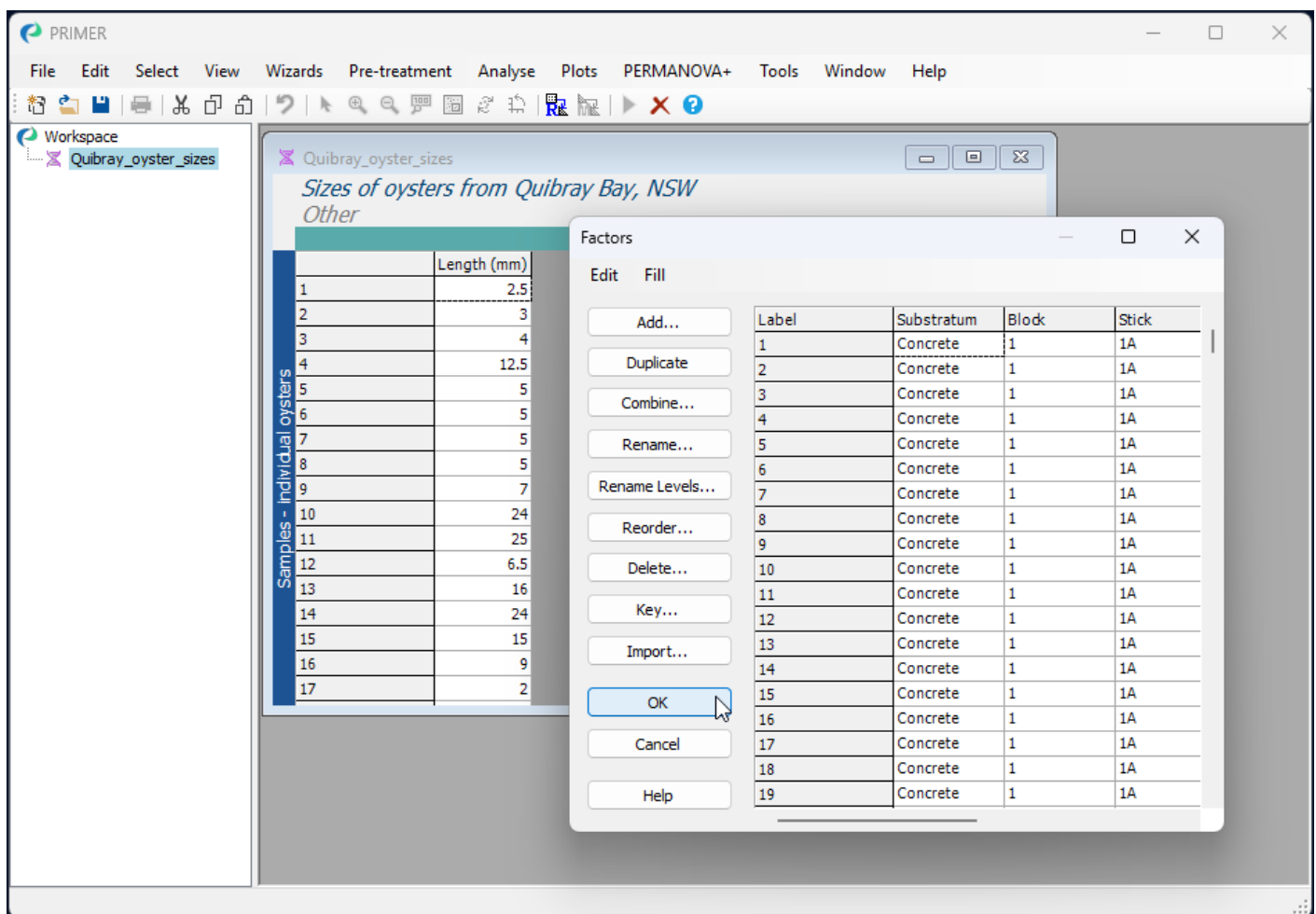


3.2 Example: Dotplot of oyster sizes

Let's re-visit the data on oyster sizes ([Anderson \(1992\)](#) , [Anderson & Underwood \(1994\)](#)). We have already seen some variation in the *cumulative distributions* of sizes of oysters settling on different types of substrata (see section 2.2). To compare these different distributions as densities, side-by-side, we'll compare the groups visually now, using a dot plot. The full set of data are contained in the file 'Quibray_oyster_sizes.pri', found in the 'Quibray_oysters' folder in 'Examples_P8'. Each row of the data file contains the length measurement for an individual oyster (in mm), and the factor 'Substratum' identifies the type of surface (concrete, marine plywood, fibreglass or aluminium) to which each measured oyster was attached.

Create a dot plot

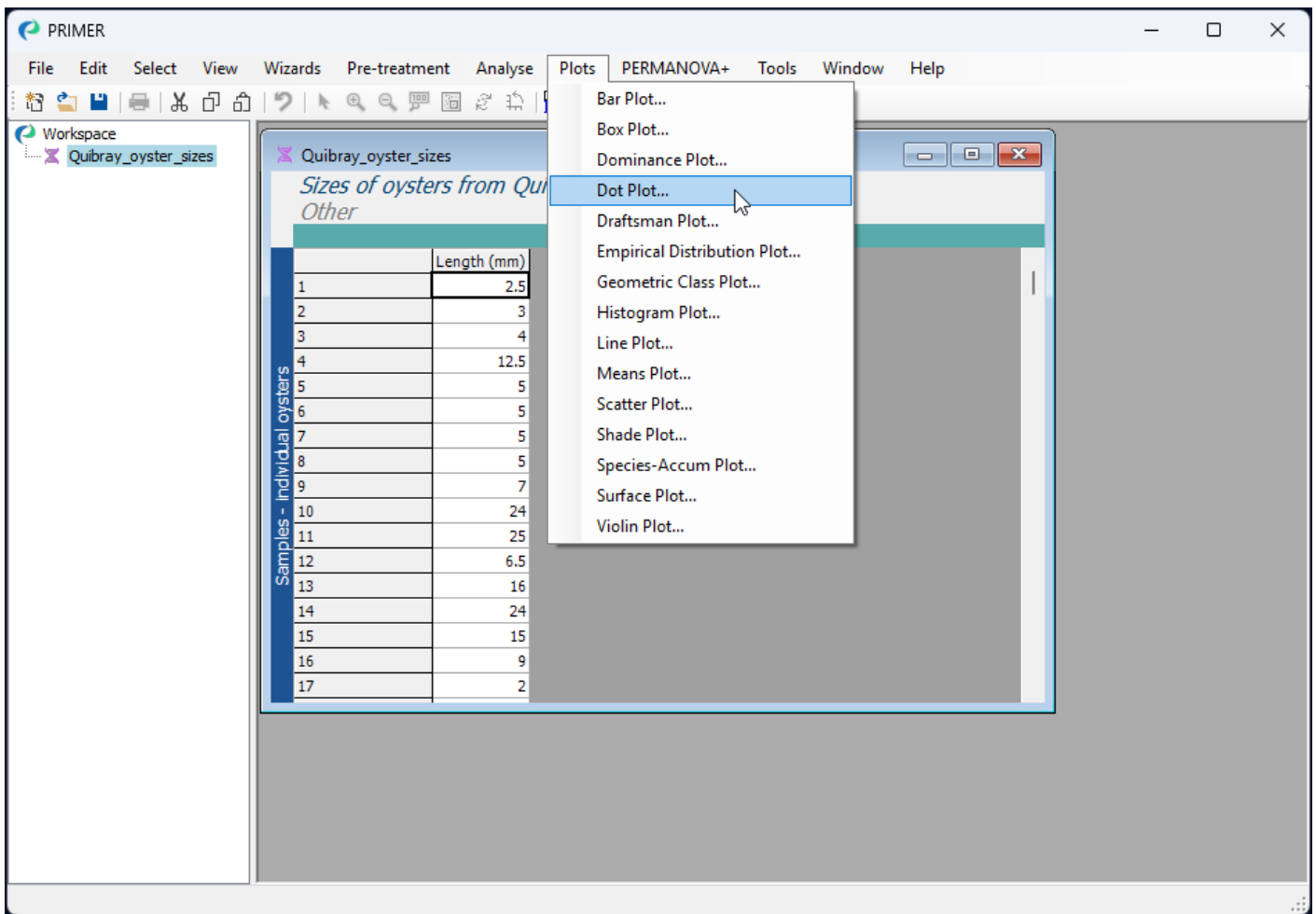
Open the data in PRIMER and, if you like, you can see the factor of 'Substratum' by clicking on **Edit > Factors** (then click 'OK').



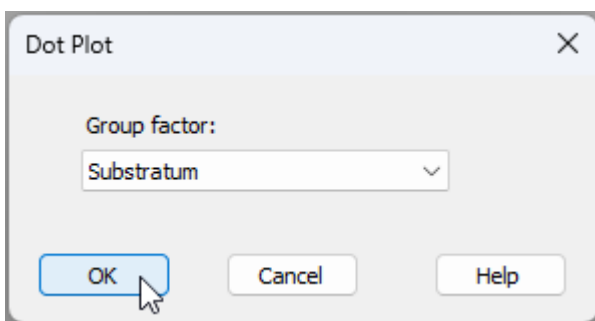
The screenshot shows the PRIMER software interface. The main window displays a data sheet titled 'Sizes of oysters from Quibray Bay, NSW' with columns for 'Length (mm)' and 'Substratum'. The 'Factors' dialog box is open, showing a list of factors including 'Substratum', 'Block', and 'Stick'. The 'OK' button is highlighted.

Label	Substratum	Block	Stick
1	Concrete	1	1A
2	Concrete	1	1A
3	Concrete	1	1A
4	Concrete	1	1A
5	Concrete	1	1A
6	Concrete	1	1A
7	Concrete	1	1A
8	Concrete	1	1A
9	Concrete	1	1A
10	Concrete	1	1A
11	Concrete	1	1A
12	Concrete	1	1A
13	Concrete	1	1A
14	Concrete	1	1A
15	Concrete	1	1A
16	Concrete	1	1A
17	Concrete	1	1A
18	Concrete	1	1A
19	Concrete	1	1A

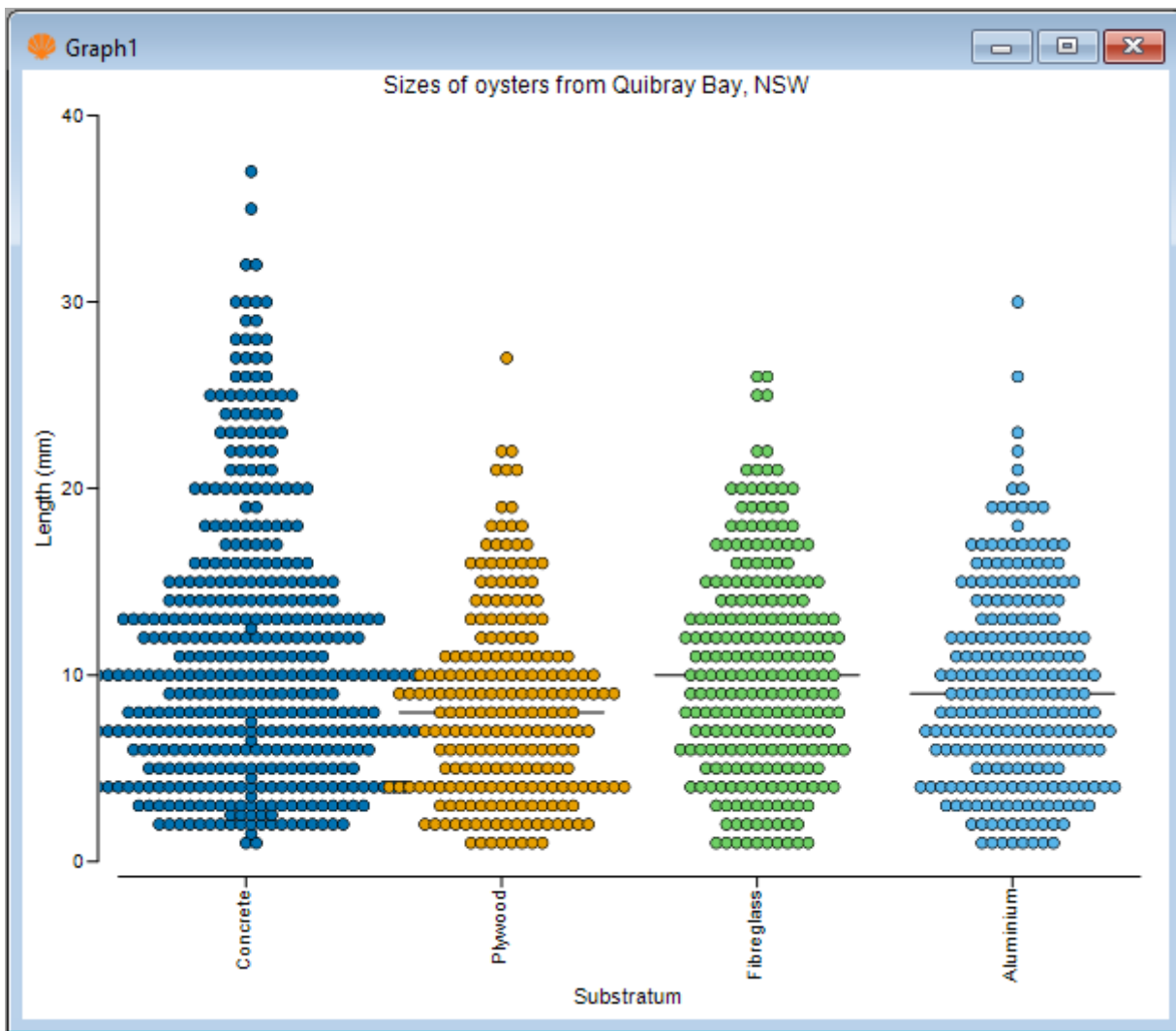
To obtain a dot plot, from the 'Quibray_oyster_size' data sheet, click **Plots > Dot Plot...**



You will want to nominate the factor of 'Substratum' here for the 4 different groups, then click '**OK**', as shown below.



The resulting graphic is a dot plot showing the sizes of oysters (specifically, their lengths in mm) measured from the four different types of substratum.



From this, we can see that there tended to be more oysters at larger sizes on concrete surfaces compared to the other types of substrata. There were also fewer small-sized oysters on fibreglass surfaces compared to the other types of substrata.

Change the axis label orientation

If you like, on this plot (or on any other plot), you can change the orientation of the labels identifying the groups on the x-axis. For this example, we might prefer to see the names of the different substrata displayed horizontally (i.e., parallel to the axis) instead of vertically (perpendicular to the axis). This is a new feature in PRIMER 8.

To do this, just click on the axis itself within the graphic and a context-specific dialog window (corresponding to the 'X axis' tab of the 'Graph Options' dialog) will pop up. This dialog window can also be obtained for this graphic by clicking on **Graph > General...** and then clicking on the 'X axis' tab.

In this 'Graph Options > X axis' dialog, inside the box entitled 'Label Orientation', choose **Parallel**, as shown below:

Graph Options

General Titles Samp. labels & symbols X axis Y axis Keys

X title:
Substratum Font...

☐ Specify scale X min: 1 X max: 4 X interval: 1

☐ Log scale Font...

☐ Reverse vertical text

Display Default

- ☒ Labels
- ☒ Tick-marks

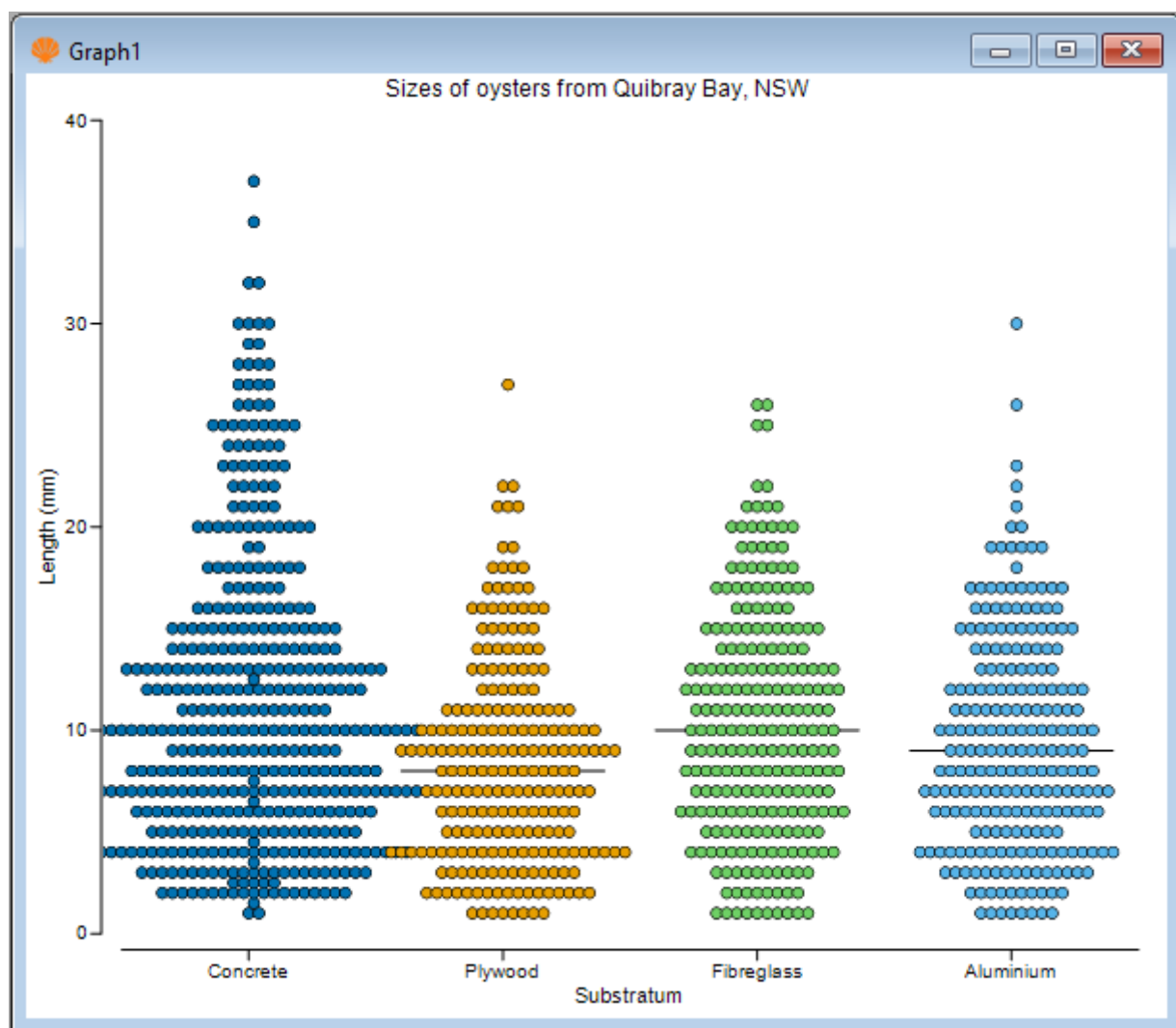
Additional Labels

Label Orientation

- ☐ Automatic
- ☐ Perpendicular
- ☒ Parallel

OK Cancel Help

Click 'OK', and the revised graphic (with the x-axis labels now parallel to the axis) will then appear as follows:



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