

ANNALES

Anali za istrske in mediteranske študije
Annali di Studi istriani e mediterranee
Annals for Istrian and Mediterranean Studies
Series Historia Naturalis, 33, 2023, 2





ANNALES

Anali za istrske in mediteranske študije
Annali di Studi istriani e mediterranee
Annals for Istrian and Mediterranean Studies

Series Historia Naturalis, 33, 2023, 2

ISSN 1408-533X
e-ISSN 2591-1783

UDK 5

Letnik 33, leto 2023, številka 2

**UREDNIŠKI ODBOR/
COMITATO DI REDAZIONE/
BOARD OF EDITORS:**

Alessandro Acquavita (IT), Nicola Bettoso (IT), Christian Capapé (FR), Darko Darovec, Dušan Devetak, Jakov Dulčić (HR), Serena Fonda Umani (IT), Andrej Gogala, Daniel Golani (IL), Danijel Ivajnskič, Mitja Kaligarič, Marcelo Kovačič (HR), Andrej Kranjc, Lovrenc Lipej, Vesna Mačič (ME), Alenka Malej, Patricija Mozetič, Martina Orlando-Bonaca, Michael Stachowitsch (AT), Tom Turk, Al Vrezec

**Glavni urednik/Redattore capo/
Editor in chief:**

Darko Darovec

**Odgovorni urednik naravoslovja/
Redattore responsabile per le scienze
naturali/Natural Science Editor:**

Lovrenc Lipej

Urednica/Redattrice/Editor:

Martina Orlando-Bonaca

Prevajalci/Traduttori/Translators:

Martina Orlando-Bonaca (sl./it.)

**Oblikovalec/Progetto grafico/
Graphic design:**

Dušan Podgornik, Lovrenc Lipej

Tisk/Stampa/Print:

Založništvo PADRE d.o.o.

Izdajatelj/Editori/Published by:Zgodovinsko društvo za južno Primorsko - Koper / *Società storica del Litorale - Capodistria*®Inštitut IRRIS za raziskave, razvoj in strategije družbe, kulture in okolja / *Institute IRRIS for Research, Development and Strategies of Society, Culture and Environment / Istituto IRRIS di ricerca, sviluppo e strategie della società, cultura e ambiente*®**Sedež uredništva/Sede della redazione/
Address of Editorial Board:**Nacionalni inštitut za biologijo, Morska biološka postaja Piran / *Istituto nazionale di biologia, Stazione di biologia marina di Pirano / National Institute of Biology, Marine Biology Station Piran*
SI-6330 Piran / *Pirano*, Fornace/*Fornace* 41, tel.: +386 5 671 2900, fax +386 5 671 2901;
e-mail: annales@mbss.org, **internet:** www.zdjp.si

Redakcija te številke je bila zaključena 23. 12. 2023.

**Sofinancirajo/Supporto finanziario/
Financially supported by:**

Javna agencija za raziskovalno dejavnost Republike Slovenije (ARRS) in Mestna občina Koper

Annales - Series Historia Naturalis izhaja dvakrat letno.**Naklada/Tiratura/Circulation:**

300 izvodov/copie/copies

Revija Annales, Series Historia Naturalis je vključena v naslednje podatkovne baze / *La rivista Annales, series Historia Naturalis è inserita nei seguenti data base / Articles appearing in this journal are abstracted and indexed in:* BIOSIS-Zoological Record (UK); Aquatic Sciences and Fisheries Abstracts (ASFA); Elsevier B.V.: SCOPUS (NL); Directory of Open Access Journals (DOAJ).To delo je objavljeno pod licenco / *Quest'opera è distribuita con Licenza / This work is licensed under a* Creative Commons BY-NC 4.0.Navodila avtorjem in vse znanstvene revije in članki so brezplačno dostopni na spletni strani <https://zdjp.si/en/p/annalesshn/> / *The submission guidelines and all scientific journals and articles are available free of charge on the website https://zdjp.si/en/p/annalesshn/* / *Le norme redazionali e tutti le riviste scientifiche e gli articoli sono disponibili gratuitamente sul sito https://zdjp.si/en/p/annalesshn/*

VSEBINA / *INDICE GENERALE* / *CONTENTS*SREDOZEMSKÉ HRUSTANČNICE
SQUALI E RAZZE MEDITERRANEE
*MEDITERRANEAN SHARKS AND RAYS***Christian CAPAPÉ, Christian REYNAUD & Farid HEMIDA**

The First Substantiated Records of Smoothback Angelshark *Squatina oculata* (Squatinae) from the Algerian Coast (Southwestern Mediterranean Sea) 143
Prvi utemeljeni zapis o pojavljanju pegastega sklata Squatina oculata (Squatinae) iz alžirske obale (jugozahodno Sredozemsko morje)

Tanguy CARPAYE-TAILAMEE & Mattéo MAUREL

Perspective on Great White Sharks (*Carcharodon carcharias*) in the Northwestern Mediterranean and Recommendations for Further Field Research 151
Pogled na velikega belega morskega volka (Carcharodon carcharias) v severozahodnem Sredozemlju in priporočila za nadaljnje terenske raziskave

Hakan KABASAKAL

A Preliminary Social Media Survey of Sharks and Batoids Captured in North Aegean Sea Commercial Fisheries 165
Preliminarna raziskava o morskih psih in skatih, ujetih v komercialnem ribištvu severnega Egejskega morja na osnovi podatkov iz socialnih medijev

Farid HEMIDA, Christian REYNAUD & Christian CAPAPÉ

On The Occurrence of Norwegian Skate, *Dipturus nidarosiensis* (Rajidae) on the Algerian Coast (Southwestern Mediterranean Sea) 187
O pojavljanju norveške raže, Dipturus nidarosiensis (Rajidae), ob alžirski obali (jugozahodno Sredozemsko morje)

Alen SOLDÓ

The First Record of Complete Albinism in Common Stingray *Dasyatis pastinaca* (Linnaeus, 1758) 193
Prvi zapis o najdbi popolnega albinističnega primerka navadnega morskega biča, Dasyatis pastinaca (Linnaeus, 1758)

Christian CAPAPÉ, Christian REYNAUD & Farid HEMIDA

Capture of a Giant Round Fantail Stingray *Taeniurops grabatus* (Dasyatidae) from the Algerian Coast (Southwestern Mediterranean Sea) 199
Ulov okroglega morskega biča (Taeniurops grabatus) (Dasyatidae) iz alžirske obale (jugozahodno Sredozemsko morje)

IHTIOFAUNA**ITTIOFAUNA****ICHTHYOFAUNA****Nicola BETTOSO & Diego BORME**

Recent Record of the Atlantic Pomfret *Brama brama* (Bonnaterre, 1788) (Scombriformes: Bramidae) in the Gulf of Trieste (Northern Adriatic Sea) 207
Recentni zapis o pojavljanju kostanjevke Brama brama (Bonnaterre, 1788) (Scombriformes: Bramidae) v Tržaškem zalivu (severno Jadransko morje)

Alan DEIDUN, Bruno ZAVA, Alessio MARRONE, Johann GALTIES, Arnold SCIBERRAS & Maria CORSINI-FOKA

The Confirmed Occurrence of *Schedophilus medusophagus* (Cocco, 1839) and *Petromyzon marinus* Linnaeus, 1758 in Maltese Waters, Central Mediterranean 213
Potrjeno pojavljanje meduzojedca, Schedophilus medusophagus (Cocco, 1839), in morskega piškurja, Petromyzon marinus Linnaeus, 1758, v malteških vodah, osrednje Sredozemsko morje

Gianni INSACCO, Gildo GAVANELLI, Bruno ZAVA & Maria CORSINI-FOKA

An Overlooked Finding of *Mola alexandrini* (Ranzani, 1839) in the Adriatic Sea 221
Sprejeto najdba vrste Mola alexandrini (Ranzani, 1839) v Jadranskem morju

Borut MAVRIČ, Lovrenc LIPEJ, Jelena BELAMARIĆ, Dule BULAJA, Matea ŠPIK & Petar KRUŽIĆ

Additional Data on the Bump-Head Sunfish, *Mola alexandrini* (Ranzani, 1839) in the Adriatic Sea 229
Dodatni podatki o pojavljanju grbastega morskega meseca, Mola alexandrini (Ranzani, 1839) v Jadranskem morju

Lana KHREMA, Amina ALNESSER, Adib SAAD & Christian CAPAPÉ

First Substantiated Record of Painted Eel
Echelus myrus (Ophichthidae) from the Syrian
 Marine Waters (Eastern Mediterranean Sea) 235
Prvi utemeljeni zapis o pojavljanju pisane
jegulje, Echelus myrus (Ophichthidae),
iz morskih voda Sirije (vzhodno
Sredozemsko morje)

BIOTSKA GLOBALIZACIJA
 GLOBALIZZAZIONE BIOTICA
 BIOTIC GLOBALIZATION

Deniz ERGUDEN, Deniz AYAS & Zafer KUŞATAN

The Presence of *Hippocampus fuscus* Rüppell,
 1838, in the Northeastern Mediterranean Sea 243
Pojavljanje morskega konjička vrste
Hippocampus fuscus Rüppell, 1838,
v severovzhodnem Sredozemskem morju

Christian CAPAPÉ & Adib SAAD

Confirmed Occurrence of Pharaoh
 Cardinal Fish *Apogonichthyoides*
pharaonis (Osteichthyes: Apogonidae)
 from the Syrian Coast
 (Eastern Mediterranean Sea) 249
Potrjeno pojavljanje faraonskega
kraljička Apogonichthyoides
pharaonis (Osteichthyes: Apogonidae)
iz sirske obale (vzhodno
Sredozemsko morje)

Deniz ERGUDEN, Deniz AYAS & Cemal TURAN

First Record of *Epinephelus areolatus*
 (Epinephelidae) from the South-Eastern
 Mediterranean, Turkey 255
Prvi zapis o pojavljanju rdečepikčaste
kirnje Epinephelus areolatus
(Epinephelidae) v jugovzhodnem
Sredozemskem morju (Turčija)

FAVNA
 FAUNA
 FAUNA

Andrea LOMBARDO & Giuliana MARLETTA

First Record of the Marine Heterobranch
Spinoaglaja wildpretii (Ortea, Bacallado &
 Moro, 2003) (Cephalaspidea: Aglajidae)
 in Sicily (Ionian Sea) with Notes on
 Its Biology and Ecology 263
Prvi zapis o pojavljanju morskega zaškrgarja
vrste Spinoaglaja wildpretii (Ortea,
Bacallado & Moro, 2003) (Cephalaspidea:
Aglajidae) na Siciliji (Jonsko morje) z
zapiski o njeni biologiji in ekologiji

Marco FANTIN, Saul CIRIACO, Lisa FARESI, Chiara SCRIGNER, Juri VECCHI, Domen TRKOV & Lovrenc LIPEJ

First Evidence of the Presence of *Okenia*
picoensis Paz-Sedano, Ortigosa & Pola,
 2017 (Gastropoda: Nudibranchia)
 in the Adriatic Sea 271
Prvi zapis o pojavljanju vrste gološkrgarja
Okenia picoensis Paz-Sedano, Ortigosa &
Pola, 2017 (Gastropoda: Nudibranchia)
iz Jadranskega morja

FLORA
 FLORA
 FLORA

Amelio PEZZETTA & MARCO PAOLUCCI

La flora di Lama dei Peligni (Abruzzo,
 Italia): aggiornamento sistematico e
 nuove segnalazioni 279
Flora občine Lama dei Peligni
(Abruci, Italija): sistematična
posodobitev in nove najdbe

MISCELLANEA**Al VREZEC**

Bird (Aves) Descriptions of Joannes
 Antonius Scopoli (1723-1788):
 General Overview 327
Opisi ptic (Aves) Joannesa Antoniusa Scopolija
(1723-1788): osnovni pregled

OCENE IN POROČILA

RECENSIONI E RELAZIONI
 REVIEWS AND REPORTS

Mitja KALIGARIČ

Recenzija knjige:
 Podobe iz modrine 365

IN MEMORIAM**Elide CATALFAMO**

Ricordo del professor Guido Bressan 369

Kazalo k slikam na ovitku 371

Index to images on the cover 371

received: 2023-05-08

DOI 10.19233/ASHN.2023.31

FIRST RECORD OF *EPINEPHELUS AREOLATUS* (EPINEPHELIDAE) FROM THE SOUTH-EASTERN MEDITERRANEAN, TURKEY

Deniz ERGUDEN

Marine Science Department, Faculty of Marine Science and Technology, Iskenderun Technical University, 31220 Iskenderun, Hatay, Turkey
e-mail: deniz.erguden@iste.edu.tr; derguden@gmail.com

Deniz AYAS

Fisheries and Fish Processing Department, Faculty of Fisheries, University of Mersin, Mersin, Turkey

Cemal TURAN

Marine Science Department, Faculty of Marine Science and Technology, Iskenderun Technical University, 31220 Iskenderun, Hatay, Turkey

ABSTRACT

The present paper represents the first report of areolate grouper Epinephelus areolatus Forsskal, 1775, from the Mediterranean coast of Turkey. A specimen of E. areolatus was caught by hook and line, at a depth of 8 m, off the coast of Arsuz in the Bay of Iskenderun, on 22 April 2023. The captured specimen of E. areolatus measured 28.5 cm in total length and 23.5 cm in standard length. This species entered the Mediterranean via the Suez Canal. The current record increases the number of exotic grouper species reported in the Mediterranean Sea, Turkey, to five.

Key words: exotic grouper, new record, migration, Turkish coast

PRIMA SEGNALAZIONE DI *EPINEPHELUS AREOLATUS* (EPINEPHELUS) NEL MEDITERRANEO SUD-ORIENTALE, TURCHIA

SINTESI

L'articolo riporta la prima segnalazione della cernia areolata Epinephelus areolatus Forsskal, 1775 lungo la costa mediterranea della Turchia. Un esemplare di E. areolatus è stato catturato con un amo e una lenza a una profondità di 8 m, al largo della costa di Arsuz, nella baia di Iskenderun, il 22 aprile 2023. L'esemplare catturato di E. areolatus misurava 28,5 cm di lunghezza totale e 23,5 cm di lunghezza standard. Questa specie è entrata nel Mediterraneo attraverso il Canale di Suez. Il presente ritrovamento aumenta a cinque il numero di specie esotiche di cernia segnalate nel Mediterraneo, in Turchia.

Parole chiave: cernia esotica, nuovo record, migrazione, costa turca

INTRODUCTION

The opening of the Suez Canal in 1869 allowed many species originating in the Red Sea to enter the Mediterranean Sea. This ongoing process continues to exert a significant ecological impact on the Mediterranean (Heemstra & Randall, 1993).

To date, ten grouper species of the Epinephelidae family have been known to inhabit the Mediterranean Sea (Heemstra & Randall, 1993; Froese & Pauly, 2023). Among these, six species are Lessepsian migrants, i.e., originating from the Red Sea: *Epinephelus areolatus* (Forsskal, 1775), *E. coioides* (Hamilton, 1822), *E. fasciatus* (Forsskal, 1775), *E. geoffroyi* (Klunzinger, 1870), *E. malabaricus* and *E. merra* Blotch, 1793 (Parenti & Bressi 2001; Golani *et al.*, 2002; Lelelong, 2005; Golani *et al.*, 2015; Schembri & Tonna, 2011; Bariche & Heemstra, 2012; Rothman *et al.*, 2016); and four come from the Atlantic Ocean: *E. aeneus* (Geoffroy Saint-Hilaire, 1817), *E. caninus* (Valenciennes, 1843), *E. costae* (Staindachner, 1878), and *E. marginatus*

(Lowe, 1834) (Heemstra & Randall, 1993; Heemstra & Randall, 1999; Froese & Pauly, 2023).

The areolate grouper *E. areolatus* was first recorded in 2015 in the Mediterranean Sea off the coast of Israel and documented by Rothman *et al.* (2016). Subsequently, this species was captured the second and third times off the coast of Lebanon, as reported by Bariche & Edde (2020). More recently, *E. areolatus* has been reported in Syrian waters by Al Mabruk *et al.* (2021).

Previously, there have been four exotic grouper species recorded in Turkish Mediterranean waters (Engin *et al.*, 2016; Gokoglu & Ozvarol, 2015; Erguden *et al.*, 2021; Yapici & Sevingel, 2020; Gokoglu & Bicer, 2022), namely the yellowfin hind *Cephalopholis hemistiktos* Rüppell, 1830, the orange-spotted grouper *E. coioides* (Hamilton, 1822), the blacktip grouper *E. fasciatus* (Forsskal, 1775), and the creole fish *Paranthias furcifer* (Valenciennes, 1828). With the addition of this new record, a new exotic grouper species has been identified within the marine ichthyofauna of Turkey.

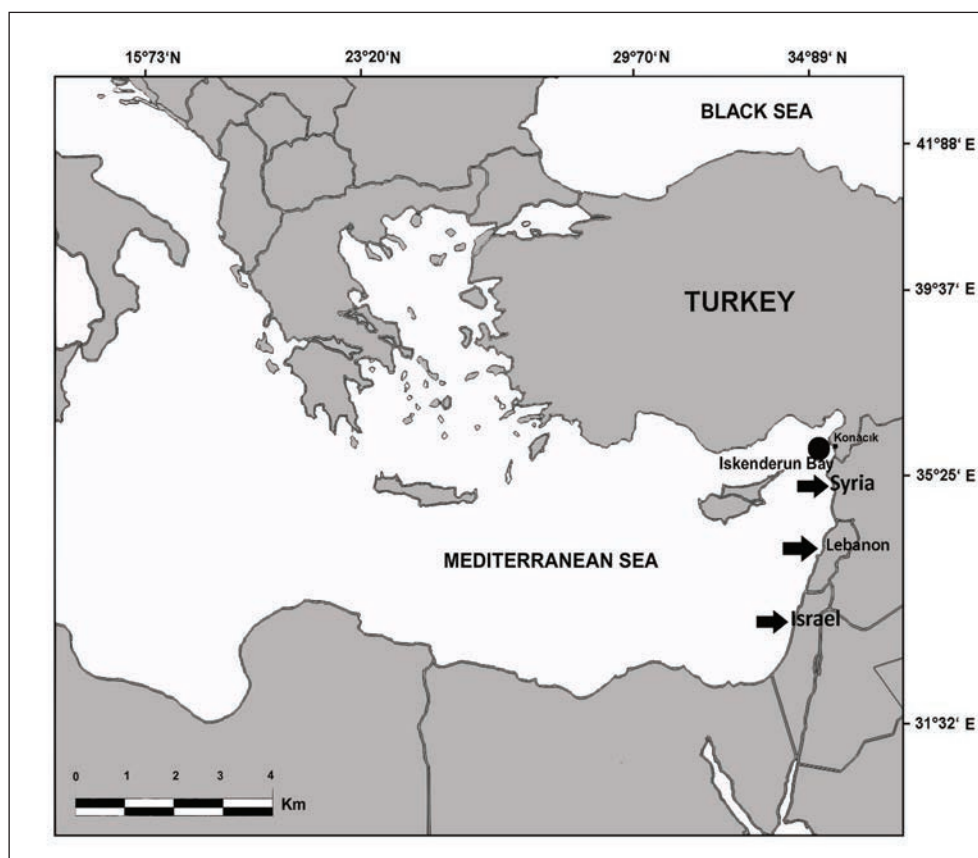


Fig. 1: Map of the Eastern Mediterranean indicating the capture sites of the specimen presented in the study (black dot) and of previous records of *Epinephelus areolatus* (arrows).

Sl. 1: Zemljevid vzhodnega Sredozemskega morja z označeno lokaliteto, kjer je bil ujet primerek vrste *Epinephelus areolatus* (črni krogec) in prejšnji zapisi o pojavljanju vrste (puščice).



Fig. 2: The *Epinephelus areolatus* captured in the Iskenderun Bay.

Sl. 2: Primerek vrste *Epinephelus areolatus* ujet v zalivu Iskenderun.

Although *E. areolatus* has been sighted in eastern Mediterranean waters, there have been no previous reports of its presence in Turkish waters. Thus, the present marks the first record of this species from the Mediterranean Sea coast of Turkey (Bay of Iskenderun).

MATERIAL AND METHODS

A single specimen of *E. areolatus* was caught by hook and line off the coast of Arsuz (Konacik) in the Bay of Iskenderun (at 36°29' N, 35°78' E) on 22 April 2023 (Fig. 1). The fish was solitary and swimming at a depth of 8 m. The surface temperature of the sea was 22.5 °C. The morphometric measurements were taken using digital calipers and recorded to the nearest 0.1 cm, and the specimen's total body weight was determined and recorded to the nearest 0.1 g (Fig. 2). The morphological and colour descriptions used for the identification of this specimen of *E. areolatus* have been presented by Heemstra & Randall (1993) and Rothman *et al.* (2016).

RESULTS AND DISCUSSION

The captured specimen of *E. areolatus* measured 28.5 cm in total length (TL), 23.5 cm in standard length, and weighed 529.0 g in total weight. The species typically exhibits a moderately elongated body and a large head, with a large mouth containing two rows of teeth. The continuous dorsal fin

with interspinous membrane is slightly incised. The anal, pectoral, and pelvic fins are rounded, while the caudal fin is slightly emarginated in adults. The posterior edge of the pre-operculum is serrated with larger serrations (Golani *et al.*, 2002). Dorsal fin with XI, 15 rays, pectoral fin rays 17, anal fin rays III, 8. Caudal fin rays 17. Head length (HL) is 33.16% of TL; body depth is 26.84% of TL; eye diameter is 14.73% of HL; interorbital width is 12.63% of HL; snout length is 18.84% of HL.

Colour: The body's background colour was whitish, with closely-set orange-brown or greenish-yellow spots, most of which were sub-equal to the diameter of the eye. The posterior margin of the caudal fin was white and the pectoral fins pale, featuring small dark spots on the rays (in agreement with Heemstra & Randall, 1999; Allen & Erdmann, 2012).

Although *E. areolatus* shares similarities with other grouper species, such as *E. coioides*, *E. marginatus*, and *E. geoffroyi*, it differs from them in the size of spots on its body and its distinct colour pattern.

The areolate grouper *E. areolatus* is widespread in the Indo-Pacific Ocean, its range extending from the Red Sea, the Persian Gulf and Natal in South Africa in the west, to Fiji in the east, Japan in the north, and northern Australia in the south (Froese & Pauly, 2023). The distribution of the species in Mediterranean waters, as presented in Fig. 1, is based on previous capture records and the present

report from the Bay of Iskenderun.

E. areolatus is a reef-associated species, typically found in seagrass beds or near rocky habitats (Heemstra & Randall, 1993) in shallow continental waters. It feeds on fish and large invertebrates (Randall & Heemstra, 1991). The areolate grouper is a protogynous hermaphrodite, with females maturing at 20 cm TL, and males at 30 cm TL. Most individuals measure between 20 and 40 cm TL, with a recorded maximum length at 47 cm TL (Moran *et al.*, 1988).

In this study, *E. areolatus* was captured at a depth of 8 m in the Bay of Iskenderun (Arsuz, Turkey), within a rocky area partly covered with algae. Randall *et al.* (1990) reported a depth range of 6 to 200 m for this species. Thus, the observed depth of 8 m aligns with the literature (Froese & Pauly, 2023).

CONCLUSIONS

Our finding from the Bay of Iskenderun represents the first occurrence and evidence of *E. areolatus* along the south-eastern Mediterranean coast of Turkey. This current record brings the number of exotic grouper species recorded in the Mediterranean Sea coast of Turkey to five. The presence of this new grouper species is likely a result of migrations from the eastern Mediterranean basin. However, further monitoring studies are necessary to confirm the establishment of a viable population in this region.

ACKNOWLEDGMENTS

The authors would like to thank the fisherman İsa TURAN for providing the sample.

PRVI ZAPIS O POJAVLJANJU RDEČEPIKČASTE KIRNJE *EPINEPHELUS AREOLATUS* (EPINEPHELIDAE) V JUGOVZHODNEM SREDOZEMSKEM MORJU (TURČIJA)

Deniz ERGUDEN

Marine Science Department, Faculty of Marine Science and Technology, Iskenderun Technical University, 31220 Iskenderun, Hatay, Turkey
e-mail: deniz.erguden@iste.edu.tr; derguden@gmail.com

Deniz AYAS

Fisheries and Fish Processing Department, Faculty of Fisheries, University of Mersin, Mersin, Turkey

Cemal TURAN

Marine Science Department, Faculty of Marine Science and Technology, Iskenderun Technical University, 31220 Iskenderun, Hatay, Turkey

POVZETEK

*Avtorji poročajo o prvi najdbi rdečepikčaste kirnje *Epinephelus areolatus* Forsskal, 1775, iz sredozemske turške obale. Primerek vrste *E. areolatus* so ujeli 22. aprila 2023 na trnek na globini 8 m ob obali Arsuz v zalivu Iskenderun. Ujeti primerek je meril 28,5 cm totalne dolžine in 23,5 cm standardne dolžine. Ta vrsta je v Sredozemsko morje prišla skozi Sueški prekop. Pričujoči zapis povečuje število eksotičnih vrst kirnj, potrjenih v turškem Sredozemskem morju, na pet vrst.*

Ključne besede: eksotična kirnja, nova najdba, migracija, turška obala

REFERENCES

- Al Mabruk, S., I. Giovos & F. Tiralongo (2021):** New record of *Epinephelus areolatus* in the Mediterranean Sea: First record from Syria. *Annales, Ser. Hist. Nat.*, 31(1), 23-28.
- Allen, G.R. & M.V. Erdmann (2012):** Reef fishes of the East Indies. Perth, University of Hawaii Press, Volumes I-III. Tropical Reef Research. Australia, 1292 pp.
- Bariche, M. & D. Edde (2020):** First records of exotic marine fish species (*Morone saxatilis*, *Himantura leoparda*, *Epinephelus areolatus*, *Diodon hystrix*) from Lebanon. In: New Alien Mediterranean Biodiversity Records. *Medit. Mar. Sci.*, 21(1), 129-145.
- Bariche, M. & P.C. Heemstra (2012):** First record of the blacktip grouper *Epinephelus fasciatus* (Teleostei: Serranidae) in the Mediterranean Sea. *Mar. Biodiv. Rec.*, 5, e1.
- Erguden, D., M. Gurlek & C. Turan (2021):** First record of orange spotted grouper *Epinephelus coioides* (Hamilton, 1822) from the Iskenderun Bay, the north-eastern Mediterranean. *NEsciences*, 6(3), 218-222.
- Freese R. & D. Pauly (Eds.) (2023):** FishBase. World Wide Web electronic publication. www.fishbase.org. version (Last accession: 04 May 2023).
- Golani, D., G.A. Askarov & Y.Y. Dashevsky (2015):** First record of the Red Sea spotted grouper, *Epinephelus geoffroyi* (Klunzinger, 1870) (Serranidae) in the Mediterranean. *BiolInvasions Rec.*, 4, 143-145.
- Golani, D., L. Orsi-Relini, E. Massuti, J.P. Quignard, J. Dulčić & E. Azzurro (2002):** CIESM Atlas of Exotic Fishes in the Mediterranean. www.ciesm.org/atlas/appendix1.html. (Last accession: 22 April 2023).
- Gokoglu, M. & Y. Ozvarol (2015):** *Epinephelus coioides* (Actinopterygii: Perciformes: Serranidae). A new Lessepsian migrant in the Mediterranean coast of Turkey. *Acta Ichthyol. Piscat.*, 45(3), 307-309.
- Gokoglu, M. & E. Bicer (2022):** Second record of the blacktip grouper *Epinephelus fasciatus* (Teleostei: Serranidae) in the Mediterranean Sea. *Acta Aquatica: Aquat. Sci. J.*, 9(2), 101-102.
- Engin, S., E. Irmak & D. Seyhan (2016):** New record of the temophilic *Cephalopholis taeniops* (Osteichthyes: Serranidae) in the Aegean Sea. *Zool. Middle East*, 63(2), 184-186.
- Heemstra, P.C. & J.E. Randall (1993):** FAO Species Catalogue. Vol. 16. Groupers of the world (family Serranidae, subfamily Epinephelinae). An annotated and illustrated catalogue of the grouper, rockcod, hind, coral grouper and lyretail species known to date. Rome, FAO. FAO Fish. Synop., 125(16), 1-382.
- Heemstra, P.C. & J.E. Randall (1999):** Serranidae. In: K.E. Carpenter & V.H. Niem (eds.): FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Vol. 4. Bony fishes part 2 (Mugilidae to Carangidae). FAO, Rome, pp. 2442-2547.
- Leleong, P. (2005):** Capture d'un macabrit, *Epinephelus merra* Blotch, 1793 (Poisson, Serranidae), en Méditerranée nord-occidentale. *Marine Life*, 15, 63-66.
- Moran, M., J. Jenke, C. Burton & D. Clarke (1988):** The Western Australian trap and line fishery on the Northwest Shelf. Western Australian Marine Research Laboratories. FIRTA Project 86/28, Final Report, 79 pp.
- Parenti, P. & N. Bressi (2001):** First record of the orange-spotted grouper, *Epinephelus coioides* (Perciformes: Serranidae) in the Northern Adriatic Sea. *Cybiuim: Inter. J. Ichthyol.*, 25(3), 281-284.
- Randall, J.E., G.R. Allen & R.C. Steene (1990):** Fishes of the Great barrier reef and Coral Sea. University of Hawaii Press, Honolulu, Hawaii, 506 pp.
- Randall, J.E. & P.C. Heemstra (1991):** Revision of Indo-Pacific groupers (Perciformes: Serranidae: Epinephelinae), with descriptions of five new species. *Indo-Pac. Fish.*, 20, 1-332.
- Rothman, S.B.S., N. Stern & M. Goren (2016):** First record of the Indo-Pacific areolate grouper *Epinephelus areolatus* (Forsskal, 1775) (Perciformes: Epinephelidae) in the Mediterranean Sea. *Zootaxa*, 4067(4), 479-483.
- Schembri, J.P. & R. Tonna (2011):** Occurrence of the Malabar grouper *Epinephelus malabaricus* (Bloch & Schneider, 1801) (Actinopterygii, Perciformes, Serranidae), in the Maltese Islands. *Aquat. Invasions*, 6(Suppl. 1), S129-S132.
- Yapici, S. & N. Sevingel (2020):** First record of the creole-fish *Paranthias furcifer* (Valenciennes, 1828) in the Aegean Sea. A New Alien Mediterranean Biodiversity Records (October 2020). *Medit. Mar. Sci.*, 21(3), 631-652.