PAULETTE F. BIERZYCHUDEK
Professor of Biology
William Swindells, Sr. Professor of Natural Science
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Education:

Ph.D. 1981, Cornell University: ecology and evolutionary biology
B.S. cum laude 1974, University of Washington: botany
B.A. cum laude 1974, University of Washington: zoology
1969-1971, University of Chicago

Positions Held:

2003-2005, 2009-2010: Chair, Dept. of Biology, Lewis & Clark College
1994-present: Professor of Biology, Lewis & Clark College
2002-2003: Visiting Professor, University of California at Santa Cruz
1993: Professor of Biology, Pomona College
1990-1993: Chair, Department of Biology, Pomona College
1986-1993: Associate Professor of Biology, Pomona College
1987: Visiting Professor of Biology, University of Chicago
1983-1984: Visiting Professor of Botany, Duke University
1982-1993: Botany faculty, Claremont Graduate School
1980-1986: Assistant Professor of Biology, Pomona College

Honors and Awards:

2011: David Savage Award for Service to Lewis & Clark College
1994: named William Swindells, Sr. Professor in the Natural Sciences, Lewis & Clark College
1991: Wig Award for Teaching, Pomona College
1991: Sears-Roebuck Foundation Teaching Excellence and Campus Leadership Award
1990: named John and Magdalena Dexter Professor of Botany, Pomona College

External Funding:

2010-2011: Oregon Zoo Foundation ($2,718) "Disentangling evolutionary relationships for *Speyeria zerene hippolyta*, the Oregon silverspot butterfly." (with Greta Binford)
2007-2009: M. J. Murdock Trust ($46,000) “Restoring habitat for the endangered Oregon silverspot butterfly”.
2006: National Fish and Wildlife Foundation’s Native Plant Conservation Initiative ($31,487) “Restoring habitat for endangered butterflies”.
1999: contract from the Nature Conservancy of Oregon to support captive rearing of the Oregon silverspot butterfly, *Speyeria zerene hippolyta* ($3,350).
1994-7: Katherine Bisbee Fund of the Oregon Community Foundation ($11,300 for 1994-1995, $9,972 for 1995-1996, $10,286 for 1996-1997)"A comparison of alternative management strategies for Cascade Head: effects on *Viola adunca* abundance and demography".
1994: M. J. Murdock College Science Research Program ($11,205) "Demography of *Viola adunca* in a dynamic environment".
1993-1996: National Science Foundation REU program ($150,000) "Undergraduate research opportunities in biology" Institutional grant on behalf of Pomona College.
1990-1993: National Science Foundation RUI program ($40,962) "Collaborative research: evolutionary dynamics of a color polymorphism in the desert annual *Linanthus parryae*" (in collaboration with Douglas W. Schemske).
1990-1992: NSF Doctoral Dissertation Improvement Grant ($8,000) "The role of pathogens in the maintenance of host genetic variation" (on behalf of Barbara A. Roy).

1987-1989: National Science Foundation RUI program ($105,000) "The ecological consequences of sexual and apomictic reproduction" (renewal).
1986: National Science Foundation CSIP program ($23,107) "Development of a plant growth chamber facility".
1984-1986: National Science Foundation RUI program ($90,371) "The ecological consequences of sexual and apomictic reproduction".
1983-1984: National Science Foundation VPW program ($55,875) "Sexuality and apomixis in plants: causes of geographic parthenogenesis".
1981-1984: Research Corporation ($19,025) "An experimental study of the significance of sexual reproduction in flowering plants".

Professional Organizations:

Ecological Society of America, Society for the Study of Evolution, Society for Conservation Biology, Society for Ecological Restoration, Rocky Mountain Biological Laboratory, Association for Women in Science, Council on Undergraduate Research, The Nature Conservancy of Oregon

Professional Activities and Service:

2017-2020: Editorial Board, Ecological Restoration
2008-2011: member of working group at National Center for Ecological Analysis and Synthesis: When are matrix models useful for management?
2007: invited speaker at WEBS (Women Evolving Biological Sciences) – a 3-day NSF-sponsored symposium addressing the retention of female scientists and their transition from early career stages to tenure track positions
2005: expert witness for Audubon Society of Portland in case brought against U.S. Fish and Wildlife Service regarding proposed take of peregrine falcons
1996-2006: member of the Board of Trustees, The Nature Conservancy of Oregon
1989-1992: member of the Board of Editors, Ecology and Ecological Monographs
1990-1999: member of the Editorial Board, Plant Species Biology, Kyoto, Japan
1987-1992: elected member of the Board of Trustees, Rocky Mountain Biological Laboratory
1990-1992: treasurer, Rocky Mountain Biological Laboratory
1992 and 1988: member of the Population Biology panel for the NSF
1990: member of the Committee of Visitors reviewing NSF's Ecology program
1989-1990, 1997, 1999: Selection Panel, NSF Graduate Fellowships
since 1980: reviewer for Acta Oecologica, American Journal of Botany, American Midland Naturalist, American Naturalist, Annals of Botany, Biological Conservation, Biotropica, Botanical Gazette, Bulletin of Torrey Botanic Club, Canadian Journal of Botany, Conservation Biology, Ecological Applications, Ecological Research, Ecology, Ecology Letters, Entomologia Experimentalis et Applicata, Evolution, International Journal of Plant Science, Israel-U.S. Binational Science Foundation, Journal of Applied Ecology, Journal of Ecology, Journal of Plant Species Biology, M. J. Murdock Charitable Trust, Molecular Ecology, National Science Foundation, Natural Areas Journal, New Phytologist, Northwest Science, Oecologia, Oikos, Organization for Tropical Studies, Plant Biology, Science, Trends in Ecology and Evolution.
since 1980: external reviewer of biology departments at: Bucknell University, Chapman University, Grinnell College.

Courses Taught:

for majors: Biological Investigations; Investigations in Ecology and Environmental Science; General Biology (genetics, ecology and evolution); Ecology; Evolution; Plants, Insects, and their Interactions; seminar on Conservation Biology
for non-majors: Perspectives in Biology: Heredity and Evolution; Perspectives in Biology: the Biology of Forests; 1st-yr seminars on Biological Determinism; Environmental Ethics; Dangerous Scientific Ideas.

Publications (* indicates undergraduate co-author):

Bierzychudek, P. 2020. Passive recovery of an urban forest in the Pacific Northwest after removal of invasive plants. Urban Ecosystems. https://doi.org/10.1007/s11252-020-00966-8

Clements, H.* and P. Bierzychudek. 2017. Can the persistent seed bank contribute to the passive restoration of urban forest fragments after invasive species removal? Ecological Restoration 35(2):156-166.

Bierzychudek, P. and K. Warner. 2015. Modeling caterpillar movement to guide habitat enhancement for *Speyeria zerene hippolyta*, the Oregon silverspot butterfly. Journal of Insect Conservation 19(1): 45-54.

Bierzychudek, P. 2014. Plant biodiversity and population dynamics. pp. 29-65 In: R. K. Monson (ed.) The Plant Sciences, vol. 8: Ecology and the Environment. Springer Science+Business Media New York. http://link.springer.com/referencework/10.1007%2F978-1-4614-7501-9

McHugh, A.*, P. Bierzychudek, C. Greever*, T. Marzulla*, R. VanBuskirk and G. Binford. 2013. A molecular phylogenetic analysis of *Speyeria* and its implications for the management of the threatened *Speyeria zerene hippolyta*. Journal of Insect Conservation 17(6): 1237-1253.

Crone, E.E., M.M. Ellis, W. F. Morris, A. Stanley, T. Bell, P. Bierzychudek, J. Ehrlen, T. N. Kaye, T. M. Knight, P. Lesica, G. Oostermeijer, P. F. Quintana-Ascencio, T. Ticktin, T. Valverde, J. L. Williams, D. F. Doak, R. Ganesan, K. McEachern, A. S. Thorpe, and E. S. Menges. 2013. Ability of matrix models to explain the past and predict the future of plant populations. Conservation Biology 27(5): 968-978.

Ellis, M.M., Williams, J.L., Lesica, P., Bell, T.J., Bierzychudek, P., Bowles, M., Crone, E.E., Doak, D.F., Ehrlen, J., Ellis-Adam, A., McEachern, K., Ganesan, R., Latham, P., Luitjen, S., Kaye, T.N., Knight, T.M., Menges, E.S., Morris, W.F., den Nijs, H., Oostermeijer, G., Quintana-Ascencio, P.F., Shelly, J.S., Stanley, A., Thorpe, A., Ticktin, T., Valverde, T., Weekley, C. 2012. Matrix population models from 20 studies of perennial plant populations. Ecology 93(4): 951-951.

Crone, E., Menges, E., Ellis, M., Bell, T., Bierzychudek, P., Ehrlen, J., Kaye, T., Knight, T., Lesica, P., Morris, W., Oostermeijer, G., Quintana-Ascensio, P., Stanley, A., Valverde, T., Ticktin, T., and Williams, J. 2011. How do plant ecologists use matrix models? Ecology Letters 14:1-8.

Bierzychudek, P., Warner, K.A., McHugh, A.* and L. Thomas*. 2009. Testing the host-finding ability of a monophagous caterpillar in the field. Ecological Entomology 34(5): 632-637.

Warner, K. A. and P. Bierzychudek. 2009. Does marking with fluorescent powders affect the survival or development of larval *Vanessa cardui*? Entomologia Experimentalis et Applicata. 131(3): 320-324.

Schemske, D. W. and P. Bierzychudek. 2007. Spatial differentiation for flower color in the desert annual *Linanthus parryae*: was Wright right? Evolution 61(11): 2528-2543. (this paper was the focus of a "News of the Week" piece in Science on October 19, 2007: Pennisi, E. 2007. Natural selection, not chance, paints the desert landscape. Science 318:376)

Kruse, R.* Bend, E.*, and P. Bierzychudek. 2004. Native plant regeneration and introduction of non-natives following post-fire rehabilitation with straw mulch and barley seeding. Forest Ecology and Management 196(2-3): 299-310.

Johnson, E. B.*, P. Bierzychudek, and H. H. Whiteman. 2003. Potential of prey size and type to affect foraging asymmetries in tiger salamander larvae (*Ambystoma tigrinum nebulosum*). Canadian Journal of Zoology 81: 1726-1735.

Schemske, D. W. and P. Bierzychudek. 2001. Evolution of flower color in the desert annual *Linanthus parryae*: Wright revisited. Evolution 55(7): 1269-1282.

Turelli, M., D. W. Schemske, and P. Bierzychudek. 2001. Stable two-allele polymorphisms maintained by fluctuating fitnesses and seed banks: protecting the blues in *Linanthus parryae*. Evolution 55(7): 1283-1298.

Bierzychudek, P. 1999. Looking backwards: assessing the projections of a transition matrix model. Ecological Applications 9(4): 1278-1287.

Roy, B.A. and P. Bierzychudek. 1993. The potential for rust infection to cause natural selection in apomictic *Arabis holboelli* (Brassicaceae). Oecologia 95:533-541.

Bierzychudek, P. 1990. Demographic consequences of sexuality and apomixis in *Antennaria*. pp. 293-307 In: Kawano, S. (ed.) Biological Approaches and Evolutionary Trends in Plants, Academic Press, London.

Bierzychudek, P. 1990. The adaptive significance of sexual reproduction in plants. pp. 51-91 In: Mangel, M. (ed.) Some mathematical questions in biology -- sex allocation and sex change: experiments and models. American Mathematical Society, Providence, R. I.

Bierzychudek P. 1989. Environmental sensitivity of sexual and apomictic *Antennaria*: do apomicts have general-purpose genotypes? Evolution 43(7): 1456-1466.

Bierzychudek P. and V. Eckhart*. 1988. Spatial segregation of the sexes of dioecious plants. American Naturalist 132:34-43.

Bierzychudek, P. 1987. Resolving the paradox of sexual reproduction: a review of experimental tests. pp. 163-174 in: Stearns, S. (ed.) The Evolution of Sex and Its Consequences. Birkhauser-Verlag, Basel.

Bierzychudek, P. 1987. Patterns in plant parthenogenesis. pp. 197-217 in: Stearns, S. (ed.) The Evolution of Sex and Its Consequences. Birkhauser-Verlag, Basel.

Bierzychudek, P. 1987. Pollinators increase the cost of sex by avoiding female flowers. Ecology 68(2):444-447.

Bierzychudek, P. 1985. Patterns in plant parthenogenesis. Experientia 41:1255-1264.

Bierzychudek, P. 1984. Determinants of gender in jack-in-the-pulpit: the influence of plant size and reproductive history. Oecologia 65(1): 14-18.

Bierzychudek, P. 1984. Assessing "optimal" life histories in a fluctuating environment: the evolution of sex-changing by jack-in-the-pulpit. American Naturalist 123:829-840.

Bierzychudek, P. 1982. The demography of jack-in-the-pulpit, a forest perennial that changes sex. Ecological Monographs 52:335-351. (later excerpted in BioScience 33:196-197).

Bierzychudek, P. 1982. Life histories and demography of temperate forest herbs: a review. New Phytologist 90:757-776.

Best, L. and P. Bierzychudek. 1982. Pollinator foraging on foxglove (*Digitalis purpurea*): a test of a new model. Evolution 36(1): 70-79.

Bierzychudek, P. 1981. *Asclepias*, *Lantana*, and *Epidendrum*: a floral mimicry complex? Reproductive Botany, supplement to Biotropica: 54-58.

Bierzychudek, P. 1981. Pollinator limitation of plant reproductive effort. American Naturalist 117: 838-840.

Book Reviews, "News" Pieces, Letters to the Editor, and Popular Articles:

Bierzychudek, P. 2009. Publishing with undergraduate co-authors. Council on Undergraduate Research Quarterly 30(1):46-48.

Bierzychudek, P. 1994. Stay with Darwin. Trends in Ecology and Evolution 9(11):441.

Bierzychudek, P. and C. Gary Reiness. 1992. Helping nonmajors find out what's so interesting about biology. BioScience 42(2):125-128.

Bierzychudek, P. 1989. Ecology. pp. 253-256 In: Science Year, the 1989 World Book Annual Science Supplement. World Book, Inc.

Bierzychudek, P. 1988. Can patchiness cause prey outbreaks? Trends in Ecology and Evolution 6:2.

Bierzychudek, P. 1988. Fungal pathogens affect plant population dynamics and evolution. Trends in Ecology and Evolution 3:6-7.

Bierzychudek, P. 1987. Population biology. A review of J. Silverstown's Introduction to Plant Population Ecology, 2nd Edition. Trends in Ecology and Evolution. 2(11): 348.

Bierzychudek, P. 1984. Why plants do things the way they do. A review of M. Willson's Plant Reproductive Ecology. Ecology 65:668-669.

Bierzychudek, P. 1982. Population ecology. A review of M. Begon and M. Mortimer's text: Population ecology: a unified study of animals and plants. Ecology 63:1607-1608.

Bierzychudek, P. 1982. Jack and Jill in the Pulpit. Natural History Magazine, March. pp. 22-27.

Selected College Service:

Co-Director, Pathways to Success in STEM program supporting recruitment/retention of first-generation college students in STEM (2015-present)
Member of Faculty Council, College of Arts and Sciences at Lewis & Clark (2013-2015)
Member and Chair, Committee on Promotion and Tenure, College of Arts and Sciences at Lewis & Clark (1996-1998, 2005-2007, 2010-2012)
Member and Chair, Curriculum Committee, College of Arts and Sciences at Lewis & Clark (2009-2010, 2017-2019)
Clerk of the Faculty of the College of Arts and Sciences at Lewis & Clark (2007-8, 2013-15)
Chair, Strategic Planning Task Force for Lewis & Clark (2005-2006)
Member of the Presidential Search Committee, Lewis & Clark (2003-2004)
Co-chair, Environmental Studies Program, College of Arts and Sciences at Lewis & Clark (2003-2004)

Member, Commission on Academic Priorities, College of Arts and Sciences at Lewis & Clark (2000-2002)
Chair, Task Force on Writing and Speaking, College of Arts and Sciences at Lewis & Clark (2000-2001)