

Guille Peguero

Postdoctoral researcher

Global Ecology Unit CSIC-CREAF-CEAB
Edifici C, Facultat de Ciències
Universitat Autònoma de Barcelona (UAB)
08193, Cerdanyola del Vallès, Spain.
Telf. (+34) 93 581 4677 - Fax: (+34) 93 581 1451
E-mail: guille.peguero@gmail.es - guille.peguero@creaf.uab.es

Academic education

PhD, Ecology, thesis: '*Colonization and Persistence of Acacia pennatula in Transformed Tropical Dry Forests – The Role of Disturbances and Biotic Interactions*'. Autonomous University of Barcelona (UAB), July 2012. *Cum laude*.

MSc, Environmental Studies, thesis: '*Towards the Participatory Management of Forest Resources in the Natural Reserve Area of Miraflor-Moropotente (Nicaragua)*'. UAB, September 2007.

BSc, Biology with specialization in Organismic Biology and Ecology, UAB, July 2006.

Professional Experience and Scientific Activity

Research positions

2014 – currently. Postdoctoral researcher at Global Ecology Unit, CSIC-CREAF-CEAB, Spain.

2013 (May-September). Postdoctoral stay at Smithsonian Tropical Research Institute, Panama.

2009-2012. PhD candidate at CREAM, Spain.

2007-2008. Postgraduate researcher at CREAM and Institut de Ciència i Tecnologia Ambiental (ICTA/UAB), Nicaragua and Spain.

Grants awarded

2013. Short Term Fellowship (Smithsonian Institution, USA). – 3900US\$

2009-2012. FI grant for doctoral studies (AGAUR/Generalitat de Catalunya, Spain). – 45000€

2007-2008. Grant for postgraduate studies in Latin America (Foreign Affairs Ministry, Spain). - 15000€

2006. Formation complement on foreign languages, English advanced level/C1 (SIM/UAB). – 800€

2004-2005. SICUE-Séneca grant. Undergraduate student exchange in Santiago de Compostela University (Education Ministry, Spain). – 3000€

Projects

2014-currently. Project title: '*IMBALANCE-P: Effects of phosphorus limitations on Life, Earth system and Society*'

Position: Postdoctoral researcher

IP: Prof. Josep Peñuelas

Funding: ERC (EU)

2013. Project title: '*Do top-down trophic interactions mediate species coexistence of host-specific insect seed predators?*'

Position: Postdoctoral researcher

IP: Dr. Guille Peguero

Advisors: Dr. S. J. Wright (STRI) & Dr. H. C. Muller-Landau (STRI)

Consultants: Dr. P.A. Jansen (U. Wageningen)

Funding: Smithsonian Institution

2011-2014. Project title: *'IMPACTBOAR: Impacts of wild-boar expansion over grass-land plant communities, forest regeneration processes and keystone species in Pyrenean alpine and sub-alpine environments'*

Position: Research associate

IP: Dr. J.M. Espelta

Funding: Autonomous Organism of Spanish Natural Parks

2009-2012. Project title: *'Development of a program of scientific and technic training along with the creation of a biological research station at the Facultat Regional Multidisciplinària de Estelí (UNAN-Managua, Nicaragua)'*

Position: Research associate

IP: Dr. J.M. Espelta

Funding: Spanish Agency for International Development Cooperation.

Partners: CREA, Institute of Research in Agrifood Technology (IRTA), UNAN-Managua.

2006-2009. Project title: *'Multicriterial assessment to decision making oriented to the conservative management and sustainable development of the Miraflor-Moropotente natural reserve, Nicaragua'*

Position: Research assistant

IP: Dr. P. Andrés

Funding: Catalan Agency for Development Cooperation.

Partners: CREA, ICTA/UAB, UNAN-Managua.

2005-2006. Honours thesis: *'Germinative behavior and seedling establishment of Nicaraguan tropical dry forest tree species with potential use in forest regeneration'*. Within the framework of the 'Central-Risk' web.

IP: Dra. P. Andrés

Funding: European Union, ALFA II program of regional cooperation with Latin America.

Partners: CREA and 17 higher education institutions from Europe and Latin America.

2003-2004. Research collaboration as undergraduate in the project: *'VULCAN-Vulnerability Assesment of Shrub Land Ecosystems in Europe under Climatic Changes'*.

IP: Dr. J. Peñuelas (mentoring by Dr. J. Sardans)

Funding: European Union.

Partners: CREA and 9 European research groups.

Teaching

- 2015-on going. Co-supervision with K. Holl (UCSC) and R. Zahawi (OTS-Las Cruces) of a MSc student at Centro Agronómico Tropical de Investigación y Desarrollo (CATIE, Costa Rica).
2010. Lecturer of Biostatistics, Environmental Sciences degree. UNAN-Managua (Nicaragua).
2010. Supervisor of two final year (honours) thesis (4 supervised undergraduate students), Environmental Sciences degree. UNAN-Managua (Nicaragua).

Publications

SCI contributions

- [5] **Peguero G.**, Bonal, R., Espelta J.M. (2014) 'Variation of predator satiation and seed abortion as seed defenses across an altitudinal distribution range'. *Basic & Applied Ecology* 15:269-276. Impact factor: 2.696; (Ecology 51/136)
- [4] **Peguero G.**, Espelta J.M. (2014) 'Endozoochory and fire as germination triggers in Neotropical dry forests: an experimental test'. *Biotropica* 46:83-89. Impact factor: 2.351 (Ecology 57/136)
- [3] **Peguero G.**, Espelta J.M. (2013) 'Evidence for insect seed predator dynamics mediated by vertebrate frugivores'. *Revista Chilena de Historia Natural*, 86:161-167. Impact factor: 0.929 (Biodiversity Conservation 22/40)
- [2] **Peguero G.**, Lanuza, O.R., Savé, R., Espelta J.M. (2012) 'Allelopathic potential of the dry tropical tree *Acacia pennatula* Benth.: inhibition of seedling establishment exceeds facilitation under tree canopies' *Plant Ecology*, 213:1945-1953. Impact factor: 1.534 (Forestry 19/60)
- [1] **Peguero G.**, Espelta J.M. (2011) 'Disturbance intensity and seasonality affect the resprouting ability of the dry-tropical tree *Acacia pennatula*: do resources stored below-ground matter?' *Journal of Tropical Ecology*, 27:539-546. Impact factor: 1.482 (Ecology 86/136)

Book chapters

- [1] Espelta, J.M., Barbati, J.M., Quevedo, L., Tàrrega, R., Navascués, P., Bonfil, C., **Peguero, G.**, Fernández-Martínez, M., Rodrigo, A. (2011). 'Post-fire management of Mediterranean broad leaved forests'. In: F. Moreira, P.M. Corona, M. Arianotsou, J. de lasHeras, eds. *Post-Fire Management and Restoration of Southern European Forests, Managing Forest Ecosystems*, Springer, doi:10.1007/978-94-007-2208-8_8

Not SCI-indexed contributions

- [1] Sastre S., **Peguero G.**, Lomas P.L., Di Donato M. (2008). 'Crítica y perspectivas de los AGRO(bio)combustibles: el caso de Cataluña en el contexto espanyol'. *Papeles de Relaciones Ecosociales y Cambio Global*, 1: 29-46.

Manuscripts under review or in preparation

Peguero, G., Muller-Landau, H.M., Jansen, P.A., Wright, S.J. Defaunation alters the coexistence of host-specific insect seed predators in a tropical forest palm. *Under review*.

Fernández-Martínez, M., Garbulsky, M., **Peguero, G.**, Peñuelas, J., Espelta, J.M. Temporal dynamics of the Enhanced Vegetation Index (EVI) in oak forests suggest masting is driven by a short-term accumulation of resources. *Under review*.

Bonal, R., Aparicio, J.M., Muñoz, A., Ortego, J., **Peguero, G.**, Sork, V., Espelta, J.M. Oak parasitism by Californian acorn weevils: testing host-specificity within a spatially explicit context. *Under review*.

Peguero, G., Bonal, R., Muñoz, A., Espelta, J.M. High host-specificity and body size plasticity explain the high species richness of Neotropical acorn weevils. *In preparation*.

Peguero, G., Lanuza, O.R. Seedling plasticity as a key trait for species selection in tropical dry forest regeneration programs. *In preparation*.

Peguero, G., Peñuelas, J. *et al.* Above- versus belowground phylogenetic community structure – A review of mechanisms of community assemblage under global change. *In preparation*.

Research stays

2013. **Smithsonian Tropical Research Institute** (Panama). 4-month stay as postdoctoral researcher to carry out the project '*Do top-down trophic interactions mediate species coexistence of host-specific insect seed predators?*' with S.J. Wright, H.C. Muller-Landau, and P.A. Jansen as advisors.

2011. **Instituto de Investigación en Recursos Cinegéticos, IREC-UCLM** (Spain). 2-month stay in Dr. R. Bonal's lab to learn DNA-based species delimitation techniques and phylogenetic reconstruction and analysis of insect species.

2007-2009. **Universidad Nacional Autónoma de Nicaragua – Managua** (Nicaragua). Three consecutive stays (4-month, 1 year and 10-month) as MSc student and PhD candidate to conduct field work. I carried out my own research agenda being in charge of a variable team of undergraduate students and technicians. Additionally, I collaborated with local researchers, I made institutional agreements between University and local land-owners and I got involved in several teaching activities.

Congresses and conferences

Peguero, G., Bonal, R., Muñoz, A., Espelta, J.M. (2015) Host-specificity and the latitudinal gradient of biodiversity: the case of acorn weevils in Neotropics. 13th European Ecological Federation Conference, September 21-25 Rome (Italy). *Invited oral communication*.

Peguero, G., Global Ecology Unit CREAM-CSIC. (2015) Effects of nutrient availability on soil invertebrate communities – a phylogenetic and functional approach. IMBALANCE-P conference (European Research Council Synergy Grant ERC-2013-SyG-610028), January 13-16 Barcelona (Spain).

Peguero G., Espelta J.M. (2013) Endozoochory and fire: effects of a new cocktail for the regeneration of Tropical Dry Forests. XI Spanish Association of Terrestrial Ecology, May 6-10 Pamplona (Spain). *Oral communication*.

Muñoz A., Espelta J.M., Fernández-Martínez M., Hernández M., **Peguero G.** & Bonal R. (2011). Uncoupled seed rain phenologies of *Quercus pubescens* and *Q ilex* enhance their successful dispersal by seed-caching rodents in mixed forests. 12th European Ecological Federation. 25-29 September 2011 Ávila, (Spain). *Poster*.

Bonal R., Muñoz A., **Peguero G.**, Pinzón S.V., Vogler A. & Espelta J.M. (2011) Trophic specificity and β -diversity of acorn feeding beetles in neotropical and temperate oaks: application of molecular taxonomy. 12th European Ecological Federation. September 25-29 Ávila, (Spain). *Poster*.

Peguero G., Espelta J.M. (2009) Diferencias en la depredación de semillas en un gradiente altitudinal favorecen la colonización de *Acacia pennatula* en sistemas silvo-pastoriles del trópico seco. IX Spanish Association of Terrestrial Ecology. October 18-21 Jaén (Spain). *Poster*.

Peguero G., Espelta J.M. (2009) Manejo del carbón (*Acacia pennatula*) en el trópico seco nicaragüense: ¿es mejor la chapia o la quema?. I National Congress on Climate Change, Biodiversity and Natural Resources Management. July 28-31 Estelí (Nicaragua). *Oral communication*.

Peguero G., Espelta J.M., Andrés P. (2009) Regeneración forestal de los fragmentos forestales remanentes en el trópico seco nicaragüense. I National Congress on Climate Change, Biodiversity and Natural Resources Management. July 28-31 Estelí (Nicaragua). *Poster*.

Outreach

Peguero G. 'La 'defaunación' o pérdida de especies animales. Una amenaza global para la biodiversidad'. Day of Science at Schools, 11th ed. Talk in the high school I.E.S Milà i Fontanals (Barcelona, Spain), November 19 2014.

Peguero G. 'El bosque tropical seco – Estrategias de colonización y persistencia después de la transformación'. Day of Science at Schools, 9th ed. Talk in the high school I.E.S Milà i Fontanals (Barcelona. Spain), November 21 2012.

Peguero G. 'Bosques Tropicales: ¿Quién vive y qué los amenaza?' Talk in the high school I.E.S Pablo Serrano (Teruel, Spain), October 18 2012.

Languages

A = advanced; I = intermediate; B = basic.

	Writing	Reading	Conversing
Catalan	A	A	A
Spanish	A	A	A
English	A	A	A
Portuguese	B	A	B
French	B	B	B

Other relevant merits

- **Course on Phylogenies and Genealogies Reconstructions and Applications.** July 2014. Institut de Recerca de la Biodiversitat (IRBio – Universitat de Barcelona, Spain).
- **Course on General and Generalized linear mixed modelling with R.** October 2009. CREAM (Spain).
- **Course on advanced statistical methods with SAS.** October 2008. Applied Statistics Service (UAB, Spain).
- **Driving license.** Experience in 4WD and motorcycle off-road driving.
- **Boat navigation license.** <8m length; Autoridad del Canal de Panamá. Experience navigating in shallow waters in swamp tropical forests.
- **Diving license (OWD-PADI).** With more than 10-year experience.
- **Affiliation to the Spanish Association of Terrestrial Ecology.**
- **Affiliation to the Association of Tropical Biology and Conservation.**
- **Field-work experience.** I'm used to long and intensive field-work seasons in remote sites with basic facilities and challenging conditions.
- **Ability to work independently** in all research phases.
- **Management and coordination skills.** During my PhD I had to arrange collaboration agreements between University, public and private institutions and local land-owners as well as to hire field and lab technicians and supervise undergraduate students. As a result I'm experienced in managing and coordinating work teams being sensitive to rather different cultural backgrounds.
- **Participatory and trans-disciplinary research experience.** During my MSc I had the opportunity to get involved in a project aimed to improve natural resources management and sustainable development using a multi-criteria decision making framework which was largely based in participatory and community inclusive research techniques.