



Introduction

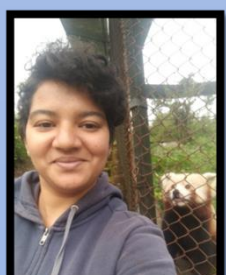
Predator recognition is very crucial for adaptation, survival and evolution of species. Literature shows various prey and mesopredator species can distinguish different predators and respond according to degree of threat a particular predator poses. It is also seen that relaxation in predator pressure can lead to loss in predator recognition. In some cases predator recognition is retained even after predator becomes nonextant. Predator recognition and response to olfactory cues are not yet studied in Red pandas. Red pandas are unique due to the fact that they consume 90-99% plant matter in their diet but are taxonomically placed in Order Carnivora. Therefore red pandas can't be generalized as either prey or predator. Predator recognition and behavioral response to olfactory cues of predator and other carnivores occurring in similar habitat as red panda can aid in it's conservation .

Aim and Hypothesis

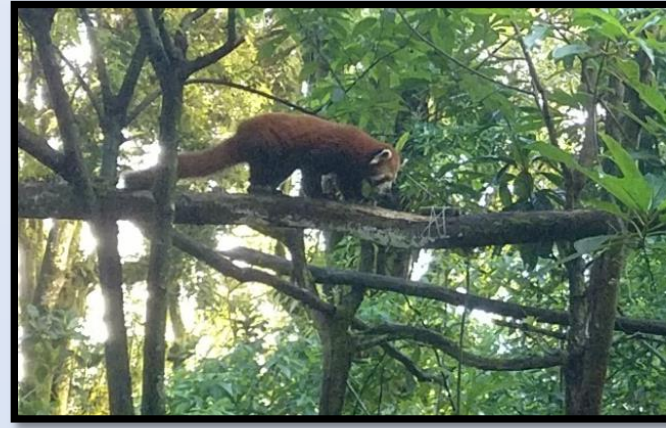
Record initial behavioural responses of captive Red Panda (*Ailurus fulgens fulgens*) to odours of predatory carnivores and non-predatory carnivores. I believe that since Red pandas are medium-sized, plant eating carnivores, they will exhibit a response similar to mesocarnivores. They may be more vigilant, alarmed and may avoid the places where olfactory cues are presented.

Method

Trials were conducted with 8-9 captive red pandas in PNHZP, Darjeeling, India. The Red Pandas were housed in pairs or mother and cubs. Small pieces of filter papers were impregnated with approximately 1 mL of sterile distilled water as control and Urine of Common leopard, Clouded leopard, Himalayan palm civet, Jungle cat and Leopard cat. The filter paper was inserted in a small piece of bamboo with artificially made holes and kept in enclosure, one odour at a time, for the duration of an hour and interactions were recorded with aid of Mobile phones and Cameras. 14 Behaviours, their frequency and duration were used for analysis. Basic statistics were performed, data was visualized and one way ANOVA was carried out.



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Fig; A male red panda smelling the odour presented in to in Padmaja Naidu Himalayn Zoological Park, Darjeeling, India

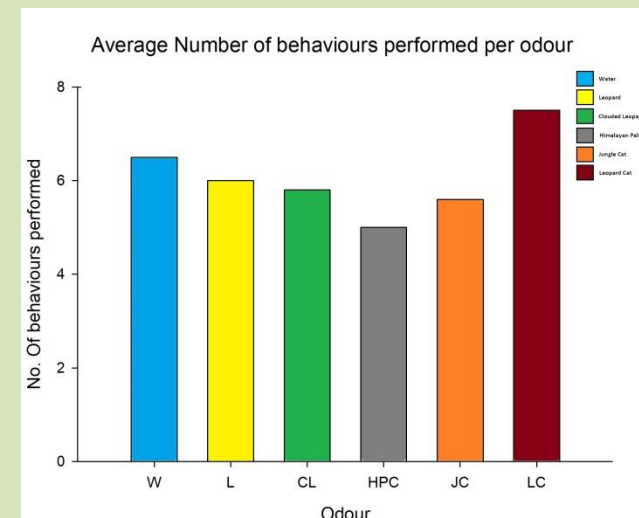
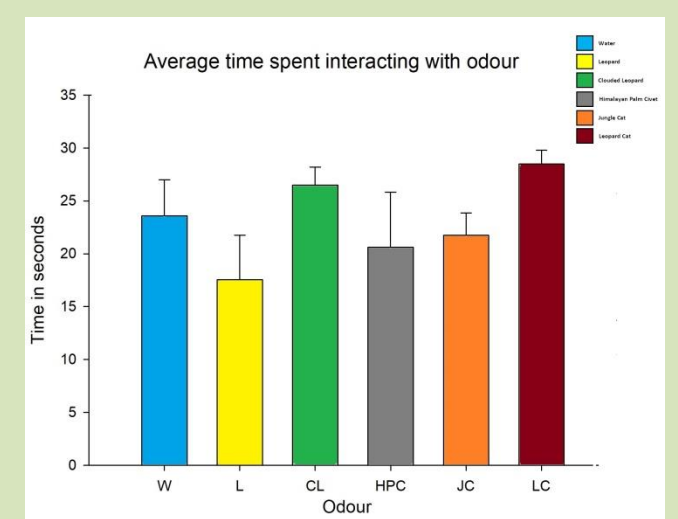


Fig: Above Graph showing average no. of different behaviours performed when following odours are presented

Fig: Graph below is showing average no. time spent within 5m radius of location where odours are presented



Results

1. Red pandas can distinguish between odourless control and carnivore smells
- 2.They show similar response to apex carnivores (possible predators of adult red pandas) as compared to mesocarnivores (non-predatory carnivores for red padas)
3. They do not show any specific behaviour pattern of being alarmed, or increase in vigilance.
4. They do not avoid places where olfactory cues are presented.

Conclusion

Red pandas can distinguish between carnivore smells and odourless control. It is found that red pandas don't differ in their response between the different carnivores that differ in threat they may pose to red pandas . They maybe due to loss of anti-predatory behaviour response due to relaxed predator pressure in captivity. Conservation strategies should take in consideration that captive red pandas may need to be trained if they are to take part in any release programmes.

