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VSEBINA / INDICE GENERALE / CONTENTS 2019(1)

SREDOZEMSKI MORSKI PSI
SQUALI MEDITERRANEI
MEDITERRANEAN SHARKS**Hakan KABASAKAL**

A Review of Shark Research in Turkish Waters
Pregled raziskav o morskih psih v turških vodah

Aytaç ÖZGÜL & Okan AKYOL

Occurrence of a Lessepsian Swimming Crab,
Portunus segnus (Crustacea: Decapoda),
 in Southern Aegean Sea, Turkey 43
Pojavljanje lesepske plavajoče rakovice,
Portunus segnus (Crustacea: Decapoda),
 v južnem Egejskem morju, Turčija

Hakan KABASAKAL

Finally Under Protection! Status of the Angel
 Shark, *Squatina squatina* (Linnaeus, 1758)
 in Turkish Seas, with Notes on a Recent
 Sighting and Incidental Captures 17
Končno zavarovan! Status navadnega sklata,
Squatina squatina (Linnaeus, 1758)
 v turških morjih s posebnim poudarkom
 na novejša opazovanja in naključne ulove

**Sihem RAFRAFI-NOUIRA, Youssouph DIATTA,
 Almamy DIABY & Christian CAPAPÉ**

Additional Records of Rare Sharks from
 Northern Tunisia (Central Mediterranean Sea) 25
Dodatni zapisi o pojavitvah redkih morskih psov
 iz severne Tunizije (osrednje Sredozemsko morje)

RECENTNE SPREMENBE V SREDOZEMSKI
 BIODIVERZITETI
 CAMBIAMENTI RECENTI NELLA BIODIVERSITÀ
 MEDITERRANEA
 RECENT CHANGES IN MEDITERRANEAN
 BIODIVERSITY

**Thodoros E. KAMPOURIS, Costas
 CONSTANTINOU & Ioannis E. BATJAKAS**
 Establishment of the Non-Indigenous Prawn
Penaeus pulchrifrons Stebbing, 1914
 in the Marine Area of Cyprus 37
Tujerodna kozica Penaeus pulchrifrons
 Stebbing, 1914, ustaljena vrsta v vodah Cipra

**Moez SHAIEK, Sihem RAFRAFI-NOUIRA
 & Christian CAPAPÉ**

Occurrence and Unusual Abundance
 of Reticulated Leatherjack *Stephanolepis*
diaspros (Osteichthyes: Monacanthidae)
 from the Lagoon of Bizerte (Northern Tunisia,
 Central Mediterranean Sea) 49
Pojavljanje in nenavadna številčnost afriškega
kostoroga, Stephanolepis diaspros (Osteichthyes:
 Monacanthidae) iz lagune pri Bizerti (severna
 Tunizija, osrednje Sredozemsko morje)

IHTIOLOGIJA
 ITTIOLOGIA
 ICHTHYOLOGY

**Domen TRKOV, Borut MAVRIČ,
 Martina ORLANDO-BONACA & Lovrenc LIPE**
 Marine Cryptobenthic Fish Fauna
 of Slovenia (Northern Adriatic Sea) 59
 Morska kriptobentoška ribja favna Slovenije
 (severni Jadran)

**Polona PENGAL, Eva HORVAT
 & Mihael J. TOMAN**
 Spatial and Temporal Distribution of Anchovy
(Engraulis encrasicolus) and Sardine
(Sardina pilchardus) Eggs in Slovenian
 Territorial Waters (Northern Adriatic) 73
Prostorsko in časovno pojavljanje iker sardele
 in sardona v slovenskem teritorialnem morju

**Sihem RAFRAFI-NOUIRA, Youssouph DIATTA
& Christian CAPAPÉ**

- Overview of Trophic Levels Recorded
in Teleost Species from Northern Tunisian
Waters (Central Mediterranean Sea) 85
*Pregled trofičnih nivojev pri ribah
kostnicah vzdolž severnotunizijskih voda
(osrednje Sredozemsko morje)*

FLORA
FLORA
FLORA

**Nenad JASPRICA, Marija PANDŽA
& Milenko MILOVIĆ**

- Spontaneous Vegetation on Slag Heaps
in Southern Croatia 93
Spontana vegetacija na jalovinah v južni Hrvaški

Amelio PEZZETTA

- Le Lamiaceae della Flora Italiana: Distribuzione
Regionale e Considerazioni Fitogeografiche 103
*Ustnatice (Lamiaceae) v italijanski flori:
regionalna razširjenost in fitogeografski pomisleki*

FAVNA
FAUNA
FAUNA

Manja ROGELJA & Lovrenc LIPEJ

- Occurrence of Giant Tun, *Tonna galea* (Linnaeus,
1758) (Gastropoda: Tonnidae) in the Marine
Waters Off Slovenia (Northern Adriatic Sea) 121
*Pojavljanje velikega sodca, Tonna galea
(Linnaeus, 1758) (Gastropoda: Tonnidae)
v morskih vodah Slovenije (severni Jadran)*

Jure JUGOVIC & Živa MUHIČ

- Spatial Distribution of Three Species
of *Palaemon* Shrimp (Crustacea: Decapoda:
Caridea) in Badaševica River (SW Slovenia) 125
*Prostorska razporeditev treh vrst kozic iz rodu
Palaemon (Crustacea: Decapoda: Caridea)
v Badaševici (JZ Slovenija)*

MISCELLANEA

- Khadija OUNIFI BEN AMOR, Mohamed
Mourad BEN AMOR & Jamila BEN SOUSSI**
Abiotic Parameters in Tunis Southern Lagoon
After an Environmental Restoration
and Status of Macrofaunal Biocenosis
(Northern Tunisia, Central Mediterranean Sea) 135
*Abiotski parametri v tuniški južni laguni
po okoljski obnovi in status makrobentoških
biocenoz (severna Tunizija, osrednje
Sredozemsko morje)*

**DELO NAŠIH ZAVODOV IN DRUŠTEV
ATTIVITÀ DEI NOSTRI ISTITUTI E SOCIETÀ
ACTIVITIES BY OUR INSTITUTIONS
AND ASSOCIATIONS**

Ana FORTIČ

- Protecting Adriatic Biodiversity in Kotor:
The Congress AdriBioPro 2019 143

IN MEMORIAM

- In Memoriam of Fabio Perco (1946–2019)
(*Lovrenc Lipej*) 147

- Navodila avtorjem 149
Istruzioni per gli autori 151
Instruction to Authors 153
- Kazalo k slikam na ovitku 156
Index to images on the cover 156

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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 & Sciberras, 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 hثور*, *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 İskenderun. 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 Palamutbüyükü, and one female (CL = 65 mm) and one male (CL = 61 mm) specimen from Karacasöğüt, Gökovalı 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. Ovalioğlu,



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) Palamutbüyükü, 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) Palamutbüyükü, 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).

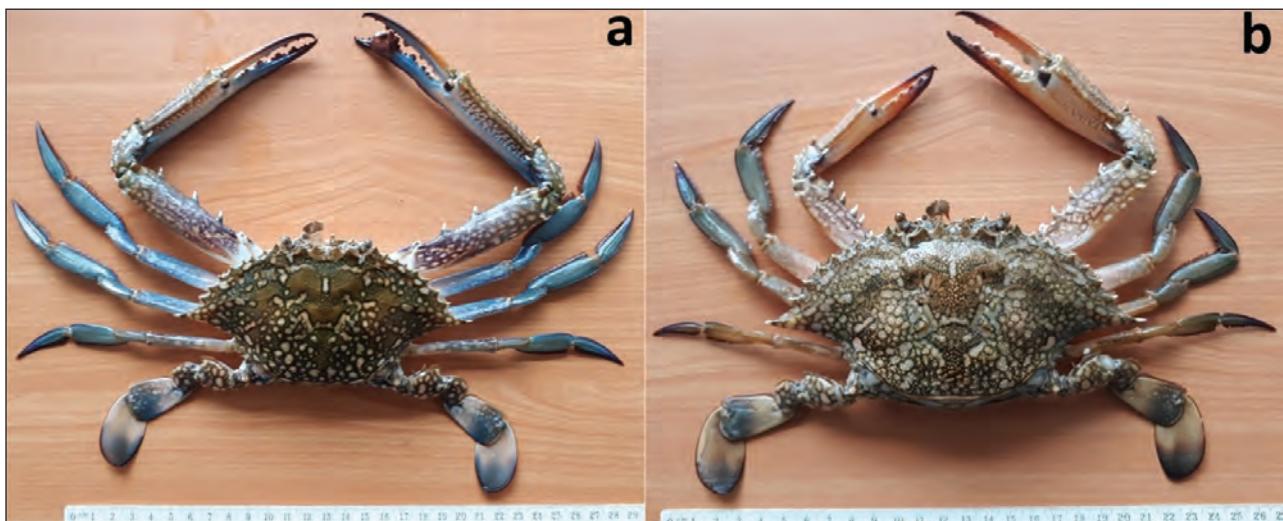


Fig. 2: Specimens of *Portunus segnis* captured in the SE Aegean Sea; (a) male, (b) female (Photo: O. Akyol).
Sl. 2: Primerki vrste *Portunus segnis* ujeti v JV Egejskem morju; (a) samec, (b) samica (Foto: O. Akyol).

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 Göksu 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. Ovalioğlu, 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.

Characteristics	Dimensions (mm)	
	♂	♀
Carapace length (CL)	75	81
Carapace width (CW)	145	157
Frontal margin (FM)	24	26
Posterior margin (PM)	49	61
Anterior-lateral border (ALB)	62	67
Posterior-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 PLAVAOJOČE 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. Pričajoči 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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