"Patterns of herbivory and decomposition in aquatic and terrestrial ecosystems." by J. Cebrian and J. Lartigue

"Role of first - order consumers in ecosystem carbon flow" by J. Cebrian

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1. Columns correspond to:

1st column: Reference

2nd column: Community type

3rd column: Ecosystem type

4th column: Net primary production (NPP); in gC m-2 yr-1

5th column: Leaf production (leaf P); in gC m-2 yr-1

6 th column: Detrital production (DP); in gC m-2 yr-1

7th column: Leaf detrital production (leaf DP); in gC m-2 yr-1

8th column: Decomposition/Detritus consumption (D); in gC m-2 yr-1

9th column: Biomass of detritus consumers (DB); in gC m-2

10th column: Consumption by herbivores (H); in gC m-2 yr-1

11th column: Percentage of production consumed by herbivores (%NPP consumed)

12th column: Herbivore biomass (HB); in gC m-2

13th column: Total consumption by first-order consumers (TC); in gC m-2 yr-1

14th column: Carbon accumulation (CA); in gC m-2 yr-1

15th column: Nitrogen concentration in producer biomass (Nbiomass); in % of dry weight

16th column: Phosphorus concentration in producer biomass (Pbiomass); in % of dry weight

17th column: Decomposition rate (k); in day-1

18th column: Nitrogen concentration in producer detritus (Ndetritus); in % of dry weight

19th column: Phosphorus concentration in producer detritus (Pdetritus); in % of dry weight

20th column: Producer nitrogen concentration used in the regressions vs. Detrital Production and Decomposition (Ndp); in % of dry weight- see note 5

21st column: Producer phosphorus concentration used in the regressions vs. Detrital Production and Decomposition (Pdp); in % of dry weight- see note 5

2. Cells with a dot and no numbers denote variables not provided in the reports

3. Cells highlighted in yellow contain our indirect estimates of net primary production and decomposition with the highest uncertainty, which still seems unimportant for the results obtained (see text).

4. Reports of communities dominated by rooted macrophytes (i.e. freshwater macrophyte meadows, seagrass meadows and terrestrial communities) having an asterisk (*) include both the above- (leaves and stems) and belowground (roots) compartments. Reports with two asterisks (**) only include the belowground compartment, and reports with no asterisk refer to the aboveground compartment.

Notes also relevant to the paper "Patterns of herbivory and decomposition in aquatic and terrestrial ecosystems.”"by Just Cebrian and Julien Lartigue 5. We did not find many reports with concomitant values of detrital production and nutrient concentrations in producer detritus, or values of decomposition and nutrient concentrations in producer detritus. Therefore, to test the independence between detrital production and producer nutritional quality (Fig. 8), and between decomposition and producer nutritional quality (Fig. 10), we used values of nutrient concentration in producer biomass or detritus indistinctly (columns 20th and 21st) The results should be similar to those obtained if we had only used concentrations in producer detritus, because, for a given type of ecosystem, nutrient concentrations do not differ between producer biomass and detritus (see Figures 1b, c and 6c, d).

6. In the reports marked with ¶, decomposition rates refer to leaves. Hence, in those reports values of leaf detrital production have been used for the relationship between decomposition rates and detrital production (Figure 11b). Values of total detrital production (both above- and belowground if marked with one asterisk, or only aboveground if marked with no asterisk) have been used for all the other relationships and figures (except for Megonigal and Day (1988), see note 8).

7. In the reports marked with $, decomposition rates referring to different compartments (e.g. leaves and stems; above- and below-ground) have been weighted and averaged into a single value for the relationship between decomposition rates and detrital production (Figure 11b). Similarly, in the same reports values of nutrient concentration in producer detritus referring to different compartments have been weighted and averaged into a single value for the relationships between producer nutrient concentration and detrital production (Figure 8) and producer nutrient concentration and decomposition (Figure 10). Thus, to avoid redundancies, those mean values have been ignored in the histograms (Figures 6c, d and e) and relationship between decomposition rates and detritus nutrient concentrations (Figure 9).

8. In the terrestrial reference Megonigal and Day (1988), values of producer nutrient concentrations refer to leaves. Hence, in this report values of leaf detrital production have also been used in the relationship between detrital production and producer nutrient concentrations (Fig. 8).

Notes also relevant to the paper "Role of first - order consumers in ecosystem carbon flow" by Just Cebrian

9. In the terrestrial reference McNaughton (1985), values of net primary production in parentheses include both the above- and below-ground compartments, whereas those with no parentheses refer to the above-ground compartment only. The former have been used in the relationships with the biomass

of detritus consumers (Fig. 2) and the total biomass of first - order consumers (Fig. 3b), and the latter in the rest of relationships in this paper and all relationships in the paper above.

10. I have not included macrobenthic suspension and deposit feeders in the values of detritus consumer biomass compiled for the pelagic and benthic systems studied in Baird and Ulanowicz (1989, 1993). The justification is that my comparison applies to consumer biomass mostly supported by autochthonous primary production (i.e. carbon produced within the system), but in the systems studied by Baird and Ulanowicz (1989, 1993) most macrobenthic production is supported by allochthonous detritus derived from land sources. In my compilation, the values of detritus consumer biomass for the pelagic systems in Baird and Ulanowicz (1989, 1993) include bacteria, detritivorous micro-, macro- and gelatinous zooplankton, and detritivorous fish. The values of the benthic systems include detritivorous micro- and meiofauna and, for Baird and Ulanowicz (1989), also bacteria.