

# First record of the Sweeper fish, *Pempheris vanicolensis* Cuvier, 1821, on the eastern Libyan coast (Osteichthyes, Pempheridae)

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**Abstract.** The Sweeper fish, *Pempheris vanicolensis* Cuvier, 1821, which is considered to belong to the Lessepsian marine fish species in the Mediterranean Sea, was found for the first time on the eastern part of the Libyan coast (Benghazi).

**Kurzfassung.** Der Sweeper *Pempheris vanicolensis* Cuvier, 1821, family Pempheridae, ein Vertreter der Lesseps'schen Arten im Mittelmeer, wurde erstmals im östlichen Teil der Küste Libyens, Bezirk Bengasi, nachgewiesen.

**Key words** Sweeper fish, *Pempheris vanicolensis*, Lessepsian migration, exotic fish species, Libya.

Libya has a long coast of around 2,000 km whose topography varies greatly and which is exposed to a variety of environmental factors. When the Suez Canal opened, marine organisms invaded the Mediterranean Sea (POR 1978). This "Lessepsian migration" of Indo-pacific organisms into the Mediterranean is still going on; ninety alien fish species had been identified as of March 2002, 64 species of them Lessepsian migrants (GOLANI *ET AL.* 2004, GOLANI & SONIN 2006, BILECENOĞLU & KAYA 2006). Temperature and salinity are the two main biotic factors that influence the distribution of marine organisms over large zoogeographical areas. They also often have a decisive influence on the ecological distribution of species in various habitats of an area (BEN-TUVIA 1978).

One of the species that has penetrated the Mediterranean Sea is Sweeper fish. It was first recorded in Lebanon in 1979 (MOUNEIMNÉ 1979). In the eastern Mediterranean Sea, it was recently found in the Gulf of Gabès in Tunisia (BRADAI *ET AL.* 2004). It was therefore no surprise to find this species in Libyan waters too during a thorough and ongoing investigation into exotic fish.

One specimen of *Pempheris vanicolensis* (Fig. 1) was collected from the eastern region of the Libyan coast (Benghazi) by trammel net on rocky seafloor. The temperature was 22°C, the depth 4m. The specimen was washed with fresh water immediately after identification. It was preserved for one month in a mixed solution of ethanol and formaldehyde and was subsequently kept in formaldehyde (5 %).



**Fig. 1.** Sweeper fish *Pempheris vanicolensis* Cuvier, 1821.

**Determination and scientific name:** *Pempheris vanicolensis* (Cuvier, 1831), family Pempheridae, with the vernacular name Sweeper. In Libya it is known as “gasaetlla” or “samak deal”.

**Characters:** TL 148.89 mm, Bw. 50.97 mm, HL. 33.45 mm., D.F.L. 22.71., A.F.L. 64.12., ED. 17.55 mm. D: V+9, A: III + 37, P: I + 16, VL: 1 + 5, P: 16, LL: 53. TI/BW: 2.95., TL/HL: 4.45., BW/HL: 1.51., HL/ED: 1.91.

Standard abbreviations. Meristic: **D**: dorsal fin, **A**: Anal fin, **P**: Pelvic fin, **V**: Ventral fin. Morphometric **T**: Total length, **Fl**: Fork length, **S**: Standard length, **BW**: Body width, **DFL**: Dorsal fin length, **ANL**: Anal fin length, **HL**: Head length, **E<sub>di</sub>**: Eye diameter.

The body is laterally compressed, the belly is triangular and the eyes are large. The body is silverish blue in colour, with a touch of brownish pink. The fins are of intense red-brown, the tip of the dorsal fin and the base of the anal fin are black.

The sweeper is one of the Indo-Pacific fish species that invaded the Mediterranean Sea through the Suez Canal. It was first recorded in Lebanon in 1979 (MOUNEIMNÉ 1979), and subsequently along many other coasts in the eastern and central Mediterranean Sea (GOLANI & DIAMANT 1991, GÜCÜ *ET AL.* 1994, TORCU & MATER 2000, HATICE *ET AL.* 2001, BRADAI *ET AL.* 2004). GOLANI (2002) predicted that the many potential rock habitat, site-related species from the Red Sea would not or would only rarely succeed in reaching those habitats in the Mediterranean, since they would need to cross the Suez Canal, the northern Gulf of Suez and the south-eastern Mediterranean, all of which lack a continuous rock habitat. The sweeper proves that given time, it will cross the gaps.

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