

## Publication list of Patrick Schultheiss (September 2022)

### PEER-REVIEWED

\* First authorship shared

#### 2022

28. **Schultheiss, P\***, Nooten, SS\*, Wang, R, Wong, MKL, Brassard, F & Guénard, B. The abundance, biomass, and distribution of ants on Earth. *Proceedings of the National Academy of Sciences of the USA* 119:e2201550119
27. Nooten, S, Chan, KH, **Schultheiss, P**, Bogar, TA & Guénard, B. Ant body size mediates functional performance and species interactions in carrion decomposer communities. *Functional Ecology* 36:1279-1291

#### 2021

26. **Schultheiss, P** & Guénard, B. Kinematic study of six mangrove ants species (Hymenoptera: Formicidae) reveals different swimming styles and abilities. *Myrmecological News* 31:217-224

#### 2020

25. **Schultheiss, P**, Wystrach, A, Lihoreau, M & Schwarz, S. Insect navigation. *In: Vonk, J and Shackelford, T (eds) Encyclopedia of Animal Cognition and Behavior*. Springer, Cham

#### 2019

24. Nooten, SS, **Schultheiss, P**, Rowe, RC, Facey, SL & Cook, JM. Habitat complexity affects functional traits and diversity of ant assemblages in urban green spaces (Hymenoptera: Formicidae). *Myrmecological News* 29:67-77

#### 2018

23. Buatois, A, Flumian, C, **Schultheiss, P**, Avarguès-Weber, A & Giurfa, M. Transfer of visual learning between a virtual and a real environment in honey bees: the role of active vision. *Frontiers in Behavioral Neuroscience* 12:139
22. Freas, CA & **Schultheiss, P**. How to navigate in different environments and situations: lessons from ants. *Frontiers in Psychology* 9:841
21. Nooten, SS, **Schultheiss, P**, Wright, J, Macdonald, C, Singh, BK, Cook, JM & Power, SA. What shapes plant and animal diversity on urban golf courses? *Urban Ecosystems* 21:565-576

#### 2017

20. Buatois, A, Pichot, C, **Schultheiss, P**, Sandoz, J-C, Lazzari, CR, Chittka, L, Avarguès-Weber, A & Giurfa, M. Associative visual learning by tethered bees in a controlled visual environment. *Scientific Reports* 7:12903
19. **Schultheiss, P\***, Buatois, A\*, Avarguès-Weber, A & Giurfa, M. Using virtual reality to study visual performances of honeybees. *Current Opinion in Insect Science* 24:43-50

## 2016

18. **Schultheiss, P**, Stannard, T, Pereira, S, Reynolds, AM, Wehner, R & Cheng, K. Similarities and differences in path integration and search in two species of desert ants inhabiting a visually rich and a visually barren habitat. *Behavioral Ecology and Sociobiology* 70:1319-1329
17. **Schultheiss, P**, Wystrach, A, Schwarz, S, Tack, A, Delor, J, Nooten, SS, Bibost, A-L, Freas, CA & Cheng, K. Crucial role of ultraviolet light for desert ants in determining direction from the terrestrial panorama. *Animal Behaviour* 115:19-28

## 2015

16. **Schultheiss, P**, Raderschall, CA & Narendra, A. Follower ants in a tandem pair are not always naïve. *Scientific Reports* 5:10747
15. **Schultheiss, P**, Cheng, K & Reynolds, AM. Searching behavior in social Hymenoptera. *Learning and Motivation* 50:59-67

## 2014

14. Schwarz, S, Julle-Daniere, E, Morin, L, **Schultheiss, P**, Wystrach, A, Ives, J & Cheng, K. Desert ants (*Melophorus bagoti*) navigating with robustness to distortions of the natural panorama. *Insectes Sociaux* 61:371-383
13. Julle-Daniere, E, **Schultheiss, P**, Wystrach, A, Schwarz, S, Nooten, SS, Bibost, A-L & Cheng, K. Visual matching in the orientation of desert ants (*Melophorus bagoti*): The effect of changing skyline height. *Ethology* 120:783-792
12. Wystrach, A, Schwarz, S, **Schultheiss, P**, Baniel, A & Cheng, K. Multiple sources of celestial compass information in the Central Australian desert ant *Melophorus bagoti*. *Journal of Comparative Physiology A*, 200:591-601
11. Cheng, K, **Schultheiss, P**, Schwarz, S, Wystrach, A & Wehner, R. Beginnings of a synthetic approach to desert ant navigation. *Behavioural Processes* 102:51-61
10. Reynolds, AM, **Schultheiss, P** & Cheng, K. Does the Australian desert ant *Melophorus bagoti* approximate a Lévy search by an intrinsic bi-modal walk? *Journal of Theoretical Biology* 340:17-22

## 2013

9. **Schultheiss, P** & Nooten, SS. Foraging patterns and strategies in an Australian desert ant. *Austral Ecology* 38:942-951 (incl. cover image).
8. Reynolds, AM, **Schultheiss, P** & Cheng, K. Are Lévy flight patterns derived from the Weber-Fechner law in distance estimation? *Behavioral Ecology and Sociobiology* 67:1219-1226
7. **Schultheiss, P**, Wystrach, A, Legge, ELG & Cheng, K. Information content of visual scenes influences systematic search of desert ants. *Journal of Experimental Biology* 216:742-749
6. **Schultheiss, P** & Cheng, K. Finding food: outbound searching behavior in the Australian desert ant *Melophorus bagoti*. *Behavioral Ecology* 24:128-135

## 2012

5. **Schultheiss, P\***, Schwarz, S\*, Cheng, K & Wehner, R. Foraging ecology of an Australian salt-pan desert ant (genus *Melophorus*). *Australian Journal of Zoology* 60:311-319
4. Schwarz, S\*, **Schultheiss, P\*** & Cheng, K. Visual cue learning and odometry in guiding the search behavior of desert ants, *Melophorus bagoti*, in artificial channels. *Behavioural Processes* 91:298-303

2011

3. **Schultheiss, P** & Cheng, K. Finding the nest: inbound searching behaviour in the Australian desert ant, *Melophorus bagoti*. *Animal Behaviour* 81:1031-1038
2. Wystrach, A, Schwarz, S, **Schultheiss, P**, Beugnon, G & Cheng, K. Views, landmarks, and routes: how do desert ants negotiate an obstacle course? *Journal of Comparative Physiology A* 197:167-179

2010

1. **Schultheiss, P**, Schwarz, S & Wystrach, A. Nest relocation and colony founding in the Australian desert ant, *Melophorus bagoti* Lubbock (Hymenoptera: Formicidae). *Psyche* 2010:435838

## THESES

- Schultheiss P** (2012). Foraging ecology of the Australian desert ant *Melophorus bagoti*. PhD Thesis, Macquarie University, Sydney. 176 pp.
- Schultheiss P** (2006). Vergleich der Diversität von Wildwiesen und extensiv genutzten Mähwiesen im Taunus [Comparison of the diversity of game-meadows and extensively used hay meadows in the Taunus]. Diploma Thesis, J.W.Goethe-University, Frankfurt am Main. 107 pp.+Appendix

## OTHER

- Schultheiss P** (2014). Life in the furnace. *Wildlife Australia* 51(3):10-13