

Response to Colyvan *et al.* 2009. “Philosophical Issues in Ecology: Recent Trends and Future Directions”

Biodiversity and Biodisparity

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Key Words: *biodisparity; biodiversity; disparity; diversity*

Disagreement about the appropriate definition and conceptualization of biodiversity is a fundamental problem in the philosophies of ecology and conservation biology, and I praise the authors for identifying and stating this. Discussions in which a term is employed but understood to mean different things by different discussants can lead to intellectual and practical frustration. Such is often the case when the term biodiversity is used to designate ecological properties valued either instrumentally (as means) or intrinsically (as ends). Perhaps this confusion can be alleviated by applying different terms to these two differing conceptualizations.

The terms “diversity” and “disparity” were both used in the essay, but a clear distinction was not made between their meanings in this context; moreover, disparity was mentioned only once and was defined as “taxonomic diversity above the species level” (Colyvan *et al.* 2009). Stephen Jay Gould (1989) drew attention to this popular conflation of meanings, arguing for the use of diversity when referring to species richness but disparity when referring to taxonomic uniqueness.

Following the example given in the essay, “biodiversity” could be used when referring to ecologically redundant systems or communities (that is, those containing large numbers of functionally, morphologically, and/or genetically similar species), whereas “biodisparity” could be used alternatively when referring to systems or communities characterized by great functional, morphological, and/or genetic distance. If redundant systems tend toward stability and nonredundant systems toward instability, then conceptual and communicative clarity may be improved if the terms biodiversity and biodisparity are applied in reference to the biotic attributes of redundant and nonredundant systems, respectively, instead of amalgamating these two conceptualizations in the diversity category.

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LITERATURE CITED

Colyvan, M., S. Linquist, W. Grey, P. E. Griffiths, J. Odenbaugh, and H. P. Possingham. 2009. Philosophical issues in ecology: recent trends and future directions. *Ecology and Society* 14(2): 22. [online] URL: <http://www.ecologyandsociety.org/vol14/iss2/art22/>.

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