

Interactive comment on “Deep-sea scavenging amphipod assemblages from the submarine canyons of the Iberian Peninsula” by G. A. Duffy et al.

Anonymous Referee #1

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General comments:

Overall a well written paper and study with a good dataset. All sections hold relevant material and the quality of writing and data analysis is high. The length of the paper is also appropriate. The authors should consider some minor revisions and technical corrections before final publication. These are outlined below:

Specific comments:

1) Abstract line 13. You state that the differences observed between the canyons and the abyssal plains are due to high organic input into the canyon systems, however what other environmental factors are contributing? Could also be a depth affect (i.e.

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the abyssal plains are deeper than most areas of the canyons), do you have data from the continental margin regions (from published sources) locally that could be bought in here for comparison to explore depth as a dominant variable here?

2) Methods, lines 15-19. You have a few issues here with consistent bait type and amount. Discussion of these two deployments should be more prominent within the results as you don't mention whether these deployments are noticeably different to the others. I think this warrants a bit more discussion in the discussion.

3) Methods, sample analysis. Line 20. Why use the Simpson's index over others available?

4) Methods ample analysis line 25. Why use the Pielou's evenness index over others available?

5) Results. Lines 5-6. This is really methods.

6) Results line 10-11. Again, see point 2. Did this data point stand out, this is just a repeat of the methods if you don't elaborate on the data it yielded. Also, how do you know categorically that the data from the small ROV traps was unaffected by the small size of the trap?

7) Results, lines 5-10, or could be line 29-34 (as resets when page no changes). Section on ANOSIM. Is it worth showing your MDS plot and having it as a figure? When you discuss the TOC and Temperature and later on say you can't account for all of the env factors, have you considered conducting a BIOENV? This would allow you to your MDS with a plot of the env variables, and then it tells you which ones most closely match your amphipod data.

8) Discussion. Lines 8-9. How much of abyssal plains vs canyons is purely down to depth?

9) Discussion. lines 23-24. See point above regarding using a BIOENV procedure.

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10) Discussion. line 4 on page 9. you mention 'other variables'. What others and which env variables do you have access too?

11) Discussion lines 7-9, page 9. You mention the synergistic effect of temp and depth, but don't mention what was found by this study. Maybe a little further info here on what the Brown and Thatje (2011) study found. Did they keep the amphipods pressurised etc?

12) Discussion. lines 17-18, page 10. Are there differences in overlying surface productivity between the regions of the canyons? You only mention riverine input and don't talk about surface production and lateral transportation along the continental margin.

13) Discussion, line 5-6, page 11. Re ideal grounds for commercial fishing. Do you have any supporting refs for this section to illustrate the type of fishing and level of by-catch that maybe found in the canyon regions?

Technical corrections:

Line numbering is a bit confusing. You should number each line individually instead of having each section separately.

1) Abstract line 8. Long sentence. Full stop after counted, and capital S on Scavenging. Should read "...counted. Scavenging amphipod assemblages..."

2) Discussion. Line 25, page 10. Sentence starting with "this", then another sentence starting with "This" follows in line 26. I would change the intro to these sentences as "this" is very vague.

3) Discussion. lines 17-18, page 10. "The Nazare Canyon...". Line is repetitive. Remove.

4) Discussion. Line 11, page 11. Enter the word "discards" after "...in the presence of fisheries"

5) Conclusions. Section starts with the word "This", again it's a vague start, try to be

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more precise.

6) Check that all refs are present and formatted correctly.

7) Table 1. I would maybe use a different system for the lat and long, i.e. specify N and E instead of negative and positive numbers.

8) Table 2. Legend should read "Species composition and abundance..." not just "Species composition..". Replace "planes" with "plains". Make clear what the numbers for the different species are, I assume these are abundance nos of pods from the trap catch, but you don't make it clear in the legend.

9) Table 3. Should read "Species composition and abundance..." as in point 8.

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BGD

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