



The Crown Pearl: a draft genome assembly of the European freshwater pearl mussel *Margaritifera margaritifera* (Linnaeus, 1758)

André Gomes-dos-Santos

Department of Biology, Faculty of Sciences, University of Porto, Rua do Campo Alegre, 4169-007 Porto, Portugal

Abstract

Since historical times, the inherent human fascination with pearls turned the freshwater pearl mussel *Margaritifera margaritifera* (Linnaeus, 1758) into a highly valuable cultural and economic resource. Although pearl harvesting in *M. margaritifera* is nowadays residual, other human threats have aggravated the species conservation status, especially in Europe. This mussel presents a myriad of rare biological features, e.g. high longevity including low senescence and Doubly Uniparental Inheritance of mitochondrial DNA, that the underlying molecular mechanisms are poorly known. Here, the primary draft genome assembly of *M. margaritifera* was produced employing a combination of Illumina Paired-end and Mate-pair approaches. The genome

assembly is 1.948 Gb, with a contig N50 of 57.33 kb. The genome contains 10,948 genes, which are enriched in unique biological and evolutionary features and ultimately will help to develop new tools to market its conservation.

Biography

PhD student working in inferring the phylogeny, demography and adaptive evolution on freshwater bivalves from High-throughput Sequencing data. Interdisciplinary Centre of Marine and Environmental Research, University of Porto, Terminal de Cruzeiros do Porto de Leixões, Avenida General Norton de Matos, S/N, P 4450-208 Matosinhos, Portugal. Tel: +351 22 841 5623. Email: agomes@icmre.up.pt