

Michał Bogdziewicz, PhD

Professional experience:

2017 – now: Assistant Professor, Adam Mickiewicz University in Poznań, Poland

Education:

2020 - Habilitation in Ecology (*cum laude*), Adam Mickiewicz University in Poznań, Poland

2017 - PhD in Ecology, Adam Mickiewicz University in Poznań, Poland

2012 - M.Sc. in Biology (*cum laude*), Adam Mickiewicz University in Poznań, Poland

International internships:

- Postdoc, CREAM, University Autònoma de Barcelona, Spain (2019-2020)
- Postdoc, CREAM, University Autònoma de Barcelona, Spain (2017)
- PhD student, Tufts University, USA (2014, 2015)
- PhD student, Harvard Forest, Harvard University, USA (2013)

Editorial work, reviewer, expert panels

- Associate Editor at *Journal of Ecology* (2020 – now)
- Editor at *Agricultural and Forest Meteorology* (2020 – now)
- Appointed member of NCN Expert Panel for Life Sciences (2020) (Polish National Science Centre)
- Reviewer for ecological journals (120+ articles reviewed), including *Ecology Letters*, *Ecology*, *Journal of Ecology*, *Journal of Animal Ecology*, *New Phytologist*, *American Naturalist*, *Functional Ecology*, *Oikos*. The full list and history can be found on my [Publons profile](#).
- Grant reviewer for a number of European research agencies including: Czech Science Foundation, French National Research Agency (ANR), Polish National Agency for Academic Exchange (NAWA), BiodivERsA, Polish National Science Centre (NCN)
- Member of PhD committees and PhD theses reviewer (University Autònoma de Barcelona, University of Extremadura)

Selected invited presentations

- Global Change and Phenology Symposium at Frugivory and Seed Dispersal Conference 2020, India 02-06.03.2020 “Global warming disrupts masting in European beech”
- EU COST action “Modelling masting” work group meeting in Milan, Italy 03-05.04.2018 “Proximate drivers of masting seeding in trees”
- AMU monthly seminars, Poland 01.05.2018, “Drivers of masting behavior in forest trees”
- Wrocław University of Life Sciences, Poland 01.12.2017, “Proximate mechanisms of mast seeding”
- “Plant-Animal Mutualisms: Their Impact in Terrestrial Ecosystems” at the 9th International Symposium of Integrative Zoology, 27-31 August 2017 in Xining, Qinghai Province, China. “Role of indirect interactions in plant invasions”

Organization of international conferences

- Co-organizer of a masting symposium at the Society of Mathematical Biology meeting 2018: “Unravelling mechanisms underlying reproductive synchrony: from gene to ecosystems”, with Dave Kelly (University of Canterbury, NZ) and Akiko Satake (Kyushu University, Japan)

Partner in international scientific networks

- MAST-NET, an international network of researchers, coordinated from the University of Liverpool (prof. Andrew Hacket-Pain), investigating the causes of synchronized and variable seed production in plants (“masting”). The team draws together data from tropical, temperate and boreal forests to understand how masting varies between biomes, species, and across climate gradients. I am leading a work group that creates research agenda that will lay foundation to advance masting biology from a largely observational field to one rooted in experimental understanding.
- MASTIF, is a global network of researchers, coordinated from the Duke University (prof. James Clark), evaluating how climate, habitat, and individual traits control maturation and fecundity in trees. I am leading a working group that collects data from Europe and North America.
- EuroSmallMammals, is European-wide research network that collects spatio-temporal data of small mammals community and population dynamics, coordinate from Inland Norway University of Applied Sciences, under the umbrella of EuroMammals.org. I am a Polish partner in that project.

Prizes and Awards (15 awards and scholarships, including major polish awards for early career researchers).

- 2020: Excellence Award, Adam Mickiewicz University
- 2020, 2019, 2018: First Degree Award, Rector of Adam Mickiewicz University
- 2019, 2018: Rector of Adam Mickiewicz University Scholarship for Leading Assistant Professors
- 2018: Polish Minister of Science Award for Leading Researchers
- 2017: City of Poznan Scholarship for Leading Young Scientists and Artists of the City
- 2016: Foundation for Polish Science Scholarship ‘Start’ awarded to Leading Young Researchers
- 2015: Polish Ministry of Science and Higher Education Scholarship (Leading PhD Students)
- 2015, 2014, 2013: Dean scholarship for outstanding Ph.D. students
- 2015, 2014 Rector scholarship for outstanding Ph.D. students
- 2014: Adam Mickiewicz Foundation Scholarship

Funding (5 grants as PI, 3 grants as co-PI).

- 2021-2023: PI in a grant from National Science Centre (Sonata), “The role of resource dynamics in the reproduction of masting plants”, 1,024,049 PLN
- 2020-2022: co-PI in a grant from National Science Centre (Opus), “Linking individual plants masting behavior with their reproductive success. Is mast seeding under genetic control?”, PI: Magdalena Żywiec (PAS, Poland), financial support: 1,193,174 PLN
- 2019-2021: co-PI in a grant from National Science Centre (Harmonia): “Individuals make a difference: theoretical and empirical consequences of behavioural types in seed-dispersing animals”, PI: Rafał Zwolak (AMU, Poland), financial support: 901 397 PLN
- 2018-2020: co-PI in a grant from (UK) Natural Environment Research Council (NERC), no. NE/S007857/1: “MAST-NET: masting responses to climate change and impacts on ecosystems”, PIs: Andrew Hacket-Pain (Univ. of Liverpool), financial support: £99,862.15
- 2018-2020: PI in a grant from National Science Centre (Uwertura), no. 2018/28/U/NZ8/00003: „Experimental tests of mechanisms driving variability in reproduction of

trees”, financial support: 91 840 PLN

- 2017-2020: PI in a grant from (Polish) National Science Centre (Sonatina) no. 2017/24/C/NZ8/00151: “Phenology synchrony or pollen coupling? Experimental evaluation of the role of pollen limitation and plant resource state in driving seed production in masting plants”, financial support: 592 000 PLN
- 2015-2018: PI in a grant from (Polish) National Science Centre (Preludium) no. 2015/17/N/NZ8/01565: “Apparent predation in rodent seed dispersal: how does the introduction of an alien plant influence the native plant – seed disperser interaction?”, financial support: 129 168 PLN
- 2015-2017: PI in a grant from (Polish) National Science Centre (Etiuda) no. 2015/16/T/NZ8/00018: „Influence of chronic nitrogen deposition of plant – granivore interactions”, financial support: 92 758 PLN

Selected talks at (international) conferences in recent years

- 2020: 6th International Symposium on Frugivores & Seed Dispersal, India
- 2018: Society for Mathematical Biology Annual Meeting, Australia
- 2018: British Ecological Society Annual Meeting, UK
- 2017: 9th International Symposium of Integrative Zoology, China
- 2016: 15th Rodens et Spatium International Conference on Rodent Biology, Czech Republic
- 2016: 16th congress of the International Society for Behavioral Ecology, UK
- 2015: 6th International Symposium on Frugivores & Seed Dispersal, Republic of South Africa

Publications (49 papers in indexed journals, h-index: 17, citation count [GS]: 759). This includes three first-author papers in *New Phytologist*, two of which were published together with a commentary paper from a peer.

2021

49. Clark J. Andrus R.A., Aubry-Kientz M., Bergeron Y., **Bogdziewicz M.**, (...) et al. Continent-wide tree fecundity driven by indirect climate effects. **Nature Communications**, accepted

48. **Bogdziewicz M.**, Szymkowiak J., Tanentzap A., Calama R., Marino S., Steele M.A., Seget B., Piechnik Ł., Żywiec M. (2020) Seed predation selects for reproductive variability and synchrony in perennial plants. **New Phytologist**, <https://doi.org/10.1111/nph.16835> (**Dave Kelly commentary on the paper: <https://nph.onlinelibrary.wiley.com/doi/10.1111/nph.16990>**)

2020

47. **Bogdziewicz M.**, Pesendorfer M., Crone E.E., Pérez-Izquierdo C., Bonal R. (2020). Flowering synchrony drives pollination success in a wind-pollinated tree. **Ecology Letters**, <https://doi.org/10.1111/ele.13609>

46. **Bogdziewicz M.**, Szymkowiak J., Bonal R., Hacket-Pain A., Espelta J.M., Pesendorfer M., Grewling L., Kasprzyk I., Belmonte J., Kluska K., De Linares C., Penuelas J., Fernandez-Martinez M. (2020) What drives phenological synchrony? Warm springs advance and desynchronize flowering in trees. **Agricultural and Forest Meteorology**, <https://doi.org/10.1016/j.agrformet.2020.108140>

45. **Bogdziewicz M.**, Kelly D., Tanentzap A., Thomas P., Lageard J., Hacket-Pain A. (2020). Climate change strengthen the selection for masting in European beech. **Current Biology**, <https://doi.org/10.1016/j.cub.2020.06.056>
44. Zwolak R., **Bogdziewicz M.**, Crone E.E. (2020) On the need to evaluate costs and benefits of synzoochory for plant populations. **Journal of Ecology**, <https://doi.org/10.1111/1365-2745.13463>
43. **Bogdziewicz M.**, Szymkowiak J., Calama R., Crone E.E., Espelta J.M., Marino S., Steele M.A., Tenhumberg B., Tyre A., Żywiec M., Kelly D. (2020) Does masting scale with plant size? Large reproductive variability and low synchrony in small and unproductive plants. **Annals of Botany**, <https://doi.org/10.1093/aob/mcaa118>
42. Milne-Rostkowska F., Holeksa J., **Bogdziewicz M.**, Piechnik L., Łopata B., Kurek P., Buda K., Żywiec M. (2020) Where can palatable young trees escape herbivore pressure in a protected forest? **Forest Ecology and Management**, <https://doi.org/10.1016/j.foreco.2020.118221>
41. **Bogdziewicz M.**, Fernández-Martínez M., Espelta J., Ogaya R., Penuelas J. (2020) Is forest fecundity resistant to drought? Results from an 18-year rainfall-reduction experiment. **New Phytologist**, doi: 10.1111/nph.16597
40. Dylewski L., Ortega, Y., **Bogdziewicz M.**, Pearson D. (2020) Seed size predicts global effects of small mammal seed predation on plant recruitment: for natives and exotics. **Ecology Letters**, <https://doi.org/10.1111/ele.13499>
39. Fernández-Martínez M., Sardans J., Sayol F., LaMontagne J., **Bogdziewicz M.**, Collalti A., Hacket-Pain A., Vacchiano G., Espelta J., Peñuelas J., Janssens I.A. (2020) Variable reproduction goes beyond masting. **Nature Plants**, <https://doi.org/10.1038/s41477-020-0703-6>
38. **Bogdziewicz M.**, Kelly D., Thomas P., Lageard J., Hacket-Pain A. (2020) Climate warming disrupts mast seeding and its fitness benefits in European beech. **Nature Plants**, <https://www.nature.com/articles/s41477-020-0592-8>
37. Pesendorfer M., **Bogdziewicz M.**, Szymkowiak J., Borowski Z., Kantorowicz W., Espelta J.M., Fernandez-Martinez M., (2020). Investigating the relationship between climate, stand age, and temporal trends in masting behavior of European forest trees. **Global Change Biology**, <https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14945>
36. **Bogdziewicz M.**, Ascoli D., Hacket-Pain, Koenig W., Pearse I., Pesendorfer M., Satake A., Thomas P., Vacchiano G., Wohlgemuth T., Tanentzap A. (2020) From theory to experiments for testing the proximate mechanisms of mast seeding: an agenda for an experimental ecology. **Ecology Letters**, <https://onlinelibrary.wiley.com/doi/10.1111/ele.13442>
35. **Bogdziewicz M.**, Crone E.E., Zwolak R. (2020) Do benefits of seed dispersal and caching by scatterhoarders outweigh the costs of predation? An example with oaks and yellow-necked mice. **Journal of Ecology**, doi:10.1111/1365-2745.13307
34. **Bogdziewicz M.**, Canelo, T., Bonal R. (2020) Rainfall and host reproduction regulate population dynamics of a specialist seed predator. **Ecological Entomology**, <https://doi.org/10.1111/een.12770>

33. Fernández-Martínez M., Pearse I., Sardans J., Sayol F., Koenig W.D., LaMontagne J., **Bogdziewicz M.**, Collalti A., Hacket-Pain A., Vacchiano G., Espelta J., Peñuelas J., Janssens I.A. (2019) Nutrient scarcity as a selective pressure for mast seeding. **Nature Plants**, <https://www.nature.com/articles/s41477-019-0549-y>
32. **Bogdziewicz M.**, Żywiec M., Espelta J.M., Fernández-Martínez M., Calama R., Ledwoń M., McIntire E., Crone E. (2019) Environmental veto synchronizes mast seeding in four contrasting tree species. **The American Naturalist**, <https://dx.doi.org/10.1086/704111>
31. Zawierucha K., **Bogdziewicz M.**, Guil N., Zmudczyńska-Skarbek K. (2019) Seabirds modify trophic groups while altitude promotes xeric-tolerant species of abundant tundra invertebrates (Tardigrada) in a high Arctic fjord (Svalbard archipelago). **Acta Oecologica**, <https://doi.org/10.1016/j.actao.2019.05.007>
30. **Bogdziewicz M.**, Szymkowiak J., Fernández-Martínez M., Peñuelas J., Espelta J.M. (2019) The effects of local climate on the correlation between weather and seed production differ in two species with contrasting masting habit. **Agricultural and Forest Meteorology**, 268, 109-115, <https://doi.org/10.1016/j.agrformet.2019.01.016a>
29. Pesendorfer M., **Bogdziewicz M.**, Koenig W.D., Ledwoń M., Żywiec M. (2019) Declining seed production before death in a widely distributed tree, *Sorbus aucuparia* L. **Annals of Forest Science**, 76, 11 doi.org/10.1007/s13595-018-0791-x
28. **Bogdziewicz M.**, Lichti N., Zwolak R. (2019) Consumer-mediated apparent predation by a native plant lowers the fitness of an invasive competitor. **Journal of Ecology**, 107, 12-22, DOI: 10.1111/1365-2745.13023
27. **Bogdziewicz M.**, Espelta J.M., Bonal R. (2019) Tolerance to seed predation mediated by seed size increases at lower latitudes in a Mediterranean oak. **Annals of Botany**, 123, 707–714, <https://doi.org/10.1093/aob/mcy203>
26. Zawierucha K., Buda J., Fortaneto D., Frarzetti A., Wierzoń M., **Bogdziewicz M.** (2019) Fine-scale spatial heterogeneity of invertebrates within cryoconite holes. **Aquatic Ecology**, <https://doi.org/10.1007/s10452-019-09681-9a>

2018

25. **Bogdziewicz M.**, Marino S., Bonal R., Zwolak R., Steele MA. (2018) Rapid aggregative and reproductive responses of weevils to masting of North American oaks counteract predator satiation. **Ecology**, 99, 2575-2582, <https://doi.org/10.1002/ecy.2510>
24. **Bogdziewicz M.**, Steele M.A., Marino S., Crone E.E. (2018). Correlated seed failure as an environmental veto to synchronize reproduction of masting plants. **New Phytologist**, 219, 98-108, <https://doi.org/10.1111/nph.15108> (**Andrew Tanentzap commentary on the paper: <https://nph.onlinelibrary.wiley.com/doi/abs/10.1111/nph.15219>**)
23. **Bogdziewicz M.**, Espelta J.M., Munoz A., Aparicio J.M., Bonal R. (2018). Effectiveness of predator satiation in masting oaks is negatively affected by conspecific density. **Oecologia** 186 (4), 983–993 DOI: 10.1007/s00442-018-4069-7
22. **Bogdziewicz M.**, Bonal R., Espelta J.M., Kalembe E., Steele M.A., Zwolak R. (2018) Invasive oaks escape pre-dispersal insect seed predation and trap enemies in their seeds. **Integrative Zoology** (Special Issue: Plant—Animal Interactions), 13, 228-237, DOI: 10.1111/1749-4877.12285

21. Walczak U., **Bogdziewicz M.**, Żytkowiak R., Karolewski P., Baraniak E. (2018). Maladaptive host choice by alien leaf miner has the potential to limit the insect invasion. **European Journal of Entomology**, 115 (1), 318-325, doi: 10.14411/eje.2018.031
20. Zwolak R., Witczuk J., **Bogdziewicz M.**, Rychlik L., Pagacz S. (2018). Simultaneous population fluctuations of rodents in alpine forests and meadows suggest indirect effects of tree masting. **Journal of Mammalogy**, 99, 586–595 10.1093/jmammal/gyy034
19. Zawierucha K., Buda J., Pietryka M., Richter D., Łokas E., Lehmann-Konera S., Makowska N., **Bogdziewicz M.** (2018) Snapshot of micro-animals and associated biotic and abiotic environmental variables on the edge of South-West Greenland ice sheet. **Limnology**, 19, 141–150 DOI 10.1007/s10201-017-0528-9
18. Raši T., Majláth I., **Bogdziewicz M.**, Dudek K., Majláthová V., Almáši M., Tryjanowski P. (2018) Tick distribution along animal tracks: implication for preventative medicine. **Annals of Agricultural and Environmental Medicine**. 25, 360–363 DOI: <https://doi.org/10.26444/aaem/89919>

2017

17. **Bogdziewicz M.**, Fernández-Martínez M., Bonal R., Belmonte J., Espelta J.M. (2017) The Moran effect and environmental vetoes: phenological synchrony and drought drive seed production in a Mediterranean oak. **Proceedings of the Royal Society of London B**, 284, 20171784 <http://dx.doi.org/10.1098/rspb.2017.1784>
16. **Bogdziewicz M.**, Szymkowiak J., Kasprzyk I., Grewling L., Borowski Z., Borycka K., Kantorowicz W., Myszkowska D., Piotrowicz K., Ziemianin M., Pesendorfer M.B. (2017) Masting in wind-pollinated trees: the role of weather and pollination dynamics in driving seed production. **Ecology**, 98, 2615–2625, DOI: 10.1002/ecy.1951
15. **Bogdziewicz M.**, Crone E.E., Steele M.A. & Zwolak R. (2017) Effects of nitrogen deposition on reproduction in a masting tree: benefits of higher seed production are trumped by negative biotic interactions. **Journal of Ecology**, 105, 310-320 DOI: 10.1111/1365-2745.12673
14. Fernández-Martínez M, **Bogdziewicz M.**, Espelta J.M., Penuelas J. (2017) Nature beyond linearity: meteorological variability and Jensen's inequality can explain mast seeding behaviour. **Frontiers in Ecology and Evolution**, 5, 134, doi: 10.3389/fevo.2017.00134

2016

13. **Bogdziewicz M.** & Szymkowiak J. (2016) Oak acorn crop and Google search volume predict Lyme disease risk in temperate Europe. **Basic and Applied Ecology** 17: 300-307 DOI:10.1016/j.baae.2016.01.002
12. **Bogdziewicz M.**, Zwolak R. & Crone E.E. (2016) How do vertebrates respond to mast seeding? **Oikos** 125:300-307 (**Oikos Editor's Choice**) DOI: 10.1111/oik.03012
11. **Bogdziewicz M.**, Zwolak R., Redosh L., Rychlik L. & Crone E.E. (2016) Negative effects of density on space use of small mammals differ with the phase of the masting-induced population cycle. **Ecology and Evolution**, 6, 8423–8430 DOI: 10.1002/ece3.2513

10. Zwolak R., **Bogdziewicz M.**, Wróbel A. & Crone E.E. (2016) Advantages of masting in European beech: timing of granivore satiation and benefits of seed caching support the predator dispersal hypothesis. **Oecologia** 180:749-758 DOI: 10.1007/s00442-015-3511-3
9. Zwolak R., **Bogdziewicz M.** & Rychlik L. Beech masting modifies the response of rodents to forest management. **Forest Ecology and Management** 359:268-276 DOI:10.1016/j.foreco.2015.10.017
8. Krawczyk A., **Bogdziewicz M.**, Majkowska K. & Głazaczow A (2016) Diet composition of Eurasian otter (*Lutra lutra*) in different freshwater habitats of temperate Europe: a review and meta-analysis. **Mammal Review** 46:106-113 DOI: 10.1111/mam.12054
7. Głazaczow A., Oriwn D., **Bogdziewicz M.** (2016) Increased temperature delays the late-season phenology of multivoltine insect. **Scientific Reports**, 6 (38022) doi: 10.1038/srep38022

(2015 & older papers not shown)