

## **CURRICULUM VITAE**

February 2015

### **CAROLINA MURCIA**

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#### **Science Director**

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#### **EDUCATION:**

Ph.D. 1993. University of Florida, Gainesville, Florida, USA.

M.Sc. 1987. University of Florida, Gainesville, Florida, USA.

Biologist. 1983. Universidad del Valle, Cali, Colombia.

Other training:

- Geographic Information Systems for Wildlife Conservation. October 2003. Wildlife Conservation Society, New York, USA.
- Advanced course on Molecular Genetics, May 1998, Centro Internacional de Agricultura Tropical and Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Palmira, Colombia.
- Fundamentals of Tropical Ecology. January-March 1986. Organization for Tropical Studies. San José, Costa Rica.

#### **PROFESSIONAL EXPERIENCE**

##### **POSITIONS HELD**

July 2008-present. Science Director. Organization for Tropical Studies. Part time.

July 2010 – present. Courtesy Assistant Professor. Department of Biology, University of Florida.

January 2011 -present. Lecturer. Pontificia Universidad Javeriana-Seccional Cali.

April 2012- December 2013. June –Sept 2014. Consultant. Center for International Forestry Research, CIFOR. Analysis of the development of Ecological Restoration in Colombia.  
2002-June 2007. Northern Andes Sub-regional Coordinator. Wildlife Conservation Society.  
2001-2002. Colombia Program Coordinator, Wildlife Conservation Society, New York, USA.  
1993- 2001. Associate Conservation Ecologist, Wildlife Conservation Society, New York, USA.  
1992. Intern, Latin American Program. Wildlife Conservation Society, New York, USA.  
1979-1982. Assistant to the curator. Vertebrate Museum. Universidad del Valle, Cali, Colombia.

**SERVICE:**

Conservation Biology. Journal of the Society for Conservation Biology. Associate Editor. 2014 - present

Conservation Biology. Journal of the Society for Conservation Biology. Theme editor. 2013-2014

Parks Canada. Advisor to the document on Best practices for Restoration Ecology in protected areas. 2010-2011

Board Member, Society for Ecological Restoration International,

Representative for Latin-America and Caribbean: 2000-2007

Representative-at-large: 2007-2011.

Member of the Science and Policy Working group: 2000-2003, 2007-2011 (chair 2011)

Member of the Executive Committee: 2009-2011

Co-Chair joint IUCN/SERI (International Union for the Conservation of Nature and The Society for Ecological Restoration International). 2003-2004. Led the compilation of case studies to showcase restoration within and outside IUCN, participated in writing an outreach document on restoration to be distributed by IUCN to governments and other partners.

Ad-hoc editor for Conservation Biology. 2001

Member, Forest Certification Working Group. 2000-2006.

Member, Regulations Committee for the Forest Voluntary Certification Program in Colombia. 2000- 2002. Wrote the regulations for forest certification in Colombia.

Scientific advisor, Tunquini Biological Station, La Paz, Bolivia. 1998-2006.

Editorial Board, Actualidades Biológicas, a scientific journal from Universidad de Antioquia, Medellín, Colombia. 1997-2006.

Member, Travel Award Committee. Association for Tropical Biology. 1998-99

Coordinator. Ecological Restoration section for the National Biodiversity Strategy and Action Plan. United Nations, Colombia Program. 1997-98.

Advisor, Instituto Colombiano para el Desarrollo de la Ciencia y la Tecnología (COLCIENCIAS), Basic Sciences Program. 1997.

Organizer, I Congreso Nacional de Biología de la Conservación, Cali, Colombia, 9-12 July 1997.

Co-coordinator. Strategic planning of the Conservation Biology Section. Instituto de Investigación de Recursos Biológicos "Alexander von Humboldt" (the Colombian biodiversity research institute of the Ministry of the Environment). 1995.

Scientific advisor. Reserva Natural La Planada. Fundación FES, Colombia. 1996-1997.

Thesis juror, Department of Biology, Universidad del Valle, Cali, Colombia. 1995-96.

Student representative, faculty search committee. Fall 1992-Spring 93. Department of Zoology, University of Florida.

Workshop Coordinator, National strategies for bird preservation. International Council for Bird Preservation. Quito 10 November 1991.

National Coordinator, National Strategy for Bird Preservation in Colombia, 1989-1991.

Coordinator, Graduate Students Seminar, Department of Zoology, University of Florida, Gainesville, FL USA. 1987.

Co-organizer, III Congreso de Ornitología Neotropical, Cali, Colombia, 1987.

Manuscript reviewer for American Midland Naturalist, Conservation Biology, Ecology, Forest Ecology and Management, Journal of Ecology, Journal of Tropical Ecology, Restoration Ecology, Vegetatio, Caldasia (Colombia), Ecología Austral (Argentina), and Ecología en Bolivia (Bolivia).

Proposal reviewer for National Science Foundation (USA), Island Press (USA), Wildlife Conservation Society (USA), Fundación para la Promoción de la Investigación y la Tecnología (Colombia), Instituto Colombiano para el Desarrollo de la Ciencia y la Tecnología (COLCIENCIAS, Colombia), WCS/FES Small Grants Program (Colombia), Comisión Nacional de Investigación Científica y Tecnológica (CONICYT, Chile), United Nations Environmental Programme (UNEP, New York, USA).

## **RESEARCH EXPERIENCE**

2003 - present. "Limiting factors for the conservation of Andean Cloud forests"

This research line is aimed at determining how the two biggest threats on forest conservation - fragmentation (at the meso-scale) and global warming (at the global scale) - are impacting the conservation potential of Andean cloud forests in Colombia.

2003 - present. "Are hardwood species of montane forests living fossils?"

This line of work is aimed at determining their current status and habitat needs in order to assess their chances for recovery, the current potential habitat availability and design appropriate recovery plans for the Central Andes of Colombia.

1993-2003. "Consequences of forest restoration practices for the conservation of biodiversity".

This research program is aimed at determining the relative effectiveness of tree plantations and natural regeneration as strategies for the restoration of cloud forests. It is structured as a series of sixteen modular projects. Each project evaluates the ecological consequences of different restoration strategies on different groups of organisms and ecological processes of the resulting forests.

1998- 2001. "Biotic and abiotic factors that affect plant reproduction along an ecological gradient".

Research conducted in collaboration with Dr. Bette Loiselle of University of Missouri-Saint Louis and Dr. Gustavo Kattan (WCS). This line of research had six projects, but I was directly involved in four.

1989-1993. "Edge effects on pollination levels of tropical cloud-forest plants".

1986-1987. "Effect of floral morphology on pollen removal and deposition in *Ipomoea trichocarpa*".

1989. "The dynamics of pollen transference among conspecific flowers, in the presence of heterospecific mixtures". Carried out in collaboration with Dr. Peter Feinsinger.

1983. "Foraging behavior in a territorial hummingbird".

1983. "Structure and dynamics of a hummingbird guild in Colombia".

#### **TEACHING EXPERIENCE**

2013-present. Lecturer. Ecological Restoration. Pontificia Universidad Javeriana, Cali, Colombia. Spring semester.

2011. Lecturer. Ecology. Pontificia Universidad Javeriana, Cali, Colombia. Fall semester.

2011. Lecturer. Plant Diversity. Pontificia Universidad Javeriana, Cali, Colombia. Spring semester.

2010. Faculty. M.Sc. Biodiversity in Tropical Areas and its conservation. Universidad Menéndez Pelayo and Universidad Indoamerica de Ecuador. Quito, Ecuador. October 7-10.

2009. Invited faculty. Baccalaureate on "Development of skills for management and conservation of protected areas". Universidad de los Andes. Jun 8 and Jul 13.

2008. Faculty. M.Sc. Biodiversity in Tropical Areas and its conservation. Universidad Menéndez Pelayo and Universidad Central de Ecuador. Quito, Ecuador. Sept 15-19.

2008. Visiting faculty. Public policy course, University of Missouri, St Louis. 21 May. St Louis, Missouri.

2002. Faculty. Restoration Ecology. Graduate Seminar. Universidad del Valle. Cali, Colombia.

2002. Invited faculty. Estimation and analysis of biodiversity: Concepts and strategies. Universidad Autónoma del Estado de Hidalgo, Pachuca, Mexico. 18 February-1 March.

2001. Co-instructor. Course in Cloud Forest Ecology. Tunquini Biological Station, Cotapata National Park. Bolivia.

- 1999. Co-instructor. I Course-Workshop in Conservation Biology applied to the National Park System. Fundación EcoAndina and National Park Service. Santuario de Fauna y Flora Otún-Quimbaya. 15-19 March.
- 1998. Organizer and co-instructor. II Course in Research Design for Conservation Biology. Instituto de Investigación Alexander von Humboldt. Villa de Leyva, Colombia, 21 March- 14 April.
- 1997. Co-instructor. V Course in Conservation Biology. Wildlife Conservation Society-Fundación FES-Fundación EcoAndina. 6-16 December.
- 1997. Invited faculty. Course "Tropical Ecology and Conservation 97-2". Organization for Tropical Studies. Costa Rica 15 February - 4 March.
- 1997. Organizer and co-instructor. I Course in Research Design for Conservation Biology. Instituto de Investigación Alexander von Humboldt. Villa de Leyva, Colombia, 6-27 January.
- 1995. Co-organizer and co-instructor. IV Course in Conservation Biology. Wildlife Conservation Society-Fundación FES-Fundación EcoAndina. 3-17 December.
- 1985-1989, 1993. Teaching assistant. General Ecology Laboratory and General Biology Laboratory. University of Florida.
- 1988. Instructor. Two-month course on ecology and the environment for high school teachers. Centro Experimental Piloto, Cali, Colombia.

#### **THESES ADVISED**

##### Graduate Students:

1. Pilar Amézquita. (1997-2000). Ph.D. Candidate. Universidad de Santiago de Compostela. [The effect of the floral neighborhood on the pollination of *Psychotria aubletiana*].
2. Oscar Murillo. 2004. M.Sc. Universidad del Valle, Cali, Colombia. [Effect of intra-individual nectar variation on hummingbird behavior and plant reproductive potential of *Palicourea lehmannii* (Rubiaceae)]. Currently a faculty at Universidad del Valle, Colombia, and a Ph.D. student at University of Florida.
3. Nilsen Lasso. 2006. M.Sc. Universidad del Valle, Cali, Colombia. [Altitudinal shift of *Cecropia telealba* (Cecropiaceae) associated with climate change in the Central Andes of Colombia]. Currently a faculty at Universidad del Valle, Colombia, and a Ph.D. student at Iowa State.

##### Graduate Committees:

1. Sandra Muriel. 2007. Ph.D. Universidad del Valle, Cali, Colombia. [Effect of the coffee matrix on the persistence of Ithomiine butterflies in tropical Andean forest fragments].
2. Alice Alonso. Ph.D. Student. Department of Agricultural and Biological Engineering. University of Florida. Expected degree 2016.

### Undergraduate Students:

1. Carlos Daniel Cadena. 1999. B.Sc. Universidad de Los Andes. Bogotá, Colombia [Pollination and fruit production in *Palicourea deviae* (Rubiaceae): Effect of floral display, habitat and floral neighborhood on a tropical shrub]. Currently he is Associate Professor and Department Chair at Universidad de los Andes. Bogotá, Colombia
2. María Claudia Zapp. 2000. B.Sc. Universidad de Los Andes. Bogotá, Colombia. [Seed rain in a cloud forest of the Risaralda Province, Colombia].
3. Cleopatra Pimienta. 2000. B.Sc. Universidad del Valle, Cali, Colombia. [Effect of artificial hummingbird feeders on plant-animal interactions]. Research Student. American Museum of Natural History. Washington, D.C.
4. Paola Andrea Olaya. 2003. B.Sc. Universidad del Valle, Cali, Colombia. [Epiphytes in Andean alder plantations: limiting factors and ecological implications]. Currently an independent consultant in Cali, Colombia.
5. Juan Pineda. 2004. B.Sc. Universidad del Valle, Cali, Colombia. [Effect of two levels of human forest interventions on the epiphyte community of an Andean Cloud forest]. Currently a Ph.D. Student at FLACSO, Quito, Ecuador.
6. Paola Saldarriaga. 2004. B.Sc. Universidad del Valle, Cali, Colombia. [Potentially allelopathic effect of root nodules of Andean alder on seed germination].
7. Enrique Méndez. 2006. B.Sc. Universidad del Quindío, Armenia, Colombia. [Effect of two restoration strategies on seedling growth and establishment]. Currently an independent consultant.
8. Angelica Girón. 2009. B.Sc. Universidad del Valle, Cali, Colombia. [Effect of micro-topography on the species composition and structure of cloud forests in the Central Andes of Colombia].
9. Kevin Fernández. 2014. B.Sc. Student. Pontificia Universidad Javeriana-Cali.

### **MENTORING**

In addition to the above students, I have mentored the following young professionals. In parentheses are the dates I mentored them, followed by their graduate work after leaving the program, and their current affiliation.

1. Saulo Usma. (1994-95). M.Sc. Universidad Experimental de los Llanos. Currently Fresh Water Program Coordinator, World Wildlife Fund
2. Juan F Fernández-Manjarrés. (1995). Ph.D. University Missouri-St. Louis. Currently Researcher the Laboratoire d'Ecologie, Systématique et Evolution, Université Paris-Orsay, France.
3. Alberto Galindo. (1996-97). Ph.D. University of Puerto Rico. Currently Associate Researcher at Universidad de Puerto Rico.
4. William Vargas. (1995-2002). M. Sc. Universidad del Valle (Cali, Colombia). Currently independent consultant.
5. Cristina López-Gallego. (2002-2003). Ph.D. University of New Orleans. Currently Assistant professor at Universidad de Antioquia, Medellín, Colombia.

6. Carlos A. Garcia-Robledo. (2002-04). Ph.D. University of Miami. Currently a researcher at Instituto de Ecología, Mexico.
7. Estela M. Quintero. (2003-2005). M.Sc. University of Ohio. Currently Ph.D. Candidate at Wageningen University of Amsterdam.
8. Paola Andrea Olaya. (2005-2006). M.Sc. Student, University of Puerto Rico. Currently independent consultant in Colombia.
9. Paula Giraldo. (2005-2007). M. Sc. Universidad de Chile. Currently a consultant with Wildlife Conservation Society-Colombia Program.

#### **FELLOWSHIPS, MAJOR EXTRA-MURAL GRANTS AND AWARDS:**

2012. National Science Foundation. Catalyzing New International Collaborations. Senior Personnel and Co-author of proposal. \$54,721 OISE-1132840
2009. National Science Foundation. PASI. Senior Personnel and Co-author of proposal. \$100,000 OISE -0921786
2009. Bascom Scholarship. Missouri Botanical Garden. Feb 22nd-May 10<sup>th</sup>.
2008. Christensen visiting scientist. University of Missouri-St Louis. Spring.
2006. Biotropica Award for Excellence in Tropical Biology and Conservation for the paper: García-Robledo, C. A. G. Kattan, C. Murcia and M. P. Quintero. 2005. Equal and opposite effects of floral offer and spatial distribution on fruit production and predispersal seed predation in *Xanthosoma daguense* (Araceae). *Biotropica* 37: 373-380.
- The John D. and Catherine T. MacArthur Foundation. 2006. A three year grant, awarded through WCS, to support a research and training program in Central Colombia. \$350,000
- The John D. and Catherine T. MacArthur Foundation. 2003. A three-year grant, awarded through WCS, to support the design of a network of protected areas in Colombia. \$420,000
- Outstanding Researcher Award. Awarded by COLCIENCIAS (the Colombian government research granting organization), in a program directed at promoting research in the country. 1996. (The program was discontinued in 1997 for budget constraints)
- Pew Scholarship in Integrated Approaches to Training in Conservation and Sustainable Resources. 1992.
- Outstanding Teaching Assistant award in the Division of Biological Sciences, University of Florida. 1989.
- Exxon Research Fellowship. Smithsonian Tropical Research Institute. 1983.
- Exxon Fellowship, Smithsonian Tropical Research Institute. 1982.

#### **PROFESSIONAL SOCIETY MEMBERSHIPS:**

- American Association for the Advancement of Science, 1996 - 2002
- Association for Tropical Biology, 1995 – 2006
- Asociación Colombiana para el Avance de la Ciencia, 1998-2000

Botanical Society of America, 1993 - 2004  
Ecological Society of America, 1982- 2008  
International Union for the Conservation of Nature (IUCN), 2003-2006, 2008-2011.  
Society for Ecological Restoration, 1999-2011. Board of Directors (1999-2011)  
Society for the Study of Evolution, 1989-2003  
Society for Conservation Biology, 2000-2006, 2013-present

## ORAL PRESENTATIONS

### INVITED SEMINARS AND LECTURES

Unraveling the complexity of landscape management in a water-subsidized watershed in NW Costa Rica. Bacardi Eminent Scholar Lecture series. University of Florida, Feb 12<sup>th</sup>, 2015  
Measuring and monitoring: the challenges and opportunities for large-scale restoration in Colombia. Ecosystems, Economy And Society: How Large-Scale Restoration Can Stimulate Sustainable Development. U.S. National Academy of Sciences, Washington DC, USA. May 30<sup>th</sup>, 2014.  
From Science to practice: Challenges and opportunities for Colombian scientists in biodiversity conservation. Universidad de los Andes. International Symposium: Encounters with Biodiversity 2010. Bogota, Colombia, October 2010.  
Restoration of Natural Capital: foundations and a study case. Universidad Nacional de Colombia. Bogotá. July 2010.  
Causes, consequences and challenges of climate change. Universidad Javeriana, Cali, Colombia. February 2010.  
Challenges and opportunities for Latin American ecology. Universidad Nacional de Colombia, Medellín. Key note address at the opening ceremony of the PhD program in Ecology. September 2009.  
Climate change: a hot topic. Organization for Tropical Studies. April 2009.  
Restoring Colombian Landscapes to Benefit People and Protected Areas. IUCN World Conservation Congress. Barcelona. October 2008  
Science and real life planning in developing countries. University of Missouri-St Louis. 2008.  
Climate change and ecological impacts in the Central Andes of Colombia. University of Missouri-St Louis. 2008.  
Fragmentation and restoration in a changing world. Universidad Estatal a Distancia, San José, Costa Rica. 2008.  
Application and transfer of science in Colombia. “Biodiversity and Conservation in the Andes”, The 54th Annual Systematics Symposium at the Missouri Botanical Garden. Saint Louis, Missouri, USA. 2007.  
Colombian Biodiversity: Origin, patterns and conservation. Keynote speaker, CAMCORE Annual Meeting. Cali, Colombia 2007.  
The value of the work depends on the frame: research put in context. Universidad Javeriana, Ecology and Resource Management Department. Bogotá, Colombia. 2006.  
Limitations of plantations for ecological restoration in the Otún watershed. DESURCA, Environmental Division. Uribante. Venezuela. 2006.



- Parks and landscapes: Putting biodiversity conservation in context. Science College. Universidad del Valle. Cali, Colombia. 2004.
- Use of natural forests and biodiversity. Forestry Certification Program, WWF-Colombia. Cali – Colombia. 2004.
- Can ecosystems be restored: Humpty-Dumpty revisited in Colombia. Wildlife Conservation Society. New York, USA. 2004.
- Restoring Cloud forests in Colombia: it takes more than planting trees. University of Victoria. Victoria, Canada. 2004.
- Restoration of landscape connectivity through a network of protected areas in the Central Andes of Colombia. Restoration symposium. 5th World Parks-Congress, IUCN. Durban South Africa 2003.
- Biodiversity and commercial plantations. Workshop in forest certification. WWF, Medellín, Colombia, 2003
- Changes in the landscape and their implications for plant-pollinator interactions. 30<sup>th</sup> National Entomological Meeting. SOCOLEN, Cali, Colombia, 2003.
- Limitations of planting alder for the restoration of the Otún watershed. II Regional meeting on research for conservation for the Coffee Growing Region of Colombia. Pereira, Colombia 2003
- Application and transfer of scientific information for the design and management of protected areas in Colombia- Executive Meeting, Scientific Committee on Problems of the Environment (SCOPE). Granada Spain, 2003
- Alder plantations slow down secondary succession in abandoned pastures. Symposium on "Tropical forest regeneration in abandoned agricultural lands: Implications for restoration ecology". Tropical Restoration for the New Millennium International Conference. U.S. Forest Service, University of Puerto Rico. San Juan, Puerto Rico. 1999
- Forest restoration and the use of plantations as catalysts. Empresas Públicas de Medellín. Earth Day Celebration. 1998.
- The status of research in conservation biology in Colombia. Symposium on "Management and conservation of natural resources" Universidad de Antioquia, Medellín, Colombia. 1997.
- Causes, consequences and modulation of edge effects in fragmented forests. Symposium- Workshop on "Effects of Landscape transformation on fauna in the Americas". IAI-Amigo. Maitencillo, Chile, 1996.
- Forest restoration strategies in the tropical Andes: Implications for the conservation of biodiversity. Joint seminar Departments of Botany and Zoology, University of Florida, Gainesville, FL, USA. 1996.
- Influence of Andean Alder (*Alnus acuminata*) on species diversity and forest dynamics in the Central Andes of Colombia. Symposium on "Catalyzing Native Forest Regeneration on Degraded Tropical Lands" IUFRO-World Bank, Washington, DC. USA. 1996.
- Environment and development: real or apparent conflict?. Symposium on "The environmental challenge". Pontificia Universidad Javeriana. Cali, Colombia. 1995
- Forest management and its consequences to biological diversity. Semana de la Biodiversidad: vida para el siglo XXI. Corporación Autónoma Regional de Risaralda. Pereira, Colombia, 1995.
- Effect of forest fragmentation on the pollination of tropical cloud-forest plants in Colombia. Symposium on "Forest remnants in the tropical landscape: benefits and policy implications". Smithsonian Institution, Washington, DC. 1992

## CONTRIBUTED PAPERS AT SYMPOSIA AND SCIENTIFIC MEETINGS:

Association for Tropical Biology, 1991, 2002 (five papers), 2013.  
Colombian Conservation Biology Congress (three papers), 1997.  
Ecological Society of America, 1987, 1991 (two papers), 1996, 1998, 2002.  
International Congress of Neotropical Ornithology, 1987 (two papers).  
International Union of Forest Research Organizations-Latin America section. 2013  
Latin American Botany Congress 2002 (two papers), 2010.  
Red Ibero-Americana para la Restauración Ecológica 2013 (two papers)  
Society for Conservation Biology, 1992, 1995, 1996, 2001, 2004 (two papers).  
Society for Restoration Ecology, 2000, 2002, 2007, 2011 (two papers)

## PUBLICATIONS

### PEER-REVIEWED SCIENTIFIC ARTICLES

<http://scholar.google.com.co/citations?user=QH-NZsQAAAAJ>

- Murcia C., M.R. Guariguata & E. Montes. *In Press*. Estado del monitoreo de la restauración ecológica en Colombia, *In* Aguilar-Garavito, M. y W. Ramírez, (Eds). Monitoreo a Procesos de Restauración Ecológica de Ecosistemas Terrestres Tropicales. Instituto de Investigación Alexander von Humboldt (IAVH). Bogotá, D.C., Colombia
- Convertino, M., R. Muñoz-Carpena & C. Murcia. *In press*. “Reading the minds” for quantitative sustainability: Assessing stakeholder mental models via Probabilistic Text Analysis pp. *In*: Zhang-Bach, J., L. F. Luna-Reyes, T. A. Pardo, and D. S. Sayogo (Eds). Information, models, and sustainability: Policy informatics in the age of Big Data and Open Government. Springer , NY, USA
- Aguilar, M., Sierra, J., Vargas, O., Calle, Z., Ramirez, W., Vargas, W., Murcia, C., Aronson, J. & Barrera Cataño, J.I. 2015. Towards a post-conflict Colombia: restoring to the Future. *Restoration Ecology* 23 (1): 4-6
- Aronson, J., C. Murcia, G. H. Kattan. D. Moreno-Mateos, K. Dixon & D. Simberloff. 2014. The road to confusion is paved with novel ecosystem labels: a reply to Hobbs *et al*. *Trends in Ecology and Evolution* 29: 646-647. DOI: 10.1016/j.tree.2014.09.011.
- Murcia, C., J. Aronson, G. H. Kattan. D. Moreno-Mateos, K. Dixon & D. Simberloff. 2014. A critique of the ‘Novel ecosystem’ concept. *Trends in Ecology and Evolution* 29: 548-553. DOI: 10.1016/j.tree.2014.07.006
- Kattan, G. H. & C. Murcia. 2014. Book review. *Monitoring Biodiversity: Lessons from a Trans-Andean Megaproject* by Alfonso Alonso, Francisco Dallmeier, and Grace P. Servat (editors)]. *Restoration Ecology*. 22 (562-563).
- Murcia, C. & M. R. Guariguata. 2014. La restauración ecológica en Colombia: tendencias, necesidades y oportunidades. Documentos ocasionales 107. CIFOR. Bogor, Indonesia.

- Murcia, C. & J. Aronson. 2014. Intelligent tinkering in ecological restoration. *Restoration Ecology* 22: 279–283. DOI: 10.1111/rec.12100
- Aronson, J. C. Murcia & L. Balaguer. 2013. Leak plugging and clog removal: Useful metaphors for conservation and restoration. *Conservation Letters* 6 (6): 456-461. DOI: 10.1111/conl.12021
- Murcia, C., G. H. Kattan and G. I. Andrade. 2013. Conserving biodiversity in a complex biological and social setting: The case of Colombia. Pp. 86-96. In Sodhi, N. S., P. H. Raven & L. Gibson (Eds). *Conservation Biology: Voices from the Tropics*. Wiley-Blackwell, Oxford, UK.
- Kattan, G. H. & C. Murcia. 2012. Ecological patterns and processes in noncommercial, monospecific tree plantations in the tropical Andes. Pp. 131-144. *In*. Simonetti, J.A., A. Grez & C. F. Estades (Eds) *Biodiversity conservation in agroforestry landscapes: Challenges and opportunities*. Editorial Universitaria. Santiago de Chile, Chile.
- Alexander, S., C. R. Nelson, J. Aronson, D. Lamb, A. Cliquet, K. L. Erwin, C. M. Finlayson, R. S. de Groot, J. A. Harris, E. S. Higgs, R. J. Hobbs, R. R. Robin Lewis, D. Martinez, and C. Murcia. 2011. Opportunities and challenges for ecological restoration within REDD+. *Restoration Ecology* 19:683-689. DOI: 10.1111/j.1526-100X.2011.00822.x
- Murcia, C. 2010. On-the-job training for national park staff: What they need to know about ecological restoration (Colombia). *Ecological Restoration* 28:139-141.
- Kattan, G. H., C. Murcia & A. Galindo-Cardona. 2010. An evaluation of bess beetles (Passalidae) and their resource base in a restored Andean forest. *Tropical Conservation Science* 3:334-343.
- Cayuela, L., C. Murcia, A. A. Hawk, J. Fernández-Vega & F. Oviedo-Brenes. 2009. Tree responses to edge effects and canopy openness in a tropical premontane forest fragment in Southern Costa Rica. *Tropical Conservation Science* 2: 425-436.
- Murcia, C & G. H. Kattan. 2009. Application of science to protected area management: overcoming the barriers. *Annals of the Missouri Botanical Garden* 96: 508–520.
- Murcia, C. & J. Pineda. 2008. Ecología de la restauración. *In*. Kattan, G. H. & L. G. Naranjo (Eds). *Regiones biodiversas: Elementos para la planificación de sistemas regionales de áreas protegidas*. WWF, EcoAndina & WCS. Cali, Colombia.
- Kattan, G. H.; C. Murcia; R. C. Aldana & S. Usma. 2008. Relaciones entre hormigas y melastomátáceas en un bosque lluvioso del pacífico colombiano. *Boletín del Museo de Entomología de la Universidad del Valle* 9(1):1-10.
- Murcia, C. 2008. Climate Change in the Tropical Andes: Can Montane Ecosystems Cope? *In*: Fearn, Eva & K. H. Redford (Eds.). "State of the Wild 2008: A Global Portrait of Wildlife, Wild Lands and Oceans". Island Press, Washington, DC., USA
- García-Robledo, C. A. G. Kattan, C. Murcia & M. P. Quintero. 2005. Equal and opposite effects of floral offer and spatial distribution on fruit production and predispersal seed predation in *Xanthosoma daguense* (Araceae). *Biotropica* 37: 373-380. *This paper received the 2006 Biotropica Award for Excellence in Tropical Biology and Conservation*.

- Murcia, C. 2005. Tropical Montane Forest Restoration: Do tree plantations help or hinder? *In* Groom, M. J.; G. K. Meffe & C. R. Carroll (Eds). Principles of Conservation Biology. Sinauer Associates.
- García-Robledo, C. A. & C. Murcia. 2005. Comparative habitat susceptibility to invasion by Chinese ash (*Fraxinus chinensis*: Oleaceae) in a tropical Andean landscape. *Biological Invasions*. 7: 405-415
- García-Robledo, C. A.; G. Kattan, C. Murcia & M. P. Quintero. 2004. Beetle pollination and fruit predation in *Xanthosoma daguense* (Araceae). *Journal of Tropical Ecology*. 20: 459 - 469
- Kattan, G. H. y C. Murcia. 2003. A review and synthesis of conceptual frameworks for the study of forest fragmentation. Pp. 183-200. *En* Bradshaw, G. y P. Marquet (eds). How landscapes change: Human disturbance and ecosystem fragmentation in the Americas. Springer Verlag, Ecological Studies vol. 162. NY, USA.
- Murcia, C. 2002. [Pollination ecology of neotropical humid forests]. pp. 493-530, *In* Guariguata, M. R. & G. H. Kattan (eds). [Ecology and conservation of neotropical forests]. Libro Universitario Regional. San Jose, Costa Rica. (In Spanish)
- Murcia, C.; G. Kattan & A. Galindo. 2001. Recovery of bess beetles key to long-term restoration of Andean forests (Colombia). *Ecological Restoration* 19: 254-255.
- Murcia, C. 2001. [Changes in coffee cultivation method, and its effects on biodiversity]. pp. 532-533, *In* Primack, R., R. Rozzi, P. Feinsinger, R. Dirzo & F. Massardo. [Fundamentals of biological conservation: A Latin American perspective]. Fondo de Cultura Económica, México D. F., México. (In Spanish)
- Murcia, C. 1997. Evaluation of Andean Alder as a catalyst for the recovery of tropical cloud forests in Colombia. *Forest Ecology and Management* 99:163-170.
- Murcia, C. 1996. Forest fragmentation and the pollination of Neotropical plants, pp. 19-36. *In* Schelhas, J. & R. Greenberg (eds.). Forest patches in tropical landscapes. Island Press, Washington, D. C., USA.
- Murcia, C. & P. Feinsinger. 1996. Interspecific pollen loss by hummingbirds visiting flower mixtures: Effects of floral architecture. *Ecology* 77: 550-560.
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