Basic multivariate analysis wizard

The three **Wizards** menu items carry out sequences of routines, all of which can be run separately but which it is either convenient or instructional to have bundled up in this way, at least until you are confident about the steps involved and can dispense with such a prescriptive (and proscriptive) approach. All three menu items are run with a data matrix, not a resemblance matrix, as the active sheet, and usually – though not exclusively – prior to any pre-treatment (they incorporate a limited choice of such options). If you are a novice user and, having opened a data sheet from Excel (with the help of the Excel File Wizard), you have little idea where to start, then the **Wizards>Basic multivariate analysis** is a simple instructional tool which leads you through the most commonly used steps in a multivariate analysis within PRIMER.

If the data has been created as of type Abundance (or Biomass) – this can be checked or changed with **Edit>Properties** – you are given options to standardise samples (the default is not to do this) and the usual choices of transformation (square root is the default), see Section 4, before Bray-Curtis similarity is suggested (though you can change this), Section 5. If the data's first (or only) factor has some repeated levels, then a 1-way ANOSIM test is offered on that factor (Section 9). Standard group average CLUSTER (Section 6) is always suggested, though can be deselected, but the SIMPROF test option is greyed out if the ANOSIM box is ticked, so both cannot be requested in the same run of the wizard. (This makes good sense of course – if there is a predefined structure which you are interested in enough to want to test, then that is the primary test to carry out). If the ANOSIM box is not checked, a SIMPROF test is the default. The MDS box is always checked by default – this will be *n*MDS with the usual default options of 50 restarts, 2-d and 3-d ordination plots and Shepard diagrams (Section 8). The final proffered option is a SIMPER analysis (yet to be met – see the end of this section), either on the ANOSIM factor if that has been selected, or on the groups created by SIMPROF. If neither is chosen, then SIMPER is greyed out.

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