

JUAN J. ARMESTO

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Education:

1977 Licenciado en Ciencias, con mención en Biología (undergraduate degree), Facultad de Ciencias, Universidad de Chile, Santiago, Chile.

1984 Ph. D. Botany and Plant Physiology, Rutgers University, New Brunswick, New Jersey, U. S. A.

Professional Positions:

1976-77 Research Assistant, Botany Lab, Universidad Católica de Chile, Santiago.
1978-83 Instructor, Biology Department, Facultad de Ciencias, Universidad de Chile.
1983-86 Assistant Professor of Biology, Facultad de Ciencias, Universidad de Chile.
1986-1998 Associate Professor of Biology, Facultad de Ciencias, Universidad de Chile.
1990-1998 Adjunct Associate Scientist, Institute of Ecosystem Studies, Millbrook, NY, USA.
1996-present President, Fundación Senda Darwin, Chile (ad-honorem)
1998-2006 Full Professor, Facultad de Ciencias, Universidad de Chile, Santiago.
1998-present Adjunct Scientist, Institute of Ecosystem Studies, Millbrook, NY, USA
2002-present Full Professor of Ecology, Catholic University of Chile, Santiago, Chile.

Selected Professional Honors:

1992 Young Scientist Award, "Manuel Noriega Morales", OAS, Washington, USA.
1996 Co-recipient of the Mercer Award (with Dr. L.O. Hedin), Ecological Society of America.
1997 John S. Guggenheim Memorial Fellow, New York, USA.
1999 Endowed Presidential Chair in Science, Government of Chile.

Research Interests and Activities:

My current research addresses the challenge of achieving biocultural conservation and providing practical guidelines for sustainable ecosystem management in temperate – sub-Antarctic ecosystems of southern South America. Our research approaches are broad, including long-term field experiments about climate change impacts, field studies of plant-animal mutualisms related to seed dispersal and pollination, population studies of threatened and endangered plant and animal species, comparison of soil processes in managed and unmanaged forest stands, analysis of forest dynamics at different temporal and spatial scales, and the effective communication of science to policy makers and the general public. Most research is conducted in three field research stations, Fray Jorge National Park in coastal hills of semiarid Chile, Senda Darwin Biological Station in a rural landscape of Chiloé Island, and Omora Ethnobotanic Park, in the sub-Antarctic Islands within Cape Horn Biosphere Reserve.

Selected Publications:

Since 2002

Smith-Ramírez, C. & **J. J. Armesto** (2002) Foraging behaviour of bird pollinators on *Embothrium coccineum* (Proteaceae) trees in forest fragments and pastures in Chile. *Austral Ecology* 28: 53-60.

Muñoz, A. A., P. Chacón, F. Pérez, E. S. Barnert, and **J. J. Armesto** (2003) Diversity and host tree preferences of vascular epiphytes and vines in a temperate rainforest in southern Chile. *Australian Journal of Botany* 51:381-391.

Gutiérrez, A. G., **J. J. Armesto** & J. C. Aravena (2004) Disturbance and regeneration dynamics of an old-growth North Patagonian rain forest in Chiloé Island, Chile. *Journal of Ecology* 92:598-608.

Smith-Ramírez C., Martínez P., Nuñez M., González C. & **J.J. Armesto** (2004) Diversity, flower visitation frequency, and generalism of pollinators in temperate rain forest of Chiloé Island, Chile. *Botanical Journal of the Linnean Society* 147: 399-416.

Díaz, I.A., **J. J. Armesto**, S. Reid, K. Sieving & M. F. Willson (2005) Linking forest structure and composition: avian diversity in successional forests of Chiloé Island, Chile. *Biological Conservation* 123: 91-101.

Smith-Ramírez, C., **J. J. Armesto** & C. Valdovinos, eds. (2005). "*Biodiversidad y ecología de los bosques de la Cordillera de la Costa, Chile*". Ed. Universitaria, Santiago, Chile, 700 pp. (EDITED BOOK)

Pérez C.A., Guevara R, Carmona M.R. & **J.J. Armesto** (2005) Nitrogen mineralization in epiphytic soils of an old-growth *Fitzroya cupressoides* forest, southern Chile. *Ecoscience* 12(2): 210-215.

Chacón P. & **J.J. Armesto** (2006) Do carbon-based defences reduce foliar damage? Habitat-related effects on tree seedling performance in a temperate rainforest of Chiloé Island, Chile. *Oecologia* 146: 555–565.

Hinojosa L.F., **Armesto J.J.**, Villagrán C. (2007) Are Chilean coastal forests pre-Pleistocene relicts? Evidence from foliar physiognomy, palaeoclimate, and phytogeography. *Journal of Biogeography* 33: 331–341.

Díaz, I. A., **Armesto, J. J.**, Willson, M. F. (2006) Breeding success of Des Murs' Wiretail in fragmented temperate rainforests of southern Chile: Effects of connectivity, patch size, and nest predation. *Austral Ecology* 31: 13-21

Chacón P. & **Armesto J. J.** (2006) Do carbon-based defenses reduce foliar damage? Habitat-related effects on tree seedling performance in a temperate rainforest of Chiloé Island, Chile. *Oecologia* 146: 555–565.

Hinojosa L.F., **Armesto J.J.**, Villagrán C. (2006) Are Chilean coastal forests pre-Pleistocene relicts? Evidence from foliar physiognomy, palaeoclimate, and phytogeography. *Journal of Biogeography* 33: 331–341.

Núñez-Avila, M. & **Armesto J.J.** (2006) Relict islands of the temperate rainforest tree *Aextoxicon punctatum* (Aextoxicaceae) in semi-arid Chile: genetic diversity and biogeographic history. *Australian Journal of Botany* 74: 733-743.

Méndez, M.A., F. Torres-Pérez, C. Correa, E. Soto, J.J. Núñez, A. Veloso & **J.J. Armesto** (2006) Genetic divergence in the endangered frog *Insuetophrynus acarpicus* (Anura: Leptodactylidae). *Herpetological Journal* 16: 93-96.

Willson, M.F. & **Armesto, J.J.** (2006) Is natural history really dead? Toward the rebirth of natural history. *Revista Chilena de Historia Natural* 79: 279-283.

Rovere, A.E., C. Smith-Ramírez, **J.J. Armesto** & A.C. Premoli (2006) Breeding system of *Embothrium coccineum* (Proteaceae) in two populations on different slopes of the Andes. *Revista Chilena de Historia Natural* 79: 225-232.

Veblen, T.T., **Armesto, J.J.**, Burns B., Kitzberger T., Lara A., León B., Young K. R. (2006) The Coniferous Forests of South America. In: F. Anderson & S. Gessel (eds.) *Ecosystems of the world: Coniferous forests*. Elsevier, Amsterdam, pp. 701-725.

Armesto, J. J. et al. (2007) Towards an ecological restoration network: Reversing land degradation in Latin America. *Frontiers in Ecology & the Environment* 5: W1-W4.

Díaz, M. F. & **Armesto, J. J.** (2007) Limitantes físicos y bióticos de la regeneración arbórea en matorrales sucesionales de la Isla Grande de Chiloé, Chile. [Biotic and physical limitations of tree regeneration in successional shrublands of Chiloé Island, Chile] *Revista Chilena de Historia Natural* 80: 13-26.

Latorre, C., P. I. Moreno, G. Vargas, A. Maldonado, R. Villa-Martínez, **J. J. Armesto**, C. Villagrán, M. Pino, L. Núñez & M. Grosjean (2007) Late Quaternary environments and paleo-climate. In: (Moreno, T. & Gibbons, W., eds.) *The Geology of Chile*. The Geological Society, London, pp. 311-330.

del-Val, E., **J.J. Armesto**, O. Barbosa & P.A. Marquet (2007) Effects of herbivory and patch size on tree seedling survivorship in a fog-dependent coastal rainforest in semiarid Chile. *Oecologia* 153: 625-632.

Díaz, M.F. & **J.J. Armesto** (2007) Physical and biotic constraints on tree regeneration in secondary shrublands of Chiloé Island, Chile. *Revista Chilena de Historia Natural* 80: 13-26.

Díaz, M.F., S. Bigelow & **J.J. Armesto** (2007) Alteration of the hydrologic cycle due to forest clearing and its consequences for rainforest succession. *Forest Ecology and Management* 254: 32-40. (Cary IES collaboration)

Rüger, N., A.G. Gutiérrez, D.W. Kissling, **J.J. Armesto** & A. Huth (2007) Ecological impacts of harvesting scenarios for temperate evergreen rain forest in southern Chile - a simulation experiment. *Forest Ecology and Management* 252: 52-66.

Armesto, J. J., M.T.K Arroyo & L.F. Hinojosa (2007) The mediterranean environment of central Chile. In: (T.T. Veblen, K.R. Young & A.R. Orme, eds), "*The Physical Geography of South America*", pp. 184-199. Oxford University Press, New York.

Jaña-Prado, R., J.L. Celis-Diez, A.G. Gutiérrez, C. Cornelius & **J.J. Armesto** (2007) Diversidad en bosques fragmentados de Chiloé ¿son todos los fragmentos iguales?) Diversity in fragmented forests of Chiloé, are all the fragments equal?). In: (A. Grez, J. Simonetti & R. Bustamante, eds), "*Biodiversidad en ambientes fragmentados de Chile: patrones y procesos a diferentes escalas*", pp. 159-189. Editorial Universitaria, Santiago, Chile.

López-Barrera, F., **J.J. Armesto**, G. Williams-Linera, C. Smith-Ramírez & R.H. Manson (2007) Fragmentation and edge effects on plant-animal interactions, ecological processes and biodiversity. In: (A.C. Newton, ed), "*Biodiversity Loss and Conservation in Fragmented Forest Landscapes: Evidence from Mexican Montane Forests and the Temperate Rainforests of South America*", pp. 69-101. CABI Publishing, UK.

Newton, A. C., C. Echeverría, M. Gonzalez-Espinosa, G. Williams-Linera, N. Ramirez-Marcial, O. Thiers, **J.J. Armesto**, J.C. Aravena & A. Lara (2007) Testing Forest Biodiversity Indicators by Assessing Anthropogenic Impacts along Disturbance Gradients. In: (A.C. Newton, ed), "*Biodiversity Loss and Conservation in Fragmented Forest Landscapes: Evidence from Mexican Montane Forests and the Temperate Rainforests of South America*", pp. 276- 290. CABI Publishing, UK.

Rüger, N., **J.J. Armesto**, A.G. Gutiérrez, G. Williams-Linera & A. Huth (2007). Process-based modelling of regeneration dynamics and sustainable use in species-rich rain forests. In: (A.C. Newton, ed), "*Biodiversity Loss and Conservation in Fragmented Forest Landscapes: Evidence from Mexican Montane Forests and the Temperate Rainforests of South America*", pp. 244-275. CABI Publishing, UK.

Smith-Ramírez, C., A. Rovere, M. Núñez & **J.J. Armesto** (2007) Habitat fragmentation and reproductive ecology of *Embothrium coccineum*, *Eucryphia cordifolia* and *Aextoxicon punctatum* in southern temperate rain forests. In: (A.C. Newton, ed), "*Biodiversity Loss and Conservation in Fragmented Forest Landscapes: Evidence from Mexican Montane Forests and the Temperate Rainforests of South America*", pp. 102-119. CABI Publishing, UK.

Gutiérrez, A.G., O. Barbosa, D.A. Christie, E. del Val, H.A. Ewing, C.G. Jones, P.A. Marquet, K.C. Weathers & **J.J. Armesto** (2008) Regeneration patterns and persistence of the fog-dependent Fray Jorge forest in semiarid Chile during the past two centuries. *Global Change Biology* 14: 161–176. Cary IES collaboration.

Gutiérrez, A.G., J.C. Aravena, N.V. Carrasco-Farías, D.A. Christie, M. Fuentes & **J.J. Armesto** (2008) Gap-phase dynamics and coexistence of a long-lived pioneer and shade-tolerant tree species in the canopy of an old-growth coastal temperate rain forest of Chiloé island, Chile. *Journal of Biogeography* 35: 1674–1687.

Rozzi, R., **J.J. Armesto**, B. Goffinet, W. Buck, F. Massardo, J. Silander, M.T.K. Arroyo, S. Russell, C.B. Anderson, L.A. Cavieres & J.B. Callicott (2008) Changing biodiversity conservation lenses: insights from the sub-Antarctic non-vascular flora of southern South America. *Frontiers in Ecology and the Environment* 6: 131-137.

Edited Books

Armesto, J.J., M.K. Arroyo & C. Villagrán, eds. (1996). "**Ecología de los Bosques Nativos de Chile.**" (Ecology of Chilean native forests). *Editorial Universitaria, Santiago, Chile*. 470 pp. (2nd ed. 1999.)

Smith-Ramírez, C., J. J. Armesto & C. Valdovinos, eds. (2006). "**Biodiversidad, Historia y Ecología de los bosques de la Cordillera de la Costa, Chile**". (Biodiversity, Ecology and History of Coastal Rain forest, Chile). Ed. Universitaria 700 pp.

Villagrán, C., C. Marticorena, J.J. Armesto, eds. (2007) "**Flora de las plantas vasculares de zapallar: Revisión ampliada e ilustrada de la obra de Federico Johow.**" Ed. Universidad Metropolitana de Ciencias de la Educación, Santiago.