**Suggested reviewers**

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**Answers to the following questions (max 50 words per answer)**

*What is the scientific question you are addressing?*

How does metabolic rate and maximum consumption rate scale with body mass and temperature *within* species of fish? What relationships between optimum growth temperature and body size do these scaling relationships predict when implemented in a standard growth model? Are these predictions supported from growth rate experiments?

*What is/are the key finding(s) that answers this question?*

Within species, metabolic rates increase faster with body mass than feeding rates, and feeding rates are unimodal functions of temperature. Hence, it is predicted that the optimum growth temperature declines with body mass. Analysis growth rate experiments demonstrate that optimum growth temperatures indeed decline with body size within fish species.

*Why is this work important and timely?*

The mechanistic basis and predictions from key growth models have been questioned recently. We statistically estimate the key parameters of these models by collating a new dataset and demonstrate that they predict reduced growth of large fish in warmer environment, which we also find in independent growth rate data.

*Does your paper fall within the scope of GCB; what biological AND global change aspects does it address?*

Our analysis data provide fundamental insights into the size and temperature scaling of fish growth. Together with our analysis of a mechanistic growth model, our study contributes to an understanding of the bioenergetic basis for the temperature-size rule and the predicted shrinking of large individuals with climate warming.

*What are the three most recently published papers that are relevant to this question? This information will assist the Editors in selecting reviewers. If you listed non-preferred reviewers, provide a justification for each*

Marshall, D. J., & White, C. R. (2019). Have we outgrown the existing models of growth?. *Trends in ecology & evolution*, *34*(2), 102-111.

Lefevre, S., McKenzie, D. J., & Nilsson, G. E. (2017). Models projecting the fate of fish populations under climate change need to be based on valid physiological mechanisms. *Global Change Biology*, *23*(9), 3449-3459.

van Denderen, D., Gislason, H., van den Heuvel, J., & Andersen, K. H. (2020). Global analysis of fish growth rates shows weaker responses to temperature than metabolic predictions. *Global Ecology and Biogeography*, *29*(12), 2203-2213.

*Justification if your manuscript does not conform to author or formatting guidelines (e.g. exceeding word limit)*

NA