Dear Editor,

I am writing on behalf of my co-authors to submit our manuscript titled "**The Evolution and Diversification of Siphonophore Tentilla as Tools for Prey Capture**" to be considered for publication in Systematic Biology.

All authors approve of the manuscript and its submission to Systematic Biology. The manuscript is original work and has not been simultaneously submitted to any other journal. This work was supported in part by the Systematic Biologists Graduate Student Award to Alejandro Damian-Serrano. We would be excited to publish this SSB supported work in the Society's journal.

We test long-standing ideas about the evolution of predator specialization using siphonophores as the model predators. Our manuscript describes siphonophore tentillum morphology from phylogenetic, evolutionary, functional, and ecological perspectives. We find that correlations between form and function in specialized nematocyst batteries are due to correlated evolution with trophic niche. In addition, this work provides novel morphological data on unique structures and improved phylogenetic resolution for an understudied deep-sea siphonophore species. The unprecedented inclusion of deep sea taxa in this ecomorphological study revealed new functional phenotypes linked to specialization in piscivory.

The work leading to this manuscript has generated unique zoological resources at the Yale Peabody Museum of Natural History, such as a permanent microscope slide collection of 289 prepared tentacle specimens from most siphonophore taxa in the Invertebrate Zoology collection, and a collection of microscopy images and high speed videos linked to those slides and specimens that will be available through the museum website. This manuscript is a fundamental component of my PhD student dissertation, which was awarded by the Society of Systematic Biologists. This work was uploaded as a pre-print to BioRxiv https://doi.org/10.1101/653345 earlier this year, and benefited from really helpful feedback.

We believe that this manuscript is appropriate for publication in Systematic Biology, as it contributes to our understanding of cnidarian systematics, complex character evolution, modularity in non-bilaterian systems, and to building the interface between ecology and comparative biology.

You can reach me by email at alejandro.damianserrano@yale.edu or by phone at (401) 441-9613. We look forward to hearing from you at your earliest convenience.

Yours sincerely,

Alejandro Damian-Serrano