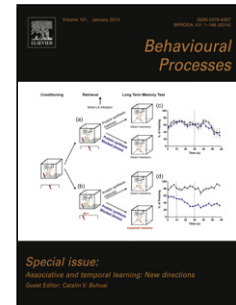


Accepted Manuscript

Title: Two route landmarks are more useful to navigating ant colonies when they are dissimilar

Authors: Edmund R. Hunt, Christopher Kendall, Emma Stanbury, Ana B. Sendova-Franks, Nigel R. Franks



PII: S0376-6357(18)30015-9
DOI: <https://doi.org/10.1016/j.beproc.2018.03.004>
Reference: BEPROC 3623

To appear in: *Behavioural Processes*

Received date: 9-1-2018
Revised date: 28-2-2018
Accepted date: 5-3-2018

Please cite this article as: Hunt ER, Kendall C, Stanbury E, Sendova-Franks AB, Franks NR, Two route landmarks are more useful to navigating ant colonies when they are dissimilar, *Behavioural Processes* (2018), <https://doi.org/10.1016/j.beproc.2018.03.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Two route landmarks are more useful to navigating ant colonies when they are dissimilar

Edmund R. Hunt¹, Christopher Kendall^{1*}, Emma Stanbury^{1*}, Ana B. Sendova-Franks², Nigel R. Franks¹

¹School of Biological Sciences, University of Bristol, BS8 1TQ, U.K.

²Department of Engineering Design and Mathematics, University of the West of England, BS16 1QY, U.K.

*contributed equally

Author for correspondence: Edmund R. Hunt, Department of Engineering Mathematics, University of Bristol, Merchant Venturers Building Office 2.51, Bristol BS8 1UB, UK

email: edmund.hunt@bristol.ac.uk telephone: +44 7816 040337

ORCID: ERH 0000-0002-9647-124X, ABS-F 0000-0001-9300-6986, NRF 0000-0001-8139-9604

Highlights

- House-hunting social insects need to find and navigate to a safe home
- We observed rock ant (*Temnothorax albipennis*) colonies walking to a new nest
- The presence of certain landmark combinations affected how straight the paths were
- Two dissimilar landmarks either side of the route resulted in straighter paths
- The distinctiveness of landmark combinations could influence route decision-making

Abstract

Visual landmarks are important navigational aids to many animals, and when more than one is available their juxtaposition can convey valuable new information to a navigator about progress toward a goal, depending on the landmarks' comparative distinctiveness. We investigated the effect of presenting rock ant colonies (*Temnothorax albipennis*) with identical horizontal landmarks either side of their route, versus one horizontal landmark paired with a sloping landmark, as they navigated to a new nest site. Our findings suggest that ants can obtain more navigational information from a combination of dissimilar landmarks: the average tortuosity of the route taken between old and new

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات