



Taste responsiveness of white-faced sakis (*Pithecia pithecia*) to five food-associated sour-tasting substances

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INTRODUCTION

Taste responsiveness to different taste qualities is often linked to the dietary specialisation of a species.

White-faced sakis include a large proportion of unripe fruits and seeds in their diet, which makes them an interesting species to study in terms of sour-taste responsiveness.

METHODS

- Four animals participated in the experiments
- Two-bottle preference test of short duration (2 min) was employed in two experiments: a taste preference threshold experiment, and a sour-taste tolerance experiment
- The acids tested were *citric acid*, *ascorbic acid*, *malic acid*, *tannic acid*, and *acetic acid*

CONCLUSIONS

- 1 Despite their regular consumption of unripe fruits, **white-faced sakis are not necessarily less sensitive to sour tastes compared to other primates**
- 2 In terms of sour-taste tolerance, **white-faced sakis display a relatively high tolerance** compared to other primates tested, likely due to the high proportion of unripe fruits they include in their diet
- 3 Consuming unripe fruits **decreases competition from other sympatric frugivorous primates**
- 4 Further studies are required to further investigate the importance of the taste quality sour to different species



RESULTS

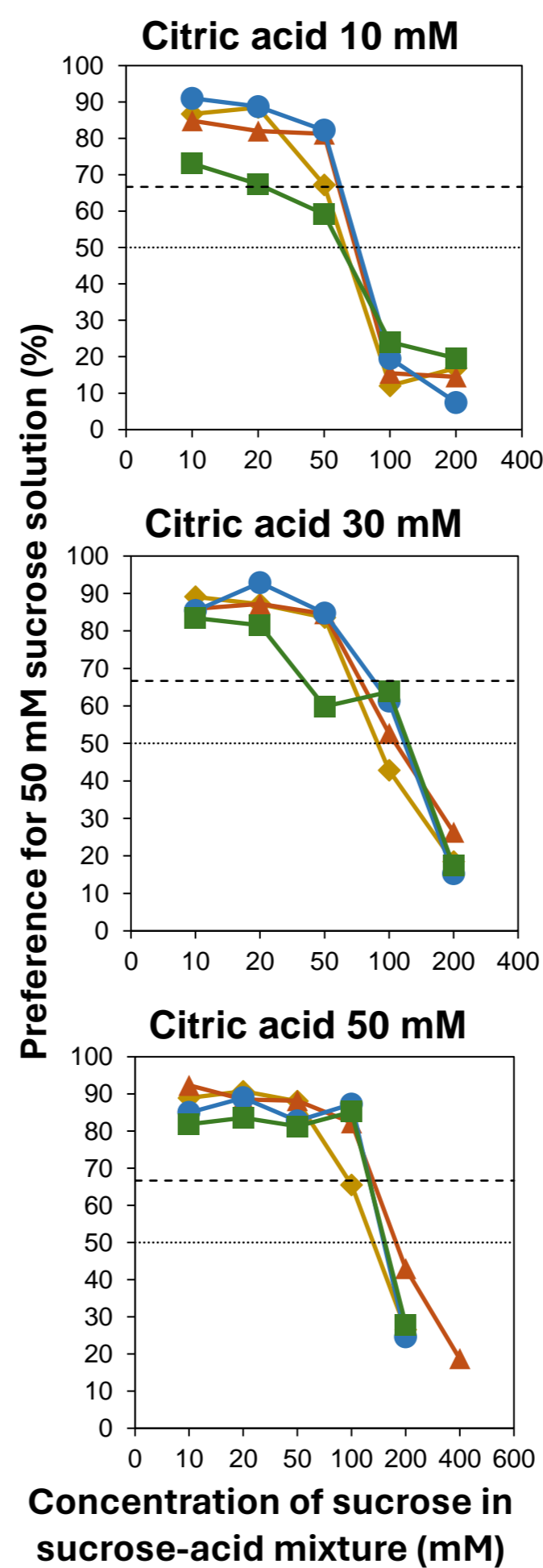
Taste preference threshold

The taste preference threshold of the four white-faced sakis was...

- 1–10 mM for citric acid
- 0.5–20 mM for ascorbic acid
- 2–10 mM for malic acid
- 0.1–1 mM for tannic acid
- 2–20 mM for acetic acid



Sour-taste tolerance



Sour-taste tolerance

The white-faced sakis required...

- 100 mM of sucrose in the 10 mM citric acid mixture
- 200 mM of sucrose in the 30 mM citric acid mixture
- 200 mM of sucrose in the 50 mM citric acid mixture

... to prefer each sucrose-acid mixture over the 50 mM sucrose solution.

Taste responses of four white-faced sakis given a choice between a 50 mM sucrose solution and mixtures of 10 mM, 30 mM, and 50 mM citric acid, respectively, plus various concentrations (10-400 mM) of sucrose.

