
Warren Wilson College CPO 6074, PO Box 9000
Asheville, NC 28815-9000

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:
Courses in general biology and field natural history, plant taxonomy, plant anatomy and morphology, evolutionary biology, human biology, tropical ecology, science education, 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).

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PRESCOTT COLLEGE, Tucson, Arizona

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

DISCOVER PROJECT, University of Arizona, Tucson, Arizona

Science Education Consultant: Worked with a DISCOVER project researcher to develop assessment tool for naturalist intelligence according to Howard Gardner's multiple intelligences theory (1998).

TALENT IDENTIFICATION PROGRAM, Duke University, Durham, North Carolina

Group Leader/Instructor: Taught field course in ecology, geology and natural history in Costa Rica for exceptionally talented high school students (1996).

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).

CENTER FOR HUMAN SERVICES, Gettysburg, Pennsylvania

Instructor: Taught English as a Second Language to Mexican migrant workers, in group classes and one-on-one tutoring; supervised independent study; coordinated ESL staff and volunteers (1990-1991).

THE MEETING SCHOOL, Rindge, New Hampshire

an alternative boarding high school

Teacher: Developed and taught courses in ecology, human biology, general biology, folk dancing and ceramics; tutored algebra and precalculus (1989-1990).

BIOLOGY DEPARTMENT, Earlham College, Richmond Indiana

Teaching Assistant: Taught labs for Ecological Biology, Field Botany, Genetics and Evolution (1987-1989).

Plant Ecology Research Assistant: Assisted in field work, statistical analysis, library research, and writing of papers for publication (1988).

JOSEPH MOORE MUSEUM, Earlham College, Richmond, Indiana

Curator of Teaching Collection: Cared for natural history specimens used for educational purposes; computerized collection records (1987-1989).

Tour Coordinator: Planned and coordinated tours for area school groups; trained tour guides (1986).

FELLOWSHIPS AND GRANTS

2015-2018: NSF IUSE Grant, in collaboration with colleagues from Warren Wilson College, Appalachian State University, University of North Carolina-Asheville, and Eastern Tennessee State University

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 Research in Ecology Grant, in collaboration with Dr. Michelle Zjhra (Georgia Southern University) and Dr. Robert Raguso (Cornell University)

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

PRESENTATIONS

2016: Natural Science Seminar, Warren Wilson College, Swannanoa, NC

2014: Association of College and University Biology Educators, Portland, OR

2013: Symbiosis: Art/Science Collaboration meeting, Swannanoa, NC

2012: Asheville Chapter of Sigma Xi, Swannanoa, NC

2011: Biology Department, University of North Carolina-Asheville, NC

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2010: Association for Biology Laboratory Education, Halifax, NS, Canada
2005: Kenan Fellowship Conference, National Tropical Botanical Gardens, Miami, FL
2002: Meetings of the Botanical Society of America, Madison, WI
2000: School and Community Gardens Regional Conference, Phoenix, AZ
2000: Meetings of the Botanical Society of America, Portland, OR
1999: Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.
1999: Symposium on bird-plant mutualisms in the neotropics, Monterrey, Nuevo Leon, Mexico.
1999: Southwestern Association of Biologists, Abiquiu, NM.
1998: Research Training Group in Biological Diversification, Tucson, AZ.

AWARDS

2006: Faculty Teaching Excellence Award, Warren Wilson College
2006: Faculty Service Learning Award, Warren Wilson College

VOLUNTEER COMMUNITY INVOLVEMENT

2014-present: Floristic study of the Sandy Bottom Wetlands Preserve, Asheville, NC
2008-2015: Scientist Mentor for PlantingScience (online school science mentoring program)
2003-present: Science Fair judge, various Asheville area schools
2006-07: Evaluator for Asheville High School Senior Exit Projects
2001-04: Consultant for development of rare plant monitoring protocols, The Nature Conservancy, Southeast Mountain Region, NC
2001: Science Olympiad coaching, Owen Middle School, Swannanoa, NC
1999: Arizona State Science Fair judge
1999: Environmental education consultant, Girls at the Center program, Tucson, AZ.
1999: Environmental education consultant and teacher trainer, Girls in the SYSTEM program, Tucson, AZ.
1998-1999: Environmental education curriculum committee, Earth Matters! program, Sahuaro Girl Scout Council, Tucson, AZ.
1998: Database manager, The Nature Conservancy, Tucson, AZ

PUBLICATIONS

Boyd, A. E., and R. A. Raguso. Exploring the functions of floral traits in a basal angiosperm, *Calycanthus floridus* (Calycanthaceae). Manuscript submitted to American Journal of Botany for review.

McIntosh, M. E., A. E. Boyd, A. E. Arnold, and L. A. McDade. Continuing decline in a local population of the endangered Nichol's Turk's Head Cactus, *Echinocactus horizonthalonius* var. *nicholii*. Manuscript submitted to Plant Species Biology for review.

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Boyd, A. E., and A. Preusser. 2016. Vascular Flora of the Sandy Bottom Wetland Preserve, Buncombe County, North Carolina. *Castanea* 81(4): 323-332.

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.

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.

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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.

Book Reviews Published:

Book Review for Plant Sciences Bulletin: Name those grasses: identifying grasses, sedges and rushes, by Ian Clarke. Accepted for publication in Plant Sciences Bulletin, Winter 2017.

Review of book: *Weeds of North America*, by Richard Dickinson and France Royer, University of Chicago Press, 2014. Review published in Plant Science Bulletin, Summer 2015, vol. 61 no. 2 pp. 77-78.

Review of book: *The Olmsted Parks of Louisville: A Botanical Field Guide*, by Patricia Dalton Haragan, University Press of Kentucky. Review published in Plant Science Bulletin, Spring 2015, vol. 61 no. 1 pp. 24-25.

Review of *Pecans: the Story in a Nutshell* by Jane Manaster, Texas Tech University Press. Published in Plant Science Bulletin, Winter 2009.