

Special menu for ordination; Aspect ratio of boundary

We have seen before that, whilst the **Graph>Sample Labels & Symbols** and **General** menus are universal, having dialog boxes of the same form for all the graphics routines, the **Graph>Special** dialogs are specific to each routine, and this option is at its most extensive for ordination plots from *n*MDS, *m*MDS, PCA (and PCO in the PERMANOVA+ add-on). On the **Main** tab, options include specification of plot types, which axes to plot, setting up of a range of bubble plots, and animated displays of ordination points in time (or other) sequence. On an **Overlays** tab, there are options to overlay temporal or spatial trajectories through the points and vector plots, and various diagnostic aids, such as superimposing cluster results, minimum spanning tree and joining similar samples.

Before moving on to diagnostics it is natural here – having discussed zooming of rectangular boxes within an ordination – to cover the first option on **Graph>Special>Main**, the ability to change the aspect ratio of the boundary of an MDS plot. It was noted above that the aspect ratio of the points in an MDS must never change because this destroys their relative distances apart (in any direction), the key information that a (scale-less) *n*MDS carries. By default, the MDS points are placed within a rectangular border with an aspect ratio of 1.5:1, width to height. This is purely because the default configuration has been rotated to principal axes, as noted earlier, for presentational reasons: most plots are conveniently displayed in landscape rather than portrait format. However, if a different aspect ratio for the border is required (and of course there is no possibility of obtaining this by re-sizing the window displaying the plot!) then, for example, **Main >Plot type•2D>(Aspect ratio: 1)** will produce a square boundary. (Indeed, some practitioners prefer a square boundary for all MDS plots, since axis direction is arbitrary, and early versions of PRIMER did have this constraint.)

