From: **Anna Kuparinen** onbehalfof@manuscriptcentral.com
Subject: Fish and Fisheries - Decision on Manuscript ID FaF-22-Dec-OA-372 [email ref: DL-SW-3-a]
Date: February 19, 2023 at 1:44 AM
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19-Feb-2023

Dear Dr. Hardy

Manuscript ID FaF-22-Dec-OA-372 entitled "Trait-based analyses reveal global patterns in diverse albacore tuna diets" which you submitted to Fish and Fisheries, has been reviewed. The comments of the reviewer(s) are included at the bottom of this letter.

The reviewer(s) have recommended some major revisions to your manuscript. Therefore, I invite you to respond to the reviewer(s)' comments and revise your manuscript.

You will be unable to make your revisions on the originally submitted version of the manuscript. Instead, revise your manuscript using a word processing program and save it on your computer.

Once the revised manuscript is prepared, you can upload it and submit it through your Author Center. Please include a letter in the space provided to let me know how you have responded to each of the comments made by the reviewers; please be as specific as possible.

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- Your original files are available to you when you upload your revised manuscript. Please delete any redundant files before completing the submission.
- Please remember to edit the 'Manuscript Data – Metadata' under 'Manuscript Information' to accurately reflect the number of words, pages etc. in your revision.

Because we are trying to facilitate timely publication of manuscripts submitted to Fish and Fisheries, your revised manuscript should be uploaded as soon as possible. If you feel that you will be unable to submit your revision within two months please contact me to discuss the possibility of extending the revision time.

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Once again, thank you for submitting your manuscript to Fish and Fisheries and I look forward to receiving your revision.

Sincerely

Prof. Anna Kuparinen

Editor, Fish and Fisheries (2019 IF 6.8, 2020 IF 7.2, 2021 IF 7.4)
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Editor Comments to Author:

Reviewer(s)' Comments to Author:

Reviewer: 1

Comments to the Author
The paper is informative and well written and gathers an impressive amount of data and work

The paper is informative and well written and gathers an impressive amount of data and work.
The methods needs to be better organised so the reader is not lost in the amount of information. I suggest to add a figure in the spirit of Fig S1 to help the reader follow the methods.
The paper demonstrates clearly the interest of using trait-based guilds in diet description, however it is not very clear what are the pros and cons of using individual traits rather than trait guilds and I recommand that the authors elaborate a little on that when commenting Fig 5 and in the discussion.
Also, if traditionnally diet has been described based on taxonomic composition and if this approach still has its merits as well as the trait-based approach, it is not clear what is the phylogenetic approach is and what would be its interest in diet analysis; the authors should elaborate on this point to clarify their view.
About the illustrations, if Fig 2 is very beautiful, I feel it has limited interest to clearly visualise trait diversity; it could be moved to suppl and a more informative figure included in the main text (see my comment on the pdf). Unfortunately, the main figure of interest, Fig 4, was not available in the pdf provided due to conversion issue, this is really a shame and made the reading of the corresponding paragraph very hard to follow with no visual support. The final pdf provided to the reviewers has not been properly checked and this is not acceptable. Fig S1 is very helpfull and I suggest that a similar figure is developed to help follow the methods' paragraph which is very long, provides a lot of information in which it is easy to get lost. Supplementary tables S3 to S6 were impossible to read in the pdf provided to the reviewer because of the poor formatting. It is only when I submitted the review that I noticed that xls files were available; it would have been better that the tables are not included in the pdf but that a line of text indicate where to find them on the reviewing system.
I included a number of comments in the pdf attached with some suggestions and references.

Reviewer: 2

Comments to the Author
Dear Authors,
This is a well-written manuscript that will provide a valuable contribution to the literature base, not only on albacore diets but on the prey-trait guilds that have been assigned to the diversity of prey consumed over time. This approach will facilitate reduction of taxonomically-based diet composition into more digestible groups, which in turn will help ecologists better interpret potential changes in the forage base over time.

Reviewer: 3

Comments to the Author
Regrettably, I cannot recommend the manuscript of Hardy et al. to be considered positively for publication in Fish and Fisheries.

I really respect the effort of the authors to compile taxonomic and trait data for meta-analyses from a number of published studies. I fully understand that this type of analysis is required for progress in studies on biology of pelagic predators at a global scale. Even the study deals with one species, such a global synthesis potentially deserves publication in Fish and Fisheries. Overall, I admit that the present study is absolutely a great work which is of great interest as an information source of diet studies for tuna scientists. Importantly, the authors provided a framework of trait-based analyses, which can be applied to other pelagic predators. Hence, this work should be appreciated from various viewpoints.

Nonetheless, I have to state that the analyses have not led to any novel findings or conclusions. I imagined that the authors suffered from the complexity of information to extract new findings. I feel that this is well reflected in the contents of the Discussion section (particularly, the last half). As one of the main findings, I agree that diversity of diets of albacore tuna was shown as a global pattern by trait-based analyses. However, it is difficult to find any global trends other than diversity. From this viewpoint, the paper is quite descriptive rather than interpretative, even after applying trait-based analyses to the data.

For example, I cannot exactly agree to several key sentences as conclusions.
“Our results indicate that both trait information and constructed functional trait guilds serve as useful and rapid classification tools for tracking large-scale shifts in albacore diets in time and space.”
“We posit that investigating trait-based diet shifts in albacore will be a powerful framework for tracking foraging responses to environmental variability.”
The framework was provided, and the results were shown. However, I cannot agree to these statements without any novel findings in the results.
“Our review shows clear differences in trait-based diet composition across years and locations sampled.”
Agreed. But this is quite expected from the differences in years and locations of the data source studies. It’s impossible to discuss any spatial and temporal trends as new findings or for new hypotheses (e.g., climate impacts, community structure shifts, or geographical characteristics). I believe that the authors understand this point well.
“4.2 Synthesis limitations, knowledge accessibility and gaps to overcome”
“This review also highlights how variable the sampling of albacore tuna diets has been in space and time, with long gaps between studies ranging from a few years to over fifty years apart depending on ocean basin.”
“Syntheses of historic trophic interactions are crucial for establishing baselines in understudied systems and understanding how they may change.”
These are true. Yet, I feel that these conclusions are not exactly based on the results of the present study.

I really like this approach and respect the effort for meta-analyses. However, I have to vote to a negative recommendation for the reasons above. Personally, I consider that this work would be surely publishable for any international journals unless novelty of the results is concerned. But, if so, it is advisable to describe the methods in a comprehensive manner. It was difficult to evaluate the validity of the approach only from the description within the current manuscript.

- “Taxonomic and trait diversity in albacore diets” Only R packages are introduced for different analyses. Nothing has been explained about the analyses.
- “Albacore prey trait guilds” Similarly, explanations of the analyses are not enough. Readers would understand what analyses

- Albacore prey trait guilds" Similarly, explanations of the analyses are not enough. Readers would understand what analyses were done but would have no ideas why and how those analyses were done.
- "Trait-based vs taxonomic diet variation" Better than the above two. But the explanations are still too rough to understand. Also, tables and figures need to be improved.
- In general, the figures have some complexity. More comprehensive explanations in figure captions and texts would be helpful.
- I feel that the tables were submitted as raw materials. Of course, it is not easy to summarize a lot of data and information, but there is still much room for improving presentations.

Reviewer: 1
Reviewer Identity:

Reviewer: 2
Reviewer Identity:

Reviewer: 3

Reviewer Identity: Review_Jan2023.pdf FaF-22-Dec-OA-37...ev.pdf