# Flagellate Cryptomonas Group Collapse

Small = 4.2 µm ESD

Medium = 7.25-11.54 µm ESD

Large = 17.93-23.08 µmESD

## References for deciding on groupings:

Add Menden-Deuer & Lessard

Olenina et al. 2003: Re: a centric diatom: T. baltica varies considerably in diameter (20-100 μm). Factors for three size groups (small, medium and large) were calculated according to the common distribution of cell size

## Code

#flagellate Cryptomonas

TaxaFlagC <- subset(volbio\_all, select = c(samp\_ev, exp, rep, mag, grp\_sz, esd, counts\_per\_ml, bio\_per\_org\_pgC))

TaxaFlagC$Group <- paste(TaxaFlagC$grp\_sz, TaxaFlagC$esd)

TaxaFlagC <- filter(TaxaFlagC, grepl('centric', Group))

TaxaFlagC <- subset(TaxaFlagC,counts\_per\_ml !=0)

TaxaFlagC <- subset(TaxaFlagC,select = c(samp\_ev, exp, rep, mag, Group, esd, counts\_per\_ml, bio\_per\_org\_pgC))

TaxaFlagC$counts\_per\_ml<- formattable(TaxaFlagC$counts\_per\_ml,format="f",digits=2)

TaxaFlagC$bio\_per\_org\_pgC<- formattable(TaxaFlagC$bio\_per\_org\_pgC,format="f",digits=2)

### Look at the individual Flagellate Cryptomonas entries

flagClook <- subset(volbio\_all, select = c(samp\_ev, exp, rep, mag, grp\_sz, esd, counts\_per\_ml, vol\_per\_org\_um3, bio\_per\_org\_pgC)) %>% filter(grepl('cryptomonas', grp\_sz))

flagClook<- subset(flagClook, counts\_per\_ml !=0)

flagCPlot <- subset(flagClook, select = c(esd,counts\_per\_ml)) %>% select(esd, totalCPM=counts\_per\_ml)

### Add up the counts per ml for each distinct flagellate cryptomonas size/esd name but keep the esd and biomass columns

taxaFlagClump <- group\_by(taxaFlagC, Group, esd, mag, bio\_per\_org\_pgC) %>%

summarise(totalCPM =sum(counts\_per\_ml)) %>%

summarise(totalBioM =sum(bio\_per\_org\_pgC))

### Make a dot plot of esd and counts

x <- FlagCPlot

p <- ggplot(x, aes(x=esd, totalCPM)) +

geom\_point(size=1, color="blue") +

scale\_x\_log10 (n.breaks=10) +

wimGraph()+

theme(axis.text.x = element\_text(angle=90, hjust =0.5, vjust = 0.2, size = 8))

p + ggtitle("Flagellate Cryptomonas by ESD")+

theme(plot.title = element\_text(size = 15))



|  |  |  |  |
| --- | --- | --- | --- |
| Flagellate Cryptomonas | | | |
| total mean  CPM | <15, 15-25, >25 µm esd size groups | < 7.25, 7.25-12, >12 µm esd size groups | <12, 12-24, >24 µm esd size groups |
| small | 877.32 | 805.35 | 877.32 |
| medium | 10.85 | 71.96 | 10.85 |
| large | no large | 10.85 | no large |

List of ESD measurements

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **esd** | **mag** | **totalBioM** |
| flagellate cryptomonas 3.67 5.5 4.20 | 4.20 | 400x | 186.47 |
| flagellate cryptomonas 6.33 9.5 7.25 | 7.25 | 400x | 939.26 |
| flagellate cryptomonas 6 16 8.32 | 8.32 | 100x | 42.26 |
| flagellate cryptomonas 8 16 10.08 | 10.08 | 100x | 69.53 |
| flagellate cryptomonas 9 14 10.43 | 10.43 | 400x | 1795.12 |
| flagellate cryptomonas 8 24 11.54 | 11.54 | 100x | 1247.65 |
| flagellate cryptomonas 12 40 17.93 | 17.93 | 100x | 399.59 |
| flagellate cryptomonas 16 24 18.32 | 18.32 | 100x | 2491.48 |
| flagellate cryptomonas 16 48 23.08 | 23.08 | 100x | 2229.75 |