April 6, 2013

Editorial Board, Plos One

Dear Plos One Editorial Board,

We are submitting the attached manuscript, “**Development of genomic resources for a thraustochytrid pathogen and investigation of temperature influences on gene expression**” by Garcia-Vedrenne, Groner, Page-Karjian, Sziklay, Siegmund, Singhal, and Roberts for consideration as an article in *PLoS One*.

Incidences of emerging diseases are increasing around the globe and it is critical that we understand how environmental factors and genetic architecture contribute to the pathogenicity and virulence of infectious agents. Recent advances in genomics and transcriptomics allow rapid characterization of poorly studied pathogens across key environmental gradients. In this study, we examined the influence of temperature on gene expression patterns in a thraustochytrid pathogen, quahog parasite unknown (QPX). Thraustochytrids are part of the larger and poorly described taxa of labyrinthulomycetes, and contain several recently identified and highly pathogenic species. QPX causes disease in the commercially important shellfish, *Mercenaria mercenaria*, and has been associated with mortality events across the Atlantic coast of the United States and Canada. Growth and virulence of QPX is highly affected by temperature. In addition to annotating the genome, we have identified potential virulence genes as well as genes and pathways that are differentially expressed across temperatures, which may explain how QPX can maintain homeostasis across this gradient. The development of genomic resources for QPX provides important insights into the physiology and virulence of this pathogen, and may increase understanding of this epidemiologically important taxonomic group.

The article was approved by all contributing authors and the authors and none of this work is in consideration elsewhere or have been submitted previously. We think it is noteworthy that the majority of work for this paper was completed by students in the 2012 graduate course, ‘Ecology of Infectious Marine Disease’, offered by the University of Washington. Thank you for your kind consideration of our manuscript submission.

Sincerely,



C. Annie Page-Karjian, D.V.M. (on behalf of all co-authors)

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