Review of manuscript **essd-2023-479** from **Dugenne *et al.*** with the title "**First release of the Pelagic Size Structure database: Global datasets of marine size spectra obtained from plankton imaging devices**"

We thank the reviewer for bringing the issue described below back to our attention. We have corrected the *ecopart_size_bins.tsv* file such that the ratio $n+1/n$ is kept constant from the smallest to the largest size class (https://github.com/jessluo/PSSdb/blob/main/ancillary/ecopart_size_bins.tsv). Given that this file is crucial for the size spectra calculations, we have updated figures 3-7, and figure A2, as well as the summary statistics in Table 2 and throughout the text. Linked to these changes, we have released updated data products found here: https://doi.org/10.5281/zenodo.11050013. We have replaced the old links with this new version in lines 15, 126, 174, 621, and 639, as well as in the legend of Figure 1. Since the taxa-specific products were also updated, a new link is listed in line 600. In addition, we have provided a new link in the abstract (lines 15-16) and data availability statement (lines 639-640) that will always direct the user to the latest version of the data product: https://zenodo.org/doi/10.5281/zenodo.7998799.

2nd Round of the review.

General: I commend the authors for their responses and the changes made to the manuscript. I have no further comments on the revised manuscript.

However, I need to restress a point missed from my first comment.

response to authors: The authors missed one of the three issues I've raised in my first point. Perhaps this was due to bad wording of my original comment, because, otherwise, they thoroughly and carefully addressed this point. The issue not addressed is the fact that some of the larger size classes in the UVP and Scanner datasets are not consistent with the rest of the size classes, i.e. $V_{n+1}/V_n \neq 2$. To demonstrate this, let's look at the biovolume size class ratio (V_{n+1}/V_n) of the UVP and Scanner datasets:

biovolume_size_class	BV/ratio (V_{n+1}/V_n)
…	…
1.08e+14	2.00
2.16e+14	2.00
4.30e+14	1.99
8.61e+14	2.00
1.73e+15	2.01
3.45e+15	1.99
6.14e+15	1.78
1.03e+16	1.68
1.74e+16	1.68

2.92e+16	1.68

It is immediately apparent that there is something wrong with the larger size classes. In any case, I've pinpointed the source of the problem:

In the github repository (https://github.com/jessluo/PSSdb): When the NBSSs are computed (*4_compute_NBSS.py*), the *size_binning_func()* is called (included in *funcs_NBS.py*) which then calls the *ecopart_size_bins.tsv* (PSSdb/ancillary) through the *configuration_masterfile.yaml*. The *ecopart_size_bins.tsv* contains the ESD and biovolume size bins and is indeed the source of this error. In both ESD and biovolume, the ratio $n+1/n$ (n=size bin) should be constant for all n. But from line 45 and after, the $n+1/n$ ratio changes (from ~1.26 to ~1.19 for ESD, and from ~2 to ~1.68 for biovolume). Correcting this file should fix this issue. The dataset should also be updated accordingly.