

Species presence/abundance data: Symmetrical and asymmetrical coefficients

Does the value of the coefficient change in the same way when double-zeros and double-X (where X is any value > 0) are added to the data table?

Double-zero symmetrical dissimilarity coefficients for quantitative data that do not have a denominator have no upper limits. These indices do not change when double-zeros or double-X (where $X > 0$) are added to the two site vectors that are compared. Examples: Euclidean, Manhattan D .

Double-zero symmetrical binary similarity coefficients all have a denominator; these indices have values in the range $[0,1]$. These indices *increase* in the same way when double-zeros or double-1 are added to the two site vectors that are compared. — The corresponding D indices *decrease* in the same way when double-zeros or double-1 are added to the two compared site vectors. Example: Simple matching.

Double-zero asymmetrical dissimilarity coefficients do not change when double-zeros are added to the two site vectors that are compared, but they decrease when double-X (where X is any value > 0) are added. Examples: Hellinger, chord, percentage difference.

Double-zero asymmetrical binary similarity coefficients do not change when double-zeros are added to the two site vectors that are compared, but they increase when double-1 are added. Examples: Jaccard, Sørensen, Ochiai.