

Tom Rhys Bishop CV

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EDUCATION

- Oct 2012 – Mar 2016 **University of Liverpool, UK**
PhD in Ecology
- Oct 2011 – Sep 2012 **Imperial College London, UK**
MRes Entomology *Distinction*
- Oct 2008 – Jun 2011 **Lady Margaret Hall, University of Oxford, UK**
BA (Hons) Biological Sciences *1st Class*
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APPOINTMENTS

- Oct 2018 – present **University of Pretoria, South Africa**
Dept. of Zoology and Entomology
Extraordinary Lecturer (3-year contract)
- May 2018 – present **University of Liverpool, UK**
School of Environmental Sciences
Leverhulme Early Career Research Fellow
- Aug 2016 – Apr 2018 **University of Pretoria, South Africa**
Centre for Invasion Biology, Dept. of Zoology & Entomology
Vice-Chancellor's Postdoctoral Research Fellow
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SCIENTIFIC PUBLICATIONS

* publications where I am contact author

2019

Bishop, T.R.*, Robertson, M.P., Gibb, H., van Rensburg, B.J., Braschler, B., Chown, S.L., Foord, S.H., Lamy, K., Munyai, T.C., Okey, I., Tshivhandekano, P.G., Werenkraut, V. and Parr, C.L. Thermoregulatory traits combine with range shifts to alter the future of montane ant assemblages. *Global Change Biology*, (accepted)

2018

Arnan, X., Andersen, A.N., Gibb, H., Parr, C.L., Sanders, N.J., Dunn, R.R., Angulo, E., Baccaro, F.B., **Bishop, T.R.**, Boulay, R., Castracani, C., Del Toro, I., Delsinne, T., Donoso, D.A., Elten, E.K., Enriquez, M.L., Fayle, T.M., Fitzpatrick, M.C., Gómez, C., Gove, A., Groc, S., Grossman, B.F., Guenard, B., Gunawardene, N., Heterick, B., Hoffmann, B., Janda, M., Jenkins, C., Klimes, P., Lach, L., Laeger, T., Leponce, M., Lucky, A., Menke, S., Mezger, D., Moses, J., Munyai, T.C., Paknia, O., Pearce-Duvet, J., Pfeiffer, M., Philpott, S.M., Souza, J., Tista, M., Vasconcelos, H.L. & Retana, J. Dominance-diversity relationships in ant communities differ with invasion. *Global Change Biology*, 24: 4614-4625

Nowrouzi, S., Andersen, A.N., **Bishop, T.R.** and Robson, S.K.A. (2018) Is thermal limitation the primary driver of elevational distributions? Not for montane rainforest ants in the Australian Wet Tropics. *Oecologia*, 188: 333-342

Gibb, H., Sanders, N.J., Dunn, R.R., Arnan, X., Vasconcelos, H.L., Donoso, D.A., Andersen, A.N., Silva, R.R., **Bishop, T.R.**, Gomez, C., Grossman, B.F., Yusah, K.M., Luke, S.H., Pacheco, R., Pearce-Duvet, J., Retana, J., Tista, M. & Parr, C.L. (2018) Habitat disturbance selects against both small and large species across varying climates. *Ecography*, 41:1184-1193

2017

Bishop, T.R.* (2017), Taxonomic and functional ecology of montane ants. *Frontiers of Biogeography*, 9

Parr, C.L., Dunn, R.R., Sanders, N.J., Weiser, M.D., Photakis, M., **Bishop, T.R.**, Fitzpatrick, M.C., Arnan, X., Baccaro, F., Brandão, C.R.F., Chick, L., Donoso, D.A., Fayle, T.M., Gómez, C., Grossman, B., Munyai, T.C., Pacheco, R., Retana, J., Robinson, A., Sagata, K., Silva, R.R., Tista, M., Vasconcelos, H., Yates, M., and Gibb, H. (2017), GlobalAnts: a new database on the geography of ant traits (Hymenoptera: Formicidae). *Insect Conservation and Diversity*, 10: 5-20

Bishop, T.R.*, Robertson, M.P., van Rensburg, B.J. and Parr, C.L. (2017), Coping with the cold: minimum temperatures and thermal tolerances dominate the ecology of mountain ants. *Ecological Entomology*, 42: 105-114 (awarded best paper published in *Ecological Entomology* during 2016/2017)

Gibb, H., Dunn, R.R., Sanders, N.J., Grossman, B.F., Photakis, M., Abril, S., Agosti, D., Andersen, A.N., Angulo, E., Armbrrecht, I., Arnan, X., Baccaro, F.B., **Bishop, T.R.**, Boulay, R., Brühl, C., Castracani, C., Cerda, X., Del Toro, I., Delsinne, T., Diaz, M., Donoso, D.A., Ellison, A.M., Enriquez, M.L., Fayle, T.M., Feener, D.H., Fisher, B.L., Fisher, R., Fitzpatrick, M.C., Gómez, C., Gotelli, N.J., Gove, A., Grasso, D.A., Groc, S., Guenard, B., Gunawardene, N., Heterick, B., Hoffmann, B., Janda, M., Jenkins, C., Kaspari, M., Klimes, P., Lach, L., Laeger, T., Lattke, J., Leponce, M., Lessard, J.P., Longino, J., Lucky, A., Luke, S.H., Majer, J., McGlynn, T.P., Menke, S., Mezger, D., Mori, A., Moses, J., Munyai, T.C., Pacheco, R., Paknia, O., Pearce-Duvet, J., Pfeiffer, M., Philpott, S.M., Resasco, J., Retana, J., Silva, R.R., Sorger, M.D., Souza, J., Suarez, A., Tista, M., Vasconcelos, H.L., Vonshak, M., Weiser, M.D., Yates, M., and Parr, C.L. (2017), A global database of ant species abundances, *Ecology*, 98: 883-884

2016

Bishop, T.R.*, Robertson, M.P., Gibb, H., van Rensburg, B.J., Braschler, B., Chown, S.L., Foord, S.H., Munyai, T.C., Okey, I., Tshivhandekano, P.G., Werenkraut, V. and Parr, C.L. (2016), Ant assemblages have darker and larger members in cold environments. *Global Ecology and Biogeography*, 25: 1489-1499

Schofield, S.F., **Bishop, T.R.*** and Parr, C.L. (2016), Morphological characteristics of ant assemblages differ among contrasting biomes. *Myrmecological News*, 23: 129-137

Májeková, M., Paal, T., Plowman, N.S., Bryndová, M., Kasari, L., Norberg, A., Weiss, M., **Bishop, T.R.**, Luke, S.H., Sam, K., Le Bagousse-Pinguet, Y., Lepš, J., Götzenberger, L. and de Bello, F. (2016), Evaluating functional diversity: missing trait data and the importance of species abundance structure and data transformation. *PLoS ONE* 11(2): e0149270.

2015

Gibb, H., Sanders, N.J., Dunn, R.R., Watson, S., Photakis, M., Abril, S., Andersen, A.N., Angulo, E., Armbrrecht, I., Arnan, X., Baccaro, F.B., **Bishop, T.R.**, Boulay, R., Castracani, C., Del Toro, I., Delsinne, T., Diaz, M., Donoso, D.A., Enriquez, M.L., Fayle, T.M., Feener, D.H., Fitzpatrick, M.C., Gómez, C., Grasso, D.A., Groc, S., Heterick, B., Hoffmann, B.D., Lach, L., Lattke, J., Leponce, M., Lessard, J.P., Longino, J., Lucky, A., Majer, J., Menke, S.B., Mezger, D., Mori, A., Munyai, T.C., Paknia, O., Pearce-Duvet, J., Pfeiffer, M., Philpott, S.M., de Souza, J.L.P., Tista, M., Vasconcelos, H.L., Vonshak, M. and Parr, C.L. (2015), Climate mediates the effects of disturbance on ant assemblage structure. *Proceedings of the Royal Society B*, 282: 20150418.

Bishop, T.R.*, Robertson, M.P., van Rensburg, B.J. and Parr, C.L. (2015), Contrasting species and functional beta diversity in montane ant communities. *Journal of Biogeography*, 42: 1776–1786.

Ewers, R.M., Boyle, M.J.W., Gleave, R., Plowman, N.S., Benedick, S., Bernard, H., **Bishop, T.R.**, Bakhtiar, E.Y., Chey, V.K., Chung, A.Y.C., Davies, R.G., Edwards, D.P., Eggleton, P., Fayle, T.M., Hardwick, S.R., Homathevi, R., Kitching, R.L., Khoo, M.S., Luke, S.L., March, J.J., Nilus, R., Pfeifer, M., Rao, S.V., Sharp, A.C., Snaddon, J.L., Stork, N.E., Struebig, M.J., Wearn, O.R., Yusah, K.M. and Turner E.C. (2015) Logging cuts invertebrate dominance of tropical rainforest ecosystem functions. *Nature Communications*, 6.

2014

Bishop, T.R.*, Robertson, M.P., van Rensburg, B.J. and Parr, C.L. (2014), Elevation-diversity patterns through space and time: ant communities of the Maloti-Drakensberg Mountains of southern Africa. *Journal of Biogeography*, 41 (12): 2256-2268.

2013

Bishop, T. R.*, Botham, M. S., Fox, R., Leather, S. R., Chapman, D. S. and Oliver, T. H. (2013), The utility of distribution data in predicting phenology. *Methods in Ecology and Evolution*, 4 (11): 1024–1032.

Manuscripts in review

Gaudard, C., Robertson, M.P. and **Bishop, T.R.*** Low levels of intraspecific trait variation in a keystone invertebrate group. (*Oecologia*).

Joseph, G.S., Muluvhahothe, M.M., Seymour, C.L., Munyai, T.C., **Bishop, T.R.** and Foord, S.H. Prioritising conservation in biomes with narrow endemism: stability of Afromontane ant diversity decreases across an elevation gradient. (*Global Ecology and Conservation*).

Boyle, M.J.W., **Bishop, T.R.**, Luke, S.H., Hardwick, S.R., Lane-Shaw, R.I., Pfeifer, M., van Breugel, M., Evans, T.A., Chung, A.Y.C. and Ewers R.M. Interactions between microclimate and physiology shape rainforest ant communities after disturbance and conversion to oil palm (*Ecology Letters*).

Law, S.J., **Bishop, T.R.**, Eggleton, P., Griffiths, H.M., Ashton, L.A. and Parr, C.L. Darker ants dominate the canopy: testing macroecological hypotheses for patterns in colour along a microclimatic gradient. (*Journal of Animal Ecology*).

TALKS

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| July 2017 | Zoological and Entomological Societies of Southern Africa Joint Congress, Pretoria, South Africa
<i>Life on the Dragon's Back: The cold, not the heat, limits the distribution and behaviour of montane ants</i> |
| December 2015 | Annual Meeting of the British Ecological Society, Edinburgh, United Kingdom
<i>Global variation in ant colour is controlled by temperature and body size</i> |
| June 2015 | EU Macroecology Meeting, University of Copenhagen, Denmark
<i>The colour of ants</i> |
| July 2014 | 17th IUSSI Congress, Cairns, Australia &
Departmental Seminar, School of Biological Sciences, University of Queensland, Australia |

Taxonomic and functional beta diversity of montane ant communities

- March 2014 Departmental Seminar, Zoology and Entomology, University of Pretoria, South Africa
Diversity through space and time: ants of the Maloti-Drakensberg mountains, southern Africa
- August 2013 11th INTECOL Congress, London, United Kingdom
Community and functional structure across an elevation gradient: ant assemblages in the Drakensberg Mountains, South Africa
- September 2012 1st Science@SAFE Workshop, Silwood Park, Imperial College London, United Kingdom
Functional diversity and assembly patterns in ant communities across a forest disturbance gradient
- July 2012 Royal Entomological Society Annual Meeting, Cambridge, United Kingdom
The utility of distribution data in predicting insect phenology

POSTER PRESENTATIONS

- October 2014 ACCE NERC DTP Launch, University of Sheffield, United Kingdom
Beta diversity of montane ants
- February 2012 Silwood Park Poster Competition, Imperial College London, United Kingdom
Territorial Control in Oecophylla: Lessons from Morphology, Geometry and Chemistry
Awarded 1st place

TEACHING AND SUPERVISION

I have taught on statistics modules and field courses for undergraduate zoologists, ecologists and geographers at the University of Liverpool. I have directly supervised two Honours and two Masters projects to date. One of the Masters projects has led to a published paper. I have also assisted with ant identification and statistical methods on a number of other honours and masters projects at the University of Liverpool and at the University of Pretoria.

Eileen Engelbrecht, Hons, University of Pretoria (2019):
"Testing theories on intraspecific variation and plasticity in ant colour"

Clara Gaudard, Hons, University of Pretoria (2017):
"Intraspecific trait variation in ants"
Won 1st place in departmental poster competition

Sarah Newman, MSc, University of Pretoria (2017):
"Taxonomic and functional diversity of ants across environmental gradients"

Greg de Jong, Hons, University of Pretoria (2016):
"A comparison of ant diversity between natural and disturbed montane grasslands in South Africa"
Won 1st place in departmental poster competition

Sophie Schofield, MSc, University of Liverpool (2015):
"Morphological characteristics of ant assemblages differ among contrasting biomes"
Published in *Myrmecological News*

Sophie Schofield, Hons, University of Liverpool (2014):

“Do thermal tolerance and trophic position of the common black ant change along an urban rural gradient?”

AWARDS, GRANTS, AND FELLOWSHIPS

2018	Best paper in <i>Ecological Entomology</i> during 2016/2017
2018	Early Career Researcher Fund, University of Liverpool (£2,000)
2017	Leverhulme Early Career Research Fellowship (£126,000)
2017	Claude Leon Foundation Postdoctoral Fellowship (550,000 ZAR; declined)
2017	Publons Top Reviewer for Agricultural and Biological Sciences
2016	University of Pretoria Vice-Chancellor’s Fellowship (440,000 ZAR)
2014	IUSSI Travel Grant (£1,300)
2013-15	NERC Life Sciences Mass Spectrometry Support Fund (£7,000)
2012-16	NERC PhD studentship (£50,200)
2012	Imperial College Silwood Park Poster Competition: 1 st Place
2011	Grundy Educational Trust Scholarship (£3,000)
2009	Lady Margaret Hall, University of Oxford, Heron-Allen Travel Scholarship (£500)

SCIENCE COMMUNICATION AND OUTREACH

I am a passionate science communicator and have been involved in a number of outreach programmes for adults and children across the UK. For children, I have run stalls explaining and displaying the diversity of ants at **The Big Bang Fair UK** and have participated in “University links” days to **promote ecology and zoology** to secondary school students. For adults, I have performed at a number of **Science Showoff** stand-up comedy events. Here, I introduce topics such as sociality, ant behaviour and ecology to a broad audience with a comical twist. I have also presented at **SciBar** – a monthly “Science Café” style event run by the **British Science Association**. (*Testimonials available on request*).

REVIEWING

Acta Oecologica, American Naturalist, Applied Vegetation Science, Asian Myrmecology, Basic and Applied Ecology, Biodiversity and Conservation, Biological Conservation, Biotropica, Community Ecology, Czech Science Foundation (Czech Republic), Diversity and Distributions, Ecography, Ecological Entomology, Ecology, European Journal of Entomology, Functional Ecology, Global Ecology and Biogeography, Insect Conservation and Diversity, Insectes Sociaux, Journal of Animal Ecology, Journal of Biogeography, Journal of Hymenoptera Research, Journal of Insect Conservation, Journal of the Royal Society Interface, Methods in Ecology and Evolution, Myrmecological News, National Research Foundation (South Africa), PeerJ, PLOS One, Scientific Reports, Zoologischer Anzeiger.

I am on the *Journal of Biogeography* Editorial Review Board - a board of trusted reviewers for the journal.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

- International Union for the Study of Social Insects: North-West European Section (2012 – present)
- British Ecological Society and Macroecology Special Interest Group (2012 – present)
- Zoological Society of Southern Africa (2017 – present)

RELEVANT SKILLS

- Experienced use of Microsoft Office and R statistical programming.
- Full UK driving licence with extensive minibus and 4X4 experience (BORDA qualified).
- Entomological identification and curation skills.

REFEREES

Prof. Catherine Parr (PhD supervisor)

kate.parr@liverpool.ac.uk

Department of Earth, Ocean and Ecological Sciences, University of Liverpool, Liverpool, L69 3GP, UK
School of Animal, Plant and Environmental Sciences, University of the Witwatersrand, Private Bag X3,
Wits 2050, South Africa

Prof. Mark Robertson (PhD supervisor/Postdoc advisor)

mark.robertson@zoology.up.ac.za

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0002, South Africa

Dr Paul Eggleton (Colleague and mentor)

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