

Dr James Gilbert

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EMPLOYMENT HISTORY

2015-present University of Hull, UK (Lecturer 2015-24; Senior Lecturer 2024-)
2012-2015 University of Sussex, UK (Marie Curie International Outgoing Fellow)
2011-2012 University of Sydney, Australia (Postdoctoral Research Associate)
2010-2011 University of Derby, UK (Associate Lecturer)
2007-2009 University of Maryland, USA (Postdoctoral Research Associate)

EDUCATION

2003-2007 PhD (Zoology), University of Cambridge, UK
1999-2002 BA Hons (1st), Natural Sciences [Zoology], Univ. of Cambridge, UK
1995-1998 GCSEs/A-levels, Ecclesbourne School, Duffield, Derbyshire UK

RESEARCH INTERESTS

I use experimental lab- and field-based as well as phylogenetic comparative methods to study the evolution of parental care and social behaviour, primarily in insects; how these interactions shape, and are shaped by, insects' nutritional environments, and the pressures exerted upon insects by anthropogenic change.

RESEARCH GRANTS

2024-2027 BBSRC New Investigator Grant (PI, £846,428/36 months)
2022-2025 Natural England (Co-I, £136,404)
2022-2024: Forestry England (Co-I, £4,000)
2022-present: Ferens Trust (PI, £3,058)
2021-2022: BugLife (Co-I, £13,309)
2020-2021: University of Hull Research Support Fund (Co-I, £2,500)
2017-2019: University of Hull Research Support Fund (Co-I, £4,000)
2015-2019: ASAB research award (PI, £5,440)
2012-2015: Marie Curie International Outgoing Fellowship (PI, €282,800/36 months).
2007: Balfour-Browne Fund (£2,000); Hanne & Torkel Weis-Fogh Fund (£500)
2006: Research Award, Board of Graduate Studies, U Cambridge (£1,500)
2005: Chibnall Travelling Scholarship (£500); Cambridge Philosophical Society (£1,500)
2003-2007: NERC PhD Studentship

PROFESSIONAL MEMBERSHIP AND ACTIVITIES

Editorial boards: Associate Editor, *Ecological Entomology*

Membership: British Ecological Society, Association for the Study of Animal Behaviour, Royal Entomological Society, International Society for Behavioural Ecology

Peer review: >20 journals including *Nat. Comms*, *Nat. Methods*, *Proc. B.*, *Funct. Ecol.*, *Mol. Ecol.*

EXTERNAL EXAMINING

2022-present (ends 2025): External examiner, subject and course level, University of Manchester

2020-2023: External examiner, subject and course level, Harper Adams University

Postgraduate theses: PhD (1), MSc (3)

UNDERGRADUATE TEACHING

Programme Director for Zoology (2018-2021)

Led: L7 Statistical programming in R, L6 Insect Biology, L6 Invertebrate Zoology

Co-led: L6 Sex and Social Behaviour, L6 Concepts in Ecology

Contributed: L6 Wildlife Management, L6 Topics in Biodiversity & Evolution, L6 Reviews in Biology, L6 20- and 40-credit Research Projects, L5 Professional Skills for Biosciences, L5 Behavioural Ecology, L4 Skills for Biology (taught L4 statistics), L4 Ecology and Evolution

POSTGRADUATE TEACHING

PhD students: 2 completed (2019, 2021), 1 current (2022-2025)

MSc students: 3 completed (2018, 2019, 2021), 1 current (2021-2023)

SELECTED RELEVANT PUBLICATIONS

32 peer-reviewed papers, first/last/corresponding author on 15. One paper selected for Faculty of 1000. One paper shortlisted for Haldane Prize. H-index 19 (Google Scholar retrieved 6/1/25)

In prep, submission imminent.

Smith JL, Duncan EJ, Gilbert JDJ. Lasting Impacts of Sublethal Pre-pupal Heatwaves on the Fertility of the Solitary Bee, *Osmia bicornis*. Submitted to *J Thermal Biology*.

Cowgill C, Gilbert JDJ, Convery I, Deecke V, Lawson Handley L. Multi-tool monitoring: integrating non-invasive methods for ecological monitoring in terrestrial rewilding. In prep for submission at *Biological Conservation*.

Howard C, Austin AJ, Gilbert JDJ. Moving targets: Nutritional geometry of development in a mass provisioned solitary bee. In prep for submission at *Journal of Experimental Biology*.

Accepted

Gilbert JDJ, Craig-Jackson J, Morrell LJ, Gilbert FS. Internet images reveal bumblebee-mimicking hoverflies have evolved to follow flower colour preferences of their models. *Proceedings B*, in press (preprint at BioRxiv, <https://doi.org/10.1101/2025.02.03.634701>).

Lindstedt C, Boncoraglio G, Cotter S, Gilbert JDJ, Kilner R. Maternal care shapes an aposematic display and provides lifelong protection against predators. *Behavioral Ecology*, in press.

Cowgill C, Gilbert JDJ, Convery I, Lawson Handley L. 2025. Monitoring terrestrial rewilding with environmental DNA metabarcoding: a systematic review of current trends and recommendations. *Frontiers in Conservation Science* 5, 1473957.

Gilbert JDJ, 2024. Investigating the role of non-helpers in group living thrips. *Journal of Animal Ecology* 93(12):1960-71

Austin A, Gilbert JDJ. 2021. Solitary bee larvae prioritize carbohydrate over protein in parentally provided pollen. *Functional Ecology*, 35(5): 1069-80. **Shortlisted for 2021 Haldane Prize**

Tainsh F, Woodmansey S, Austin A, Bagnall T, Gilbert JDJ. 2020. Sporopollenin as a dilution agent in artificial diets for solitary bee larvae. *Apidologie*, 52, 101–112.

Feeney W, Brooker R, Johnston L, Gilbert, JDJ, and 5 others. 2019. Predation drives recurrent convergence of an interspecies mutualism. *Ecology Letters* 22(2): 265-264.

Gilbert JDJ, Wells A, Simpson SJ. 2018. Skew in ovarian activation depends on domicile size in a facultatively social thrips. *Scientific Reports* 8:3597.

Nicholls E, Fowler R, Niven JE, Gilbert JDJ, Goulson D. 2017. Larval exposure to field-realistic concentrations of clothianidin has no effect on development rate, over-winter survival or adult metabolic rate in a solitary bee, *Osmia bicornis*. *PeerJ*, 5:e3417.

Santos ESA, Bueno PP, Gilbert JDJ, Machado G. 2016. Macroecology of parental care in arthropods: higher mortality risk leads to higher benefits of offspring protection in tropical climates. *Biol. Rev.* 92(3):1688-1701

Gilbert JDJ, Manica A. 2015. Evolution of parental care in insects: a test of current hypotheses. *Evolution* 69(5):1255-1270.

Grinsted L, Bilde T, Gilbert JDJ. 2015. Questioning the evidence for group selection in social spiders. *Nature* 524(7566), E1-E3.

Gilbert JDJ. 2014. Thrips domiciles protect against desiccation in an arid environment. *Behav. Ecol.* 25(6):1338-1346.

Vahed K, Gilbert JDJ, et al. 2014. Functional equivalence of grasping cerci and nuptial food gifts in promoting ejaculate transfer in katydids. *Evolution* 68(7): 2052–2065.

Gilbert JDJ, Simpson SJ. 2013. Natural history of *Dunatothrips aneurae* (Thysanoptera: Phlaeothripinae), a species with facultative pleometrosis. *Biol. J. Linn. Soc.*, 109(4):802-816.

Gilbert JDJ, Mound LA, Simpson SJ. 2012. Biology of a new species of socially parasitic thrips (Thysanoptera: Phlaeothripidae) inside *Dunatothrips* domiciles, with evolutionary implications for inquiline in *Acacia* thrips. *Biol. J. Linn. Soc.*, 107: 112-22.

- Gilbert JDJ, Fagan WF. 2011. Contrasting mechanisms of proteomic nitrogen thrift in *Prochlorococcus*. *Mol. Ecol.*, 20(1):92-104. *Accompanied by a Perspective article*
- Gilbert JDJ. 2011. Insect dry weight: shortcut to a difficult quantity using museum specimens. *Fla. Ent.*, 94(4):964-970.
- Gilbert JDJ, Manica A. 2010. Parental care trade-offs and life history relationships in insects. *Am. Nat.*, 176(2):212-226. *Selected for Faculty of 1000*
- Vahed K, Parker D, Gilbert JDJ. 2010. Larger testes are associated with higher levels of polyandry, but smaller ejaculate volumes, across bushcricket species (Tettigoniidae). *Biol. Lett.*, 7(2):261-264.
- Gilbert JDJ, Thomas LK, Manica A. 2010. Quantifying the benefits and costs of parental care in assassin bugs. *Ecol. Entomol.* 35(5):639-651.
- Gilbert JDJ, Manica A. 2009. Brood conspicuousness and clutch viability in male-caring assassin bugs (*Rhinocoris tristis*). *Ecol. Entomol.* 34 (2): 176-182.
- Hambäck PA, Gilbert JDJ, et al. 2009. Effects of body size, trophic mode and larval habitat on dipteran stoichiometry: A regional comparison. *Oikos* 118: 615-623.