

Short scientific article  
Received: 2013-12-03

UDK 597.556.33:591.9(262.2)

## WESTWARD RANGE EXTENSION OF THE LESSEPSIAN MIGRANT THE SHRIMP SCAD *ALEPES DJEDABA* (FORSSKÅL, 1775) IN THE MEDITERRANEAN

*Daniel GOLANI*

Department of Ecology, Evolution and Behavior and National Natural History Collections, The Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel  
E-mail: dani.golani@mail.huji.ac.il

*Brenda APPELBAUM-GOLANI*

Mt. Scopus Library, The Hebrew University of Jerusalem, IL-91905 Jerusalem, Israel

*Panagiota PERISTERAKI*

Hellenic Centre for Marine Research (HCMR), Institute of Marine Biological Resources and Inland Waters, Gournes Pediados, GR-P.C. 71003 Heraklion Crete, Greece

### ABSTRACT

*The present study reports the westward extension of the distribution range of the Lessepsian migrant fish Alepes djedaba (Forsskål, 1775) to the island of Crete. A. djedaba was previously known in the Mediterranean from the eastern Levant, from Rhodes in the north to eastern Libya in the south. This record represents the 16<sup>th</sup> Lessepsian migrant for the waters surrounding Crete.*

**Key words:** *Alepes djedaba*, Lessepsian migration, Mediterranean, Crete, Levant

## ESTENSIONE A OVEST DEL MIGRANTE LESSEPSIANO CARANGIDE *ALEPES DJEDABA* (FORSSKÅL, 1775) NEL MEDITERRANEO

### SINTESI

*Lo studio riporta l'estensione a ovest dell'area di distribuzione del pesce migrante lessepsiano Alepes djedaba (Forsskål, 1775) fino all'isola di Creta. La presenza di A. djedaba nel Mediterraneo era fino ad ora certa solo nel mare del Levante, da Rodi nella parte settentrionale fino alla Libia nella parte meridionale. Tale ritrovamento conferma la presenza del sedicesimo migrante lessepsiano nelle acque circostanti Creta.*

**Parole chiave:** *Alepes djedaba*, migrazione lessepsiana, Mediterraneo, Creta, Levante

## INTRODUCTION

The influx of Red Sea organisms into the Mediterranean via the Suez Canal, known as Lessepsian migration, shows no sign of ceasing and encompasses almost all marine taxa. The number of Lessepsian fish species is currently close to 90, of which no less than 33 have arrived to the Mediterranean since the beginning of the 21<sup>st</sup> century.

The dynamics of population establishment and westward distribution of Lessepsian migrant fish are known and have been well documented. This record is the latest documentation of this ongoing phenomenon.

## MATERIALS AND METHODS

On 9<sup>th</sup> October 2013 a ca. 180 mm specimen of *Alepes djedaba* (Forsskal, 1775) was found among the catch of trammel net fishery operating at depths of 35 m, at the port of Heraklion, Crete. The specimen was photographed but not preserved.

An additional specimen, 136 mm SL (175 mm TL) was collected on 21<sup>st</sup> October 2013 by trammel net set at 20 m at Ammoudara Beach, ca. 3 km west of Heraklion. Another specimen, 137 mm SL (176 mm TL) (Fig. 1) was collected on the following day, 22<sup>nd</sup> October 2013 using the same method at the same location. Both specimens were deposited in the Hebrew University of Jerusalem Fish Collection and received the catalogue numbers HJ 20249 and HJ 20250, respectively.

## RESULTS AND DISCUSSION

Body ellipsoid and slightly compressed. Head 3.3–3.4 and depth 3.0–3.1 times in SL. Two dorsal fins, the first one triangular with eight spines, the first pointing forward and usually covered with skin. The second with one spine and 23 rays. Anal fin with two detached spines, one spine and 20 rays. The last dorsal and anal rays elongated. Caudal fin deeply forked. Pectoral fin falcated with 20–21 rays. Lateral line with 87–88 scutes, arched in its anterior part and becoming straighter with larger scutes under the 2<sup>nd</sup>–3<sup>rd</sup> ray of the second dorsal fin. Back and flanks grey with white belly. Conspicuous yellow dorsal fin, caudal fin and the posterior part of the lateral line scutes. A black spot on the upper edge of the operculum.

*A. djedaba* can be distinguished from all Mediterranean carangids by having a lateral line made of a series



**Fig.1:** *Alepes djedaba*, 137 mm SL, 22 October 2013, HJ 20250 from Ammoudara Beach (ca. 3 km west of Heraklion), Crete, Greece.

**Sl. 1:** *Alepes djedaba*, 137 mm SL (standardna dolžina), 22. oktober 2013, HJ 20250 z obale Ammoudara (pribl. 3 km zahodno od Herakliona) na Kreti, v Grčiji

of thickened scutes arched in its anterior which straightens under the 1–3<sup>rd</sup> dorsal ray. *A. djedaba* also has a conspicuous yellow dorsal fin and yellow posterior part of the lateral line scutes (Smith-Vaniz, 1986).

In their study of Lessepsian fish migrants in the waters surrounding Crete, Peristeraki *et al.* (2006) recorded fifteen such species but *A. djedaba* was not among them. It is possible that *A. djedaba* has been in Cretan waters for some time but was overlooked.

*A. djedaba* was first reported from the Mediterranean as *Caranx calla* by Steinitz (1927) and subsequently under the names *Caranx djedaba*, *Atule djedaba* and *Alepes (Atule) djedaba* (see Golani, 2005). In subsequent years it spread westward to the eastern Aegean Sea in its south-eastern shores (Golani *et al.* 2006; Golani, 2010) and the eastern coast of Libya (Bazairi *et al.*, 2013).

*A. djedaba* is a schooling inshore pelagic species, feeding mainly on small fishes. Its spawning season in the Levant is during the summer. Eggs and larvae are planktonic. It is very common in Israel where it is caught in large quantities by various fishing methods.

The three reported specimens, following the observation of several other specimens in the local fishery (P. Peristeraki, unpublished data) indicate that *A. djedaba* has established a vital population in the Island of Crete.

## ŠIRJENJE AREALA LESEPSKE SELIVKE *ALEPES DJEDABA* (FORSSKÅL, 1775) V ZAHODNO SREDOZEMLJE

*Daniel GOLANI*

Department of Ecology, Evolution and Behavior and National Natural History Collections, The Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel  
E-mail: dani.golani@mail.huji.ac.il

*Brenda APPELBAUM-GOLANI*

Mt. Scopus Library, The Hebrew University of Jerusalem, IL-91905 Jerusalem, Israel

*Panagiota PERISTERAKI*

Hellenic Centre for Marine Research (HCMR), Institute of Marine Biological Resources and Inland Waters, Gournes Pediados, GR-P.C. 71003 Heraklion Crete, Greece

### POVZETEK

*Pričujoča študija poroča o širjenju areala lesepske selivke Alepes djedaba (Forsskål, 1775) proti zahodu na Kreto. Riba A. djedaba je bila prej v Sredozemlju poznana v njegovem vzhodnem delu, ki se razteza od Rodosa na severu do vzhodne Libije na jugu. Ta zapis predstavlja 16. lesepsko selivko v vodah, ki obdajajo Kreto.*

**Ključne besede:** *Alepes djedaba*, lesepska selitev, Sredozemlje, Kreta, Vzhodno Sredozemlje (Levant)

## REFERENCES

- Bazairi, H., Y. R. Sghaier, I. Benamer, H. Langar, G. Pergent, E. M. Bourass, M. Verlaque, J. Ben Soussi & A. Zenetos (2013):** Alien marine species of Libya: first inventory and new records in El-Kouf National Park (Cyrenaica) and neighbouring areas. *Medit. Mar. Sci.*, 14 (2), 451–462.
- Golani, D. (2005):** Checklist of the Mediterranean Fishes of Israel. *Zootaxa*, 947. Magnolia Press, Auckland, New Zealand, 90 pp.
- Golani, D. (2010):** Colonization of the Mediterranean by Red Sea fishes via the Suez Canal – Lessepsian migration. In: Golani, D. & B. Appelbaum-Golani (eds.): *Fish Invasions of the Mediterranean Sea: Change and Renewal*. Pensoft Publishers, Sofia-Moscow, p. 145–188.
- Golani, D., B. Öztürk & N. Başusta (2006):** Fishes of the Eastern Mediterranean. Turkish Marine Research Foundation, Publication no. 24. Istanbul, Turkey, 259 pp.
- Peristeraki, P., G. Lazarakis, C. Skarvelis, M. Georgiadis & G. Tserpes (2006):** Additional records on the occurrence of alien species in the eastern Mediterranean Sea. *Medit. Mar. Sci.*, 7 (2), 61–66.
- Smith-Vaniz, W. F. (1986):** Carangidae. In: Whitehead, P. J. P., M. L. Bauchot, J. C. Hureau, J. Nielsen & E. Tortonese (eds.): *Fishes of the North-eastern Atlantic and the Mediterranean*, Vol. 2. UNESCO, Paris, p. 815–844.
- Steinitz, W. (1927):** Beiträge zur Kenntnis der Küstenfauna Palästinas. I. *PSZN*, 8 (34), 311–353.