

# **CHANNEL ISLANDS POLLINATOR RESEARCH UPDATE AND NEWSLETTER**

Professor Jane Memmott, University of Bristol

## **INTRODUCTION**

I'm writing this newsletter as we are approaching the end of the 2024 sampling period. First of all, I'll start with a HUGE thank you to all of you for all your help with this project over the last four years – it simply wouldn't have been possible without you.

I'm aware that I've been a bit of a shadowy figure in the background of the project to date. So, for those of you who haven't met me yet, I'm a Professor of Ecology at Bristol University where I've run a research group working on a variety of topics for the last 26 years. My research areas include pollination ecology, agro-ecology, pest control, restoration ecology & urban ecology. Field sites have ranged from Hawaiian Swamps to Dorset Heathlands to the Cairngorms, to the current projects in South Africa, Nepal and (best of all!) the Channel Islands. Outside of work, I'm a mum to two grown up daughters, a keen gardener (I've harvested the best apricot crop in the South West and my greenhouse is one of my favourite places on the planet), I make quilts, and I love beach combing, dog walking and visiting good coffee shops with my partner and kids.

For the first 3 years of the Channel Islands project we were running on a shoestring and aside from a brief trip in 2022, there wasn't the funding for me to visit much. Plus, the fieldwork programme was organised extremely effectively by Miranda Bane while I was based in Bristol writing funding applications, working out how to identify tens of thousands of specimens and lining up collaborators. This year I've been out twice though – to Sark and Guernsey at Easter and to Jersey and Guernsey in July. Workwise, I'm on sabbatical this coming academic year, which means that I don't have any teaching or administration jobs, rather I can focus on 100% research and this Channel Islands project is top of my list to spend more time on.

Finally on the introduction front, while I'm the overall Project Leader, there are three wonderful Co-Leaders – Phil Atkinson and Stuart Newson who work on the bat component of the project and based at the British Trust for Ornithology in Thetford, and Ian Vaughan who is a long-term collaborator based at Cardiff University, who brings considerable statistical expertise to the project. Miranda has moved into a part-time expert consultant role on the project, and we have a new project technician Alex Hayward, who you will have met this summer.

## **FIELDWORK THIS YEAR**

Alex Hayward joined the project in April and after spending time with Miranda going through all the protocols has run this year's field season. While familiar with the Channel Islands, Alex has been through a very steep learning curve into a new field of ecology (you may know Alex from previous small mammal research) and it's thanks to him that we have been able to run a field season. I'm aware that this year hasn't been completely smooth sailing due to the changeover of staff, along with some brand new challenges that arrived out of the blue just as field work started (principally those of transporting alcohol onto the islands and the specimens off the islands). That said, the field season is almost complete, and the data we need are coming in. Thank you all for your patience and support in making this happen.

The senior employee on the project will be appointed this autumn and will be in charge of running the project. They will run a Bristol team consisting of Alex, Masters students, taxonomists, collaborating molecular ecologists and undergraduate volunteers; organise the fieldwork; and will report to myself and the three Co-Investigators. They will be out in Channel Islands next year with Alex and you will get to meet them then, if not before.

I'll end this section with another HUGE thank you, this time to Miranda. She approached me almost exactly five years ago with the idea of measuring the impact of pesticide reduction on Guernsey. I managed to get some funding from the University to collect pilot data and working with Ian Vaughan we designed a sampling protocol for Guernsey, Jersey, Sark and Alderney. Little did we know that a global pandemic was about to start, which made the first two field seasons really challenging for the project and particularly for Miranda, who isolated three times for two weeks to get the fieldwork done. Without her, this project would never have happened. Looking forward she will remain well linked to the project via her role as an expert consultant.

### **SOME QUESTIONS YOU MIGHT HAVE**

I'm aware that after four years of collecting data for the project, you may well have some questions. I'm very happy to answer questions directly and have put my email address at the end of this Newsletter. If enough of you are interested, I'd also be happy to send regular updates on this and any other relevant/interesting pollinator projects via this newsletter – please send me your email if you would like to do this. Meanwhile though, here are some questions I've heard during my visits:

- 1) WHEN WILL THERE BE SOME RESULTS? We have a 4-year backlog of samples to analyse and now that we have the funding will be working closely with expert taxonomists and molecular ecologists who will help us bar-code the more challenging species once this 2024 field season has finished. We have some tantalizing early results from the first two years though, based on counting some of the key groups, for example bumblebees, moths and some of the common hoverflies, which show that the islands had very similar pollinator communities at the start of sampling. What we will be testing for in subsequent years, is whether Guernsey starts to look different as its pollinator communities recover as pesticide use reduces. We also know that urban and rural pollinator communities are different, though it's not clear why yet.
- 2) HOW LONG WILL SAMPLING RUN FOR? We will be sampling this year and the next two years – i.e. 2024, 2025, 2026.
- 3) WHAT WILL HAPPEN TO THE DATA? The data will be used to: 1) publish both scientific papers and papers for the general public; 2) the species records will be submitted to the local Channel Islands and national environmental record databases; 3) the raw data will also be uploaded to the internet so that it's available to anyone who wants to look at it; 4) everyone who has run a Malaise trap will be sent a species list of the species that they caught in their trap.
- 4) WHEN WILL THE RESULTS BE PUBLISHED? The papers, both scientific and for the general public, will be published towards the end of the project as we need the 2026 samples to have been collected and all year's species identified. The plan at the moment is to publish a big-picture paper which includes the key results from all the components of the project (the Malaise traps, the bumblebee samples and the bat work), this being followed by more specialist papers on the individual datasets.

## 5) WHAT DATA HAS BEEN COLLECTED OVERALL:

Our main datasets are as follows:

- Flying insects have been collected from 16 malaise trap samples on Guernsey, Jersey, Alderney & Sark for four weeks in July each year. Following identification to species, these will provide the information needed to detect changes in insect population and community structure.
- Tarsi (i.e. a foot) from bumblebee workers have been collected on Guernsey, Jersey, Alderney & Sark. Following genetic analysis, this will allow us to estimate the number of colonies on each island and test for changes over time.
- Bat recordings adjacent to the malaise traps – these will allow us to test for any cascading effects through the food chain following the pesticide reduction on Guernsey. Some pollinators, e.g. moths and midges, are eaten by bats, so potentially if pollinators increase, so do bats (or more specifically, so does bat activity).

## FURTHER UPDATES

If you are interested in regular updates on the project, both within and between field seasons, please email me using: [Jane.Memmott@bristol.ac.uk](mailto:Jane.Memmott@bristol.ac.uk) and I'll add you to the mailing list. Also, feel free to pass this email onto anyone you think might be interested (or anyone I might have accidentally missed).

## AND FINALLY, MANY THANKS TO THE FOLLOWING ORGANISATIONS FOR THEIR HELP AND SUPPORT:

- Guernsey Pollinator Project
- Jersey Pollinator Project and affiliated organisations
- Government of Jersey
- States of Guernsey
- Alderney Wildlife Trust
- La Société Sercquaise



Jane Memmott



Alex Heyward



Ian Vaughan



Phil Atkinson



Stuart Newson



Miranda Bane

