

## ETHAN BASS

Cornell University, Ithaca, NY • (646) 785-9575

Email: [eb565@cornell.edu](mailto:eb565@cornell.edu) | Web: <https://ethanbass.github.io/>

ORCID: [0000-0002-6175-6739](https://orcid.org/0000-0002-6175-6739) | GitHub: <https://github.com/ethanbass/>

### EDUCATION

---

**Cornell University**, Ithaca, NY.

Department of Ecology and Evolutionary Biology

PhD candidate

Advisor – Dr. André Kessler

**The University of Chicago**, Chicago, IL.

Bachelors of Science in Chemistry (honors), 2013

### PUBLICATIONS

---

6. **Bass E\***, Mutyambai D\*, Midega C, Zeyaur KR, Kessler A. Associational effects of *Desmodium* intercropping on maize resistance and secondary metabolism. *Journal of Chemical Ecology*, 2024. <https://doi.org/10.1007/s10886-024-01470-5> (\* indicates equal contribution)
5. **Bass E** and Kessler A. “Comment on ‘Information arms race explains plant-herbivore chemical communication in ecological communities.’” *Peer Community Journal* 2 (2022). <https://doi.org/10.24072/pcjournal.102>.
4. Howard M\*, **Bass E\***, Chautá A, Mutyambai D, Kessler A. Integrating plant-plant communication and rhizosphere microbial dynamics: ecological and evolutionary implications and a call for experimental rigor. *The ISME Journal*, 2022, 16(1):5-9. <https://doi.org/10.1038/s41396-021-01063-0>. (\* indicates equal contribution)
3. Whitehead SR, **Bass E**, Corrigan A, Kessler A, Katja P. Interaction diversity explains the maintenance of phytochemical diversity. *Ecology Letters*, 2021, 24(6): 1205-1214. <https://doi.org/10.1111/ele.13736>. (Recommended by Nicole van Dam on Faculty Opinions)
2. Mutyambai DM, **Bass E**, Luttermoser T, Poveda K, Midega CAO, Khan ZR, Kessler A. More Than “Push” and “Pull”? Plant-Soil Feedbacks of Maize Companion Cropping Increase Chemical Plant Defenses Against Herbivores. *Frontiers in Ecology and Evolution*, 2019, 7:217. <https://doi.org/10.3389/fevo.2019.00217>.
1. Jang S, Gornicki P, Marjanovic J, **Bass E**, Iurcotta TP, Rodriguez P, Austin J, Haselkorn R. Activity and structure of human acetyl-CoA carboxylase targeted by a specific inhibitor. *FEBS Letters*, 2018, 592(12):2048–2058. <https://doi.org/10.1002/1873-3468.13097>.

### PREPRINTS & INVITED ARTICLES

---

**Bass E**. Getting to the root of divergent outcomes in the modulation of plant-soil feedbacks by benzoxazinoids. *New Phytologist* (2024). <https://doi.org/10.1111/nph.19545>. (Commentary on <https://doi.org/10.1111/nph.19401>).

### GRANTS & FELLOWSHIPS (Total Amount: \$20,667)

---

#### FELLOWSHIPS:

2023 **Cornell Fellowship** (\$16,247).

#### GRANTS:

2023 **Cornell Sigma Xi Research Grant** (\$1000), “Comparing root morphology and secondary chemistry as drivers of fungal collaboration in a rapid radiation of herbaceous plants (*Solidago spp*)”.

**EEB Graduate Student Research Fund** (\$1000), “Comparing root morphology and secondary chemistry as drivers of fungal collaboration in a rapid radiation of herbaceous plants”.

- Cornell Atkinson Center's Sustainable Biodiversity Fund** (\$4000), “Root secondary metabolites as mediators of plant-soil feedbacks”.
- 2022 **Andrew W. Mellon Student Research Grant** (\$1000), “Integrating the effects of herbivory and plant-soil feedbacks on plant coexistence”.
- Cornell Sigma Xi Research Grant** (\$1000), “Root secondary metabolites as mediators of plant-soil feedbacks”.
- 2021 **Cornell EEB Graduate Student Research Fund** (\$3000), “Contribution of Secondary Metabolism to Disease Resistance and Regulation of the Rhizosphere Microbiome in Lettuce (*Lactuca sativa*)”.
- Cornell Sigma Xi Grant-in-Aid of Research** (\$800), “Contribution of root polyacetylenes to plant soil feedbacks in lettuce (*Lactuca sativa*)”.
- 2020 **Cornell Atkinson Center's Sustainable Biodiversity Fund** (\$7867), “Integrating the effects of herbivory and plant-soil feedbacks on plant coexistence”.
- Andrew W. Mellon Research Grant** (\$1000), “Variation in the composition of polyacetylenes in lettuce (*Lactuca sativa*) and their contribution to resistance against a common fungal pathogen — *Botrytis cinerea*”.

## TEACHING

---

### Graduate Teaching Assistant (Cornell University, Ithaca, NY)

---

Chemical Ecology	Spring 2021, 2022 & 2023
Ecology and the Environment	Spring 2022 & 2023; Fall 2018
Ecology and the Environment (Writing in the Majors*)	Fall 2021 & 2022
Evolutionary Biology and Diversity	Fall 2020
Comparative Physiology	Spring 2020
Evolutionary Biology and Diversity (Writing in the Majors*)	Spring 2019
Field Ecology	Fall 2019
Laboratory in Genetics and Genomics	Fall 2017 & Spring 2018

(\* These are intensive writing sections, designed and led by a graduate student instructor, that students can opt into in lieu of the standard discussion section).

### GreenCorps Youth Instructor (WRD Environmental, Chicago, IL)

---

Led a crew of 16-19 year old youths in project-based learning about ecology and the environment.	June – Aug 2016
--------------------------------------------------------------------------------------------------	-----------------

## PRESENTATIONS

---

- 2023 **Bass E**, Kessler A. “Root chemical defenses modulate plant-soil feedbacks in tall goldenrod (*S. altissima*)”. Cornell Department of Ecology and Evolutionary Biology December Symposium (talk).
- Bass E**, Kessler A. “Unraveling the polyacetylene paradox: Reciprocal impacts of multitrophic interactions and chemical defense evolution in tall goldenrod (*Solidago altissima*)”. Entomological Society of America Annual Meeting (invited talk).
- Bass E**, Kessler A. “Chemical defense variation modulates plant-soil feedback in tall goldenrod (*Solidago altissima*)”. Atkinson Center for a Sustainable Future Symposium (talk).

**Bass E**, Kessler A. “The regulation of plant-soil feedbacks by root chemical defenses in tall goldenrod”. Cornell plant interactions group (talk).

**Bass E**, Goodman A, Kessler A. “Root chemical defenses are structured by mutualism-defense tradeoffs in tall goldenrod (*Solidago altissima*)”. Plant Herbivore Gordon Research Conference (poster).

2022 **Bass E**, Kessler A. “Successional changes in soil microbiome influence the outcome of plant competition”. Ecological Society of America CSEE Meeting (talk).

**Bass E**, Anna G., Kessler A. “Root chemical defenses are structured by mutualism-defense tradeoffs: evidence from tall goldenrod”. Cornell Department of Ecology and Evolutionary Biology December Symposium (talk).

2021 **Bass E**, Kessler A. “Integrating the effects of plant-soil feedbacks and herbivory on plant coexistence”. Cornell Department of Ecology and Evolutionary Biology December Symposium (talk).

## STUDENT POSTERS & PRESENTATIONS

(\* indicates undergraduate mentee)

(\*\* indicates high school mentee)

2023 Cohen I\*\*, **Bass E**, Kessler A. “Investigating the Effects of Dark Septate Endophytes on Arbuscular Mycorrhizal Fungi”. Boyce Thompson Institute, George and Helen Kohut Symposium.

Gezahagne, E\*, **Bass E**, Kessler A. “Investigating the Effects of Benzoxazinoids on Arbuscular Mycorrhizal Fungi Colonization in Maize Crops”. Boyce Thompson Institute, George and Helen Kohut Symposium.

2022 Goodman A\*, **Bass E**, Kessler A. “Root defense compounds of Tall Goldenrod, *Solidago altissima*, inhibit growth of fungal mutualist, *Rhizoglyphus irregularis*”. Cornell Undergraduate Research Board Fall Forum.

2021 Alvarez B\*, **Bass E**, Kessler A. “Factors that Influence the Interaction Between Mycorrhizal Fungi and Goldenrods”. Microbial Friends & Foes REU Research Symposium.

## SELECTED SOFTWARE

### AUTHOR AND MAINTAINER

**Bass, E.** (2023). chromatographR: Chromatographic Data Analysis Toolset (R package version 0.6.0). (<https://ethanbass.github.io/chromatographR/>).

**Bass, E.** (2023). chromConverter: Chromatographic File Converter (R package version 0.5.0). (<https://ethanbass.github.io/chromConverter/>).

**Bass, E.** (2023) ggTukey: Compact Letter Displays for 'ggplot2' (R package version 0.4.0). (<https://ethanbass.github.io/ggTukey/>).

**Bass, E.** (2023). mzinspectr: Read and Analyze Mass Spectrometry Alignment Files (R package version 0.4.0). (<https://github.com/ethanbass/mzinspectr>).

## SERVICE & OUTREACH

**Reviewer** for New Phytologist (4x), *Arthropod-Plant Interactions* (2x), *Entomologia Experimentalis et Applicata* (1x).

**Reviewer** for Boyce Thompson Institute REU program (2023).

**Richard B. Root Invited Speaker Committee and Departmental Seminar Committees** (2018 – 2021)

- Coordinated annual Richard B. Root Invited Speaker seminar and EEB departmental seminar series.

**Volunteer** [Insectapalooza](#), Cornell Entomology Department, Ithaca, NY (2017 – 2023)

- Ran goldenrod ball gall activity for kids.

**Volunteer** [Cornell Diversity Preview Weekend](#) (now “Consider Cornell”) (2017-2018)

## TRAINING AND PROFESSIONAL DEVELOPMENT

---

### 2019 **Writing in the Majors Teacher Training Seminar**

John S. Knight Institute for Writing in the Disciplines, Cornell University

## OTHER RESEARCH AND PROFESSIONAL EXPERIENCE

---

April 2023 **Freelance Software Developer**, Veolia Water Technologies and Solutions (Remote)

- Developed Shiny app for converting Lumex Instruments “MDF” files to ANDI-CDF format.

Sept. 2016 – Aug. 2017 **Laboratory Technician**, Cornell University (Ithaca, NY)

Advisors: Dr. Susan Whitehead, Dr. Katja Poveda

Oct. 2013 – Sept. 2014 **Quality Control Chemist**, Cedar Concepts Corporation (Chicago, IL)

- Monitored and adjusted chemical reactions for large batches of soaps and detergents (up to 50,000 gallons).

Oct. 2011 – Aug. 2013 **Research Assistant**, University of Chicago (Chicago, IL)

Advisors: Dr. Robert Haselkorn, Dr. Piotr Gornicki