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NEW RECORD OF SERPENT EEL *OPHISURUS SERPENS* (LINNAEUS, 1758) (OPHICHTHIDAE) IN THE ADRIATIC WATERS WITH A REVIEW OF RECENT ADRIATIC RECORDS

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ABSTRACT

On 20 July 2005, a serpent eel, Ophisurus serpens, was caught off the island of Sv. Fumija (near Čiovo Island, eastern central Adriatic). This species is relatively rare in the Adriatic. The main morphometric data are given. A review of recent Adriatic records of this species is also presented.

Key words: *Ophisurus serpens*, records, Adriatic Sea, morphometry

NUOVE SEGNALAZIONI DEL SERPENTE DI MARE *OPHISURUS SERPENS* (LINNAEUS, 1758) (OPHICHTHIDAE) IN ACQUE ADRIATICHE E REVISIONE DI RECENTI AVVISTAMENTI ADRIATICI

SINTESI

Il serpente di mare, Ophisurus serpens, è stato catturato vicino all'isola di Santa Fumia (nei pressi dell'isola di Čiovo, Adriatico centro-orientale) il 20 luglio 2005. Questa specie è relativamente rara in Adriatico. L'articolo ne presenta i principali dati morfometrici. Gli autori hanno inoltre preparato una revisione dei recenti avvistamenti della specie in Adriatico.

Parole chiave: *Ophisurus serpens*, segnalazioni, mare Adriatico, morfometria

INTRODUCTION

The serpent eel, *Ophisurus serpens* (Linnaeus, 1758), is a marine, brackish, reef-associated and benthic species living to depths of 300 m. It lives in the eastern Atlantic (northern coast of Iberian Peninsula to South Africa, also Madeira), western and middle Mediterranean, western Indian Ocean (southern Mozambique to South Africa) and western Pacific (Japan and Australasia) (Bauchot, 1986). It is very rare in the Adriatic Sea, and it lives between 30 and 400 m depth on sandy and sandy-muddy bottom (Jardas, 1996). Buried with only its head exposed (Jardas, 1996).

Data on the biology and ecology of the serpent eel in the Adriatic are very scarce. The aim of this paper is to provide first data on the morphometric characters of this species for the Adriatic and on their occurrence in the eastern Adriatic.

MATERIAL AND METHODS

Eighteen specimens of the serpent eel were caught on 20 July 2005 with long-line (by professional fisherman) off the island of Sv. Fumija (near Čiovo Island, eastern central Adriatic) (Fig. 1) at about 40 m depth on sandy bottom. One specimen was taken (Fig. 2) and others were released by the fisherman. The specimens were identified according to Jardas (1996); the chosen

specimen is deposited in the Ichthyological Collection of the Institute for Oceanography and Fisheries in Split, Croatia.

The specimen was preserved in 4% buffered formaldehyde, subsequently measured to the nearest mm, and weighed to the nearest gram. Morphometric characteristics considered were total length (TL), preanal length (LPA), predorsal length (LPD), prepectoral length (LPP), dorsal fin length (Ld), anal fin length (La), pectoral fin length (Lp), body depth (H), head length (C), eye-diameter (O), interorbital length (Io), preorbital length (PO), number of pores in linea lateralis and length of lower jaw.

RESULTS AND DISCUSSION

In Table 1, the main morphometric data of the serpent eel specimen are presented.

The presented serpent eel data are the first for this species from the Adriatic Sea and in agreement with those given by Pallacio (www.fishbase.org) and Bauchot (1986). Jardas (1996) noted that maximum length for this species is TL = 2400 mm, although usual length in catch is between 500 and 1500 mm. McCosker & Castle (1986) reported that maximum length is TL = 2500 mm. The number of pores in *linea lateralis* for the specimen from the Adriatic is 202, while Jardas (1996) noted 173 pores.

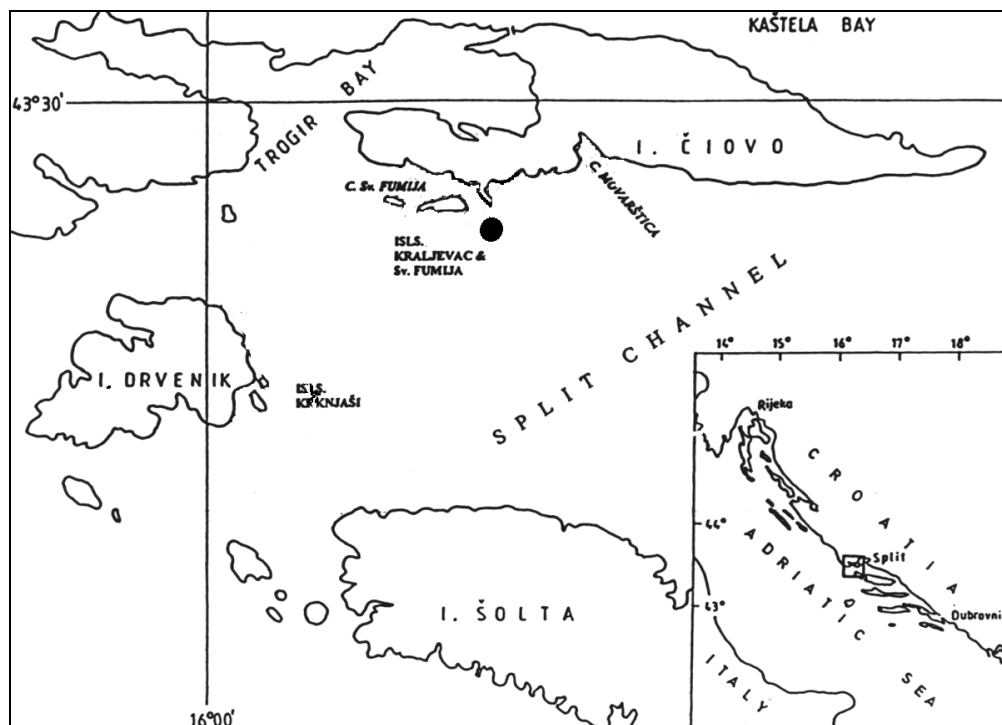


Fig. 1: Map with location of the record (island of Sv. Fumija, eastern central Adriatic).
Sl. 1: Zemljevid z lokacijo zapisa (otok Sv. Fumija, vzhodni srednji Jadran).

There have been no records of this species for the Adriatic Sea reported in scientific literature until now. In 1975, several specimens of the serpent eel were caught in the Korčula channel (no data on the number of specimens, length and weight) (Milišić, *pers. comm.*) In February 1991, a single specimen of serpent eel (TL = 2100 mm) was caught in Senjska cove (Šolta Island, eastern central Adriatic) (Milišić, 1994). Another catch (by long-line) was in March 2000 near Postira (Brač Island, eastern central Adriatic). The total length of the caught specimen was TL = 2000 mm (as reported in newspaper Slobodna Dalmacija on 29 July 2004). In November 2004, one specimen was caught near Žuljana (Pelješac Peninsula, southern Adriatic) (Milišić, *pers. comm.*).

Tab. 1: Morphometric (in mm) data of the serpent eel *Ophisurus serpens* in the eastern Adriatic.

Tab. 1: Morfolometrični podatki (v mm) o zobati jegulji *Ophisurus serpens* iz vzhodnega Jadranskega morja.

Weight (g)	2500
Morphometric characters (mm)	
Total length (TL)	2130
Preal length (LPA)	770 (36.2% TL)
Predorsal length (LPD)	220 (10.3% TL)
Prepectoral length (LPP)	160 (7.5% TL)
Dorsal fin length (LD)	1860 (87.3%)
Anal fin length (La)	1300 (61.0%)
Pectoral fin length (Lp)	40 (1.9%)
Body depth (H)	65 (3.1% TL)
Head length (C)	155 (7.3% TL)
Eye diameter (O)	12 (7.7% C)
Preorbital length (PO)	54 (34.8% C)
Interorbital length (Io)	18 (11.6%)
The number of pores in <i>linea lateralis</i>	202
The length of lower jaw	83

According to Morović (1973), the rarity of certain fish species could be evaluated from the records in scientific literature. Same author have pointed out that if the species is recorded less than five times, it should be treated as very rare. According to this suggestion, the serpent eel could be considered a relatively rare species in the Adriatic Sea. However, we should be careful when jumping to such conclusions, since we suppose that we must take into account tools (gears) for providing target species if wishing to evaluate their rarity. As far as the serpent eel is concerned, we should also take into account that this species lives buried with only its head exposed (Jardas, 1996). In view of its rarity we suppose that this is a case of inappropriate fishing gear use and burrowing of specimens in sandy and muddy bottom (all catches in the eastern Adriatic were done only by long-line). According to Tortonese (1970), this species is frequent in all Italian waters (including Adriatic); while Milišić (1994) noted that it is rare in the Adriatic Sea.



Fig. 2: *Ophisurus serpens* caught near the island of Sv. Fumija. (Photo: S. Matić-Skoko).

Sl. 2: *Ophisurus serpens*, ujeta v bližini otoka Sv. Fumija. (Foto: S. Matić-Skoko).

NOV PODATEK O POJAVLJANJU ZOBATE JEGULJE *OPHISURUS SERPENS* (LINNAEUS, 1758) (OPHICHTHIDAE) V JADRANSKEM MORJU

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POVZETEK

Dne 20. julija 2005 je bila nedaleč od otoka Sv. Fumija (v bližini otoka Čiovo, vzhodni srednji Jadran) ujeta zobata jegulja *Ophisurus serpens*. To je vrsta, ki je v Jadranskem morju razmeroma redka. Predstavljene so glavne morfolometrične podatke ujetega primerka, skupaj s pregledom novejših podatkov o tej vrsti iz Jadrana.

Ključne besede: *Ophisurus serpens*, zapisi, Jadransko morje, morfometrija

REFERENCES

- Bauchot, M. L. (1986):** Ophichthidae (including Echeliidae). 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. Paris, UNESCO, p. 583-584.
- Jardas, I. (1996):** Adriatic ichthyofauna. Školska knjiga, Zagreb, 533 pp. (*in Croat.*)
- McCosker, J. E. & P. H. J. Castle (1986):** Ophichthidae. In: Smith, M. M. & P. C. Heemstra (eds.): Smiths' sea fishes. Springer-Verlag, Berlin, p. 176-186.
- Milišić, N. (1994):** All the fishes from the Adriatic Sea. NIVA, Split, 463 pp. (*in Croat.*)
- Morović, D. (1973):** Rijetke ribe u Jadranu. Pomorski zbornik, 11, 367-383.
- Tortonese, E. (1970):** Pesci ossei. Vol. X. Calderini, Bologna, 565 pp.
- <http://www.fishbase.org/search.php>