



HAL
open science

Introduction to the Research Collection “Mediterranean Biocultural Diversity”

Pablo Domínguez, Claudia Speciale, Ilham Bentaleb

► To cite this version:

Pablo Domínguez, Claudia Speciale, Ilham Bentaleb. Introduction to the Research Collection “Mediterranean Biocultural Diversity”. *Human Ecology*, 2024, Mediterranean Biocultural Diversity, 52 (2), pp.223 - 225. 10.1007/s10745-024-00508-2 . hal-04801491

HAL Id: hal-04801491

<https://hal.science/hal-04801491v1>

Submitted on 25 Nov 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Introduction to the Research Collection “Mediterranean Biocultural Diversity”

Pablo Dominguez^{1,2,3} · Claudia Speciale^{4,5,6} · Ilham Bentaleb⁷

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2024

The concept that the overlap between biological and cultural diversity is not random first emerged during the International Congress of Ethnobiology in Belém, Brazil (1988). Since then, there has been increasing recognition of the close links between the loss of both cultural and biological diversity (Maffi, 2005; Gavin et al., 2015). The first biocultural diversity studies were conducted in tropical areas with high levels of cultural and biological diversity (Posey, & Balée, 1989), as well as non-western areas with Indigenous populations (Maffi & Woodley, 2010; Stepp, 2005) whose lifestyles, livelihoods, and in some cases, survival were under increasing threat from wider industrialized communities and the spread of diseases to which they lacked immunity (Oldfield & Alcorn, 1987). However, the Mediterranean Basin, while considered a cradle of cultures and a hotspot of biodiversity (Myers et al., 2000) with a rich history and important political changes, has been surprisingly overlooked. The researches presented here delve into aspects of the relations

of Mediterranean ecologies and cultures that have been previously partially spotted (e.g. La Rosa et al., 2021; Lepard, 2017), with the hope of inspiring further biocultural research in the region. For example Agnoletti and Emnueli’s co-edited book (2016) offers the first comprehensive work on the subject of biocultural diversity at the European continental scale. Schicchi et al.’s (2021) research proposes the first survey of monumental trees in Sicily highlighting the centennial scale of the relationship between humans and the olive tree cultivation. Plieninger et al.’s (2023) studies comparatively different Mediterranean sites (Morocco, Spain, Greece, Lebanon) highlighting the importance of four different biocultural systems (agdal, communal forests, sacred natural sites, and hima) to support human well-being. All in all, this special issue contributes to continue filling the gap of a still understudied phenomenon in the Mediterranean, at the same time that it does so by being the first special issue ever dedicated to this topic in this region.

The Mediterranean region can be defined through the superposition of a particular climate range (i.e. the so-called Mediterranean climate, marked by hot and dry summers and relatively mild and humid winters) and a geography comprising a complex mosaic of mountainous, insular, inland, and marine landscapes and seascapes at the intersection of three continents (Africa, Asia and Europe), where since the Neolithic era, humans have significantly impacted ecosystems through agriculture and the domestication of the biophysical environment, establishing modes of “co-evolution” that extend beyond mere economic and productive goals (Blondel, 2006, 2010; Abulafia, 2011; Perret et al., 2023). The diverse and continually evolving cultures of the Mediterranean have played a central role in shaping their landscapes and biotic components over time, and vice-versa. In such context, the continuity of this cultural diversity is crucial for maintaining this unique biological heritage (Carrer et al., 2020; Dominguez, 2016).

The 11 papers selected for this special issue of Human Ecology are related to the BioDivMeX program

✉ Claudia Speciale
cspeciale@iphes.cat

¹ Laboratoire Éco-anthropologie, UMR 7206 CNRS - (CNRS – MNHN – Université de Paris-cité), Musée de l’Homme, 17 place du Trocadéro – 75116, Paris, France

² Departament d’Antropologia Social i Cultural, Universitat Autònoma de Barcelona, Edifici B - Facultat de Filosofia i Lletres 08193, Bellaterra, Cerdanyola del Vallès, Spain

³ Aix Marseille Université, IRD, Laboratoire Population Environnement Développement (LPED), Marseille, France

⁴ IPHES-CERCA, Catalan Institute of Human Palaeoecology and Social Evolution, Tarragona, Spain

⁵ Departament d’Història i Història de l’Art, Universitat Rovira i Virgili (URV), Tarragona, Spain

⁶ Department of Historical Studies, University of Gothenburg, Gothenburg, Sweden

⁷ University of Montpellier, ISE-M UMR 5554, CNRS, IRD, EPHE, Montpellier, France

(BioDiversity of the Mediterranean eXperiment) which ran from 2015 to 2021. This program was one of the seven axes of the MISTRALS meta-project (Mediterranean Integrated Studies at Regional And Local Scales), funded by the CNRS (Centre Français de la Recherche Scientifique). These articles draw on various interdisciplinary expertises that contributed to this project including anthropology, ethnecology, historical ecology, archaeology, archaeobotany and linguistics.

The first set of papers addresses ancient and historical perspectives on Mediterranean cultural biodiversity and the role played by human communities in shaping modern landscapes. Archaeology, archaeobotany and paleoenvironmental studies contribute significantly to reconstructing the relationship of humans and vegetation during prehistory in Sicily, highlighting demographic changes due to climatic shifts and/or cultural/socio-economic choices from the Neolithic to the Bronze Age (Speciale et al.). Dietary choices, farming practices and forest management in the High Atlas mountains of Morocco are analyzed through archaeobotanical and isotopic perspectives (Ros et al.). The enduring legacy of cane reed use, reveals a shared millennial heritage in the Mediterranean basin in the paper by Verlaque et al.

The second group of papers focuses on Indigenous and Local Knowledge and their roles in the management strategies of the Mediterranean regions. For example, the traditional manual pollination of *Ficus carica* in the rif of Morocco illustrates the role of traditional knowledge and social exchange networks in preserving techniques (Hmimsa et al.), and the analysis of pastoral commons of North-East Andalusia (Spain), demonstrates that traditional long-distance transhumance systems foster greater biological diversity than modern short-distance transhumance, while this is boosted further when there is a well established formal community-based governance system (Godoy-Sepúlveda et al.). Values, rules and knowledge (VRK) determine environmental uses and ecosystems of the area of Mount Hermon in Lebanon, emphasizing the crucial collaboration between local communities and institutions for biocultural diversity conservation (Baydoun et al.). The final article in this group presents trans-species interactions between humans, crops and domestic animals on Pantelleria island (Italy) as a key bio-cultural case study (Aumeruddy-Thomas et al.).

The last set of papers focuses on conservation and the major risks of biocultural diversity loss in the region. An approach using geonarratives analyzes the interlinkages of changes in inner Sicily, where olive trees still play a central role in people's lives, while past biodiversity slowly erodes alongside traditional society (Ferrara et al.). High Atlas Morocco serves as the backdrop for a study illustrating how plant names are linked to local definitions and perceptions of place, as well as how socio-economic and environmental

changes induce crucial changes in biocultural heritage (Soldal et al.). Shifting to marine heritage, sponge fishery has rapidly changed over the last centuries due to overexploitation, market shifts and climatic constraints; a focus on case studies from Tunisia and Greece, the two main sponge producers of the Mediterranean, is presented (Fourt et al.). Lastly, a review of the exploitation of the biological resources on small islands shows a very fast erosion rate, emphasizing the urgent need for intervention to preserve the Mediterranean biocultural legacy (Pasta, Medail).

Overall, the selected case studies illustrate overlaps between biological and cultural diversities in a region where this phenomenon is still overlooked. At the same time, they often point at how the loss of cultural diversity and biodiversity – involving local and impoverished communities' displacement from environmental governance, economic and political centrality and/or the loss of traditional environmental knowledge – can affect both ecosystems and cultures along with livelihoods. Mediterranean biocultural diversities that evolved in highly sustainable and resilient systems since pre-historical periods, including unique local knowledge systems upon which depend many landscapes, habitats, species, varieties and human populations, require to build on many features of past systems along with present innovations, in order to survive in the context of global changes linked to the increasing intensity of industrialization.

References

- Abulafia, D. (2011). *The Great Sea: A Human History of the Mediterranean*. Oxford University Press, Oxford, UK, ISBN 978-0713999341. 816 pp.
- Agnoletti, M., & Emanuelli, F. (Eds.). (2016). *Biocultural diversity in Europe* (pp. 105–122). Springer.
- Blondel, J. (2006). The 'Design' of Mediterranean landscapes: A millennial story of humans and Ecological systems during the historic period. *Human Ecology*, 34, 713–729. <https://doi.org/10.1007/s10745-006-9030-4>.
- Blondel, J. (2010). *The Mediterranean region: Biological diversity in space and time*. Oxford University Press.
- Carrer, F., Walsh, K., & Mocchi, F. (2020). Ecology, Economy, and Upland landscapes: Socio-Ecological Dynamics in the Alps during the transition to Modernity. *Human Ecology*, 48, 69–84. <https://doi.org/10.1007/s10745-020-00130-y>.
- Dominguez, P. (2016). A comparative study of Two Mediterranean Transhumant Systems and the Biocultural Diversity Associated with them. In M. Agnoletti, & F. Emanuelli (Eds.), *Biocultural Diversity in Europe. Environmental history* (Vol. 5). Springer. https://doi.org/10.1007/978-3-319-26315-1_5.
- Gavin, M. C., McCarter, J., Mead, A., Berkes, F., Stepp, J. R., Peterson, D., & Tang, R. (2015). Defining biocultural approaches to conservation. *Trends in Ecology & Evolution*, 30(3), 140–145.
- La Rosa, A., Cornara, L., Saitta, A., Salam, A. M., Grammatico, S., Caputo, M., La Mantia, T., & Quave, C. L. (2021). Ethnobotany of the Aegadian Islands: Safeguarding biocultural refugia in the Mediterranean. *Journal of Ethnobiology and Ethnomedicine*, 17, 47. <https://doi.org/10.1186/s13002-021-00470-z>.

- Leppard, T. P. (2017). The Biophysical effects of Neolithic Island colonization: General Dynamics and Sociocultural implications. *Human Ecology*, 45, 555–568. <https://doi.org/10.1007/s10745-017-9939-9>.
- Maffi, L. (2005). Linguistic, Cultural, and Biological Diversity. *Annual Review of Anthropology*, 34, 599–618.
- Maffi, L., & Woodley, E. (Eds.). (2010). *Biocultural Diversity Conservation: A Global Sourcebook*. Earthscan.
- Myers, N., Mittermeier, R. A., Mittermeier, C. G., da Fonseca, G. A. B., & Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature*, 403, 853–858. <https://doi.org/10.1038/35002501>.
- Oldfield, M. L., & Alcorn, J. B. (1987). Conservation of traditional agroecosystems. *BioScience*, 37(3), 199–208.
- Perret, J., Cobelli, O., Taudière, A., Andrieu, J., Aumeeruddy-Thomas, Y., Souissi, J. B., Besnard, G., Casazza, G., Crochet, P. A., Decaëns, T., Denis, F., Geniez, P., Loizides, M., Médail, F., Pasqualini, V., Speciale, C., Battesti, V., Chevaldonné, P., Lejeusne, C., & Richard, F. (2023). Time to refine the geography of biodiversity hotspots by integrating molecular data: The Mediterranean Basin as a case study. *Biological Conservation*, 284, 110162. <https://doi.org/10.1016/j.biocon.2023.110162>.
- Plieninger, T., Abunnasr, Y., D'Ambrosio, U., Guo, T., Kizos, T., Kmoch, L., Topp, E., & Varela, E. (2023). Biocultural conservation systems in the Mediterranean region: The role of values, rules, and knowledge. *Sustainability Science*, 18(2), 823–838. <https://doi.org/10.1007/s11625-022-01155-6>.
- Posey, D. A., & Balée, W. L. (Eds.). (1989). *Resource Management in Amazonia: Indigenous and Folk Strategies. (Advances in Economic Botany, 7)*. New York: New York Botanical Garden Press. ISBN 978-0-89327-340-8; ISBN 0-89327-340-6.
- Schicchi, R., Speciale, C., Amato, F., Bazan, G., Di Noto, G., Marino, P., Ricciardo, P., & Geraci, A. (2021). The monumental olive trees as Biocultural Heritage of Mediterranean landscapes: The Case Study of Sicily. *Sustainability*, 13(12), 6767. <https://doi.org/10.3390/su13126767>.
- Stepp, R. (2005). Mountains and biocultural diversity. *Mountain Research and Development*, 25(3), 223–227.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

For Approval