

Curriculum Vitae
FERNANDO VALLADARES

• **Personal information**

Date of Birth: September , 1965; Place of Birth: Buenos Aires, Argentina
Nationality: Spanish; Passport number: BA 158531.

• **Address**

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• **Education**

A.A. High School La Estrella, Madrid (Spain), 1983
B.S. Plant Biology, Universidad Complutense de Madrid (Spain), 1988
M.S. Lichen Ecology, Universidad Complutense de Madrid (Spain), 1990
Ph.D. Lichen Biology and Ecophysiology, Universidad Complutense de Madrid (Spain), 1993

• **Positions Held**

Associate Professor, Plant Biology, Universidad Autónoma de Madrid,, 1993
Postdoctoral Fellow, Plant Biology, University of California, Davis, USA, 1994-1995
Visiting Scientist, Plant Ecology and Physiology, Smithsonian Institution, USA-Panama, 1995-1996
Associate Researcher, Plant Ecology, Universidad Complutense de Madrid, 1996
Associate Researcher, Plant Ecology and Evolution, CSIC, Madrid, 1997-1999
Researcher (staff scientist), Plant Ecology, CSIC, Madrid,, 1999-2004
Vicedirector of Centre of Environmental Sciences, CSIC, Madrid, 2001-2005
Chair of the Department of Plant Physiology and Ecology (CCMA, CSIC), Madrid 2005-2009
Senior Researcher (staff scientist), Plant Ecology, CSIC, Madrid, 2004- 2008
Associate Professor, (part time position), Plant Ecology, Universidad Rey Juan Carlos, Madrid, 2005-present
Research Professor CSIC, (full time position), 2008-present
President of the Spanish Association for Terrestrial Ecology 2006-present
Director of the Chilean-Spanish Global Change Laboratory LINCGlobal (<http://www.lincg.uc-csic.es/>)
2012-present.

• **Honors**

International Award for Young European Scientists, Botany, MEC-Príncipe de Asturias, 1985
Extraordinary Award for M.S., UCM, Spain, 1991
Extraordinary Award for Ph.D., UCM, Spain, 1994
Mason E. Hale International Award for Ph.D., Vancouver, Canada, 1994

• **Society Memberships**

Ecological Society of America (ESA)
International Association for Ecology (IAE)
British Ecological Society (BES)
Asociación Española de Ecología Terrestre (AEET, Spanish Association for Terrestrial Ecology)
Sociedad Española de Fisiología Vegetal (FESV, Spanish Society of Plant Physiology)
Sociedad Española de Ciencias Forestales (SECF, Spanish Society of Forestry Sciences)

• **Main research topics**

- Plant physiological and evolutionary ecology in a global change scenario.
- Light as an ecological and evolutionary factor
- Phenotypic plasticity vs phenotypic stability in changing environments
- Forest ecology, with particular interest in Mediterranean shrublands and forests
- Restoration ecology in Mediterranean-type ecosystems

PUBLICATIONS

(full list and reprints at <http://www.valladares.info/Eng/publicaciones-documentos.htm>)

H-Index (as of Web of Science in July 2014): 40

• Selected publications (from more than 220 articles, books, and book chapters)

- VALLADARES, F. & PEARCY, R.W. 1997. Interactions between water stress, sun-shade acclimation, heat tolerance and photoinhibition in the sclerophyll *Heteromeles arbutifolia*. *Plant, Cell and Environment* 20: 25-36.
- VALLADARES, F., S. J. WRIGHT, E. LASSO, K. KITAJIMA AND R. W. PEARCY. 2000. Plastic phenotypic response to light of 16 congeneric shrubs from a Panamanian rainforest. *Ecology* 81: 1925-1936.
- VALLADARES, F., E. MARTINEZ-FERRI, L. BALAGUER, E. PEREZ-CORONA & E. MANRIQUE. 2000. Low leaf-level response to light and nutrients in Mediterranean evergreen oaks: a conservative resource-use strategy? *New Phytologist* 148: 79-91
- VALLADARES, F., GIANOLI, E. & GÓMEZ, J.M. 2007. Ecological limits to plant phenotypic plasticity. *Tansley Review. New Phytologist* 176: 749-763.
- VALLADARES, F. & NIINEMETS, Ü. 2008. Shade tolerance, a key plant trait of complex nature and consequences. *Annual Review of Ecology, Systematics and Evolution* 39: 237-257.
- VALLADARES, F. 2008. A mechanistic view of the capacity of forest to cope with climate change. En: F. Bravo, V. Le May, R. Jandl, Klaus von Gadow (Eds.), *Managing Forest Ecosystems: the challenge of climate change*. Springer Verlag, Berlin.
- ARAÚJO, M.B., FERRI-YÁÑEZ, F., BOZINOVIC, F., MARQUET, P.A., VALLADARES, F. & CHOWN, S.L. 2013. Heat freezes niche evolution. *Ecology Letters*. 16: 1206–1219. DOI: 10.1111/ele.12155
- VALLADARES, F. RAQUEL BENAVIDES, SONIA G. RABASA, MARIO DIAZ. JULI G. PAUSA, SUSANA PAULA WILLIAM D SIMONSON. 2014. Global change and Mediterranean forests: current impacts and potential responses. In *Forests and Global Change*, ed. David A. Coomes, David F. R. P. Burslem and William D. Simonson. Cambridge University Press pp. 47-75.

• Recent publications (last 5 years)

1. PAILLET, Y, L. BERGÈS, J. HJÄLTÉN, P. ÓDOR, C. AVON, M. BERNHARDT-RÖMERMANN, R.J. BIJLSMA, L. DE BRUYN, M. FUHR, U. GRANDIN, R. KANKA, L. LUNDIN, S. LUQUE, T. MAGURA, S. MATE SANZ, M.T. SEBASTIÀ, W. SCHMIDT, T. STANDOVÁR, B. TÓTHMÉRÉSZ, A. UOTILA, F. VALLADARES, K. VELLAK, R. VIRTANEN. 2010. Does biodiversity differ between managed and unmanaged forests? A meta-analysis on species richness in Europe. *Conservation Biology* 24: 101-112
2. GIANOLI, E. SALDAÑA, A. JIMÉNEZ-CASTILLO, M. VALLADARES, F. 2010. Distribution and abundance of vines along the light gradient in a southern temperate rainforest. *Journal of Vegetation Science* 21: 66–73.
3. GARCÍA-PALACIOS, P, SOLIVERES, S., F. T. MAESTRE, A. ESCUDERO, A. P. CASTILLO-MONROY & F. VALLADARES. 2010. Dominant plant species modulate responses to hydroseeding, irrigation and fertilization during the restoration of semiarid motorway slopes. *Ecological Engineering* 36: 1290- 1298. DOI: [10.1016/j.ecoleng.2010.06.005](https://doi.org/10.1016/j.ecoleng.2010.06.005)
4. GODOY, O. P. CASTRO-DÍEZ, R.S.P. VAN LOGTESTIJN, J. H.C. CORNELISSEN & F. VALLADARES. 2010. Leaf litter traits of invasive alien species slow down decomposition compared to Spanish natives: a broad phylogenetic comparison *Oecologia* 162:781–790, DOI 10.1007/s00442-009-1512-9
5. GIMENO, T.E., K.E. SOMMERVILLE, F. VALLADARES, & O.K. ATKIN. 2010. Homeostasis of respiration under drought and its important consequences for carbon balance in a drier climate: insights from two contrasting *Acacia* species. *Functional Plant Biology* 37, 323–333.
6. PEMÁN, J., J.J. PEGUERO-PINA, F. VALLADARES & E. GIL-PELEGRÍN. 2010. Evaluation of unventilated treeshelters in the context of Mediterranean climate: Insights from a study on *Quercus faginea* seedlings assessed with a 3D architectural plant model. *Ecological Engineering* 36: 517–526. doi:10.1016/j.ecoleng.2009.11.021
7. RESCO, V. J. I. QUEREJETA, K. OGLE, J. VOLTAS, M.T. SEBASTIÀ, P. SERRANO-ORTIZ,

- J.C. LINARES, C. MORENO-GUTIÉRREZ, A. HERRERO, J.A. CARREIRA, P. TORRES-CAÑABATE & F. VALLADARES. 2010. Stable isotope views on ecosystem function: challenging or challenged. *Biology Letters* 6: 287–289. doi: 10.1098/rsbl.2009.0950
8. RAMÍREZ-VALIENTE, J.A., SANCHEZ-GOMEZ, D., ARANDA, I., VALLADARES F. 2010. Phenotypic plasticity versus local adaptation for leaf ecophysiological traits in thirteen contrasting cork oak populations under varying water availabilities. *Tree Physiology* **30**: 618–627 doi:10.1093/treephys/tpq013
 9. ESTESO-MARTÍNEZ, J., J.J. PEGUERO-PINA, F. VALLADARES, F. MORALES & E. GIL-PELEGRÍN. 2010. Self-shading in cork oak seedlings: Functional implications in heterogeneous light environments. *Acta Oecologica* 36: 423–430
 10. RAMIREZ-VALIENTE, J.A., Z. LORENZO, A. SOTO, F. VALLADARES, L. GIL & I. ARANDA. 2010. Natural selection on cork oak: allele frequency reveals divergent selection in cork oak populations along a temperature cline. *Evolutionary Ecology* 24:1031–1044
 11. VALIENTE-BANUET, A., VERDÚ, M., VALLADARES, F. & GARCÍA-FAYOS, P. 2010. Functional and evolutionary correlations of steep leaf angles in the mexical shrubland. *Oecologia* **163**: 25–33 DOI 10.1007/s00442-009-1520-9
 12. DOBARRO, I. PECO, B & VALLADARES, F. 2010. Light quality and not quantity segregates germination of grazing increasers from decreaseers in Mediterranean grasslands. *Acta Oecologica* 36: 74–79. doi:10.1016/j.actao.2009.10.005
 13. PAILLET, Y, L. BERGÈS, J. HJÄLTÉN, P. ÓDOR, C. AVON, M. BERNHARDT-RÖMERMANN, R.J. BIJLSMA, L. DE BRUYN, M. FUHR, U. GRANDIN, R. KANKA, L. LUNDIN, S. LUQUE, T. MAGURA, S. MATESANZ, M.T. SEBASTIÀ, W. SCHMIDT, T. STANDOVÁR, B. TÓTHMÉRÉSZ, A. UOTILA, F. VALLADARES, K. VELLAK, R. VIRTANEN. 2010. Biodiversity in managed and unmanaged forests: compromises in data selection for meta-analysis do not mean compromised results. Reply to Halme et al. *Conservation Biology* 24: 1157–1160
 14. MATESANZ, S., GIANOLI, E. & VALLADARES, F. 2010. Global change and the evolution of phenotypic plasticity in plants. *Annals of the New York Academy of Sciences*. Volume the Year on Evolutionary Biology. 1206: 35–55. doi: 10.1111/j.1749-6632.2010.05704.x
 15. PIAS, B., MATESANZ, S., ESCUDERO, A., GIMENO, T.E., & VALLADARES, F. 2010. Transgenerational effects of three global change drivers on an endemic Mediterranean plant. *Oikos* 119: 1435–1444. doi: 10.1111/j.1600-0706.2010.18232.x
 16. NICOTRA, A.B., O.K. ATKIN, S.P. BONSER, A.M. DAVIDSON, E.J. FINNEGAN, U. MATHESIUS, P. POOT, M.D. PURUGGANAN, C.L. RICHARDS, F. VALLADARES AND M. VAN KLEUNEN. 2010. Plant phenotypic plasticity in a changing climate. *Trends in Plant Science* 15: 684–692 doi:10.1016/j.tplants.2010.09.008
 17. GODOY O., J.P. DE LEMOS-FILHO & F. VALLADARES. 2011. Invasive species can handle higher leaf temperature under water stress than Mediterranean natives. *Environmental and Experimental Botany* 71: 207–214.
 18. RAMÍREZ-VALIENTE, J.A., F. VALLADARES, A. DELGADO, S. GRANADOS, I. ARANDA. 2011. Factors affecting cork oak growth under dry conditions: local adaptation and contrasting additive genetic variance intra-populations. *Tree Genetics and Genome* 7: 285–295.
 19. SOLIVERES, S. GARCÍA-PALACIOS, P., CASTILLO-MONROY A.P., MAESTRE, F.T., A. ESCUDERO & F. VALLADARES. 2011. Temporal dynamics of herbivory and water availability interactively modulate the outcome of a grass–shrub interaction in a semi-arid ecosystem. *Oikos* 120: 710–719. doi: 10.1111/j.1600-0706.2010.18993.x
 20. MATESANZ, S. T. E. GIMENO, M. DE LA CRUZ, A. ESCUDERO & F. VALLADARES. 2011. Competition may explain the fine-scale spatial patterns and genetic structure of two co-occurring plant congeners. *Journal of Ecology* 99:838–848. doi: 10.1111/j.1365-2745.2011.01812.x
 21. OLIET, J.A., J. M. SALAZAR, R. VILLAR & E. ROBREDO & F. VALLADARES. 2011. Fall fertilization of Holm oak affects N and P dynamics, root growth potential, and post-planting phenology and growth. *Annals of Forest Science* 68:647–656 DOI 10.1007/s13595-011-0060-8
 22. GODOY, O., A. SALDAÑA, N. FUENTES, F. VALLADARES & E. GIANOLI. 2011. Forests are not immune to plant invasions: phenotypic plasticity and local adaptation allow *Prunella vulgaris* to colonize a temperate evergreen rainforest. *Biological Invasions* 13:1615–1625
 23. VALLADARES, F., E. GIANOLI, & A. SALDAÑA. 2011. Climbing plants in a temperate

- rainforest understory: searching for high light or coping with deep shade? *Annals of Botany* 108(2): 231-239.
24. TEIXIDO, A.L., MENDEZ, M. & **VALLADARES**, F. 2011. Flower size and longevity influence florivory in the large-flowered shrub *Cistus ladanifer*. *Acta Oecologica* 37: 418-421
 25. RESCO V, FERRIO, JP, CARREIRA JA, CALVO L, CASALS P, FERRERO-SERRANO A, MARCOS E, MORENO JM, RAMÍREZ DA, SEBASTIÀ MT, **VALLADARES** F, WILLIAMS DG. 2011. The stable isotope ecology of terrestrial plant succession. *Plant Ecology and Diversity* 4: 117-130, doi: 10.1080/17550874.2011.576708
 26. GARCÍA-PALACIOS, P., M.A. BOWKER, S. J. CHAPMAN, F. T. MAESTRE, S. SOLIVERES, A. GALLARDO F. **VALLADARES**, C. GUERRERO, A. ESCUDERO. 2011. Early-successional vegetation changes after roadside prairie restoration modify processes related with soil functioning by changing microbial functional diversity. *Soil Biology and Biogeochemistry* 43:1245-1253. doi:10.1016/j.soilbio.2011.02.014
 27. GARCÍA-PALACIOS, P., M.A. BOWKER, F.T. MAESTRE, S. SOLIVERES, F. **VALLADARES**, J. PAPADOPOULOS, & A. ESCUDERO. 2011. Ecosystem development in roadside grasslands: biotic control, plant–soil interactions, and dispersal limitations. *Ecological Applications* 21:2806–2821. doi:http://dx.doi.org/10.1890/11-0204.1
 28. GOULART, M.F. M. B. LOVATO, F. DE VASCONCELLOS BARROS, F. **VALLADARES**, & J.P. LEMOS-FILHO. 2011. Which extent is plasticity to light involved in the ecotypic differentiation of a tree species from savanna and forest? *Biotropica* 43: 695-703. DOI: 10.1111/j.1744-7429.2011.00760.x
 29. GODOY, O., F. **VALLADARES** & P. CASTRO-DÍEZ. 2011. Multispecies comparison reveals that invasive and native plants differ in their traits but not in their plasticity . *Functional Ecology* 25: 1248-1259 doi:10.1111/j.1365-2435.2011.01886.x
 30. **VALLADARES**, F., SALDAÑA, A. & GIANOLI, E. 2012. Costs versus risks: architectural changes with changing light quantity and quality in saplings of temperate rainforest trees of different shade tolerance. *Austral Ecology* 37: 35-43.
 31. DUURSMA, R.A., D.S. FALSTER, F. **VALLADARES**, F.J. STERCK, R.W. PEARCY, C.H. LUSK, K.M. SENDALL, M. NORDENSTAHL, N.C. HOUTER, B.J. ATWELL, N. KELLY, J.W.G. KELLY, M. LIBERLOO, D.T. TISSUE, B.E. MEDLYN AND D.S. ELLSWORTH. 2012. Light interception efficiency explained by two simple variables: a test using a diversity of small- to medium-sized woody plants. *New Phytologist*. 193: 397-408. DOI: 10.1111/j.1469-8137.2011.03943.x
 32. GRANDA, E. ESCUDERO, A., DE LA CRUZ, M. & **VALLADARES**, F. 2012. Juvenile–adult tree associations in a continental Mediterranean ecosystem: no evidence for sustained and general facilitation at increased aridity. *Journal of Vegetation Science* 23:164–175
 33. LLORET, F. , ESCUDERO, A. IRIONDO, J.M., MARTINEZVILALTA, J. & **VALLADARES**, F. 2012. Extreme climatic events and vegetation: the role of stabilizing processes. *Global Change Biology* 18: 797–805.
 34. GIANOLI, E. & **VALLADARES** F. 2012. Studying phenotypic plasticity: the advantages of a broad approach. *Biological Journal of the Linnean Society* 105: 1-7
 35. BARROS F. DE V.; GOULART M. F.; TELLES S. B. LOBATO, M.B., **VALLADARES**, F., DE LEMOS, J.P. 2012. Phenotypic plasticity to light of two congeneric trees from contrasting habitats: Brazilian Atlantic Forest versus Cerrado (savanna) *Plant Biology* 14: 208-215 DOI: 10.1111/j.1438-8677.2011.00474.x
 36. AMEZTEGUI, A., COLL, L., BENAVIDES, R. **VALLADARES**, F., PAQUETTE, A. 2012. Understory light predictions in mixed conifer mountain forests: Role of aspect-induced variation in crown geometry and openness. *Forest Ecology and Management* 276:52-61. http://dx.doi.org/10.1016/j.foreco.2012.03.021
 37. HOLMGREN, M., L. GOMEZ-APARICIO, J.L. QUERO & F. **VALLADARES**. 2012. Non-linear effects of drought under shade: reconciling physiological and ecological models in plant communities. *Oecologia* 169:293–305.
 38. GIMENO, T.E., CAMARERO, J.J., GRANDA, E., PÍAS, B., & **VALLADARES**, F. 2012. Enhanced growth of *Juniperus thurifera* under a warmer climate is explained by a positive carbon gain under cold and drought. *Tree Physiology* 32:326-336 doi:10.1093/treephys/tps011

39. GIMENO, T. E., ESCUDERO, A. DELGADO, A. & VALLADARES, F. 2012. Previous land use alters the effect of climate change and facilitation on expanding woodlands of Spanish juniper. *Ecosystems* 15:564-579 DOI: 10.1007/s10021-012-9529-z
40. GARCIA-PALACIOS PABLO; QUEREJETA JOSE I.; MAESTRE FERNANDO T.; ESCUDERO, A. & VALLADARES, F. 2012. Impact of simulated changes in rainfall regime and nutrient deposition on the relative dominance and isotopic composition of ruderal plants in anthropogenic grasslands. *Plant and Soil* 352: 303-319. DOI: 10.1007/s11104-
41. GIMENO, T.E., B. PIAS, J. MARTINEZ-FERNANDEZ, D.L. QUIROGA, A. ESCUDERO, F. VALLADARES. 2012. The decreased competition in expanding versus mature juniper woodlands is counteracted by adverse climatic effects on growth. *European Journal of Forest Research* 131: 977-987.
42. ARANDA, I, A. FORNER, CUESTA, B., & VALLADARES, F. 2012. Species-specific water use by forest tree species: From the tree to the stand. *Agricultural Water Management* 114: 67-77. <http://dx.doi.org/10.1016/j.agwat.2012.06.024>
43. MOLINA, M., GIANOLI, E. CARRASCO, F. CONVEY, P. & VALLADARES, F. 2012. Occurrence of the non-native Bluegrass on the Antarctic mainland and its negative effects on native plants. *Conservation Biology* 26: 717-723. doi: 10.1111/j.1523-1739.2012.01865.x.
44. GODOY, O., F. VALLADARES & P. CASTRO-DÍEZ. 2012. The relative importance for plant invasiveness of trait means, and their plasticity and integration in a multivariate framework. *New Phytologist* 195(4):912-922. doi: 10.1111/j.1469-8137.2012.04205.x
45. LÁZARO-NOGAL, A. MATESANZ, S. GIMENO, T.E. ESCUDERO, A. & VALLADARES, F.. 2012. Fragmentation modulates the strong impact of habitat quality and plant cover on fertility and microbial activity of semiarid gypsum soils. *Plant and Soil* 358:213–223. DOI 10.1007/s11104-012-1184-9
46. GARCÍA-FERNÁNDEZ, A. , A. LÁZARO-NOGAL, A. TRAVESET, & F. VALLADARES, 2012. Isolation and characterization of 10 microsatellite loci in *Cneorum tricoccon* (Cneoraceae), a Mediterranean relict plant. *American Journal of Botany* 99:e307-e309. doi:10.3732/ajb.1100589
47. BROOKER, R., S. MATESANZ, F. VALLADARES, & S. KLOTZ. 2012. Long-term spatial pattern in a semi-arid plant community: the role of climate and composition. *Acta Oecologica* 45:8-15.
48. PAQUETTE, A, FONTAINE, B, BERNINGER, F, DUBOIS, K, LECHOWICZ, MJ, MESSIER, C, POSADA, JM, VALLADARES, F, BRISSON, J. 2012. Norway maple displays greater seasonal growth and phenotypic plasticity to light than native sugar maple. *Tree Physiology* 32: 1339-1347 DOI: 10.1093/treephys/tps092
49. ESCRIBANO-AVILA G., SANZ-PEREZ V., PIAS B., VIRGOS E., ESCUDERO A. & VALLADARES F. 2012. Colonization of abandoned land by *Juniperus thurifera* is mediated by the interaction of a diverse dispersal assemblage and environmental heterogeneity. *PLoS ONE*, 7, e46993-e46993.
50. SOLIVERES S, P. GARCÍA-PALACIOS, F.T. MAESTRE, A. ESCUDERO, & F. VALLADARES. 2013. Changes in rainfall amount and frequency do not affect the outcome of the interaction between the shrub *Retama sphaerocarpa* and its neighboring grasses in two semiarid communities. *Journal of Arid Environments* 91: 104-112
51. BENAVIDES, R. S. G. RABASA, E. GRANDA, A. ESCUDERO, J. A. HÓDAR, J. MARTINEZ-VILALTA, A. M. RINCON, R. ZAMORA, F. VALLADARES. 2013. Direct and Indirect Effects of Climate on Demography and Early Growth of *Pinus sylvestris* at the Rear Edge: Changing Roles of Biotic and Abiotic Factors. *PLoS ONE* 8(3): e59824. doi:10.1371/journal.pone.0059824
52. TEIXIDO, A. & VALLADARES, F. 2013. Large and abundant flowers increase indirect costs of corollas: a study of coflowering sympatric Mediterranean species of contrasting flower size. *Oeologia* 173:73–81 DOI 10.1007/s00442-013-2609-8
53. GRANDA, E., J. JULIO CAMARERO, T. E. GIMENO, J. MARTÍNEZ-FERNÁNDEZ, F. VALLADARES. 2013. Intensity and timing of warming and drought differentially affect growth patterns of co-occurring Mediterranean tree species. *European Journal of Forest Research* 132:469-480. DOI 10.1007/s10342-013-0687-0
54. STERCK F.J., DUURSMA R.A., PEARCY R.W., VALLADARES F., CIESLAK M. & WEEMSTRA M. 2013. Plasticity influencing the light compensation point offsets the specialization for light niches across shrub species in a tropical forest understorey. *Journal of Ecology*, 101, 971-

980.

55. RABASA, S.G., E. GRANDA, R. BENAVIDES, G. KUNSTLER, J.M. ESPELTA, R. OGAYA, J. PEÑUELAS, M. SCHERER-LORENZEN, W. GIL, W.GRODZKI, S. AMBROZY, J. BERGH, J.A. HÓDAR, R. ZAMORA, F. **VALLADARES**. 2013. Disparity in elevational shifts of European trees in response to recent climate warming. *Global Change Biology* 19: 2490–2499. doi: 10.1111/gcb.12220
56. SANTAMARIA, L., DIAZ, M. & **VALLADARES**, F. 2013. Dark clouds over Spanish science. *Science* 340:1292.
57. ZOLFAGHARI, R., FAYYAZ, P., NAZARI, M. & **VALLADARES**, F. 2013. Interactive effects of seed size and drought stress on growth and allocation of *Quercus brantii* Lindl. seedlings from two provenances. *Turkish Journal of Agriculture and Forestry*, 37, 361-368.
58. ARAÚJO, M.B., FERRI-YÁÑEZ, F., BOZINOVIC, F., MARQUET, P.A., **VALLADARES**, F. & CHOWN, S.L. 2013. Heat freezes niche evolution. *Ecology Letters*. 16: 1206–1219. DOI: 10.1111/ele.12155
59. Baeten L., Verheyen K., Wirth C., Bruelheide H., Bussotti F., Finér L., Jaroszewicz B., Selvi F., **Valladares** F., Allan E., Ampoorter E., Auge H., Avăcăriei D., Barbaro L., Bărnoaiea I., Bastias C.C., Bauhus J., Beinhoff C., Benavides R., Benneter A., Berger S., Berthold F., Boberg J., Bonal D., Brüggemann W., Carnol M., Castagneyrol B., Charbonnier Y., Chečko E., Coomes D., Coppi A., Dalmaris E., Dănilă G., Dawud S.M., de Vries W., De Wandeler H., Deconchat M., Domisch T., Duduman G., Fischer M., Fotelli M., Gessler A., Gimeno T.E., Granier A., Grossiord C., Guyot V., Hantsch L., Hättenschwiler S., Hector A., Hermy M., Holland V., Jactel H., Joly F.-X., Jucker T., Kolb S., Koricheva J., Lexer M.J., Liebergesell M., Milligan H., Müller S., Muys B., Nguyen D., Nichiforel L., Pollastrini M., Proulx R., Rabasa S., Radoglou K., Ratcliffe S., Raulund-Rasmussen K., Seiferling I., Stenlid J., Vesterdal L., von Wilpert K., Zavala M.A., Zielinski D. & Scherer-Lorenzen M. 2013. A novel comparative research platform designed to determine the functional significance of tree species diversity in European forests. *Perspectives in Plant Ecology, Evolution and Systematics*. 15(5):281-291 <http://dx.doi.org/10.1016/j.ppees.2013.07.002>
60. ESCRIBANO-AVILA G., SANZ-PEREZ V., PIAS B., VIRGOS E., ESCUDERO A. & **VALLADARES** F. 2013. Spanish juniper gain expansion opportunities by counting on a functionally diverse dispersal assemblage community. *Ecology and Evolution* 3(11): 3751–3763. DOI: 10.1002/ece3.753
61. LÁZARO-NOGAL A1, FORNER A, TRAVESET A, **VALLADARES** F. 2013. Contrasting water strategies of two Mediterranean shrubs of limited distribution: uncertain future under a drier climate. *Tree Physiology* 33(12):1284-95. doi: 10.1093/treephys/tpt103.
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