

**Megan L. Smith**

Museum of Biological Diversity, 1315 Kinnear Road, Columbus, OH 43215

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**Education**

- In progress      Ph.D., Evolution, Ecology, and Organismal Biology (EEOB), The Ohio State University (OSU), Columbus, OH. Major Professor: Dr. Bryan Carstens. Expected graduation date: May 2020  
Graduate Minor in Statistics (completed)
- 2015                B.S., Biology, SMB Honors College, University of Mississippi, University, MS, with Honors Thesis. Major Professor: Dr. Richard Buchholz
- 2015                B.A., English, SMB Honors College, University of Mississippi, University, MS

**Professional Experience**

- 2019 – present    Teaching Assistant, Dept. of EEOB, OSU
- 2019 – present    OSU Distinguished University Fellow, Dept. of EEOB, OSU
- 2017                Teaching Assistant, Research Experience for Undergraduates (REU) site, Next Generation Evolutionary Biology, Dept. of EEOB, OSU
- 2016 – 2019        NSF Graduate Research Fellow, Dept. of EEOB, OSU
- 2015 – 2016        OSU Distinguished University Fellow, Dept. of EEOB, OSU
- 2013 – 2015        Undergraduate Researcher, Dr. Brice Noonan's Lab, University of Mississippi
- 2014 – 2015        Research Experience for Undergraduates, Dr. Brice Noonan's Lab, University of Mississippi
- 2012 –2015        Honors Thesis Research, Dr. Richard Buchholz's Lab, University of Mississippi

**Grants and Fellowships**

- 2015    NSF Graduate Research Fellowship (\$102,000.00)
- 2015    OSU Distinguished University Fellowship (\$55,104.00)
- 2016    SSB Graduate Student Research Award (\$1,400.00)
- 2016    James H. McLean Student Grant in Collections-Based Research (\$1,000.00)
- 2017    SSE Rosemary Grant Award (\$2,500.00)
- 2018    OSU Alumni Grants for Graduate Research (\$4,760.00)
- 2018    Osburn Graduate Student Scholarship for Research (\$2,500.00)

**Awards**

- 2018    Best Talk in the phylogenetics section—Three Rivers Evolution and Ecology Meeting, Pittsburgh, PA.
- 2018    Presentation Award – 2<sup>nd</sup> place- Ohio Super Computer Users Group Meeting, Columbus, OH.

**Service**

- 2019-Present    Guest Editor, *Molecular Ecology Resources*, Special Issue on Machine Learning
- 2018-Present    Junior Editorial Board Member, *Molecular Ecology*
- 2018-Present    Reviewer for *Molecular Ecology*, *Molecular Ecology Resources*, *Molecular Biology and Evolution*, *Software X*, *Journal of Heredity*, *Nature Scientific Reports*, *Systematic Biology*, and *Evolution*

2018-2019	President of Graduate Evolution and Ecology Students
2016-2018	Graduate Student Representative to Undergraduate Evolution and Ecology Club
2017-2018	Graduate Student Representative to Graduate Studies Committee
2018	Society for Systematic Biology Stand-Alone Meeting Planning Committee

### Undergraduate Mentoring

**2015-2016:** Ivy Larkin (High School); **2016-2017:** Dylan Projansky; **2017-2018:** Annie Chessler and Katheryn Field; **2017-2019:** David Sneddon, Sarah Blausey, Connor Lang, and Jesse Wallace

### Publications (\* indicates co-first authors)

11. **Smith, Megan L.**, Connor Lang, David Sneddon, Jesse Wallace, Andrew M. Rankin, Anahí Espíndola, Jack Sullivan, and Bryan C. Carstens. Comparative Phylogeography of Leaf-litter dwelling invertebrates from the Pacific Northwest. *In review*.
10. **Smith, Megan L.** and Bryan C. Carstens. Process-based species delimitation leads to identification of more biologically relevant species. *In review*. Preprint on bioRxiv: doi: <http://dx.doi.org/10.1101/356345>.
9. Watters, George T., **Megan L. Smith**, and D.J. Sneddon. The subfamily Abbottellinae (Annulariidae): origins, associations, and a review of the Hispaniolan taxa. *In revision*.
8. Colston, Timothy J., Brice P. Noonan, **Megan L. Smith**, R. Alexander Pyron. On the Availability of Recently Described *Ptychadena* (Anura: Ptychadenidae) Nomina from Ethiopia. *In Review*.
7. Rankin, Andrew M., Thomas Wilke, Michael Lucid, William Leonard, Anahí Espíndola, **Megan L. Smith**, Megan Ruffley, Dave Tank, Bryan C. Carstens, and Jack Sullivan. Complex interplay of ancient vicariance and recent secondary contact in northwestern North American temperate rainforests. 2019. *Biological Journal of the Linnean Society*. 127.4(876-889). DOI: <https://doi.org/10.1093/biolinnean/blz040>.
6. Sullivan, J.\*, **Smith, M.L.\***, Espíndola, A., Ruffley, M., Rankin, A., Tank, D. and Carstens, B. Integrating life history traits into predictive phylogeography. 2019. *Molecular Ecology*. 28.8(2062-2073). Doi: 10.1111/mec.15029.
5. **Smith, Megan L.**, Megan Ruffley, Andrew M. Rankin, Anahí Espíndola, David C. Tank, Jack Sullivan, and Bryan C. Carstens. Testing for the presence of cryptic diversity in tail-dropper slugs (*Prophysaon*) using molecular data. 2018. *Biological Journal of the Linnean Society*. 124.3(518-532). Doi: <https://doi.org/10.1093/biolinnean/bly067>.
4. Ruffley, Megan R., **Megan L Smith**, Anahí Espíndola, Bryan C. Carstens, David C. Tank, and Jack Sullivan. Combining allele frequency and tree-based approaches improves phylogeographic inference from natural history collections. 2018. *Molecular Ecology*. 27.4(1012-1024). Doi: <https://doi.org/10.1111/mec.14491>.
3. **Smith, Megan L.**, Megan Ruffley, Anahí Espíndola, David C. Tank, Jack Sullivan, and Bryan C. Carstens. Demographic Model Selection using Random Forests and the Site Frequency Spectrum. 2017. *Molecular Ecology*. 26.17(4562-4573). Doi: <https://doi.org/10.1111/mec.14223>.
2. **Smith, Megan L.**, Brice P. Noonan, and Timothy J. Colston. The Role of Climatic and Geological Events in Generating Diversity in Ethiopian Grass Frogs (Genus *Ptychadena*). 2017. *Royal Society Open Science*. 4.8(170021). Doi: 10.1098/rsos.170021.
1. Espíndola, Anahí, Megan Ruffley, **Megan L. Smith**, Bryan C. Carstens, David C. Tank, and Jack Sullivan. Identifying cryptic diversity with predictive phylogeography. 2016. Proceedings of the Royal Society B 283(20161529). doi: 0.1098/rspb.2016.1529.

### Invited Talks and Seminars

2. **Smith, Megan L.\*** Studying speciation in terrestrial gastropods: integrating genomic, ecological, and morphological data. Invited Seminar. 2019. University of Michigan, Ann Arbor, MI.

1. **Smith, Megan L.\*** and Bryan C. Carstens. Process-based species delimitation leads to identification of more biologically relevant species. Talk in Refereed Society of Systematic Biology Ernst Mayr Symposium. 2019. Evolution meeting, Providence, RI.

**Contributed Talks** (\* indicates presenter, + indicates undergraduate researcher presenter)

14. **Smith, Megan L.\*** and Bryan C. Carstens. Considering the process of speciation while investigating species limits suggests reinforcement as a driver of speciation in taildropper slugs. Talk. 2019. World Congress of Malacology. Asilomar, CA.
13. David Sneddon<sup>+</sup>, **Megan L. Smith**, and Bryan C. Carstens. Does microhabitat influence cryptic diversity? An investigation using microsnails *Punctum randolphi* from the Pacific Northwest rainforests. Poster. 2019. Evolution meeting, Providence, RI.
12. Jessica Wallace<sup>+</sup>, **Megan L. Smith**, and Bryan C. Carstens. Using next-gen sequencing to infer the evolutionary history of *Prophysaon andersoni*. Poster. 2019. Ohio State Denman Undergraduate Research Forum. Columbus, OH.
11. Connor Lang<sup>+</sup>, Jessica Wallace, David Sneddon, **Megan L. Smith**, and Bryan C. Carstens. Exploring biodiversity of microsnails within the Pacific Northwest. Poster. 2019. Ohio State Denman Undergraduate Research Forum. Columbus, OH.
10. David Sneddon<sup>+</sup>, **Megan L. Smith**, and Bryan C. Carstens. An assessment of the diversity of a subfamily of snails (Abbottellinae) and their relatedness within Annulariidae. Poster. 2019. Ohio State Denman Undergraduate Research Forum. Columbus, OH.
9. **Smith, Megan L.\*** and Bryan C. Carstens. Disentangling the process of speciation using machine learning. Talk. 2018. Ohio Super Computer Users Group Meeting, Columbus, OH.
8. **Smith, Megan L.\*** and Bryan C. Carstens. Disentangling the process of speciation using machine learning. Talk. 2018. Three Rivers Evolution and Ecology Meeting, Pittsburgh, PA.
7. **Smith, Megan L.\*** and Bryan C. Carstens. Species delimitation using Random Forests and the Site Frequency Spectrum. Talk. 2018. Society of Systematic Biologists Meeting, Columbus, OH.
6. **Smith, Megan L.\*** and Bryan C. Carstens. Species delimitation with gene flow. Talk. 2017. Graduate Student Recruitment Event, Ohio State University, Columbus, OH.
5. **Smith, Megan L.\***, Megan Ruffley, Anahí Espíndola, David C. Tank, Jack Sullivan, and Bryan C. Carstens. Species limits and relationships within tail-dropper slugs (genus *Prophysaon*) from the Pacific Northwest. Talk. 2017. Evolution meeting, Portland, OR.
4. Espíndola, Anahí, Megan Ruffley, **Megan L. Smith\***, David C. Tank, Bryan C. Carstens, Jack Sullivan. Identifying cryptic diversity with predictive phylogeography. Talk. 2017. Graduate Student Recruitment Event, Ohio State University, Columbus, OH.
3. **Smith, Megan L.\***, Megan Ruffley, Anahí Espíndola, David C. Tank, Jack Sullivan, and Bryan C. Carstens. Testing models of colonization in the robust lancetooth snail (*Haplotrema vancouverense*) from the Pacific Northwest using Approximate Bayesian Computation and the Site Frequency Spectrum. Talk. 2016. Evolution meeting, Austin, TX.
2. **Smith, Megan L.\***, Brice P. Noonan, and Timothy J. Colston. Cryptic Diversity in Ethiopian *Ptychadena* Revealed Through Molecular Data. Talk. 2015. Society for the Study of Amphibians and Reptiles Annual Meeting, Lawrence, KS.
1. **Smith, Megan L.\***, Brice P. Noonan, and Timothy J. Colston. Cryptic Diversity in Ethiopian Amphibians Revealed Through Molecular Data. Poster. 2014. Evolution meeting, Raleigh, NC.

**Society Memberships**

2015-Present: Society for the Study of Evolution, Society of Systematic Biologists, Western Society of Malacologists, American Malacological Society