

Interactive comment on “Baseline for ostracod-based northwestern Pacific and Indo-Pacific shallow-marine paleoenvironmental reconstructions: ecological modeling of species distributions” by Yuanyuan Hong et al.

T. Irizuki (Referee)

irizuki@riko.shimane-u.ac.jp

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General comments

This manuscript is well written. It contains a large number of original and high-quality data obtained from surface sediment samples. I think that the author made an effort very much to take these enormous data. Based on these data, the authors conducted several statistical analyses. It is new that the author applied multiple linear regression analysis to the study to clarify quantitatively the relationship between ostracod

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distributions and environmental factors. These results are significant in environmental, ecological, paleontological, and marine pollution studies. I could not find any major problems in this manuscript, but a moderate problem and many typographical errors in References are present. After minor revisions, this manuscript will be accepted.

Specific comments

1. When the relationship between ostracod distributions and environmental factors is studied, autochthonous ostracod data should be basically used. However, you did not discuss whether ostracod assemblages or specimens were autochthonous or allochthonous. For example, because *Xestoleberis* is a phytal genus, it is basically allochthonous specimens in bottom sediments and transported from intertidal zones with *Zostera* beds or calcareous algae. You should add several sentences about this taphonomic problem.

2. Total organic carbon content (TOC) in bottom sediment is very important for ostracod distribution (Irizuki et al., 2011, 2015a, 2018) and it is a good indicator to estimate eutrophication and dissolved oxygen (DO) in the past in case of studies based on core samples. Though you did not examine TOC in sediment, you had better discuss the importance of TOC as an environmental factor and that TOC is strongly related to eutrophication and DO. (Irizuki, T., Hirose, K., Ueda, Y., Fujihara, Y., Ishiga, H., Seto, K., 2018, Ecological shifts due to anthropogenic activities in the coastal seas of the Seto Inland Sea, Japan, since the 20th century. *Marine Pollution Bulletin*, 127, 637-653.

Minor problems

Minor problems are directly highlighted and revised in the text.

Please also note the supplement to this comment:

<https://www.biogeosciences-discuss.net/bg-2018-405/bg-2018-405-RC1-supplement.pdf>

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