Review

Biogeographic pattern in the cartilaginous fauna (Pisces: Elasmobranchii and Holocephali) in the southeast Pacific Ocean

Comments

Basic Reporting

The manuscript "Biogeographic pattern in the cartilaginous fauna (Pisces: Elasmobranchii and Holocephali) in the southeast Pacific Ocean" by Bustamante *et al.* describes the assemblages of sharks, skates and chimaeras off the coast of Chile through fishery independent trawl surveys. The paper is well written, generally clear and free from excessive grammatical and spelling errors. Sufficient background and introductory material is provided to place the study into context and the methods and materials are well described.

A detailed list of edits and annotations is provided as an attachment. Please read these over and clear up any confusion. Although the text is generally well written there are still errors that should be addressed. The one recurrent error is the overuse of the semicolon. Many times in the text, a semicolon is used when a comma was appropriate. Please revise all the uses of the semicolon in the manuscript and ensure that it is appropriate. You can refer to materials like this (https://owl.english.purdue.edu/owl/resource/607/04/) for help.

The figures and tables are clear and informative. There are no redundancies or irrelevant figures. The legends of figures 5 and 6 could use a line about the meaning of the site code (e.g. 7A.2, 5B.4, etc…). This will help the reader pick up patterns. Figure 1 is good, and if it is possible to add the areas of high fishery CPUE, that might be even more useful.

Experimental Design

The manuscript clearly outlines a research question and the methodology is relevant for addressing that question. Overall, the experimental design, fieldwork and analyses are appropriate. There are a few small areas that are not entirely clear, and hopefully my annotations will help clear those up. Also, as noted above, the site codes should be explained in the main text of the manuscript.

Although it is well understood that survey data is not perfect and that the available data should be used, there are some flaws in the data collection that should be acknowledged by the authors. The primary one is the difference of timing in the tows at different sites. As mentioned on lines 85-87, all sites were not towed in the same season and there is a bias as to the timing of sampling of different latitudes. Since latitudinal gradients are discussed quite heavily in the paper, there should also be a discussion as to the potential effects of the sampling timing at different sites. This would work quite well in the last section of the Discussion.

Validity of the Findings

The results and interpretation of the results are appropriate, relevant and statistically sound, and provide a significant addition to the knowledge base of fish community assemblages. The authors do a good job of providing a review of existing data and how this study contrasts and adds to the existing knowledge base.

General Comments to the Author
I recommend this manuscript be accepted for publication after the edits and suggestions made here are incorporated or addressed. These will help with the clarity and thoroughness of the manuscript.

Specific annotations:
Line 19: You can remove "increasing" in front of latitude, it is implied that if a variable increases with another, it is a positive relationship.
Line 19: Add "(CPUE)" after the first mention of "catch per unit effort".

Line 34: Replace "fishes have an important role" to "fishes play an important role"
Line 43: remove the " ' " after species.
Line 52: Replace "dependent and independent fishery" with "fishery – dependent and – independent".
Line 57: Add "offer" after "While fishery-dependent studies".

Line 73: I am confused about what the 3 mm refers to. Is this the mesh size, or the size of the line. If it is the diameter of the line, I would suggest "a bottom trawl constructed from 3 mm diameter polyamide nylon line with 50 mm…"
Line 74: "stretch-measured diamond mesh"
Line 79: Add "swept" after "square kilometer"
Line 80: Replace with "transformed (log (CPUE+1)) in order to correct for the departure"
Line 82: Please specify how many tows were made in each zone here. Also, it seems that you are using "tows" and "sites" interchangeably. If that is the case, maybe consider being consistent and only using one of these throughout. If not, please be clearer about what is a tow and what is a site.
Line 95: Remove "level"
Line 95: Instead of saying "some" use the number or percentage of individuals that were landed for verification.
Line 98: Replace "was described using the number of species per sampling site" to "was calculated from the number of species at each sampling site".
Line 102: Add "a" between "as" and "percentage"

Line 123: This is where tows and sites become confusing. You said that there were 128 tows, but the way this line is written it sounds like there were only 76 sites. To make this clearer, I would suggest "From 128 sites, only 76 yielded a total of 194,705 cartilaginous fishes"
Line 124-125: Start a new sentence after "examined. A total of 20 species (nine sharks, ten skates and one chimaera) was confirmed (Table 1)."
Line 126: Make this even clearer: "At 52 sites (40.6%) there was no catch of…"

Line 129: Remove “with”
Line 147-148: People would argue that if a slope of a regression is not significant then there was no increase. So try to reword this sentence so that you are not suggesting that the relationship shows an increase.
Line 149: Add “the” before “ANCOVA”
Line 199: Add “of” before “Valparaiso”
Line 204: What is “3B.1”? You do not explain this nomenclature but it comes up multiple times in the table and figures.
Line 205-206: This line is confusing. What is the characteristic that separated 3B.1 from the other sites, is it the presence of Bathyraja peruana, or the fact that this species is present in low abundance?
Line 208-210: Are you using “group” and “assemblage” interchangeably? If so, just use “assemblage” and say the “within-assemblage similarity”. Also, add “between-assemblage” before “dissimilarity levels”.

Line 239: Replace “subject of continuous” to “subject to continuous”
Line 240: Replace “in a decline in species” to “in the decline of species”
Line 242: Replace “who” to “that”.
Line 262-263: Replace “as while our study provides quantification of the fauna in terms of CPUE and F0; the results” with “as our study provides quantification of the fauna in terms of CPUE and F0 while the results”
Line 263: Remove “, but”
Line 290: Remove “approximately”
Line 299: Replace “although” with “however”
Line 304: Add “down to 500 m” after depth
Line 314: Add “the” after “At”
Line 317: The “;” should be a comma. This is a problem throughout the manuscript, please verify the appropriateness of semicolons.
Line 323: Replace “as have” to “as has”
Line 332: Replace “accounting” with “counting”
Line 333: Another instance of a semicolon being used instead of a comma.
Line 363: Replace “as such is unlikely” with “as such it is unlikely”
Line 377: Replace “The study” with “This study”

Line 387: This sentence is a little confusing, but I think you just need to remove “had” to make it clearer.

Figure 1 Legend: “Showing the location of the study area”. “withe circles” should be “white circles.

Figure 1: Is it possible to put those areas of high fishing effort on panel B of this figure? It would help drive your point about mesopredator abundance.

Figure 5: What do the sites and site groupings names (e.g. 2C:2) mean? Please explain it in the text and this figure legend so we can follow.

Figure 6: I would add the assemblage numbers (I, II, III, IV) next to the circle representing each assemblage.

Table 2 Legend: What do the sample sizes (n=16 and n=32) in this legend refer to?