

**Curriculum Vitae**  
**Benjamin E. Carter**  
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benjaminccarter125@gmail.com

**Education**

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Ph.D. 2012. Integrative Biology, University of California, Berkeley. Dissertation: Systematics and ecology of the moss genus *Scleropodium*. Faculty supervisor: Brent Mishler  
B.S. 2003. Ecology & Systematic Biology, California Polytechnic State University, San Luis Obispo.

**Professional Experience**

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8/2015-present *Assistant Professor, Director of the Sharsmith Herbarium*  
San Jose State University  
3/2013-7/2015. *Post-doctoral Research Associate*, Duke University. Supervisor: Jon Shaw  
6/2012-2/2013. *Assistant Curator*, Catalina Island Conservancy Herbarium.  
2009. *Research Associate*, Molecular Phylogenetics Lab of the University & Jepson Herbaria, UC Berkeley  
2008. *Curatorial Assistant*, Museum of Vertebrate Zoology, UC Berkeley  
2007. *Curatorial Assistant*, University & Jepson Herbaria, UC Berkeley  
2004-present. *Specimen collection and curation*. To date, I have collected over 9000 plant specimens, primarily bryophytes, including large collections from French Polynesia, Africa, the California Channel Islands, and the Coast Ranges of California.

**Publications**

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- Carter, B.E.**, E. Kraichak, J. Schaffer & G. Gilbert. *in review*. Co-occurring epiphytic bryophytes and lichens function as separate metacommunities
- Carter, B.E.** *in press*. A checklist of the bryophytes of the California Channel Islands. Madroño.
- Shaw, A.J., B. Shaw, M.G. Johnson, N. Devos, K.I. Flatberg, H.K. Stenøin & **B.E. Carter**. 2015. Genetic and phylogenetic structure of the Pacific Rim clade of *Sphagnum* subg. *Subsecunda*: haploid and allodiploid taxa. *Botanical Journal of the Linnean Society* 116:295-311.
- Larraín, J., **B.E. Carter**, B. Shaw, J. Hentschel, L.S. Strozier, T. Furuki, J. Heinrichs, B. Crandall-Stotler, J. Engel & M. von Konrat. 2015. The resurrection of *Neohattoria* (Jublucaceae, Marchantiophyta): a six decade systematic conflict resolved through a molecular perspective. *Phytokeys* 50:101-122.
- Ignatova, E.A., L.E. Kurbatova, O.I. Kuznetsova, O.V. Ivanov, J.R. Shevock, **B.E. Carter** & M.S. Ignatov. 2015. The genus *Scouleria* (Bryophyta) in Russia revisited. *Arctoa* 24:47-66.
- Carter, B.E.** 2014. A global revision of *Scleropodium* (Brachytheciaceae, Bryophyta). *Systematic Botany* 39:681-697.
- Carter, B.E.** 2014. The ecology and expanding distribution of *Campylopus introflexus* (Dicranaceae), an introduced moss in North America. *Madroño* 61: 82-86.
- Carter, B.E.**, S. Nostratinia & J. Shevock. 2014. A revisitation of species circumscriptions and evolutionary relationships in the genus *Scouleria* (Scouleriaceae). *Systematic Botany* 39:4-9.
- Liu, Y., C. Ah-Peng, N. Wilding, J. Bardat, N. Devos, **B. Carter** and A.J. Shaw. 2014. Population structure in the tropical peatmoss *Sphagnum tumidulum* Besch. (Sphagnaceae). *The Bryologist* 117:329-335.
- Crutsinger, G., **B.E. Carter** and J. Rudgers. 2013. Soil nutrients trump plant genetic effects on understory plant communities. *Oecologia* 173:1531-1538.
- von Konrat, M., P. de Lange, J. Larraín, J. Hentschel, **B.E. Carter**, B. Shaw and A.J. Shaw. 2013. A small world: Uncovering hidden diversity in *Frullania*- A new species from Aotearoa-New Zealand. *Polish Botanical Journal* 58:437-447.
- Carter, B.E.** 2012. *Scleropodium occidentale*, a new moss species from western North America. *The Bryologist* 115(2): 222-230.
- Carter, B.E.** 2012. Species delimitation and cryptic diversity in the moss genus *Scleropodium* (Brachytheciaceae).

- Molecular Phylogenetics & Evolution 63:891-903.
- Carter, B.E.** 2012. Systematics and Ecology of the moss genus *Scleropodium* (Brachytheciaceae). PhD Dissertation, University of California, Berkeley.
- Carter, B.E.** 2011. The Life of G. E. Hutchinson [Book Review]. *The Bryologist* 114:840-842.
- Seppelt R.D., L.H. Cave, & **B.E. Carter**. 2011. Introduced mosses in the Flora of Tasmania. I. *Scleropodium* and *Pseudoscleropodium* (Bryopsida: Brachytheciaceae). *Kanunnah*, 4:72-81.
- Carter, B.E.** 2010. The taxonomic status of the Tasmanian endemic moss *Scleropodium australe* (Brachytheciaceae). *The Bryologist* 113:775-780.
- Loarie, S.R., **B.E. Carter**, K. Hayhoe, S. McMahon, C.A. Knight, & D.D. Ackerly. 2008. Climate change and the future of California's endemic flora. *PLoS ONE*. 3(6):1-10.

## Teaching

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### Awards

2011. Outstanding Graduate Student Instructor. University of California, Berkeley
2006. Outstanding Teaching Assistant. Biological Sciences Dept., California Polytechnic State University, San Luis Obispo

### Lecturing Appointments

2015. General Biology, SJSU  
 With another instructor, I teach a 270 student lecture and oversee the teaching of associated lab and activity sections. This course is the ecology and evolution portion of a two-semester general biology series taken by all biology majors at SJSU.
2012. Vascular Plant Systematics, UC Berkeley  
 As the instructor of record for the course, I was responsible for developing curriculum, providing a one-hour lecture twice a week, and supervising a plant collector and two graduate student assistants who each taught two three-hour labs per week.

### Graduate Student Teaching Appointments

- 2006-2011. University of California, Berkeley (*8 semesters*).
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| <i>Course Title (number of terms taught)</i> |                              |
| General Biology (2)                          | Ecosystems of California (2) |
| Plant Systematics (2)                        | California Plant Life (1)    |
| Community & Population Ecology (1)           |                              |
- 2003-2006. California Polytechnic State University, San Luis Obispo (*11 Quarters*).
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|-----------------------------------|------------------------------------|
| General Biology (1)               | Plant & Animal Form & Function (1) |
| Animal Diversity & Ecology (1)    | General Botany (2)                 |
| Plant Diversity & Ecology (3)     | Field Botany (2)                   |
| Diversity and History of Life (1) |                                    |

### Workshop Facilitation

2010. *Molecular Systematics and Conservation*, University of Dar-es-Salaam, Tanzania (10 days)
2009. *Phylogenetics and Biogeography in California*, University of California, Berkeley (1 day)

### Guest Lectures

2014. *The genetics of life* in *The Evolution of Life*, Duke University
2014. *Liverworts & Hornworts* in *Plant Diversity*, Duke University
2014. *Mosses* in *Plant Diversity*, Duke University
2013. *Bryophytes and Ferns* in *Biodiversity*, Elon University
2011. *Systematics* in *Ecosystems of California*, UC Berkeley
2011. *The Channel Islands* in *California Plant Life*, UC Berkeley
2010. *Conservation Priorities in California* in *Ecosystems of California*, UC Berkeley
2010. *Phylogenetics* in *Ecosystems of California*, UC Berkeley
2008. *Coexistence* in *Community & Population Ecology*, UC Berkeley

2007. *Plant Communities* in California Plant Life. UC Berkeley  
2006. *Plant Hormones* in Plant & Animal Form & Function, Cal Poly, San Luis Obispo

## Grants

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Pending- Digitization TCN: Enriching California specimen data to link phenological and environmental change in a biodiversity hotspot (subaward) \$14,921  
2015. US Navy Cooperative Agreement No: N62473-14-2-0005 (subaward). Inventory of the bryophytes of San Nicolas Island \$10,000  
2012. NSF Doctoral dissertation improvement grant \$12,500  
2012. Jepson Herbarium Heckard Grant \$3,200  
2012. Southern California Botanists research grant \$500  
2010. Society for the Study of Evolution International Events Award \$1000

## Research Presentations

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### Posters presented by undergraduates working under my supervision

Chen, P., C.M. Guilliams, B. Carter & B. Baldwin. 2014. Phylogeny and biogeography of *Ribes* (Grossulariaceae) with an emphasis on North American/Asian disjunction. Botanical Society of America, Boise ID.  
Li., G., C.M. Guilliams & B. Carter. 2014. Seeking answers in the ground: how fossil taxonomy can support currant phylogenetics. Botanical Society of America, Boise ID.  
Chen, P., C.M. Guilliams, B. Carter, & B. Baldwin. 2013. Phylogenetic Relationships in the California Currants: *Ribes* section *Calobotrya*. Northern California Botanists 5<sup>th</sup> Symposium, Chico, CA.  
Li., G., B. Carter & C.M. Guilliams. 2013. Evolution of leaf morphology in *Ribes* (Grossulariaceae), section *Calobotrya*, with a focus on species delimitation in *Ribes malvaceum*. Northern California Botanists 5<sup>th</sup> Symposium, Chico, CA.

### Oral presentations at conferences and professional meetings

Carter, B.E., T. Misiewicz, H. Stenøin, B. Shaw, J. Larrain, M. von Konrat & J. Shaw. 2014. Is there a correlation between phylogenetic distance and gene flow among closely related species? A test using the *Frullania tamarisci* complex. Botanical Society of America, Boise, ID.  
Carter, B.E., C.M. Guilliams, P. Chen & G. Li. 2013. Biogeography and diversification of *Ribes* section *Calobotrya* (Grossulariaceae). Botanical Society of America, New Orleans, LA.  
Carter, B.E. 2013. Cryptic speciation in the California moss genus *Scleropodium* (Brachytheciaceae). Northern California Botanists 5<sup>th</sup> Symposium, Chico, CA.  
Carter, B.E., S. Nostratinia & J. Shevock. 2012. New insight into the systematics and biogeography of Scouleriaceae based on molecular phylogenetic evidence. Botanical Society of America, Columbus, OH.  
Carter, B.E. 2012. A case study of the gray area where species non-monophyly and cryptic speciation overlap. 3<sup>rd</sup> International Symposium on the Molecular Systematics of Bryophytes, Bronx, NY.  
Carter, B.E. 2009. Intercontinental disjunction and cryptic species in the moss genus *Scleropodium* (Brachytheciaceae). Botanical Society of America, Snowbird, UT.  
Carter, B.E. & B. Mishler. 2009. 'Tortoise & Hare' for the mosses: Assessing the relative utility of chloroplast markers for moss phylogenetics. Botanical Society of America, Snowbird, UT.  
Carter, B.E., J. Shevock, P. Wilson & D. Norris. 2008. The California moss flora... description, activity & future directions. American Bryological and Lichenological Meeting, Asilomar, CA.  
Carter, B.E. 2007. Using floristic data to assess spatial patterns of moss traits in a heterogeneous landscape: A case study from California. American Bryological and Lichenological Meeting, Xalapa, Mexico.  
Carter, B.E., S. Loarie, C. Knight, K. Hayhoe, R. Moe, & D. Ackerly. 2007. Climate Change and the fate of California's endemic flora. Bay Area Conservation Biology Symposium, Berkeley CA.  
Carter, B.E., S. Loarie, C. Knight, K. Hayhoe, R. Moe, & D. Ackerly. 2007. Climate Change and the disassociation of California plant communities. California Botanical Society Grad. Student Meeting, San Luis Obispo CA.  
Carter, B.E., S. Loarie, C. Knight, P. Thornton, & D. Ackerly. 2005. Extinction Sinks and Shifting Biodiversity Hotspots in the California Floristic Province. Bay Area Conserv. Biol. Symposium, Stanford Univ., CA.

### Research seminar presentations

2015. Diversification of non-vascular plants in the California Floristic Province. Research Colloquium, San Francisco State University
2014. Assessing the importance of climate versus island biogeography theory in the flora of the bryophytes of the California Channel Islands. Systematics Discussion Group, Duke University
2012. Systematics and ecology of the moss genus *Scleropodium*. Botany Lunch seminar series, UC Berkeley.
2011. Diversity and Rarity of cryptogams in a long term monitoring plot in Santa Cruz, CA. Ecology Lunch seminar series, UC Berkeley.
2011. Bryophytes of the Channel Islands. Catalina Island Conservancy, Avalon, CA.
2010. Ecology and Biogeography of California Mosses. Departmental Seminar, Santa Rosa Junior College, Santa Rosa, California.
2008. Life history and ecosystem role of an aquatic moss. Ecology Lunch seminar series, UC Berkeley.
2008. Systematics and Biogeography of the moss genus *Scleropodium*. Botany Lunch seminar series, UC Berkeley.
2008. Using floristic data to assess spatial patterns of moss traits in a heterogeneous landscape: A case study from California. Ecology Lunch seminar series, UC Berkeley.
2007. Using floristic data to assess spatial patterns of moss traits in a heterogeneous landscape: A case study from California. Botany Lunch seminar series, UC Berkeley.
2006. Climate Change and the fate of California's endemic flora. Botany Lunch seminar series, UC Berkeley.
2006. The bryophyte flora of San Luis Obispo County, California. Botany Lunch seminar series, UC Berkeley.

### Synergistic Activities

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- 2012-present. California Native Plant Society Rare Plant Status Reviewer
- 2008-2010. California Botanical Society Graduate Student Representative
- 2008-2009. Integrative Biology Graduate Student Association coChair, UC Berkeley

#### Refereed articles for:

Journal of Bryology	Oikos
Journal of Biogeography	Phytotaxa
Molecular Phylogenetics & Evolution	Western North American Naturalist
Australian Journal of Systematic Botany	Taxon
Madroño	Journal of Arid Environments
Ecological Indicators	Journal of Vegetation Science
Nova Hedwigia	

### References

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References available upon request.