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Population genetic structure of *Scomberomorus commerson* from Persian Gulf, Oman Sea and Arabian Sea and *Thunnus tonggol* from Oman Sea using sequence analysis of the mitochondrial DNA D-loop region

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Narrow-barred Spanish mackerel (*Scomberomorus commerson*) and Longtail tuna (*Thunnus tonggol*) are epipelagic and migratory species of family Scombridae which have a significant role in terms of ecology and fishery. Phylogenetic relationships of *S. commerson* from the Persian Gulf, Oman Sea and Arabian Sea, and *T. tonggol* from Oman Sea were investigated through sequence data of mitochondrial DNA D-loop region using high resolution melting-real time PCR (Polymerase Chain Reaction). *S. commerson* were classified into 20 groups and *T. tonggol* were banded into 8 groups. Finally 40 samples of *S. commerson* and 16 samples of *T. tonggol* were chosen to sequence for phylogenetic and genetic analyses. None clustered Neighbor Joining tree indicated the proximity amid *S. commerson* in four stations and *T. tonggol* in two stations. As figures demonstrated in sequence analyses of mitochondrial DNA D-Loop region a sublimely high degree of genetic similarity among *S. commerson* from the Persian Gulf and Oman Sea and Arabian Sea and also among *T. tonggol* from the Oman Sea were perceived, thereafter, having one stock structure of *S. commerson* in four regions and one stock structure of *T. tonggol* in two regions were proved. And this approximation can be merely justified by their emigration process along the coasts of Oman Sea and Persian Gulf and Arabian Sea. Accordingly, the assessment of distribution patterns of 40 samples of *S. commerson* and 16 samples of *T. tonggol* in the constructed phylogenetic tree and using mtDNA D-Loop sequences ascertained that no significant clustering according to the sampling sites were concluded and *F_{st}* values shows this similarity as well.

Biography

Ana Mansourkiaei has completed his PhD from Islamic Azad University Scientific and Research Branch. He is a Diving Instructor. He has published more than five papers in reputed journals.

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