



British Ecological Society

**BES Annual Symposium 2010:  
The integrative role of plant secondary  
metabolites in ecological systems**  
University of Sussex, UK  
12-14 April 2010

**MONDAY 12 APRIL**

- 10.00 Registration desk open, refreshments available.
- 11.00 Welcome – Sue Hartley, University of Sussex
- 11.10 Introduction to Symposium – Glenn Iason *pp* organising committee

**SESSION 1**

**Biosynthesis and evolution of PSMs**

Convenors: Julia Koricheva and Glenn Iason

**Chair: Glenn Iason**

- 11.25 \*Julianne O'Reilly-Wapstra (UTAS, Hobart, Australia)  
Selection for anti-herbivore PSMs
- 12.05 \*Julia Koricheva and Kasey Barton (Royal Holloway, UK)  
Temporal and Ontogenetic Patterns in PSM production and their  
ecological Consequences
- 12.45 Lunch**
- Chair: Julia Koricheva**
- 14.00 L. Bakker (NIOO-KNAW, Netherlands) and E.M. Gross (University  
of Konstanz, Germany)  
Plant secondary metabolites in freshwater macrophytes: different from  
their terrestrial ancestors?
- 14.20 \*Francesco Loreto (CNR Rome, Italy)  
PSMs and abiotic stress
- 15.00 James Blande, J.K. Holopainen and T. Li (University of Kuopio, Finland)  
Plant-plant communication in a changing troposphere: Does ozone  
facilitate a communication breakdown?
- 15.20 Tobias Züst and L.A. Turnbull (University of Zurich, Switzerland)  
Using knock-out mutants and a novel method for analysing growth to  
assess the costs and benefits of defence in *Arabidopsis thaliana*

- 15.40 Coffee and tea**
- 16.20 Dave Hodgson, E.L. Newton (University of Exeter, UK), and J.M. Bullock (CEH, UK)  
Does herbivory maintain secondary metabolite diversity in wild cabbages?
- 16.40 Jonathan Gershenzon (Max Planck Inst of Chemical Ecology, Germany)  
Diversity of plant secondary metabolites

**17.20 -18.30 Poster Session and wine reception**

**TUESDAY 13 APRIL**

**SESSION 2**

**The role of PSMs in ecological processes and interactions**

Convenors: Alan Gange and Sue Hartley

**Chair: Alan Gange**

- 09.00 Natasha Wiggins, (UTAS, Hobart, Australia)  
The ecological implications of herbivore responses to plant secondary metabolites
- 09.20 Jane de Gabriel (ANU, Canberra, Australia), B.D. Moore (MLURI, Aberdeen, UK), I.R. Lawler, WJ Foley (ANU, Canberra, Australia) and C.N. Johnson (James Cook University, Townsville, Australia)  
Linking climate change, plant secondary metabolites and herbivore demography
- 09.40 \*Rick Lindroth (Wisconsin, USA)  
Global environmental change PSMs and community processes
- 10.20 Coffee and Tea**
- 11.00 \*Guy Poppy (Southampton, UK)  
Interactions with natural enemies: parasitoids as biosensors
- 11.40 Arjen Biere, K.J.F. Verhoeven, J.A. Harvey, and W.H. Van Der Putten (NIOO-KNAW and Wageningen University, Netherlands)  
Role of plant secondary metabolites in biological invasions
- 12.00 \*Sue Hartley (Sussex, UK)  
The role of PSMs in plant-mediated interactions between herbivores and other organisms
- 12.40 Lunch**

- Chair: Sue Hartley**  
13.50 \*Nicole van Dam (Radboud University, Nijmegen, Netherlands)  
Phytochemical induction and PSM mediation of above-below ground interactions
- 14.30 Sam Nyanumba and T.G. Cahill (University of Alberta, Canada)  
The role of root exudates and litter in the mediation of plant-plant interaction in four naturally co-occurring grassland species.
- 14.50 \*Alan Gange (Royal Holloway, UK)  
The impact of the soil microbial community on constitutive and induced defences
- 15.30 \*Jennifer Forbey (Boise State, USA) and Mark Hunter (Michigan, USA)  
Positive effects of PSMs on ecology and health of vertebrates and invertebrates
- 16.10 Coffee and tea**

### **SESSION 3**

#### **Integrative Systems Biology of PSMs: From Gene to Ecosystem**

Convenors: Guy Poppy and Marcel Dicke

- Chair: Marcel Dicke**  
16.45 \*Glenn Iason (MLURI, Aberdeen, UK):  
PSMs and Extended phenotype
- 17.25 \*Joe K Bailey (Tennessee, USA)  
Cascading effects of PSMs on ecosystem function
- 18.10 – 19.00 **Poster session and bar open**
- 19.00 **Conference Dinner**

### **WEDNESDAY 14 APRIL**

#### **SESSION 3**

Integrative Systems Biology of PSMs: From Gene to Ecosystem contd

- Chair: Guy Poppy**  
09.30 Shai Morin, O. Marcovich, M. Elbaz (Hebrew University, Jerusalem), S. Malitsky and A. Aharoni (Weizman Institute of Science, Israel)  
Behavioural and molecular responses of *Bemisia tabaci* to over-expression of glucosinolates in *Arabidopsis thaliana*.
- 09.50 Erik Poelman (Wageningen University, Netherlands), M. Bruinsma (Leiden University, Netherlands), A. E. Boursault, Y. Jongema, J.J.A. Van Loon (Wageningen University, Netherlands), J.A. Harvey, L.E.M. Vet (NIOO-KNAW, Netherlands) and M. Dicke (Wageningen University, Netherlands)  
Herbivory-induced plant volatiles mediate host location by hyperparasitoids

10. 10        \*Marcel Dicke (Wageningen University, Netherlands)  
Molecular ecology of multitrophic interactions/community genomics
- 10.50        Coffee and tea**
- 11.30        Ben Moore (MLURI, Aberdeen, UK), J.L. DeGabriel, I. Lawler, I. R. Wallis  
and W. J. Foley (ANU, Canberra, Australia)  
Linking multiscale variation in plant nutrients and defence to the  
behaviour and distribution of herbivore individuals, populations and  
species
- 11.50        \*Meredith Schuman and Ian Baldwin (Max Planck Institute for Chemical  
Ecology, Jena, Germany)  
Asking the ecosystem if herbivory-induced volatile organic compounds  
have defensive functions
- 12.30        Lunch and depart**

\*: Invited presentation