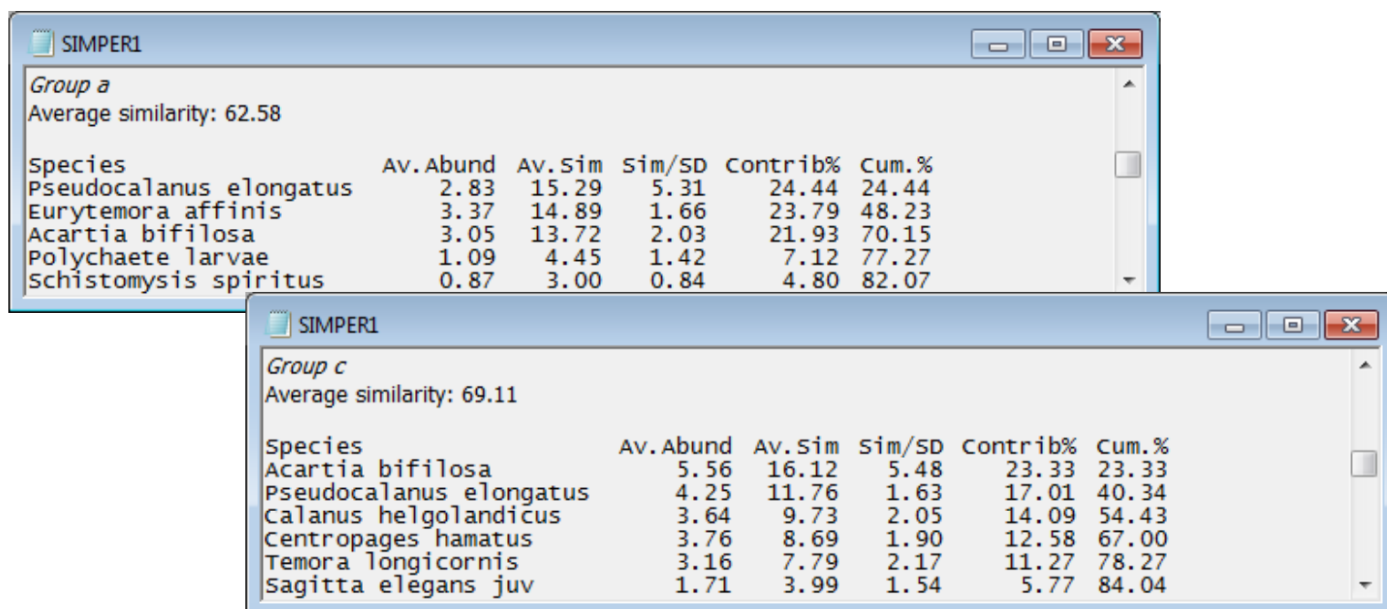


# Species typifying a group

Earlier in the results window, tables are given of the contributions of each species to the Bray-Curtis similarity *within* each of the groups (see Chapter 7 of the methods manual for the formula).



The image shows two screenshots of the SIMPER1 software window. The top window is for 'Group a' with an average similarity of 62.58. It lists five species: Pseudocalanus elongatus, Eurytemora affinis, Acartia bifilosa, Polychaete larvae, and Schistomysis spiritus. The bottom window is for 'Group c' with an average similarity of 69.11. It lists six species: Acartia bifilosa, Pseudocalanus elongatus, Calanus helgolandicus, Centropages hamatus, Temora longicornis, and Sagitta elegans juv.

| Species                 | Av. Abund | Av. Sim | Sim/SD | Contrib% | Cum. % |
|-------------------------|-----------|---------|--------|----------|--------|
| Pseudocalanus elongatus | 2.83      | 15.29   | 5.31   | 24.44    | 24.44  |
| Eurytemora affinis      | 3.37      | 14.89   | 1.66   | 23.79    | 48.23  |
| Acartia bifilosa        | 3.05      | 13.72   | 2.03   | 21.93    | 70.15  |
| Polychaete larvae       | 1.09      | 4.45    | 1.42   | 7.12     | 77.27  |
| Schistomysis spiritus   | 0.87      | 3.00    | 0.84   | 4.80     | 82.07  |

| Species                 | Av. Abund | Av. Sim | Sim/SD | Contrib% | Cum. % |
|-------------------------|-----------|---------|--------|----------|--------|
| Acartia bifilosa        | 5.56      | 16.12   | 5.48   | 23.33    | 23.33  |
| Pseudocalanus elongatus | 4.25      | 11.76   | 1.63   | 17.01    | 40.34  |
| Calanus helgolandicus   | 3.64      | 9.73    | 2.05   | 14.09    | 54.43  |
| Centropages hamatus     | 3.76      | 8.69    | 1.90   | 12.58    | 67.00  |
| Temora longicornis      | 3.16      | 7.79    | 2.17   | 11.27    | 78.27  |
| Sagitta elegans juv     | 1.71      | 3.99    | 1.54   | 5.77     | 84.04  |

The average Bray-Curtis similarity between all pairs of sites in group a is 62.6, made up mainly of contributions from just three species: *P. elongatus* (15.3, i.e. 24.4% of total), *E. affinis* (14.9, i.e. 23.8%), *A. bifilosa* (13.7, i.e. 21.9%), with a cumulative contribution of 70.2% of the total within-group similarity (the list is again truncated at 80%). These species can be described as typical of *Group a* (they also have a consistently large presence because the ratio of their contribution to its SD, across the within-group similarities, is relatively high, notably for *P. elongatus*). However, *A. bifilosa* and *P. elongatus* are also typical of group c, which is why they do not head the list of those contributing most to the discrimination between a and c. They did feature lower down in that list, since both have higher average (transformed) values in c than in a (column 1 and earlier shade plot).

Save and close the **Bristol Channel ws** workspace, and if you would like to try another example of SIMPER on a 1-way layout – but this time with *a priori* groups – open the **WA fish ws** workspace examined in Section 9, where ANOSIM tests showed that all pairwise comparisons of (predator) fish species gave significantly different (prey) diets, except two pairs involving *S. robustus*, for which therefore you should not attempt to interpret the SIMPER table of discriminating species.

Revision #2

Created 21 August 2024 01:24:52 by Arden

Updated 5 February 2025 04:22:09 by Abby Miller