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< [Previous](#) | [Next](#) > [Mark This Record](#) | [Update Marked List](#) | [Save, Print, Email](#)**Database** ASFA: Aquatic Sciences and Fisheries Abstracts**Title** **Intraspecific mitochondrial DNA variation in Mediterranean sea samples of two perciformes species****Author** Rorberti, M; Cantatore, P; Curatolo, A; de Metrio, G; Levi, D; Ludovico, A; Megalofonou, P; Milella, F; Gadaleta, MN**Affiliation** Dipartimento di Biochimica e Biologia Molecolare, Universita di Bari Italy**Source** 4th International Marine Biotechnology conference - Abstracts. p. 275. 1997.**Descriptors**
 DNA Samples Species Genotypes Gene expression Genes Evolution
 Cytochromes Population number Nuclei Nucleotide sequence Nucleotides Sarda sarda Thunnus thynnus Mediterranean Region
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Abstract A genetic characterization of stocks is very important for the correct management of fish resources. This goal could be reached by means of the analysis of mitochondrial DNA. Direct sequencing of the cytochrome b gene has been demonstrated to be a sensitive method for determining intraspecific differences in some fish species. In our study we utilized samples of two species of Perciformes, *Sarda sarda* and *Thunnus thynnus*. Cytochrome b gene regions were amplified by using universal or specific primers and the amplified DNA was subjected to cycle sequencing. We have analyzed three samples of *Sarda sarda* coming respectively from the Ionian Sea, from the Aegean Sea and from the Marmara Sea. We determined the DNA sequence of a 300 nucleotides portion of the cytochrome b gene in 94 individuals. 13 nucleotide positions in this region were found to vary: the variable sites define 7 distinct genotypes. These genotypes differ from one another at a maximum of 10 positions and have a different proportion in the 3 individual samples. We observed a much greater differentiation between the Ionian and the Aegean sample with respect to that from the Marmara Sea than between the Ionian and the Aegean samples. Concerning *Thunnus thynnus* we analyzed 26 individuals, 12 of which coming from 'flying' tunny-fishing grounds of the Southern Tyrrhenian Sea and 14 from the 'fixed' ones, located at San Cusumano and Favignana. By determining the nucleotide sequence of about 500 base pairs of the cytochrome b gene it was possible to show the almost complete homogeneity of the samples. In fact among the 265 analyzed individuals only a C to T transition at position 738 (according to the numbering of the human gene) has been reported in two individuals belonging to the two different samples. This very limited polymorphism in *Thunnus thynnus* raised interesting questions about the origin of the Mediterranean population that might have originated in recent years or might have exhibited a 'bottle neck' evolutionary process.

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