

EMMA HUGHES

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EDUCATION

- 2016 – 2020 **PhD in Zoology, University of Sheffield**
- Thesis title: “*Global change and the future of avian diversity*”
 - Supervisors: Dr Gavin Thomas and Dr David Edwards. NERC funded.
- 2010 – 2014 **MBiolSci Zoology, University of Sheffield, First Class (Hons):**
- Fourth year project: “*How does urbanisation affect British bird distributions?*”
 Dissertation: “*How does urbanisation affect the foraging behaviour of birds?*”
 Supervisor: Professor Rob Freckleton
 - Third year project: “*Ideal Free Distribution in Mallards*”, Supervisor: Prof Ben Hatchwell
 Dissertation: “*The impact of fisheries on seabird species*”, Supervisor: Dr Fiona Hunter
- 2008 – 2010 **Dereham Sixth Form College**
- A level Chemistry (A*), Biology (A) and Maths (A)
 - AS level Geography (A) and Further Maths (B)
 - Extended Project Qualification (A) and Key Skills IT (Level 3)
- 2004 – 2008 **Hamond’s High School, Swaffham**
- 10 GCSEs grades A* - C including English, Maths and Science

RESEARCH EXPERIENCE

- 2014 – 2016 **Postgraduate Research Assistant, University of Sheffield**
 Building novel datasets of avian traits for all extant species of bird, using study skins from the Natural History Museum at Tring and Manchester Museum. My main responsibilities were to produce 3D scans of bird bills and curate the associated bill morphology dataset.
- 2013 – 2014 **Museums Sheffield Volunteer**
 Examined bird prints from the Ruskin collection and uploaded records of each print to the museum’s database, including taxonomic information and IUCN status for each species.
- 2013 **Molecular Ecology Laboratory Assistant, University of Sheffield**
 Assisted Dr Emma Gregson with genetic research on the narrow-headed ant, *Formica exsecta*, using DNA extraction, primer design and PCR techniques.
- 2013 **Assistant Ecological Consultant, Norfolk Wildlife Services Volunteer**
 Conducted reptile and bat checks and Phase 1 Habitat surveys.
- 2013 **New Heaven Reef Conservation Volunteer, Koh Tao, Thailand**
 Identification and monitoring of the major groups of coral reef fish, invertebrates and substrates using underwater transects.
- 2012 **Tropical Biology Rainforest Field Course, Danum Valley, Sabah, Borneo**
 Designed and conducted a field-based research project studying ant trail bifurcation angles.
- 2012 **Natural History Museum Summer Volunteer, London**
 Re-curated the ground beetle (*Carabidae*) collection: identified specimens to species level and prepared them for the main collection (adding labels, fixing broken appendages etc.).

RESEARCH SKILLS

- Experience using R as a dataset management tool, for statistical modelling (e.g. general linear models, principal component analysis) and for mapping and analysing spatial data.
- Geometric morphometric techniques (using Geomagic Studio).
- 2D imaging software (using ImageJ).
- 3D scanning and taking morphological and spectrophotometric measurements from museum specimens.
- Experience working professionally on a ‘big data’ based project.

- Excellent working knowledge of avian taxonomy and species identification.
- Mist net extraction, handling and ringing wild birds, including ducks and waders.
- Variety of terrestrial sampling and surveying methods (e.g. bat surveys, Phase 1 Habitat, small mammal transects, pitfall traps and sweep netting), including working in a tropical rainforest environment.
- Conducting marine substrate and faunal transects for ecological monitoring purposes.
- Practical conservation work with the Sheffield University Conservation Volunteers.

PUBLICATIONS

- Cooney, C.R., Bright, J.A., Capp, E.J.R., Chira, A.M., **Hughes, E.C.**, Moody, C.J.A., Nouri, L.O., Varley, Z.K. and Thomas, G.H. (2017). Mega-evolutionary dynamics of the adaptive radiation of birds. *Nature*. Published Online: 1st February 2017. doi:10.1038/nature21074

ACADEMIC SERVICE AND OUTREACH

- 2016 – pres. **Public Engagement Coordinator, Alfred Denny Museum, University of Sheffield**
Organising visits to the Alfred Denny Museum in the Department of Animal and Plant Sciences. My role includes coordinating tour guides for monthly public open days.
- 2016 **Evolve Magazine, Natural History Museum**
Varley, Z., **Hughes, E.** and Capp, E. (2016). Mark My Bird: Scanning bird bills from the museum's collections. *Evolve*. Spring 2016, Issue 27.
- 2015 – 2016 **Science Uncovered, Natural History Museum at Tring**
Invited to the Natural History Museum at Tring's annual event for European Researchers' Night with the Mark My Bird research group for the past two years. I helped to showcase our research to the public and produced a quiz for children to learn about bird bill adaptations.
- 2014 – pres. **Teaching Assistant, University of Sheffield**
Assisting with undergraduate field trips, including teaching bird identification to students at Potteric Carr nature reserve.
- 2013 – 2014 **President of the Sheffield University Birdwatching Society**
Founded the society in February 2013. My role included chairing meetings, delegating tasks, supporting committee members and conducting risk assessments. I also formulated an outreach programme in four local primary schools that introduced children to bird identification and the RSPB Big Schools' Birdwatch survey.
- 2012 – 2014 **Student Mentor**
During my third and fourth years at university, I acted as a mentor to new students, providing help and support with any practical or personal issues as they arose.
- 2010 – 2014 **Schools Outreach, Animal & Plant Sciences, University of Sheffield**
I have been involved in several departmental outreach days aimed at introducing primary school children to science. Activities included handling live insects with the children and helping them conduct small experiments investigating adaptation.

GRANTS AND AWARDS

- 2016 NERC ACCE Studentship, University of Sheffield
- 2014 The Sheffield Graduate Award
- 2014 Outstanding Contribution to Societies – Gold Award, Sheffield Students Union
- 2014 Best Volunteering Initiative (Sheffield University Birdwatching Society)
- 2013 Try it Award, University of Sheffield Enterprise (£500)
- 2013 Best New Society (Sheffield University Birdwatching Society)

PROFESSIONAL MEMBERSHIPS

- 2016 – pres. British Ornithologists Union
- 2012 – pres. British Ecological Society

ADDITIONAL INFORMATION

- Full clean driving license, held for over six years. Car owner.
- PADI Advanced Open Water qualified diver.