

First record of the Lessepsian migrant *Lagocephalus sceleratus* (Gmelin 1789) (Osteichthyes: Tetraodontidae) in the Cretan Sea (Aegean, Greece)

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Abstract

The Lessepsian migrant fish *Lagocephalus sceleratus* was recorded for the first time in July and in December 2005 from the Cretan Sea (Aegean, Greece). The species identity was confirmed by both morphometric and genetic analyses. These records indicate that the species has established populations around the continental shelf of Crete.

Key words: *Lagocephalus sceleratus*, Mediterranean Sea, Cretan Sea, Lessepsian migrant, invasive, mitochondrial DNA

The Silverstripe Blaasop *Lagocephalus sceleratus* (Gmelin 1789) is a fish species of the Tetraodontidae family. It is distributed in the Indo-West Pacific Ocean (Smith and Heemstra 1986), in tropical waters and depths from 18 to 100 m, inhabiting reefs (May and Maxwell 1986). A recent record on February 2003 from Gökova Bay on the southeastern Aegean coast of Turkey (Akyol et al. 2005), demonstrated the presence of the species in Mediterranean Sea as a Lessepsian migrant. A previous record from the Mediterranean Sea by Mouneimne (1977) was a misidentification of a *L. suezensis* specimen (Golani 1996). On September 2004 a specimen was captured in Antalya Bay (Bilecenoglu et al. 2006), in November 2004 it was reported from Jaffa along the Israeli coast (Golani and Levy 2005), in September 2005 the species was recorded in Rhodes (Corsini et al. 2006) and in April 2006 in Izmir Bay (NE Aegean) (Bilecenoglu et al. 2006) (Figure 1).

The species has a potential risk to humans, since it contains tetrodotoxin (TTX) that may be a source for food poisoning. Two cases of poisoning of persons who had consumed this fish were reported from Israel and Lebanon (Golani et al. 2006).

In the present communication we report a new record of *L. sceleratus* from the Cretan Sea. A specimen was caught by spear gun by a sport fisherman in July 2005 at Heraklion Bay (35°20'N, 25°15'E), in shallow waters, and deposited in the collection of the Hellenic Centre for Marine Research (HCMR) (Figure 2). This single specimen had a total length of 348 mm. The body was elongated and cylindrical, slightly compressed laterally and ventrally. The dorsal area was grey-brownish with black, regularly distributed spots of equal size, covered with small spinules predorsally. Wide silver bands were present laterally, from mouth to caudal fin. The belly was white and rough. A silver blotch was

present in front of the eye. The pectoral fin base was black, the dorsal and anal fins were short-based and posterior in position, while the caudal fin was lunate. Meristic measurements and counts (Table 1) were in agreement with previous descriptions of the species (Smith and Heemstra 1986, Akyol et al 2005).

Table 1. Measurements and counts for the *Lagocephalus sceleratus* specimen caught in Heraklion Bay, Cretan Sea in July 2005

Measurements	(mm)
Total length	348
Fork length	331
Max body depth	58.6
Min body depth	9.8
Snout- pectoral fin	86
Head depth	48.4
Preorbital distance	39.5
Predorsal distance	198
Anus- anal fin	12.8
Orbit height	12.0 (l) 11.5 (r)
Orbit width	22.0 (l) 22.4 (r)
Counts	(n)
Dorsal finrays	12
Anal finrays	10
Pectoral finrays	18 (l) 17 (r)

The species identity of this specimen was further confirmed by genetic analysis. Total DNA was extracted from muscle tissue and a portion of the mitochondrial DNA gene cytochrome b (cytb) was amplified and sequenced using standard procedures. Amplification was carried out using the universal primers CB2H (Kocher et al. 1989) and L14724 (Irwin et al. 1991). The sequence was aligned and compared to a homologous sequence of *L. sceleratus* from GenBank with accession number AY267356. The 392 bp cytb fragment sequenced differed at two nucleotide positions to the respective sequence of *L. sceleratus* from GenBank (a G-A and a C-T mutation). This high genetic similarity (>99.4%) confirms that this specimen is indeed *L. sceleratus*. The obtained sequence has been deposited in GenBank under the accession number EF362414.

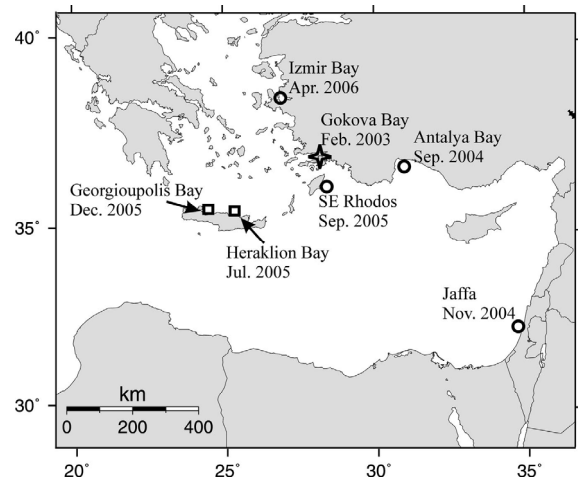


Figure 1. First records of *Lagocephalus sceleratus* in the Eastern Mediterranean. Squares show the new records from Crete, the star indicates the first record in Mediterranean and circles are records from other areas



Figure 2. The *Lagocephalus sceleratus* specimen caught in Heraklion Bay, Cretan Sea in July 2005 (Photo: P. Peristeraki)

Another specimen of *L. sceleratus* was caught in trammel nets by a fisherman, in a depth of 30 m, in Georgioupolis Bay, Chania (Cretan Sea) (35°21'N, 24°21'E), in December 2005. The catch was reported to HCMR and the identification of the species was done by the photos provided. The specimen was large (>30 cm) and carried the characteristic black, regularly distributed spots of equal size on its back. These accidental catches, within a time frame of six months, indicate that the species has established populations around the continental shelf of Crete.

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