



International Journal of Genomics

Special Issue on
Genomics of Marine Invertebrates

CALL FOR PAPERS

The advent of next-generation sequencing (NGS) technologies has significantly improved sequencing throughput, while greatly reducing costs. Multiple joint efforts have been launched aiming at sequencing the genome and/or transcriptome of different animal species. Understandably, the selection of the taxonomic groups targeted is largely biased by the agricultural or medical relevance of the species included.

About 95% of all animals in our planet are invertebrates, and a large proportion of those inhabit the marine realm. These marine invertebrates play crucial roles in the functioning and maintenance of ecosystems, and many of them have a direct impact on our lives, being cultured and harvested for food or used in pharmacological research, among other things. However, despite their importance for humans, marine invertebrates have been largely overlooked by the big sequencing consortia. Only the recently formed GIGA (Global Invertebrate Genomics Alliance) community has focused its efforts on the sequencing of invertebrate genomes, including many marine organisms.

The goal of this special issue is to get a better understanding of ecological and evolutionary aspects of marine invertebrates using a variety of genomic tools.

Potential topics include, but are not limited to:

- ▶ Genome and/or transcriptome sequencing efforts of marine invertebrates: genome structure, function and evolution, epigenetics, growth, immune, stress, and tissue-specific patterns of gene expression
- ▶ Genome and/or transcriptome annotation of coding and noncoding sequences of marine invertebrate taxa, new methods of annotation in nonmodel organisms, orthology detection, and in silico functional annotation
- ▶ Meta-omics of marine samples: community-level, molecular-based approaches, metagenomics, metabarcoding, metatranscriptomics, development of new or improved methods for reducing bias and accurately annotating bulk community data, and development and comparison of taxonomic and phylogenetic diversity indexes
- ▶ Genomics of aquaculture: linkage mapping, identification and analysis of genes related to economically important traits, molecular marker assisted selection, and domestication process
- ▶ Population genomic diversity and structure: adaptive molecular variation, population demography, and evolutionary history
- ▶ Phylogenomics: reconstruction and clarification of evolutionary relationships between different taxonomic groups, application of genomic approaches to evolutionary biology, and comparative genomics

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