

Genetic identification of *Penaeus aztecus* Ives, 1891 in the Eastern Mediterranean

Anastasia Imsiridou¹, George Minos¹, Lambros Kokokiris¹, Paraskevi K. Karachle², Kostas Kapiris²

¹Alexander Technological Educational Institute of Thessaloniki, Department of Fisheries & Aquaculture Technology, P.O. Box: 157, 63200, N. Moudania, Greece

²Hellenic Centre for Marine Research, Institute of Marine Biological Resources and Inland Waters, 46.7 km Athens-Sounio Ave., Mavro Lithari P.O. Box 712, 19013, Anavissos, Attica, Greece
tel: +2373065313, fax: +2373026450, e-mail: imsiri@otenet.gr

The northern brown shrimp *Penaeus aztecus* Ives, 1891, is an estuarine and oceanic littoral decapod which is naturally distributed along the western Atlantic. The presence of the northern brown shrimp in the Mediterranean Sea has been recorded for the first time in Antalya Bay, Eastern Mediterranean. In the present study, a 16S rRNA sequencing analysis was used for the identity confirmation of the species in Thermaikos Gulf. Phylogenetic relationships were estimated with the MEGA6 software, using the maximum likelihood method. The final dataset included 13 sequences from different *Penaeus* individuals. Species *Palaemon elegans* was used as an outgroup. In total, 522 base pairs at the 5' end of the mtDNA 16S rDNA gene for all the individuals were sequenced. All specimens revealed an identical haplotype which was deposited at GenBank (accession number: KF983532.1). There were 404 positions in the final dataset. The maximum likelihood topology revealed three different clusters: the first one includes all the *P. duorarum* sequences, the second one includes the *P. subtilis* individuals and the third one includes the *P. aztecus* sequences. The sequence of the Thermaikos Gulf individuals was grouped with the *P. aztecus* individuals, in the third clade. The use of the 16S rDNA gene contributes to the undoubted identification of *P. aztecus* in the Aegean Sea and generally in the Eastern Mediterranean. The increase of marine non indigenous species in the Eastern Mediterranean is certainly attributed to an increase of human activities (shipping transport), but it is also a consequence of climate change.