

Escape the Friend Zone: Changes in Asian Elephant Behavior in Reproductive Contexts

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Increased knowledge of reproductive behavior is extremely important in the context of elephants in zoos, both for animal well-being and species preservation. How does reproductive behavior differ?



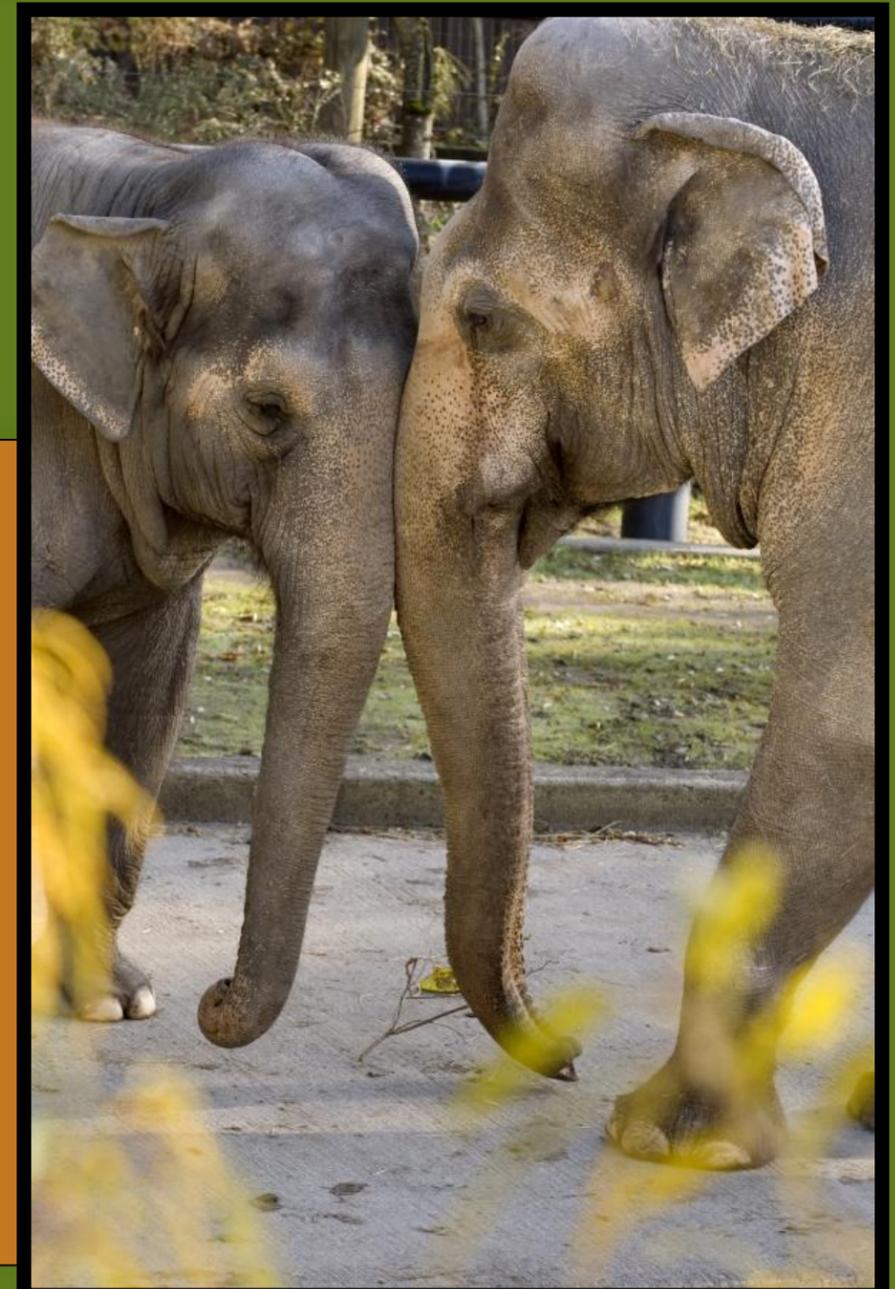
To address this question, we recorded the behavior of Tusko and Shine, a male and female pair of elephants from the Oregon Zoo.

Elephas maximus (1)

- Native to SE Asia
- Endangered
- Largest land animal
- Females live in herds
- Males generally live alone

Elephants are intelligent animals with complex social interactions.

How does the behavior of male and female elephants change between reproductive and non-reproductive social interactions?



Experimental Design and Results:

- ❖ Watched videos with either reproductive or non-reproductive interactions between Tusko and Shine
- ❖ Observers blind to the condition of the video
- ❖ Elephants' interactions scored on an ethogram containing group behaviors

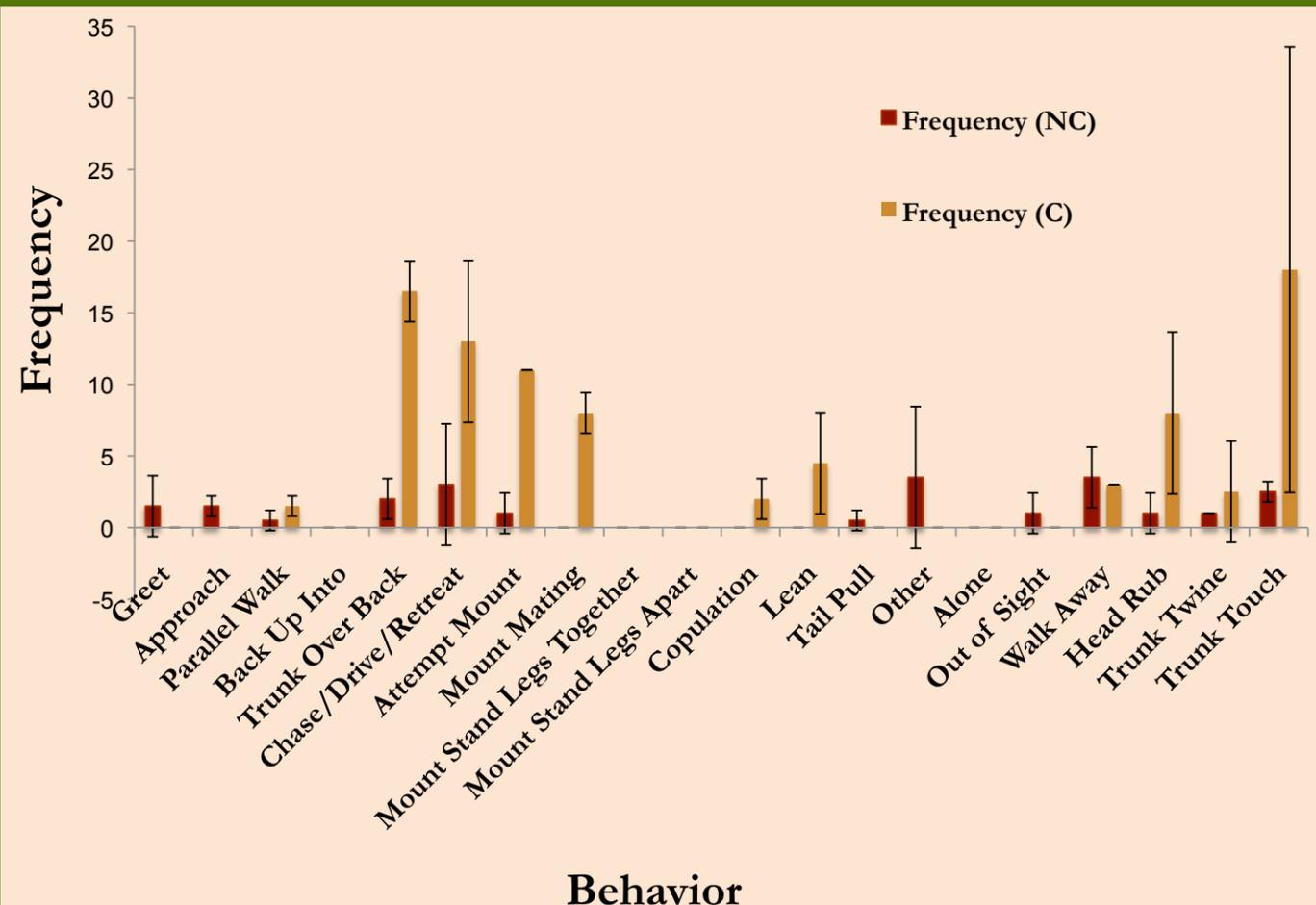


Figure 1. Frequency of male elephant (Tusko) behaviors observed during interactions with copulation (C) or with no copulation (NC).

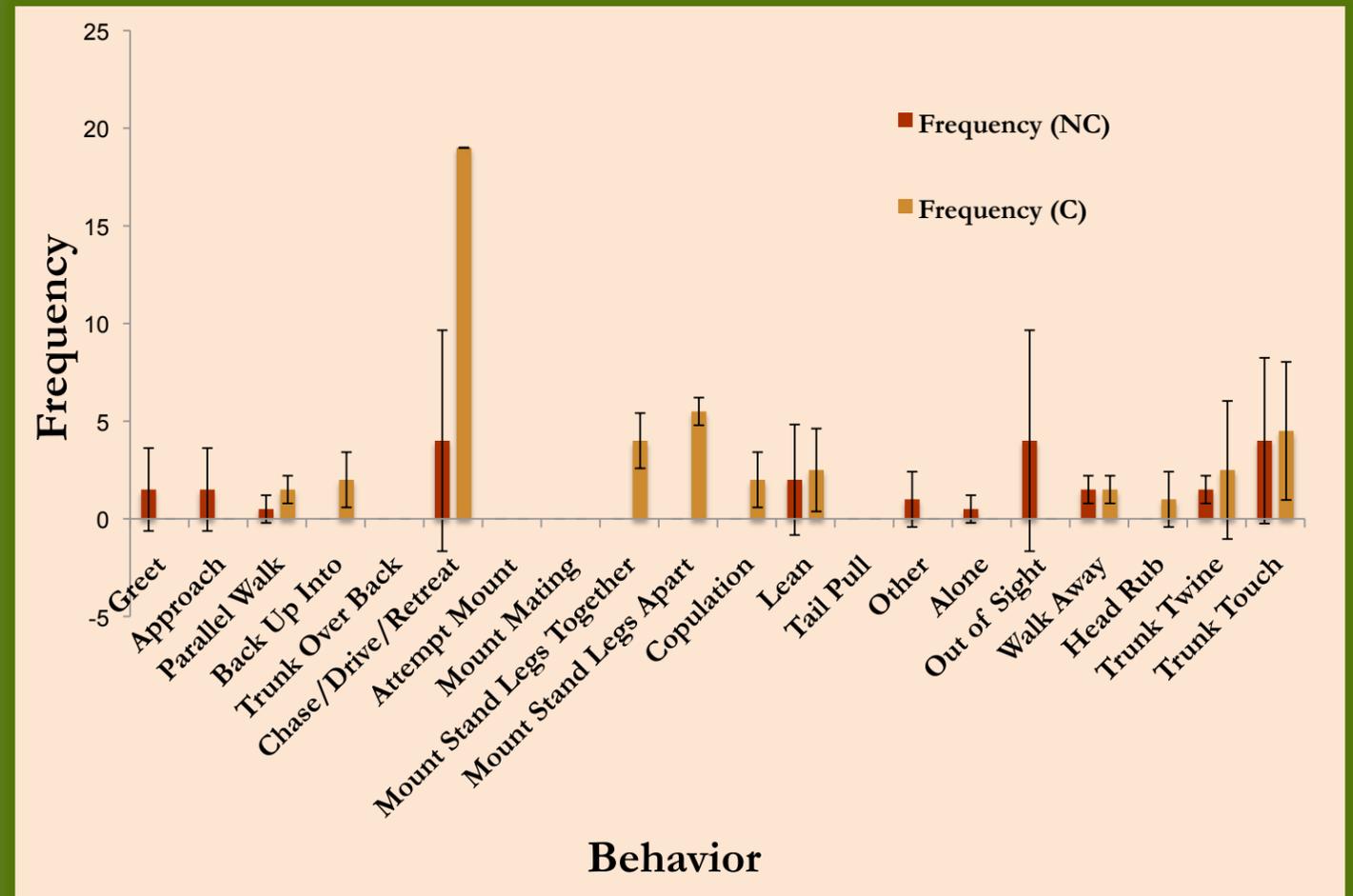
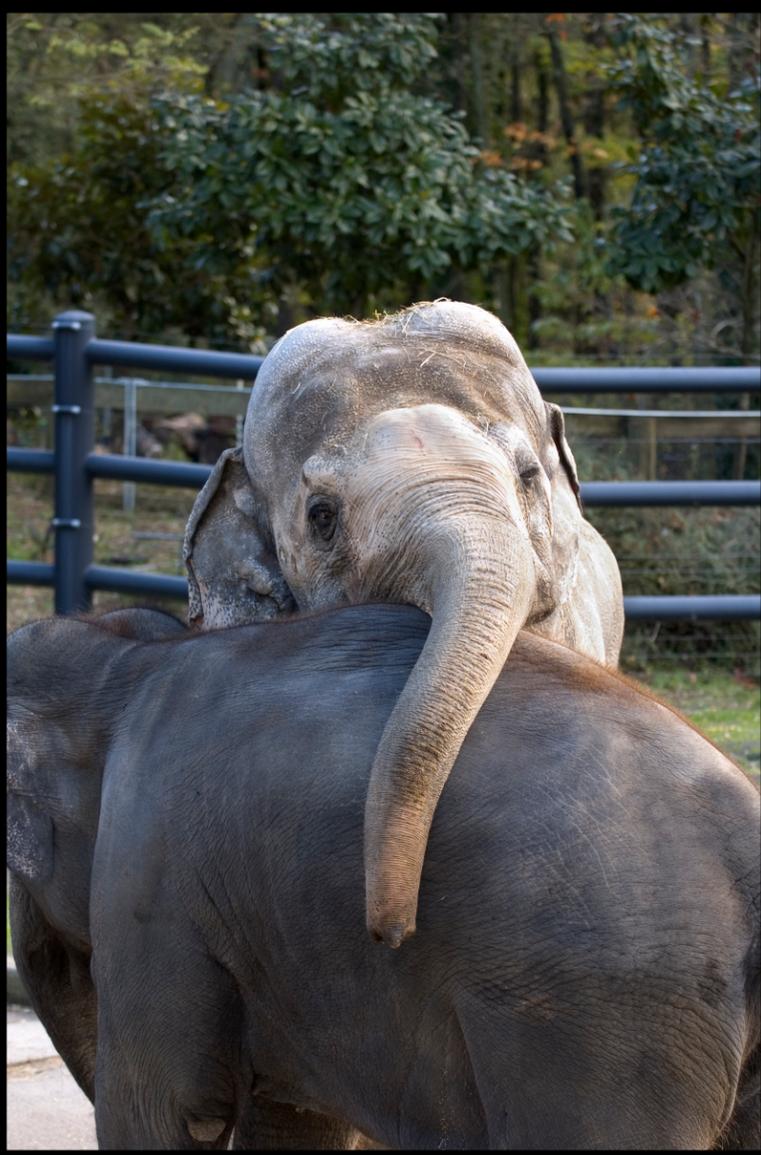


Figure 2. Frequency of female elephant (Shine) behaviors observed during interactions with copulation (C) or with no copulation (NC).

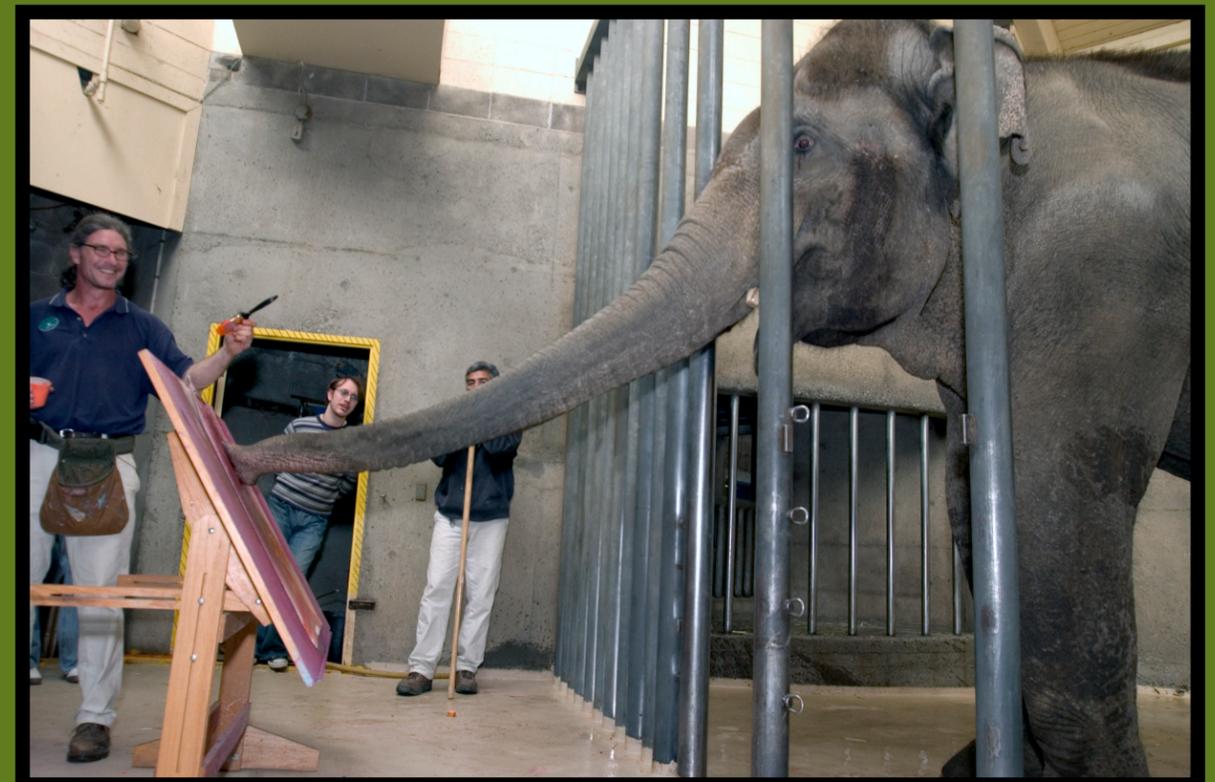
Discussion:

- ❖ Found large differences between conditions for certain behaviors
- ❖ Higher frequency behaviors exhibited by Tusko during reproductive interactions (Fig 1.):
 - “Trunk over Back”- trunk is draped over back of another elephant; trunk is also in this position during copulation (behavior pictured at left)
 - “Chase/Drive”- one elephant pursues the other with attempts to make contact or through contact moves the other elephant; this can be interpreted as an aggressive behavior
 - “Attempt Mount/Mount Mating”- One elephant lifts its front legs to climb on to another or successfully mounts with the intent to mate
 - “Trunk Touch”- one elephant makes physical contact with another elephant using its own trunk



- ❖ Higher frequency behaviors exhibited by Shine during reproductive interactions (Fig 2.):
 - “Retreat”- in response to another elephant’s chase or drive, an elephant actively moves away from the other elephant
 - “Mount Stand Legs Together/Apart”- elephant keeps legs together or spreads them apart in response to another elephant mounting

- ❖ “Trunk Touch” frequency for Shine did not vary over conditions



Main Conclusion:

Behavioral differences were observed for both Tusko and Shine depending on whether they were in a reproductive or non-reproductive context. Within each condition, differences in behavior also arose between Tusko and Shine.

Future Directions:

This was a preliminary study on behavior, only examining two specific elephants. Further studies could test if these trends are also present in Asian elephants at other zoos or in the wild. Additionally, the ethogram could be expanded to include a wider scope of aggressive behaviors.

References:

- (1)<http://animals.nationalgeographic.com/animals/mammals/asian-elephant/>
- (2)All images obtained from the Oregon Zoo Photo Gallery
http://www.oregonzoo.org/gallery/category/elephants?type=All&items_per_page=All

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