

Scott Chamberlain

scott@ropensci.org • scottchamberlain.info • github.com/sckott

Work

- 2011-present** **rOpenSci** Co-founder and Technical Lead: non-profit to facilitate open science through the creation of open source software. <https://ropensci.org>
- 2012-2014** **Postdoctoral Scholar, Simon Fraser University** Plant-pollinator networks

Education

- 2012** **PhD, Ecology & Evolutionary Biology** Rice University
- 2009** **M.A., Ecology & Evolutionary Biology** Rice University
- 2003** **B.S., Biological Sciences** California State University

Programming

- R** 14 years experience; for research projects, and as packages (GitHub: <https://github.com/sckott>). I have about 90 published R packages (see <https://ropensci.org/packages/>) and more in development.
- Python** 6 years experience; having used Python for a variety of research projects, and I maintain 4 published Python packages (PyPi profile: <https://pypi.org/user/sckott>).
- Ruby** 6 years experience; I maintain 8 published Ruby packages (Rubygems profile: <https://rubygems.org/profiles/sckott>) and various projects.
- C++** A few years C++ programming; incorporated C++ code into a few R packages.
- Databases** Experience managing SQL (MySQL, PostgreSQL) and NoSQL (MongoDB, CouchDB, Redis) databases.
- Other** HTML/CSS

Selected Software/Applications

- R** **taxize** (<https://github.com/ropensci/taxize>) a taxonomic tool-belt; 146 citations
- rgbif** (<https://github.com/ropensci/rgbif>) client for data from the Global Biodiversity Information Facility; 135 citations
- fishbase** (<https://github.com/ropensci/rgbif>) client for Fishbase data; 58 citations

rredlist (<https://github.com/ropensci/rredlist>) client for the IUCN Red List data; 16 citations

Downloads across my R packages: 31 w/ > 1000 downloads/month; 3 w/ > 10,000 downloads/month

Python habanero (<https://pypi.org/project/habanero>) client for Crossref web services; ca. 1,800 downloads/month.

pygbif (<https://pypi.org/project/pygbif/>) client for the Global Biodiversity Information Facility; ca. 250 downloads/month.

Ruby serrano (<https://rubygems.org/gems/serrano>) client for Crossref web services; 22K downloads.

Web Services Maintain four RESTful APIs (Application Programming Interface's) for scientific use (<https://fishbase.ropensci.org/>, <https://ftdoi.org/>, <https://plantsdb.xyz/>), and use by other software developers (<https://cranchecks.info/>). Software stack: Ruby, Docker, MySQL or PostgreSQL, Caddy server, Redis.

Publications

- Conde, D. A., Staerk, J., Colchero, F., **Chamberlain, S.**, *et al.* 2019. Data gaps and opportunities for comparative and conservation biology. **PNAS**, 116(19), 9658–9664. <https://doi.org/10.1073/pnas.1816367116>
- Ram, K., Boettiger, C., **Chamberlain, S.**, *et al.* 2019. A Community of Practice Around Peer Review for Long-Term Research Software Sustainability. **Computing in Science & Engineering**, 21(2), 59–65. <https://doi.org/10.1109/MCSE.2018.2882753>
- D Pearse, W., & A **Chamberlain, S.** 2018. Suppdata: Downloading Supplementary Data from Published Manuscripts. **Journal of Open Source Software**, 3(25), 721. <https://doi.org/10.21105/joss.00721>
- Foster ZSL, Chamberlain S and Grünwald NJ. 2018. taxa: An R package implementing data standards and methods for taxonomic data. **F1000Research**, 7:272 <https://doi.org/10.12688/f1000research.14013.2>
- **Chamberlain, S.**, C. Boettiger. 2017. R Python, and Ruby clients for GBIF species occurrence data. **PeerJ Preprints**. <https://peerj.com/preprints/3304v1/>
- Winslow, L. A., **Chamberlain, S.**, *et al.* (2016). sbtools: A package connecting R to cloud-based data for collaborative online research. **The R Journal**, 8(1), 387-398. <https://doi.org/10.1371/journal.pone.0127781>
- Boettiger C, Chamberlain S, *et al.* RNeXML: A Package for Reading and Writing Richly Annotated Phylogenetic, Character, and Trait Data in R. **Methods in Ecology & Evolution**, 7, 352-357. <https://doi.org/10.1111/2041-210X.12469>
- Boettiger, C., **Chamberlain, S.**, *et al.* 2015. RNeXML: a package for reading and writing richly annotated phylogenetic, character and trait data in R. **Methods in Ecology & Evolution**, 7(3), 352–357. <https://doi.org/10.1111/2041-210x.12469>
- Boettiger, C., **Chamberlain, S.**, Hart, E., & Ram, K. 2015. Building software, building community: lessons from the rOpenSci project. **Journal of Open Research Software**, 3(1). <https://doi.org/10.5334/jors.bu>

- Guo H, Chamberlain S.A., *et al.* 2015. Geographic Variation in Plant Community Structure of Salt Marshes: Species, Functional and Phylogenetic Perspectives. **PLoS ONE** 10(5): e0127781. <https://doi.org/10.1371/journal.pone.0127781>
- Mair, P, and S. Chamberlain. 2014. Web Technologies Task View. **The R Journal** 6(1): 178-181. <https://bit.ly/taskview-ms>
- Revell, L., S.A. Chamberlain. 2014. Rphylop: An R interface for PHYLIP. **Methods in Ecology & Evolution** <https://doi.org/10.1111/2041-210X.12233>
- **Chamberlain, S., et al.** 2014. Traits and phylogenetic history contribute to network structure across Canadian plant-pollinator communities. **Oecologia** <https://doi.org/10.1007/s00442-014-3035-2>
- **Chamberlain, S., et al.** 2014. Phylogenetic tree shape and the structure of mutualistic networks. **Journal of Ecology** <https://doi.org/10.1111/1365-2745.12293>
- **Chamberlain, S., J.A. Rudgers, and J.L. Bronstein.** 2014. How context-dependent are species interactions. **Ecology Letters** <https://doi.org/10.1111/ele.12279>
- Barraquand F, Ezard TH, Jørgensen PS, Zimmerman N, Chamberlain S *et al.* 2014. Lack of quantitative training among early-career ecologists: a survey of the problem and potential solutions. **PeerJ** 2:e285 <https://doi.org/10.7717/peerj.285>
- Vamosi, J.; **Chamberlain, S., et al.** 2014. Pollinators visit related plant species across 29 plant-pollinator networks. **Ecology & Evolution** <https://doi.org/10.1002/ece3.1051>
- Chamberlain SA, Szöcs E. 2013. taxize: taxonomic search and retrieval in R [v1; ref status: indexed, <http://f1000r.es/1pvj>] **F1000Research** 2013, 2:191 <https://doi.org/10.12688/f1000research.2-191.v2>
- **Chamberlain, S., J.A. Rudgers, & K.D. Whitney.** 2013. Proximity to agriculture alters abundance and community composition of wild sunflower mutualists and antagonists. **Ecosphere** <https://doi.org/10.1890/ES13-00026.1>
- **Chamberlain, S.** 2013. Consuming Article-Level Metrics: Observations and Lessons from Comparing Aggregator Provider Data. **Information Standards Quarterly.** <https://doi.org/10.3789/isqv25no2.2013.02>
- **Chamberlain, S., S.M. Hovick, ...et al...K.D. Whitney.** 2012. Does phylogeny matter? Assessing the impact of phylogenetic information in ecological meta-analysis. **Ecology Letters** 15(6):627-636. <https://doi.org/10.1111/j.1461-0248.2012.01776.x>
- **Chamberlain, S., & J.A. Rudgers.** 2012. How do plants balance multiple mutualists? Correlations among traits for attracting protective bodyguards and pollinators in cotton (*Gossypium*). **Evolutionary Ecology** 26:65-77. <https://doi.org/10.1007/s10682-011-9497-3>
- Holland, J.N., Chamberlain, S. and T.E.X. Miller. 2011. Consequences of ants and extrafloral nectar for a pollinating seed-consuming mutualism: ant satiation, floral distraction, or plant defense? **Oikos** <https://doi.org/10.1111/j.1600-0706.2010.18958.x>
- **Chamberlain, S., et al.** 2010. Do extrafloral nectar resources, abundances, and body sizes contribute to the structure of ant-plant mutualistic networks? **Oecologia** 164:741-750. <https://doi.org/10.1007/s00442-010-1673-6>
- Holland, J.N., **Chamberlain, S., & K.C. Horn.** 2010. Temporal variation in extrafloral nectar secretion by reproductive tissues of the senita cactus, *Pachycereus schottii* (Cactaceae), in the Sonoran Desert of Mexico. **Journal of Arid Environments** 74(6):712-714. <https://doi.org/10.1016/j.jaridenv.2009.10.008>
- **Chamberlain, S., & J.N. Holland.** 2009. Quantitative synthesis of context-dependency in ant-plant protection mutualisms. **Ecology** 90(9):2384-2392. <https://doi.org/10.1890/08-1490.1>

- Holland, J.N., S.A. Chamberlain, *et al.* 2009. Effects of pollen load and donor diversity on variation in seed and fruit size in a columnar cactus, *Pachycereus schottii* (Cactaceae). **International Journal of Plant Sciences** 170:467-475. <https://doi.org/10.1086/597266>
- **Chamberlain, S.** & J.N. Holland. 2009. Body size predicts degree in ant-plant mutualistic networks. **Functional Ecology** 23:196-202. <https://doi.org/10.1111/j.1365-2435.2008.01472.x>
- Holland, J.N., **Chamberlain, S.**, & K.C. Horn. 2009. Optimal defence theory predicts investment in extrafloral nectar resources in an ant-plant mutualism. **Journal of Ecology** 97(1):89-96. <https://doi.org/10.1111/j.1365-2745.2008.01446.x>
- **Chamberlain, S.** & J.N. Holland. 2008. Density-mediated and context-dependent consumer-resource interactions between ants and extrafloral nectar plants. **Ecology** 89(5):1364-1374. <https://doi.org/10.1890/07-1139.1>
- **Chamberlain, S.** & R.A. Schlising. 2008. Role of honey bees (Hymenoptera: Apidae) in the pollination biology of a California native plant, *Triteleia laxa* (Asparagales: Themidaceae). **Environmental Entomology** 37(3):808-816. <https://doi.org/10.1093/ee/37.3.808>
- Holland, J.N. & S.A. Chamberlain. 2007. Ecological and evolutionary mechanisms for low seed:ovule ratios: need for a pluralistic approach? **Ecology** 88(3):706-715. <https://doi.org/10.1890/06-1283>
- Schlising, R.A. & S.A. Chamberlain. 2006. Biology of the geophytic lily, *Triteleia laxa* (Themidaceae), in grasslands of the Northern Sacramento Valley. **Madroño** 53(4):321-341. [https://doi.org/10.3120/0024-9637\(2006\)53%5B321:BOTGLT%5D2.0.CO;2](https://doi.org/10.3120/0024-9637(2006)53%5B321:BOTGLT%5D2.0.CO;2)

Talks and Posters

- 2019 useR, Toulouse, France. **talk**
- 2019 R user group meeting, Portland, OR. **talk**
- 2018 Biodiversity Information Standards (TDWG), Dunedin, New Zealand. **talk**
- 2018 Joint Statistical Meeting, Vancouver, Canada. **talk**
- 2018 Bioinformatics Open Source Conference (BOSC), Portland, OR. **talk**
- 2018 Digital Data in Biodiversity Research Conference, Berkeley, CA. **poster**
- 2018 Digital Data in Biodiversity Research Conference, Berkeley, CA. **talk**
- 2018 CDC R user group. **talk**
- 2017 University of Oregon, Eugene, OR. **guest lecture**
- 2017 Biodiversity Information Standards (TDWG) meeting, Ottawa, Canada. **talk**
- 2017 Ecological Society of America conference, Portland, OR. **talk**
- 2017 University of Oregon, Eugene, OR. **guest lecture**
- 2017 Open Source Systems in the Public Sector. **two talk's**
- 2016 Philosophy And History Of Open Science symposium. **talk**
- 2016 R meetup group, Portland, OR. **talk**
- 2015 Crossref Annual Meeting. **keynote & talk**
- 2015 SFBay Apache Lucene/Solr Meetup at Stanford University. **talk**
- 2014 Simon Fraser University Statistics Department. **seminar**
- 2014 University of Georgia Odum School of Ecology. **seminar**
- 2014 QCBS meeting, Montreal, Canada. **talk**
- 2013 Simon Fraser University Library. **talk**
- 2013 Ecological Society of America conference. **lightning talk**
- 2012 British Ecological Society conference. **talk & workshop**

- 2012 University of Calgary Biological Sciences Department. **seminar**
- 2012 Ecological Society of America conference. **poster**
- 2011 Ecological Society of America conference. **talk**
- 2011 Rice University-University of Houston Joint Graduate Student Conference. **talk**
- 2009 Ecological Society of America conference. **talk**
- 2009 Southeastern Ecol. and Evol. Conference, Univ. Florida. **talk**
- 2009 Ecological Integration Symposium at Texas A&M University. **talk**
- 2008 Entomological Society of America conference. **talk**
- 2008 Ecological Society of America conference. **talk**
- 2007 California Botanical Society 22nd Graduate Student conference. **talk**
- 2003 CALFED Bay-Delta conference. **poster**

Grants

- 2012 Public Library of Science & Mendeley Binary Battle - 3rd place in code competition (\$1,000) - together with Carl Boettiger and Karthik Ram
- 2011 Ecological Society of America Population Biology Section Travel Award to the 2011 ESA Conference (\$250)
- 2010-2011 Lodieska Stockbridge Vaughn Fellowship (\$16,250 towards stipend)
- 2010 Prairie Biotic Research, Inc. (\$896)
- 2009 Envision Grant, Leadership Rice, Rice University (\$1,618) – together with Rice undergraduates Samuel Jacobson and Myra Lara
- 2009 Best Thesis, Department of Ecology and Evolutionary Biology, Rice University
- 2006-2007 Wray-Todd Graduate Fellowship
- 2008 Best Graduate Student Paper, presented by Department of Ecology and Evolutionary Biology, Rice University (\$100)
- 2002 National Science Foundation REU (Research Experience for Undergraduates), California State University, Chico (\$3,000)

Student mentoring

Larry Liu (Summer 2008), Rameez Anwar (Fall 2008-Spring 2009), Yosuke Akiyama (Fall 2008-Spring 2009), Rohini Sigireddi (Summer 2009), Neha Deshpande (Summer 2009), Matt King (Spring 2010), Tianshi Ji (Fall 2010), Morgan Black (Fall 2010-2011), Roy Wu (Fall 2010), Thanh Vu (Spring 2011-2012), Charles Danan (Spring 2011-2012)

Peer review service/Editorial

- **Subject Editor:** Biodiversity Data Journal
- **Grant Proposals:** Chan Zuckerberg Initiative, 2x
- **Peer Review** (55 total): African Journal of Agricultural Research, Agricultural & Forest Entomology (2), The American Naturalist, Annals of Botany (2), Biodiversity Data Journal, Biological Invasions, Ecography (4), Ecological Complexity, Ecological Entomology, Ecological Complexity, Ecology (3), Ecology Letters, Ecology and Evolution, Environmental Management, Evolutionary Ecology, Florida Entomologist (2), Journal of Avian Biology, Journal of Ecology (4), Journal of Tropical Ecology, Methods in Ecology and Evolution (7), New Phytologist, Oecologia, Oikos (3), Plant Ecology, PLOS One (2), Population Ecology (2), Proceedings of the Royal Society B, The R Journal (2), Scientific Data (3), PeerJ, F1000Research