

How can physiology help to understand the ecology and climate change resilience of marine fishes?

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Biography

Timothy completed his PhD at La Trobe University (Melbourne, Australia) in 2005 focusing on the cardiorespiratory physiology of varanid lizards. He took up a postdoctoral position at the University of Adelaide (South Australia) in 2005 to examine the physiological mechanisms of fishes that underlie high athleticism (e.g., tuna, kingfish) and air-breathing (e.g., tarpon, lungfish). In 2007, Timothy was awarded a Killam Postdoctoral Fellowship and subsequently moved to the University of British Columbia (Vancouver, Canada) to investigate the physiological mechanisms causing temperature-induced premature mortality in Pacific salmon during their upriver migration from the Pacific Ocean. Timothy continued his research in Canada until 2011, at which point he made the transition back to Australia to commence as a Research Scientist at the Australian Institute of Marine Science (AIMS) working primarily on the Great Barrier Reef. Timothy's research group specialises in lab- and field-based physiology, biologging and biotelemetry, with an underlying goal to understand the eco-physiology of fishes and their capacity to adapt to changing environments.

Summary of talk

Physiology has been highlighted as one of the most important yet understudied aspects of marine biology. This is partly due to a lack of physiologists in the marine biology realm, but possibly also due to a misconception in the scientific community that physiology is invasive and not generally applicable to animals in the natural environment. In the current era of climate change, it is increasingly more important to understand the capacities and limitations of the physiological systems that help drive acclimation and adaptation. This talk will give an overview of some of the research being conducted in my lab, with particular emphasis on using physiological techniques to better understand the ecology and environmental resilience of marine fishes. From inflating pufferfishes, to digesting stingrays, to commercially-important coral trout, the intention of this talk is to demonstrate how physiology can be fused with other biological disciplines to provide a much more comprehensive understanding of our fishy friends.

Further information on the speaker

Research Gate: https://www.researchgate.net/profile/Timothy_Clark4/publications/

Google Scholar: <http://scholar.google.com.au/citations?user=WLbkTNsAAAAJ&hl=en>