

Paul Coleman

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Contact details

Telephone [+44 \(0\)121 414 5561](tel:+44%20121%20414%205561) (tel: [+44 121 414 5561](tel:+44%20121%20414%205561))

Email pcc962@bham.ac.uk (mailto: pcc962@bham.ac.uk)

School of Biosciences
University of Birmingham
Edgbaston
Birmingham
B15 2TT
UK

About

PhD Title: Overwintering insects in a changing climate

Supervisors: Dr Scott Hayward and Professor Jeff Bale

Qualifications

- BSc with honours in Marine and Freshwater Biology from the University of Essex
- MSc in Aquatic Resource Management from Kings College, London

Biography

Paul has a first class BSc degree with honours in Marine and Freshwater Biology and an MSc in Aquatic Resource Management. During his BSc and MSc he developed an interest in the impact that global warming is exerting on marine ecosystems. To broaden his understanding of the wider implications of climate change he has moved away from his marine background and now focuses on terrestrial ecosystems.

His research is attempting to identify how temperate insects will respond to climate change, with particular focus on overwinter survival. Findings so far indicate that global warming has the potential to severely reduce winter survival, reducing spring emergence of insects. This could be devastating for human society, with reduced pollination rates lowering crop yields and placing extra pressure on food production within coming decades.

Research

My main area of research is to identify how overwintering insects will respond to future climate change, particularly to changes in temperature and moisture. This research includes examining evolutionary adaptive dormancies such as diapause and rapid cold hardening and the ability of insects to adapt to different abiotic conditions. I focus heavily on the cross generational responses to environmental change; as climate change is a gradual process and can only be understood through monitoring responses over numerous generations. The two species that I work closely with are *Calliphora vicina* and *Lucilia sericata*.

Other activities

Paul Coleman is a member of the British Ecological Society and Royal Entomological Society. He has presented work at both international and British conferences. Paul is also a member of the Biology Postgraduate Committee at the University of Birmingham, which recently organized a two day symposium; and a member of an environmental task force which aims to reduce energy use around the university and make it a more sustainable and environmentally aware university. As a member of the latter group, he has organized numerous university events and has helped to reduce the CO2 expenditure of the Biosciences department by 10%. In his spare time he enjoys numerous outdoor activities including running, cycling and kayaking.