

Carlos García-Verdugo de Lucas

carlosgarciaverdugo@gmail.com

Education

- Ph.D. Plant Evolution and Conservation. Universidad Complutense de Madrid. "Patterns and mechanisms involved in microevolutionary change in the Canarian endemic *Olea europaea* subsp. *guanchica*". *Magna cum laude* by unanimity of the committee. 2009.

- M.S. Biological Sciences. Universidad Complutense de Madrid. "Responses to damage and effects of domestication in *Olea europaea*". *Magna cum laude* by unanimity of the committee. 2006.

Research Positions

September 2012 – Present. Associate researcher. Jardín Botánico Canario "Viera y Clavijo", Las Palmas de Gran Canaria (Spain)

May 2011 –September 2012. Fulbright postdoctoral fellow. Department of Integrative Biology, University of California, Berkeley (USA).

September 2010 – May 2011. Fulbright postdoctoral fellow. Rancho Santa Ana Botanic Garden. Claremont, California (USA).

July 2009 – January 2010. Postdoctoral research fellow. Department of Biodiversity and Conservation. Universidad Rey Juan Carlos, Madrid (Spain).

May 2005 – January 2009. PhD student. Universidad Complutense, Madrid.

January 2005 – May 2005. PhD candidate. Real Jardín Botánico de Madrid – CSIC.

Fellowships, Scholarships and awards

September 2010 – September 2012. Fulbright post-doctoral fellowship. University of California, Berkeley /Rancho Santa Ana Botanic Garden, California (USA). Funder: Fulbright Commission – Spanish Ministry for Education and Science.

September – November 2008. Visiting researcher in Dr. Lisa Donovan's lab, Department of Plant Biology. University of Georgia, Athens (USA). Funder: Spanish Ministry for Education and Science.

October 2007 – December 2007. Visiting researcher in Dr. Lawren Sack's lab. Institute of Pacific Island Forestry, Hawaii (USA). Funder: Spanish Ministry for Education and Science.

September 2006 – December 2006. Visiting researcher in Dr. Mike Fay's lab. Kew Gardens, Surrey (UK). Funder: Spanish Ministry for Education and Science.

May 2005 – January 2009. FPU graduate student fellowship for Ph.D studies.

January 2005 – May 2005. I3P graduate student fellowship for Ph.D studies.

Teaching experience

Teaching assistant. "Botany". Spring semester 2008. Universidad Complutense de Madrid, Spain.

Instructor. Botanical workshops. 2004-2005. Royal Botanic Gardens, Madrid, Spain.

Professional service

- Associate Editor

Since 2012 - *Botanical Journal of the Linnean Society*

- Reviewer for SCI Journals

New Phytologist, Functional Ecology, Physiologia Plantarum, Oecologia, American Journal of Botany, Botanical Journal of the Linnean Society, Acta Oecologica, Genetica, International Journal of Molecular Sciences, Plant Ecology, Conservation Genetics, Plant Systematics and Evolution, African Journal of Biotechnology, Spanish Journal of Agricultural Research

- Guide for the Royal Botanic Gardens, Madrid, Spain (2003-2005)

Languages

Fluent in Spanish and English.

Publications

- García-Verdugo C**, Calleja JA, Vargas P, Silva L, Moreira O, Pulido F. 2012. Polyploidy and microsatellite variation in the relict tree *Prunus lusitanica* L.: how effective are refugia in preserving genotypic diversity of clonal taxa? *Molecular Ecology* (in press)
- García-Verdugo C**, Friar E, Santiago L. 2012. Ecological role of hybridization in adaptive radiations: a case study in the *Dubautia arborea*-*D. ciliolata* (Asteraceae) complex. *International Journal of Plant Sciences* (in press)
- García-Verdugo C**. 2011. Intracanalopy plasticity under strong wind conditions in the wild olive tree (*Olea europaea* L.): a conserved response between closely related taxa? *Trees: Structure and Function* 25: 509–518
- Granado Yela C, **García-Verdugo C**, Carrillo K, Rubio de Casas R, Kleczkowski L A, Balaguer L. 2011. Temporal matching among diurnal photosynthetic patterns within the crown of the evergreen sclerophyll *Olea europaea*. *Plant Cell & Environment* 34: 800–810
- Rubio de Casas R, Vargas P, Pérez-Corona E, Manrique E, **García-Verdugo C**, Balaguer L. 2011. Sun and shade leaves of *Olea europaea* respond differently to plant size, light availability and genetic variation. *Functional Ecology* 25: 802–812
- García-Verdugo C**, Forrest AD, Fay MF, Vargas P. 2010. The relevance of gene flow in metapopulation dynamics of an oceanic island endemic, *Olea europaea* subsp. *guanchica*. *Evolution* 64: 3525–3536
- García-Verdugo C**, Méndez M, Velázquez-Rosas N, Balaguer L. 2010. Contrasting patterns of morphological and physiological differentiation across insular environments: phenotypic variation and heritability of light-related traits in *Olea europaea*. *Oecologia* 164: 647–655
- García-Verdugo C**, Forrest AD, Balaguer L, Fay MF, Vargas P. 2010. Parallel evolution of insular *Olea europaea* subspecies based on geographical structuring of plastid DNA variation and phenotypic similarity in leaf traits. *Botanical Journal of the Linnean Society* 162: 54–66
- García-Verdugo C**, Fay MF, Granado-Yela C, Rubio de Casas R, Balaguer L, Besnard G, Vargas P. 2009. Genetic diversity and differentiation processes in the ploidy series of *Olea europaea*: a multiscale approach from subspecies to island populations. *Molecular Ecology* 18: 454–467

García-Verdugo C, Granado-Yela C, Rubio de Casas R, Manrique E, Balaguer L. 2009. Phenotypic plasticity and integration across the canopy of *Olea europaea* subsp. *guanchica* (Oleaceae) in populations with different wind exposures. *American Journal of Botany* 96: 1454–1461

Rubio de Casas R, Vargas P, Pérez-Corona E, Cano E, Manrique E, **García-Verdugo C**, Balaguer L. 2009. Variation in sclerophylly among Iberian populations of *Quercus coccifera* L. is associated with genetic differentiation across contrasted environments. *Plant Biology* 11: 464–472

Besnard G, **García-Verdugo C**, Rubio de Casas R, Treier U, Galland N, Vargas P. 2008. Polyploidy in the olive complex (*Olea europaea* L.): evidence from flow cytometry and nuclear microsatellite analyses. *Annals of Botany* 101: 25–30

Rubio de Casas R, Vargas P, Pérez-Corona E, Manrique E, Quintana JR, **García-Verdugo C**, Balaguer L. 2007. Field patterns of leaf plasticity in adults of the long-lived evergreen *Quercus coccifera*. *Annals of Botany* 100: 325–334

Rubio de Casas R, Cano E, Balaguer L, Pérez-Corona E, Manrique E, **García-Verdugo C**, Vargas P. 2007. Taxonomic identity of *Quercus coccifera* L. in the Iberian Peninsula is maintained in spite of widespread hybridisation, as revealed by morphological, ISSR and ITS sequence data. *Flora* 202: 488–499

- In review

García-Verdugo, C. 2012. Phenotypic variation and habitat colonization in island taxa with widespread distributions. *American Journal of Botany*

Granado-Yela C, Balaguer L, **García-Verdugo C**, Carrillo K, Méndez M. 2012. Thriving at the limit: contrasted reproductive performance of a Mediterranean sclerophyll (*Olea europaea*) at its range edge *Acta Oecologica*

- In preparation

García-Verdugo C. Broad phenotypic variation in a *Dubautia* (Asteraceae) hybrid zone is the result of high additive genetic variance and extensive gene flow.

Escribano A, **García-Verdugo C**, Bartlett MK, Scoffoni C, Méndez-Alonzo R, Balaguer L, Sack L. Intra-canopy plasticity of leaf hydraulic vulnerability, stomatal control and morphology in temperate trees and shrubs.

Invited seminars/Oral presentations

García-Verdugo C. "Microevolución en islas oceánicas: no sólo de radiaciones adaptativas vive el biólogo evolutivo". "Cátedra Unesco" Annual Meetings. Jardín Botánico Canario "Viera y Clavijo", Spain. November 2012.

García-Verdugo C. "Estudios evolutivos en vegetales". Invited seminar speaker. Universidad Complutense de Madrid, Spain. December 2011.

García-Verdugo C. "Microevolutionary studies on island plants: hypotheses, approaches and patterns". Invited seminar speaker. University of California, Berkeley, USA. September 2011.

García-Verdugo C. "Studies of plant evolution on oceanic islands: beyond species radiations" Invited seminar speaker. Rancho Santa Ana Botanic Garden, Claremont, USA. October 2010.

García-Verdugo C. "What can we learn from non-speciose taxa in oceanic archipelagos?" International symposium FloraMac 2010. Ponta Delgada, Portugal, September 2010.

García-Verdugo C, Méndez M, Vargas P, Granado C, Manrique E, Balaguer L. "La plasticidad fenotípica como mecanismo evolutivo: un caso de estudio en *Olea europaea* subsp. *guanchica*". IX Congreso de la Asociación Española de Ecología Terrestre (AEET). Úbeda, Spain, October 2009.

García-Verdugo C, Bermejo Domínguez JA, Pérez-Corona ME, Granado-Yela C, Manrique E, Rubio de Casas R, Balaguer L, Vargas P. "¿Al acebuche no hay madera que lo luche? Distribución actual y diversidad genética de *Olea europaea* subsp. *guanchica*". III Congreso de Biología de la Conservación de Plantas. Puerto de la Cruz, Spain, September, 2007.

Selected poster presentations

Rubio de Casas R, Granado-Yela C, **García-Verdugo C**, Balaguer L. 2011. "Phenotypic plasticity can lead to division of labour in tree canopies." 13th Congress of the European Society for Evolutionary Biology, Tuebingen, Germany.

García-Verdugo C, Rubio de Casas R, Besnard G, Granado-Yela C, Rodríguez C, Pérez-Corona ME, Manrique E, Balaguer L, Fay MF, Vargas P. 2007. "A molecular study of the *Olea europaea* complex in the Macaronesian region using SSRs and AFLPs". 3rd Biennial Conference of the International Biogeography Society. Puerto de la Cruz, Spain.

Besnard G, **García-Verdugo C**, Rubio de Casas R, Vargas P, Galland N. 2007. "Phylogeography and polyploidy of the olive complex (*Olea europaea* L.) in North-West Africa". Evolution 2007. Christchurch, New Zealand.

Rubio de Casas R, Vargas P, **García-Verdugo C**, Pérez-Corona E, Granado-Yela C, Manrique E, García-Ríos G, Balaguer L. 2006. "Plasticidad fenotípica y biodiversidad: divergencia evolutiva y cambios fenotípicos en dos esclerófilas mediterráneas." II Congreso Ibérico de Ecología.. Lisboa, Portugal.

García-Verdugo C, Rubio de Casas R, Balaguer L, Vargas P, Manrique E, García-Ríos G, Granado-Yela C, Pérez-Corona E. 2006. "Rasgos expresados en el acebuche (*Olea europaea* L.) tras un daño severo: ¿Rejuvenecimiento pasivo o respuesta plástica frente a ungulados? II Congreso Ibérico de Ecología. Lisboa, Portugal.

Rubio de Casas R, Pérez-Corona E, Manrique E, Schönswetter P, Lozoya O, **García-Verdugo C**, Hernández A, Vargas P, Balaguer L. 2004. "Genetic variability and variation in light-related traits in populations of *Olea europaea* L." LINKECOL Final Conference Linking community and ecosystem ecology: recent advances and future challenges. Palma de Mallorca, Spain.

Rubio de Casas R, Vargas P, Manrique E, Pérez-Corona E, Pascual R, Lozoya O, Quintana JR, **García-Verdugo C**, Balaguer L. 2004. "Population divergence in a Mediterranean sprouter: can an old species learn new tricks?." LINKECOL Final Conference Linking community and ecosystem ecology: recent advances and future challenges. Palma de Mallorca, Spain.