

# Olfactory sensitivity of Spider monkeys (*Ateles geoffroyi*) for predator odors.



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## Introduction

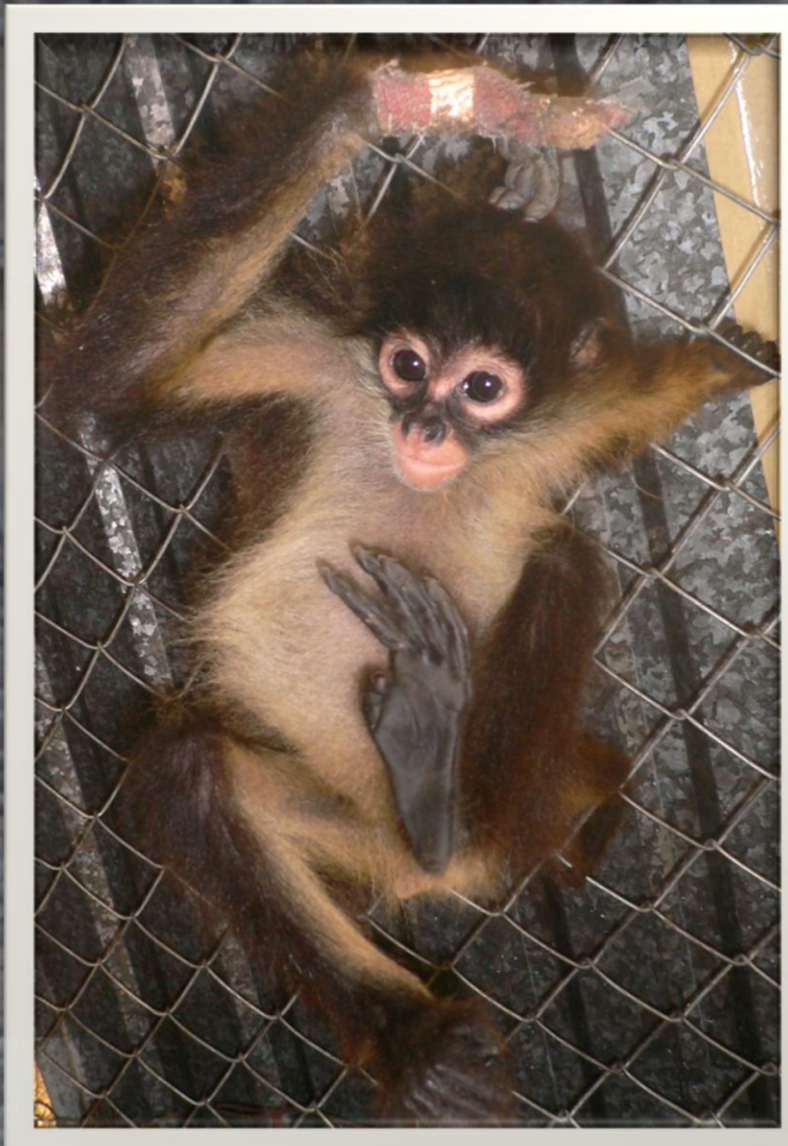
For mammals the sense of smell does not only play an important role in social behaviors and the location of food, but also in predator detection.

Spider monkeys are a relatively large bodied mammals and have only a few natural predators in the wild.

It has traditionally been viewed that primates mainly rely on their visual sense since they are believed to have a poor sense of smell.

## Results

- ✓ All animals had a high olfactory sensitivity for the six different predator odors tested.
- ✓ There was an individual variation between the spider monkey female in the olfactory sensitivity for the six different predator odors.



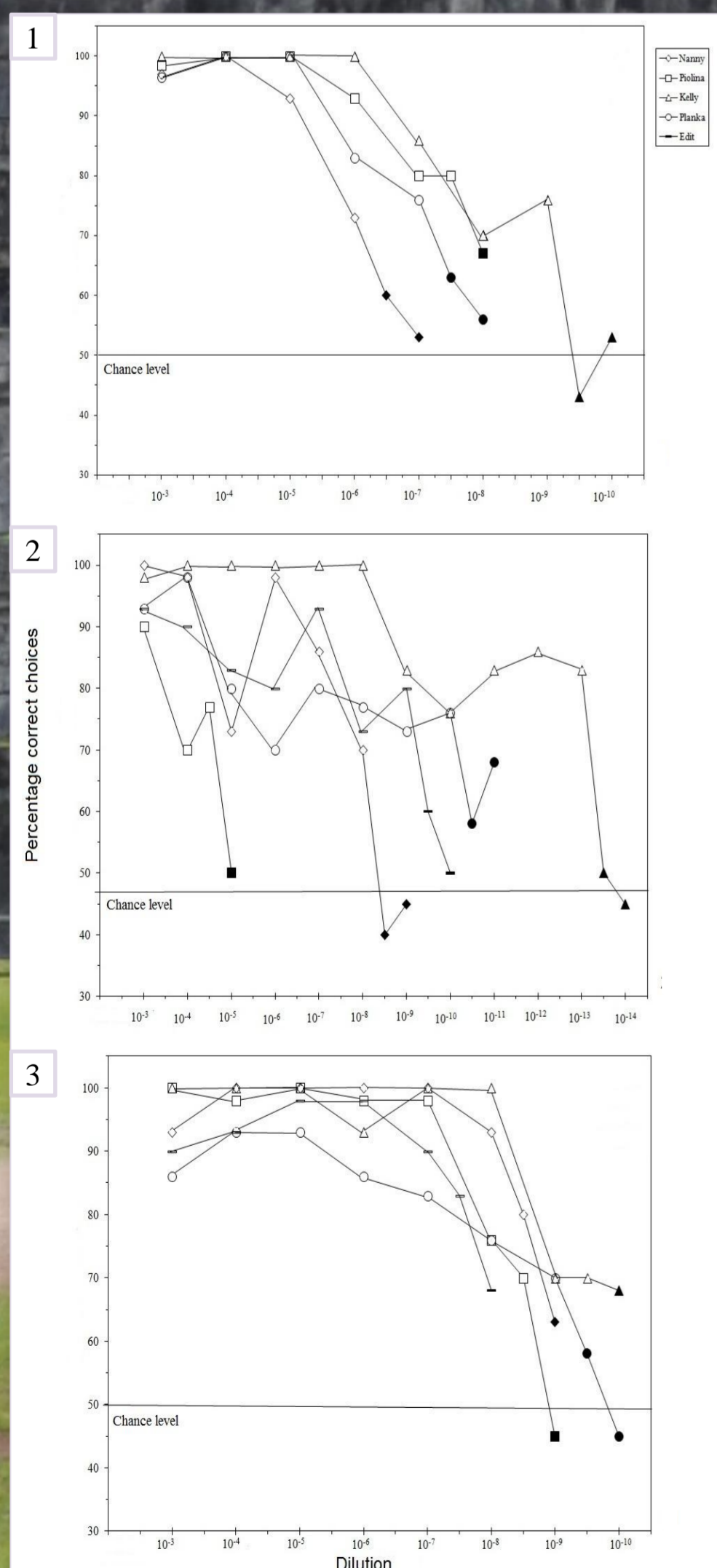
## Aim

Determine olfactory detection thresholds for six different predator odors in spider monkeys.

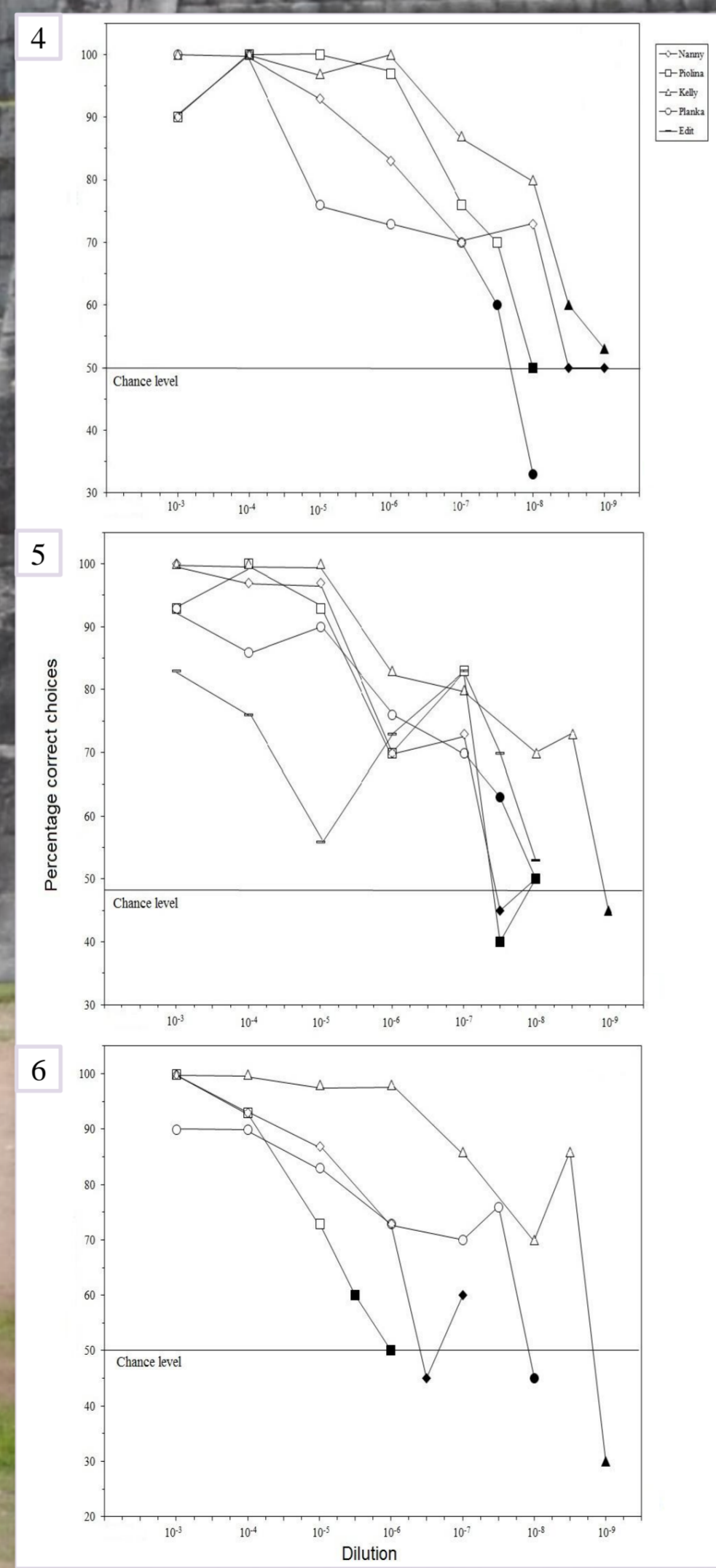
## Conclusion

- ✓ Spider monkeys are well adapted to detect predator odors.
- ✓ Spider monkeys have a similar or better sensitivity compared with other odorants.
- ✓ Individual variation within species in olfactory sensitivity may be explained by behavioral relevance.

### Mustelid Odors



### Feline Odors



## Materials and Methods

Using a two-choice instrumental conditioning paradigm in five adult female spider monkeys were used to test their olfactory detection threshold for six predator odorants from a near-odorless odorant.

The different predator odorants came from either the mustelid family (skunk, weasel and ferrets) or Feline family (cats and bobcats).

The predator odorants were used as a rewarded stimulus.

For each correct trial the odorant concentration were systematically lowered until the animals were unable to detect it and a threshold were determined.

## Odorants

### Mustelid Odors

- 1 - 2-propylthietane
- 2 - 3-methyl-1-butanethiol
- 3 - 2,2-dimethylthietane

### Feline Odors

- 4 - 3-mercapto-3-methylbutan-1-ol
- 5 - 3-mercapto-3-methylbutyl formate
- 6 - methyl-2-phentyl-ethyl sulfide



## Contact information

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