Shade Plot options in Matrix display

The Graph options taken automatically by **Matrix Display** to produce the final shade plot output are as follows. Firstly, **Graph>Sample Labels & Symbols**>(Symbols✓Plot)>(✓By factor: Site). Next **Special>Reorder**>Samples>(Order•Seriate>Sample resemblance Resem1) & (Constraint• Factor groups Site). The Seriate step – using the Bray-Curtis sample similarities from the full data Resem1 – was the one we switched to (Order•Original) above, at which point the Sample resemblance box is greyed out as not needed. The right of this **Reorder** dialog sets: Variables>(Order• Seriate>Variable resemblance Resem2) & (Constraint•Variable dendrogram Graph1), the latter thus displaying a dendrogram on the *y* axis which is the species clustering Graph1 we saw above. The seriate step also uses the species resemblances Resem2 on which this clustering is based, and the seriations on both axes (see below) need iterative processes from many different restarts, and this is set to (No. of seriate restarts: 99). It is important to realise, however, that when within the **Reorder** dialog any other worksheets or graphs could replace those computed automatically by **Matrix display**, since we are now within the **Shade Plot** routine, e.g. a different hierarchical clustering method could be shown (on either axis), such as the binary divisive **Analyse>Cluster>UNCTREE** – which of course you would have to run separately in advance of this **Reorder** stage, so that the relevant graphs are available. Another example of a separate analysis you might want to incorporate at this stage would be a species clustering which incorporated a (Type 3) SIMPROF grouping of species – see later in this section. Finally when you **OK** these steps and return to the initial **Special** dialog box, you will note that **Matrix Display** has ticked (✓Draw sample constraint group boundaries), which give the vertical divisions on the shade plot – these are determined by the Samples>(Constraint• Factor groups Site) step on the **Reorder** dialog.

You are likely to agree by now that **Wizards>Matrix Display** with its minimal three dialog boxes can save a lot of time and complexity compared with creating all the necessary sheets and graphs, and inputting those to **Plots>Shade Plot**! So it is usually worth using **Matrix Display** as a starting point and then amending the fine detail on the plot. More importantly, it ensures that robust options are taken so that you can interpret the Shade Plot with confidence that the data is being viewed in the form (in all essential respects) in which it is used by the multivariate ordinations and tests.

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