

Genomics of Aquatic Adaptation

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Abstract : The completion of the human genome sequencing in 2003 opened a new perspective into the importance of whole genome sequencing projects, and currently multiple species are having their genomes completed sequenced, from simple organisms, such as bacteria, to more complex taxa, such as mammals. This voluminous sequencing data generated across multiple organisms provides also the framework to better understand the genetic makeup of such species and related ones, allowing to explore the genetic changes underlining the evolution of diverse phenotypic traits. Here, recent results from our group retrieved from comparative evolutionary genomic analyses of selected marine animal species will be considered to exemplify how gene novelty and gene enhancement by positive selection might have been determinant in the success of adaptive radiations into diverse habitats and lifestyles.

Keywords : comparative genomics, adaptive evolution, bioinformatics, phylogenetics, genome mining

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