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## New record of the slender snipe eel, *Nemichthys scolopaceus* Richardson, 1848, from the North-Eastern Mediterranean Sea (Büyükeceli Coast, Turkey)

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### ABSTRACT

A male specimen of the slender snipe eel, *Nemichthys scolopaceus* Richardson, 1848, was caught by a trawl in the North-Eastern Mediterranean (Büyükeceli Coast) on February,4 2018. The present paper reports the first record of *N. scolopaceus* from the Büyükeceli Coast and fifth record from the Turkish coastal waters. Moreover; it is the first report of an adult male individual of this species, caught from a shallow water (100 m). *N. scolopaceus* has been previously recorded from the Marmaris Coast, Kuşadası Bay, Antalya Bay, and Mersin Bay in Turkey.

**KEY WORDS:** Slender snipe eel, *Nemichthys scolopaceus*, North-Eastern Mediterranean Sea, Büyükeceli Coast, Turkey

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## 1. Introduction

Nemichthyid eels live up to a depth of about 2000 m from tropical regions to temperate climatic conditions. This species is fed with pelagic decapod shrimps such as large euphausiids (Mead and Earle 1970; Nielsen and Smith, 1978; Feagans, 2008; Feagans-Bartow and Sutton, 2014). The maximum length of this species is 130 cm (Muus and Nielsen, 1999). Juvenile and adult individuals are characterized by a long body and most adult males are called snipe eel because of their non-occlusible beak body structure (Smith and Nielsen, 1989). The genus of the *Nemichthys* is considered to be the most extreme example of axial extension among the fish and their vertebral numbers are the highest of the vertebrates, up to 740 vertebral bones or more (Smith and Nielsen 1989; Ward and Mehta 2010). Eels belonging to the *Nemichthyidae* family differ significantly from other mesopelagic eel families because of their head and jaw shape and very thin body structures (Smith, 1999). This body position optimizes the use of visual or lateral line senses for facilitating hunting or predator detection. It is also considered to be an effective way to move slowly along the water column without disturbing the function of the sensor (Miller et al., 2013).

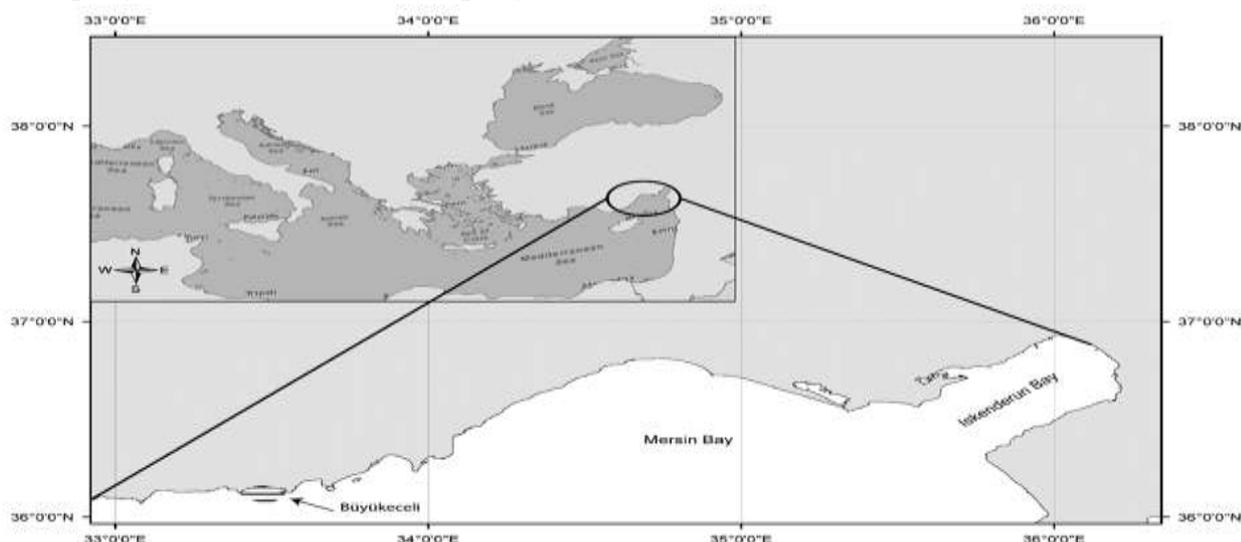
*Nemichthys scolopaceus* is a global species distributed in tropical and temperate seas. It is a species with wide distribution, that's why it is listed as Least Concern by IUCN (2015). This species of eel is pelagic (Larsen, 1973) and bathypelagic (Coad

and Reist 2004), which is found in the Mediterranean Sea from a surface up to 2000 m depth (Nielsen, 1984) and up to 3656 m in the Atlantic Ocean (Coad and Reist, 2004). This species breeds in the Sargasso Sea and the Tongue of the Ocean (Post and Tech, 1982; Castonguay and McCleave, 1987; Wippelhauser et al., 1996).

The slender snipe eel, *N. scolopaceus*, is reported from the Atlantic and Pacific oceans (Nielsen, 1984; Froese and Pauly, 2014). It is common in the Mediterranean Sea and in the southern Turkey (Quignard and Tomasini, 2000; Bilecenoglu et al., 2006; Filiz et al., 2007; Gokoglu et al., 2009; Bayhan et al., 2015). This new record of slender snipe eel is given from the North-Eastern Mediterranean Sea (Büyükeceli Coast); the present study is important in that for the first time, an adult male of this species was caught in shallow water (100 m).

## 2. Materials and Methods

At a depth of 100 m a commercial trawl caught one *N. scolopaceus* specimen on 04 February 2018 in Büyükeceli Coast (36°06'050"N, 33°26'100"E) (Fig.1). This specimen was preserved in 4% formalin and was deposited in the Museum of the Systematic, Faculty of Fisheries, Mersin University, (MEUFC-18-11-056) (Fig.2). All morphometrics were measured to the nearest 0.01 mm using dial calipers.



**Figure 1.** The shaded area indicates the location where the specimen was observed



**Figure 2.** The male specimen of *Nemichthys scolopaceus* from Büyükeceli Coast, Turkey

**Table 1.** Morphometric parameters of *Nemichthys scolopaceus*

Parameter	Present study	Filiz et al. 2007
MBD/TL	5.7	4.45
HL/TL	12.3	9.78
SnL/HL	27.5	25.15
Sn-D/TL	17.2	18.50
Sn-PEC/TL	10.92	10.70
Sn-PEL/TL	10.92	10.70
Sn-A/TL	17.27	12.44
ID/HL	19.74	13.78
ED/HL	14	15.03

TL, total length; Sn-A, snout to anal fin; Sn-PEL, snout to pelvic fins; Sn-D, snout to first dorsal fin; HL, head length; SnL, snout length; ED, eye diameter; MBD, maximum body depth; ID, interorbital distance; Sn-PEC, snout to pectoral fins.

### 3.Results

The total length and weight of this specimen is 95 cm and 24.22 g, respectively. All morphometric characteristics of the specimen with its previous descriptions are given in Table 1.

This study is the first record of *N. scolopaceus* from the Büyükeceli coastal waters and fifth record of the Turkish coastal waters. Previous records in the Turkish coastal waters of this species.

**Table 2.** Some reports of the *Nemichthys scolopaceus* from the Mediterranean Sea

	Total Length (cm)	Depth (m)	Location
<b>Present Study (2018)</b>	95	100	Büyükeceli Coast, north-eastern Mediterranean
<b>Bayhan et al. (2015)</b>	47.5	349-513	Mersin Coast, Turkey
<b>Gökoglu et al.(2009)</b>	55	350	Antalya Bay, southern Turkey
<b>Filiz et al. (2007)</b>	97.4	500	Sığacık Bay, southern Aegean Sea
<b>Bilecenoglu et al. (2006)</b>	82.05	550-600	Marmaris Coasts, Aegean Sea
<b>Mytilineou et al. (2005)</b>	-	390-1079	Greece, Eastern Ionian Sea
<b>Beebe&amp;Crane (1935)</b>	0.9-144.5	915-1830	Mediterranean Sea

#### 4. Discussion

In this study, all morphometric parameters of *N. scolopaceus* except Sn–A/TL and ID/HL were found to be similar to the specimen in Sığacık Bay, southern Aegean Sea (Filiz et al., 2007) (Table 1). Although the individuals used in both studies are similar in size, Sn–A/TL and ID/HL values found in present study were determined to be different from those in study by Filiz et al., 2007. These differences may be due to the fact that the individuals caught in these studies belong to different populations (Mediterranean Sea and Aegean Sea populations), sexual dimorphism and possibly measurement errors. *N. scolopaceus* shows sexual dimorphism. Adult individuals have longer jaws than younger ones. Furthermore, the jaws of the adult male specimens may shorten over time. Adult individuals may have longer jaws than younger ones. In addition, the jaws of the adult male specimens may shorten over time.

All marine species of the Anguilliformes live in almost all marine habitats and deep regions in tropical temperate climates. Therefore; they create a remarkable variety (Böhlke, 1989; Miller and Tsukamoto, 2004). *N. scolopaceus* is the most common eel species in the deep sea, while its juvenile specimens (15 cm) were found at depths of 137.25 m (Beebe and Crane, 1935). However, leptocephalic specimens of the *N. scolopaceus* are found at depths of more than 200 m before they are converted to adult individuals by metamorphosis (Wippelhauser et al., 1996). In the present study, it was reported that for the first time an adult male specimen of this species was caught by a trawler boat from a shallow water (100 m). This eel species is rarely caught by commercial fishing methods because it is a deep-water species.

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