

Curriculum vitae

Antonio José Manzaneda – January 2012

Departamento de Biología Animal, Biología Vegetal y Ecología.

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Citizenship: Spanish

Date of Birth: 11/10/1974

Current position: *Ramón y Cajal* Researcher, University of Jaén, Spain.

Education

Post-doctoral period: 2006-2010. Department of Biology. Duke University. USA.

PhD in Biology – Nov. 2005, Department of Plant Biology and Ecology. Faculty of Biological Sciences, University of Seville, Spain.

BS in Biology – Dec. 1998, Faculty of Biological Sciences, University of Jaén, Spain.

Projects and research experience

June 2011-June 2016: **Principal Investigator (PI):** “Evolution of ecologically important traits in plants”. Ministerio de Ciencia e Innovación (RYC-2010-06237). Universidad de Jaén, Spain.

2010-2012: **Participant Researcher.** “Trade-off facilitation-competence: effects on the assemblage and ecology diversity and phylogeny in Mediterranean plant communities”. PI: Prof. Pedro Rey Zamora. Ministerio de Ciencia e Innovación (CGL2009-08130). Universidad de Jaén, Spain.

July 2008 – July 2011: **Research Associate (PI).** Project title: “Natural variation for drought tolerance in the grass *Brachypodium distachyon*, a new model species for ecological genomics”. Co-PIs: Prof. Thomas Mitchell-Olds. Department of Biology, Duke University, Durham, USA and Prof. Pedro J. Rey. Department of Animal Biology, Plant Biology and Ecology, University of Jaén, Jaén, Spain. Commission of the European Communities. Marie Curie Actions (PIOFGA-2008-220983).

September 2006 – June 2008: **Post-doctoral Researcher.** Project title: “Genetic and geographical variation in glucosinolate defensive compounds in natural populations of *Boechnera* species (Brassicaceae)”. Supervisor: Prof. Thomas Mitchell-Olds. Department of Biology, Duke University, Durham, USA. Duke University and National Science Foundation USA (award EF-0723447).

July 2001 – November 2005: **Doctoral Student.** Thesis dissertation: “Ecology and evolution of seed dispersal in *Helleborus foetidus* (Ranunculaceae). Geographical variation in animal-plant interactions”. PhD Advisors: Prof. Pedro J. Rey and Dr. Xim Cerdá. Department of Evolutionary Biology, Doñana Biological Station (CSIC), Seville, Spain. Ministerio de Ciencia y Tecnología. (BOS2000-1122-C03-2).

June 1999 – December 2000: **Research Assistant.** Project title: “Evolution of animal-plants interactions: mutualism, demography and geographical variation”. Main researcher: Prof. Carlos

M. Herrera. Department of Evolutionary Biology, Doñana Biological Station (CSIC), Seville, Spain.

September 1995 – December 1998: **Collaborative Research** (Undergraduate). Project title: “Regional variation and between habitats in the patterns of post-dispersal seed predation of fleshy fruits in the Mediterranean basin. Effects on seed shadow”. Main researcher: Prof. Pedro J. Rey, Department Animal Biology, Plant Biology and Ecology. University of Jaén, Spain.

Summers 1996, 1997, 1998: **Field Assistant**, Several projects under the supervision of Prof. Carlos M. Herrera and Dr. Xim Cerdá. Department of Evolutionary Biology, Doñana Biological Station (CSIC), Seville, Spain.

Publications

Peer-reviewed papers

1. **Manzaneda, A.J.**, and Rey, P.J. (2012) Geographical and interspecific variation and the nutrient-enrichment hypothesis: an adaptive advantage of myrmecochory?. *Ecography* **000**: 000-000.
2. **Manzaneda, A.J.**, Rey, P.J., Bastida, J.M., Weiss-Lehman, C., Raskin, E., and Mitchell-Olds, T. (2012) Environmental aridity is associated with cytotype segregation and polyploidy occurrence in *Brachypodium distachyon* (Poaceae). *New Phytologist* **193**: 797-805.
3. Jelena B, Grotewold E, Scholl R, Mockler T, Garvin DF, Vain P, Brutnell T, Sibout R, Bevan M, Budak H, Caicedo AL, Gao C, Gu Y, Hazen SP, Holt III BF, Hong S-Y, Jordan M, **Manzaneda, A.J.**, Mitchell-Olds T, Mochida K, Mur LAJ, Park C-M, Sedbrook J, Watt M, Jian Zheng S and Vogel JP. (2011). *Brachypodium* as a model for the grasses: Today and the future. *Plant Physiology* **175**: 3-13.
4. **Manzaneda, A.J.**, Prasad, K.V.S.K. and Mitchell-Olds, T. (2010) Variation and fitness costs for tolerance to different types of herbivory damage in *Boechera stricta* genotypes with contrasting glucosinolate structures. *New Phytologist* **188**: 464-477.
5. Schwartz, C., Doyle, M., **Manzaneda, A.J.**, Mitchell-Olds, T., Rey, P.J., and Amasino, R. (2010) Natural variation of flowering time and vernalization responsiveness in *Brachypodium distachyon*. *BioEnergy Research* **3**: 38-46.
6. **Manzaneda, A.J.** and Rey, P.J. (2009) Assessing ecological specialization of an ant-seed dispersal mutualism through a wide geographic range. *Ecology* **90**: 3009-3022.
7. **Manzaneda, A.J.**, Rey, P.J. and Alcántara, J.M. (2009). Conflicting selection on diaspore traits limits the evolutionary potential of seed dispersal by ants. *Journal of Evolutionary Biology* **22**: 1407-1417.
8. Schranz, M.E., **Manzaneda, A.J.**, Windsor, A.J., Clauss, M.J. and Mitchell-Olds, T. (2009) Ecological genomics of *Boechera stricta*: Identification of a QTL controlling the allocation of methionine- vs. branched chain amino acid-derived glucosinolates and levels of insect herbivory. *Heredity* **102**: 465-474.
9. **Manzaneda, A. J.**, and P. J. Rey. (2008) Geographic variation in seed removal of a myrmecochorous herb: influence of variation in functional guild and species composition of the disperser assemblage through spatial and temporal scales. *Ecography* **31**: 583-591.

10. Rey, P.J. and **Manzaneda, A.J.** (2007) Geographic variation in the determinants of seed dispersal success of a myrmecochorous herb. *Journal of Ecology* **95**: 1381-1393.
11. **Manzaneda, A.J.**, Rey, P.J. and Boulay, R. (2007) Geographical and temporal variation in the ant-seed dispersal assemblage of the perennial herb *Helleborus foetidus* L. (Ranunculaceae). *Biological Journal of the Linnean Society* **92**: 135-150.
12. Alcántara, J.M., Rey, P.J., **Manzaneda, A.J.**, Boulay, R., Ramírez, J.M. and Fedriani, J.M. (2007) Geographic variation in the adaptive landscape for seed size at dispersal in the myrmecochorous *Helleborus foetidus*. *Evolutionary Ecology* **21**: 411-430.
13. Boulay, R., Coll-Toledano, J., **Manzaneda, A.J.**, and Cerdá, X. (2007) Geographical variations in seed dispersal by ants: are plant and seed traits decisive?. *Naturwissenschaften* **94**: 242-246.
14. **Manzaneda, A.J.**, Sperens, U. and García, M.B. (2005) Effects of microsite disturbances and herbivory on seedling performance in the perennial herb *Helleborus foetidus* L (Ranunculaceae). *Plant Ecology* **179**: 73-82.
15. Boulay, R., Fedriani, J.M., **Manzaneda, A.J.** and Cerdá, X. (2005) Indirect effects of alternative food resources in an ant-plant interaction. *Oecologia* **144**: 72-79.
16. **Manzaneda, A.J.**, Fedriani, J.M. and Rey, P.J. (2005) Adaptive advantages of myrmecochory: the predator-avoidance hypothesis tested over a wide geographic range. *Ecography* **28**: 583-592.
17. Fedriani, J.M. and **Manzaneda, A.J.** (2005) Pre- and post- dispersal seed predation by rodents: balance of food and safety. *Behavioural Ecology* **16**: 1018-1024.
18. Rey, P.J., Alcántara, J.M., Valera, F., Sánchez-Lafuente, A.M., Garrido, J.L. and **Manzaneda, A.J.** (2004) Seedling establishment in *Olea europaea*. Seed size and microhabitat affect growth and survival. *Ecoscience* **11**: 310-320.
19. Rey, P.J., Garrido, J.L., Alcántara, J.M., Ramírez, J.M., Aguilera, A., García, L., **Manzaneda, A.J.** and Fernández, R. (2002) Spatial variation in ant and rodent post-dispersal predation of vertebrate-dispersed seeds. *Functional Ecology* **16**: 773-781.
20. Herrera, C.M., Medrano, M., Rey, P.J., Sánchez-Lafuente, A.M., García, M.B., Guitián, J. and **Manzaneda, A.J.** (2002) Interaction of pollinators and herbivores on plant fitness suggests a pathway for correlated evolution of mutualism- and antagonism-related traits. *Proceedings of the National Academy of Sciences USA* **99**: 16823-16828.
21. Cerdá, X., Retana, J. and **Manzaneda, A.** (1998). The role of competition by dominants and temperature in the foraging of subordinate species in Mediterranean ant communities. *Oecologia* **117**: 404-412.

Submitted/ In Prep

22. **Manzaneda, A.J.**, Rey, P.J., Anderson, J.T., Weiss-Lehman, C., Raskin, E., and Mitchell-Olds, T. Natural variation and genetic trade-offs in drought tolerance-related traits in *Brachypodium distachyon* (Poaceae) genotypes with different ploidy level. (*In Prep*).

Book chapters

Rey, P.J., Alcántara, J.M., **Manzaneda, A.J.**, Garrido, J.L., and J. M. Ramírez. (2009). Variación geográfica y mosaicos de selección en las interacciones planta-animal. pp 113-132. En: Ecología y evolución de las interacciones planta-animal. Editorial Universitaria R. Medel, M. Aizen & R. Zamora [eds.] Santiago de Chile, Chile. ISBN 978-956-11-2092-1.

Herrera, C.M., **Manzaneda, A.**, Benavente, A., Luque P., Jordano, P, Prados, J., Vivero, J.L. and Hernández Bermejo, J.E. (2000). In: *Libro Rojo de la Flora Silvestre Amenazada de Andalucía. Tomo II: Especies Vulnerables*, G. Blanca, B. Cabezudo, J.E. Hernández-Bermejo, C.M. Herrera, J. Muñoz, y B. Valdés [eds]. Consejería de Medio Ambiente, Junta de Andalucía. Sevilla, Spain.

Impact and influence

Citations on ISI Web of Science ®

Accumulated citations: 330
Average citations per publication: 16.89
h-index: 10

Citations on Scopus ®

Accumulated citations: 322
h-index: 10

1 article reviewed by Faculty of 1000 Biology

Grants and Scholarships

Spanish Ministry of Science and Innovation *Ramón y Cajal* Program. University of Jaén, Spain. Starting June 2011-2016. (€192,480)

Commission of the European Communities. *Marie Curie International Outgoing Fellowship* (IOF). Duke University (USA) and University of Jaén (Spain). 2008-2011. (€ 234,204,75)

Spanish Ministry of Education and Science Post-doctoral Grant. Duke University. (*Postdoctoral MCYT, Spain*). 2006-2008. (€59,010).

Spanish Ministry of Education and Science Grant for Short Stays in Abroad Labs (*FPI* Program, MCYT, Spain). October 2002-December 2002. Department of Ecology and Environmental Science, University of Umeå, Umeå, Sweden. (€3,300).

Spanish Ministry of Education and Science Pre-doctoral Grant for Thesis Research (*FPI* Program, MCYT, Spain). 2001-2005 (€48,000).

Invited Lectures

14th Evolutionary Biology Meeting at Marseilles. Association pour l'Etude de l'Evolution Biologique. Marseille, France. September 2010.

IX Meeting of Terrestrial Ecological Society of Spain. Úbeda, Spain. October 2009.

Department of Biology. Duke University. Graduate Program in Ecology Seminar. Durham, NC, USA. October 2008.

Department of Biology. North Carolina State University. Raleigh, NC, USA. April 2008.

Symposium and Presentations in Scientific Meetings

- 2011 - British Ecological Society, Annual Meeting, Sheffield, UK.
- 2010 - Marie Curie Monitoring Actions and Information Days, Barcelona, Spain.
Marie Curie Conference, Turin, Italy.
- 2009 - Annual Meeting of the Ecological Society of America, Albuquerque, NM, USA.
- 2004 - International Society of Chemical Ecology, Ottawa, Canada.
- 2001 - Ant Taxonomy Workshop and EU-Network Meeting: Integrated Studies of the Economy of Insects Societies, Granada, Spain.
- 1997 - Terrestrial Ecological Society of Spain, Córdoba, Spain, 1997.

Professional Affiliations and Service

Teaching at University of Jaén

Population Ecology (2010/11)

Methods in field ecology (2010/11) (2011/12)

Ecology (Practice)(2011/2012)

Elected member Faculty of Experimental Science, Univeristy of Jaén (December 2011)

External reviewer

Journals:

American Journal of Botany, American Midland Naturalist, Biological Invasions, Ecography, Evolution, Evolutionary Ecology, Journal of Arid Environments, Journal of the Royal Society Interface, Naturwissenschaften, Oikos, Perspectives in Plant Ecology, Evolution and Systematics, Plant Biology, Plant Cell & Environment, Plant Ecology, PlosOne, Revista de Biología Tropical, and Seed Science Research.

Grants:

National Science Foundation (USA).

Agencia Nacional de Evaluación y Prospectiva, MICINN, (Spain). 2011.

Fulbright committee at Duke University, NC, (USA). 2007.

Xunta de Galicia Regional Government (Spain).

Mentoring

Academic co-advisor, Grant for Short Stays in Abroad Labs (*FPI* Program, MCYT, Spain) from January to April 2010. Graduate student from University of Jaén (Spain) at Duke (USA).

Supervisor of lab work and scientific projects for 10 undergraduate students, Department of Biology, Duke University, 2007-2009.

Academic co-advisor, last year undergraduate project , The North Carolina School of Science and Mathematics, 2006-2007.

Societies

British Ecological Society 2011-2012.

The Ecological Society of America (Regular Membership) 2003-Present.

American Association for the Advancement of Science (Professional Membership) 2008-2009

Volunteer Research positions

Field Assistant, Doñana Biological Station, CSIC, (Prof. Carlos M. Herrera and Xim Cerdá) Seville, Spain. 1996, 1997, 1998. (Summer holidays and vacations).

Collaborators

Multidisciplinary collaboration is an essential part of my research. I have active or past collaborations with 25 scholars from 14 different institutions in 6 countries. Some of these institutions are: the National Research Council of Spain (CSIC, Spain), Duke University (USA), the University of Amsterdam (The Netherlands), the University of Barcelona (Spain), the University of Jaén (Spain), the University of Umeå (Sweden) and the University of Zaragoza (Spain).

References

Dr. Pedro J. Rey, Professor (Ph.D. Advisor)
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Dr. Carlos M. Herrera, Professor
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Dr. Thomas Mitchell-Olds, Professor (Post-doctoral Supervisor)
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