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Decomposing Diversity into Measures of Evenness, Similarity, and Richness

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Abstract. Biodiversity has many measurable aspects. However, given a diversity index, it is unclear whether it necessarily can be decomposed into components that reflect these different aspects. We present a scheme to decompose the Leinster and Cobbold diversity index, which subsumes and generalises many other indices, into the components of richness, evenness, and taxonomic similarity. The discussion leads to an interesting problem in linear algebra. This is joint work with Bingzhang Chen.

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