

Dr. PABLO A. MARQUET,

Birthdate and place: August 2, 1963 - Santiago, Chile.

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Education: B.Sc. (Biology) Universidad de Concepción, Concepción (Chile), 1987; Ph.D. (Biology) University of New Mexico (USA), 1993; Postdoctoral Fellowship, Catholic University of Chile 1994.

Professional experience: Research instructor, Catholic University of Chile (1988-1990); Assistant Professor, Department of Ecology, Catholic University of Chile (1994-1997); Associate Professor, Department of Ecology, Catholic University of Chile (1998-2004); Full Professor (2005). Have been Teaching and Visiting Professor at the Universidad de La República (Uruguay), and Visiting Professor at the Universidad Autonoma Metropolitana (Mexico).

Professional and academic honors: Instructor fellowship (1988, Catholic University of Chile); Fulbright-AMCHAM-LASPAU Fellowship (1990-1992); Graduate Student Achievement Award (1993, University of New Mexico); Young Scientist Award (1995, Biological Society of Chile), and the 2001 Outstanding Paper in the Discipline of Landscape Ecology Award given by the U.S. Chapter of the International Association for Landscape Ecology. Appointed Member of the FONDECYT Council for Science and Technological Development (2002-2005); Appointed member of the Science Advisory Board of the National center for Ecological Analysis and Synthesis (NCEAS, USA) International Fellow of the Santa Fe Institute (2002-2004); Appointed member of the Frontier Science Program of the Chilean National Academy of Sciences (2004-2006). Appointed member of The Faculty of 1000.

Professional Affiliations: . Belongs to 8 professional societies, among them, Ecological Society of America, Ecological Society of Chile, Society for Conservation Biology, American Society of Mammalogists, and the American Association for the Advancement of Science.

Professional Services: President of the Ecological Society of Chile (1999-2001), Chairman of the Doctoral Program in Ecology, Catholic University of Chile (1999-) Associate editor Revista Chilena de Historia Natural (1997-2004), Ecology Letters (1999-2005), Diversity and Distribution (2001-), Global Ecology and Biodiversity (2004-). Reviewer of papers for Nature, Science, Proceedings of the National Academy of Science, Ecology, Proceeding of the Royal Society, Ecological Modelling, Biology Letters, Biological Invasions, Trends in Ecology and Evolution, The American Naturalist, Functional Ecology, Ecology Letters, Ecoscience, Ecography, Journal of Biogeography, Diversity and Distribution, Journal of Herpetology, Conservation Biology, Acta Theriologica, Studies in Neotropical Fauna and Environment, Oryx, Revista Chilena de

Historia Natural, Mastozoología Neotropical, Acta Zoológica Mexicana, Boletín de la Sociedad de Biología de Concepción (Chile), Boletín del Museo Nacional de Historia Natural (Chile), Revista Chungará (Chile). Reviewer of proposals for NSF-USA, the Chilean National Science Foundation (FONDECYT), Lincoln Park Zoo-Scott Neotropical Fund, John Simon Guggenheim Memorial Foundation. Member of the Biology panel (Chilean National Science Foundation 1995-1999). Has been extramural reviewer of three tenure applications (UC Davies, SUNY, Sheffield UK).

Grants: Has led over 20 research projects for a total of nearly US\$0.6 million, funded by among others, Biodiversity Support Program, FONDECYT Chile and US National Science Foundation. Has participated as Co-PI in 10 other projects for a total of nearly US\$4.0 million, funded by IAI, FONDECYT, and US National Institute of Health.

Lectures and Congresses: Has delivered over 15 lectures in Chilean, Mexican, Uruguayan, French and U.S. research institutions, and has given over 40 presentations in national and international meetings (Argentina, Australia, Chile, Great Britain, Mexico, United States of America, and Uruguay). Has organized 8 symposia, both national and international.

Doctoral students and postdocs: Has graduated seven Ph.D.: Alejandro Brazeiro (1999), Carmen Espoz (2002), Cristián Hernández (2004), Hernán Cofré (2004), Olga Barbosa (2005), Marcelo Rivadeneira (2005) Matias Arim (2005) and Fabio Labra (2005). Currently has seven doctoral student (Sebastian Abades, Marcela Aldana, Luis Balboa, Angelica Gonzalez, Pablo Vergara, Petra Wallem, Horacio Zeballos). Has supervised the following three postdocs: Claudio Veloso (1997-99), Javier Figueroa (1998-2000) Fabio M. Tognelli (2003 –2004). Has been a member of 13 doctoral dissertation committees.

Publications: Author of 81 scientific publications, 12 book chapters and one book. (851 citations, H=14 [at least 14 papers have been cited fourteen times or more])

Representative Publications

Marquet P A, S A Navarrete & J C Castilla (1990) Scaling population density to body size in rocky intertidal communities. *Science* 250: 1125-1127. (Foto portada y comentado)

Brown J H, **P A Marquet** & M Taper (1993). The evolution of body size: Consequences of an energetic definition of fitness. *The American Naturalist* 142(4): 573-584

Marquet P A, J Pineda, J Clark, M-J Fortin, C Jacobi, S Wallins, J Wu, S Bollens & R D Holt. (1993). Ecological and evolutionary consequences of patchiness. *Lecture Notes in Biomathematics* 96: 277-304.

Marquet P A, S A Navarrete & J C Castilla (1995) Body size, population density and the energetic equivalence rule. *Journal of Animal Ecology* 64: 325-332.

Taper M L. & **P A Marquet** (1996) How do species really divide resources? *American Naturalist* 147:1072-1086.

Lima M, **PA Marquet**, & FM Jaksic (1996) Extinction and colonization processes in subpopulations of five sympatric small mammals. *Oecologia* 107: 197-203.

Keitt, T H, & **P A Marquet** (1996) Extinction cascades in introduced Hawaiian birds

- suggest self-organized criticality. *Journal of Theoretical Biology* 182: 161-167.
- Marquet, PA**, & M. Fox (1997) Southern Temperate biota and ecosystems: Past, present, and future. *Trends in Ecology and Evolution* 12: 294-295.
- Marquet P A**, & J. X. Velasco-Hernández (1997) A source-sink patch occupancy metapopulation model. *Revista Chilena de Historia Natural* 70: 371-380.
- Marquet P A** & M L Taper (1998). On size and area: Patterns in body size extremes across landmasses. *Evolutionary Ecology* 12: 127-139.
- Lima M, **PA Marquet**, & FM Jaksic (1998) Population extinction risks of three neotropical small mammal species. *Oecologia* 115: 120-126.
- Keymer, J. E., **P. A. Marquet** & A.R. Johnson. (1998) Pattern formation in a patch occupancy metapopulation model: A cellular automata approach. *Journal of Theoretical Biology* 194: 79-90.
- Santelices, B. & **P.A. Marquet**. (1998) Seaweeds, latitudinal diversity patterns, and the Rapoport's rule. *Diversity and Distribution* 4: 71-75.
- Cofre H & **PA Marquet** (1999) Conservation status, rarity, and geographic priorities for conservation of Chilean Mammals: an assessment. *Biological Conservation* 88: 1-16.
- Lima M, **PA Marquet** & FM Jaksic. (1999) El Niño events, precipitation patterns, and rodents outbreaks are statistically associated in semiarid Chile. *Ecography* 22: 213-218.
- Marquet, PA** & H. Cofre (1999) Large temporal and spatial scales in the structure of mammalian assemblages in South America: A macroecological approach. *Oikos* 85: 299-309.
- Hernández-Suárez, CM, **PA Marquet** & J. X. Velasco-Hernández. (1999) Threshold parameters and metapopulation persistence. *Bulletin of Mathematical Biology* 60: 1-14.
- Cornelius, C., H. Cofré & **P.A. Marquet** (2000) The effects of habitat fragmentation on bird species in a relict temperate forest in semiarid Chile. *Conservation Biology* 14: 1-11.
- Marquet, P.A.** (2000) Invariants, scaling laws and ecological complexity. *Science* 289: 1487-1488. (Perspective)
- Keymer, J.E., **P.A. Marquet**, J.X. Velasco-Hernández and S.A. Levin. (2000) Extinction thresholds and metapopulation persistence in dynamics landscapes. *The American Naturalist* 156: 478-494. (Awarded the 2001 Outstanding Paper in the Discipline of Landscape Ecology Award given by the U.S. Chapter of the International Association for Landscape Ecology. Comentado en *Trends in Ecology and Evolution* 16:225-226 [2001]).
- Marquet PA.** (2001) Ecology goes macro. *Nature* 412: 481-482. (Book review)
- Cornelius, C., S.A. Navarrete, and **P.A. Marquet**. (2001) Effects of human activity on the structure of coastal marine bird assemblages in central Chile. *Conservation Biology* 15: 1396-1404.
- Alvarado, J. L., R. Pinto, **P. A. Marquet**, C. Pacheco, R. Guiñez & J. C. Castilla (2001) Patch recolonization by the tunicate *Pyura praeputialis* (Heller) in the rocky intertidal at the bay of Antofagasta, Chile: evidence for self-facilitation mechanisms. *Marine Ecology Progress Series*. 224: 93-101.
- Marquet P.A.** (2002). Of predators, prey, and power laws. *Science* 295: 2229-2230. (Perspective).

- Marquet, P.A. (2002) The search for general principles in ecology. *Nature* 418:723.
- Marquet, P.A.** & M.C. Depassier (2002) Kleiber and Planck. The missing link? Response. *Science* 298: 60-61.
- Labra, F., N. Lagos & **P.A. Marquet** (2003) Dispersal and transients in metapopulations. *Ecology Letters* 6:197-204.
- Valdovinos, C. S. A. Navarrete & **P.A. Marquet** (2003). Mollusk species diversity in the Southeastern Pacific: Why are there more species towards the south? *Ecography* 26:239-144.
- Smith, F.A.; Lyons, S.K.; Ernest, S.K.M.; Jones, K.E.; Kaufman, D.M.; Dayan, T.; **Marquet, P.A.**; Brown, J.H., and J.P. Haskel. 2003. Body mass of late quaternary mammals. *Ecology*. 84 (12): 3403-3403.
- George-Nascimento, M. G. Muñoz, **P.A. Marquet** & R. Poulin (2004) Testing the energetic equivalence rule with helminth endoparasites of vertebrates. *Ecology Letters* 7:527-531.
- Rodrigues, A. S. L., S. J. Andelman, M. I. Bakarr, L. Boitani, T. M. Brooks, R. M. Cowling, L.D. C. Fishpool, G. A. B. da Fonseca, K. J. Gaston, M. Hoffman, J. Long, **P. A. Marquet**, J. D. Pilgrim, R. L. Pressey, J. Schipper, W. Sechrest, S. N. Stuart, L. G. Underhill, R. W. Waller, M. E. J. Watts, and X. Yan. (2004) Effectiveness of the global protected area network in representing species diversity. *Nature* 428: 640-643.
- Arim, M. & **P.A. Marquet** (2004) Intraguild predation: a widespread interaction related to species biology. *Ecology Letters* 7: 557-564.
- Marquet, P.A.**, F. Labra & B.A. Maurer (2004) Metabolic ecology: linking individuals and ecosystems. *Ecology* 85: 1794-1796
- Smith, F.A., Brown, J.H., Haskell, J.P., Alroy, J. Charnov, E. L., Dyan, T., Enquist, B.J., Ernest, M. S.K., Hadly, E.A., Jablonski, D., Jones, K.E., Kaufman, D.M., Lyons, S.K., **Marquet, P.A.**, Niklas, K. Maurer, B.A., Porter, W. Roy, K. Tiffney, B., and Willig, M.R. (2004) Similarity of mammalian body size across the taxonomic hierarchy and across space and time. *American Naturalist* 163: 672-691.
- Rodrigues, A. S. L., H. R. Akçakaya S. J. Andelman, M. I. Bakarr, L. Boitani, T. M. Brooks, J. S. Chanson, L.D. C. Fishpool, G. A. B. da Fonseca, K. J. Gaston, M. Hoffman, **P. A. Marquet**, J. D. Pilgrim, R. L. Pressey, J. Schipper, W. Sechrest, S. N. Stuart, L. G. Underhill, R. W. Waller, M. E. J. Watts, and X. Yan (2004) Global Gap Analysis: Priority Regions for Expanding the Global Protected-Area Network. *Bioscience* 54: 1092–1100.
- Hidalgo, C.A.R., F. H. Claro and **P.A. Marquet**. (2005) Stationary state structure of a random copying mechanism over a complex network. *Physica A* 353: 674-684.
- Marquet, P.A.**, R.A. Quiñones, S. Abades, F. Labra, M. Tognelli, M. Arim and M. Rivadeneira . (2005) Scaling and power-laws in ecological systems. *Journal of Experimental Biology* 208: 1749-1769.
- Storch, D., **P.A. Marquet** & K.J. Gaston (2005) Untangling and entangled bank. *Science* 307: 684-686.
- Arim, M., S. Abades, P.E. Neill, M. Lima & **P.A. Marquet** (2006) Spread dynamics of invasive species. *Proceedings on the National Academy of Sciences (USA)* 103: 374-378.

Book Chapters

- Marquet, P.A.** (2002) Metapopulations. Pp. 411-420, *In*: H.A. Mooney & J. G. Canadell (eds) Encyclopedia of Global Environmental Change. Volumen II. The earth System: biological and ecological dimensions of global environmental change. John Wiley & Sons Ltd., Chichester, London.
- Marquet, P.A.**, J. X. Velasco-Hernández, & J. Keymer (2003) Patch dynamics, habitat degradation and space in metapopulations. *In*: Bradshaw, G.A. & P.A. Marquet (eds). *How landscapes change. Human disturbance and ecosystem fragmentation in the Americas*. Pp. 239-254. Springer-Verlag, New York.
- Marquet, P. A.** & G.A. Bradshaw (2003) Human disturbance and ecosystem fragmentation in the Americas. Synthesis and final reflections. *En*: Bradshaw, G.A. & P.A. Marquet (eds). *How landscapes change. Human disturbance and ecosystem fragmentation in the Americas*. Pp. 345- 354. Springer-Verlag, New York.
- Marquet, P.A.**, J. Keymer, & H. Cofre. (2004) Breaking the stick in space: of niche models, metacommunities, and patterns in the relative abundance of species. *En*: T.M. Blackburn & K.J. Gaston (eds). *Macroecology: concepts and consequences*. Blackwell.
- Marquet, P. A.**, M. Fernández, S.A. Navarrete & C. Valdivinos (2004). Diversity emerging: Towards a deconstruction of biodiversity patterns. *In*: *Frontiers of Biogeography: New directions in the geography of nature*. M. Lomolino and L. R. Heaney (eds.). Pp. 192-209, Cambridge University Press..
- Labra F.A., S. Abades & **P.A. Marquet** (2005). Distribution and abundance: scaling patterns in exotic and native bird species. *In*: D.F. Sax, J.J. Stachowicz & S.D. Gaines (eds). *Species Invasions. Insights into ecology, evolution and biogeography*. Sinauer Associates Inc. Massachusetts. Pp. 421-446.

Books

- Bradshaw, G.A. & **P.A. Marquet** (eds)(2003). *How Landscapes Change. Human disturbance and ecosystem fragmentation in the Americas*. Springer-Verlag, New York.