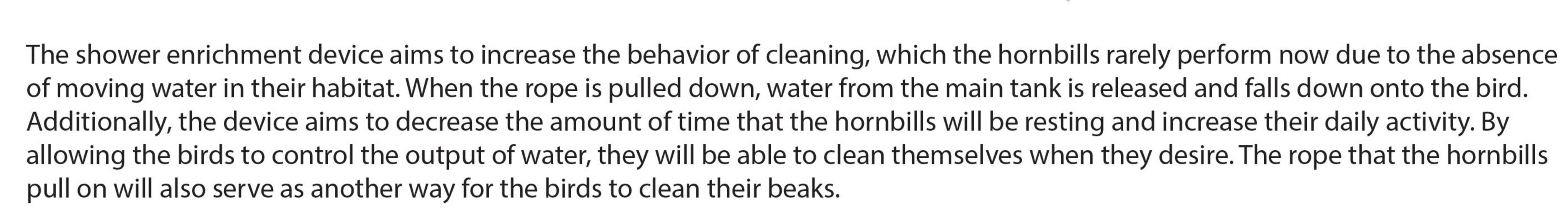
https://www.northernparrots.com/original-foraging-wheel-interactive-creative-parrot-toy-prod371102/ https://www.caledonenterprise.com/community-story/9128017-gladys-porter-zoo-in-texas-announces-rare-birds-displayed/ https://imgur.com/gallery/PGoR6wg

The Device **Bird Shower**









Citations

- 1 https://www.dwazoo.com/animal/rhinoceros-hornbill/ ² https://www.aviary.org/animals/rhinoceros-hornbill
- ³http://www.animalenrichment.org/
- 4https://www.besgroup.org/2008/01/13/what-do-hornbills-eat-in-thailand/

