received: 2018-10-30 DOI 10.19233/ASHN.2019.05

OCCURRENCE OF A LESSEPSIAN SWIMMING CRAB, PORTUNUS SEGNIS (CRUSTACEA: DECAPODA), IN SOUTHERN AEGEAN SEA, TURKEY

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ABSTRACT

On 19 June 2018, two specimens of Portunus segnis (Forskål, 1775) *were observed at a fish market in Urla, Izmir. According to the fishmonger, these blue swimming crabs had been caught incidentally with a gill net in the Akköy Lagoon, Didim in the southeastern Aegean Sea. This paper presents a new record confirming a northward extension of the range of* P. segnis *in the Aegean Sea.*

Key words: Portunidae, Blue swimming crab, Lessepsian species, Aegean Sea

PRESENZA DEL GRANCHIO NUOTATORE LESSEPSIANO, PORTUNUS SEGNIS (CRUSTACEA: DECAPODA), NEL MAR EGEO MERIDIONALE, TURCHIA

SINTESI

Il 19 giugno 2018, due esemplari di Portunus segnis *(Forskål, 1775) sono stati trovati in un mercato del pesce a Urla, Smirne (Izmir). Secondo il pescivendolo, questi granchi nuotatori blu erano stati catturati accidentalmente con una rete da posta nella laguna di Akköy, Didim nel mar Egeo sudorientale. L'articolo presenta un nuovo ritrovamento della specie, che conferma un'estensione verso nord della distribuzione di* P. segnis *nel mar Egeo.*

Parole chiave: Portunidae, granchio nuotatore blu, specie lessepsiana, mar Egeo

INTRODUCTION

Portunus segnis (Forskål, 1775) is a marine nocturnal blue swimming crab living in coastal and brackish waters on muddy and sandy bottoms at depths of 0-40 m, characterised by seasonal migration to estuaries and lagoons (CABI, 2018). Native to the western Indian Ocean from Pakistan to South Africa, *P. segnis* spread from the Red Sea (Lai *et al.*, 2010) into the Mediterranean as a Lessepsian migrant, and is now found throughout the eastern and central regions of the Mediterranean Sea (CABI, 2018).

As a history of introduction, it was one of the earliest species (as *Neptunus pelagicus*) to enter the Mediterranean through the Suez Canal, as it was recorded in Port Said, Egypt, as early as 1898. During the 1920s, it was widely recorded in the Levant (i.e., Israel, Lebanon, Syria and Turkey) (CABI, 2018). It has since spread as far west as the northern Tyrrhenian Sea, Italy (Crocetta, 2006), the Gulf of Gabes, Tunisia (Rabaoui *et al.*, 2015) and Maltese waters (Deidun & Scibarras, 2016).

In Turkey, *P. segnis* is one of the 50 exotic crustaceans, 19 of which belong to the infraorder of Brachyura; seven of these species, namely *Callinectes sapidus, Marsupenaeus japonicus, Melicertus hathor, Metapenaeus monoceros, M. stebbingi, Penaeus semisulcatus,* and *P. segnis* are of commercial importance to fisheries (Ateş *et al.*, 2013). The swimming crab is well-known in the southeastern Anatolian coast. Özcan (2012) stated that *P. segnis* was commercially important for local fish markets in the Bays of Mersin and Iskenderun. Altuğ *et al.* (2011) mentioned *P. segnis* both in the Sea of Marmara and the northern Aegean Sea, but failed to provide any concrete details.

In the Aegean Sea, *P. segnis* has been reported from the Rhodes Island (Greece), southern Aegean Sea (Corsini-Foka *et al.*, 2004). Yokeş *et al.* (2007) reported one female specimen of *P. segnis* (CL = 56 mm) from Palamutbükü, and one female (CL = 65 mm) and one male (CL = 61 mm) specimen from Karacasöğüt, Gökova Bay. These were the first records of *P. segnis* in the Turkish Aegean Sea (Fig. 1). This paper presents a new record confirming a northward extension of the range of *P. segnis* in the Aegean Sea.

MATERIAL AND METHODS

On 19 June 2018, two specimens of *Portunus segnis* (Fig. 2) measuring 75 mm (male) and 81 mm (female) in carapace length (CL) were purchased at a fish market in Urla, Izmir. According to the fishmonger these swimming blue crabs had been caught incidentally with a gill net in the Akköy Lagoon, Didim (approx. coordinates: 37°28′N - 12°23′E), in the southeastern Aegean Sea, on a sandy/muddy bottom at a depth of 2-3 m (Fig. 1). Once the existence of these blue crabs in the Akköy Lagoon had been confirmed (C. Ovalıoğlu,

Fig. 1: Capture sites of Portunus segnis ***specimens in the Aegean Sea between 1991 and 2018: (1) Plimmiris (SE Rhodes), August 1991, 1♂ / Karakonero (NE Rhodes), March 2000, 1♀ / Gulf of Trianda (NW Rhodes), March 2000, 2♀ (Corsini-Foka et al. 2004); (2) Palamutbükü, 12 August 2004, 1♀ / Karacasöğüt, Gökova Bay, 26 June 2006, 1♀ 1♂ (Yokeş et al., 2007); (3) Akköy Lagoon, 19 June 2018, 1♀ 1♂ (this study).***

Sl. 1.: Lokalitete, kjer so bili ujeti primerki rakovice vrste Portunus segnis ***v Egejskem morju med leti 1991 in 2018: (1) Plimmiris (JV Rodos), Avgust 1991, 1♂ / Karakonero (JV Rodos), Marec 2000, 1♀ / Zaliv Trianda (SZ Rodos), Marec 2000, 2♀ (Corsini-Foka et al., 2004); (2) Palamutbükü, 12 Avgust 2004, 1♀ / Karacasöğüt, Zaliv Gökova, 26 junij 2006, 1♀ 1♂ (Yokeş et al., 2007); (3) laguna Akköy, 19 junij 2018, 1♀ 1♂ (pričujoča raziskava).***

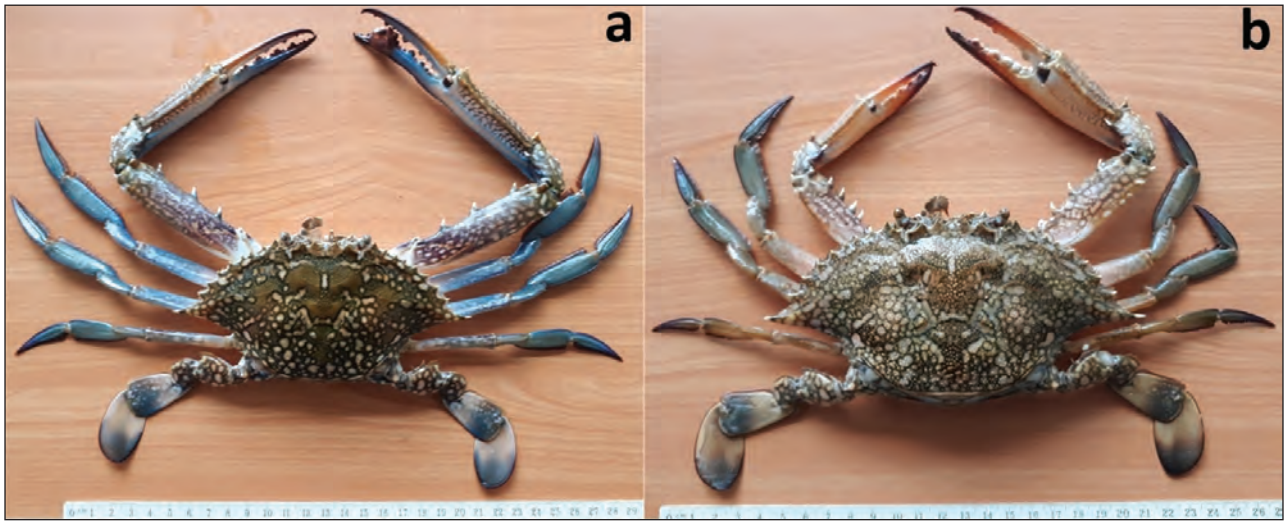

Fig. 2: Specimens of** Portunus segnis **captured in the SE Aegean Sea; (a) male, (b) female (Photo: O. Akyol).
Sl. 2: Primerki vrste** Portunus segnis **ujeti v JV Egejskem morju; (a) samec, (b) samica (Foto: O. Akyol).

pers. comm.), the specimens were measured to the nearest millimetre, fixed in 5% formaldehyde solution and deposited in the Ichthyological Collection of Ege University, Faculty of Fisheries, under the catalogue number ESFM-MAL/2018-01. Findings: Carapace width 2.2–2.3 times the length, median frontal teeth minute or obsolete, usually inconspicuous, appearing confluent or with wide gap between lateral median teeth. Chelipeds narrow, elongated, merus length in adult males up to 4.5 times the width, but in most specimens with shorter; anterior margin of merus of cheliped usually with 3 spines. Ambulatory legs relatively more elongated, slender, merus length of 4th pereiopod 3.3–4.4 times the width. Colour: Males with dark olive green/blue carapace with numerous pale white spots on surface particularly posteriorly and antero-laterally; the spots do not tend to merge to form reticulating bands. Females similar in pattern to males except for the tips of chelipeds, which are red tinged with a brownish red, instead of blue tinged with a deep rust red (Lai *et al.*, 2010). Description and measurements of *P. segnis* are in complete accordance with those in Lai *et al*. (2010), Özcan (2012), Rabaoui *et al*. (2015) and Hajjej *et al*. (2016).

RESULTS AND DISCUSSION

The morphometric measurements of *P. segnis* are indicated in Table 1. The CL in both samples is larger than that of the samples of Gökova and Palamubükü reported by Yokeş *et al*. (2007). The population of the blue swimming crab along the Turkish Aegean Sea is on the rise and gaining commercial importance. While crabs are normally caught using a special fish basket, some are also incidentally captured by gill nets, particularly in the Akköy Lagoon, Southern Aegean Sea. The fishermen complain over the crab causing a lot of damage to their gill nets (C. Ovalıoğlu, *pers. comm.*).

It is manifest that *P. segnis* is gradually widening its expansion range towards northern latitudes of the Aegean Sea. Therefore, it might soon find its way to the Bay

Tab: 1: Morphometric characteristics of the** Portunus segnis **captured in the SE Aegean Sea.
Tab. 1: Morfometrične značilnosti primerkov vrste** Portunus segnis**, ujetih v JV Egejskem morju.

	Dimensions (mm)	
Characteristics	♂	♀
Carapace length (CL)	75	81
Carapace width (CW)	145	157
Frontal margin (FM)	24	26
Posterior margin (PM)	49	61
Anterio-lateral border (ALB)	62	67
Posterio-lateral border (PLB)	59	61
Dactylus length (DAL)	56	46
Manus length (MAL)	116	102
Merus length (MEL)	86	61
Merus width (MEW)	19	19
Abdomen length (AL)	47	55
Abdomen width (AW)	49	62
Telson length (TL) in the abdomen	9	9
Telson width (TW) in the abdomen	7	12
Penultimate segment length (PL)	16	17
Penultimate segment width (PW)	17	46

of Izmir, in the northern Aegean Sea, as it occurred with the Atlantic blue crab, *Callinectes sapidus* (Dailianis *et al.*, 2016). The blue crab should be monitored and new fishing gears should be developed to help reduce the damage to fish gill nets in the area.

ACKNOWLEDGMENTS

The authors thank Rüzgar Özgül, who is little son of A. Özgül, for directing our attention to the crabs.

POJAVLJANJE LESEPSKE PLAVAJOČE RAKOVICE, PORTUNUS SEGNIS (CRUSTACEA: DECAPODA), V JUŽNEM EGEJSKEM MORJU, TURČIJA

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POVZETEK

Devetnajstega junija 2018 sta bila opažena dva primerka rakovice vrste Portunus segnis *(Forskål, 1775) na ribji tržnici v mestu Urla, Izmir. Sodeč po izjavi ribjega trgovca sta bili plavajoči rakovici slučajno ujeti v ribiško mrežo v laguni Akköy Lagoon (Didim) v jugovzhodnem Egejskem morju. Pričujoči zapis predstavlja nov podatek o širjenju areala rakovice* P. segnis *proti severu Egejskega morja.*

Ključne besede: Portunidae, modra plavajoča rakovica, lesepska selivka, Egejsko morje

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