Rotating & condensing dendrograms

The order of samples on the (by default) *x* axis of a dendrogram is to a large extent arbitrary, since all arrangements of samples along the axis, which do not lead to vertical and horizontal lines intersecting, are equally satisfactory displays – think of the dendrogram as a ‘mobile’, of horizontal rods and vertical strings, which can be rotated at will. Such rotations can be achieved by clicking on any of the horizontal ‘rods’ and, whilst it is not appropriate to use this feature to re-arrange the samples close to some desired *a priori* sequence(!), it can be useful in displaying visual agreement between clusters from different analysis choices, or comparing abiotic and biotic groupings for the same set of samples. Clicking on vertical ‘strings’ collapses the clustering under the selected point, replacing it with a single dashed (green) line, to indicate the presence of condensed structure. These lines are labelled with capital letters within a *text pane*, below the plot, which defines the samples contained in a hidden structure (suppressing the text pane is possible, by **Graph>General**). For dendrograms with many samples, this feature should make it possible to view the overall (coarse-level) structure, and the fine-level grouping can then be seen by zooming in on areas of the original dendrogram.

Re-open the workspace Groundfish ws from C:\Examples v7\Europe groundfish, met in Section 5, with datasheet Groundfish density of 277 samples of 93 groundfish species, captured in research trawl surveys of 9 areas of European shelf waters (factor *area*). Produce a dendrogram based on Bray-Curtis similarities from square root transformed densities, with **Pre-treatment>Transform (overall)**>(Transformation:Square root), **Analyse>Resemblance**>(Analyse between• Samples) & (Measure•Bray-Curtis similarity), **Analyse>Cluster>CLUSTER**>(Cluster mode•Group average). Alternatively, take (Cluster mode•Single linkage) for a clear demonstration of why group average linkage is generally superior to the ‘chaining’ that single linkage produces (see CiMC Chapter 3).

Revision #5
Created 13 June 2024 22:45:18 by Arden
Updated 21 January 2025 22:39:16 by Abby Miller