Ecography

E7339
Tuomisto, H., Ruokolainen, L. and Ruokolainen, K. 2012. Modelling niche and neutral dynamics: on the ecological interpretation of variation partitioning results. – Ecography 35: xxx–xxx.

Supplementary material

Appendix 1

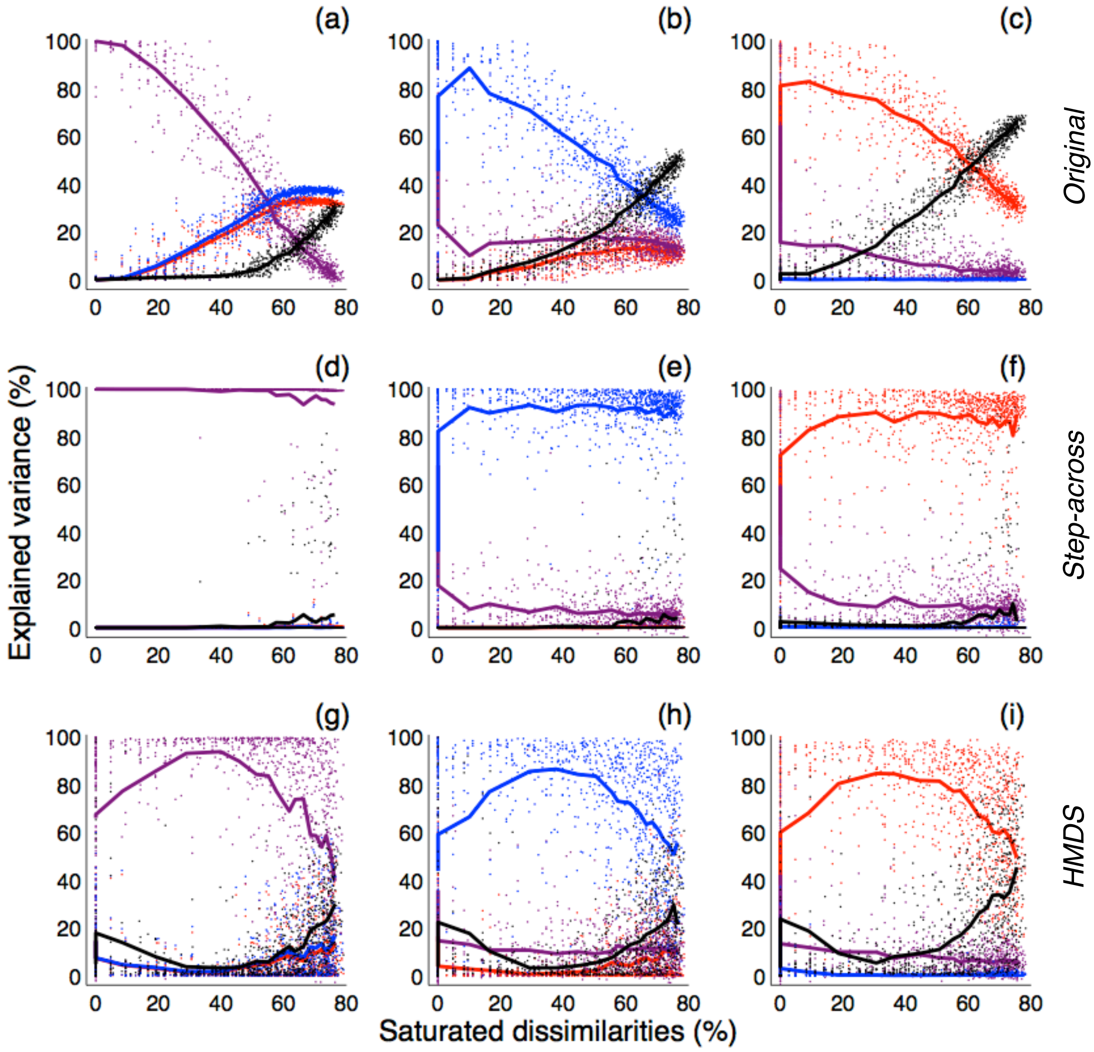

Figure A1. The fraction of explained variance in compositional (Sørensen) dissimilarities depends on the proportion of dissimilarities that have saturated to unity, when only a random sample of 25% of the sites for each gradient length are analysed. Increased saturation is caused by increased gradient length in all cases. **(a,d,g)** Scenario 1: model consistent with both dispersal limitation and niche specificity (see Fig. 1a in main text). **(b,e,h)** Scenario 2: model consistent with dispersal limitation only (see Fig. 1b in main text). **(c,f,i)** Scenario 3: model consistent with niche specificity only (see Fig. 1c in main text). **(a–c)** Untransformed, original dissimilarities used in the analysis. **(d–f)** Dissimilarities have been transformed using the step-across method. **(g–i)** Dissimilarities have been transformed using the HDMS method. The fractions of variance in the compositional dissimilarity matrix are: A = uniquely explained by environmental differences (**red**), C = uniquely explained by geographical distances (**blue**), B = jointly explained by environmental and geographical distances (**purple**), D = unexplained (**black**). Lines give the means over 100 independent replicates (dots).

Table A1. The degree of saturation in compositional dissimilarities present in ecological studies that have addressed Hubbell's neutral model since 2001. The papers were found by searching Google Scholar with the terms: "mantel test" "neutral theory" distance spatial environment. The resulting 334 references were manually checked, and those studies were selected for inclusion in the table that attempted to separate between the effects of niche and neutral processes on compositional dissimilarities with the help of partial Mantel tests and/or distance-based variance partitioning. Few papers explicitly mentioned the degree of saturation, so in most cases the information is based on visual estimation of what proportion of dissimilarities were aligned at the maximum possible value in published scatterplots.

Study	**Degree of saturation**
Andersen et al. (2010)	low
Beaudrot & Marshal (2011)	probably low
Bjorholm et al. (2008)	>50% for full data, 0% for subsets
Borthagaray et al. (2009)	low
Capers et al. (2010)	unknown
Cermeño et al. (2010)	low
Chase et al. (2009)	unknown
Chust et al. (2006a)	unknown
Chust et al. (2006b)	unknown
Doi et al. (2010)	low
Dumbrell et al. (2010)	low
Duque et al. (2009)	low
Freestone & Inouye (2006)	unknown
Genner et al. (2004)	unknown
Gilbert & Lechowicz (2004)	possibly large
Girdler & Connor Barrie (2008)	possibly large
Heino & Mykrä (2008)	unknown
Honorio Coronado et al. (2009)	low
Irigoien et al. (2011)	low
Jones et al. (2008)	>40% in some subsets
Krasnov et al. (2010)	possibly large
Leng et al. (2010)	low
Leprieur et al. (2009)	unknown
Macía et al. (2007)	unknown
McCauley et al. (2008)	low
Minor et al. (2009)	unknown
Paoli et al. (2006)	low
Parmentier (2005)	unknown

Parmentier & Hardy (2009)	low
Phillips et al. (2003)	low
Potts et al. (2002)	low
Poulsen et al. (2006)	low
Queloz et al. (2011)	low
Ruokolainen et al. (2007)	low
Sesnie et al. (2009)	unknown
Slik et al. (2003)	unknown
Smith & Bermingham (2005)	unknown
Steinitz et al. (2006)	low
Thompson & Townsend (2006)	low
Tuomisto et al. (2003a)	low
Tuomisto et al. (2003b)	20% in one subset, low in others
Vanschoenwinkel et al. (2007)	low
Vasconcelos et al. (2010)	low
Vormisto et al. (2004)	low
Wang et al. (2008)	low

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