Reply to Rubenstein and Rubenstein: Time to move on from ideological debates on rewilding

In their comment (1) on our review and perspective on trophic rewilding science (2), Rubenstein and Rubenstein launch a critique not so much directed at our study as at trophic rewilding as a conservation approach. They first lament that Pleistocene rewilding has not been scientifically studied since the term was introduced. This is much in line with our study, where we conclude that empirical research on trophic rewilding is rare, fragmented, and geographically biased, with the literature dominated by essays and opinion pieces, and follow this up by providing recommendations for research opportunities and priorities. Rubenstein and Rubenstein (1) then claim that we repackage the concept of Pleistocene rewilding (3) under the new term “trophic rewilding,” defined as species reintroductions to restore top-down trophic interactions and associated trophic cascades to promote self-regulating biodiverse ecosystems (2). However, the two concepts are not identical. Notably, with the name and definition of trophic rewilding we provide emphasis on a clear, testable functional objective rather than on a certain time frame.

As their third point, Rubenstein and Rubenstein (1) argue that large-scale reintroductions of proxy species are too risky. Rather than dismissing an entire approach based on opinion, we argue for developing a systematic research program on the scientific basis for trophic rewilding, including for evaluating benefits and risks. Furthermore, we recommend that scientific assessments and monitoring efforts should be integrated into the increasing number of rewilding projects that are being implemented. We also believe Rubenstein and Rubenstein (1) exaggerate the risks when comparing rewilding to geoengineering proposals, because reintroductions would concern species or functional types with long histories in the focal region and because large animals can be controlled. Further, there are a number of analogous cases of unintentional rewilding, none of which has led to ecological catastrophes [e.g., reintroductions of horses to the New World (4)].

Finally, Rubenstein and Rubenstein (1) argue that trophic rewilding is a failed conservation strategy and that we instead should focus on preserving the ecosystems and species that remain, focusing on ways to feed the increasing human population without destroying biodiversity. This is a strange critique. Given that rewilding has yet to be broadly implemented, it is hardly fair to blame it for biodiversity’s precarious state. Further, Rubenstein and Rubenstein (1) seem to overlook the fact that proposals for rewilding explicitly argue for its implementation as part of the solution to maintaining biodiversity in a human-dominated world, with relevance in both densely populated regions and wilderness areas (3, 5). Rubenstein and Rubenstein (1) end, “It is time to be practical, not sensational. It is time to move on.” We agree. Practitioners are increasingly implementing rewilding (e.g., Rewilding Europe). It is time to move on from an essentially data-free, ideological debate to developing a scientific program for trophic rewilding science to inform policy makers and conservation practitioners, with the goal of reversing the decline in biodiversity.

Jens-Christian Svenning,1,2 Pil B. M. Pedersen,3 C. Josh Donlan,4 Rasmus Ejrnæs,4 Søren Faurby,4 Mauro Galetti,5 Dennis M. Hansen,6 Brody Sandel,6 Christopher J. Sandom,7 John W. Terborgh,7 and Frans W. M. Vera1
1Section for Ecoinformatics & Biodiversity, Department of Bioscience, Aarhus University, DK-8000 Aarhus C, Denmark; 2Advanced Conservation Strategies, Midway, UT 84049; 3Department of Ecology and Evolutionary Biology, Cornell University, Ithaca, NY 14853; 4Section for Biodiversity & Conservation, Department of Bioscience, Aarhus University, DK-8410 Rønde, Denmark; 5Departamento de Ecologia, Universidade Estadual Paulista, 13506-900 Rio Claro, São Paulo, Brazil; 6Institute of Evolutionary Biology and Environmental Studies, University of Zurich, 8057 Zurich, Switzerland; 7Wildlife Conservation Research Unit, Department of Zoology, University of Oxford, Recanati-Kaplan Centre, Oxfordshire OX13 5QL, United Kingdom; 8Center for Tropical Conservation, Nicholas School of the Environment and Earth Sciences, Duke University, Durham, NC 27708; and 9Community and Conservation Ecology, Groningen Institute for Evolutionary Life Sciences, University of Groningen, 9700 CC Groningen, The Netherlands


The authors declare no conflict of interest.

1To whom correspondence should be addressed. Email: svenning@bios.au.dk.