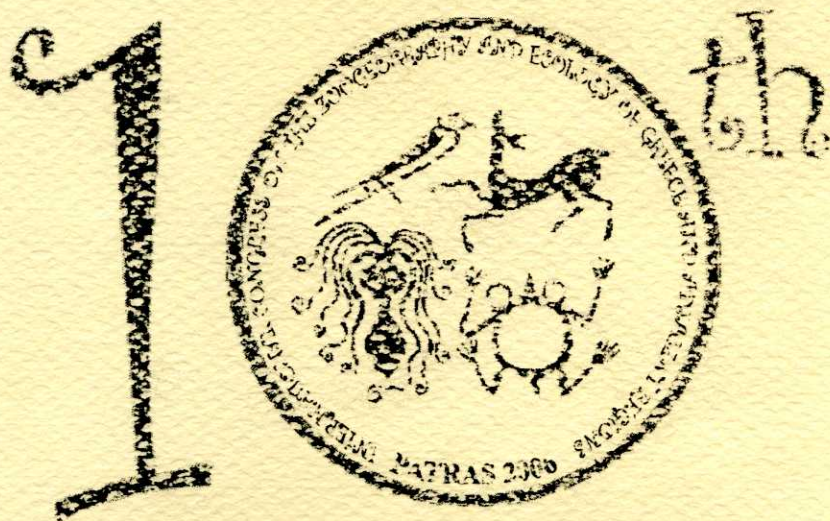


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BOOK OF ABSTRACTS

**IDENTIFICATION OF FRY OF DIFFERENT GREY MULLET SPECIES WITH THE USE OF NUCLEAR 5S rDNA MARKERS**IMSIRIDOU A.<sup>1</sup>, MINOS G.<sup>1</sup>, TSIORA A.<sup>1</sup>, KATSARES V.<sup>1,2</sup> & DOUKA S.<sup>1</sup>

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The family Mugilidae comprises 17 genera and more than 60 species. The mullets have a worldwide distribution. In Greece, culture of grey mullets is a very important activity, based mainly on natural food webs. As artificial breeding of grey mullets fry is not a very common procedure, all the cultural practices of these species are based on fishing of wild fry. Nevertheless, the identification of fry individuals is not very easy, especially due to the absence of certain morphological characters, which are used in adults, to identify and discriminate the species. The 5S rDNA, in higher eukaryotes, can be used as a species specific marker. It consists of 120 bp highly conserved coding sequences, which are separated from each other by a non-transcribed spacer (NTS) that shows an accentuated length variation. A rapid genetic methodology was developed to discriminate the fry of six Mugilidae species - *Mugil cephalus*, *Mugil so-iuy*, *Chelon labrosus*, *Liza aurata*, *L. ramada* and *L. saliens* - found in the Mediterranean Sea. Total DNA was extracted of all six species. Subsequent amplification of the 5S rDNA gene was performed by the Polymerase Chain Reaction. Successful and repeated products of all species showed different patterns on EtBr stained agarose gels. *M. so-iuy* gave a pattern of three bands and *L. saliens* gave a pattern of one band. *M. cephalus*, *C. labrosus*, *L. aurata* and *L. ramada* gave a pattern of two bands. PCR bands of all species were extracted and purified using an agarose gel extraction kit and subsequently sequenced. Sequences of all the species were aligned against each other, as well as to sequences from other species. This genetic approach could facilitate aquaculture units to identify rapidly and accurately the fry of mullet species supplied from fishermen.