

CURRICULUM VITAE

KATRINA MARIE DLUGOSCH

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RESEARCH INTERESTS

Genetics and evolution of colonizing populations, Evolutionary ecology of introduced plants, Molecular basis of adaptation, Inbreeding and mating system evolution, Hybridization and sources of genetic variation in small populations, Influence of adaptation on demography

EDUCATION

- 2000 - 2006 University of California, Santa Cruz
Ph.D. Ecology and Evolutionary Biology
Thesis: Adaptation and colonization in *Hypericum canariense*:
past and present invasions of an island endemic
Major Professor: Ingrid Parker
- 1994 - 1998 University of Washington, Seattle
B.S. Botany (Honors)
Thesis: Impacts of English ivy invasions in Seattle's urban parks
Advising Professors: Roger del Moral and Sarah Reichard
- B.S. Ecology, Evolution and Conservation Biology (Honors)
Thesis: Nectar resources of the Fenders blue butterfly
Advising Professor: Peter Kareiva
- 1992 - 1993 Missouri Botanical Gardens, St. Louis
Henry Shaw Academy Explorer Field Study Program
(Year-long intensive field ecology course and independent study)

RELEVANT EMPLOYMENT

- 2007 - Postdoctoral Fellow, Supervisor: Loren Rieseberg
Department of Botany, University of British Columbia
- 2007 (9 mo.) Postdoctoral Fellow, Supervisor: Ingrid Parker
Department of Ecology and Evolutionary Biology, Univ. of California Santa Cruz
- 2006 Laboratory Manager, Molecular Ecology and Evolutionary Genetics Facility
Department of Ecology and Evolutionary Biology, Univ. of California Santa Cruz
- 1998 - 2000 Laboratory Manager, Plant Molecular Ecology laboratory
Department of Botany, University of British Columbia

PUBLICATIONS

- Stewart CN Jr., PJ Tranel, DP Horvath, JV Anderson, LH Rieseberg, JH Westwood, CA Mallory-Smith, ML Zapiola & **KM Dlugosch**. (2009) Evolution of weediness and invasiveness: charting the course for weed genomics. *Weed Science*, *in press*.
- MS Barker*, **KM Dlugosch***, ACC Reddy, SN Amyotte & LH Rieseberg. (2009) SCARF: maximizing next-generation EST assemblies for evolutionary and population genomic analyses. *Bioinformatics* 25: 535-536.
- *these authors contributed equally to this work**
- Dlugosch KM** & CG Hays (2008) Genotypes on the move: some things old and some things new shape the genetics of colonization during species invasions. *Molecular Ecology* 17: 4583–4585.
- Dlugosch KM** & IM Parker (2008) Invading populations of an ornamental shrub show rapid life history evolution despite genetic bottlenecks. *Ecology Letters* 11(7): 701-709.
- Dlugosch KM** & J Whitton (2008) Can we stop transgenes from taking a walk on the wild side? *Molecular Ecology* 17(5): 1167-1169.
- Whitton J, **KM Dlugosch** & CJ Sears (2008) Molecular and morphological evidence for and against gene flow in sympatric apomicts of the North American *Crepis* agamic complex (Asteraceae). *Canadian Journal of Botany* 86(8): 877-885.
- Dlugosch KM** & IM Parker (2008) Founding events in species invasions: genetic variation, adaptive evolution, and the role of multiple introductions. *Molecular Ecology* 17 (1): 431-449.
Featured on Faculty of 1000
- Parker IM, E Cuevas García, **KM Dlugosch**, P Holloran, SM Swope, KB Hulvey & R Clark (2007) Invasions as a tool for basic research. *Conservation Biology* 21 (5): 1376-1377.
- Dlugosch KM** & IM Parker (2007) Molecular and life history trait variation across the native range of the invasive species *Hypericum canariense*: evidence for ancient patterns of colonization via pre-adaptation? *Molecular Ecology* 16 (20): 4269-4283.
- Dlugosch KM** (2005) Understory community changes associated with English Ivy invasion in Seattle's urban parks. *Northwest Science* 79 (1): 52-60.
- Schultz CB & **KM Dlugosch** (1999) Nectar and hostplant scarcity limit populations of an endangered Oregon butterfly. *Oecologia* 119 (2): 231-238.
- Dlugosch K** & R del Moral (1999) Vegetational heterogeneity along elevational gradients. *Northwest Science* 73 (1): 12-18.

TECHNICAL REPORTS

- Dlugosch K** (2005) Plant Assessment (PAF) for *Hypericum canariense*. California Invasive Plant Council, Berkeley, California.
- Dlugosch K** & CB Schultz (1996) Nectar Resources of the Fenders Blue Butterfly (*Icaricia icaroides fenderi*) in Lane County, Oregon. U. S. Fish and Wildlife Service, Portland, Oregon.

GRANT WRITING

- 2008-2010 NSERC Special Research Opportunity #353026 "The genetics of invasiveness: what makes a weed a weed?" (PI: Loren Rieseberg) \$990,000 CDN
- 2003-2007 USDA Weedy and Invasive Plants Program NRI# 2003-35320 "The genetics of colonization: native populations vs. recent introductions of *Hypericum canariense*, island endemic to noxious invader" (PI: Ingrid Parker) \$262,000 USD
- 2007 Science, Technology, Engineering, Policy, and Society (STEPS) Institute Student Research Grant "Trade-offs between defense and growth: native and invading populations of the shrub *Hypericum canariense*" (PI: Katrina Dlugosch) \$2000 USD
- 2005 Science, Technology, Engineering, Policy, and Society (STEPS) Institute Student Research Grant "HPLC profiling of an invasive species to assess the rapid evolutionary loss of defensive chemicals" (PI: Jodi Stewart) \$1200 USD
- 2003 California Native Plant Society Hardman Research Grant "Molecular and ecological diversity in native and recently-introduced populations of *Hypericum canariense*" (PI: Katrina Dlugosch) \$1215 USD

FELLOWSHIPS

- 1998-2003 National Science Foundation Graduate Research Fellowship
- 1997 Hughes Undergraduate Summer Research Internship
- 1997-1998 Mary Gates Endowment Research Training Grant
- 1996 National Science Foundation REU Internship

AWARDS AND HONORS

- 2006 Menzel Speaking Award for Best Paper in Genetics: Botany 2006 Meetings
- 2005 Best talk for Research in Progress: CA Botanical Society Graduate Student Meetings
- 2003 Best talk for Proposed Research: CA Botanical Society Graduate Student Meetings
- 1998 Phi Beta Kappa Honors Society

TEACHING EXPERIENCE

University of British Columbia:

- 2008-2009 Organizer: Invasion Biology (graduate seminar)
- 2008,2009 Guest lectures: Plant Evolution (Bio 415, upper division undergraduate)

University of California Santa Cruz:

- 2007 *Instructor*: Systematic Botany (Bio 168, upper division undergraduate)
- 2007 Guest lectures: Population Genetics (Bio 107, upper division undergraduate)
- 2005 *Instructor*: Plant Ecology (Bio 169, upper division undergraduate)
- 2005 Co-organizer: Methods in Quantitative Genetics (graduate seminar)
- 2003-2005 Teaching Assistant and Guest Lecturer:
Systematic Botany (Bio 168)
Plant Ecology (Bio 169)

STUDENT TRAINING

I have trained more than 20 undergraduates in field and laboratory techniques, including many women (>50% of students) and those of minority backgrounds (>20%). Several of my long-term advisees have gone on to graduate school (Emily Bruns, University of Minnesota; James Sowerwine, University of Alaska Anchorage; Jodi Stewart, University of Washington; Peter Zee, Indiana University), competitive internships in conservation (Eleanor Kolden, Bureau of Land Management), and biological consulting (Meghan Bishop, Garcia and Associates).

SENIOR THESIS ADVISING

- 2005 James Sowerwine (now at University of Alaska Anchorage): "Pollination success in the invasive shrub *Hypericum canariense* (Hypericaceae)" Recipient of the Deans' Undergraduate Excellence in Research Award
- 2005 Jodi Stewart (now at University of Washington): "HPLC profiling of the invasive plant species *Hypericum canariense* to assess rapid evolutionary changes in defensive chemistry" Recipient of the Deans' Undergraduate Excellence in Research Award

ACADEMIC SERVICE

Symposia Organization:

- SWEET: Symposium for Women Entering Ecology and Evolution Today (2008) Univ. of British Columbia, May 11
- Plant Research Symposium (2005) Univ. of California Santa Cruz, Feb 12

Committee service:

- Search Committee: Plant Evolutionary Biologist (2006-7) Univ. of California Santa Cruz
- Graduate Student Representative to EEB Department (2004-5) Univ. of California Santa Cruz

Web resource development:

- Genomics of Weedy and Invasive Plants (www3.botany.ubc.ca/rieseberglab/WeedGen)
- Hypericum canariense* Invasions (HypericumCanariense.info)
- Women Entering Ecology and Evolution Today (www.ecoevo.ca/ubc2008/SWEET/)

Publicly available software development:

- SCARF: Maximizing next-generation EST assemblies
- Evopipes: Pipelines and forums for evolutionary genomics and bioinformatics

Reviewer for:

- American Journal of Botany
- Annals of Botany
- Biological Invasions
- Biological Journal of the Linnaean Society
- Current Biology
- Ecology
- Evolution
- Evolutionary Applications
- Molecular Ecology
- Trends in Plant Science

PROFESSIONAL MEMBERSHIPS

American Society of Naturalists
Botanical Society of America
California Invasive Plant Council
Ecological Society of America
Society for the Study of Evolution

POSTERS AND ORAL PRESENTATIONS

Invited

- Dlugosch KM, MS Barker, Z Lai and LH Rieseberg (2009) The 9th International Plant Molecular Biology Congress, St. Louis, October 29.
- Dlugosch KM (2009) Purdue University. March 30.
- Dlugosch KM (2009) North Carolina State University. March 26.
- Dlugosch KM (2009) University of Minnesota. March 9.
- Dlugosch KM (2009) University of Arizona. March 2.
- Dlugosch KM, MS Barker, Z Lai and LH Rieseberg (2009) Plant and Animal Genome Conference: Compositae Workshop, San Diego, Jan 13.
- Dlugosch KM (2008) Workshop on Applying Modern Genomic Tools for the Management and Characterization of Plant Genetic Resources at the Annual Meeting of the Botanical Society of America, Vancouver, July 27.
- Dlugosch KM (2008) Symposium on Plant Risk Assessment Challenges for the 21st Century: New Crops and New Uses. Canadian Food Inspection Agency, Ottawa, March 12.
- Dlugosch KM, Z Lai, MS Barker, & LH Rieseberg (2008) Plant and Animal Genome Conference: Weedy and Invasive Plant Workshop. San Diego. Jan 15.
- Dlugosch KM (2007) University of California Davis Bodega Marine Laboratory. March 7.
- Dlugosch KM (2007) University of California Berkeley. March 1.
- Dlugosch KM & IM Parker (2007) University of California Los Angeles Symposium on Microevolutionary Change in Human-altered Environments. February 11.

Contributed

- Dlugosch KM and IM Parker (2008) Poster, Ecological Society of America, Milwaukee, August 4.
- Dlugosch KM, MS Barker, Z Lai and LH Rieseberg (2008) Botanical Society of America, Vancouver, July 28.
- Dlugosch KM, MS Barker, Z Lai and LH Rieseberg (2008) Society for the Study of Evolution, Minneapolis, June 23.
- Dlugosch KM and IM Parker (2008) Canadian Society for Ecology and Evolution, Vancouver, May 13.
- Dlugosch KM & IM Parker (2007) Ecological Society of America, San Jose, Aug 7.
- Dlugosch KM & IM Parker (2007) Western Evolutionary Biology, Irvine, May 27.

Dlugosch KM and IM Parker (2007) Poster, Fifth Annual Central Coast Biodiversity Workshop, Santa Cruz, Jan 19.

Dlugosch KM & IM Parker (2006) Botanical Society of America, Chico, August 1.

Crockett, S, KM Dlugosch and O Kunert (2006) Poster, International Society of Chemical Ecology, Barcelona, July 15.

Dlugosch KM & IM Parker (2005) The Society for the Study of Evolution, Anchorage, June 10.

Dlugosch KM & IM Parker (2005) Graduate Student Symposium of the California Botanical Society, Tiburon, February 19.

Dlugosch KM & IM Parker (2005) USDA/NSF/EPA Principal Investigators of Invasive Species, Washington D.C., October 15.

Dlugosch KM (2005) University of California Santa Cruz Plant Research Symposium, Santa Cruz, February 12.

Dlugosch KM & IM Parker (2004) Society for the Study of Evolution, Fort Collins, June 27.

Dlugosch KM (2004) Poster, California Invasive Plant Council Symposium, Ventura, October 7.

Dlugosch KM (2003) Poster, Society for the Study of Evolution, Chico, June 23.

Dlugosch K.M (2003) Graduate Student Symposium of the California Botanical Society, San Diego, February 15.

Dlugosch KM (2003) San Mateo Weed Management Area Meeting, Redwood City, January 21.

Dlugosch KM (2002) Poster, California Exotic Pest Plant Council Symposium, Sacramento, October 11.

Whitton J, SL Thompson, KM Dlugosch and LP Jennings (2001) Botanical Society of America, Albuquerque, August 14.

Thompson SL, KM Dlugosch and J Whitton (2001) Canadian Botanical Association, Kelowna, June 25.