

# Marc A. Beer

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## EDUCATION

Updated Oct. 2022

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2019—Present	<b>Ph.D., Biology</b> Washington State University GPA: 4.00/4.00
2015—2019	<b>B.S., Biology</b> University of Iowa Minor: Environmental Science University Honors, Honors in Major, Phi Beta Kappa, with highest distinction GPA: 4.19/4.00

## FELLOWSHIPS

TOTAL: \$148,500.00

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2020—Present	National Science Foundation Graduate Research Fellowship \$138,000
2019—2021	Philip H. Abelson Graduate Fellowship <i>Washington State University</i> - \$8,000.00
2017	Iowa Center for Research by Undergraduates Summer Fellowship <i>University of Iowa</i> - \$2,500.00

## AWARDS and HONORS

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2020—Present	Washington State Univ. Distinguished Scholar
2019	Univ. of Iowa Honors Award for Outstanding Academic Achievement
Inducted 2018	Phi Beta Kappa Society
2016—2019	Univ. of Iowa President's List (seven semesters)
2015—2019	Univ. of Iowa Dean's List (eight semesters)
2016—2019	Univ. of Iowa Tuition Scholarship
2015—2019	Univ. of Iowa Old Gold Scholarship
2015—2019	Univ. of Iowa National Scholars Award
2018	Bill and John Fenton Scholarship
2018	Lowden Prize in Biology
2017—2018	Rhodes Dunlap Second and Third Year Awards
2017	Myrna Lee Sprengeler Memorial Scholarship
2017	Univ. of Iowa Classics Departmental Latin Award
2016	Ralph K. and Maxine J. Hibbs Scholarship

## RESEARCH EXPERIENCE

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2019—Present	<b>School of Biological Sciences, Washington State University</b> Doctoral Research, Advisor: Dr. Andrew Storfer
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- Population genomics of the Spotted-tail quoll (*Dasyurus maculatus*) Leveraged geographic information systems (GIS) data and reduced representation sequencing data to study spatiotemporal patterns of genetic variation, including:
  - Isolation by environment and isolation by resistance
  - Genetic environment association tests to identify candidate genes underlying local adaptation.
- Landscape genomics of the streamside salamander (*Ambystoma barbouri*)
  - Leveraged geographic information systems (GIS) data and reduced representation sequencing data to test for genetic-environment associations and identify candidate genes underlying local adaptation.

2017—2019

### **Department of Biology, University of Iowa**

Undergraduate Honors Research, Advisor: Dr. Andrew Forbes

- Investigation of reproductive trait evolution in fly genus *Strauzia*
  - Quantified trait values for sexually dimorphic characters
  - Compared patterns of trait divergence among host-sharing species and non-host-sharing species
- Investigation of the thermal melanism hypothesis in three temporally isolated *Strauzia* species
  - Quantified thermal properties of differentially pigmented *Strauzia* species
  - Tested for differences in fitness proxies at cold temperatures among differentially pigmented *Strauzia* species

## **TEACHING EXPERIENCE**

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2021, 2022

### **Evolutionary Medicine (BIO 395), Grading assistant**

*School of Biological Sciences, Washington State University*

- Contributed guest lectures and graded exams

2020

### **General Biology (BIO 102), Teaching Assistant**

*School of Biological Sciences, Washington State University*

- Taught 36 students per semester
- Led laboratory experiments

2019

### **General Ecology (BIO 372), Teaching Assistant**

*School of Biological Sciences, Washington State University*

- Taught 36 students per semester
- Led laboratory and field experiments

## **PUBLICATIONS**

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Kane, R.A., **Beer, M.A.**, Kozakiewicz, C.P., Lawrance M.A., Patton, A.H., and Storfer, A. How inbred is the Tasmanian devil? A meta-analysis of endemic island mammals. Manuscript in preparation.

**Beer, M.A.**, Kane, R.A., Micheletti, S.J., Kozakiewicz, C.P., and A. Storfer. 2022. Landscape genomics of the streamside salamander: Implications for species management in the face of environmental change. *Evolutionary Applications* 15(2): 220 – 236.

Hippee, A.C., **Beer, M.A.**, Bagley, R.K., Condon, M.A., Kitchen, A., Lisowski, E.A., Norrbom, A.L., and A.A. Forbes. (In press). Host shifting and host sharing in a genus of specialist flies diversifying alongside their sunflower hosts. *Journal of Evolutionary Biology* 34(2): 364 – 379.

Forbes, A.A., Bagley, R.K., **Beer, M.A.**, Hippee, A.C., and H.A. Widmayer. (2018). Quantifying the unquantifiable: why Hymenoptera - not Coleoptera - is the most speciose animal order. *BMC Ecology* 18:21.

## BOOK CHAPTERS

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Storfer, A., Kozakiewicz, C.P., **Beer, M.A.**, and A.E. Savage. (2020). Applications of population genomics for understanding and mitigating wildlife disease. In *Population Genomics: Wildlife* (P. Hohenlohe and O.P. Rajora, eds.).

## PRESENTATIONS

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\* Presenting researcher

\*Hippee, A.C., **Beer, M.A.**, Bagley, R.K., Condon, M.A., Lisowski, E.A., Norrbom, A.L., and A.A. Forbes. 01/2020. The phylogeny of genus *Strauzia* (Diptera: Tephritidae) reveals histories of host shifting, including repeated shifts onto the same plant hosts. Plant and Animal Genome Conference. San Diego, CA. Talk.

\*Hippee, A.C., **Beer, M.A.**, Bagley, R.K., Condon, M.A., Lisowski, E.A., Norrbom, A.L., and A.A. Forbes. 06/2019. The phylogeny of genus *Strauzia* (Diptera: Tephritidae) reveals histories of host shifting, including repeated shifts onto the same plant hosts. Evolution 2019. Providence, RI. Talk.

\***Beer, M.A.**, Hippee, A.C., and A.A. Forbes. 05/2019. Evolution of sexual traits in congeneric insects sharing a host plant. Biology Honors Colloquium. University of Iowa, Iowa City, IA. Talk.

\*Hippee, A.C., **Beer, M.A.**, Bagley, R.K., and A.A. Forbes. 04/2019. The phylogeny of genus *Strauzia* (Diptera: Tephritidae) reveals histories of host shifting, including repeated shifts onto the same plant hosts. DSHB Symposium on Biological Sciences. Davenport, IA. Poster.

\***Beer, M.A.**, Hippee, A.C., and A.A. Forbes. 2018. Adaptive consequences of color variation among recently diverged varieties of a specialist insect. Iowa Center for Research by Undergraduates 14<sup>th</sup> Annual Spring Undergraduate Research Festival. University of Iowa, Iowa City, IA. Poster.

\*Hippee, A.C., **Beer, M.A.**, and A.A. Forbes. 04/2017. Evolution of adaptive coloration among recently diverged varieties of a specialist insect. DSHB Symposium on Biological Sciences. Davenport, IA. Poster.

## SERVICE and OUTREACH

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2021—2022	<i>Ad hoc</i> reviewer ( <i>Evolutionary Applications</i> ; <i>Conservation Genetics</i> )
2021	WSU SBS graduate student orientation <ul style="list-style-type: none"><li>Offered advice to new students in a discussion panel entitled: “SBS Graduate Program: Student Perspectives”</li></ul>
2021	Mentored undergraduate student (Ivy Watts)
2020	Biology Graduate Student Association Family Fun Week <ul style="list-style-type: none"><li>Designed an ecology-centered take-home activity for children ages 12+</li><li>Contributed two online video lessons</li><li>Assisted in promotional activities</li></ul>
2019—2020	Palouse Discovery Science Center, Pullman, WA

- Designed and led scientific enrichment activities for children ages 3-13yrs

2020                      Invited research talk, Undergraduate Research Club, Washington State University

- Presented doctoral research to promote interest in scientific research

2015—2019              Univ. of Iowa Biological Interests Organization Volunteer

2017—2018              Fermilab Ecological Restoration Volunteer

2015—2016              Univ. of Iowa Student Garden Volunteer

## PROFESSIONAL MEMBERSHIPS

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2020—Present              American Society of Naturalists

2018—2019              Society for the Study of Evolution