CURRICULUM VITAE

Roger del Moral—

Professor of Biology

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University of Washington
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EDUCATION: 1968, Ph.D., Biology, U.C. Santa Barbara
1966, M. A., Botany, U.C. Santa Barbara
1965, B. A., Botany/Biology, U.C. Santa Barbara

EMPLOYMENT: University of Washingtion since 1968.

PROFESSIONAL EXPERIENCE:

1980-2009	Research on Mount St. Helens
2008	Research in northern Italy
2007	Research on Surtsey, Iceland
2006	Reserarch in Croatia: karst and maquis vegetation
2004	Studies of sand dunes on Fraser Island
2004	Explorations of Mt. Taranaki and Mt. Tarawara, New Zealand
2004	Explorations of recent volcanism on Hawaii
2002	Explorations of Iceland volcanoes
2001	Research in Sicily; University of Catania
1999	Reseach on Mt. Tolbachik, Kamchatka, Russian Far East
1995	Research/lecture tour, Duke, N.C. State, U. North Carolina
1994	Research on Kamchatka volcanoes, Russian Far East
1991	Lecture Tour: Hungary, Japan
1990	Lecture Tour, Japan
1985	Lecture Tour, Japan
1984	Lecture Tour, U.K.; Research Fellow, University of East Angela
1978-1982	Studies of Competition, Olympic National Park
1977	Research Fellow, Dept. Botany, Univ. Melbourne, Australia.
1976	Research Fellow, C.S.I.R.O., Brisbane, Australia
1968-1978	Research on vegetation patterns & dynamics, Cascades of Washington

EDITORSHIPS

1987-1996 Tokyo Botanical Society (Board of Editors)
1993-1996 Vegetatio (Board of Editors)
1997- 1998 Plant Ecology (Board of Editors)
1999- 2002 Plant Ecology (Associate Editor)
2003-2005 American Midland Naturalist (Associate Editor)

RESEARCH INTERESTS

Plant community ecology, including vegetation analysis, succession, interspecific competition, and statistical methods; vegetation design and management; urban plant ecology; weed ecology; wetlands ecology. Currently studying succession and patterns on Mount St. Helens.

VISITING SCHOLARS

Scholars from Japan (Kawano, Ohara, Tsuyuzaki), Norway (Odland), Australia (Loneragan, Bell, Graham), England (Barkham) & Italy (Poli Machesses) have spent substantial time in my lab.

Students Supervised

Ph.D. Students

Rexford G. Cates (1971); W. Ted Hinds (1974); Joy Arlene Belsky (1979) Virginia H. Dale (1980); Martha J. Cushman (1981); David M. Wood (1987); C.L. Huang (1988); Jon H. Titus (1995); Dennis Riege (2000), Chad C. Jones (2003), Tara S. Ramsey (2005).

M.S. Students

Rosemary M. Richardson (1969); Bonnie Anderson dos Remedios (1971); John E. Leder. (1973); Gretchen K. Lebednick (1974); Susan Harmon (1974); Martha J. Cushman (1976); Alan F. Watson (1976); Carol J. Slocum (1978); Guillermo G. Goldstein (1978); Louise E. Jackson (1978); Jeffrey C. Sackett (1980); Linda M. Kunze (1980); Douglas Frank (1983); Nancy E. Weidman (1984); Christopher A. Clampitt (1984); Mary F. Jenkins (1986); Val Kersis (1992); Roger N. Fuller (1999).

PUBLICATIONS:

Including over 120 reviewed papers, 12 reviewed book chapters and two books. See also Recent Publications for papers and links.

RECENT RESEARCH PAPERS (links to available papers are provided):

del Moral, R., J. E. Sandler & C. P. Muerdter. 2009. Spatial Factors Affect Primary Succession on the Muddy River Lahar, Mount St. Helens, Washington. *Plant Ecology*.

Walker, L. R. & R. del Moral. 2009. Lessons from primary succession for restoration of severely damaged habitats. *Applied Vegetation Science* (Invited paper). *Applied Vegetation Science* 12: 53-76.

Walker, L. R. & R. del Moral. 2008. Transition dynamics in succession: implications for rates, trajectories and restoration. Ch. 3 in: Suding, K. and R. J. Hobbs (eds.), *New Models for Ecosystem Dynamics and Restoration*. Island Press.

Carey, Susan, Annete Ostling, John Harte & R. del Moral. 2007. Impact of curve construction and community dynamics on the species-time relationship *Ecology* (*Concepts and Synthesis*) 88: 2145-2153.

del Moral, R. 2007. Limits to convergence of vegetation during early primary succession.. *Journal of Vegetation Science* (Invited paper). 18: 479-488.

del Moral, R. & L. R. Walker. 2007. *Environmental Disasters, Natural Recovery and Human Response*. Cambridge: Cambridge University Press.

Walker, L. R., J. Walker & R. del Moral. 2007. Forging a new alliance between succession and restoration. Chapter 1 in L. R. Walker, J. Walker & R. H. Hobbs, *Linking Restoration and Succession in Theory and in Practice*.New York: Springer.

del Moral, R., L. R. Walker & J. P. Bakker. 2007. Insights gained from succession for the restoration of structure and function. Chapter 2 in L. R. Walker, J. Walker & R. H. Hobbs, *Linking Restoration and Succession in Theory and in Practice*. New York: Springer.

Carey, Susan, John Harte & R. del Moral. 2006. *Effect of community assembly and primary succession on the species-area relationship in disturbed systems.* *Ecography* 29:866-872.

del Moral, R. & I. L. Lacher. 2005. Vegetation patterns 25 years after the eruption of Mount St. Helens, Washington. *American Journal of Botany* 92: 1948-1956.

del Moral, R. & L.R. Rozzell. 2005. Long-term effects of *Lupinus lepidus* on vegetations dynamics at Mount St Helens. *Plant Ecology* 181: 203-215.

Jones, C. C. & R. del Moral. 2005. Effects of microsite conditions on seedling establishment on the foreland of Coleman Glacier, Washington. *Journal of Vegetation Science* 16: 293-300.

del Moral, R. & A. J. Eckert. 2005. Colonization of volcanic deserts from productive patches. *American Journal of Botany* 92: 27-36.

del Moral, R., D.M. Wood & J.H. Titus. 2005. Proximity, microsites, and biotic interactions during early succession & ecological responses to the 1980 eruption of Mount St. Helens. In Ecological Responses to the 1980 Eruption of Mount St. Helens (V. H. Dale, F. Swanson & C. Crisafulli, eds). Springer-Verlag. pp 93-110.

del Moral, R. & A. J. Eckert. 2005. Colonization of volcanic deserts from productive patches. *American Journal of Botany* 92:27-36.

del Moral, R. & E. E. Ellis. 2004. Gradients in heterogeneity and structure on lahars, Mount St. Helens, Washington, USA. *Plant Ecology* 175: 273-286.

del Moral, R. 2004. How *Lupinus lepidus* affects primary succession on Mount St. Helens. In: E. van Santen (ed.), Wild and Cultivated Lupins from the Tropics to the Poles. Proc. 10th International Lupin Conference, Laugarvatn, Iceland, 19-24 June, 2002. Int. Lupin Association, Canterbury, New Zealand. Pg. 208-215.

Davis, Mark, Jan Pergl, Anne-Marie Truscot, Jan Bakker, Karel Prach, Anne-Helene Prieur-Richard, Roos Veeneklaas, Petr Pysek, R. del Moral, Richard Hobbs, Scott Collins & S. T. A. Pickett. 2004. Vegetation change: a reunifying concept in plant ecology. *Perspectives in Plant Ecology, Systematics and Evolution* 7: 69-76.

Riege, D. & R. del Moral. 2004. Arrested succession in old fields within a temperate rainforest. *American Midland Naturalist* 151: 251-264.

Walker, L.R. & R. del Moral. 2003 *Primary succession and Ecosystem Rehabilitation*. Cambridge University Press, Cambridge, UK. March, 2003.

Fuller, R. N. & R. del Moral. 2003. The role of refugia and dispersal in primary succession on Mount St. Helens, Washington. *Journal of Vegetation Science* 14: 637-644.

del Moral, R & C. C. Jones. 2002. Early spatial development of vegetation on pumice at Mount St. Helens. *Plant Ecology*. 162: 9-22.

Odland, A. & R. del Moral. 2002. Primary succession on newly revealed lake shores. *Plant Ecology*. 162: 185-198.

del Moral, R. 2000a. Succession and species turnover on Mount St. Helens, Washington. *Acta Phytogeographica Suecica* 85: 53-62.

del Moral, R. 2000b. Local species turnover on Mount St. Helens. P. 195-197, in Proc. 41st Symposium of the IUVS (P. White, editor).

Wood, D.M., & del Moral, R. 2000. Seed rain during early primary succession on Mount St. Helens, Washington. *Madroño* 47: 1-9.

del Moral, R. 1999. Predictability of primary successional wetlands on pumice, Mount St. Helens. *Madroño* 46: 177-186.

del Moral, R. 1999. Plant succession on pumice at Mount St. Helens. *American Midland Naturalist* 141: 101-114.

del Moral, R. & S. Yu. Grishin. 1999. The consequences of volcanic eruptions. In L. R. Walker (ed.), *Ecosystems of Disturbed Ground*, Chapter 5; *Ecosystems of the World Series* (D. W. Goodall (Editor-in-Chief), Elsevier Science, Amsterdam.

Dlugosch, K. & R. del Moral. 1999. Vegetational heterogeneity along environmental gradients. *Northwest Science*. 73: 12-18.

Titus, J. H., P. J. Titus & R. del Moral. 1999. Wetland development in primary and secondary successional substrates fourteen years after the eruption of Mount St. Helens, Washington, USA. *Northwest Science* 73: 186-204.

del Moral, R. 1998. Early succession on lahars spawned by Mount St. Helens. *American Journal of Botany* 85: 820-828.

Titus, J. H., R. del Moral & S. Gamiet. 1998. The distribution of vesicular-arbuscular mycorrhizae on Mount St. Helens, Washington. *Madroño* 45: 162-170.

Titus, J. H. & R. del Moral. 1998. Vesicular-arbuscular mycorrhizae influence Mount St. Helens pioneer species in greenhouse experiments. *Oikos* 81: 495-510.

Titus, J. H. & R. del Moral. 1998. Seedling establishment in different microsites on Mount St. Helens, Washington, USA. *Plant Ecology* 134: 13-26.

Titus, J. H. & R. del Moral. 1998. The role of mycorrhizae in primary succession on Mount St. Helens. *American Journal of Botany* 85: 370-375.

Inderjit & R. del Moral. 1997. Is separating resource competition from allelopathy realistic? *Botanical Reviews* 63:221 - 230.

Tsuyuzaki, S., J. H. Titus & R. del Moral. 1997. Seedling establishment patterns on the Pumice Plain, Mount St. Helens, Washington. *Journal of Vegetation Science* 8: 727-734.

Grishin, S. Yu., R. del Moral, P. V. Krestov, & V. P. Verkholat. 1996. Succession following the catastrophic eruption of Ksudach volcano (Kamchatka, 1907). *Vegetatio* 127: 129-153.

del Moral, R., J. H. Titus & A. M. Cook. 1995. Early primary succession on Mount St. Helens, USA. *Journal of Vegetation Science* 6: 107-120.

Tsuyuzaki, S. & R. del Moral. 1995. Species attributes in early primary succession on volcanoes. *Journal of Vegetation Science* 6: 517-522.

Tsuyuzaki, S. & R. del Moral. 1994. Canonical correspondence analysis of early succession on Mount Uzu, Hokkaido. *Ecological Research* 9:143-150

del Moral, R. 1993. Mechanisms of early succession on Mount St. Helens. P. 79-100, in, J. Milne and D. W. H. Walton (eds), *Primary Succession on Land*, Blackwell, London.

del Moral, R. & D. M. Wood. 1993a. Early primary succession on the volcano Mount St. Helens. *Journal of Vegetation Science* 4: 223-234.

del Moral, R. & D. M. Wood. 1993b. Early primary succession on a barren volcanic plain at Mount St. Helens, Washington. *American Journal of Botany* 80: 981-991.

del Moral, R. & L. C. Bliss. 1993. Mechanism of primary succession: Insights resulting from the eruption of Mount St. Helens. Advances in Ecological Research 24: 1-66.

Wood, D.M. & R. del Moral. 1988. Colonizing plants on the Pumice Plains, Mount St. Helens, Washington. *American Journal of Botany* 75: 1228-1237.

Wood, D.M. & R. del Moral. 1987. Mechanisms of early primary succession in subalpine habitats on Mount St. Helens. *Ecology* 68: 780-790.

del Moral, R. 1983. Initial recovery of subalpine vegetation on Mount St. Helens. *American Midland Naturalist* 109: 72-80.

INVITED RESEARCH LECTURES (excludes joint papers and contributed papers)

2008

Evergreen State College: April 10, 2008 (Lessons from Mount St. Helens for understanding primary succession and restoration)

University of Bologna, Plant Ecology Institute (Bologna) and Center for Environmental Sciences (Ravenna): October 2008 (Succession on Mount St. Helens: lessons for conservation (English, with Italian subtitles)

2007

Seminar: Reykjavik, Iceland, Institute for Natural History, July 2007: Mount St. Helens recovery, with special attention to dispersal mechanisms

Town Hall Meeting: Environmental Disasters and Human Response, September 17, 2007

2005

Symposium address: Primary succession on barren lands: Lessons for restoration. 17th International Botanical Congress, Vienna.

2004

Attended IAVS meeting in Hawaii

Led two Field Trips to Mount St. Helens, ESA, Portland, Oregon (Invited)

Invited Symposium Address: 25 years of primary succession, ESA meeting, Portland (with D. Wood and J. H. Titus)

Invited Seminar, Swarthmore College, Pennsylvania: 25 years of primary succession on Mount St. Helens: Patterns, processes, lessons.

Invited Seminar, University of Melbourne, Australia (as above)

Invited Seminar, CSIRO, Canberra, Australia (as above).

2003

Mechanisms of succession on Mount St. Helens. University of Nevada, Las Vegas, February

Restoration consequences of lessons learned from Mount St. Helens. University of Washington, Urban Horticulture, November/

2002

Changing plant community attributes on recent lava flows, Mt. Etna, Sicily. Dept. Botany, University of Washington, January 9.

The effects of Lupinus lepidus in primary succession, Mount St. Helens. 10th International Lupin Conference, Iceland. Invited Keynote Address, Laugarvatn, Iceland.

2001

Mechanisms of primary succession, Mount St. Helens. Silicean Academy of Sciences, May, 2001.

Species patterns in the Pacific Northwest: comparisons with Mediterranean Europe. School of Agronomy, University of Catania, April, 2001.

How plants invade newly formed volcanic surfaces. School of Agronomy, University of Catania, May, 2001.

Organizer of international field symposium: Plants and Volcanoes; Russian Far East; Jully 9 to 15, Petropavlovsk-Kamchatskiy, Russia.

Recent GRANTS AND CONTRACTS

2006-2010 National Science Foundation: LTREB: Primary Succession on Mount St. Helens (5 yr)

2000-2005 National Science Foundation: LTREB: Primary Succession on Mount St. Helens (5 yr)

1994-2000 National Science Foundation: LTREB: Mechanisms of Primary Succession (6 yr).

1996. National Geographic Society. Succession on Central Kamchatka Volcanoes- III

1995 -1999 NSF. REU Supplements for work on Mount St. Helens

1994 National Geographic Society. Succession on Southern Kamchatka Volcanoes- I

1992 Washington State Department of Transportation--ROW evaluation ($15,000)

1991 U.S. EPA. Wetland Survey of Bangor Naval Base.

1990 U.S. EPA. Review of Hazardous Materials Dumping Sites, Bangor Naval Base.

1990-93 NSF. Supplements to Primary Succession (REU), each year

1989 –1994 NSF. Primary Succession on Mount St. Helens (5 years)