

# Summary Statistics

**File>Open>**Filename: **WA fish diets %vol**, and examine the factors sheet with **Edit>Factors**. The samples form 7 groups (identified in the labels by A to G) which are the different predator species, three of which, B: *Sillago schomburgkii* ( $n = 10$ ), E: *Sillago bassensis* ( $n = 14$ ), G: *Sillago vittata* ( $n = 16$ ), are from the same genus (congeneric) and thus of particular interest in terms of whether their diets are distinguishable (they occupy different niches in the 'dietary space'). First, calculate simple summary statistics for each sample with **Analyse>Summary Stats>For•Samples**. Not all summary options (Min, Max, Average, Sum, Standard deviation, Variance, Range, Non zero) may be meaningful in particular contexts: one that is informative here is  $\checkmark$ Sum. This shows that three samples (A9, B3 and B4) have low total gut fullness ( $\ll 10\%$ ), even though from a pool of 5 guts, and it is justifiable to look at the effect of (temporarily) dropping these samples from the analysis on the grounds that they contain little information on dietary composition (and could thus have large variability in similarity with other samples, see Section 5 on zero-adjusted Bray-Curtis).

The screenshot displays a software interface with three main components:

- Background Data Table:** A table titled "Samples - Fish species/replicate number" with columns A1 through A10 and rows for dietary categories: Nematoda, Oligochaeta, Combined polych, Calanoid, and Harpactacoid.
- Summary Dialog Box:** A dialog box titled "Summary" with a "For" section containing radio buttons for "Variables" and "Samples" (selected). On the right, there are checkboxes for "Minimum", "Maximum", "Average", "Sum" (checked), "Standard deviation", "Variance", "Range", and "Non zero" (checked). "OK" and "Cancel" buttons are at the bottom.
- Data1 Window:** A window titled "Data1" showing a table titled "Diets of 7 nearshore". The table has columns for "Sum" and "Non zero" and rows for samples A6 through B5. The data is as follows:
 

Sample	Sum	Non zero
A6	60.8	7
A7	28.84	4
A8	36.3	7
A9	7.4	4
A10	41.48	8
A11	98	3
A12	94	4
A13	28.6	8
A14	31.62	10
A15	36.9	8
A16	34.8	11
B1	63.28	3
B2	47.58	5
B3	6	3
B4	2.7	2
B5	18.6	4

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