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FIRST RECORD OF A LESSEPSIAN MIGRANT, THE DUSKY SPINEFOOT, *SIGANUS LURIDUS* (RÜPPELL, 1829) IN THE STRAIT OF MESSINA (CENTRAL MEDITERRANEAN SEA)

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ABSTRACT

A specimen of Siganus luridus (Rüppell, 1829) was caught during a spear-fishing on 18 October 2015 in Pace locality (Ionian Sicilian coast of Strait of Messina – Central Mediterranean Sea). This is the first record of this species in the Strait of Messina. It is interesting to record the presence of S. luridus in this area, as its peculiar hydrodynamic characteristics does not allow an easy dispersal of organisms between the East and Western Mediterranean basins.

Key words: *Siganus luridus*, lessepsian species, Strait of Messina.

PRIMA SEGNALAZIONE DI PESCE CONIGLIO (SPECIE MIGRANTE LESSEPSIANA), *SIGANUS LURIDUS* (RÜPPELL, 1829), NELLO STRETTO DI MESSINA (MEDITERRANEO CENTRALE)

SINTESI

Viene riportata la prima segnalazione di un esemplare di pesce coniglio, Siganus luridus (Rüppell, 1829), catturato durante una battuta di pesca subacquea, nell'ottobre 2015 lungo la costa della località Pace a Messina (costa ionica dello Stretto di Messina – Mediterraneo centrale).

Parole chiave: *Siganus luridus*, specie lessepsiana, Stretto di Messina

INTRODUCTION

Siganus luridus (Rüppell, 1829) is an herbivorous littoral fish species, living in rocky habitats (Stergiou, 1988). It usually lives in small groups of adults and large schools of juveniles (Golani *et al.*, 2002). It is distributed along the Red Sea, eastern Africa to Mauritius and Reunion Island to the Arabian Gulf and to date, all over the eastern Mediterranean Sea (Golani *et al.*, 2002; Letourneur *et al.*,

2004; Azzurro & Andaloro, 2004). It is a species spreading from the Red Sea as a lessepsian migrant through the Suez Canal into the Mediterranean Sea where it was first recorded in 1956 along the Levantine coasts of Israel (Ben-Tuvia, 1964). Subsequently it was recorded in 1969 in the Gulf of Tunis, in 1974 in the Gulf of Gabès (Bradai *et al.*, 2004) and in the Gulf of Patras (Kaspiris, 1976).

Recent data have shown its constant presence along Lebanon, Cyprus, the southern coast of Turkey, Rhodes

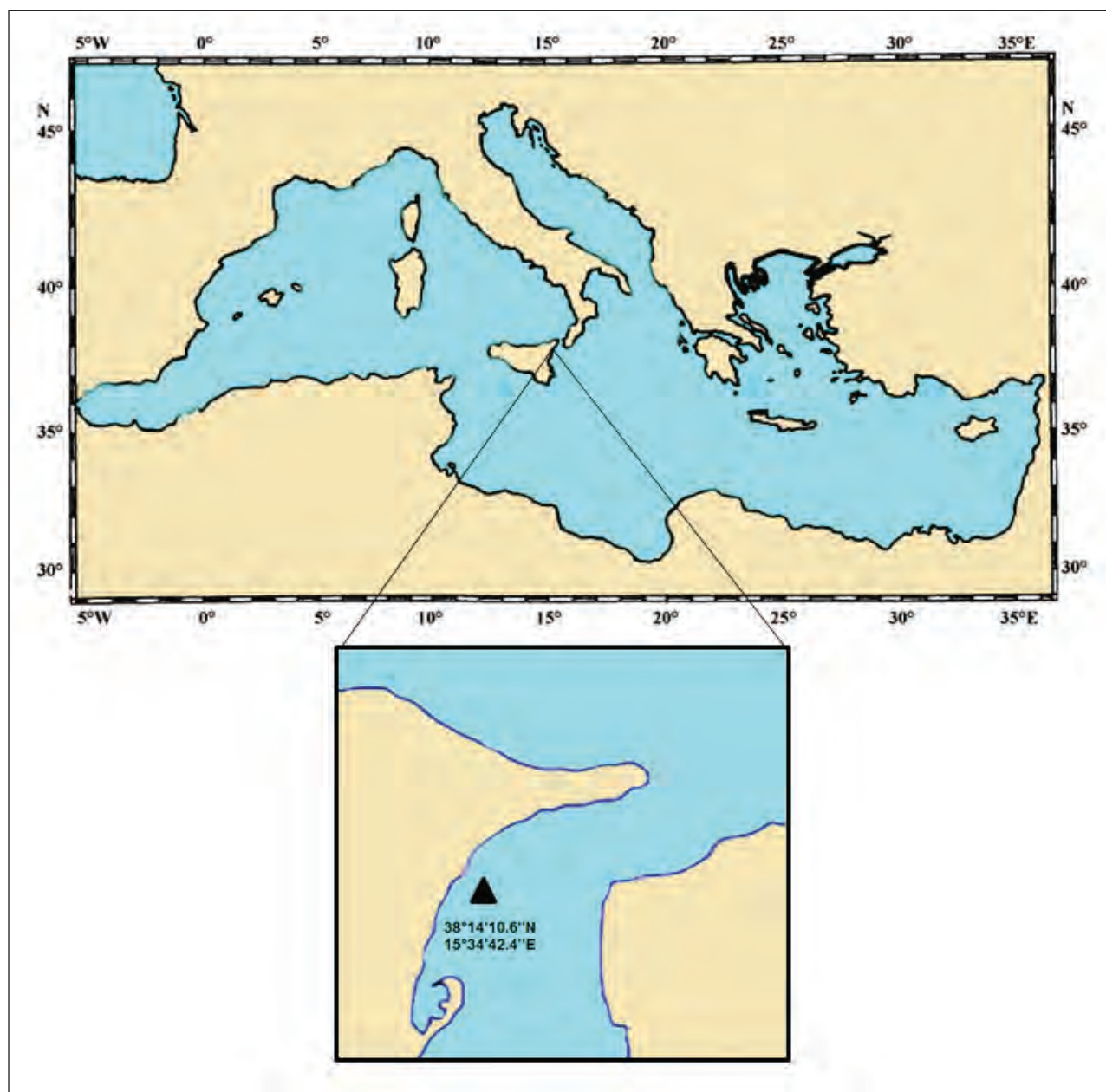


Fig. 1: Map of the area and the locality where the specimen of *S. luridus* was caught.

Sl. 1: Zemljevid obravnavanega območja z označeno lokaliteto, kjer je bil ujet primerek *S. luridus*.

and central Aegean Sea (Ben-Tuvia, 1977; Papaconstantinou, 1987; Torcu & Mater, 2000); it was also recorded in Cretan waters (Golani et al., 2004). Some specimens have been recently recorded in the Pelagie Islands (Azzurro & Andaloro, 2004), in the Adriatic Sea (Poloniatto et al., 2010; Dulčić et al., 2011, 2013; Đurović et al., 2014) and in north Tyrrhenian Sea (Daniel et al., 2009).

In this paper, the first record of the lessepsian migrant *Siganus luridus* (Rüppell, 1828) in the Strait of Messina is presented.

MATERIAL AND METHODS

On 18 October 2015, during a spear-fishing along the Strait of Messina coast (38°14'10.6"N 15°34'42.4"E),

Tab. 1: Basic morphometric measurements for *S. luridus*.

Tab. 1: Temeljni morfometrični podatki za vrsto *S. luridus*.

Morphometric measurements	mm	%TL
Total length	191	100
Fork length	171	89.5
Standard length	150	78.5
Head length	38	19.9
Eye diameter	13	6.8
Preorbital distance	12	6.3
Postorbital distance	24	12.6
Interorbital distance	15	7.8
Base of 1st dorsal fin	119	62.3
Base of anal fin	79	41.4
Predorsal distance	40	20.9
Prepectoral distance	36	18.8
Preal distance	77	40.3
Prepelvic distance	45	23.6
Pectoral length	23	12.0
Pelvic length	25	13.1
Body depth	22	11.5
Body height	67	35.1

(Fig. 1) one male specimen of *S. luridus* was captured on a rocky bottom to 7 m depth (Fig. 2). Immediately after capture, morphometric (Tab. 1) and meristic data were recorded. The specimen was preserved and deposited in the Ichthyologic collection of the Wildlife Museum of Veterinary Science Department – University of Messina (802/MF).

RESULTS AND DISCUSSION

Basic morphometric data are given in Tab. 1 for comparative purposes with other studies. Meristic data are the followings: dorsal fin rays XIV+10, anal fin rays VII+9, pectoral fin rays 16, pelvic fin rays I+3+I, caudal fin rays 19. Morphometric measurements are in agreement with those presented by Ben-Tuvia (1986). The specimen weighed 142.3 gr.

This capture of *S. luridus* represents a first record for the Strait of Messina and constitutes a considerable extension of the known distribution range of the species within the Mediterranean sea. The origin of these individuals is not clear and at least two hypotheses may be done. The first is that specimens could have been transported from another site of the eastern Mediterranean Sea or Red Sea through ship-ballast' waters, since the Strait of Messina represents a very important thoroughfare between the eastern and western Mediterranean Sea. The second hypothesis is that the new record is a natural extension of the species areal distribution, considering that siganid larvae may be dispersed for up to approximately 1000 km (Azzurro et al. 2006).

Nowadays, *S. luridus* was recorded in many areas in both eastern and western Mediterranean Sea. According to some authors, the species already acquired competitive advantage over native herbivore species such as salema (*Sarpa salpa*) and wrasses (family Labridae) (Bariche et al., 2004).



Fig. 2: Specimen of *S. luridus* caught at locality Pace (Messina) (Ionian Sicilian coast of the Strait of Messina – central Mediterranean Sea).

Sl. 2: Primerek morskega kunca ujet na lokaliteti Pace (Messina) (jonska obala Sicilije ob messinski ožini).

The record, witnessing the presence of this species in the Strait of Messina, which physical, chemical, hydrodynamic and physiological peculiarities selectively regulates the dispersion of many animal and plant species (Bianchi, 2004), may represent a critical step for the radiation of the dusky spinefoot towards the western basin of the Mediterranean Sea.

The strong organic plasticity and the important potential dispersion of *S. luridus* lead to the hypothesis that

dusky spinefoot exploits the Strait of Messina for further colonization of coastal areas of the entire Tyrrhenian sea and further northwest areas, as previously proposed by Castriota & Andaloro (2005).

We should also consider the fact that *S. luridus*, a thermophilic species, was found in one of the coldest sectors of the whole Mediterranean Sea, indicating a significant climatic change in this area (Francour *et al.*, 1994).

PRVI ZAPIS O POJAVLJANJU MORSKEGA KUNCA, *SIGANUS LURIDUS* (RÜPPELL, 1829),
LESEPSKE SELIVKE V MESSINSKI OŽINI (OSREDNJE SREDOZEMSKO MORJE)

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POVZETEK

Primerek morskega kunca Siganus luridus (Rüppell, 1829) je bil ujet s podvodno puško 18 oktobra 2015 na lokaliteti Pace (jonska obala Sicilije v messinski ožini, osrednje Sredozemsko morje). To je prvi zapis o pojavljanju te vrste v messinski ožini. Pojavljanje morskega kunca v tem okolju je nekoliko nenavadno, saj je razširjanje organizmov med vzhodnim in zahodnim delom Sredozemlja zaradi posebnih hidrodinamičnih razmer otežkočeno.

Ključne besede: *Siganus luridus*, lesepska selivka, messinska ožina.

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