

Interactive comment on “Effect of the silica content of diatom prey on the production, decomposition and sinking of fecal pellets of the copepod *Calanus sinicus*” by Hongbin Liu and Chih-Jung Wu

Anonymous Referee #1

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This is an interesting manuscript that should become acceptable after editorial revision. The manuscript addresses how silica content in diatoms fed to copepods can affect the production, decomposition and sinking rates of fecal pellets. In order to accept the conclusions of this manuscript, it must be demonstrated that silica contents of different diatom diets were actually different, and that these had been measured. While I do not doubt that this was the case, there is not enough information provided in the current version of the manuscript to allow readers to evaluate these critical aspects of the paper. For instance, on lines 89-91 it is stated that “Liu et al. (under review) recently demonstrated that the diatom *Thalassiosira weissflogii*, when grown at different

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light levels, contains varying amounts of silica...”. Considering that Liu et al. (under review) is unavailable to readers, and that no other information is provided on this critical aspect of the current manuscript, I suggest that the authors provide a bit more explanation of how these experiments were done, so that the results of the current manuscript become more understandable. Similarly, on lines 113-116, it is stated that “. . .the amount of biogenic silica in the diatom cells was measured using a modified version of the method described by Paasche (1980), following the procedures described more recently by Grasshoff et al. (1999).” Readers of the current manuscript should not have to stop reading here, and go find and read the two cited papers to understand the current manuscript. A brief bit of further explanation is required. Otherwise, most of the editorial corrections are in terms of consistency in the hyphenation of double-word adjectives, or more-than-three-word adjectives, and other minor grammatical and word-choice corrections. These will be itemized below by line number.

19, 213, 221, 224, 236: hyphenate “high-silica”

20, 22, 120, 129, 152, 156: hyphenate “fecal-pellet”

21, 23, 139, 204, 212, 220, 235, 246, 321: hyphenate “low-silica”

22, 222, 238, 244, 247, 254, 335: hyphenate “low-prey”

22, 112, 139, 203, 209, 226, 242, 244, 246: hyphenate “high-“

29: hyphenate “highly-“

36: change “the main vehicle” to “a main vehicle”

39: change “Diatoms are the most abundant” to “Diatoms are among the most-abundant”

40: change “they represent the main component” to “they represent a main component”

52: hyphenate “pellet-production”

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68: hyphenate "slowly-sinking"
91: change "contains" to "contain"
101: change "They" to "Copepods"
112, 213, 223, 229, 242, 251: hyphenate "low-"
175: hyphenate "loss-of-fecal-pellet"
200: hyphenate "first-"
200: hyphenate "second-generation"
203: hyphenate "high-light"
203: hyphenate "low-light"
209: hyphenate "low-cellular-silica"
213, 219, 239, 251, 333: hyphenate "high-prey"
220: hyphenate "significantly-higher"
227, 229: hyphenate "concentration-of-prey"
236: change "prey irrespective" to "prey, irrespective"
241: hyphenate "high-prey-"
248: hyphenate "high-silica-content"
249: hyphenate "low-silica-content"
254: hyphenate "low-silica'prey"
259: change "with the varying food concentration, followed" to "with varying food concentrations, and "followed"
259-260: provide clarification as to what was "a similar trend to that described in the

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literature"

262: change "is one of the" to "has been suggested to be one of the"
266: hyphenate "weakly-silicified"
267: hyphenate "least-stable"
268: hyphenate "most-complex"
273: change "in this new study" to "in the current study"
276: change "in unit time and the ingestion rate" to "per unit time at a given ingestion rate"
278: change "and the ref. therein" to "and references therein"
279, 286: change "the fecal pellets" to "fecal pellets"
282: change "the pellets" to "fecal pellets"
283: change "they" to "fecal pellets"
284: change "significant differences" to "significant size differences"
289: change "they do not affect" to "these ratios did not affect"
293: change "and ref therein" to "and references therein"
295: change "mentions" to "have addressed"
295: change "rate" to "rates"
299: change "They showed that the fecal" to "Fecal"
308: change "they" to "our results"
310: change "the increase" to "an increase"
312: change "those produced" to "for fecal pellets produced"

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312, 327, 339, 366: hyphenate “low-Si”
312: hyphenate “generally-higher”
320: change “are correlated” to “were correlated”
326: hyphenate “high-Si”
331: change “fecal pellet” to “fecal pellets”
332: change “is thought” to “are thought”
350: change “calculation” to “calculations”
353: change “the degradation” to “that the degradation”
355: change “coprophagia” to “coprophagy”
355: change “the only partial break” to “only partial break-”
363: hyphenate “high-silica-content”
365: hyphenate “low-silica-content”
369: change “mixing” to “mixed”
369: hyphenate “fast-growth”
371: hyphenate “fast-sinking”
371: hyphenate “slow-growth”
374: change “the production rate, decomposition rate” to “the rates of production, decomposition”
375: delete “rate”
379: change “determine” to “determines”

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