RELATE hypothesis test

A permutation test can be applied to the matching coefficient ρ between any two resemblance matrices which are independently derived, with all sample labels in the active matrix matched with (some) labels in the supplied resemblances. As remarked in the previous section (in the context of testing for a significant match between biotic composition and a suite of environmental variables), it would not be appropriate to use RELATE on two matrices derived from the same data, e.g. by different transformation or aggregation level on the same set of species abundances. Under the null hypothesis of no relation in sample structure between the two similarity matrices, $\rho \approx$ 0. The null distribution of ρ either side of zero can be obtained by randomly permuting, many times, one (or both) sets of sample labels and recalculating ρ, to derive a histogram with which the true value of ρ can be compared. The following example is given in Chapter 15, CiMC (Breakdown of seriation).

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