Jordi Bascompte[1] — *the architecture of biodiversity*

Research Profile and Impact

Bascompte's research combines theory and the analysis of large data sets to address basic and applied problems in ecology. During the early stages of his research, he studied the spatial dimension of population and community dynamics. This provided novel approximations to attempt to answer unresolved questions in conservation biology such as how many patches are necessary for the persistence of a metapopulation. More recently, his application of network theory to the study of mutualisms has allowed him to identify general laws that determine the way in which species interactions shape biodiversity. Bascompte's work has also had a clear influence on other fields such as in the study of systemic risk on finance and other man-made cooperative networks. Bascompte has been recognized by Thompson Reuters as one of the most influential scientists. He has an h-index of 63, has authored several highly cited papers, and regularly publishes his work in the top scientific journals including *Nature* (8 papers), *Science* (8 papers), and *PNAS* (11 papers).

Education

1991—1994	**PhD** in Ecology, University of Barcelona, Spain
1985—1991	**BS** and **MS** in Biology, University of Barcelona, Spain

Professional Experience

2015—	**Full Professor** of Ecology, Department of Evolutionary Biology and Environmental Studies, University of Zurich, Switzerland
2008—2014	**Full Professor**, Spanish Research Council, Sevilla, Spain
2000—2007	**Associate Professor**, Spanish Research Council, Sevilla, Spain
1998—1999	**Postdoctoral Fellow**, National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara, USA
1996—1997	**Postdoctoral Fellow**, Department of Ecology and Evolutionary Biology, University of California, Irvine, USA

Awards

Ramon Margalef Prize in Ecology (2021)
British Ecological Society's Marsh Book Award (2016)
Highly cited scientist (Thomson Reuters, 2014—)
European Research Council's Advanced Grant (2011)
Spanish National Research Award in Environmental Sciences (2011)
Rey Jaime I Award in Environmental Sciences (2010)
Ecological Society of America's George Mercer Award (2007)
European Young Investigator Award (2004)

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Editorial Boards

Board of Reviewing Editors at Science (2010-2016)
Ideas and Perspectives Editor, Ecology Letters (2008—2014)
Editorial Board of Conservation Biology (2003-2009)
Editorial Board of Ecology Letters (2004-2008)
Editorial Board of Oikos (2006-2009)
Editorial Board of Theoretical Ecology (2007-2009)
Editorial Board of Population Biology (2006-2009)
Faculty member of Faculty of 1000 Biology (2006-2014)

Main Seminars

Louis Thaler Lecture, Montpellier, France, 2 June 2017
ERC Workshop "Frontier Research and Climate Change", Brussels, 31 March 2017[2]
Cotec Foundation for Innovation Launching Ceremony, Madrid, Spain, 23 November 2015[3]
Major Issues in Modern Biology Seminar Series, University of California, Davis, USA (2012)
Plenary talk at the meeting of the European Ecological Federation, Ávila, Spain (2011)
Plenary talk at the Dutch Annual Ecology Meeting, Netherlands (2010)
Plenary talk at the Oikos Annual Meeting, Lund, Sweden (2008)

Books

Bascompte J. and Jordano P. *Mutualistic Networks*. Princeton University Press, 2014[4]

Bascompte J. and Luque B. *Evolución y Complejidad*. Universidad de Valencia, 2012 (language: Catalán and Spanish)

Solé R.V. and **Bascompte J.** *Self-Organization in Complex Ecosystems*. Princeton University Press, 2006

Bascompte J. and Solé R.V., editors. *Modeling Spatiotemporal Dynamics in Ecology*. Springer-Verlag, Berlin, 1998

Primary Research Papers[5]

120. Barbour, M.A., Kliebenstein, D.J., and **Bascompte, J.**
A keystone gene underlies the persistence of an experimental food web
Science 376: 70–73 (2022)

119. Sonne, J., Maruyama, P.K., Martín González, A.M., Rahbek, C., **Bascompte, J.**, and Dalsgaard, B.
Extinction, coextinction and colonization dynamics in plant-hummingbird networks under climate change
Nature Ecology and Evolution, *in press* (2022)

118. Wechsler, D. and **Bascompte J.**
Cheating in mutualisms promotes diversity and complexity
The American Naturalist 199: 393–405 (2022)

117. Pedraza, F. and **Bascompte J.**
The joint role of coevolutionary selection and network structure in shaping trait matching in

[2]Organized to showcase relevant research on Climate Change and Climate Action supported by ERC under Horizon 2020.
[3]Chaired by the King of Spain and the Emeritus King of Spain and addressed to an audience involving some of the main businessmen in Spain.
[4]It received the Marsh Book of the Year Award of the British Ecological Society in 2016
[5]Selected publications are highlighted in blue.

mutualisms
Proceedings Royal Society London, Series B 288: 20211291 (2021)

116. Cámara-Leret, R., and **Bascompte, J.**
Language extinction triggers the loss of unique medicinal knowledge[6]
Proceedings of the National Academy of Sciences USA, 118: e2103683118 (2021)

115. Liu, H. Liu, Z. Zhang, M., **Bascompte, J.**, He, F., and Chu, C.
Geographic variation in the robustness of pollination networks is mediated by modularity
Global Ecology and Biogeography 30:1447–1460 (2021)

114. Gawecka, K., and **Bascompte, J.**
Habitat restoration in spatially explicit metacommunity models
Journal of Animal Ecology 90: 1239-1251(2021)

113. Losapio, G. Schöb, C., Staniczenko, P.P.A., Carrara, F., Palamara, G.M., De Moraes, C.M., Mescher, M.C., Brooker, R.W., Butterfield, B.J., Callaway, R.M., Cavieres, L.A., Kikvidze, Z., Lortie, C.J., Michalet, R., Pugnaire, F.I., and **Bascompte, J.**
Network motifs involving both competition and facilitation predict biodiversity in alpine plant communities
Proceedings of the National Academy of Sciences USA 118: e2005759118 (2021)

112. Losapio, G. Schmid, B., **Bascompte, J.**, Michalet, R., Cerretti, P., Germann, C., Haenni, J-P., Neumeyer, R., Ortiz-Sánchez, F.J., Pont, A.C., Rousse, P., Schmid, J., Sommaggio, D., Schöb, C.
An experimental approach to assessing the impact of ecosystem engineers on biodiversity and ecosystem functions
Ecology 102: e03243 (2021)

111. Assis, A.P.A., Thompson, J.N., Santana, P.C., Jordano, P., **Bascompte, J.** and Guimarães Jr., P.R.
Genetic correlations and ecological networks shape coevolving mutualisms
Ecology Letters, 23: 1789-1799 (2020)

110. Fortuna, M.A., Nagavci, A., Barbour, M.A., and **Bascompte, J.**
Partner fidelity and asymmetric specialization in ecological networks
The American Naturalist 196: 382-389 (2020)

109. Barbour, M.A., Greyson-Gaito, C.J., Sootodeh, A., Locke, B., and **Bascompte, J.**
Loss of consumers constrains phenotypic evolution in the resulting food web
Evolution Letters 4: 266-277 (2020)

108. Lever, J.J., van de Leemput, I., Weinans, E., Quax, R., Dakos, V., van Nes, E., **Bascompte, J.**, and Scheffer, M.
Foreseeing the future of mutualistic communities beyond collapse
Ecology Letters 23: 2-15 (2020)

107. Frank, S.A., and **Bascompte, J.**
Invariance in ecological pattern
F1000Research 8:2093 [published, peer review approved] (2019)

106. Weinans, E., Lever, J.J., Bathiany, S., Quax, R., **Bascompte, J.**, van Nes, E., Scheffer, M., and van de Leemput, I.A.
Finding the direction of lowest resilience in multivariate complex systems
Journal of the Royal Society Interface 16: 20190629 (2019)

105. Cámara-Leret, R., Fortuna, M.A., and **Bascompte, J.**

[6] This paper had a big media impact, with more than 1,000 tweets and articles in leading newspapers and magazines such as *The Guardian, El País, Corriere della Sera, El Espectador,* and *Popular Science.* It was highlighted in *Nature*'s Daily Briefing (21 September 2021

Indigenous knowledge networks in the face of global change
Proceedings of the National Academy of Sciences USA 116: 9913-9918 (2019)

104. Fortuna, M.A., Barbour, M., Zaman, L., Hall, A.R., Buckling, A., and **Bascompte, J.**
Coevolutionary dynamics shape the structure of bacteria-phage infection networks
Evolution 73: 1001-1011 (2019)

103. **Bascompte, J.**, García, M.B., Ortega, R., Rezende, E.L. and Pironon, S.
Mutualistic interactions reshuffle the effects of climate change on plants across the tree of life
Science Advances 5: eaav2539 (2019)

102. Losapio, G., Fortuna, M.A., **Bascompte, J.**, Schmid, B., Michalet, R., Neumeyer, R., Castro, L., Cerretti, P., Germann, C., Haenni, J.-P., Klopfstein, S., Ortiz-Sanchez, F.J., Pont, A.C., Rousse, P., Schmid, J., Sommaggio, and D., Schöb, C.
Plant interactions shape pollination networks via nonadditive effects
Ecology 100: e02619 (2019)

101. Wechsler, D. and **Bascompte J.**
Thresholds in the resilience of modular social networks to invasion by defectors
Journal of Theoretical Biology 460: 56-63 (2019)

100. Yang X., Yan C., Zhao Q., Holyoak M., Fortuna M.A., **Bascompte J.**, Jansen P.A. and Zhang Z.
Ecological succession drives the structure change of seed-rodent interaction networks in fragmented forests
Forest Ecology and Management 419-420: 42-50 (2018)

99. Guimarães P.R. Jr., Pires M.M., Jordano P., **Bascompte J.** and Thompson J.N.
Indirect effects drive coevolution in mutualistic networks
Nature 550: 511-514 (2017)

98. Fortuna M.A., Zaman L., Wagner A. and **Bascompte J.**
Non-adaptive origins of evolutionary innovations increase network complexity in interacting digital organisms
Philosophical Transactions of the Royal Society B 372: 20160431 (2017)

97. Gilarranz L.J., Rayfield B., Liñan-Cembrano G., **Bascompte J.** and Gonzalez A.
Effects of network modularity on the spread of perturbation impact in experimental metapopulations
Science 357: 199-201 (2017)

96. Saavedra S., Rohr R.P., **Bascompte J.**, Godoy O., Kraft N.J.B. and Levine J.M.
A structural approach for understanding multispecies coexistence
Ecological Monographs 87: 470-486 (2017)

95. Rohr R.P., Saavedra S., Peralta G., Frost C.M., Bersier L.-F., **Bascompte J.** and Tylianakis J. M.
Persist or produce: a community trade-off tuned by species evenness
The American Naturalist 188: 411-422 (2016)

94. Lavabre J.E. , Gilarranz L.J., Fortuna M.A. and **Bascompte J.**
How does the functional diversity of frugivorous birds shape the spatial pattern of seed dispersal?
Philosophical Transactions of the Royal Society B, 371: 20150280 (2016)

93. Barbour M.A., Fortuna M.A., **Bascompte J.**, Nicholson J.R., Julkunen-Tiitto R., Jules E.S. and Crutsinger G.M.
Genetic specificity of a plant-insect food web: implications for linking genetic variation to network complexity
Proceedings of the National Academy of Sciences USA 113: 2128-2133 (2016).

92. Gilarranz L.J., Mora C. and **Bascompte J.**
Anthropogenic effects are associated with a lower persistence of marine food webs
Nature Communications 7:10737 (2016).

91. Saavedra S., Rohr R.P., Fortuna M.A., Selva N. and **Bascompte J.**
Seasonal species interactions minimize the impact of species turnover on the likelihood of community persistence
Ecology 97(4): 865–873 (2016)

90. Saavedra S., Rohr R.P., Olesen J. and **Bascompte J.**
Nested species interactions promote feasibility over stability during the assembly of a pollinator community
Ecology and Evolution, 6: 997–1007 (2016)

89. Aizen M.A., Gleiser G., Sabatino M., Gilarranz L.J., **Bascompte J.** and Verdú M.
The phylogenetic structure of plant-pollinator networks increases with habitat size and isolation
Ecology Letters 19: 29–36 (2016)

88. Gilarranz L.J., Sabatino M., Aizen M.A. and **Bascompte J.**
Hot spots of mutualistic networks
Journal of Animal Ecology 84: 407–413 (2015)

87. Rodewald A., Rohr R.P., Fortuna M.A. and **Bascompte J.**
Does removal of invasives restore ecological networks? An experimental approach
Biological Invasions 17: 2139-2146 (2015)

86. Gilarranz L.J., Hastings A. and **Bascompte J.**
Inferring topology from dynamics in spatial networks
Theoretical Ecology 8: 15-21 (2015)

85. Fortuna M.A., Ortega, R. and **Bascompte J.**
The web of life
arXiv: 1403.2575 [q-bio.PE] (2014)

84. Stouffer D.B., Cirtwill A.R. and **Bascompte J.**
How exotic plants integrate into pollination networks
Journal of Ecology 102: 1442-1450 (2014)

83. Dakos V. and **Bascompte J.**
Critical slowing down as early warning for the onset of collapse in mutualistic communities
Proceedings of the National Academy of Sciences USA 111: 17546-17551 (2014)

82. Saavedra S., Gilarranz L.J., Rohr R.P., Schnabel M., Uzzi B. and **Bascompte J.**
Stock fluctuations are correlated and amplified across networks of interlocking directorates
EPJ Data Science 3: 30 (2014)

81. Saavedra S, Rohr R.P., Gilarranz LJ., Bascompte J.
How structurally stable are global socioeconomic systems?
Journal of the Royal Society Interface 11: 20140693 (2014)

80. Pilosof S., Fortuna M.A., Cosson J-F., Galan M., Kittipong C., Ribas A., Segal E., Krasnov B., Morand S. and Bascompte J.
Host-parasite network structure is associated with community-level immunogenetic diversity
Nature Communications 5: 5172 (2014)

79. Rohr R.P. and **Bascompte J.**
Components of phylogenetic signal in antagonistic and mutualistic networks
The American Naturalist 184: 556-564 (2014)

78. Rohr R.P., Saavedra S. and **Bascompte J.**
On the structural stability of mutualistic systems
Science 345: 1253497 (2014)

77. Rodewald A., Rohr R.P., Fortuna M.A. and **Bascompte J.**
Community-level demographic consequences of urbanization: an ecological network approach
Journal of Animal Ecology 83: 1409-1417 (2014)

76. Lavabre J.E., Stouffer D.B., Sanz R. and **Bascompte J.**
Seed dispersal in heterogeneous landscapes: linking field observations with spatially explicit models
Oikos 123: 1355-1364 (2014)

75. Lever J.J., Van Nes E.H., Scheffer M. and **Bascompte J.**
The sudden collapse of pollinator communities
Ecology Letters 17: 350–359 (2014)

74. Rohr R.P., Fortuna M.A., Luque B. and **Bascompte J.**
Nestedness in mutualistic networks
arXiv: 1301.3651v1 [q-bio.PE] (2013)

73. Arroyo J.M., Munguia-Vega A., Rodríguez-Estrella R. and **Bascompte J.**
Isolation of 18 microsatellite loci in the desert mistletoe Phoradendron californicum (Santalaceae) via 454 pyrosequencing
Applications in Plant Sciences 1300048 (2013)

72. Saavedra S., Rohr R.P., Dakos V. and **Bascompte J.**
Estimating the tolerance of species to the effects of global environmental change
Nature Communications 4: 2350 (2013)

71. Albert E.M., Fortuna M.A., Godoy J.A. and **Bascompte J.**
Assessing the robustness of the networks of spatial genetic variation
Ecology Letters 16: 86-93 (2013)

70. Nuismer S.L., Jordano P. and **Bascompte J.**
Coevolution and the architecture of mutualistic networks
Evolution 67: 338-354 (2013)

69. Stouffer D.B., Sales-Pardo M., Irmak Sirer M. and **Bascompte J.**
Evolutionary conservation of species' roles in food webs
Science 335: 1489-1492 (2012)

68. Jabot F. and **Bascompte J.**
Bitrophic interactions shape biodiversity in space
Proceedings of the National Academy of Sciences USA 109: 4521-4526 (2012)

67. Gilarranz L.J. and **Bascompte J.**
Spatial network structure and metapopulation persistence
Journal of Theoretical Biology 297: 11-16 (2012)

66. Saavedra S., Stouffer D., Uzzi B. and **Bascompte J.**
Strong contributors to network persistence are the most vulnerable to extinction
Nature 478: 233-235 (2011)

65. Stouffer D. and **Bascompte J.**
Compartmentalization increases food-web persistente
Proceedings of the National Academy of Sciences USA 108: 3648-3652 (2011)

64. Capitán J.A., Cuesta J.A. and **Bascompte J.**
Species assembly in model ecosystems, II: Results of the assembly process
Journal of Theoretical Biology 269: 344-355 (2011)

63. Olesen J.M., **Bascompte J.**, Dupont Y.L., Elberling H., Rasmussen C. and Jordano P.
Missing and forbidden links in mutualistic networks
Proceedings of the Royal Society B 278: 725-732 (2011)

62. Fortuna M.A., Stouffer D.B., Olesen J.M., Jordano P., Mouillot D., Krasnov B., Poulin R. and **Bascompte J.**
Nestedness versus modularity in ecological networks: two sides of the same coin?
Journal of Animal Ecology 79: 811-817 (2010)

61. Stouffer D.B. and **Bascompte J.**
Understanding food-web persistence from local to global scales
Ecology Letters 13: 154-161 (2010)

60. Capitán J.A., Cuesta J.A. and **Bascompte J.**
Statistical mechanics of ecosystem assembly
Physical Review Letters 103: 16801 (2009)

59. Fortuna M.A., Albaladejo R.G., Fernandez L., Aparicio A. and **Bascompte J.**
Networks of spatial genetic variation across species
Proceedings of the National Academy of Sciences USA 106: 19044-19049 (2009)

58. Joppa L.N., **Bascompte J.**, Montoya J., Solé R.V., Sanderson J. and Pimm S.L.
Reciprocal specialization in ecological networks
Ecology Letters 12: 961-969 (2009)

57. Rezende E., Albert E.M., Fortuna M.A. and **Bascompte J.**
Compartments in a marine food web associated with phylogeny, body mass and habitat structure
Ecology Letters 12: 779-788 (2009)

56. Fortuna M.A., Popa-Lisseanu A.G., Ibáñez C. and **Bascompte J.**
The roosting spatial network of a bird-predator bat
Ecology 90: 934-944 (2009)

55. Melián C.J., **Bascompte J.**, Jordano P. and Krivan V.
Diversity in a complex ecological network with two interaction types
Oikos 118: 122-130 (2009)

54. Bastolla U., Fortuna M.A., Pascual-García A., Ferrera A., Luque B. and **Bascompte J.**
The architecture of mutualistic networks minimizes competition and increases biodiversity
Nature 458: 1018-1020 (2009)

53. Krishna A., Guimarães P.R. Jr, Jordano P. and **Bascompte J.**
A neutral-niche theory of nestedness in mutualistic networks
Oikos 117: 1609-1618 (2008)

52. Fortuna M.A., García C., Guimarães P.R. Jr and **Bascompte J.**
Spatial mating networks in insect-pollinated plants
Ecology Letters 11: 490-498 (2008)

51. Olesen J.M., **Bascompte J.**, Elberling H. and Jordano P.
Temporal dynamics in a pollination network
Ecology 89: 1573-1582 (2008)

50. Olesen J.M., **Bascompte J.**, Dupont Y.L. and Jordano P.

The modularity of pollination networks
Proceedings of the National Academy of Sciences USA 104: 19891-19896 (2007)

49. Guimarães P.R. Jr., Machado G., de Aguiar M.A.M., Jordano P., **Bascompte J.**, Pinheiro A. and Furtado dos Reis, S.
Build-up mechanisms determining the structure of mutualistic networks
Journal of theoretical Biology 249: 181-189 (2007).

48. Rezende E., Jordano P. and **Bascompte J.**
Effects of phenotypic complementarity and phylogeny on the nested structure of mutualistic networks
Oikos 116: 1919-1929 (2007)

47. Rezende E., Lavabre J.E., Guimarães P.R. Jr., Jordano P. and **Bascompte J.**
Non-random coextinctions in phylogenetically structured mutualistic networks
Nature 448: 925-928 (2007)

46. Nielsen A. and **Bascompte J.**
Ecological networks, nestedness and sampling effort
Journal of Ecology 95: 1134-1141 (2007)

45. **Bascompte J.**, Luque B., Olarrea J., and Lacasa L.
A probabilistic model of reserve design
Journal of theoretical Biology 247: 205-211 (2007)

44. **Bascompte J.**, Jordano P. and Olesen J.M.
Response to Comment on "Asymmetric coevolutionary networks facilitate biodiversity maintenance"
Science 313: 1887c (2006)

43. **Bascompte J.**, Jordano P. and Olesen J.M.
Asymmetric coevolutionary networks facilitate biodiversity maintenance[7]
Science 312: 431-433 (2006)

42. Fortuna M.A., Carola Gómez-Rodríguez and **Bascompte J.**
Spatial network structure and amphibian persistence in stochastic environments
Proceedings Royal Society London, Series B 273: 1429-1434 (2006)

41. Lewinsohn, T.M., Prado P.I., Jordano P., **Bascompte J.** and Olesen J.M.
Structure in plant-animal interaction assemblages
Oikos 113: 174-184 (2006)

40. Fortuna M.A. and **Bascompte J.**
Habitat loss and the structure of plant-animal mutualistic networks
Ecology Letters 9: 281-286 (2006)

39. Olesen J.M., **Bascompte J.**, Dupont Y.L. and Jordano P.
The smallest of all worlds: pollination networks
Journal of theoretical Biology 240: 270-276 (2006)

38. **Bascompte J.** and Melián C.J.
Simple trophic modules for complex food webs
Ecology 86: 2868-2873 (2005)

37. **Bascompte J.**, Melián C.J. and Sala E.
Interaction strength combinations and the overfishing of a marine food web

[7] Among the "all time top papers" in the category of Ecology of Faculty of 1000 Biology. It received the George Mercer Award of the Ecological Society of America for the best paper published in the previous two years by an author below 40 years.

Proceedings of the National Academy of Sciences USA 100: 5443-5447 (2005)

36. Guimarães P.R., De Aguiar M.A.M., **Bascompte J.**, Jordano P. and Furtado dos Reis S.
Random initial conditions in small Barabasi-Albert networks and deviations from the scale-free behavior
Physical Review E, 71: 037101(2005)

35. Micheli F., Amarasekare P., **Bascompte J.** and Gerber L.R.
Including species interactions in the design and evaluation of marine reserves: some insights from a predator-prey model
Bulletin of Marine Science 74: 653-669 (2004)

34. Melián C.J. and **Bascompte J.**
Food web cohesion
Ecology 85: 352-358 (2004)

33. **Bascompte J.**, Jordano P., Melián C.J. and Olesen J.M.
The nested assembly of plant-animal mutualistic networks[8]
Proceedings of the National Academy of Sciences USA 100: 9383-9387 (2003)

32. Liebhold A. and **Bascompte J.**
The Alle effect, stochastic dynamics and the eradication of alien species
Ecology Letters 6: 133-140 (2003)

31. Jordano P., **Bascompte J.** and Olesen J.M.
Invariant properties in coevolutionary networks of plant-animal interactions
Ecology Letters 6: 69-81 (2003)

30. Melián C.J. and **Bascompte J.**
Complex networks: two ways to be robust?
Ecology Letters 5: 705-708 (2002)

29. Ovaskainen O., Sato K., **Bascompte J.** and Hanski I.
Metapopulation models for extinction threshold in spatially correlated landscapes
Journal of theoretical Biology 215: 95-108 (2002)

28. Gerber L.R., Kareiva P.M. and **Bascompte J.**
The influence of life history attributes and fishing pressure on the efficacy of marine reserves
Biological Conservation 106: 11-18 (2002)

27. Melián C.J. and **Bascompte J.**
Food web structure and habitat loss
Ecology Letters 5: 37-46 (2002)

26. **Bascompte J.**, Possingham H. and Roughgarden J.
Patchy populations in stochastic environments: critical number of patches for persistence
The American Naturalist 159: 128-137 (2002)

25. Roemer G.W., Coonan T.J., Garcelona D.K., **Bascompte J.** and Laughgrin L.
Feral pigs facilitate hyperpredation by golden eagles and indirectly cause the decline of the island fox
Animal Conservation 4: 307-318 (2001)

24. **Bascompte J.** and Rodríguez M.A.
Habitat patchiness and plant species richness
Ecology Letters 4: 417-420 (2001)

[8] Most cited research paper with 1,387 citations (Web of Science, April 1, 2022). Included in the series *Reflections on Papers Past*.

23. Bjørnstad O.N. and **Bascompte J.**
Synchrony and second order spatial correlation in host-parasitoid systems
Journal of Animal Ecology 70: 924-933 (2001)

22. **Bascompte J.**
Aggregate statistical measures and metapopulation dynamics
Journal of theoretical Biology 209: 373-379 (2001)

21. **Bascompte J.** and Rodríguez M.A.
Self-disturbance as a source of spatiotemporal heterogeneity: the case of the tallgrass prairie
Journal of theoretical Biology 204: 153-164 (2000)

20. Kendall B.E., Bjørnstad O.N., **Bascompte J.**, Keitt T.H. and Fagan W.F.
Dispersal, environmental correlation and spatial synchrony in population dynamics
The American Naturalist 155: 628-636 (2000)

19. Micheli F., Cottingham K.L., **Bascompte J.**, Bjørnstad O.N., Eckert G.L., Fischer J.M., Keitt T.H., Kendall B.E., Klug J.L. and Rusak J.A.
The dual nature of community variability
Oikos 85: 161-169 (1999)

18. **Bascompte J.** and Solé R.V.
Effects of habitat destruction in a prey-predator metapopulation model
Journal of theoretical Biology 195: 383-393 (1998)

17. **Bascompte J.** .and Rodríguez-Trelles F.
Eradication thresholds in epidemiology, conservation biology and genetics
Journal of theoretical Biology 192: 415-418 (1998)

16. **Bascompte J.** and Vilà C.
Fractals and search paths in mammals
Landscape Ecology 12: 213-221 (1997)

15. **Bascompte J.**, Solé R.V. and Martínez N.
Population cycles and spatial patterns in snowshoe hares: an individual-oriented simulation
Journal of theoretical Biology 187: 213-222 (1997)

14. Solé R.V., **Bascompte J.** and Manrubia S.C.
Extinctions: bad genes or weak chaos?
Proceedings of the Royal Society London B 263: 1407-1413 (1996)

13. **Bascompte J.** and Solé R.V.
Habitat fragmentation and extinction thresholds in spatially explicit models
Journal of Animal Ecology 65: 465-473 (1996)

12. Solé R.V. and **Bascompte J.**
Are critical phenomena relevant to large-scale evolution?
Proceedings of the Royal Society London B 263: 161-168 (1996)

11. Solé R.V. and **Bascompte J.**
Measuring chaos from spatial information
Journal of theoretical Biology 175: 139-147 (1995)

10. **Bascompte J.** and Solé R.V.
Spatial dynamics and chaos
Trends in Ecology and Evolution 10: 491-492 (1995)

9. **Bascompte J.** and Solé R.V.

Appropriate formulations for dispersal in spatially structured models: reply
Journal of Animal Ecology 64: 665-666 (1995)

8. **Bascompte J.** and Solé R.V.
Local and ensemble dynamics of linked populations: Reply to Ruxton
Journal of Animal Ecology 63: 1003-1003 (1994)

7. Solé R.V. and **Bascompte J.**
Ecological chaos
Nature 367: 418 (1994)

6. **Bascompte J.** and Solé R.V.
Spatially-induced bifurcations in single-species population dynamics
Journal of Animal Ecology 63: 256-264 (1994)

5. Solé R.V. and **Bascompte J.**
Chaotic Turing structures
Physics Letters A 179: 325-331 (1993)

4. **Bascompte J.**, Solé R.V. and Valls J.
Chaotic behaviour in simulated planktonic successions: I. Discrete temporal maps
Scientia Marina 56: 285-292 (1992)

3. Solé R.V., **Bascompte J.** and Valls J.
Stability and complexity of spatially extended two-species competition
Journal of theoretical Biology 159: 469-480 (1992)

2. Solé R.V., **Bascompte J.** and Valls J.
Nonequilibrium dynamics in lattice ecosystems: chaotic stability and dissipative structures
Chaos 2: 387-395 (1992)

1. Solé R.V., Valls J. and **Bascompte J.**
Spiral waves, chaos and multiple attractors in lattice models of interacting populations
Physics Letters A 166: 123-128 (1992)

Reviews and Perspectives

31. Hall, A.R., Ashby, B., **Bascompte, J.**, and King, K.C.
Measuring coevolutionary dynamics in species-rich communities
Trends in Ecology and Evolution, 35: 539-550 (2020)

30. Chomicki, G., Weber,M., Antonelli, A., **Bascompte, J.** and Kiers, E.T.
The impact of mutualisms on species richness
Trends in Ecology and Evolution, 34: 698-711 (2019)

29. **Bascompte, J.** Mutualism and biodiversity
Current Biology 29: R467-R470 (2019)

28. Sebastian Mariani M., Ren, Z.-M., **Bascompte J.**, and Tessone, C.J.
Nestedness in complex networks: observation, emergence, and implications
Physics Reports 813: 1-90 (2019)

27. Pellissier L., Albouy C., **Bascompte J.**, Farwig N., Graham C., Loreau M., Maglianesi M.A., Melián C. J., Pitteloud C., Roslin T., Rohr R.P., Saavedra S., Thuiller W., Woodward G., Zimmermann N.E., and Gravel D.
Comparing species interaction networks along environmental gradients

Biological Reviews 93: 785-800 (2018)

26. Levine J.M., **Bascompte J.**, Adler P.B. and Allesina S.
Beyond pairwise coexistence: biodiversity maintenance in complex communities
Nature 546: 56-64 (2017)

25. Österblom H., Scheffer M., F. Westley, Miguel van Esso, John Miller and **Bascompte J.**
A message from magic to science; seeing how the brain can be tricked may strengthen our thinking
Ecology and Society 20: 16 (2015)

24. Scheffer M., **Bascompte J.**, Bjordam T.K., Carpenter S.R., Clarke L.B., Folke C., Marquet P., Mazzeo N., Meerhoff M., Sala O. and F. R. Westley F. R.
Dual thinking for scientists
Ecology and Society 20 (2): 3 (2015)

23. **Bascompte J.**
Adaptation, fast and endless
Science 341:130-131 (2013)

22. **Bascompte J.**
Las Matemáticas de la biodiversidad
Investigaciõn y Ciencia October (2013)

21. Scheffer M., Carpenter S.R., Lenton T.M., **Bascompte J.**, Brock W., Dakos V., van de Koppel J., van de Leemput I.A., Levin S.A., van Nes E.H., Pascual M. and Vandermeer J.
Anticipating critical transitions
Science 338: 344-348 (2012)

20. Barnosky A.D., Hadly E.A., **Bascompte J.**, Berlow E.L., Brown J.H., Fortelius M., Getz W.M., Harte J., Hastings A., Marquet P.A., Martinez N.D., Mooers A., Roopnarine P., Vermeij G., Williams J.W., Gillespie R., Kitzes J., Marshall C., Matzke N., Mindell D.P., Revilla E. and Smith A.B.
Approaching a state shift in Earth's biosphere
Nature 486: 52-58 (2012)

19. **Bascompte J.**
Structure and dynamics of ecological networks
Science 329: 765-766 (2010)

18. **Bascompte J.**, Aizen M., Fontaine C., Fortuna M.A., Jordano P., Lewinsohn T.M., Memmott J., Olesen J.M., Petanidou T., Rico-Gray V. and Thompson J.N.
Reports from the 2009 ESA Annual Meeting. Symposium 6: Mutualistic networks
Bulletin of the Ecological Society of America July 2010: 367-370 (2010)

17. Tylianakis J.M., Laliberte E., Nielsen A. and **Bascompte J.**
Conservation of species interaction Networks
Biological Conservation 143: 2270-2279 (2010)

16. Scheffer M., **Bascompte J.**, Brock W.A., Brovkin V., Carpenter S.R., Dakos V., Held H., van Nes E.H., Rietkerk M. and Sugihara G.
Early-warning signals for critical transitions
Nature 461: 53-59 (2009)

15. **Bascompte J.**
Disentangling the web of life
Science 325: 416-419 (2009)

14. Ings T.C., Montoya J., **Bascompte J.**, Bluethgen N., Brown L., Dormann C.F. Edwards F., Figueroa D., Jacob U., Jones J.I., Laurisden R.B., Ledger M.E., Lewis Hannah M., Olesen J., Van Veen F.J.F., Warren

P.H. and Woodward G.
Ecological networks - beyond food webs
Journal of Animal Ecology 78:253-269 (2009)

13. **Bascompte J.** and Stouffer D.B.
The assembly and disassembly of ecological networks
Philosophical Transactions of the Royal Society 364: 1781-1787 (2009)

12. **Bascompte J.**
Mutualistic Networks
Frontiers in Ecology and the Environment 7: 429-436 (2009)

11. Tylianakis J.M., Didham R.K., **Bascompte J.** and Wardle D.A.
Global change and species interactions in terrestrial ecosystems[9]
Ecology Letters 11: 1351-1363 (2008)

10. **Bascompte J.**
Plant-animal mutualistic networks: the architecture of biodiversity
Revista de la Real Academia de Ciencias Serie A Matemáticas 10: 221-223 (2007)

9. **Bascompte J.** and Jordano P.
Plant-animal mutualistic networks: the architecture of biodiversity
Annual Review of Ecology, Evolution and Systematics 38: 567-593 (2007)

8. **Bascompte J.**
Biology and Mathematics
ARBOR 725: 347-351 (2007).

7. **Bascompte J.**
Networks in Ecology
Basic and Applied Ecology 8: 485-490 (2007)

6. **Bascompte J.**
Flirting with reality **Trends in Ecology and Evolution** 21: 531-540 (2006)

5. **Bascompte J.**
Extinction thresholds: insights from simple models
Annales Zoologici Fennici 40: 99-114 (2003)

4. Solé R.V., Alonso D., **Bascompte J.** and Manrubia S.C.
On the fractal nature of ecological and macroevolutionary dynamics
Fractals 9: 1-16 (2001)

3. **Bascompte J.** and Solé R.V.
Spatiotemporal patterns in nature
Trends in Ecology and Evolution 13: 173-174 (1998)

2. Solé R.V., Manrubia S.C., Luque B., Delgado J. and **Bascompte J.**
Phase transitions and complex systems
Complexity 1: 13-26 (1996)

1. **Bascompte J.** and Solé R.V.
Rethinking complexity: modelling spatiotemporal dynamics in ecology
Trends in Ecology and Evolution, 10: 361-366 (1995)

[9] It was the January 2010 Hot Paper according to ScienceWatch, ISI Web of Science, March 2012

Book Chapters

15. **Bascompte J.** and Ferrera A.
A structural theory of mutualistic networks
In *Theoretical Ecology: Concepts and Applications.* McCann K. and Gellner G. eds. pp. 93-115. Oxford University Press (2020)

14. **Bascompte J.** and Olesen J.M.
Mutualistic networks
In *Mutualism.* Bronstein J.L., ed. pp. 203-220. Oxford University Press (2015)

13. Jordano P., Vázquez D. and **Bascompte J.**
Redes complejas de interacciones mutualistas planta-animal
in *Ecología y Evolución de Interacciones Planta-Animal,* Medel R., Aizen M.A. and Zamora R., eds. pp. 17-42. Editorial Universitaria Santiago de Chile (2009)

12. Belgrano A., Dunne J. and **Bascompte J.**
Food webs
in *Encyclopedia of Ocean Sciences.* Steele J, Thorpe S. and Turekian K, eds. pp. 596-603 (2009)

11. Stouffer D.B., Fortuna M.A. and **Bascompte J.**
Ideas for moving beyond structure to dynamics of ecological networks
in *Handbook on Biological Networks.* Boccaletti S., Latora V., and Moreno Y., eds. pp. 307-328- World Scientific Publishing Company (2009)

10. Fortuna M.A. and **Bascompte J.**
The network approach in ecology
In *Unity in Diverstity. Reflections in Ecology. After the Legacy of Margalef* Valladares F. *et al.*, eds. pp. 371-392. BBVA Foundation (2008)

9. **Bascompte J.**
Ecological Systems
In *Encyclopedia of Complexity and System Science*: 00479. Springer (2008)

8. **Bascompte J.** and Jordano P.
The structure of plant-animal mutualistic networks
In *Ecological Networks: Linking Structure to Dynamics in Food Webs,* Pascual M. and Dunne J., editors. Oxford University Press pp.143-149 (2006)

7. Jordano P., **Bascompte J.** and Olesen J.M.
The ecological consequences of complex topology and nested structure in pollination webs
In *Specialization and Generalization in Plant-Pollinatior Interactions.* University of.Chicago Press, pp. 173-199 (2006)

6. Melián C.J., **Bascompte J.** and Jordano P.
Spatial structure and dynamics in a marine food web
In *Aquatic Food Webs,* Belgrano A. et al. editors. Oxford University Press, pp. 19-24 (2005)

5. **Bascompte J.**
Pattern Formation
in *Encyclopedia of Evolution.* Pagel M., editor. Oxford University Press, pp. 870-873 (2002)

4. **Bascompte J.**
Population dynamics
In *McGraw-Hill Yearbook of Science and Technology* pp 356-357(2000)

3. **Bascompte J.** and Solé R.V.

Models of habitat fragmentation
in *Modeling Spatiotemporal Dynamics in Ecology*, Bascompte J. and Solé R.V., edtrs., pp. 127-149, Springer-Verlag, Berlin (1998)

2. Solé R.V. and **Bascompte J.**
Emergent phenomena in spatially extended model ecosystems
in *Modeling Spatiotemporal Dynamics in Ecology*, Bascompte J. and Solé R.V., edtrs., pp. 1-25, **Springer-Verlag** Berlin (1998)

1. **Bascompte J.**
Buscant l' Ordre Ocult dels Sistemes Biológics
In *Ordre i Caos en Ecología*, pp. 131-170, J. Flos, edtr., Promocions i Publicacions de la Universitat de Barcelona (1995)

Grants and Fellowships

2020—2024	Swiss National Science Foundation, PI: **Bascompte J.**
2017—2020	Syngenta Research Fellowship, Zurich-Basel Plant Science Center. PI: Niklaus P.
2017—2020	Swiss National Science Foundation, PI: **Bascompte J.**
2011—2016	European Science Foundation and EU's Seventh Framework Programme, through an Advanced Grant. PI: **Bascompte J.**
2012—2014	EU's Seventh Framework Programme, through a Marie Curie Actions-Intra European Fellowships for career development. PI: **Bascompte J.**
2011—2015	Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo (CYTED), PI: **Bascompte J.**
2009—2012	EU's Seventh Framework Programme, through a Marie Curie Actions, International Fellowship. PI: **Bascompte J.**
2012—2014	Junta de Andalucía's Excellence Project. PI: **Bascompte J.**
2008—2012	Junta de Andalucía's Excellence Project. PI: **Bascompte J.**
2007—2010	Junta de Andalucía's Excellence Project. PI: Aparicio A.
2007—2009	Spanish Dirección General de Investigación Científica y Técnica, Ministry of Science and Technology. PI: Jordano P.
2005—2010	European Heads of Research Councils and European Science Foundatio, through an European Young Investigator (EURYI) Award. PI: **Bascompte J.**
2005—2010	Junta de Andalucía's Excellence Project. PI: Jordano P.
2005—2007	European Commission, (6th Marco Program). PI: Kirkilionis M.
2004—2006	Spanish Dirección General de Investigación Científica y Técnica, Ministry of Science and Technology. PI: **Bascompte J.**
2004—2006	Spanish Dirección General de Investigación Científica y Técnica, Ministry of Science and Technology. PI: Jordano P.
2003—2006	Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo (CYTED), PI: Regino Zamora
2001—2003	Spanish Dirección General de Investigación Científica y Técnica, Ministry of Science and Technology. PI: **Bascompte J.**

2001—2010	Junta de Andalucía's Grant to research groups. PI: Jordano P.
1998—1999	USA National Science Foundation's Postdoctoral Fellowship, National Center for Ecological Analysis and Synthesis, UC Santa Barbara, USA
1996-1997	Postdoctoral Fellowship, Ministry of Education and Science, Spain
1993	Fellowship for Research, Abroad Generalitat de Catalunya, Spain

Panels and Committees

2020—	Member of the Advisory Comiittee of the Serrapilheira Institute, Brazil
2018—	Honorary Fellow of the South American Institute for Resilience and Sustainability Studies
2018—	Member of the World Economic Forum's Expert Network
2017—	UZH Forschungskredit and Mobility Grant committee
2016—	UZH Hiring Committees (Replacement Schmid B., Ecological Modelling) and Promotion Committes (Shimizu K., Petchey O., Pransehit S., Pozzorini S., Schaepman-Strub G., Niklaus P., Altermatt F.)
2016—	Corresponding Member of the Royal Academy of Sciences and Arts of Barcelona
2013—2018	Jury, BBVA Foundation's Frontiers of Knowledge Awards. Fundación BBVA
2013—2016	Consolidator Grant's Panel. European Research Council
2008—2012	Natural Resources Commission. Spanish Research Council
2010—	High Consultative Council on Research and Development of the Presidency of the Generalitat Valenciana. Generalitat Valenciana
2010—	Scientific Advisory Committee of the BBVA Foundation
2007—2015	Advisory Board Member, South American Institute for Resilience and Sustainability Studies, Uruguay
2006	Review panel, Research Council for Biosciences and Environment. Academy of Finland
2006—2008	Spanish National Committee of the International Union of Biological Sciences. Spanish-ICSU Committee Education and Science Ministry of Biological Sciences
2001—2004	Member of the Terrestrial Ecosystems Subcommittee of the International Geosphere-Biospehere Programme (IGBP-Spain)

Student and Postdoctoral Supervision

Master Students:

Klementyna Gawecka (2020-2021)
Geraldine Keat (2019), co-supervised by Matt Barbour
Maura Ganz (2019), co-supervised by Daniel Wechsler
Nagavci A. (2017), co-supervised by Fortuna M.A

Spescha, M. (2018), co-supervised by Loïc Pellissier
Zhao C. (2018), co-supervised by Marcel van der Heijden
Moore, M. (2018), co-supervised by Michael Griess
Jourdan C. (2017), co-supervised by Fortuna M.A
Haeussermann T. (2017), co-supervised by Fortuna M.A

PhD Students:

Pedraza F. University of Zurich, ongoing.
Wechsler D. University of Zurich, ongoing.
Lever J.J. Wageningen University, ongoing. (Co-supervised with Scheffer M.)
Gilarranz L.J. University of Alcalá, November 2015.
Fortuna M.A. University of Sevilla. March 2009
Guimarães P.R. Jr. Campinas (UNICAMP), Brazil. September 2006. (Co-supervised with Jordano P., Aguiar M. y Furtado dos Reis S.)
Melián C.J. University of Alcalá, Madrid. February 2005

Postdocs:

Klementyna Gawecka (2021-). PhD: Imperial College, London, UK,
Marilia Gaiarsa (2020-). PhD: University of São Paulo, Brazil,
Cámara-Leret R. (2019-). PhD: Universidad Autónoma de Madrid, Spain
Barbour M. (2016-). PhD: University of British Columbia, Canada
Gilarranz L.J. (2016-2017). PhD: Univeristy of Alcalá, Madrid, Spain
Saavedra S. (2012-2015). PhD: Oxford University, UK
Dakos V. (2012-2015). PhD: Wageningen University, Netherlands
Fortuna M.A. (2011-). PhD: University of Sevilla, Spain
Rohr R.P. (2011-2013). PhD: University of Geneva, Switzerland
Jabot F. (2010). PhD: CNRS, France
Stouffer D.B. (2007-2012). PhD: Northwestern University, USA
Buston P. (2006-2009). PhD: Cornell University, USA
Rezende E. (2006-2007). PhD: University of California, Riverside, USA

Note on mentoring: my students and postdocs are very competitive as judged by their subsequent positions after leaving my lab and/or their awards. Thus, my first Graduate Student, Carlos Melián, won the Spanish Environmental Award for a Young Scientists in 2003 and was awarded with an USA National Science Foundation's Postoctoral Fellowship at the National Center for Ecological Analysis and Synthesis in Santa Barbara. He is currently Associate Professor at the Center for Ecology, Evolution and Biogeochemistry, EAWAG in Kastanienbaum, Switzerland. Similarly, Paulo Guimarães was awarded the CAPES Award (given by the Brazilian National Agency for Undergraduate/Graduate Education) to the best PhD thesis in Brazil for Ecology and Environmental Science (2007). He is currently Associate Professor at the University of São Paulo. My former Graduate Student Miguel Angel Fortuna, won the Horst-Wiehe Award of the Ecological Society of Germany, Austria and Switzerland (2009), given each other year to a young researcher, normally regarding their PhD Thesis. Later on, he received a Postdoctoral Marie Curie Fellowship to join Prof. Simon Levin's laboratory at the University of Princeton. My former postdoc Enrico Rezende was appointed as a Senior Lecturer at the University of Roehampton, U.K. My former postdoc Daniel Stouffer was appointed Associate Professor at the University of Canterbury, NZ. Serguei Saavedra obtained an Assistant Professorship at MIT. They are all considered rising stars in their respective fields.

PhD Committees

Emanuele Giacomuzzo (2022–), Uriah Daugaard (2020–), Douglas Da Silva (2020–), Camille V. Jourdan (2020–), Xu Chongmeng (2020—), Vitali Zemilannski (2020—), Sören Weber (20019—), Ewa Merz (2019–), Xing Xing (2018—), Anubhav Gupata (2019—), Björn Vessman (2019—), Rien van Wjik (2016—), Pierre Laye (2017—), Esteban Guevara (2017—), Magdalena San Roman (2016—2020), Andrea Tabi (2017—2019), Sergio

Ramos (2016—2019), Gianalberto Losapio (2015—-2017).