
ROBERTO CANULLO

curriculum vitae

PhD in Geobotany, Associate Professor in Plant Ecology (BIO/03) at the Camerino University.

Collaborates to national and international research programmes on vegetation and plant population ecology, structure and patterns of the phytocoenoses, dynamics and biodiversity of forests and montane grasslands, incl. design and quality protocols for field plant monitoring of the forest floor.

Regularly participates to national and international congresses.

Member of Italian Scientific Societies (Botany, Ecology, Vegetation Sciences) and of the International Association of Vegetation Science and European Vegetation Survey.

Responsible for Research and eLTER and ESFRI2018 Rodmap for the Nature Reserve "Montagna di Torricchio".

Scientific projects and committees

- since 1984 Visiting Researcher at the Geobotanical Station in Białowieża (Warsaw University, PL);
- 1993-1999 research grant "The role of shrub and herb populations on successional dynamics";
- since 1996 Head of the research on vegetation dynamics within the permanent plots of the national network for forest ecosystems monitoring (CONECOFOR - Pan-European Programme for Intensive Monitoring of Forest Ecosystems - UN\ECE-ICP Forests, ex DGVI.FII.2, DG IX ENV);
- 1997-1999 Visiting Researcher at the Department of Plant Ecology and Evolutionary Biology, Utrecht University;
- since 1997 Member (co-chairman 1999-2005; Chairman since 2010) of the Expert Panel on Ground Vegetation UN\ECE-ICP Forests;
- 1998-2000 Subcontractor staff FORMAT project: "Sensitivity of tree-growth to climate change and growth modelling from past to future" (CORDIS Actions ENV4-CT97-0641);
- 1998-2002 Deputy of the Scientific Advisory Group of the Pan-European Programme for the Intensive Monitoring of Forest Ecosystems;
- 2003/04, 2007 Head of Pilot Projects (UN\ECE "Forest Focus"): "Bio-valuation of heavy metals deposition" and "BioSoil-Biodiversity: vascular vegetation" for Italian forests;
- 2004 Visiting Researcher at the Departamento de Biología Vegetal y Ecología (Sevilla University);
- since 2004 Visiting Researcher at the Department of Botany and Ecology, Hungarian Academy of Sciences;
- 2005-2008 Head of the subproject "Structure and dynamics of biodiversity on beech coppices", Inter-territorial cooperative agreement "Landscape and environmental laboratory" (LEADER+);
- 2006-2007 Overseas inter-institutional cooperation researcher South Africa's Research Foundation project "Principles of plant functional typology and role of plant functional traits in community assembly/Ecological scales in plant community assembly: abiotic filters and assembly rules";
- 2009-2011 Head of the international Action "Quality and expertise within ground vegetation assessments" (FutMon project, Life+ subcontractor);
- 2010-2012 Head technical-scientific support to the international Alpine Space project "MANFRED - Management strategies to adapt Alpine Space forests to climate change risks" (IPLA-MATTM);
- 2011-2014 Internat. evaluation project ENVEUROPE "Pollution pressures vs. forest plant diversity";

2011- Show Case LIFEWATCH "Patterns of ecosystem fragility to alien and invasive species in Europe";

2012- Member of SIGNAL – European gradients of resilience in the face of climate extremes (Pan-European BIODIVERSA project).

2012-14 Project leader of the Level I Biodiversity Data Base set-up and preliminary analysis: implementation phases (von Thünen-Institute, Hamburg, Germany).

2015-18 Head subcontractor, LIFE+ SMART4Action, Action B.1 "Analysis, evaluation and testing of forest ecosystems biological response", Plant diversity.

2016-19 Third party responsible within Horizon 2020 project "eLTER" (European Long-Term Ecosystem and socio-ecological Research Infrastructure).

2017- UNICAM responsible for the cooperation consortium, coordinated by UNIMOL (seminars RED PERIURBAN co-funded by CUIA).

since 2019 project leader for plant diversity as biological as response factor in the Italian forests (NEC EU directive-Rete Nec Italia).

since 2021 Head of UNICAM partner for biological responses within LIFE+ MODER(n)NEC project.

Reviewer: *Journal of Vegetation Science, Applied vegetation Sciences, Community Ecology, Acta Oecologica, Forest Ecology and Management, Folia Geobotanica, Biodiversity and Conservation, Ecology and Evolution, iForest, Atti della Società Italiana di Ecologia, Annali dell'istituto sperimentale per la selvicoltura, Plant Biosystems, Fitosociologia, Journal of Mediterranean Ecology, Ecological Indicators; Scientific Advisory Board: La riserva naturale di Torricchio; Folia Forestalia Polonica, Series A – Forestry; Les Cahiers de Braun-Blanquetia.*

Recent Publications

- Chelli S., Canullo R., Campetella G., Schmitt A.O., Bartha S., Cervellini M., Wellstein C. 2016 - The response of Sub-Mediterranean grasslands to rainfall variation is influenced by early season precipitation. *Applied Vegetation Science*, 19(4): 611-619. <https://doi.org/10.1111/avsc.12247>
- Campetella G., Canullo R., Gimona A., Garadnai J., Chiarucci A., Giorgini D., Angelini E., Cervellini M., Chelli S., Bartha S., 2016 – Scale-dependent effects of coppicing on the species pool of late-successional beech forests in the central Apennines (Italy). *Applied Vegetation Science*, 19(3): 474-485. <https://doi.org/10.1111/avsc.12235>
- Behlül Güler, Anke Jentsch, Iva Apostolova, Sándor Bartha, Juliette M.G. Bloor, Giandiego Campetella, Roberto Canullo, Judit Házi, Jürgen Kreyling, Julien Pottier, Gábor Szabó, Tsvetelina Terziyska, Emin Uğurlu, Camilla Wellstein, Zita Zimmermann, Jürgen Dengler. 2016. How plot shape and spatial arrangement affect plant species richness counts: implications for sampling design and rarefaction analyses. *Journal of Vegetation Science*, 27: 692-703. <https://doi.org/10.1111/jvs.12411>
- Chelli S., Wellstein C., Campetella G., Canullo R., Tonin R., Zerbe S., Gerdol R., 2017 - Climate change response of vegetation across climatic zones in Italy. *Climate Research* 71: 249-262. <https://doi.org/10.3354/cr01443>.
- Canullo R., Simonetti E., Cervellini M., Chelli S., Bartha S., Wellstein C., Campetella G., 2017 - Unravelling mechanisms of short-term vegetation dynamics in complex coppice forest systems. *Folia Geobotanica*, 52(1), pp. 71-81. <http://dx.doi.org/10.1007/s12224-016-9264-x>.
- Cervellini M., Fiorini S., Cavicchi A., Campetella G., Simonetti E., Chelli S., Canullo R., Gimona A., 2017 - Relationships between understory specialist species and local management practices in coppiced forests – Evidence from the Italian Apennines, *Forest Ecology and Management*, 385(1): 35-45. <http://dx.doi.org/10.1016/j.foreco.2016.11.027>.
- Wellstein C, Poschlod P, Gohlke A, Chelli S, Campetella G, Rosbakh S, Canullo R, Kreyling J, Jentsch A, Beierkuhnlein C., 2017 - Effects of extreme drought on specific leaf area of grassland species: a meta-analysis of experimental studies in temperate and sub-Mediterranean systems. *Global Change Biology*, 23(6): 2473-2481. <http://dx.doi.org/10.1111/gcb.13662>

- Ferretti M., Bertini G., Bussotti F., Canini L., Cammarano M., Canullo R., Carnicelli S., Cecchini G., Fabbio G., Farina A., Giorgini D., Feducci M., Marchetto A., Marchi M., Matteucci G., Zouglami K., 2017 - Actual and potential impact of air pollution on Italian forests: results from the long-term national forest monitoring networks under the ICP Forests. In: D'Elia I., De Marco A., Vialletto A. (a cura di) *Effect-based activities on air pollution: What is the state of the natural and anthropogenic Italian ecosystems?*: 21-38. ENEA, Roma. <https://doi.org/10.13140/rg.2.2.17077.27366> ISBN 978-88-8286-344-9
- Puletti N., Giannetti F., Chirici G., Canullo R., 2017 - Deadwood distribution in European forests. *Journal of Maps*, 13(2): 733-736. <https://doi.org/10.1080/17445647.2017.1369184>
- Giannetti F., Barbati A., Mancini L.D., Travaglini D., Bastrup-Birk A., Canullo R., Nocentini S., Chirici G., 2018 - European Forest Types: toward an automated classification. *Annals of Forest Science*, 75(1): 6. <https://doi.org/10.1007/s13595-017-0674-6>
- Cianfaglionone K., Chelli S., Campetella G., Wellstein C., Cervellini M., Ballelli S., Lucarini D., Canullo R., Jentsch A., 2018 - European Grasslands Gradient and the Resilience to Extreme Climate Events: The SIGNAL Project in Italy. In: Pedrotti F. (ed) *Climate Gradients and Biodiversity in Mountains of Italy*. Geobotany Studies (Basics, Methods and Case Studies), 10: 175-186. Springer, Cham. https://doi.org/10.1007/978-3-319-67967-9_9 ISBN 978-3-319-67966-2
- Rogora M., Frate L., Carranza M.L., Freppaz M., Stanisci A., Bertani I., Bottarin R., Brambilla A., Canullo R., Carbone M., Cerrato C., Chelli S., Cremonese E., Cutini M., Di Musciano M., Erschbamer B., Godone D., Iocchi M., Isabellon M., Magnani A., Mazzola L., Morra di Cella U., Pauli H., Petey M., Petriccione B., Porro F., Psenner R., Rossetti G., Scotti A., Sommaruga R., Tappeiner U., Theurillat J.-P., Tomaselli M., Viglietti D., Viterbi R., Vittoz P., Winkler M., Matteucci G., 2018 - Assessment of climate change effects on mountain ecosystems through a cross-site analysis in the Alps and Apennines. *Science of the Total Environment*, 624: 1429-1442. <https://doi.org/10.1016/j.scitotenv.2017.12.155>
- Cervellini M., Campetella G., Chelli S., Canullo R., 2018 - Distinctive and Pleasant – Transformative Concepts in Landscape Ecology: Social Ecological Green Spaces (SEGS). In: Cocci Grifoni R., D'Onofrio R., Sargolini M. (eds) *Quality of Life in Urban Landscapes. In Search of a Decision Support System*, The Urban Book Series: 103-107. Springer, Utrecht. ISBN 978-3-319-65580-2
- Malavasi M., Acosta A., Carranza M.L., Bartolozzi L., Basset A., Bassignana M., Campanaro A., Canullo R., Carruggio F., Cavallaro V., Cianferoni F., Cindolo C., Cocciuffa C., Corriero G., D'Amico F.S., Forte L., Freppaz M., Mantino F., Matteucci G., Pierri C., Stanisci A., Colangelo P., 2018 - Plant invasions in Italy: An integrative approach using the European LifeWatch infrastructure database. *Ecological Indicators*. 91: 182-188. <https://doi.org/10.1016/j.ecolind.2018.03.038>
- Galluzzi M., Rocchini D., Canullo R., McRoberts R.E., Chirici G., 2018 - Mapping uncertainty of ICP-Forest biodiversity data: from standard treatment of diffusion to density-equalizing cartograms. *Ecological Informatics*, 48: 281-289. <https://doi.org/10.1016/j.ecoinf.2018.06.005>
- Mellert K.H., Canullo R., Mette T., Ziche D., Göttlein A., 2018 - Die klimatische Trockengrenze häufiger Baumarten hängt vom Bodennährstoffstatus ab. *Schweizerische Zeitschrift für Forstwesen*, 169(6): 323-331. <https://doi.org/10.3188/szf.2018.0323>
- Chelli S., Marignani M., Barni E., Petraglia A., Puglielli G., Wellstein C., Acosta A.T.R., Bolpagni R., Bragazza L., Campetella G., Chiarucci A., Conti L., Nascimbene J., Orsenigo S., Pierce S., Ricotta C., Tardella F.M., Abeli T., Aronne G., Bacaro G., Bagella S., Benesperi R., Bernareggi G., Bonanomi G., Bricca A., Brusa G., Buffa G., Burrascano S., Caccianiga M., Calabrese V., Canullo R., Carbone M., Carboni M., Carranza M.L., Catorci A., Ciccarelli D., Citterio S., Cutini M., Dalle Fratte M., De Micco V., Del Vecchio S., Di Martino L., Di Musciano M., Fantinato E., Filigheddu R., Frattaroli A.R., Gentili R., Gerdol R., Giarrizzo E., Giordani P., Gratani L., Incerti G., Lussu M., Mazzoleni S., Mondoni A., Montagnani C., Montagnoli A., Paura B., Petruzzellis F., Pisanu S., Rossi G., Sgarbi E., Simonetti E., Siniscalco C., Slaviero A., Stanisci A., Stinca A., Tomaselli M., Cerabolini B.E.L., 2019 - Plant-environment interactions through a functional traits perspective: a review of Italian studies. *Plant Biosystems-An International Journal Dealing with all Aspects of Plant Biology*, 1-17.
- Dirnböck T., Pröll G., Austnes K., Beloica J., Beudert B., Canullo R., De Marco A., Fornasier M.F., Futter M., Goergen K., Grandin U., Holmberg M., Lindroos A.-J., Mirtl M., Neiryneck J., Pecka T., Nieminen T.M., Nordbakken J.-F., Posch M., Reinds G.-J., Rowe E.C., Salemaa M., Scheuschner T., Starlinger F., Uziębło A.K., Valinia S., Weldon J., Wamelink W.G.W., Forsius M., 2018 - Currently legislated decreases in nitrogen deposition will yield only limited plant species recovery in European forests. *Environmental Research Letters*, 13(12), 125010.

- Puletti Nicola; Roberto Canullo; Walter Mattioli; Radoslaw Gawrys; Piermaria Corona; Janusz Czerepko, 2018 - Forest deadwood in Europe (Version 4; Data set). Zenodo. <http://doi.org/10.5281/zenodo.1467784>. [https://metadata-afs.nancy.inra.fr/geonetwork/srv/fre/catalog.search#/metadata/a27d2a8f-1a2d-4a1c-b932-86ec5f4bd8a6].
- Chelli Stefano, Enrico Simonetti, Giandiego Campetella, Alessandro Chiarucci, Marco Cervellini, Federico Maria Tardella, Michela Tomasella, Roberto Canullo, 2019 - Plant diversity changes in a nature reserve: a probabilistic sampling method for quantitative assessments. *Nature Conservation*, 34: 145–161. <https://doi.org/10.3897/natureconservation.34.30043>.
- Galluzzi M; Francesca Giannetti; Nicola Puletti; Roberto Canullo; Duccio Rocchini; Annemarie Bastrup-Birk; Gherardo Chirici. 2019 - A plot-level exploratory analysis of European forest based on the results from the BioSoil project. *European Journal of Forest Research*, 138(5): 831-845. <https://doi.org/10.1007/s10342-019-01205-2>
- Chelli S., Simonetti E., Wellstein C., Campetella G., Carnicelli S., Andreetta A., Giorgini D., Puletti N., Bartha S., Canullo R., 2019 - Effects of climate, soil, forest structure and land use on the functional composition of the understorey in Italian forests. *Journal of Vegetation Science*, 30(6): 1110-1121. <https://doi.org/10.1111/jvs.12792>
- Chiarucci A., Nascimbene J., Campetella G., Chelli S., Dainese M., Giorgini D., Landi S., Lelli C., Canullo R., 2019 - Exploring patterns of beta-diversity to test the consistency of biogeographical boundaries: a case study across forest plant communities of Italy. *Ecology and Evolution*, 9(20): 11716-11723. <https://doi.org/10.1002/ece3.5669>
- Seidling, Walter; Hamberg, Leena; Máliš, František; Salemaa, Maija; Kutnar, Lado; Czerepko, Janusz; Kompa, Thomas; Buriánek, Václav; Dupouey, Jean-Luc; Vodálová, Anna; Canullo, Roberto, 2020 - Comparing observer performance in vegetation records by efficiency graphs derived from rarefaction curves. *Ecol. Indic.*, 109: 105790. <https://doi.org/10.1016/j.ecolind.2019.105790>.
- Chelli S., Ottaviani G., Simonetti E., Wellstein C., Canullo R., Carnicelli S., Andreett A., Puletti N., Bartha S., Cervellini M., Campetella, G. (2019). Climate is the main driver of clonal and bud bank traits in Italian forest understories. *Perspectives in Plant Ecology, Evolution and Systematics*, 40: 125478. <https://doi.org/10.1016/j.ppees.2019.125478>
- Chelli S., Ottaviani G., Campetella G., Canullo R., 2020 - Community weighted mean trait data of Italian forest understories, *Data in brief*, 28: 104947 <https://doi.org/10.1016/j.dib.2019.104947>.
- Bartha S., Canullo R., Chelli S., Campetella G., 2020 - Unimodal Relationships of Understory Alpha and Beta Diversity along Chronosequence in Coppiced and Unmanaged Beech Forests. *Diversity*, 12: 101; <https://doi.org/10.3390/d12030101>
- Bricca A., Chelli S., Canullo R., & Cutini, M., 2020 - The Legacy of the Past Logging: How Forest Structure Affects Different Facets of Understory Plant Diversity in Abandoned Coppice Forests. *Diversity*, 12(3), 109. <https://doi.org/10.3390/d12030109>
- Ballelli S, Pennesi R, Campetella G, Cervellini M, Chelli S, Cianfaglione K, Lucarini D, Piermarteri K, Tardella FM, Catorci A, Canullo R, 2020 - An updated checklist of the vascular flora of Montagna di Torricchio State Nature Reserve (Marche, Italy). *Italian Botanist* 9: 87–100. <https://doi.org/10.3897/italianbotanist.9.50032>
- Pilotto F., Kühn I., Adrian R., Alber R., Alignier A., Andrews C., Bäck J., Barbaro L., Beaumont D., Beenaerts N., Benham S., Boukal D.S., Camatti E., Canullo R., Cardoso P., Ens B.J., Everaert G., Evtimova V., García-González R., Gómez García D., Grandin U., Gutowski J.M., Hadar L., Halada L., Halassy M., Hummel H., Huttunen K-L., Jaroszewicz B., Jensen T.C., Kalivoda H., Kappel Schmidt I., Kröncke I., Leinonen R., Martinho F., Meesenburg H., Meyer J., Minerbi S., Monteith D., Nikolov B.P., Oro D., Ozoliņš D., Padedda B.M., Pallett D., Pansera M., Pardal M.Â., Petriccione B., Pipan T., Pöyry J., Schäfer S.M., Schaub M., Schneider S.C., Skuja A., Soetaert K., Sprizge G., Stanchev R., Stockan J.A., Stoll S., Sundqvist L., Thimonier A., Van Hoey G., Van Ryckegem G., Visser M.E., Vorhauser S., Haase P., 2020 - Meta-analysis of multidecadal biodiversity trends in Europe. *Nat. Commun.* 11, 3486. <https://doi.org/10.1038/s41467-020-17171-y>
- Ottaviani G., Molina-Venegas R., Charles-Dominique T., Chelli S., Campetella G., Canullo R., Klimešová J., 2020. The Neglected Belowground Dimension of Plant Dominance. *Trends in Ecology & Evolution*, 35(9): 763-766. <https://doi.org/10.1016/j.tree.2020.06.006>

- Chelli S., Ottaviani G., Simonetti E., Campetella G., Wellstein C., Bartha S., Cervellini M., Canullo R., 2021 - Intraspecific variability of specific leaf area fosters the persistence of understory specialists across a light availability gradient. *Plant Biology*, 23(1): 212-216. <https://doi.org/10.1111/plb.13199>
- Campetella G., Chelli S., Simonetti E., Damiani C., Bartha S., Wellstein C., Giorgini D., Puletti N., Mucina L., Cervellini M., Canullo R., 2021 - Plant functional traits are correlated with species persistence in the herb layer of old-growth beech forests. *Sci Rep* 10, 19253. <https://doi.org/10.1038/s41598-020-76289-7>

Camerino, 24/08/2021