

Interactive comment on “The real limits to marine life: a further critique of the Respiration Index” by B. A. Seibel and J. J. Childress

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Author response: Interactive comment on “The real limits to marine life: a further critique of the Respiration Index” by B. A. Seibel and J. J. Childress

Both reviewers were generally quite positive about our manuscript and we thank them for their thoughtful contributions.

Anonymous Referee #1: It might be worth adding information on the relative solubilities of oxygen in aqueous and lipid “fluids.” The higher solubility of oxygen in lipids than in aqueous solutions may play an important role in the transport of oxygen to its sites of utilization. Lipids provide a further basis for organisms’ ability to avoid being chained to a simple RI-based limitation to aerobic metabolism.

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Reply: We have added a brief mention of this in the manuscript and added an appropriate citation (Sidell, 1998). The phenomenon represents another of many adaptations that may buffer animal function from environmental constraints.

Both reviewers suggested substituting “misleading” for “dangerous” in our statement regarding the predictions that stem from use of the Respiration Index. We have made that change.

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