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ON THE OCCURRENCE OF THE YELLOWMOUTH BARRACUDA, *SPHYRAENA VIRIDENSIS* CUVIER, 1829 (PISCES: SPHYRAENIDAE), IN THE ADRIATIC SEA

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ABSTRACT

The yellowmouth barracuda *Sphyraena viridensis* (three specimens: 456 mm, 432 mm and 515 mm in total length) is reported for the first time from the Adriatic Sea. Morphometric and meristic characteristics are provided. *S. viridensis* must be added to the Adriatic fish fauna, where it overlaps with *S. sphyraena* (and probably with *S. chrysotaenia*).

Key words: *Sphyraena viridensis*, Sphyraenidae, first record, southern Adriatic

SEGNALAZIONE DI ESEMPLARI DI LUCCIO MARINO, *SPHYRAENA VIRIDENSIS* CUVIER, 1829, (PISCES: SPHYRAENIDAE) NELL'ADRIATICO

SINTESI

Gli autori sono i primi a riferire di tre esemplari di luccio di mare *Sphyraena viridensis* (lunghezza totale 456 mm, 432 mm e 515 mm) pescati nell'Adriatico e dei quali sono riportati i dati morfometrici e meristici. La *S. viridensis* va aggiunta all'elenco della fauna ittica dell'Adriatico, dove compare assieme alla specie *S. sphyraena* (e, probabilmente, alla *S. chrysotaenia*).

Parole chiave: *Sphyraena viridensis*, Sphyraenidae, prima segnalazione, Adriatico meridionale

INTRODUCTION

The updated lists of Mediterranean fish include four species of the genus *Sphyraena*: *sphyraena*, *viridensis*, *chrysotaenia* and *flavicauda* (Tortonese, 1979; Ben-Tuvia, 1986; Fredj & Maurin, 1987; Golani, 1992; Relini & Orsi-Relini, 1997; Golani *et al.*, 2002). In the Adriatic Sea, *Sphyraena sphyraena* (Jardas, 1996) and *Sphyraena chrysotaenia* (Pallaoro & Dulčić, 2001) have been recorded so far. According to Tortonese (1975), *Sphyraena viridensis* is an Atlantic species. Till now, *S. viridensis* has been known to occur in the coastal waters of Israel (Ben-Tuvia, 1971) and Lebanon (George *et al.*, 1971), in the western Mediterranean's northern region (Miniconi *et al.*, 1990; Relini & Orsi-Relini, 1997), Turkish seas (Biszel & Chiangir, 1996), the western Mediterranean's southern region (Ustica Island, Sicily) (Vacchi *et al.*, 1999), Aegean Sea (Corsini & Economidis, 1999), and Algerian coastal waters (Kara & Bourehail, 2003). It has also been reported from the Eastern Central Atlantic (Cape Verde, Canary Islands) and Azores Islands (Barreiros *et al.*, 2002).

The aim of this paper is to present the first record of *S. viridensis* in the Adriatic Sea and therefore to confirm its presence in this part of the Mediterranean.

MATERIAL AND METHODS

Three specimens of the yellowmouth barracuda *S. viridensis*, caught by professional fishermen with purse seine and small driftnets in July 2004 about 6 Nm off the shore of Herceg Novi (the coast of Serbia and Montenegro) (Fig. 1) at depths between 10 and 15 m, have been obtained recently and accurately identified



Fig. 1: Map with location where specimens of the yellowmouth barracuda were caught (Adriatic Sea, Montenegrin coast, 6 Nm off the shore of Herceg Novi).

Sl. 1: Zemljevid območja, v katerem so bili ujeti primerki morske ščuke *Sphyraena viridensis* (Jadransko morje, črnogorska obala, 6 Nm od Hercegnovega).

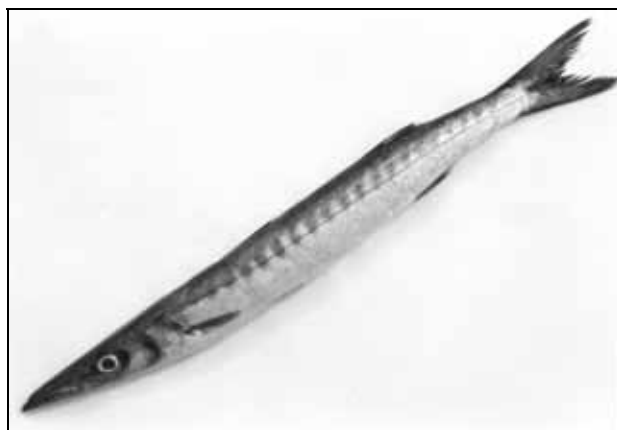


Fig. 2: *Sphyraena viridensis* (TL=456 mm, W=239 g) caught near Herceg Novi (Montenegrin coast).

Sl. 2: *Sphyraena viridensis* (TL=456 mm, W=239 g), ujeta blizu Hercegnovega (črnogorska obala).

according to Relini & Orsi-Relini (1997) and De Sylva (1990). The specimens are deposited in the private collection of P. Miljanić (Bar, Serbia and Montenegro). This is the first record of this species in the Adriatic Sea. The considered meristic characteristics were dorsal, anal, pectoral and ventral fins, scales in lateral line and scales above the lateral line. The specimens were subsequently measured to the nearest mm, and weighed to the nearest g.

RESULTS AND DISCUSSION

Table 1 presents the main morphometric and meristic data of the three caught specimens, *i.e.*: specimen 1: TL = 456 mm (W = 239 g) (Fig. 2); specimen 2: TL = 432 mm (W = 209 g) and specimen 3: TL = 515 mm (W = 419 g).

Description of the Adriatic specimens:

body slender, fusiform with conical, hydrodynamic snout. Mouth long, with low protrile capacity and with prognathic lower jaw, has two rows of long canine-like teeth. Has no scale on preoperculum, on both the front and back margins (in *S. sphyraena* the scale covering is continuous). The pelvic fin is inserted below the first dorsal fin, while the tip of pectoral fin does not reach the pelvic fins. The upper half of the body has numerous vertical dark bands extending below the lateral line in the anterior part of the flanks. There is one yellow band parallel to the lateral line. All counts, measurements and descriptions are comparable with those of Relini & Orsi-Relini (1997), Barreiros *et al.* (2002) and Kara & Bourehail (2003). Three main characters, according to Relini & Orsi-Relini (1997), were used for determination: preoperculum scale pattern, pectoral fin rays (15 in *S. viridensis*, 13 in *S. sphyraena*) and scales above the lateral line (15–17 scales in *S. sphyraena*, 21–22 in *S. viridensis*).

Its habits are probably similar to those of the phylogenetically closely related *S. sphyraena* (De Sylva, 1990). Its exact distribution range and abundance are unknown, as most published records do not separate it from *S. sphyraena*. It feeds on cephalopods, crustaceans and fishes (Ben-Tuvia, 1986). Maximum reported length in this study is 515 mm TL. Maximum recorded length is 1,280 mm (fork length FL) and maximum weight 8,200 g (IGFA, 2001). Relini & Orsi-Relini (1997) reported maximum length TL = 1055 mm and 4400 g in the northern Mediterranean region (deposited in the Genoa Natural History Museum, spm 48808), while George *et al.* (1971) reported maximum length of 820 mm, with mature specimens from 400 mm for the Lebanon coast. P. Miljanić (*pers. comm.*), who saw specimens caught by professional fishermen along the Montenegrin coast, reports on lengths mostly between 450 and 550 mm, even though there are some reports on specimens between 5,000 and 6,000 g. *S. viridensis*, in the opinion of fishermen, is becoming more frequent in the mentioned area and has recently become increasingly popular with underwater photographers. These images give often evidence of its schooling behaviour, as confirmed by Barreiros *et al.* (2002).

Its occurrence in the southern Adriatic confirms the hypothesis that this species has a wider distribution, but it is often confused with the closely related Mediterranean species *S. sphyraena* (Ben-Tuvia, 1986). *S. viridensis* must be added to the Adriatic fish fauna, where it also overlaps with *S. sphyraena* (and probably with *S. chrysaenia*).

Tab. 1: Morphometric and meristic data of the yellowmouth barracuda in the southern Adriatic.

Tab. 1: Morfometrični in meristični podatki o morski ščuki iz južnega Jadranskega morja.

Morphometric characters (mm)	Specimen 1	Specimen 2	Specimen 3
Total length (TL)	456	432	515
Standard length (SL)	417	368	447
Head length (C)	119	109	136
Predorsal length 1 (LPD1)	171	165	197
Predorsal length 2 (LPD2)	285	278	318
Prepectoral length (LPP)	122	118	134
Preventral length (LPV)	183	176	197
Preanal length (LPA)	231	226	234
Max depth	55	54	59
Depth D1	52	49	56
Depth D2	52	51	52
Snout-orbit	64	62	65
Eye horizontal diameter	16	15	17
Meristic characters			
First dorsal fin D1	5	5	5
Second dorsal fin D2	1/9	1/9	1/9
Ventral fin V	1/5	1/5	1/5
Anal fin A	1/9	1/9	1/9
Pectoral fin P	15	15	15
Lateral line LL	141	138	151
Scales above lateral line	21	21	22

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O POJAVLJANJU MORSKE ŠČUKE, *SPHYRAENA VIRIDENSIS* CUVIER, 1829 (PISCES: SPHYRAENIDAE), V JADRANSKEM MORJU

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POVZETEK

Avtorja članka kot prva poročata o treh primerkih morske ščuke *Sphyraena viridensis* (celotnih dolžin 456 mm, 432 mm in 515 mm), ujetih v Jadranskem morju ter navajata njihove morfometrične in meristične podatke. Vrsto *S. viridensis* je treba dodati na seznam ribje favne v Jadranu, kjer se prekriva z vrsto *S. sphyraena* (in morebiti tudi z vrsto *S. chrysotaenia*).

Ključne besede: *Sphyraena viridensis*, Sphyraenidae, prvi zapis, južni Jadran

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