

On February 2<sup>nd</sup> and 3<sup>rd</sup> 2017 the RES held its annual postgraduate forum at the University of Sheffield. The atmosphere buzzed, pun intended, with early career entomologists ready to absorb and share the current insect research happening across the UK. 2017 saw record breaking delegate numbers with a total of 64 delegates registered to attend. There was a fantastic share of knowledge across an impressive 28 poster presentations, 13 high-quality student talks and 5 invited senior entomologists who were invited to speak on our theme of 'entomology in the 21<sup>st</sup> century'. We tweeted throughout the day on the #RESPG17.



**Name badges ready for the 64 delegates upon arrival! Source: Melanie Brien**

As coffee was drunk, early day discussions began, the posters went up and talks were loaded. At 11am we were ready to begin, and a warm welcome was given by Postgraduate Representatives to everyone in attendance.

Our first invited speaker of the day, Dr Ilik Saccheri, University of Liverpool, opened the forum with an engaging talk, presenting new information on the classic example of natural selection, the peppered moth. All melanic forms from a single mutation event (a transposable element) in the early 1800s. Ilik entertained us with tales of how research really can be done anywhere - rearing moths in his back garden and hiring his children as research assistants!

Moving on to our delegate speakers, up first Robin Southon intrigued us from the start of his talk, with unusual and brilliant talk title 'Are male hymenoptera just flying sperm?' describing his work on a paper wasp – and arguing the potential important roles of males in hymenopteran societies. Following was Callum Macgregor on his novel work using next generation sequencing to explore plant pollination networks in perhaps the more forgotten pollinators – moths. Concluding our first delegate session, Anthony Abbot described his

investigation into the habitat requirements of a potential vector of the west Nile virus in the UK – *Culex modestus*.

With the morning over, lunch and networking over an informal poster session ensued. Then, when we were full up on food and great conversation we settled in for our second invited speaker. Dr Rosemary Collier, Director of Warwick Crop Centre, University of Warwick gave a great presentation which discussed the history of IPM, new innovations and its future. She stressed the importance of new developments such as the implementation of camera technology which can aid in rapid detection of pests by sending photographs of traps to landowners and farmers.

Naturally leading on from this was a delegate session themed around pest control. Michelle Powell kicked us off with a novel control method for a serious pest of the honey bee. Thomas McDaniel, despite claiming the insect part of his talk was over after a few minutes, still engaged the entomological audience about using volatile organic compounds as a novel method of whitefly resistance.

After a well needed afternoon coffee break (and some donuts on the side) Amoret Whittaker took the stage for her greatly anticipated talk on forensic entomology – CSI: Crime Scene Insects. Amoret took us through the fascinating applications of entomology to aid in crimes from cases of murder, wildlife crime, drug trafficking and child neglect. This talk emphasises, a fact appreciated less in the wider world, although certainly not to our audience - the great importance of insects for so many reasons.

Finally, a single delegate talk of the day remained and Katy Dainton discussed her work with Forest Research on finding new ways to tackle the most important economic pest for commercial forestry – the large pine weevil. This included telling us about her ‘weevil arena’ and although she claimed it isn’t as exciting as it sounds - we might be inclined to disagree.



Delegates in deep discussion throughout the poster session Source: Francisca Sconce

We ended the day with poster session and it was rewarding to hear so many great discussions between delegates and the real interest shown within and between disciplines. Delegates were reluctant to leave at the end of the poster sessions but were quickly enthused at the prospects of our evening schedule.

We made our way over the Halifax Hall and relaxed conversation flowed in the bar before the meal and continued as people seated with the aid of wine which we were able to supply due to the generosity of our sponsors. Food and drinks were accompanied by an entomologically themed pub quiz, where competition between entomologists ensued over guess the insect cartoon character and the unusual guess the punch-line of these entomological jokes. Our favourite was 'What's a dung beetles best chat up line? ... Is this stool taken?'

The second day kicked off promptly with Professor Jane Hill from the University of York discussing what insects can tell us about climate change. It was a reminder about how drastic the impacts of climate change can be with some butterflies shifting ranges of 1.75km a year in response. Jane touched upon her amazing insect conservation success story of the translocation of the Marbled white, *Melanargia galathea*, to new sites in County Durham, although controversial it may be a useful tool to conserve future insects threatened by climate change.

Our first student talks on the second day were from Kris Sales, Matthew Hayes and Michelle Davis. Kris Sales aptly named talk 'Putting the heat on insect reproduction' discussed the impact of heatwaves on reproductive fitness. This was followed by Matthew Hayes telling us about the ecology of the charismatic Duke of Burgundy butterfly, a unique and poorly research species suffering big declines due to specific habitat requirements not being met in management techniques. Next up was Michelle Davis, who told us about the insect conservation success story with regard to the Marsh Fritillary and her research on understanding the post-reintroduction genetics of historic and reintroduced populations – a fantastic and engaging talk with humour throughout of tales of butterfly leg borrowing.

After a short coffee break we were back with our second invited speaker of the day, Dr Chris Hassall from University of Leeds. He told us about dragonflies in the changing world and their use as barometers for global change – possibly a species to rival butterflies! We also welcomed Chris's previous biology teacher along with current Biology A level students to this session from Birkdale School, we hoped they took home a bit of entomological inspiration!

Our final student talks of the day came from Robert Holdbrook, Charlotte Miller and Craig Perl. Robert from Lancaster University explained the effect of diet on host nutrient availability in Spodoptera. This was followed by Charlotte Miller from Queen's University Belfast who gave us a talk on the immune tolerance in burying beetles, high fat diets seemingly led to higher tolerance of bacterial infection, but death was still inevitable. Lastly, we had Craig Perl from the University of Sussex talk all about allometry and differential scaling in compound eyes of the visually guided wood ant, *Formica rufa*.

We then had lunch in which we finished our voting for the best talk and posters of the forum. Afterwards we had an engaging publication workshop ran by Professor Jane Hill discussing

the journey to publication, journal choice, open access, feedback and the review process. The key take home message was 'publish early and publish often'.

This workshop was followed by Francisca Sconce from Harper Adams University and the Royal Entomological Society on how to engage outside of your current research and the skills that can be obtained from outreach in STEM, teaching, conferences and networking. The talk left student participants keen to engage within science beyond their PhD and gave us some great ideas for our own ways we can engage with the public!

Finally, Luke Tilley, Director of Outreach from the Royal Entomological Society summarised the societies aims, activities and meetings throughout the year in which we could get involved in and finally awarded the prizes for the best talks and oral presentations of the forum.



**Talk and poster presentation winners at the PG Forum 2017 Source: Francisca Sconce**

It was a delight that the RESPG forum brought together researchers connected through the taxonomic link of our study species of insects as it provided the basis for cross-disciplinary discussion, with entomologists from a vast array of backgrounds ranging from animal behaviour to biocontrol to evolution and ecology.

We thank all the student delegates and invited speakers who attended the forum, the RES team and our sponsors, Syngenta, Koppert, Watkins and Doncaster and BugLife who allowed us to put together a successful meeting – we hope you all enjoyed it and we look forward to seeing you at the Royal Entomological Society Postgraduate Forum 2018 hosted at the University of Warwick.