

July 13, 2017

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Dear Editor,

Enclosed please find our manuscript “Spatial variation in allometric growth of invasive lionfish has management implications” submitted as a research article to Biological Invasions.

Lionfish are an invasive species in the Western Atlantic. Their invasion has received significant attention from both researchers and managers who seek to understand implications of the invasion and identify the best strategies to manage it. The subject addressed in our work is of major relevance to policymakers, conservation organizations, resource managers, and scientists across a range of disciplines. Publication in Biological Invasions will allow us to effectively reach this broad audience, supporting much-needed actions to inform lionfish invasion management and promote further research.

To correctly manage the invasion, we must be able to accurately estimate lionfish biomass. Sedentary species like lionfish are prone to exhibit spatial variation in their life-history characteristics. Previous research suggests the presence of at least two distinct subpopulations throughout the invaded range, and it's been shown that length-at-age of this species exhibits regional variation. We review existing allometric growth parameters reported across the invasion range and perform a meta-analysis to identify regional variations. Our work identifies the existence of regional variations in length-weight relationships of lionfish. We prove that, if not considered, these variations may result in more than a three-fold overestimation of Total Weight, which may have major implications in managing the invasion. Additionally, our work contributes a new set of allometric growth parameters for lionfish in the Central Mexican Caribbean.

All authors have agreed to be listed and approve the submitted version of the manuscript. The original idea was conceived by JC Villaseñor-Derbez, and S Fitzgerald further contributed in data analysis and discussions. Our manuscript is not submitted elsewhere and represents original research.

Please feel free to contact me as the corresponding author to discuss any questions you may have about our team's research or this manuscript.

Best regards,

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