*“Body length and width were used to calculate the biovolumes of zooplankton, assigning organisms to geometric shapes that most closely represented their shapes (Ruttner- Kolisko, 1977). Subsequently, zooplankton body mass was determined by transforming biovolumes to fresh weight using a conversion factor of 1.1 and carbon content was then estimated from a dry/wet weight ratio of 0.25 (Reiss and Schmid-Araya 2008, Durocher et al. 2010). Body mass was expressed in units of carbon (µg C), assuming the dry carbon content for each zooplankton represented 40 per cent of the total dry weight (after Reiss and Schmid-Araya, 2008). Total community biomass (mg C L) was calculated as the sum of the individual body masses (mg C) per sample divided by the filtered water volume (L) (Dossena et al. 2012, Table S1).”*

I calculated the body size on Excel, just having several columns where I multiply π , the this column by the width column etc. I didn’t use R, so I don’t have the R codes, but happy to create them tomorrow together following the formulas below 😊

|  |  |  |
| --- | --- | --- |
| ***Taxa*** | ***Shape*** | ***Biovolume formula*** |
| *Cladocera*  *Copepoda* | Prolate spheroid  Ellipsoid | V = (π/6)W2L  V = π/6WLZ |
| *Ostracoda* | Prolate spheroid | V = (π/6)W2L |
| *Rotifera* | Cylinder | V = π w21 |

**Prolate spheroid volume (Cladocera, Ostracoda)**

A two eggs with lines and points

Description automatically generated with medium confidence

If *A* = 2*a* is the equatorial diameter (i.e., our Width), and *C* = 2*c* is the polar diameter (i.e., our Length):

**Ellipsoid volume (Copepoda)**

A group of globes with lines and points

Description automatically generated

In terms of the principal diameters A, B, C (where A = 2a, B = 2b, C = 2c), the volume is:

V = π/6WLZ

^ missing brackets. Also I guess we are assuming B and C are the same. So this would just become same as **prolate spheroid volume**:

**Z = 0.75 \* L , where L is the length” from Ogorman 2012**

**,** where Z = 0.75 L

**Cylinder volume (Rotifera)**

A blue cylinder with a yellow top

Description automatically generated

V = π w21

^ presuming 1 should be L? But also, our width needs to be divided by 2 to get radius.