



P50- GENETIC DIVERSITY OF *Plesionika edwardsii*: A SHRIMP SPECIES WITH ECONOMIC INTEREST IN ALBORAN SEA REGION

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SUMMARY

Soldier shrimp (*Plesionika edwardsii*) is a marine crustacean with a worldwide distribution, being an important fishing resource in the occidental Mediterranean (Alboran Sea). In this enclave, different hydrographic regimes, and marine currents, could be causing the isolation of its populations impeding the flow between them. This could provide specific characteristics to the populations in this region, which could be exploited for commercial purposes. A total of 128 samples from three populations in the Alboran Sea (Mediterranean) and two populations in the Atlantic (Bay of Cadiz and Canary Islands) were analysed using 2b-RAD sequencing to assess genetic structure. We assembled a draft genome to serve as a reference for the alignment of filtered DNA reads in the search for SNPs. Our estimation of the size of the haploid genome was around 17 Gb. We achieved 95.2±0.2% read alignment with this reference genome using the Bowtie v1.3.1. Multimapped reads (number of reportable alignments > 1) were not used to build RAD-loci with Stacks v2.65, which detected 1,976,387 putative SNPs. After quality filtering steps, a total of 17,416 SNPs were retained and used to evaluate the genetic diversity and structure in the studied populations. The genetic diversity was similar between populations ($H_e \sim 0.17$). The data obtained showed no genetic differentiation among samples in the Alboran Sea, but a significant differentiation between the Alboran Sea and the two Atlantic populations. However, our analysis revealed that the greatest genetic differentiation occurs between the two Atlantic populations (Bay of Cadiz and Canary Islands; $F_{ST} = 0.016$).

Keywords: *Plesionika edwardsii*, Alboran Sea, SNP, genetic differentiation