

CURRICULUM VITAE

Matthew L. Carlson -

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EDUCATION:

Ph.D., 2002

University of Alaska Fairbanks
Degree: Biology

Bachelor of Science, 1994

Magna Cum Laude
Willamette University, Salem, OR
Degrees: Biology and Art

Ph.D. DISSERTATION: *University of Alaska Fairbanks, Norwegian University of Science and Technology (NTNU), and Oregon State University:* Study of inbreeding depression and its relationship to mating system evolution in seven related species (14 populations) of rare Pacific Northwest monkey flowers (*Mimulus moschatus* alliance).

RESEARCH INTERESTS: Plant conservation biology and evolutionary ecology - mating system and floral trait evolution in *Mimulus* and *Dalechampia*, plant reproductive ecology, and ecological and evolutionary links with rarity.

TEACHING EXPERIENCE:

University of Alaska Anchorage: Biological Sciences Department (2002-present):

Plant Systematics (for biology majors)
Plant Evolutionary Ecology (for biology majors)
Fundamentals of Biology II
Independent Studies
Thesis
Directed Research

University of Alaska Anchorage: Alaska Natural Heritage Program (2002-present):

Invasive Plant Ecology and Taxonomy (educational workshop)

Sabbatical Replacement Instructor : Norwegian University of Science and Technology (Trondheim, Norway January 1999 – May 1999):

Conservation Biology (team teaching, masters-level course)
Plant Ecology (team teaching, masters-level course)

Teaching Assistant: University of Alaska Fairbanks (Fall 1995):
Principles of Ecology

Teaching Assistant: Plant Anatomy and Physiology, Willamette University (Fall 1993, Fall 1994):
Plant Anatomy and Physiology

Teaching Assistant: Field Plant Ecology, Willamette University (Spring 1993):
Field Plant Ecology

GRANTS, HONORS, AND AWARDS:

Undergraduate and Graduate Fellowships and Awards:

1995 – 2000 National Science Foundation Pre-doctoral Fellowship (\$90,000)
2000 Hardman Research Award for scholarship and research interests in native plants
1996 Institute of Arctic Biology Fellowship for collection of plant specimens from Africa
1994 Graduated Magna Cum Laude from Willamette University
1994 Young Botanist Award –Botanical Society of America
1994 Omicron Delta Kappa Honor Society
1993 Ester Wright Huffman Scholarship for Art
1993 Vernon V. & Augusta M. Thompson Biology Scholarship for research interests, service to the department, scholarship, and future promise of success
1993 Morton E. & Jesse G. Peck Biology Scholarship for research interests, service to the department, scholarship, and future promise of success
1990 – 1994 College Honors (all semesters)

Faculty Grants:

(* Includes support for students)

*2007 Flower Color Evolution in the Arctic: Integrating Genomic Research and Undergraduate Education in Polar Environments (collaborative proposal \$194,000 to M. L. Carlson, \$450,000 total) – National Science Foundation, International Polar Year (NSF # 0733078)
2007 Support of Alaska's Statewide Invasive Plants Database: Facilitating Early Detection, Rapid Response to Infestations in Alaska, and Insects and Pathogens of Hawkweeds (*Hieracium*, Asteraceae) (\$60,000) – grant with USDA, USFS
2007 Slope Mountain Rare Plant Survey, Lake Clark National Park and Preserve (\$2,000) – work order with UNAVCO
*2007 EPSCoR Graduate Student Fellowship (\$22,000 – University of Alaska) awarded to incoming graduate student, James Sowerwine, for working on the project proposed by me: Vulnerability of subsistence resources – Linking landscape genetics with impacts on moose forage due to the rapidly expanding invading plant, *Melilotus alba*
2007 Technical Assistance (Taxonomic Determinations, Data Compilation) for Vegetation Monitoring, Southwest Alaska Network (\$10,000) – grant with National Park Service
2007 Exotic Plant Survey in Burned Areas of Interior Alaska, Modification I (\$74,000) – grant with the Bureau of Land Management, co-PI with Helen Cortes-Burns
2007 Invasive Plant Ecology and Taxonomy Workshop (\$2,000) – work order with Bureau of Land Management, Campbell Creek Science Center

- 2007 Invasive Plant Ecology and Taxonomy Workshop (\$2,000) – work order with National Park Service
- 2007 Reconnaissance Survey for Threatened, Endangered and Sensitive Species at Clear AFS, Alaska (\$29,000) – US Department of Defense, co-PI with Tracey Gotthardt
- 2006 Office of Undergraduate Research and Discovery Symposium Honor for undergraduate student, Tara Harrington’s collaborative research and poster presentation
- *2006 Effects of an Arctic Biological Pollutant on Rare Alaskan Habitats, (\$15,000) – CIFAR International Polar Year undergraduate and graduate research grant, support for MS student Theresa Rzeczycki
- 2006 Exotic Plant Survey in Burned Areas of Interior Alaska (\$200,000) – Grant with the Bureau of Land Management, co-PI with Helen Cortes-Burns
- 2006 National Wildlife Refuge Exotic Plant Assistance (\$15,000) – cooperative agreement with the USFWS, co-PI with Helen Cortes-Burns
- 2006 Rare Plant Inventory of the Tangle Lakes Area – cooperative agreement with the Bureau of Land Management (\$33,000)
- 2006 Kanuti National Wildlife Refuge Rare and Exotic Plant Survey (\$10,400) – cooperative agreement with the USFWS, co-PI with Helen Cortes-Burns
- 2006 National Park Service Certification of Vascular Plant Species – grant with the National Park Service (\$8,000)
- 2006 Vascular Flora of Southwest Alaska: A Comparative Analysis of Five National Park Units (\$14,500) – grant with the National Park Service
- 2006 Non-native plant database development – cooperative agreement with the US Forest Service (\$20,000)
- 2005 Stewart River Training Area Rare Plant Survey – contract (competitive) with the DOD Army National Guard (\$45,000)
- 2005 Non-native Plant Surveys of the Fairbanks Road System – cooperative agreement with the US Forest Service (\$30,000)
- 2005 Campbell Tract Non-Native Plant Survey – contract (competitive) with the USDI Bureau of Land Management (\$20,000), co-PI with Helen Cortes-Burns
- 2005 Invasiveness Ranking of Non-Native Plants of Alaska: Development of a Technical Publication – grant with the USDA Forest Service, State and Private Forestry (\$60,000)
- 2005 Non-Native Plant Surveys of the Fairbanks Region – grant with the USDA Forest Service, State and Private Forestry (\$45,000)
- 2004 Non-Native Plant Establishment Following 2004 Fires in Alaska – grant with the USDI US Fish and Wildlife Service (\$158,000)
- 2004 Comparative Ecology of a Rare and Common Species Pair and Evolutionary Patterns of Rarity – grant with University of Alaska Anchorage (\$10,000)
- 2004 Entomology Course Development – grant with University of Alaska Anchorage (\$3,000)
- 2004 Clear Air Force Station Vascular Plant Inventory – grant with US Department of Defense (\$26,200)
- 2004 Exotic Plants in Alaska’s National Park Units – Cooperative Agreement with US National Park Service (\$15,300)
- 2004 Species Review for Rare Plants of the National Petroleum Reserve Alaska – grant with the USDI Bureau of Land Management (\$30,000)
- 2004 Vascular Flora of Alaska – grant with USDI US Fish and Wildlife Service (\$15,000)
- 2004 Vascular Plant Inventory in Aniakchak National Monument, Southwest Alaska Network – Cooperative agreement with USDI National Park Service (\$72,400)
- 2004 Non-native Plants of Alaska: Ranking Invasiveness and Field Surveys – grant with

- USDA Forest Service (\$60,000)
- 2003 Non-native plants of Alaska: ranking invasiveness and field surveys – grant with USDA Forest Service (\$103,000)
- 2003 Non-native plants of Alaska: database construction and website development – grant with USDA Forest Service and USDI National Park Service (\$22,500)
- 2003 Effects of grazing on population viability of the rare Chukchi Primrose – grant with the National Fish and Wildlife Foundation (\$28,000) + UAA support (\$28,000)
- 2003 White Pass Botanical Survey – Cooperative Agreement with USDI National Park Service (\$8,200)
- 2002 Vascular Plant Inventory in the Alagnak Wild River and Katmai National Park, SWAN – Cooperative Agreement with USDI National Park Service (\$105,000)

RESEARCH EXPERIENCE:

Assistant Professor of Botany, Alaska Natural Heritage Program, University of Alaska Anchorage (June, 2004 – present; Assistant Research Professor June 2002 – 2004), with a focus divided in two areas:

As a faculty member, I have primary responsibility for courses in Plant Systematics and Plant Evolutionary Ecology; for research publications and grant-writing, and for mentoring students in independent study programs

Within the Natural Heritage Program, I direct floristic inventories across Alaska, write grants and pursue public outreach on plant conservation, survey invasive species, construct and maintain rare and exotic plant databases, and publish field reports on Alaskan plants and their ecology

Faculty Research Assistant – Plant Conservation Program at Oregon State University (1999-2002): studies of reproductive ecology, understanding morphological and genetic variation, seed germination biology, hybridization, symbiosis in a range of rare species (e.g., species in the genera: *Astragalus*, *Ivesia*, *Oenothera*, and *Stanleya*)

Botany Research Assistant – Norwegian University of Science and Technology, Trondheim, Norway (1998-1999): Worked on genetic constraints in the evolution of flower morphology in the tropical vine, *Dalechampia scandens*

Botanist – Independent contractor for Oregon Department of Agriculture, Plant Conservation Biology Program (1998): Working on introductions of four threatened plants and a long-term demographic study of a rare *Astragalus* (Fabaceae) species

Faculty Research Assistant, Plant Conservation Program at Oregon State University (1994-1997): Working on long-term demographic studies of four plant species, rare plant surveys in remote regions of Oregon, and greenhouse propagation studies of rare Oregon flora

Botany Field Assistant, Oregon Department of Agriculture, Plant Conservation Biology Program (1992-1993): Working on plant demographic studies, rare plant surveys, and pollination studies of rare Oregon plants

Undergraduate Research, Willamette University (1993): Studying herbivory and seed predation as possible limiting factors in the fitness of a narrowly endemic Oregon plant

PUBLICATIONS AND PRESENTATIONS:

Peer-Reviewed Scientific Manuscripts—

- Carlson, M. L., S. D. Gisler, and S. Kelso. (*in press*). The role of reproductive assurance in the Arctic: a comparative study of a homostylous and distylous species pair (*Arctic, Antarctic, and Alpine Research* – scheduled for February 2008 issue).
- Conn, J., K. Beattie, M. Shephard, M. L. Carlson, I. V. Lapina, M. Hebert, R. Gronquist, M. Rasy. (*in press*). Alaska *Melilotus* (Fabaceae) Invasions: Distribution, Origin, and Susceptibility of Plant Communities (*Arctic, Antarctic, and Alpine Research*).
- Carlson, M.L., and M. Shephard. 2007. The spread of invasive exotic plants in Alaska: is establishment of exotics accelerating? Harrington, T.B. and S.H. Reichard (tech. eds.). Meeting the Challenge: Invasive Plants in Pacific Northwestern Ecosystems. USDA Forest Service, *Pacific Northwest Research Station, Gen. Tech. Rep. PNW-GTR-694*.
- Pélabon, C., T. F. Hansen, M. L. Carlson, and W. S. Armbruster. 2006. Patterns of asymmetry in the twining vine *Dalechampia scandens* (Euphorbiaceae): ontogenetic and hierarchical perspectives. *New Phytologist* 170:65-74.
- Whittall, J. B., M. L. Carlson, P. Beardsley, R. J. Meinke, A. Liston. 2006. The *Mimulus moschatus* Alliance (Phrymaceae): molecular and morphological phylogenetics and their conservation significance. *Systematic Botany* 31:380-397.
- Pélabon, C., M. L. Carlson, T. F. Hansen, and W. S. Armbruster. 2005. Effects of crossing distance on fitness and developmental stability in *Dalechampia scandens* (Euphorbiaceae). *American Journal of Botany* 92:842-851.
- Pélabon, C., M. L. Carlson, T. F. Hansen, N. G. Yoccoz, and W. S. Armbruster 2004. Consequences of interpopulation crosses on developmental stability and canalization of floral traits in *Dalechampia scandens* (Euphorbiaceae). *Journal of Evolutionary Biology* 17: 19-32.
- Pélabon, C., T. F. Hansen, M. L. Carlson, and W. S. Armbruster 2004. Variational and genetic properties of developmental stability in *Dalechampia scandens*. *Evolution* 58: 504-514.
- Hansen, T. F., C. Pélabon, W. S. Armbruster, and M. L. Carlson. 2003. Evolvability and genetic constraint in *Dalechampia* blossoms: components of variance and measures of evolvability. *Journal of Evolutionary Biology* 16: 754-766.
- Hansen, T. F., W. S. Armbruster, M. L. Carlson, and C. Pélabon. 2003. Evolvability and genetic constraint in *Dalechampia* blossoms: Genetic correlations and conditional evolvability. *Journal of Experimental Zoology* 296(B): 23-39.

Books -

- M. L. Carlson, J. Heys, M. Shephard, J. Snyder (eds.). 2005. Invasive Plants of Alaska. Alaska Exotic Plant Information Clearinghouse. Alaska Association of Conservation Districts, Anchorage, Alaska. pp 294.

Manuscripts Submitted -

- Carlson, M. L., and R. J. Meinke. Hybridization between a rare and introduced primrose: evidence, land-use patterns and transportation corridors as vectors of introduced genes. (submitted to *Western North American Naturalist*).

Manuscripts in Preparation -

- Carlson, M. L., I. V. Lapina, M. Shephard, J.S. Conn, R. Densmore, P. Spencer, J. Heys, J. Riley, J. Nielsen (in prep.). Invasiveness ranking system for non-native plants of Alaska.
- Flagstad, L., E. A. D. Mitchell, M. L. Carlson (in prep.). Patterns of above and belowground community assembly following glacial retreat in Alaska.
- Carlson, M. L., and J. B. Whittall (in prep.). Evolutionary patterns of rarity the *Mimulus moschatus* alliance (Scrophulariaceae).
- Carlson, M. L., J. B. Whittall, and W. S. Armbruster (in prep.). Variation in floral and mating system traits in the *Mimulus moschatus* alliance.
- Carlson, M. L., R. J. Meinke, and W. S. Armbruster (in prep.). The evolution of mating system and inbreeding depression in fourteen populations (seven species) of *Mimulus*.
- Carlson, M. L., R. J. Meinke, and T. N. Kaye. (in prep.). Pollination efficiency and functional gender in a distylous species, *Kalmiopsis fragrans*.
- Meinke, R. J., T. N. Kaye, and M. L. Carlson (in prep.). *Kalmiopsis fragrans* (Ericaceae), a rare new species endemic to Oregon's Umpqua River Drainage.

PUBLISHED ABSTRACTS & PRESENTATIONS

- Carlson, M. L., H. Cortés-Burns, and A. Miller. 2007. Areas of plant radiation and migration in Alaska: Testing Hultén's ideas of elemental areas and rare plant diversity in Alaska. *American Academy for the Advancement of Science* meeting. Anchorage, Alaska.
- Carlson, M. L., R. Lipkin, and A. Miller. 2006. Vascular flora of nunataks in southwest Alaska, CAR-1141-165664. Poster presentation to *Ecological Society of America* meeting. Memphis, Tennessee.
- Flagstad, L. A., E. A. D. Mitchell, and M. L. Carlson. 2006. Patterns of testate amoeba community assembly along glacial chronosequences in Kenai Fjords, Alaska. International Conference on Alpine and Polar Microbiology March 27-30, 2006; Innsbruck, Austria.
- Carlson, M. L. 2005. Links between inbreeding depression and outbreeding depression: a phylogenetic perspective in the *Mimulus moschatus* alliance (Phrymaceae). Presentation: *Annual American Society for the Study of Evolution* meeting. Fairbanks, Alaska.
- Carlson, M. L. 2005. Comparative reproductive biology of a rare and common arctic *Primula* species pair (Primulaceae): *Annual American Society for the Study of Evolution* meeting. Fairbanks, Alaska.
- Carlson, M. L., and I. Lapina. 2004. Invasive non-native plants in the arctic: the intersection between natural and anthropogenic disturbance. Poster Presentation at the *American Academy for the Advancement of Science* meeting. Anchorage, Alaska.
- Carlson, M. L. 1998. An unusual case of distyly in the Ericaceae, *Kalmiopsis fragrans*. Abstract & Presentation: Meeting of the *Scandinavian Association for Pollination Ecology*. Tjärnö, Sweden.
- Carlson, M. L. and R. J. Meinke. 1995. The unusual reproductive system of the rare endemic, *Kalmiopsis fragrans* (Ericaceae). Abstract & poster presentation: Meeting of the *Ecological Society of America*. Snowbird, Utah.

Carlson, M. L. 1994. Herbivory and seed predation as possible limiting factors in the fitness of the narrow endemic: *Luina serpentina*. *American Journal of Botany, Abstracts* 81(6):68. Poster Presentation: Meeting of the *American Institute of Biological Sciences*. Knoxville, Tennessee.

Other Presentations -

- Carlson, M. L., and H. Cortés-Burns. 2007. *Invasive Plant Ecology and Taxonomy. Workshop* presented in May and June in Anchorage, Alaska. See <http://akweeds.uaa.alaska.edu/training.htm>
- Carlson, M. L., 2007. Plant conservation biology in Alaska: hurdles and opportunities. Presentations for *Alaska Rare Plant Forum*. Anchorage, Alaska.
- Carlson, M. L., 2007. Rare vascular plant diversity patterns in Alaska and revisiting Hultén's "Elemental Areas". Presentations for *Alaska Rare Plant Forum*. Anchorage, Alaska.
- Carlson, M. L. 2006. What's here: distribution of invasive plants in Alaska. *Alaska Forum on the Environment*. Anchorage, Alaska.
- Carlson, M. L., 2006. The spread of invasive plants in Alaska: is establishment of exotics increasing? Presentations for 6th *Alaska Noxious and Invasive Plants Management Workshop*. Anchorage, Alaska.
- Carlson, M. L., I. Lapina, and H. Cortes-Burns. 2005. *Invasive Plant Training. Workshop* presented in Anchorage, Alaska. See <http://akweeds.uaa.alaska.edu/training.htm>
- Carlson, M. L. 2005. Herbivory and reproductive biology of two arctic primroses. Presentation to the *Native Plant Society and BLM Science Center*.
- Carlson, M. L., and I. Lapina. 2004. Plant invasiveness ranking project: methods, patterns, and directions. Presentations for 5th *Alaska Noxious and Invasive Plants Management Workshop*. Anchorage, Alaska.
- Carlson, M. L. 2004. State of the science and approaches to plant conservation biology. Presentations for annual *Alaska Rare Plant Conference*.
- Carlson, M. L. 2004. Reproductive biology of Alaska's Flora. Presentation to the *Native Plant Society and BLM Science Center*.
- Carlson, M. L., and I. Lapina. 2003. Plant invasiveness ranking: lessons and future directions. Presentations for 4th *Alaska Noxious and Invasive Plants Management Workshop*. Anchorage, Alaska.
- Carlson, M. L. 2003. Vascular Plant Inventories of Alagnak Wild River, Katmai National Park, Glacier Bay National Park, Klondike Gold Rush National Historic Park, and Sitka National Historic Park. Presentations for *Inventory & Monitoring Conference*.
- Carlson, M. L. 2003. Systematics and plant conservation: a case study of rare Northwestern Monkeyflowers. Presentation for *Annual Rare Plant Meetings*.
- Carlson, M. L. 2002. Invasive plants: a threat to biodiversity. Presentations for 3rd *Alaska Noxious and Invasive Plants Management Workshop*.
- Carlson, M. L., S. D. Gisler, C. Ver Linden, and A. Moldenke. 2001. Willamette Valley oak savanna-ecosystem pollination: conservation implications for both pollinators and flowering plants. Presentation to *Willamette Valley Natural Areas Network* (individuals from US Forest Service, US Fish and Wildlife Service, BLM, TNC, and other conservation organizations). Adair, Oregon.

CONSERVATION/ECOLOGY REPORTS AND PRESENTATIONS TO GOVERNMENT AGENCIES

- Cortés-Burns, H., Lapina, I., Klein, S. C. and M. Carlson. 2007. BLM-BAER Final Report Invasive Plant Species Monitoring and Control: Areas impacted by 2004 and 2005 Fires in Interior Alaska: A survey of Alaska BLM lands along the Dalton, Steese, and Taylor Highways. Alaska Natural Heritage Program, University of Alaska Anchorage. Report funded by the Bureau of Land Management, Alaska State Office, Anchorage, AK. 91 pp.
- Carlson, M.L., Lipkin, R., Cortés-Burns, H. , and I.V.Lapina. 2006. Stewart River Training Area - Rare Plant Survey - 2006. 37 pp. Alaska Natural Heritage Program, Anchorage, AK; prepared for the Alaska Army National Guard, State of Alaska Dept. of Military and Veterans Affairs, Fort Richardson, AK.
- Carlson, M. L., H Cortés-Burns, L. Flagstad, and R. Lipkin. 2006. Rare Vascular Plants Species of the North Slope: A review of the taxonomy, distribution and ecology of 33 rare plant taxa that occur in Alaska's North Slope Region. 133 pp. Report on file with Alaska Bureau of Land Management and Alaska Natural Heritage Program, UAA.
- Carlson, M. L., I. V. Lapina, and H Cortés-Burns. 2006. Campbell Tract Weed Inventory: Invasive non-native plant survey. 37 pp. Report on file with Alaska Bureau of Land Management and Alaska Natural Heritage Program, UAA.
- Cortés-Burns H., and M. L. Carlson. 2006. Invasive Plant Monitoring Following 2004 Fires: USFWS National Wildlife Refuges – Alaska Region. 46 pp. Report on file with the US Fish and Wildlife Service and Alaska Natural Heritage Program, UAA.
- Carlson, M. L. 2006. Natural threats to the rare arctic primrose, *Primula tschuktschorum*: Goose grazing and reproductive interference. National Fish and Wildlife Foundation. 38 pp. Report on file with the NFWF and Alaska Natural Heritage Program, UAA.
- Carlson, M. L., R. Lipkin, and J. A. Michaelson. 2005. Southwest Network of National Parks: Vascular Plant Inventory Summary Report. 37 pp. Cooperative Agreement between National Park Service, Southwest Alaska Network and Alaska Natural Heritage Program, UAA.
- Carlson, M. L., R. Lipkin, M. Sturdy, and J. A. Michaelson. 2005. Kenai Fjords National Park. Vascular Plant Inventory, Annual Technical Report. 74 pp. Cooperative Agreement between National Park Service, Southwest Alaska Network and Alaska Natural Heritage Program, UAA.
- Lapina, I., and M. L. Carlson. 2004. Non-native plant inventories of southcentral Alaska. 30 pp. Report on file with US Forest Service, State and Private Forestry and Alaska Natural Heritage Program.
- Carlson, M. L., K.W. Boggs, R. Lipkin, and J. A. Michaelson. 2004. Glacier Bay National Park and Preserve. Vascular Plant Inventory, Annual Technical Report. 105 pp. Cooperative Agreement between National Park Service, Southwest Alaska Network and Alaska Natural Heritage Program, UAA.
- Carlson, M. L., R. Lipkin, M. Sturdy, and J. A. Michaelson. 2004. Klondike Gold Rush National Historical Park. Vascular Plant Inventory, Annual Technical Report. 93 pp. Cooperative Agreement between National Park Service, Southwest Alaska Network and Alaska Natural Heritage Program, UAA.
- Carlson, M. L., and R. Lipkin. 2003. Alagnak Wild River & Katmai National Park Vascular Plant Inventory, Annual Technical Report. 69 pp. Cooperative Agreement between

- National Park Service, Southwest Alaska Network and Alaska Natural Heritage Program, UAA.
- Carlson, M. L., and T. N. Kaye. 2001. *Astragalus tyghensis* population monitoring and viability models: 10th year progress report. 32 pp. Challenge Cost/Share between Oregon Department of Agriculture, Plant Conservation Biology Program (PCBP) and Bureau of Land Management (BLM), Prineville, Oregon District.
- Carlson, M. L., and T. N. Kaye. 2001. Tygh Valley milkvetch (*Astragalus tyghensis*) population re-establishment. 18 pp. Contract with Oregon Department of Transportation, Salem, Oregon.
- Carlson, M. L., R. J. Meinke, and A. Wierck. 2001. Wolf's Evening Primrose (*Oenothera wolfii*): Hybridization, reproductive ecology, seed germination, and cultivation. 39 pp. Cooperative agreement with Oregon Department of Agriculture, PCBP, and U.S. Fish and Wildlife Service, Region 1, Portland, Oregon.
- Carlson, M. L., S. D. Gisler, and R. J. Meinke. 1998. Fruit and floral biology of the endangered Klamath Basin endemic, *Astragalus applegatei* (Fabaceae). 23 pp. Section Six Cooperative Agreement with Oregon Department of Agriculture, PCBP, and U.S. Fish and Wildlife Service, Region 1, Portland, Oregon.
- Carlson, M. L., and R. J. Meinke. 1998. *Kalmiopsis fragrans* (Ericaceae): Reproductive biology of a rare endemic from the Umpqua River Drainage, Oregon Cascade Range. 35 pp. Cooperative agreement with Oregon Department of Agriculture, PCBP, and U.S.D.A., Forest Service, Umpqua National Forest, Roseburg, Oregon.
- Carlson, M. L. 1997. Status report of *Artemisia campestris* L. ssp. *borealis* (Pall.) Hall & Clem. var. *wormskioldii* (Bess.) Cronq. Northern Wormwood. On file with U.S. Fish and Wildlife Service, Region 1, Portland, Oregon and Oregon Natural Heritage Data Base, Portland, Oregon.
- Carlson, M. L. and R. J. Meinke. 1994. Status report for *Mimulus hymenophyllus*. On file with U.S. Fish and Wildlife Service, Region 1, Boise, Idaho, and Oregon Natural Heritage Data Base, Portland, Oregon.
- Carlson, M. L. and R. J. Meinke. 1994. Status report for *Mimulus patulus*. On file with U.S. Fish and Wildlife Service, Region 1, Boise, Idaho, and Oregon Natural Heritage Data Base, Portland, Oregon.

CONSERVATION DATABASE ACTIVITIES AND PUBLIC OUTREACH

Alaska Natural Heritage Program Rare Plant Database 2002-present: Oversee and assist with revising species and associated ecological and distributional data; respond to data requests from the public and state and federal agencies (see: http://aknhp.uaa.alaska.edu/botany/Botany_Home.htm).

Alaska Exotic Plant Information Clearinghouse Database 2002-present: Develop, oversee and assist with revising species and associated ecological and distributional data; respond to data requests from the public and agencies (see: <http://akweeds.uaa.alaska.edu/>).

RELEVANT VOLUNTEER EXPERIENCE:

Committee for Noxious and Invasive Plant Management Board Member 2006-present: One of six board members of the state's non-native plant management committee, representing research and educational interests and organizing annual meetings and activities.

UAA Herbarium Director 2007-present: Curate, exchange, and maintain plant collections of University of Alaska Anchorage.

Circumpolar Biodiversity Monitoring Program Contributor 2007: International planning meeting, Anchorage, Alaska.

NEON Boreal Domain Invasive Species Theme Leader 2006: Anchorage, Alaska.

Alaska EPSCoR Phase 3 Proposal Contributor 2006: Fairbanks, Alaska.

Organizer and Instructor for Non-Native Plant Identification Workshop 2006: Anchorage, Alaska.

Manuscript Reviewer for US Fish and Wildlife Service, Private Lands Stewardship Grants 2006: Review the Invasive Plant Treatment Guide for the Chief of Natural Resources, Alaska USFWS.

Reviewer for Homer Soil and Water Conservation District Integrated Weed Management Strategy 2007.

Proposal Reviewer for US Fish and Wildlife Service, Private Lands Stewardship Grants 2002, 2003, 2004, 2005: Review, discuss, and evaluate proposals for rare plant and animal conservation on private lands in Alaska

Manuscript Reviewer 2002-2005: Reviewed manuscripts for *New Phytologist* and *Western North American Naturalist*

Biology Volunteer for Oregon Bee Fauna Project with Dr. A. Moldenke (OSU Entomology) 2001-2002: collecting, identifying, and data-basing pollinators in Oregon, primarily in Oregon's threatened oak woodland community

Volunteer for development of an on-line, computer-based, taxonomic key for soil arthropods (Comtesa) (2001-2002): Collaborating with Dr. A. Moldenke to develop free, on-line keys, accessible for a wide range of individuals. I have been working on keys to Pacific Northwest bees (Apoidae) and developing an electronic photographic data-base of relevant bee species (esp. bumblebees). (www.ent.orst.edu/comtesa/)

Cultivating plants for high school classes (2001): Germinating and growing plants for a Portland-based teacher conducting labs on plant tropisms.

SKILLS: Detailed research skills - experimental design, data collection, data analysis, plant surveying, technical/report writing; database management; managing crews; grant writing; bio-chemical and morphological systematic and population genetic methods; plant and insect taxonomy (identification and collection – strong floristic background in Alaskan, Pacific Northwest, and circumpolar species); scientific illustration; teaching; and scientific presentation. Additionally, I am first-aid, bear-safety, and aircraft-safety trained. Languages studied include: Norwegian (fluent), Japanese (limited conversation).

REFERENCES:

Dr. Susan R. Kephart, Professor of Biology, Olin 117, Willamette University 700 State Street, Salem, Oregon 97330; Tel: (503-370-6481); email: skephart@willamette.edu

Dr. W. Scott Armbruster, Professor of Botany, NTNU, Trondheim.
Tel: (47) 73 59 0339; email: scott.armbruster@chembio.ntnu.no

Keith Boggs, Director of the Alaska Natural Heritage Program, Environment and Natural Resources Institute, University of Alaska Anchorage, Anchorage, Alaska
Tel: (907) 257-2783; email: ankwb@uaa.alaska.edu.

Dr. Robert J. Meinke, Director of the Oregon Rare Plant Biology Program, Oregon Department of Agriculture, Salem OR
and Courtesy Professor, Oregon State University, Department of Botany, Corvallis, OR
Tel: (541) 737-2317; email: meinker@bcc.orst.edu