

SIGNATUS JAVUS, A NEW RECORD FROM THE SYRIAN WATERS, WITH A REFERENCE TO GROWTH & FEEDING OF TWO LESSEPSIAN FISH

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Abstract

One specimen of *Siganus javus* was caught during Oct. 2009 from the Syrian marine water. It is the first record in the Mediterranean Sea and may be a potential invader to the area. The study of feeding habits of two other lessepsian species from the Syrian waters revealed growth rates comparative to other local fish species and strong signs of starvation & food completions.

Keywords: *Lessepsian migration, Competition, Growth*

Introduction

Colonization of the eastern Mediterranean by Red Sea and indo-pacific species has started after Suez Canal opening in 1869 [1]. So far, fish species entered the Syrian water are mostly Lessepsian (42 species) and, to a lesser extent, western Med. migrants (14 species) [2], [3], [4], [5]. The family Siganidae in the eastern Med. is represented by two species, *S. luridus* & *S. rivulatus*, migrated through Suez Canal (CIESM 2002). Exotic fish are likely to influence the local fish community in many ways such as competition for food and space and the consequence effect on growth. Identifying the level & extent of such effects are important for the proper management measures. This paper presents the characteristics of a new lessepsian Siganids record and estimations of growth rates (for the age groups 1+ - 5+) and feeding habits (food composition, stomach fullness...) of two already established lessepsian fish species in the Syrian waters; Lizardfish, *Saurida undosquamis* and Squirrelfish, *Sargocentron rubrum*.

Results and Discussion

An Indo-Pacific originated fish species, Streaked spinefoot *Siganus javus* (L., 1766), was recorded for the first time in the Syrian waters and in the Mediterranean sea. It was captured on 10 Oct. 2009 by a trammel-net at night in a water depth of ≈20m above a rocky & muddy bottom facing to Lattakia port (N35 31 425 E35 44 893). Water properties (at 1m depth) were: Temperature (26.4°C), Oxygen conc. (5.14mg/l), Salinity (39.34), Turbidity (0.056) and Chlorophyll conc. (0.52µg/l).

The fish (Fig. 1) was identified and kept as a reference at the High Institute of Marine Research. The body is oval & compressed with 13 dorsal fin spines (preceded by a forward projecting 2.6mm spine); 10 dorsal soft rays; 7 anal spines, 9 anal soft rays; ventral (2 spines separated by 3 soft rays) and 16 pectoral soft rays. Its measurements (cm) are: total length 18.4, standard length 15.5, fork length 17.9, body depth 7.5, head length 3.9 and eye diameter 1.1.

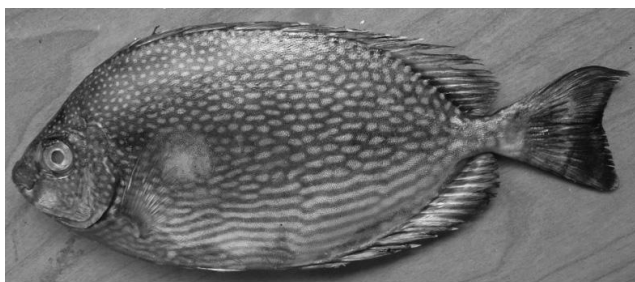


Fig. 1. *Siganus javus* from the Syrian waters

This species can be found in the Gulf of Oman, Pakistan, Thailand, southern China and down to Australia [6]. By recording this species, Siganidae would be represented by 3 species in the Syrian marine waters. However, this species is so far represented by a single specimen and its establishment has still to be proven and the introduction pathway has to be confirmed. To confirm the active migration, some future records in Suez Canal and in the south-eastern Med. sea are needed. Anyway, the survival in the Syrian waters and the recent sea warming make *s. javus* a potential eastern Med. invader.

Growth rate of the studied fish species was higher during the earlier life stages of life. Growth rate by length (cm) of *Sargocentron rubrum* for example was 5.5, 4.6, 2.2, 2.1 and 1.9 cm/y for the 5 age groups respectively. These estimations are comparative with other existing species such as *Pagrus coeruleostictus* and *Sardinella aurita*. The food of the Lizardfish consisted mostly of fish (mainly *S. aurata* & *B. boops*) (and that of the Squirrelfish was of

Crustacea (mainly Amphipoda, Isopoda and Decapoda). Both fish species had a clear food competition with many coexisting fishes. Stomach fullness rarely exceeded 50%; indicating that both fish species do not feed well in the study area.

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