

Peer-reviewed articles

2022

1. Yilmaz A, Gagnon Y, Byrne M, Foster JJ, **Baird E**, Dacke M 2022 The balbyter ant *Camponotus fulvopilosus* combines several navigational strategies to support homing when foraging in the close vicinity of its nest *Front Integr Neuro* accepted 14 July 2022
2. Yilmaz A, el Jundi B, Belusic G, Byrne M, **Baird E**, Dacke M 2022 Mechanisms of spectral orientation in a diurnal dung beetle *Phil Trans Roy Soc B* doi: 10.1098/rstb.2021.0287
3. Stöckl A, Grittner R, Taylor G, Rau C, Bodey A, Kelber A, **Baird E*** 2022 Allometric scaling of a superposition eye optimizes sensitivity and acuity in large and small hawkmoths *Proc R Soc B* doi: 10.1098/rspb.2022.0758
* senior author and author for correspondence
4. Gérard M, **Baird E**, Breeze T, Dominik C, Michez D 2022 Impact of crop exposure and agricultural intensification on the phenotypic variation of bees *Agrice, Ecosyst Environ* doi: 10.1016/j.agee.2022.108107
5. Gérard M, Cariou B, Henrion M, Descamps C, **Baird E*** 2022 Exposure to elevated temperature during development affects bumblebee foraging behavior *Behav Ecol* doi: 10.1093/behco/amac045
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6. Gérard M, Amiri A, Cariou B, **Baird E*** 2022 Short-term exposure to heatwave-like temperatures affects learning and memory in bumblebees *Global Change Biology* doi: 10.1111/gcb.16196
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7. Tichit P & Zhou T, Kjer HM, Andersen Dahl V, BJORHOLM DAHL A, **Baird E*** 2022 *InSegtCone*: interactive segmentation of crystalline cones in compound eyes *BMC Zoology* 7 10 doi: 10.1186/s40850-021-00101-w
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8. Perl CD, Johansen ZB, Moradinour Z, Guiraud M, Restrepo CE, Jie VW, Miettinen A, **Baird E*** 2022 Heatwave-like events during development are sufficient to impair bumblebee worker responses to sensory stimuli *Front Ecol Evol* doi: 10.3389/fevo.2021.776830
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9. Perl CD, Johansen ZB, Jie VW, Moradinour Z, Guiraud M, Restrepo CE, Miettinen A, **Baird E*** 2022 Substantial variability in morphological scaling among bumblebee colonies *R Soc Open Sci* 9:211436 doi: 10.1098/rsos.211436
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10. Grittner R, **Baird E**, Stöckl A 2022 Spatial tuning of translational optic flow responses in hawkmoths of varying body size *J Comp Physiol A* doi: 10.1007/s00359-021-01530-1
11. Jezeera AM, Tichit P, Balamurali GS, **Baird E**, Kelber A, Somanathan H 2022 Spatial resolution and sensitivity of the eyes of the stingless bee *Tetragonula iridipennis* *J Comp Physiol A* doi: 10.1007/s00359-021-01521-2
12. Yilmaz A, Gagnon Y, Byrne M, **Baird E***, Dacke M* 2022 Cold-induced anesthesia impairs path integration memory in dung beetles *Current Biology* doi: 10.1016/j.cub.2021.10.067

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13. Guiraud M, Cariou B, Henrion M, **Baird E***, Gerard M* 2021 Higher developmental temperature increases queen production and decreases worker body size in the bumblebee *Bombus terrestris* *J Hymenopt Res* 88:39-49 doi: 10.3897/jhr.88.73532
14. Moradinour Z, Wiklund C, Wen Jie V, Restrepo E, Gotthard C, Miettinen A, **Baird E*** 2021 Sensory organ investment in the butterfly *Pieris napi* varies with body size and sex *Insects* 12:1064 doi: 10.3390/insects12121064
15. Marathe S, Ziesche R, Das G, Schroeder SLM, **Baird E**, Christoph Rau 2021 High-speed grating interferometry *Proc SPIE 118400: Developments in X-ray Tomography* doi: 10.1117/12.2598481
16. Foster JJ, Tocco C, Smolka J, Khaldy L, **Baird E**, Byrne MJ, Nilsson DE, Dacke M 2021 Light pollution forces a change in dung beetle orientation behavior *Current Biology* 31:3935-42 doi: 10.1016/j.cub.2021.06.038
17. Romell J, Wen Jie V, Miettinen A, **Baird E**, Hertz H 2021 Laboratory phase-contrast nanotomography of unstained *Bombus terrestris* compound eyes *J Microsc* 283:29-40 doi: 10.1111/jmi.13005
18. **Baird E***, Boeddeker N, Srinivasan MV 2021 The effect of optic flow cues on honeybee flight control in wind *Proc R Soc B* 288:20203051 doi: 10.1098/rspb.2020.3051

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19. Tichit P, Alves dos Santos I, Dacke M, **Baird E*** 2020 Accelerated landing in stingless bees are triggered by visual threshold cues *Biol Lett* doi:10.1098/rsbl.2020.0437
20. Dacke M, el Jundi B, Gagnon Y, Yilmaz A, Byrne M, **Baird E*** 2020 A dung beetle that path integrates without the use of landmarks *Anim Cogn* doi: 10.1007/s10071-020-01426-8
21. Dacke M, **Baird E**, el Jundi B, Warrant E, Byrne M 2020 How dung beetles steer straight *Ann Rev Entomol* doi: 10.1146/annurev-ento-042020-102149
22. **Baird E***, Tichit P, Guiraud M 2020 The neuroecology of bee flight behaviours *Curr Op Ins Sci* doi: 10.1016/j.cois.2020.07.005
23. **Baird E*** 2020 Obstacle avoidance in bumblebees is robust to changes in light intensity *Anim Cogn* **23** 1081-1086 doi: 10.1007/s10071-020-01421-z
24. Dominoni DM, Halfwerk W, **Baird E**, Buxton R, Fernandez-Jurcic E, Fristrup K, McKenna M, Mennitt D, Perkin E, Seymoure BM, Stoner DC, Tennessen J, Toth CA, Tyrell LP, Wilson A, Francis CD, Carter NH, Barber J 2020 What conservation biology can benefit from sensory ecology *Nat Ecol Evol* doi: 10.1038/s41559-020-1135-4

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26. Taylor G, Hall S, Gren J, **Baird E*** 2020 Exploring the visual world of fossilized and modern fungus gnat eyes (Diptera: Keroplatidae) with X-ray microtomography *J Roy Soc Int* **17**:20170750 doi:10.1098/rrsif.2019.0750
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27. Leung B, Bijma J, **Baird E**, Dacke M, Gorb S, Manoonpong P 2020 Rules for the leg coordination of dung beetle ball rolling behaviour *Sci Rep* **10** doi: 10.1038/s41598-020-66248-7

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29. Lecoer J, Dacke M, Floreano D*, **Baird E*** 2019 The role of optic flow pooling in insect flight control in cluttered environments *Sci Rep* **9**:7707 doi: 10.1038/s41598-019-44187-2
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30. Dacke M, Bell ATA, Foster JJ, **Baird E**, Strube-Bloss MF, Byrne M, el Jundi B 2019 Multimodal cue integration in the dung beetle compass *PNAS* **116**:1904308116 doi: 10.1073/pnas.1904308116
31. Khaldy L, Tocco C, Byrne M, **Baird E**, Dacke M 2019 Straight-line orientation in the woodland-living beetle *Sisyphus fasciculatus* *J Comp Physiol A* doi: 10.1007/s00359-019-01331-7
32. Wilby D, Aarts T, Tichit P, Bodey A, Rau C, Taylor G*, **Baird E*** 2019 Using micro-CT techniques to explore the role of sex and hair in the functional morphology of bumblebee (*Bombus terrestris*) ocelli *Vis Res* **158**:100-108 doi: 10.1016/j.visres.2019.02.008
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33. el Jundi B, **Baird E**, Byrne M, Dacke M 2019 The brain behind straight-line orientation in dung beetles *J Exp Biol* **222**:jeb192450 doi: 10.1242/jeb.192450
34. Foster J, Kirwan J, el Jundi B, Smolka J, Khaldy L, **Baird E**, Byrne M, Nilsson D-E, Johnsen S, Dacke M. 2019 Orienting to polarized light at night—matching lunar skylight to performance in a nocturnal beetle *J Exp Biol* **222**:jeb188532 doi: 10.1242/jeb.188532
35. J Ignasov, A Kapilavai, K Filonenko, JC Larsen, **E Baird**, J Hallam, S Büsse, A Kovalev, S Gorb, L Duggen, P Manoonpong 2019 Bio-inspired design and movement generation of dung beetle-like legs *Artificial Life and Robotics* **23**:555-563

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36. Chakravarthi A, Rajus S, Kelber A, Dacke M, **Baird E*** 2018 Differences in spatial resolution and contrast sensitivity of flight control in the honeybees *Apis cerana* and *Apis mellifera* *J Exp Biol* **221**:184267 2018 doi: 10.1242/jeb.184267
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37. Thor M, Strøm-Hansen, Larsen L, Kovalev A, Gorb S, **Baird E**, Manoonpong P.

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38. Linander N, Dacke M, **Baird E**, Hempel de Ibarra N. 2018 The role of spatial texture in visual control of bumblebee learning flights *J Comp Physiol A* 204:737 doi: 10.1007/s00359-018-1274-0
39. Lecoecur J, **Baird E***, Floreano D*. 2018 Spatial encoding of translational optic flow in planar scenes by elementary motion detector arrays *Sci Rep* 5821 doi: 10.1038/s41598-018-24162-z

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41. Linander N, **Baird E***, Dacke M* 2017 How bumblebees use lateral and ventral optic flow cues for position control in environments of different proximity *J Comp Physiol A* 203:343 doi: 10.1007/s00359-017-1173-9

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46. Linander N, **Baird E***, Dacke M 2016 Bumblebee flight performance in environments of different proximity *J Comp Physiol A* 202:97-103 doi: 10.1007/s00359-015-1055-y
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Other articles

Baird E *, Yilmaz A 2022 Insect dorsal ocelli: A brief overview *a book section to be published in the Springer Series in Vision Research – Distributed Vision: From simple sensors to sophisticated combination eyes Book M and Buschbeck volume eds, Marshall J and Collin S series eds.*

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