

## EDUCATION

University of Arizona, Tucson, Arizona  
Ph.D., Department of Ecology and Evolutionary Biology, 2001  
Dissertation title: Evolution of floral traits: biogeography, pollination biology, and phylogenetics of *Macromeria*  
Dissertation advisor: Dr. Lucinda A. McDade

Antioch New England Graduate School, Keene, New Hampshire  
Master of Science degree in Environmental Studies, 1995  
Thesis title: Density-dependent competition in two species of *Drosera*  
Thesis advisor: Dr. Thomas Wessels

Earlham College, Richmond, Indiana  
Bachelor of Arts degree in Biology, 1989

## EXPERIENCE

WARREN WILSON COLLEGE, Asheville, North Carolina  
Faculty in Biology, Environmental Studies and Science Education:  
Taught courses in general biology and field natural history, plant taxonomy, plant anatomy and morphology, evolutionary biology, human biology, ecology, tropical biology, science education, pollination biology, and introduction to environmental studies, as well as providing coordination and advising for students interested in teaching science. (2001-present)  
Chair of Division of Natural Sciences, 2015-present  
Chair of Biology Department, 2009-2013

COLLABORATION FOR THE ADVANCEMENT OF TEACHING TECHNOLOGY AND SCIENCE, University of Arizona, Tucson, Arizona  
NSF Science Education Fellow: Worked with two public elementary schools to develop inquiry-based science projects based on the GLOBE program (2000);

UNIVERSITY OF ARIZONA, Tucson, Arizona  
Teaching Assistant: Taught courses in ecology, systematic botany, introductory biology, environmental outreach, marine discovery for elementary classes, and secondary biology curriculum (1996-1999).

PRESCOTT COLLEGE, Tucson, Arizona  
Instructor/Mentor: Served as an instructor/mentor for student coursework in ecology and environmental studies (1999).

FRANKLIN PIERCE COLLEGE, Rindge, New Hampshire  
Adjunct Faculty: Taught biology, environmental science, and interdisciplinary courses to undergraduates; designed and piloted a course on study skills in biology (1991-1995).

KEENE STATE COLLEGE, Keene, New Hampshire  
Adjunct Faculty: Taught human biology courses to undergraduates (1995).

FRANKLIN PIERCE COLLEGE, Rindge, New Hampshire

Laboratory Supervisor: Set up and maintained labs for biology courses; ordered and inventoried materials and equipment for natural sciences division (1991-1993).

HARVARD FOREST, Petersham, Massachusetts

Research Assistant: Conducted field research, statistical analysis and writing for publication for ongoing projects at the Forest, including studies of woody plant phenology and regeneration after clearcutting (1994).

## FELLOWSHIPS AND GRANTS

- 2015-2018: NSF DUE-1525063 grant: “A CEREUS (Consortium Exchanging Research Experiences for Undergraduate Students) Approach to Assessing Ecological Responses to Global Change in the Southern Appalachians”, in collaboration with co-PIs from Warren Wilson College, Appalachian State University, University of North Carolina-Asheville, and Eastern Tennessee State University. \$129,000.
- 2014: Appalachian College Association Faculty Development Fellowship
- 2012: Innovative Technology for Student Learning Grant, Warren Wilson College
- 2011-2012: Service Learning Faculty Fellowship, Warren Wilson College
- 2008-2012: NSF grant DEB-0746003: “Collaborative Research: components of floral attraction in a functionally specialized but ecologically generalized flower guild”, in collaboration with co-PIs Dr. Michelle Zjhra (Georgia Southern University) and Dr. Robert Raguso (Cornell University). \$32,043.00.
- 2007: Appalachian College Association Faculty Development Fellowship
- 2002: Kenan Fellowship for College Professors, National Tropical Botanical Gardens
- 2000: Collaboration for Advancement in Teaching Technology and Science (CATTS), graduate fellowship
- 1999: Research Training Group in Analysis of Biological Diversification, small research grant
- 1998: T & E, Inc. Grant for Conservation Biology Research
- 1998: ASPT Graduate Student Research Grant
- 1998: Research Training Group in Analysis of Biological Diversification, graduate fellowship
- 1997: University of Arizona Dept. of Ecology and Evolutionary Biology research grant
- 1997: Research Training Group in Analysis of Biological Diversification, small research grant
- 1996: University of Arizona Dept. of Ecology and Evolutionary Biology research grant
- 1995: Flinn Foundation Biology Fellowship
- 1995: Research Training Group in Analysis of Biological Diversification, graduate fellowship

## PUBLICATIONS

Boyd, A. E., and R. A. Raguso. Exploring the functions of floral traits in a basal angiosperm, *Calycanthus floridus* (Calycanthaceae). Manuscript in prep.

McIntosh, M. E., A. E. Boyd, A. E. Arnold, R. J. Steidl, and L. A. McDade. 2019. Growth and demography of a declining, endangered cactus in the Sonoran Desert. *Plant Species Biology* 2019: 1-10.

Boyd, A. E. *Missed rendezvous*. Accepted for publication in *Whole Terrain: Journal of Reflective Environmental Practice*.

Boyd, A. E. 2017. Timing, pollinators, and the impact of climate change. Union of Concerned Scientists Blog. Stable URL: <https://blog.ucsusa.org/science-blogger/timing-pollinators-and-the-impact-of-climate-change>.

Boyd, A. E. 2017. Highlands, Hellbenders, and History: Exploring the rich biodiversity of the Blue Ridge Mountains. *Journal of the Guild of Natural Science Illustrators* vol. 48, no. 3.

Boyd, A. E., and A. Preusser. Vascular Flora of the Sandy Bottom Wetland Preserve, Buncombe County, North Carolina. Accepted for publication in *Castanea: Journal of the Southern Appalachian Botanical Society*.

Boyd, A. E., and I. M. Thalmayer. 2014. Phylogenetic relationships within *Uvularia* (Colchicaceae) based on morphology. *Journal of the North Carolina Academy of Science*, in press.

McIntosh, M. E., L. A. McDade, A. E. Boyd, and P. D. Jenkins. 2011. Patterns of growth and mortality in the endangered Nichol's Turk's head cactus (*Echinocactus horizonthalonius* var. *nicholii* L. Benson; Cactaceae) in southeastern Arizona, 1995-2008. *Southwestern Naturalist* 56(3): 333-340.

Boyd, A. E., and A. L. Monroe. 2010. Vascular Flora of the Warren Wilson College Campus, Swannanoa, North Carolina. *Castanea, Journal of the Southern Appalachian Botanical Society* 75(3):353-365.

McIntosh, M. E., L. A. McDade, A. E. Boyd, and P. D. Jenkins. 2008. Patterns of Growth and Mortality in the Endangered Nichol's Turk's Head Cactus (*Echinocactus horizonthalonius* var. *nicholii* L. Benson; Cactaceae) in Southeastern Arizona. *Southwestern rare and endangered plants: proceedings of the fourth conference, March 22-26, 2004, Las Cruces, NM.* USDA/Forest Service.

Boyd, A. E. 2008. Collecting for education: herbaria at small liberal arts colleges. *Plant Science Bulletin* 54(3):86-91.

Maker, N. F., and A. E. Boyd, 2008. Basal area and form class relationship for small-diameter loblolly pine (*Pinus taeda*) in the North Carolina piedmont. *Journal of the North Carolina Academy of Science* 124(3): 98-101.

Rawleigh, S. O., and A. E. Boyd, 2008. Comparison of homemade and conventional sprays as aphid control on lettuce. *Journal of the North Carolina Academy of Science* 124(2): 53-57.

Boyd, A. E. 2006. Plants and perpetrators: forensic investigation in the botany classroom. *American Biology Teacher* 68 (9): online article; stable URL: [www.nabt.org/sites/S1/File/pdf/068-09-0025.pdf](http://www.nabt.org/sites/S1/File/pdf/068-09-0025.pdf).

Boyd, A. E. 2004. Breeding system of *Macromeria viridiflora* (Boraginaceae) and geographic variation in pollinator assemblages. *American Journal of Botany* 91: 1809-1813.

Boyd, A. E., and J. Cooper. 2004. The needs of trees. *Science Activities* 41: 17-21.

Boyd, A. E. 2003. Phylogenetic relationships and corolla size evolution in *Macromeria viridiflora* (Boraginaceae). *Systematic Botany* 28: 118-129.

Boyd, A.E. 2002. Morphological analysis of Sky Island populations of *Macromeria viridiflora* (Boraginaceae). *Systematic Botany* 27: 116-126.

Slentz, S., Boyd, A.E., and McDade, L. A. 1999. Morphological differentiation among Madrean sky island populations of *Castilleja austromontana* (Scrophulariaceae). *Madroño* 46(2): 100-111.

Smith, B., Forman, P. D., and Boyd, A. E. 1989. Spatial patterns of seed dispersal and predation of two myrmecochorous forest herbs. *Ecology* 70(6):1649-1656.