

CURRICULUM VITAE

Charles Frederick “Rick” Williams

CURRENT POSITION AND ADDRESS:

Assistant Professor	1734 N. Elk Road
Department of Biological Sciences	Pocatello, ID 83204
Idaho State University	208-478-6986
Campus Box 8007	
Pocatello, ID 83209-8007	
208-282-2948/3765 (dept. office), 282-4570 (fax)	
email: willcha2@isu.edu	

EDUCATION and TRAINING:

1992/93	NSF Postdoctoral Fellow, University of California-Riverside and RMBL Project Title: Spatial genetic structure and genetic demography of <i>Delphinium nelsonii</i> . Advisor: Nickolas M. Waser
1991	Ph.D. in Botany, University of Wisconsin, Madison, WI. Dissertation title: Spatial genetic consequences of seed dispersal: a comparative study of three sympatric forest herbs (Umbelliferae). Advisor: Donald M. Waller
1985	M.S. in Biology, University of Miami, Coral Gables, FL. Thesis title: Social organization of the bat, <i>Carollia perspicillata</i> (Chiroptera: Phyllostomidae). Advisor: Theodore H. Fleming
1979	B.S. in Zoology, University of Oklahoma, Norman, OK.

RESEARCH INTERESTS:

Population genetic consequences of plant-animal interactions and dispersal, ecology and evolution of gynodioecy, causes and consequences of inbreeding, molecular population genetics, spatial genetic structure of plant populations, evolution of plant mating systems and co-evolution of plants and pollinators, ecology and genetics of invasive plants, pollination and seed dispersal biology, plant evolutionary ecology, ecology/behavior of bats, birds, and insects.

EMPLOYMENT AND TEACHING RECORD:

2001- present	Assistant Professor, Department of Biological Sciences, Idaho State Univ.; Evolutionary Ecology, Plant-Animal Interactions, Genetics, Systematic Botany, Graduate Seminars in Evolution, Ecological Genetics, and Floral Biology
2000- 2002	Program Coordinator; NSF Research Experience for Undergraduates (REU) Site Grant; Rocky Mountain Biological Laboratory
1999-2001	Research Assistant Professor, Department of Biological Sciences, Idaho State Univ.; Molecular Methods in Ecology Seminar; General Ecology
1994-1998	Assistant Professor of Biology, Nebraska Wesleyan University; Introductory Botany, Genetics, Evolution, Research Design, Natural History of Yucatan.
1993- 2002	Instructor, Field Ecology, Rocky Mountain Biological Laboratory (93-94), Research Design and Analysis (96), supervised undergraduate independent research students and REUs (93-02).
1993	Visiting Assistant Professor of Biology, Nebraska Wesleyan University

PROFESSIONAL AFFILIATIONS:

American Society of Naturalists, Botanical Society of America, Ecological Society of America, Society for the Study of Evolution, Sigma Xi.

FUNDED GRANTS, AWARDS AND FELLOWSHIPS:

- 2006 *Ecology and genetics of plant-pollinator interactions in the conservation and recovery of native plant populations*. Release Time Support for External Funding, Research Coordinating Council, ISU (\$3767)
- 2003 *AFLP to study plant reproductive ecology and evolution*. Faculty Research Committee, Idaho State University (\$5000)
- 2002 *Field-based research in molecular ecology*. University Research Committee, Idaho State University (\$9492)
- 2002 *Molecular analysis of plant breeding system evolution*. NIH-BRIN Seed Grant (\$4000)
- 2002 *Density-dependent mating success in Delphinium nuttallianum*. NIH-BRIN Undergraduate Research Fellowship for Jeremy Green (\$6000)
- 2001 *Molecular markers to study sex in plants and insects*. Faculty Research Grant; Idaho State University, co-PI with R.J. Smith, ISU (\$4000)
- 2000 Supplemental Academic Computing Grant; Idaho State Univ. (\$1645)
- 1995/97/98 Howard Hughes Medical Institute Summer Research Fellowship
- 1996 Ameritas Fellowship for Faculty Development, Nebraska Wesleyan University.
- 1993 NSF Short Term Grant for Exploratory Research, with K. Keeler, U. of Nebraska
- 1991 NSF Postdoctoral Research Fellowship, with N. M. Waser, UC-Riverside and RMBL
- 1990 O. N. Allen Fellowship, Department of Botany, University of Wisconsin-Madison
- NIH Graduate Traineeship in Genetics, University of Wisconsin-Madison
- 1989 NSF Dissertation Improvement Grant, with D. M. Waller and R. P. Guries, University of Wisconsin-Madison
- 1986-1988 Advanced Opportunity Fellowship for Graduate Study, U. of Wisconsin-Madison

PROPOSALS SUBMITTED BUT NOT FUNDED:

- 1999 Density and frequency-dependent fitness in gynodioecious *Geranium richardsonii*: effects of local and global population structure. NSF Population Biology, \$186,841 for 36 mo.
- 1999 Preproposal - Effects of introduced plant species on native plant pollination success. Marsden Fund of New Zealand, with Dr. Hazel Chapman, U. Canterbury, Christchurch, NZ, request 36 mo. funding (preliminary – no budget).
- 2000 Preproposal - Effects of introduced plant species on native plant pollination success. Marsden Fund of New Zealand, with Dr. Hazel Chapman
- 2001 Preproposal - Usurped at the Post: and all because of color? Marsden Fund of New Zealand, with Dr. Hazel Chapman,
- 2002 Supplemental Academic Computing Grant; Idaho State University (\$2045)
- 2004 Effects of herbivory on population dynamics and genetic structure of a clonal plant. NSF Ecology, with Dr. K.N. Jones, Harvard, \$331,213 for 36 mo.
- 2005 The genetic, ecological, and developmental basis of mating system evolution in *Mimulus parishii* and *Mimulus lewisii*. NSF Population and Evolutionary Processes, with Dr. Paul Beardsley and Dr. Jeff Hill, ISU, \$989,066 for 48 mo.

PROPOSALS IN REVIEW:

- 2007 Costs and benefits of floral display size in *Delphinium*. Submitted to NSF Population and Evolutionary Processes, July 2007, \$387,938 for 36 mo.

PUBLICATIONS:

- Fleming, T.H., **C.F. Williams**, F.J. Bonaccorso, and L.H. Herbst. 1985. Phenology, seed dispersal, and colonization in *Muntingia calabura*, a neotropical pioneer tree. *Amer. J. Botany* 72:383-391.
- Williams, C.F.** 1986. Social organization of the bat, *Carollia perspicillata* (Chiroptera: Phyllostomidae). *Ethology* 71:265-282.
- Mock, D.W., T. C. Lamey, **C.F. Williams**, and A. Pelletier. 1987. Flexibility in the development of heron sibling aggression: an intraspecific test of the prey-size hypothesis. *Anim. Behav.* 35:1386-1393.
- Fleming, T.H., and **C.F. Williams**. 1990. Phenology, seed dispersal, and recruitment in *Cecropia peltata* (Cecropiaceae) in Costa Rican tropical dry forest. *J. Trop. Ecol.* 6:163-178.
- Williams, C. F.** and R. P. Guries. 1994. Genetic consequences of seed dispersal in three sympatric forest herbs. I. Hierarchical population genetic structure. *Evolution* 48(3):791-805.
- Williams, C. F.** 1994. Genetic consequences of seed dispersal in three sympatric forest herbs. II. Microspatial genetic structure within populations. *Evolution* 48(6):1959-1972.
- Storz, J. F., and **C. F. Williams**. 1996. Summer population structure of subalpine bats in Colorado. *Southwestern Naturalist* 41(3):322-324.
- Williams, C. F.** and N. M. Waser. 1999. Spatial genetic structure in *Delphinium nuttallianum*: inferences about gene flow. *Heredity* 83(5):541-550.
- Williams, C. F.**, M. A. Kuchenreuther, and A. Drew. 2000. Floral dimorphism, pollinator attraction and self-fertilization in gynodioecious *Geranium richardsonii*. (Geraniaceae). *American Journal of Botany* 87:661-669.
- Williams, C. F.**, Ruvinsky, J., Scott, P. E., and D. K. Hews. 2001. Pollination, breeding system, and genetic structure in two sympatric *Delphinium* (Ranunculaceae) species. *American Journal of Botany* 88(9):1623-1633.
- Waser, N. M., and **C. F. Williams**. 2001. Inbreeding and outbreeding. Pp. 84-98 *In* C.W. Fox, D. A. Roff, and D. J. Fairburn (eds.), *Evolutionary ecology: concepts and case studies*. Oxford Univ. Press, Oxford, UK.
- Keeler, K. H., **C. F. Williams**, and L. S. Vescio. 2002. Clone size of *Andropogon gerardii* Vitman (Big Bluestem) at Konza Prairie, Kansas. *American Midland Naturalist* 147:295-304.
- Williams, C. F.** 2007. Effects of floral display size and biparental inbreeding on outcrossing rates in *Delphinium barbeyi* (Ranunculaceae). *American Journal of Botany* 94(10): 1696-1705.

MANUSCRIPTS IN REVIEW OR REVISION:

- Thomas, D.T., A.R. Ahedor, **C.F. Williams**, C. DePamphilis, D.J. Crawford, and Q.-Y. Xiang. Genetic analysis of a broad hybrid zone in *Aesculus* (Sapindaceae) – Is there evidence of long-distance pollen dispersal? *International Journal of Plant Sciences* (provisionally accepted with minor revision – 10/8/07)
- Petrisko, J., C.A. Pearl, D.S. Pilliod, P. Sheridan, **C.F. Williams**, C.R. Peterson, and R.B. Bury. *Saprolegniaceae* identified on amphibian eggs throughout the Pacific Northwest, USA by Internal Transcribed Spacer sequences and phylogenetic analysis. *Mycologia* (in review)
- Ahedor, A.R., **C.F. Williams**, C. dePamphilis, and Q.-Y. Xiang. Microsatellite analyses of the hybrid zone of *Aesculus pavia* and *A. sylvatica* (Hippocastanaceae) in Southeastern USA. *Southeastern Naturalist* (in review)

MANUSCRIPTS IN PREPARATION:

- Williams, C. F and F. Savaedra. Phenological variation in fecundity and the mating system of *Delphinium nuttallianum*. To be submitted to *Oecologia*
- Williams, C. F., K. L. O'Malley, D.F. Sandmann, and M. A. Kuchenreuther. Female fitness advantages for outcrossing, fecundity and inbreeding depression in gynodioecious *Geranium richardsonii*. To be submitted to *American Journal of Botany*

Williams, C.F., A. Gibson, and M. Piantek. Density and frequency-dependent fitness in gynodioecious *Geranium richardsonii*: effects at the local and population scales.

ATTENDANCE AND PRESENTATIONS* AT SCIENTIFIC MEETINGS:

- 1989 Ninth Annual Midwest Ecology and Evolution Conference*, Madison, WI
Association for Tropical Biology, AIBS*, Toronto, ONT.
- 1990 Ecological Society of America*, Snowbird, UT.
- 1991 Ecological Society of America*, San Antonio, TX.
- 1992 Society for the Study of Evolution*, Berkeley, CA.
Guild of Rocky Mountain Population Biologists*, Boulder, CO.
- 1993 Society for the Study of Evolution*, Snowbird, UT
Ecological Society of America*, Madison, WI.
- 1994 Nebraska Academy of Sciences, Lincoln, NE.
- 1995 Prairie States Ecology Conclave*, Pittsburg, KA
Midwest Conference on Population Biology, Ames, IA
Nebraska Academy of Sciences, Lincoln, NE.
- 1996 Nebraska Academy of Sciences*, Lincoln, NE.
- 1997 Society for the Study of Evolution*, Boulder, CO
Nebraska Academy of Sciences*, Lincoln, NE.
- 1998 Nebraska Academy of Sciences, Lincoln, NE
Ecological Society of New Zealand and Australia, Dunedin, New Zealand
- (*titles of presentations before coming to ISU are lost in the mists of time).

- 1999 **Williams, C. F.**, M. Kuchenreuther, A. Drew, and K. L. O'Malley. Self-fertilization and frequency dependent pollination success in gynodioecious *Geranium richardsonii*. Society for the Study of Evolution, Madison, WI
- 2000 Ecological Society of America, Snowbird, UT
- 2001 **Williams, C.F.**, and F. Saavedra. Spatial and temporal variation in the mating system of *Delphinium nuttallianum*. Ecological Society of America, Madison, WI.
- 2001 Keeler, K., **C.F. Williams**, and L. Vescio. Clonal structure of *Andropogon gerardii* (Big Bluestem) in tallgrass prairie. Ecological Society of America, Madison, WI.
- 2002 **Williams, C.F.**, A. Gibson, and M. Piantek. Density and frequency-dependent fitness in gynodioecious *Geranium richardsonii*: effects at the local and population scales. Society for the Study of Evolution, Champagne-Urbana, IL
- 2003 Ahedor, A., **C.F. Williams**, and Q.J. Xiang. Evidence of introgression in the broad hybrid zone of the buckeye genus *Aesculus* (Hippocatanaceae). Botanical Society of America, Savannah, GA
- 2003 Xiang, Q.J., D. Thomas, A. Ahedor, and **C.F. Williams**. Microsatellite polymorphism and genetic structure of a broad hybrid zone of *Aesculus* (Hippocatanaceae). Botanical Society of America, Savannah, GA
- 2003 RMBL 75th Anniversary Research Symposium
- 2004 Society for the Study of Evolution, Fort Collins, CO
- 2004 **Williams, C.F.** Effects of inflorescence size on outcrossing rates in *Delphinium barbeyi*. Botanical Society of America, Snowbird, UT
- 2004 Bala, J., **C.F. Williams**, and T. P. McGonigle. Effects of nutrient limitation on floral function and biomass in *Geranium richardsonii* (Geraniaceae). Botanical Society of America, Snowbird, UT

PRESENTATIONS BY UNDERGRADUATE RESEARCH STUDENTS at ISU:

- 2002 Sandmann, D. Effects of selfing and outcrossing on the maintenance of gynodioecy in wild geranium (*Geranium richardsonii*). ISU Undergraduate Research Symposium
- 2002 Wheeler, J., J. Godfrey, and **R. Williams**. Developing chloroplast DNA markers to study gender variation and gene flow in a gynodioecious plant, *Geranium richardsonii*. ISU Undergraduate Research Symposium
- 2002 Green, J., and **C.F. Williams**. Variation in outcrossing rates in *Delphinium nuttallianum* due to phenology and density. NIH-BRIN Summer Undergraduate Research Symposium, Moscow, ID.
- 2002 McKay, J., J. Ramirez, **C.F. Williams**, and R.J. Smith. Paternity analysis of beetles to determine alternative mating tactics. ISU Undergraduate Research Symposium
- 2003 Kemper, B., K. Danyal, **C.F. Williams**, and R.J. Smith. Behavior of small male beetles (*Nicrophorus*) in mating with females. ISU Undergraduate Research Symposium
- 2003 Stoddard, A., T. Jensen, R.J. Smith and **C.F. Williams**. Sperm selectivity in female burying beetles. ISU Undergraduate Research Symposium
- 2004 Sato, E., A. Prasad, J. Delahanty, and J. Bala. Effects of nutrient limitation on floral biomass in gynodioecious geraniums. ISU Undergraduate Research Symposium
- 2004 Winston, R., D. Rammell, and **R. Williams**. Chloroplast DNA sequencing for population genetics studies of *Geranium richardsonii*. ISU Undergraduate Research Symposium
- 2004 Ciak, P.L, and **R. Williams**. A plant-pollinator interaction web for a sage steppe community. ISU Undergraduate Research Symposium
- 2005 Sutherland, J.D., and **C.F. Williams**. Estimating clone size and diversity in fireweed (*Chamerion angustifolium*) using amplified fragment length polymorphism (AFLP). ISU Undergraduate Research Symposium

INVITED SEMINARS:

Rocky Mountain Biological Laboratory (June 1991); University of Wisconsin-Madison (October 1991); University of California-Riverside (February 1992); University of Minnesota (April 1992); University of Nebraska-Lincoln (January 1993); University of Tennessee (March 1993); University of Nebraska-Omaha (February 1994); Georgia Southern University (May 1994), Grinnell College (May 1994), University of Nebraska-Lincoln (December 1995), RMBL (July 1996). University of Canterbury, New Zealand (December 1998), University of Vermont-Burlington (April 1999), Idaho State University (September 1999), Boise State University (September 1999), Utah State University (October 2002), Idaho State University (2005), Idaho Native Plant Society (2006), Rocky Mountain Biological Laboratory (July 2007).

SERVICE:National/International:

Associate Editor for: *Evolution* (2002-2004)

Reviewer for: American Journal of Botany, American Naturalist, Biotropica, Canadian Journal of Botany, Ecology, Ecology Letters, Evolution, Genetics, Heredity, Journal of Heredity, Journal of Tropical Ecology, Oecologia, The Prairie Naturalist, Trends in Ecology and Evolution, Idaho State Board of Education, National Science Foundation, Natural Environment Research Council-UK

Idaho State University – Department of Biological Sciences:

Evolutionary Geneticist search committee (2001)

Curriculum Review Committee (2002-03)

Interim Chair Advisory Committee (2003-04)

Department Chair Search Committee (2003)

Plant Biologist Search Committee (2003)

Periodic Performance Review Committee for Richard Inouye (2004)

Teaching Committee (2004-present)

Periodic Performance Review Committee for Nancy Huntly (2006)

Faculty Sponsor for Biology Graduate Students – BGS (2003-present)

Department Seminar coordinator (with Colden Baxter – 2007-08)

Rocky Mountain Biological Laboratory:

Secretary of Board of Trustees (2001-2003)

Member Board of Trustees (two terms; 1996-2000, 2001-2003).

Service on numerous committees: Master Plan Revision Committee (1999-2000),

Research Committee (1993-2003, Chair 1993-96, 2000-01), Land Protection Committee

(Chair 1996-97), Internal Audit Committee (1996-97), Research, Teaching and Facilities

Review Committees for Internal Review and Response to External Review of RMBL (1996-

1998), Douglas Distinguished Lecturer Committee (1994-present, chair 2004), Curriculum

Committee (1995-1997, 2000), Chaired Scientific Seminar Series (1993-94).

Editorial board of online journal *Undergraduate Research in Behavior, Ecology and Evolution*

Nebraska Wesleyan University and Other:

Secretary, Natural Sciences Division (1997-1998)

Arboretum Committee

Chair, Collegiate Biology, Nebraska Academy of Sciences (1996-1998)

Judge, Sigma Xi Student Research Awards

GRADUATE STUDENTSMajor Advisor:

Adjoa Ahedor (M.S. 2001) – coadvisor Jenny Xiang
Janet Bala (M.S.- expected graduation 2007)
Karen Kraus (M.S.- expected graduation 2007)
Erin Olson (M.S.-expected graduation 2007) - co-advisor Rosemary Smith
~~Steven Albano~~ (M.S.-withdrew from program 2006)

Graduate Committee Member (completed):

Guichan Hou (Ph.D. 2001) – advisor Jeff Hill
Melissa Merrick (M.S. 2002 - *ex officio*) – advisor Rosemary Smith
Jill McNeil (D.A 2003) – advisor Vern Winston
James Holman (D.Phil. 2003 - *reader*) – advisor Jane Hughes, Griffith U., Australia
Eric Tomasik (M.S. 2003) – advisor Joe Cook
Aren Eddingsaas (M.S. 2003) – advisor Joe Cook
Byron Weckworth (M.S. 2003) – advisor Joe Cook
Dave Trumm (D.Phil. - *reviewer*) – advisor Hazel Chapman, U. Canterbury, NZ
Eric Waltari (Ph.D. 2004) - advisors Marjorie Matocq/Joe Cook
Ryan McNab (MNS 2005) –advisor Maureen Brandon
Kayce Bell (M.S. 2006) – advisor Marjorie Matocq
Amy Runck (Ph.D. 2006) - advisors Marjorie Matocq/Joe Cook
Deborah Johnson (Ph.D. 2007) - advisors Jeff Hill/Mike Thomas
Chris Jenkins (Ph.D. 2007) – advisor Chuck Peterson

Graduate Committee Member (in progress):

Noah Anderson (D.A.) – advisor Curt Anderson
Nancy Hampton (Ph.D.) – advisor Nancy Huntly
~~Cameron Pederson~~ (Ph.D.) – advisor Nancy Huntly (dropped out of program 2006)
~~Julie Wemple~~ (Ph.D.) – advisor Maureen Brandon (dropped out of program)
~~Zhen Li~~ (Ph.D.) – advisor Karen Weiler (changed to Malcolm Shields for M.S./Ph.D.)
~~Amelia Nugent~~ (M.S.) – advisor Paul Beardsley (withdrew after 1 yr. – 2006)
Quinn Shurtliff (Ph.D.) – advisor Marjorie Matocq
Jennifer Claypool (M.S.) – advisor Marjorie Matocq
Sheel Bansal (Ph.D.) – advisor Matt Germino
Jason Beck (Ph.D.) – advisor Jeff Meldrum
Katie Miller (M.S.) – advisor Marjorie Matocq
Chang Liu (M.S.) – advisors Paul Beardsley/Scot Kelchner
Erin Naegle (D.A.) – advisors Paul Beardsley/Mike Thomas
Kira Pontius (M.S.) – advisor Rosemary Smith
Faith Rudebusch (M.S.) – advisor Nancy Huntly
Susan Parsons (M.S.) – advisor Chuck Peterson

Mentor for teaching internship:

Jennifer Merriam (Ecology, BIOS 209 - 2000)
Jennifer Lewis (Genetics, BIOS 358/359 - 2001)
Scott Smidt (Ecology, BIOS 209 - 2002)
Noah Anderson (Phenotypic Evolution Seminar, BIOS 692 - 2005)

UNDERGRADUATE STUDENTS

Undergraduate research advisor: (most of these students went on to earn advanced degrees)

Jay Storz (RMBL & U. Colorado 1993-94) – Boston U. (Ph.D.), now Asst. Prof. U. Nebraska

Mark Viera (RMBL-REU 1995) – Colorado State University (M.S.)

Jessica Ruvinsky (RMBL and Yale 1995) – Stanford U. (Ph.D.), now a science writer

Steve Karrer (NWU 1996) – Law School

Sarah Harney (RMBL and NWU 1996) – U. Connecticut (M.S.)

Trent Wimmer (NWU 1996)

Maria Garza (RMBL 1996) – Texas A&M (M.S.)

Allison Drew (RMBL and Cornell 1997) – U.C. Berkeley (M.S.)

Kelly O'Malley (RMBL-REU 1998) – Duke University (M.S.)

Martha Palomino Tovar (RMBL and UNAM 1999) – U.C. Berkeley (Ph.D.)

Amanda Gibson (RMBL-REU 2000) – U. Maryland (Ph.D.)

Maria Piantek (RMBL-REU 2001) - now a research technician

Jennifer Howeth (RMBL 2000-2001) – U. Texas (Ph.D.)

Jodi McKay (ISU 2001-02) – Iowa State U. (Ph.D.)

Jose Ramirez (ISU 2001-03) – U.C. Riverside (Ph.D.)

Jonathan Godfrey (ISU 2001-02) – Creighton U. Medical School

Jeff Wheeler (ISU 2001-02) – Creighton U. Medical School

Donald Sandmann (ISU 2002) – now a high school teacher, Burley, ID

Jeremy Green (ISU 2002) – now a high school teacher in Idaho

Carla Cortez Baez (RMBL-REU 2002) – Medical School

Andrew Stoddard (ISU 2002-03)

Penny Ciak (ISU 2002-04) – ISU (Secondary Education)

Karamatullah Danyal (ISU 2002-03) – Utah State University (Ph.D.)

Jared Matson (ISU 2003) – now at USFS

Linsay Hose (ISU 2004) – now at USFS

Dorian Rammell (ISU 2004)

Mariko Squires (ISU 2004)

Rachel Winston (ISU 2004) – U. Idaho (M.S.)

Josh Sutherland (ISU 2004-05)

Nettie McMichael (ISU 2006-2007)

Melanie Popien (ISU 2007)