3.1 General description

Key references

- **Method**: Torgerson (1958) , Gower (1966)

PCO is a routine for performing principal coordinates analysis (Gower (1966)) on the basis of a (symmetric) resemblance matrix. PCO is also sometimes referred to as *classical scaling*, with origins in the psychometric literature (Torgerson (1958)). PCO places the samples onto Euclidean axes (i.e., so they can be drawn) using only a matrix of inter-point dissimilarities (e.g., Legendre & Legendre (1998)). Ordination using non-metric multi-dimensional scaling (MDS) focuses on preserving only the rank order of dissimilarities for an *a priori* chosen number of dimensions, whereas ordination using PCO (like PCA) is a projection onto axes, but (unlike PCA) in the space of the dissimilarity measure chosen. The user chooses the number of PCO axes to include in the output, but generally only the first two or three axes are drawn in ordination plots. A further utility provided in the PERMANOVA+ add-on that uses PCO axes is the option to calculate *distances among centroids* for levels of a chosen factor. This allows visualisation of centroids from an experimental design in the space of the resemblance measure chosen.

Revision #4
Created 10 August 2022 11:06:20 by Arden
Updated 5 September 2022 10:24:05 by Arden