
Chemical communication in the fungus-growing termites (Isoptera: Macrotermitinae)

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Abstract

Termites use trail pheromone to regulate foraging activities. In the dominant Chinese fungus-growing termite, *Odontotermes formosanus*, the trail pheromone is comprised of (3Z)-dodecen-1-ol (DOE), and (3Z,6Z)-dodecadien-1-ol (DDE), in ratios related to the context of foraging. When large numbers of labors are needed, the recruitment trail pheromone (DDE) is secreted in higher amounts (Wen et al., 2014). In *Odontotermes* spp, *Ancistrotermes* spp, DDE from the female sternal gland also is used as the sex pheromone for attracting males (Wen et al., 2012, 2015), but males can use additional minor components, such as DOE, to determine sex pairing (Wen et al., 2015). Minor isomeric components in this termites pheromone blend were identified (Wen et al., 2015). Beside the parsimony of structure, pheromones are quantitatively and qualitatively more diversified in the fungus-growing termites, *Odontotermes* spp. and *Ancistrotermes* spp.

Keywords: fungus-growing termites, pheromone, sex-pairing, foraging

References

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