

RESUME

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DAVID CARL SHAW

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BORN: Feb. 28, 1955. Singapore.

EDUCATION:

- Ph.D 1991.** College of Forest Resources, University of Washington, Seattle.
Forest Protection and Silviculture. Dissertation: Ecology of Root and Butt Rot Fungi in Young-growth Western Hemlock.
- MS 1982.** Biology Department, Western Washington University, Bellingham.
Biology, Plant Ecology and Systematics. Thesis: Pollination Ecology of an Alpine Fell-field Community in the North Cascades, Washington.
- BS 1977.** Biology Department, Northern Arizona University, Flagstaff, Arizona.
Biology, emphasis on Applied Plant Science.

EMPLOYMENT:

- 1994-Present. **Research Manager, Wind River Canopy Crane Research Facility,** University of Washington @ Wind River Experimental Forest, Carson, Washington. Duties include Research Administration, Research and Education. My current research focuses on the biological basis of forest protection, and the relationship of forest canopy structure and forest canopy biota.
- 1991-1994. **Project Manager,** Olympic Canopy Crane, University of Washington.
- 1991 (May - October). **Forest Ecologist,** Olympic Natural Resources Center, University of Washington.
- 1990 (Feb-Dec). **Project Leader, Tree Inventory and Hazard Survey,** Ft. Lewis Historical District, near Tacoma, Washington, University of Washington.
- 1987-1990. **Graduate Research Assistant.** College of Forest Resources, University of Washington, Seattle.
- 1990-1991. **Ecologist.** US Forest Service, Mt. Baker-Snoqualmie National Forest.
- 1988-1990. **Forest Health Specialist.** Self employed, Seattle, Washington.
- 1983-1989. **Field Plant Ecologist.** US Forest Service, Area Ecology Program. Seasonal. Colville, Olympic, and Mt. Baker-Snoqualmie National Forests.
- 1983-1986. **Soil and Plant Resource Specialist.** Multnomah County Educational Service District, Outdoor School, Environmental Education, Portland, Oregon.
- 1980-1982. **Graduate Teaching Assistant.** Biology Department, Western Washington University, Bellingham, WA. (See teaching experience)
- 1980 (2 quarters). **Graduate Research Assistant.** Biology Department, Western Washington University, Bellingham

LIST OF PUBLICATIONS:

- Shaw, D.C., E.A. Freeman, J. Chen, and D.M. Braun. Submitted. **Hemlock dwarf mistletoe infected trees in an old-growth Douglas-fir/western hemlock forest.** Canadian J. Forest Research.
- Shaw, D.C., D.M. Watson, and R.L. Mathiasen. In revision. **Comparison of dwarf mistletoes (*Arceuthobium* spp., Viscaceae) in western North America with mistletoes (*Amyema* spp., Loranthaceae) in Australia – ecological analogs and reciprocal models for ecosystem management.** Australian Journal of Botany.
- Shaw, D.C. In press. **Vertical organization of canopy biota.** Chapter 4, In: M. Lowman and B. Rinker. Forest Canopies 2nd Edition. Elsevier.
- Shaw, D.C., J.F. Franklin, K. Bible, J. Klopatek, E. Freeman, S. Greene, and G.G. Parker. In press. **Ecological setting of the Wind River old-growth forest.** Special Papers, Ecosystems.
- Harmon, M.E., K. Bible, M.G. Ryan, D. Shaw, H. Chen, J. Klopatek, and X. Li. In press. **Production, respiration, and overall carbon balance in an old-growth *Pseudotsuga/Tsuga* forest ecosystem.** Special Papers, Ecosystems.
- Parker, G.G., M.E. Harmon, M.A. Lefsky, J. Chen, R. Van Pelt, S.B. Weiss, S.C. Thomas, W.E. Winner, D.C. Shaw, and J.F. Franklin. In press. **Three dimensional structure of an old-growth *Pseudotsuga-Tsuga* canopy and its implications for radiation balance, microclimate, and atmospheric gas exchange.** Special Papers, Ecosystems.
- Shaw, D.C., F. Meinzer, K. Bible, and G. Parker. In press. **Wind River Canopy Crane.** Chapter, In: Bassett, Y. and J. Wright. Studying the Forest Canopy from Above: The International Canopy Crane Network. United Nations Environment Program and Smithsonian Tropical Research Institute.
- Shaw, D.C., and S. Greene. 2003. **Wind River Canopy Crane Research Facility and Wind River Experimental Forest.** “Focus on Field Stations. . Bulletin of the Ecological Society of America 83 (No.3): 115-121.
- Chapters:
- Shaw, D.C. **Wind River Canopy Crane, USA.** Pg 60-65.
- Shaw, D.C. **Sampling birds in the forest canopy using a canopy crane.** Pg 156-159.
- Kitching, R.L. and D.C. Shaw. **Volunteers: Their use and management.** Pg 219-224. In: Mitchell, A.W., K. Secoy, and T. Jackson. **The Global Canopy Handbook.** Techniques of Access and Study in the Forest Roof. Global Canopy Programme, Global Canopy Foundation, Halifax House, Oxford, UK.

- Shaw, D.C., and S.A. Acker. 2002. **Canopy macrolichens from four forest stands in the southern Sierra mixed conifer forests of Sequoia/Kings Canyon National Park.** *Madrono* 49:70-77.
- Shaw, D.C., E. Freeman, and C. Flick. 2002. **The vertical occurrence of small birds in an old-growth Douglas-fir/western hemlock forest stand.** *Northwest Science* 76: 322-334.
- Shaw, D.C. and C.J. Flick. 2002. **Seasonal variation in vertical distribution of the Douglas' squirrel, *Tamiasciurus douglasii*, in an old-growth Douglas-fir/western hemlock forest in the morning.** *Northwestern Naturalist* 83: 123-125.
- Braun, D.M., B. Runcheng, D.C. Shaw, and M. Van Scoy. 2002. **Herbivory of vine maple in an old-growth Douglas-fir/western hemlock forest.** *Northwest Science* 76: 315-321.
- Franklin, J.F., T.A. Spies, R. Van Pelt, A.B. Carey, D.A. Thornburgh, D.R. Berg, D.B. Lindenmayer, M.E. Harmon, W.S. Keeton, D.C. Shaw, K. Bible, and J. Chen. 2002. **Disturbances and structural development of natural forest ecosystems with silvicultural implications, using Douglas-fir forests as an example.** *Forest Ecology and Management* 155: 399-423.
- Clement, J.P., M. Moffett, D.C. Shaw, A. Lara, D. Alarcon, and O. Larrain. 2001. **Crown architecture and biodiversity in *Fitzroya cupressoides*, the giant conifers of Alerce National Park, Chile.** *Selbyana* 22:76-88.
- Shaw, D.C. and S. B. Weiss. 2000. **Canopy light and the distribution of hemlock dwarf mistletoe (*Arceuthobium tsugense* (Rosendahl) G.N. Jones ssp. *tsugense*) aerial shoots in an old-growth Douglas-fir/western hemlock forest.** *Northwest Science* 74: 306-315.
- McCune, B., R. Rosentreter, J.M. Ponzetti, and D.C. Shaw. 2000. **Epiphyte habitats in an old conifer forest in western Washington, U.S.A.** *The Bryologist* 103: 417-427.
- Shaw, D.C., E. Freeman, and R.L. Mathiasen. 2000. **Evaluating the accuracy of ground based dwarf mistletoe rating: a test case using the Wind River Canopy Crane.** *Western Journal of Applied Forestry* 15: 8-14.
- Shaw, D.C. and C. Flick. 1999. **Are resident songbirds stratified within the canopy of a coniferous old-growth forest?** *Selbyana* 20: 324-331.

- Clement, J.P. and D.C. Shaw. 1999. **Crown structure and the distribution of epiphyte functional group biomass in old growth *Pseudotsuga menziesii* trees.** *EcoScience* 6: 243-254.
- Ishii, H., J.P. Clement, and D.C. Shaw. 2000. **Branch growth and crown form in old coastal Douglas-fir.** *Forest Ecology and Management* 131: 81-91.
- Ishii, H., J. H. Reynolds, E.D. Ford, and D.C. Shaw. 2000. **Height growth and vertical development of an old-growth *Pseudotsuga-Tsuga* forest in southwestern Washington State, USA.** *Canadian Journal of Forest Research* 30: 17-24.
- Mathiasen, R.L. and D.C. Shaw. 1998. **Adult sex ratio of western hemlock dwarf mistletoe at the Wind River Canopy Crane Research Facility, Washington.** *Madrono* 45: 210-214.
- Shaw, D.C. 1998. **Distribution of larval colonies of *Lophocampa argentata* Packard, the silver spotted tiger moth (Lepidoptera: Arctiidae), in an old growth Douglas-fir, *Pseudotsuga menziesii*/ Western Hemlock, *Tsuga heterophylla*, forest canopy, Cascade Mountains, Washington State.** *The Canadian Field Naturalist* 112: 250-253.
- McCune, B. et al. 1997. **Vertical profile of epiphytes in a Pacific Northwest old-growth forest.** *Northwest Science* 71: 145-152.
- Shaw, D.C., C. Rose, S. Sillett, and A. Carey. Guest Editors. 1996. **Northwest Forest Canopies: Biology, Ecology and Silviculture.** *Northwest Science* 70, Special Issue: 1-108.
- Shaw, D.C. and K. Bible. 1996. **An overview of forest canopy ecosystem functions with reference to urban and riparian systems.** *Northwest Science* 70, Special Issue: 1-6.
- Parks, C.G. and D.C. Shaw. 1996. **Death and decay: A vital part of living canopies.** *Northwest Science* 70, Special Issue: 46-53.
- Shaw, D.C., R.L. Edmonds, W.R. Littke, J.E. Browning and K.W. Russell. 1995. **Incidence of wetwood and decay in precommercially thinned western hemlock stands.** *Canadian Journal of Forest Research* 25:1269-1277.
- Shaw, D., R. Edmonds, W. Littke, J. Browning, K. Russell, and C. Driver. 1993. **Influence of forest management on *Annosus* root disease in coastal western hemlock, Washington state, USA.** In: *Proceedings of the Eighth Meeting, IUFRO Working Party, S2.06.01, Root and Butt Rots, August 9-16, 1993, Sweden and Finland.*

- Shaw, D.C., D.R. Berg, and J.F. Franklin. 1993. **A tower crane for canopy research in temperate coniferous rainforests, Washington State, USA.** *Selbyana* 14: 26-28
- Shaw, D.C., J. Greenleaf, and D. Berg. 1993. **Monitoring new forestry.** *Environmental Monitoring and Assessment* 26: 187-193.
- Henderson, J.H., R.D. Leshner, D.H. Peter and D.C. Shaw. 1992. **Field Guide to the Forested Plant Associations of the Mt. Baker-Snoqualmie National Forest.** U.S. Dept. of Agriculture, Forest Service Technical Paper R6-ECOL-TP-028-91, Pacific Northwest Region, Portland, Oregon.
- Shaw, D.C. 1991. **Ecology of Root and Butt Rot Fungi in Young-growth Western Hemlock.** Dissertation, University of Washington, Seattle.
- Henderson, J.H., D.H. Peter, R.D. Leshner and D.C. Shaw. 1989. **Forested Plant Associations of the Olympic National Forest.** U.S. Dept. of Agriculture, Forest Service R6-ECOL-TP-001-88. Pacific Northwest Region, Portland, Oregon.
- Edmonds, R.L., D.C. Shaw, T. Hsiang and C.H. Driver. 1989. **Impact of precommercial thinning on the development of Heterobasidion annosum in western hemlock.** In: Otrosina, W.J., and R.F. Scharpf, technical coordinators. Proceedings of the Symposium on Research and Management of Annosus Root Disease in Western North America, April 18-21, 1989. Gen. Tech. Rept. PSW-116. USFS For. Serv., Pacific Southwest Forest and Range Experiment Station, Berkeley, CA.
- Shaw, D.C. and R.J. Taylor. 1986. **Pollination ecology of an alpine fell-field community in the North Cascades.** *Northwest Science* 60: 21-31.
- Taylor, R.J. and D.C. Shaw. 1983. **Allelopathic effects of engelmann spruce bark stilbenes and tannin-stilbene combinations on seed germination and seedling growth of selected conifers.** *Canadian Journal of Botany* 61: 279-289.
- Shaw, D.C. 1982. **Pollination Ecology of an Alpine Community.** Masters Thesis, Western Washington University, Bellingham.

TEACHING EXPERIENCE.

- 1995-Present. **Educational Program, Wind River Canopy Crane Research Facility**, University of Washington, Carson, Washington. Manage the education program for the research facility, includes 1) coordination of annual WRCCRF scientific conference. 2) education lifts into the canopy for scientific societies, academic and high school classes, foresters. 3) 1/2 to 2 day field classes/lectures. 4) classroom visits to local high school advanced biology and environment classes. 5) travel to scientific meetings, presentation of research results. 6) interaction with media, TV, Newspaper, Magazine.
- 1994/95/96/98/00: **Temperate Rainforest Ecology**, Bamfield Marine Station, Bamfield, British Columbia. Teach three day portion (epiphytes, structure, mortality) of summer course, Marine Science 401.1. University of Alberta, British Columbia, Calgary, Victoria, and Simon Fraser University. May 1994, August 1995, 1996, May 1998, June 2000.
- 1992-2003. Olympic Park Institute, Port Angeles, Washington.
Ecology of the Forest Canopy, Field Seminar, 1.5-day. September 1996/97/98/99/03. Offered for 1 credit through Western Washington University, Bellingham, WA.
Ecology of the Forest Canopy, with Nalini Nadkarni and Joel Clement, Field Seminar, 3-day. July 1994. 1 credit through W.W.U, Bellingham, WA.
The Ancient Forest, Field Seminar, 3-day. July 1992, '93, '94. Offered for 1 credit through Western Washington University, Bellingham, WA.
- 1990-1999. North Cascades Institute, Sedrow Woolley, Washington.
Life in the Treetops, Field Seminar, 1.5-day. May 1996/97/98/99. Based at Wind River Canopy Crane Research Facility. Offered for one credit through Western Washington University, Bellingham, Washington. (With R. Van Pelt during 2002, 03)
Old-Growth Forest Ecology, Field Seminar, 3-day. July, 1990, '91, '92, November 1994, '95. 1 credit through WW.U, Bellingham, WA.
Reading the Land, Field Seminar, 2-day, with Susan Calder Shaw, Geomorphologist, September, 1991. 1 credit, W.W.U, Bellingham, WA.
- 1988-1991. University of Washington, Seattle. College of Forest Resources.
FRM 322. **Forest Biology II - Forest Ecosystems.**
FRM 410/510. **Forest Soil Microbiology.**
- 1983-1986. **Plant and Soil Resource Specialist.** Multnomah County Educational Service District, Outdoor School, Environ. Education. Plant Resource Specialist. Fall '86. Soil Resource Specialist. Spring '83, '84, '86 and Fall '83, '85.
- 1980-1982. **Graduate Teaching Assistant.** Western Washington University, Bellingham. Biology Department.

RESEARCH GRANTS

- Shaw, D.C., B. Schrader, and D.R. Berg. 2003. Establishment of a long-term riparian research site at the Wind River Experimental Forest (Wind River Canopy Crane Research Facility), Cascade Mountains, Washington. Earthwatch Student Challenge Awards, Earthwatch Institute, Watertown, MA.
- Shaw, D.C., K.A. Ernest, M.D. Lowman, and H.B. Rinker. 2001-2002. Development of a novel method for assessing stand-level herbivory in forests: using the International Canopy Crane Network. Global Canopy Programme, Oxford, UK.
- Schrader, B. and D.C. Shaw. 2002. Integrated Research in an Endangered Ecosystem: The Willamette Valley Oak. Earthwatch Student Challenge Awards, Earthwatch Institute, Watertown, MA.
- Schrader, B. and D.C. Shaw. 2001. Integrated Research in an Endangered Ecosystem: The Willamette Valley Oak. Earthwatch Student Challenge Awards, Earthwatch Institute, Watertown, MA.
- Shaw, D.C. and R.L. Mathiasen. 1999. Integrated Ecosystem Research in an Old-Growth Douglas-fir Stand at the Wind River Canopy Crane Research Facility. Earthwatch Student Challenge Awards, Earthwatch Institute, Watertown, MA.
- Moffett, M., J. Clement, D. Shaw, and A. Lara. 1998. Canopy Biology of Chile's Alerce Tree Giants. National Geographic Society Exploration Grant.
- Chen, J., D. Shaw, and M. Harmon. 1998. Integrated Ecosystem Research in an Old-Growth Douglas-fir Stand at the Wind River Canopy Crane Research Facility. Earthwatch Student Challenge Awards, Earthwatch Institute, Watertown, MA.

ORGANIZATIONS:

American Bryological and Lichenological Society
American Institute of Biological Sciences
American Ornithological Union
Association of Field Ornithologists
California Botanical Society
Ecological Society of America
Global Canopy Programme (Steering Committee)
International Canopy Network (Vice President, Board of Directors)
Northwest Scientific Association
Western International Forest Disease Work Conference

MEETINGS

- 4th North American Forest Ecology Workshop. June 2003. Corvallis, Oregon. (Paper: Ecology of the Upper Forest Canopy).
- 3rd International Canopy Conference. June 23-28, 2002. Cairns, Queensland, Australia. Convener, Mistletoe Symposium, (Paper: Ecology of *Arceuthobium tsugense* (Viscaceae) Cascade Mts. USA.)

Resume, D.C. Shaw

Bloomfield Canopy Workshop, Cape Tribulation National Park, Australia. 29 June – 2 July, 2002. Global Canopy Programme.