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NEW RECORD OF WHITE GROUPER *EPINEPHELUS AENEUS* (OSTEICHTHYES: SERRANIDAE) IN CROATIAN ADRIATIC WATERS

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ABSTRACT

Authors report an additional record of the white grouper Epinenephelus aeneus *in the Adriatic Sea (Croatian waters). On 4th October 2015 an adult specimen (TL = 50.0 cm; W= 1,320 g) was caught with a fish trap at a depth of 10 m near the Island of Čiovo (eastern middle Adriatic). This species can be considered as very rare in the Adriatic Sea.*

Key words: *Epinephelus aeneus*, new record, very rare species, Adriatic Sea

NUOVA SEGNALAZIONE DELLA CERNIA BIANCA *EPINEPHELUS AENEUS* (OSTEICHTHYES: SERRANIDAE) IN ACQUE ADRIATICHE CROATE

SINTESI

Gli autori riportano una nuova segnalazione della cernia bianca Epinenephelus aeneus *nel mare Adriatico (in acque croate). Un esemplare adulto (TL = 50,0 cm; W= 1320 g) è stato catturato il 4 ottobre 2015 con una nassa a 10 m di profondità nei pressi dell'isola di Bua (Čiovo, Adriatico centro-orientale). La specie può venir considerata molto rara nel mare Adriatico.*

Parole chiave: *Epinephelus aeneus*, nuova segnalazione, specie molto rara, mare Adriatico

INTRODUCTION

The white grouper *Epinephelus aeneus* (Geoffroy Saint-Hilaire, 1817) is distributed in the Eastern Atlantic (along the west coast of Africa down to southern Angola) and southern Mediterranean. It is considered as very rare in the Adriatic Sea and biological information on it is quite scarce (Dulčić & Dragičević, 2011).

Numerous species, previously classified as either rare or completely absent, have recently became more common in the Adriatic Sea. But although the first records of the species are usually documented, the tracing of the species establishment or its subsequent expansion rarely is. As a consequence, the status of species considered rare or very rare usually remains unchanged in spite of the species establishment or further expansion. Additionally, subsequent records may indicate that previous occurrences were not just accidental, but may suggest that a new region is now included in the zoographic range of the species (Golani & Levy, 2005).

The aim of the present work is to report an additional record of white grouper *E. aeneus* in Croatian Adriatic waters.

MATERIAL AND METHODS

The geographical area concerned in this study is the eastern Adriatic (Croatian coast, the Island of Čiovo). Information on the occurrence of the studied species mostly originates from the citizens (mostly professional and sport fishermen) who provided either photographs upon which the determination of the species was based or the entire specimen. When possible, basic measurements were taken, such as TL (Total Length) and W (Weight).

Morović (1973) proposed a classification of fishes based on their rarity: a) if the species is recorded fewer than five times, it should be treated as a "very rare species", b) if there are up to ten records, then the species is considered to be "rare", c) fish species caught in certain areas and only in a specific season should be treated as "fairly rare". Morović also suggested that the number of occurrences should be evaluated based on scientifically documented reports.

Fig. 1: White grouper caught near the Island of Čiovo (Croatian coast, Adriatic Sea) (Photo: K. Lučev)
Sl. 1: Primerek bele kirnje, ujete blizu otoka Čiovo (hrvaška obala, Jadransko morje)(Foto: K. Lučev).

RESULTS AND DISCUSSION

On 4th October 2015 an adult specimen (TL = 50.0 cm; W = 1,320 g) (Fig. 1) of the white grouper was caught with a fish trap at a depth of 10 m near the Island of Čiovo (eastern middle Adriatic) (Latitude: 43.513370°N, Longitude: 16.235880°E). All other catch in the fish trap was *Sepia officinalis*. The identification was done based on the main characteristic for distinguishing *E. aeneus* from other grouper species, which is 3 or 4 pale blue (or white) lines across the operculum. Some meristic characters of the caught specimen were: dorsal fin rays - D XI + 16, anal fin rays A III + 8, pectoral fin rays P 18.

The first record of this species in the Adriatic Sea dates to 22nd February and September 1999 (two specimens), just a few kilometres off Dubrovnik (southern Adriatic, Croatian coast) (Glamuzina *et al*., 2000). The second record was on 5th March 2006 off the island of Dugi Otok (Dulčić *et al*., 2006). Beside the publication of a first record of a non-indigenous fish species in a new area, it is no less important to publish subsequent records of those species in order to verify the establishment and distribution in its new habitat. Subsequent records may indicate that previous sightings were not just accidental, but may suggest that the zoogeographic range of the species has extended to include this new region (Golani *et al*., 2011). Given this record as like as all the previous, it may be established, if we consider Morović (1973), that this species is still very rare in the Croatian waters.

The latest finding is interesting primarily because it comes over 9 years after the previous record (16 years after the first finding) of this species in the Adriatic Sea. Several questions could arise based on this new, additional record of white grouper in the Adriatic Sea. Has this species established a population or is it a seasonal visitor (the sightings were made in autumn and winter)? Although there is no evidence of a permanent population in the study area, the capture described here might be an indication of expansion of the distribution of white grouper in the Adriatic Sea. It is known that species respond to changes in climatic environment by shifting geographically. Climate warming is also favouring native warm water species (such as those from the genus *Epinephelus*), which are extending their distribu-

tion northwards, and induced tropicalisation of marine communities (Dulčić *et al.,* 2006). Groupers of the genus *Epinephelus* are mostly tropical species and their distribution in subtropical and temperate waters is limited, in fact, only five species are native to the Mediterranean waters (Dulčić *et al*., 2006). As a top carnivorous species and one of the largest coastal fish species, groupers could influence the behaviour and ecology of many native fish species and affect local artisanal fishery (Glamuzina e*t al*., 2000).

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NOVI ZAPIS O POJAVLJANJU BELE KIRNJE, *EPINEPHELUS AENEUS* (OSTEICHTHYES: SERRANIDAE), V HRVAŠKIH JADRANSKIH VODAH

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POVZETEK

*Avtorji poročajo o novem zapisu o pojavljanju bele kirnje (*Epinenephelus aeneus*) v Jadranskem morju (hrvaške vode). Četrtega oktobra 2015 je bil ujet odrasli primerek (TL = 50,0 cm; W = 1320 g) v vršo na 10 m globine blizu otoka Čiovo (vzhodni srednji Jadran). Ta vrsta je v Jadranskem morju opredeljena kot zelo redka.*

Ključne besede: *Epinephelus aeneus*, novi zapis o pojavljanju, zelo redka vrsta, Jadransko morje

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