Eric Scott

PhD Candidate

Update
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Publications

2019 **Interactive effects of drought severity and simulated herbivory on tea (Camellia sinensis) volatile and non-volatile metabolites** ER Scott, X Li, N Kfoury, J Morimoto, WY Han, S Ahmed, SB Cash, ...
Environmental and Experimental Botany

2019 **Combined impacts of prolonged drought and warming on plant size and foliar chemistry** CM Orians, R Schweiger, JS Dukes, ER Scott, C Müller
Annals of Botany

2018 **Exogenous Melatonin Alleviates Cold Stress by Promoting Antioxidant Defense and Redox Homeostasis in Camellia sinensis L.** X Li, JP Wei, ER Scott, JW Liu, S Guo, Y Li, L Zhang, WY Han
Molecules

2018 **Striking changes in tea metabolites due to elevational effects** N Kfoury, J Morimoto, A Kern, ER Scott, CM Orians, S Ahmed, T Griffin, ...
Food chemistry

2018 **Differential Changes in Tea Quality as Influenced by Insect Herbivory** ER Scott, CM Orians
Stress Physiology of Tea in the Face of Climate Change

2017 **Direct Contact Sorptive Extraction: A Robust Method for Sampling Plant Volatiles in the Field** N Kfoury, E Scott, C Orians, A Robbat Jr
Journal of Agricultural and Food Chemistry

2009 **Behavioural, ecological and genetic evidence confirm the occurrence of host-associated differentiation in goldenrod gall-midges** N Dorchin, ER Scott, CE Clarkin, MP Luongo, S Jordan, WG Abrahamson
Journal of evolutionary biology

2007 **Taxonomy, life history, and population sex ratios of North American Dasineura (Diptera: Cecidomyiidae) on goldenrods (Asteraceae)** N Dorchin, CE Clarkin, ER Scott, MP Luongo, WG Abrahamson
Annals of the Entomological Society of America

2006 **First Record of Macrolabis (Diptera: Cecidomyiidae) in America: A New Inquiline Species from Dasineura folliculi Galls on Goldenrods** N Dorchin, ER Scott, WG Abrahamson
Annals of the Entomological Society of America

Conferences and Presentations

Nov 2019 **Non-linear effects of tea green leafhopper (\emph{Empoasca onukii}) density on tea (\emph{Camellia sinensis}) secondary metabolites and implications for tea quality.** Entomological Society of America Joint Meeting
Saint Louis, MO

Mar 2019 **Multivariate Statistics for Ecology and Baked Goods** Tufts Graduate Student Symposium
Tufts University

➤ First place in 15 min talk category

Jan 2019 **[no presentation]** rstudio::conf 2019

Nov 2018 **The importance of insect herbivore density to induced metabolite blends in tea plants (\emph{Camellia sinensis}) and implications for tea quality** Entomological Society of America Joint Meeting
Vancouver, BC

➤ First place in section (P-IE turf and horticulture)

Teaching

Spring 2019 **Organisms and Populations (Lecture TA)**

Spring 2019 **Undergraduate Mentor**

Oct 2019	**Paired t-tests** Tufts University	Biostatistics
Feb 2019	**Lessons from fieldwork experiences** Tufts University	Intro to environmental fieldwork

Awards and Honors

Mar 2019	**Finalist for Outstanding Contributions to Undergraduate Education Award** Graduate School of Arts and Sciences
Mar 2019	**First place in Tufts Graduate Research Symposium 15 minute talk category** Graduate School of Arts and Sciences
Jan 2019	**Graduate Student Travel Fund (rstudio::conf)** Graduate School of Arts and Sciences

Other Updates

- Applied for internship at RStudio, was offered interview, but declined due to time requirement.
- Visited Gervay-Hague lab at UC Davis and was offered help writing a grant for a post-doc position there.
- I've heard from several researchers using my leafhopper egg finding method.
- I've decided not to use my 2017 leafhopper density experiment (potted plants, QXDM cultivar) for an example in the multivariate statistics paper. Instead, I'll include it with the 2018 data (mature plants, LJ and JGY cultivars).

Dissertation Outline

1. Differential Changes in Tea Quality as Influenced by Insect Herbivory (book chapter, published)
2. Using the right tool for the job: Partial least squares as an alternative to principle component regression for analysis of multivariate data in ecology.
3. Interactive effects of drought severity and simulated herbivory on tea (*Camellia sinensis*) volatile and non-volatile metabolites (published)
4. Effects of tea green leafhopper (*Empoasca onukii*) density on metabolites in different tea cultivars with implications for tea quality.
5. Interactive effects of elevated CO_2 and insect herbivory on tea plant metabolism.
6. Climate impacts on leafhopper population growth in tea fields
7. Conclusion

Timeline

January/February

- Consider using 2017 leafhopper data for example dataset in multivariate statistics paper [**DONE**]
  - I decided **not** to use it
- Begin mentoring BIO 94 student to get data for leafhopper experiments [**DONE**]

March

- Finish analysis report for CO_2 x herbivory paper [**DONE**]
- Finish analysis for multivariate statistics paper [**DONE**]
- ~~Submit multivariate stats paper to Oecologia~~

April

- Finish complete draft of multivariate stats paper (April 8)
- Submit multivariate stats paper to Oecologia
- Finish LC/MS for 2017 and 2018 leafhopper density experiments (Week of April 8)

May

- Mentee finishes leafhopper density paper (total phenolics and LC/MS compounds vs. density)
- Finish analysis of GC/MS and LC/MS data for leafhopper density experiments
- Draft of leafhopper density paper (for Frontiers in Plant Science special issue or Chemical Ecology)

June/July

- Submit leafhopper density paper (June 15)
- Begin working on ***either*** CO_2 x herbivory manuscript ***or*** leafhopper population growth manuscript

August

- submit lefhopper population growth paper

October

- Submit CO_2 x Herbivory paper

December

- Submit thesis