

## Background

**Aromatic aldehydes** is a class of odorants with a floral scent. They are used in the perfume industry, but in recent years it has been discovered that some of them elicit chemotaxis in sperm cells. Human sperm cells are attracted by bourgeonal, an odorant which smells of Lily-of-the-valley.

**Several factors** affect the olfactory capacity of a species. Evolutionary history shapes the physiological characteristics such as brain structures and nasal structures with a varying number of receptors for reacting with odorant molecules. If high sensitivity to a smell has been beneficial to a species survival, their sensitivity to it will most likely be high. However, if the odorant is not beneficial to survival or absent in their environment, they may not be as sensitive.



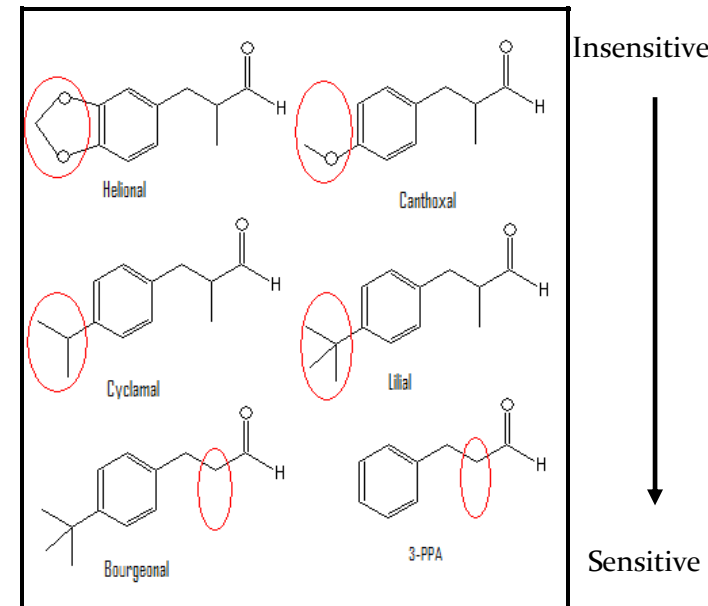
## Aim

**The aim** of the study was to investigate how sensitive spider monkeys are to aromatic aldehydes, a class of odorant with a floral scent.

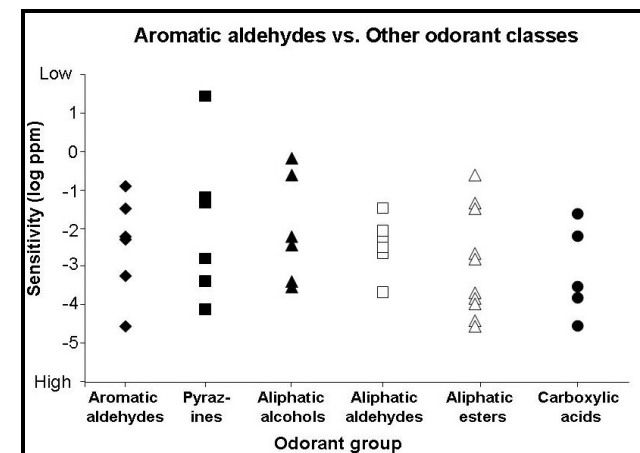
**I also wanted** to investigate the impact on sensitivity of small changes in the structure of the molecules.

Primates are often thought to be animals that rely more on their vision than their other senses. However, this does not mean that they do not have a sensitive nose.

**By teaching** them to try to tell two odorants apart, their sensitivity can be assessed depending on when they no longer can discriminate between two samples.



Small changes in the structure of the molecules significantly changed how sensitive the animals were to the odorants.



The monkeys were just as sensitive to aromatic aldehydes as to many other odorant classes tested on spider monkeys

## Conclusion

**Small** changes in molecular structure, such as absence or presence of methyl groups or extra oxygen atoms caused significant changes in how sensitive the spider monkeys were to the odorants.

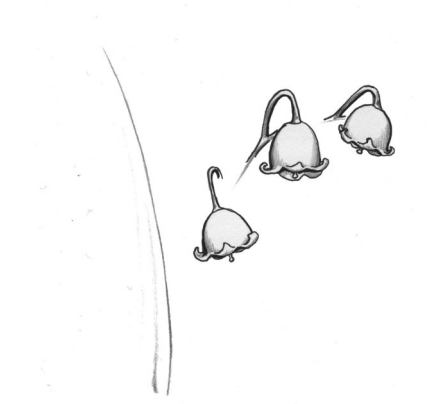
**Spider monkeys** are just as sensitive to aromatic aldehydes as to several other classes of odorants.



# Olfactory sensitivity of spider monkeys for six aromatic aldehydes

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