

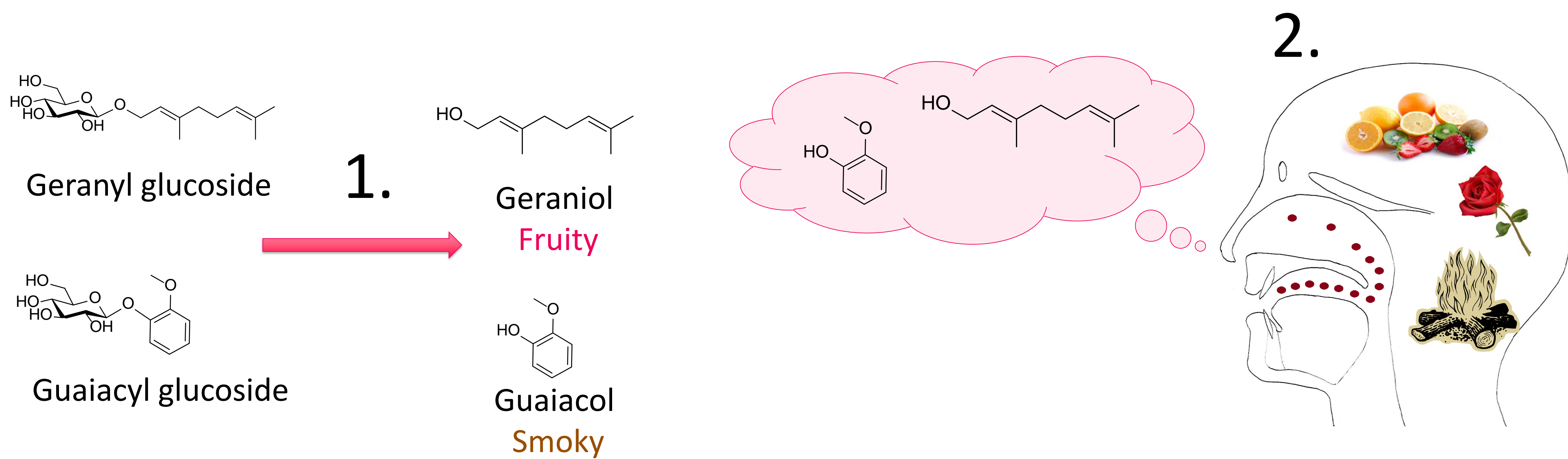
# Why do some people experience flavour from glucosides while others don't?

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**Aim:** To understand what determines flavour perception from glucosides: 1. release of odorant by saliva, or 2. odorant perception?



Glucosides are important varietal precursors, produced in grape berries as non-volatile, odourless compounds which can be broken down by salivary enzymes to release volatile odorants, perceptible retronasally, contributing to persistent flavour.

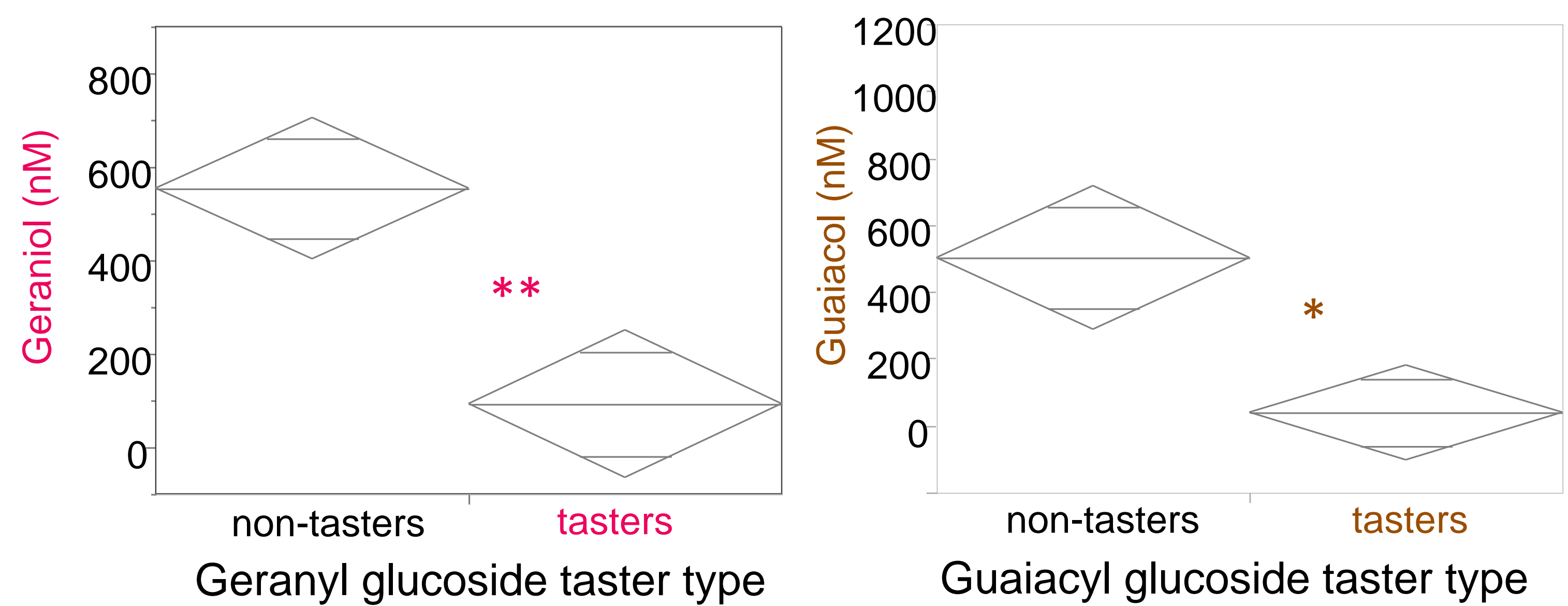
But **not** everyone can perceive flavour from glucosides.

Flavour from two glucosides assessed

- 23 individuals
- Geranyl glucoside (3 mg/L)
  - 11 'tasters' perceived fruity flavour
  - 12 'non-tasters' perceived no flavour
- Guaiacyl glucoside (0.5 mg/L)
  - 16 'tasters' perceived smoky flavour
  - 7 'non-tasters' perceived no flavour
- Triplicate samples
- Compared to water control

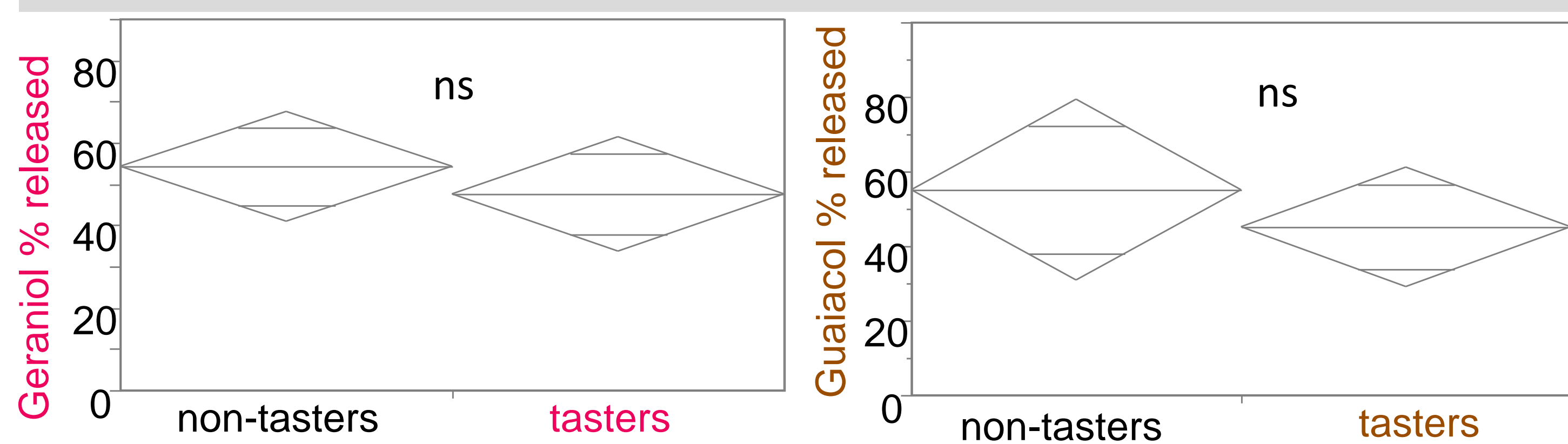


**2. Is the sensory detection threshold of the odorant the key?**



- Detection thresholds of geraniol and guaiacol were significantly lower for tasters than non-tasters

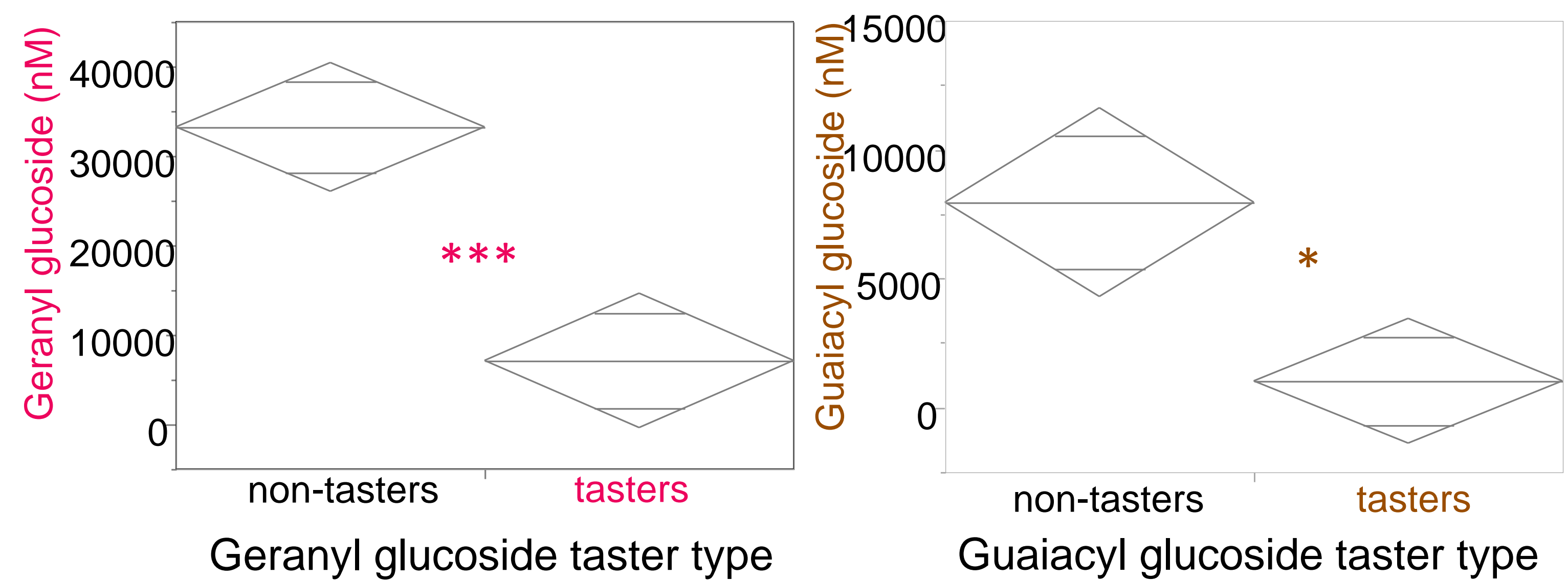
**1. Is flavour from glucosides limited by odorant release by saliva?**



Geranyl glucoside taster type      Guaiacyl glucoside taster type

- Release of odorants from glucosides by incubation with saliva measured in the laboratory
- No significant differences between tasters and non-tasters

✗ **No. Saliva release does not correspond to taster type**



- Detection thresholds of glucosides were significantly lower for tasters than non-tasters

✓ **Yes. Sensory retronasal detection thresholds determine perceived flavour from glucosides**

**Conclusion:**

- Flavour from glucosides is determined by the ability to perceive the odorant and not release by saliva.
- Glycosides are perceptible by most people, in some cases at surprisingly low concentrations.

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