



The Patagonian mara (*Dolichotis patagonum*) and Crested screamer (*Chauna torquata*): An evaluation of enclosure usage within a mixed-species exhibit

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INTRODUCTION

The Sequoia Park Zoo in Eureka, CA features an enclosure with both the Patagonian mara ('cavy') and Crested screamer. Evaluations of enclosure usage patterns, especially for mixed-species exhibits, can provide empirical support for animal welfare decisions regarding species cohesion, husbandry practices, and exhibit designs.

HYPOTHESES

Compared to the availability of each zone...

(H1) The screamers will disproportionately favor use of the Pond (includes screamer feeding station) [Zone 2]

(H2) The maras will disproportionately favor use of the Shelter with Food Trough [Zone 3]

...based on the **greater foraging opportunities** in these zones

MATERIALS & METHODS

- Instantaneous scan sampling with 10 minute intervals

-Total Scans = 174 for maras (91 of the 174 for screamers)

-Total Individual Observations = 693 for maras, 185 for screamers

- Behaviors, Count, and Zone Type recorded each scan
- Proportion of species group using each zone measured for each scan and averaged across all
- Chi-squared test ran for each species, using individual observations and zone proportions



Figure 1. Exhibit layout (*D. patagonum* and *C. torquata*, Sequoia Park Zoo) with zone breakdown (image: Google Earth™)

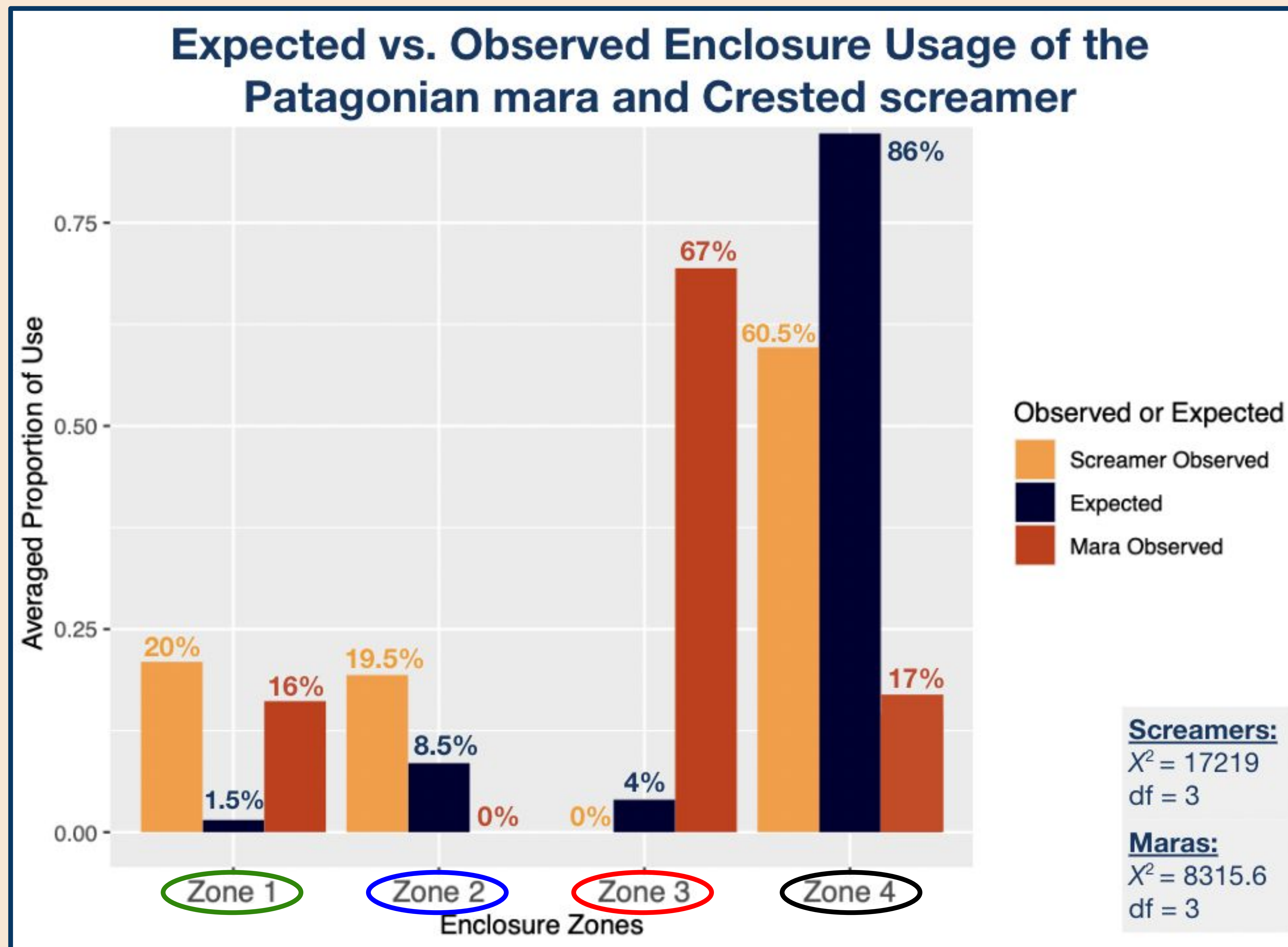


Figure 2. Observed proportional use of each enclosure zone by both the Patagonian maras and Crested screamers, compared to zone availability (expected proportional use distribution); (Data collected at SPZ, Feb - Apr, 2023)

RESULTS

- Significant difference in zone usage for both species compared to availability

Screamers: p-value < 2.2e-16

Maras: p-value < 2.2e-16

- Screamers disproportionately favored the Pond [Zone 2] and the Mara Food Stations [Zone 1]
- Maras disproportionately favored the Shelter with Food Trough [Zone 3] and the Mara Food Stations [Zone 1]

✓ Support for both hypotheses

DISCUSSION

- Both species actively selecting for areas with food readily available; unequal enclosure usage

What can we do with this?

- Food sources can be diversified to promote more equal use of exhibit
- Offering more shelter opportunities could increase choice for the maras

- Partitioning of zone preference across species supports their pairing in captivity

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... May Henrietta rest in peace (1997-2023) ♥

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