

Dr Orly Razgour

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My research sits at the interface between ecology, conservation and molecular biology. My main research aims are to examine evolutionary and ecological responses to global change, and to understand how environmental heterogeneity at different spatial and temporal scales affects geographical distribution, genetic composition and ecological interactions. I carry out multidisciplinary research, combining novel genetic and genomic tools with ecological research and spatial, ecological and mathematical modelling. My research is applied in nature, aiming to provide the evidence base for managing our environment. My research programme encompasses four main areas of investigation: 1) genomic approaches to studying species responses to climate change: investigating genetic adaptations and their population level consequences, 2) landscape genetics and the effect of environmental heterogeneity on movement processes, 3) ecological modelling of distribution, dispersal and biotic interactions, and 4) phylogeography and evolutionary history.

Current and Previous Positions

2016-ongoing – **Lecturer in Ecology, University of Southampton**

2015-ongoing – **NERC Independent Research Fellow**, University of Bristol & University of Southampton

2015-ongoing – Official Research Collaborator, CIBIO/InBio, University of Porto, Portugal

2013-2015 – Impact Research Fellow, University of Stirling

2013 – GIS Specialist, The Bat Conservation Trust

2013 – Contracted Scientific Consultant, woodland bats modelling, Natural Resources Wales

2012 – Lecturer, MSc Ecology and Conservation, Nottingham Trent University

2012 – Contracted Scientific Consultant, Joint Nature Conservation Consortium (JNCC)

Career Breaks

2017 – 5 months Maternity leave, returned to work on part-time basis (80% contract).

Education

2009-2013 – **PhD**, University of Bristol, with **Faculty of Science Commendation**

2006-2008 – MSc Ecology, *Cum Laude*, Ben-Gurion University

2003-2006 – BSc Hons Biodiversity Conservation, 1st Class Distinction, University of Kent

Research Grants

2018-2022 – **Fundação para a Ciência e Tecnologia (FCT)**, Portugal, ‘BatPine - Promoting the resilience of ecosystem services to climate change: a case study with pine plantations, pine processionary moth and bats’, role: collaborator (€230,000).

2018-2022 – **Fundação para a Ciência e Tecnologia (FCT)**, Portugal, ‘ConBiomics: the missing approach for the Conservation of freshwater Bivalves’, role: collaborator.

2017-2021 – **SPITFIRE NERC DTP** PhD Studentship, ‘How will greening the desert affect bats and the ecosystem services they provide?’ , role: PI (£75,000).

2015-2020 – **NERC Independent Research Fellowship**, ‘Developing an integrated framework for investigating biodiversity responses to global environmental change’, role: PI (£668,885).

2017-2019 – **Biodiversity Information for Development** EU & GBIF Grant, ‘Mobilising Bat Occurrence Data in Zambia’, role: Co-I (€39,954).

2015-2017 – **Marie Skłodowska-Curie** Action Individual Fellowship (declined the award).

2014-2016 – **British Ecological Society** Research Grant, ‘Up in the air: researching ecological connectivity in sky island bats of the Ethiopian Highlands’, role: PI (£5,000).

2014-2016 – **Rufford** Small Grant Fund, ‘Using genetic tools to assess the conservation status of cave-

- dwelling bats', role: Co-I (£12,000).
- 2014-2015 – **SAGES** Early Career Researcher Exchanges Grant (£2,780).
- 2013-2015 – **University of Stirling** Impact Fellowship, 'Fight or flight: The spatial genomics of bat species response to climate change', role: PI (£72,000).
- 2011 – **NERC Biomolecular Analysis Facility** Project Grant, 'Conservation genetics of the grey long-eared bat (*Plecotus austriacus*) across spatial and temporal scales', PI Gareth Jones (£20,604).

Academic Awards

- 2014 – **John Marsden Medal** for best UK doctoral thesis in Biology, The Linnean Society of London
- 2013 – **Faculty of Science Commendation** for outstanding PhD thesis, University of Bristol
- 2012 – **Vincent Weir Scientific Award** for contribution to bat conservation research
- 2012 – Student talk prize Population Genetics Group Meeting, University of Glasgow
- 2011 – Student talk prize Ecological Genetics Group Meeting, London
- 2008 – **Merav Ziv Award** for MSc research project, Ben-Gurion University
- 2007 – **Frederick Siegmund Prize** for excellence in desert studies, Ben-Gurion University
- 2004-2006 – **Faculty and Rotary Prizes** for outstanding academic achievements, University of Kent

Publications

- Razgour O**, Taggart JB, Manel S, Juste J, Ibáñez C, Rebelo H, Alberdi A, Jones G, Park K (2018) An integrated framework to identify wildlife populations under threat from climate change. *Molecular Ecology Resources* 18: 18-31. [From the cover; News and Views: Hoban S, 2018, Mol. Ecol. Resour. 18: 14–17].
- Razgour O**, Persey M, Shamir U, Korine C (2018) The role of climate, water and biotic interactions in shaping biodiversity patterns in arid environments across spatial scales. *Diversity and Distributions* (In Press) <https://doi.org/10.1111/ddi.12773>
- Vasconcelos R, **Razgour O**, Tarroso P, Fasola M, Carranza S, Celio ALvez P (2018) Combining genetic and landscape tools for targeting evolutionary processes in reserve design: An alternative approach. *PLoS ONE* 13(7): e0200830.
- Razgour O**, Rebelo H, Di Febbraro M, Russo D (2016) Painting maps with bats: species distribution modelling in bat research and conservation. *Hystrix* 27: 1.
- Jones ML, Bertola LD, **Razgour O** (2016) Predicting the effects of interspecific interactions on habitat suitability for the endangered African wild dog under future climate and land cover changes. *Hystrix* 27: 1.
- Razgour O**, Salicini I, Ibáñez C, Randi E, Juste J (2015) Unravelling the evolutionary history and future prospects of endemic species restricted to former glacial refugia. *Molecular Ecology* 24: 5267-5283.
- Alberdi A, Gilbert MTP, **Razgour O**, Aizpurua O, Aihartza J, Garin I (2015) Contrasting population-level responses to Pleistocene climatic oscillations in an alpine bat revealed by complete mitochondrial genomes and evolutionary history inference. *Journal of Biogeography* 42: 1689–1700.
- Razgour O** (2015) Beyond species distribution modelling: a landscape genetics approach to investigating range shifts under future climate change. *Ecological Informatics* 30: 250-256.
- Razgour O**, Rebelo H, Puechmaille SJ, Juste J, Ibáñez C, Kiefer A, Burke T, Dawson DA, Jones G (2014) Scale-dependent effects of landscape variables on gene flow and population structure in bats. *Diversity and Distributions* 20: 1173–1185.
- Hope PR, Bohmann K, Gilbert MTP, Zepeda L, **Razgour O**, Jones G (2014) Second generation sequencing and morphological faecal analysis reveals unexpected foraging behaviour by Natterer's bat (*Myotis nattereri*) in winter. *Frontiers in Zoology* 11: 39.
- Razgour O**, Juste J, Ibáñez C, Kiefer A, Rebelo H, Puechmaille SJ, Arlettaz R, Burke T, Dawson DA, Beaumont M, Jones G (2013) The shaping of genetic variation in edge-of-range populations under past and future climate change. *Ecology Letters* 16: 1258–1266.

Razgour O, Whitby D, Dahlberg E, Barlow K, Hanmer J, Haysom K, McFarlane H, Wicks L, Williams C, Jones G (2013) Conserving grey long-eared bats (*Plecotus austriacus*) in our landscape: a conservation management plan. Available to download from www.bats.org.uk

Razgour O (2013) Grey long-eared bat in Jersey. *Societe Jersiaise Annual Bulletin* 31: 42–43.

Razgour O, Clare EL, Zeale MRK, Hanmer J, Bærholm Schnell I, Rasmussen M, Gilbert MTP, Jones G (2011) High-throughput sequencing offers insight into mechanisms of resource partitioning in cryptic bat species. *Ecology and Evolution* 1: 556–570.

Razgour O, Hanmer J, Jones G (2011) Using multi-scale modelling to predict habitat suitability for species of conservation concern: The grey long-eared bat as a case study. *Biological Conservation* 144: 2922–2930.

Razgour O, Korine C, Saltz D (2011) Does interspecific competition drive patterns of habitat use in desert bat communities? *Oecologia* 167: 493–502.

Razgour O, Korine C, Saltz D (2010) Pond characteristics as determinants of species diversity and community composition in desert bats. *Animal Conservation* 13: 505–513.

Publications in Review

Centeno-Cuadros A, **Razgour O**, García-Mudarra JL, Mingo-Casas P, Sandonís V, Redondo A, Ibáñez C, de Paz O, Martínez-Alós S, Pérez Suarez G, Echevarría JE, Just J. Hybridization in cryptic bats, comparative phylogeography and consequences for rabies virus transmission. Under review in *Heredity*.

Santos H, Godinho R, **Razgour O**, Mata V, Horta P, Raposeira H, Palmeirim JM, Jones G, Ibáñez C, Juste J, Rebelo H. Go with the flow - Integrating landscape genetics with connectivity analyses to design spatially explicit conservation tactics. Under review in *Diversity & Distributions*.

Xuereb A, Stahlke A, Bermingham M, Brown M, Nonaka E, **Razgour O**, Pavinato V, Manel S, Andrews K, Landguth E, Joost S, Forester B. Missing data have limited effect on identifying gene-environment associations. Under revisions.

Invited Lectures

2018 – Integrating genomic and ecological approaches to investigate bat responses to global environmental changes. **Italian Mammal Congress**, Florence, Italy, 21st June.

2018 – Integrating genomic and ecological approaches to identify populations under threat from global environmental changes. **Tel Aviv University**, Israel, 11th April.

2016 – Developing an integrated framework to investigate bat responses to global environmental changes. **Imperial College of London**, UK, 19th May.

2014 – Genetic approaches to studying species responses to climate change. **Federal University of Pernambuco**, Brazil, 1st Dec.

2012 – From genes to landscapes: multi-scale approaches for the conservation of bats. **Bristol Zoo Conservation Lectures**, Bristol, 5th Dec.

Selected Conference Presentations

Razgour O, Taggart J, Bekaert M, Juste J, Ibáñez C, Puechmaille S, Rebelo H, Alberdi A, Manel S. Integrating genomic and biogeographical approaches to model barriers to range shifts under climate change. **Climate Change Biogeography, International Biogeography Society**, Evora, Portugal, March 2018 (oral presentation)

Razgour O, Taggart J, Bekaert M, Juste J, Ibáñez C, Puechmaille S, Alberdi A, Manel S. Using landscape genetics to understand bat responses to climate change. **European Bat Research Symposium**, Donostia, Basque Country, Aug. 2017 (oral presentation)

Razgour O, Taggart J, Manel S, Juste J, Ibáñez C, Rebelo H, Alberdi A, Jones G, Park KJ. Using genomic approaches to inform bat conservation under global change. **ConGenomics Conference**, CIBIO/InBio, Portugal, May 2016 (oral presentation) – **Talk Prize**

Razgour O, Manel S, Taggart J, Jones G, Juste J, Ibáñez C, Rebelo H, Alberdi A, MacKenzie S, Park KJ.

- Genomic approaches to studying bat responses to global change. **49th Population Genetics Group Meeting**, Edinburgh, UK, Dec 2015 (oral presentation)
- Razgour O, Alberdi A, Salicini I, Ibáñez C, Randi E, Juste J. Insights from the past into biodiversity responses to future climate change using bats as a model. **International Biogeography Society Conference**, Bayreuth, Germany, Jan 2015 (oral presentation)
- Razgour O. Genetic approaches to studying species responses to climate change. **1st International Workshop on Cellular and Molecular Biology**, Pernambuco, Brazil, Nov 2014 – **Invited Speaker**
- Razgour O, Kleczkowski A. Modelling range shifts under future climate change in bats. **2nd Spatial Ecology and Conservation Conference**, Birmingham, UK, July 2014 (oral presentation)
- Razgour O, Juste J, Ibáñez C, Kiefer A, Rebelo H, Puechmaille SJ, Arlettaz R, Burke T, Dawson DA, Beaumont M, Jones G. The shaping of genetic variation in edge populations under past and future climate change: the grey long-eared bat as a case study. **46th Population Genetics Group Meeting**, Glasgow, UK, Dec 2012 (oral presentation) – **Student Talk Prize**
- Razgour O, Dawson DA, Burke T, Rebelo H, Juste J, Ibáñez C, Kiefer A, Jones G. Living on the edge: conservation genetics of the grey long-eared bat across spatial scales. **3rd European Congress of Conservation Biology**, Glasgow, UK, Aug 2012 (poster)
- Razgour O, Dawson DA, Burke T, Rebelo H, Juste J, Ibáñez C, Kiefer A, Jones G. Living on the edge: conservation genetics of the grey long-eared bat across spatial scales. **56th Ecological Genetics Group Meeting**, Edinburgh, UK, April 2012 (oral presentation)
- Razgour O, Clare EL, Zeale MRK, Bærholm Schnell I, Rasmussen M, Gilbert MTP, Jones G. Next generation sequencing deciphers mechanisms of coexistence in cryptic bat species. **55th Ecological Genetics Group Meeting**, London, UK, April 2011(oral presentation) – **Student Talk Prize**
- Razgour O, Jones G. Linking habitat loss and bat decline: the conservation biology of the grey long-eared bat, **15th International Bat Research Conference**, Prague, Czech, Aug 2010 (oral presentation)
- Razgour O, Korine C, Saltz D. The importance of temporary ponds for the conservation of insectivorous bats in desert environments. **2nd International Conference on Drylands, Deserts and Desertification**, Sede Boqer, Israel, Dec 2008 (poster) – **Poster Prize award**
- Razgour O, Korine C, Saltz D. The importance of temporary ponds for the conservation of insectivorous bats in desert environments. **22nd International Congress for Conservation Biology**, Tennessee, USA, July 2008 (oral presentation)

Student Supervision

- 2017-ongoing – Evie Morris, **PhD candidate**, University of Southampton: ‘How will greening the desert affect bats and the ecosystem services they provide?’ (main supervisor).
- 2017-2018 – Lara Jackson, **MRes** project, University of Southampton, ‘Feeding ecology and diet composition of the eastern black rhinoceros (*Diceros bicornis michaeli*) in two wildlife conservancies, Kenya’ (main supervisor).
- 2016-ongoing – Roberto Novella, **PhD candidate**, University of Southampton: ‘Investigating the role of ecological interactions in shaping species distributions and range shifts under climate change’ (main supervisor).
- 2017-ongoing – Pedro Horta, **PhD candidate**, CIBIO, University of Porto, Portugal: ‘Hybridization as adaptive process of cryptic bat species to climate change’ (co-supervisor).
- 2016-ongoing – Manuel Lopes-Lima, **PhD candidate**, CIBIO, University of Porto, Portugal: ‘Under the surface: combining ecological and evolutionary analysis to conserve freshwater mussels in the Iberian Peninsula’ (co-supervisor).
- 2015-ongoing – Joanna Riley, **PhD candidate**, University of Bristol: ‘Ecology and distribution of sandhill dunnarts in the Great Victoria Desert, Western Australia’ (co-supervisor).
- 2015-ongoing – Barbara Moraes, **PhD candidate**, Universidade Federal de Pernambuco, Brazil: ‘Population variability of the capuchin monkey (*Sapajus libidinosus*) in semiarid areas’ (co-supervisor).
- 2015-2016 – Mike Persey, **MSc**, University of Bristol: ‘Incorporating biotic interactions into species distribution modelling’.

Teaching

2018-ongoing – Lecturer, Animal Conservation, University of Southampton
 2017-ongoing – Lecturer, Global Change Biology, University of Southampton
 2017-ongoing – Lecturer, Behavioural Ecology, University of Southampton
 2017-2018 – Lecturer, Neural basis of Animal Behaviour, University of Southampton
 2017 – Lecturer, Molecular methods and techniques in animal ecology, Basque Country, Spain.
 2016-ongoing – Tutor and undergraduate honours project supervisor, University of Southampton
 2015-ongoing – Lecturer, Landscape Genetics Workshop, CIBIO, University of Porto, Portugal
 2015-2016 – Lecturer, Tropical Ecology Costa-Rica Field Course, University of Bristol
 2014-2015 – Lecturer, Conservation Management, 4th year module, University of Stirling
 2014 – Contributor, Mammal Field Techniques course, Federal University of Pernambuco, Brazil
 2013-2015 – Tutor, year 1-4 undergraduate students, University of Stirling
 2013-2014 – Contributor, Field and Laboratory Techniques, 3rd year module, University of Stirling
 2013 – Lecturer and coordinator, Bioacoustics Training Workshop, University of Stirling
 2012 – Lecturer, MSc Ecology and Conservation, Nottingham Trent University
 2009-2012 – Teaching Assistant & Tutor, undergraduate and postgraduate courses, University of Bristol

Academic Roles

2018 – **PhD Examiner** (external), Waterford Institute of Technology, Ireland.
 2018 – **Grant Reviewer**, Irish Research Council, NERC.
 2017 – **PhD Examiner** (internal), University of Southampton.
 2016-ongoing – **Organising Biological Sciences Departmental Seminars**, University of Southampton
 2016-ongoing – Member of the **Equality & Diversity Committee**, University of Southampton
 2016-ongoing – PhD Assessor, University of Southampton
 2015-ongoing – **Review Editor in Conservation**, Frontiers in Ecology and Evolution
 2015-2016 – Coordinator, Workshops in Ecology and Behaviour Seminars, University of Bristol
 2015-2016 – Member of the Research Committee, University of Bristol
 2015-2016 – PhD Assessor, University of Bristol
 2014 – PhD thesis Evaluator, Universidad de Murcia, Spain

Selected Public Engagement

International NGOs – Research Director and board member of [Bats without Borders](#), charitable organisation for the conservation of southern African bats.

Public lectures – to conservation practitioners, volunteers, wildlife groups and environmental consultants (including Bat Conferences, Zoos, Bat Groups, Wildlife Trusts).

Public training workshops – bat survey methods (Jersey June 2011, 2013), guiding public bat walks.

Consultation on science, planning and conservation –

2017-ongoing - Natural England, Favourable Conservation Status reporting.
 2015 - Natural England, Countryside Stewardship Scheme.
 2013 - EU Habitat Directive Article 17 Reporting.
 2013 - Vincent Wildlife Trust
 2013 - Natural Resources Wales.
 2012 & 2013 - UK Biodiversity Action Plan Bat Steering Group Meeting (invited speaker)
 2012-2015 - Devon local planning authorities
 2011-ongoing - Bat Conservation Trust

Advisor – conservation organisations consortium HLF £4.6 million ‘Back from the brink’ project to save threatened UK species.

Contribution to popular science blogs – [Stirling Conservation Science](#); [Mammal Society 60th Anniversary](#); [The Conversation](#)

Languages

English (native), Hebrew (native), Spanish (fluent), French (basic), Arabic (basic)

Selected Research Press Coverage

- 2018 – Molecular Ecology Resources (18: 14–17) From the Cover article by Sean Hoban.
- 2013 – Nature Climate Change (3: 781) Research Highlights “Genetic pinch”
- 2013 – [BBC News](#) (5th Aug) “Rare bat on brink of extinction”. Interview by Victoria Gil (https://www.youtube.com/watch?v=VEw3nA2_B5I)
- 2013 – BBC Radio 4 today show (5th Aug) – Interview about the conservation management plan
- 2013 – BBC World Service World Update (5th Aug) – Interview about climate change and bat conservation
- 2013 – [ITV](#) 6pm West Country News (5th Aug). “Decline in the bat population”. Interview by Jacquie Bird
- 2013 – [The New Scientist](#) (7th Aug) “Beautiful British bat is one in just 1000” by Jacob Aron
- 2013 – [The Guardian Newspaper](#) (5th Aug) “Britain’s grey long-eared bats may die out without help, conservationists warn”. Interview by Steven Morris
- 2012 – [BBC Mundo](#) (28th June) “El misterioso susurro del murciélago orejudo”. Interview by A. Martins
- 2011 – ITV 6 pm Channel News (1st June) “Rare bat attracts expert”. Interview by Jess Dunsdon
- 2011 – Bat News magazine (autumn/winter 2011) – 2 page interview about my PhD research
- 2010 – University of Washington [Conservation Magazine](#) “To the bat...pond” by David Malakoff

Journal Peer Review Services: Molecular Ecology, Molecular Ecology Resources, Heredity, Evolutionary Applications, Scientific Reports, Molecular Phylogenetics and Evolution, Journal of Applied Ecology, Journal of Animal Ecology, Diversity & Distributions, Ecography, Journal of Biogeography, Functional Ecology, Biological Conservation, Biodiversity and Conservation, Conservation Genetics, Ecology & Evolution, PLoS ONE, Landscape and Urban Planning, Mammalian Biology, Journal of Mammalogy, Canadian Journal of Zoology, Acta Chiropterologica, Frontiers (Review Editor).

Active Collaborations:

- Kelvin Peh, University of Southampton: metagenomics and metabarcoding approaches to assess ecosystem services.
- Gareth Jones, University of Bristol: effects of climate change on bats.
- Justin Travis, University of Aberdeen: modelling range shifts in response to future climate change.
- Kirsty Park, University of Stirling: conservation management for forest bats.
- John Taggart, Michael Bekaert, University of Stirling: genomic responses to environmental change.
- Elizabeth Clare, Queen Mary University of London: using metabarcoding to study ecological networks.
- Javier Juste and Carlos Ibáñez, Estación Biológica de Doñana (CSIC), Spain: various projects on the molecular biology of bats and responses to environmental changes in Europe and Africa.
- Stephanie Manel, Centre of Functional and Evolutionary Ecology (CEFE, CNRS), France: the application of landscape genomics to global change research.
- Hugo Rebelo, CIBIO, University of Porto, Portugal: distribution modelling and the genetic effects of future climate change in bats; cryptic Iberian bat species.
- Sébastien Puechmaille, Greifswald University, Germany: phylogeography and landscape genetics of bats.
- Antton Alberdi, Centre for GeoGenetics, University of Copenhagen, Denmark: metagenomics and metabarcoding of bat microbiota.
- Carmi Korine, Ben-Gurion University, Israel: resource use and ecosystem services of desert bats.
- Bruna Bezerra, Universidade Federal de Pernambuco, Brazil: genetic and ecological consequences of Atlantic forest fragmentation.
- Veronica Zamora, Instituto Politécnico Nacional, Mexico: ecosystem services of bats in Mexico.
- Bat Conservation Trust: landscape management for the grey long-eared bat; conservation management for forest bats under climate change; public engagement and impact activities.
- Kevin Watts, Forest Research, Forestry Commission: adaptive forest modelling under climate change.