**Strength of sex pheromone predicts same-sex paring behavior**

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**Abstract**

**Keywords**:

**Introduction**

**Methods**

*Termites and experimental arena*

We collected alates of *C. formosanus* and *C. gestroi* using a light-trapping system at dusk between X and Y April 2021 in Broward County (Florida, USA) during synchronized dispersal flights. All alates were collected at a single site. We brought the alates to the laboratory and maintained them on wet cardboard at 28°C. We used individuals who shed their wings by themselves and observed their behaviour within 12 h after the flight. Each individual was used only once.

We performed all observations in an experimental arena made by filling a Petri dish (ø = 140 mm) with moistened plaster. The Petri dish had a clear lid during observations. A video camera above the arena was adjusted so that the arena filled the camera frame. We extracted the coordinates of termite move- ments from all obtained video, using the video-tracking system UMATracker [27]. All data analyses were performed using R v. 4.0.1 [28].

**Results**

**Discussion**

**Data accessibility**

Data that support the findings of this study are available in XXX

**Authors’ contributions**

Conceptualization: N.M.; Methodology: N.M. and S.B.L, Investigation: S.B.L, Formal analysis: N.M., Resources: T.C., Data curation: N.M. and S.B.L; Writing – original draft, N.M.; Writing – review & editing: S.B.L, T.C.

**Competing interests**

The authors declare no competing interest.

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**References**

**Supplemental materials for**

“Termite nest evolution fostered social parasitism by termitophilous rove beetles”

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The file includes

**Fig. S1**. Full time-calibrated phylogenetic tree of termites used in this study alongside their nesting behavior and recorded presence of associated termitophilous rove beetles.

**Fig. S2**. Relationship between research effort on termite host genera and records of associated termitophilous rove beetles. The absence/presence of termitophiles is recorded as 0/1.

**Fig. S3**. Relationship between the species richness of termite genera and the species richness of their associated termitophilous rove beetle communities. (A) The absence/presence of termitophiles is recorded as 0/1.

The list of other materials

**Data S1**. List of papers used in this study to establish the termitophilous rove beetle dataset.

**Data S2**. List of termite genera and their association with termitophilous rove beetle.

**Data S3.** R code and Rdata for the analysis

**Fig. S1**. Full time-calibrated phylogenetic tree of termites used in this study alongside their nesting behavior and recorded presence of associated termitophilous rove beetles.

**Fig. S2**. Relationship between research effort on termite host genera and records of associated termitophilous rove beetles. The absence/presence of termitophiles is recorded as 0/1.

**Fig. S3**. Relationship between the species richness of termite genera and the species richness of their associated termitophilous rove beetle communities. (A) The absence/presence of termitophiles is recorded as 0/1.