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Item Type	article
Authors	Özcan, T.; Kirkim, F.; Sakalı, U.
Download date	08/04/2022 21:02:53
Link to Item	http://hdl.handle.net/1834/37590

Short Communication***Serranus cabrilla* (Linnaeus, 1758) (Perciformes, Serranidae)
a new host record for *Nerocila orbigny* (Guérin-Mèneville,
1832) (Isopoda, Cymothoidae)****Özcan T.^{1*}; Kirkim F.²; Sakalı U.³**

Received: February 2012

Accepted: June 2014

1- Marine Sciences and Technology Faculty, İskenderun Technical University, 31200
İskenderun-Hatay, Turkey.

2-Department of Hidrobiology, Fisheries Faculty, Ege University, 35100 Bornova-Izmir,
Turkey.

3-Provincial Directorate of Ministry of Food, Agriculture and Livestock, Antakya, Hatay,
Turkey

*Corresponding author's email: tahozean@yahoo.com

Keywords: *Nerocila orbigny*, *Serranus cabrilla*, New host, Eastern Mediterranean,
Turkey

Cymothoids are among the largest parasites of fishes in the world. These isopods associate with many commercially important fish species and attach themselves to the body or fins of the fishes (Brusca, 1981). The isopods cause significant economic losses to fisheries by killing, stunting, or damaging these fishes (Ravichandran *et al.*, 2009).

Cymothoidae is an ectoparasitic family of Isopoda. Cymothoid isopods are ectoparasites of marine, brackish and freshwater teleost fishes (Trilles, 1994; Ferri *et al.*, 2008; Kirkim *et al.*, 2009). The genus *Nerocila* is one of the nine genera of the family Cymothoidae distributed in the Mediterranean

(Trilles, 1968, 1986). To date, three species (*N. bivittata*, *N. maculata*, *N. orbigny*) belonging to the genus *Nerocila* have been reported in Turkish coasts. *Nerocila orbigny* occurs both in coastal and pelagic waters, as well as in the bottom zone, infesting fishes from the families *Pleuronectidae* and *Soleidae* (Rokicki, 1985) and (Mugilidae) as well (Trilles, 1975a, 1975b, 1994; Bruce, 1987; Öktener and Trilles, 2004). However, this species has been reported from several fish species (Trilles, 1975a, 1975b, 1994; Bruce, 1987; Charfi-Cheikhrouha *et al.*, 2000; Öktener and Trilles, 2004; Ramdane *et al.*, 2007; Kayış and Ceylan, 2011).

N. orbigny has been known from all of the Mediterranean Sea (Trilles, 1994), along the Black Sea coast of Turkey (Öktener and Trilles, 2004; Kayış and Ceylan, 2011), Morocco (Dollfus and Trilles, 1976), Tunisia (Trilles and Raibaut, 1973; Charfi-Cheikhrouha *et al.*, 2000) and Algeria (Ramdane *et al.*, 2007). *N. orbigny* is also known to penetrate into freshwaters along the Atlantic seaboard of South America (Brusca, 1981).

The serranid fish, *Serranus cabrilla* (Linnaeus, 1758) (the comber) is a commercial species and has a wide distribution (north Atlantic Sea, North Sea and Mediterranean Sea) (Politou and Papaconstantinou, 1995; Torcu-Koc *et al.*, 2004). The comber is a demersal species found on rocks, and on sandy and muddy bottoms at depths of 1-500 (Jardas, 1996). This is the main species captured by trawlers fishing in the Aegean Sea of the Turkish coast (Torcu-Koc *et al.*, 2004). *N. orbigny* has been determined for the first time on *S. cabrilla* from the Turkish coasts within the frame of the present study.

S. cabrilla (Perciformes, Serranidae), was captured by commercial trawl from the Samandağı (between 36°30'50" N 35°59'60" E and 36°35'23" N 36°59'57" E) coast of Turkey on 28 March 2011 (Fig. 1). The sample obtained from a sandy-silt bottom at a depth of between 20 and 25 m. The parasitic isopod was collected from the fish and immediately preserved in 70% alcohol. Data on

collecting period, sampling area, name, and the size of the host were recorded, and the parasite's locations on the captured fish were noted. Identification and morphometric characteristics of the isopod follows Trilles *et al.* (1989). The specimens, including the photographed ones, were preserved in 4% formalin and deposited in the Museum of the Faculty of Fisheries, Mustafa Kemal University, Iskenderun-Hatay (MSM) (Collection No: MSM-MAL/2011-03).

The salinity values ranged from 37.9 ‰ to 39.1 ‰, and the maximum temperature value recorded was 18.7 °C. *Nerocila orbigny* (Guérin-Mèneville, 1832) (Fig. 2). Material examined: one ♂, (total length: 2.2 cm) MSM-MAL/2011-03; trawl, 20-25 m, sandy-silt bottom, on caudal fin of the serranid, *S. cabrilla* (total length: 12.4 cm) from the Samandağı coasts.

Distribution and ecology

It is widely distributed in the Mediterranean Sea, tropical and southern Atlantic, South Africa, Australia, New Zealand, Red Sea, North Pacific, East Pacific, western North Atlantic and in the Black Sea coast of Turkey (Bruce, 1987; Trilles, 1994; Öktener and Trilles, 2004). It can penetrate into fresh waters (Brusca, 1981), at depths ranging from the shore to 500 m (Jardas, 1996).

Host data: *N. orbigny* generally infects Mugilidae species heavily (Trilles, 1994). The species has been previously reported from several fish species and families such as; *Scorpaena*

porcus (Ferri *et al.*, 2008); *Mugil cephalus*, *Crenilabrus pavo*, *Trigla lyra* (Ramdane *et al.*, 2007); *Liza ramada*, *L. saliens*, *L. aurata*, *Chelon labrosus*, *Dicentrarchus labrax*, *Solea solea*, *Serranus scriba*, *Diplodus annularis* (Charfi-Cheikhrouha *et al.*, 2000); *D. labrax* (Bragoni *et al.*, 1983, 1984; Horton and Okumura, 2001); *S. solea* (Kayış and Ceylan, 2011); *L. aurata* (Merella and Grippa, 2001; Öktener and Trilles, 2004); *Pleuronectidae* and *Soleidae* (Rokicki, 1985); *Platichthys flesus* (Cavaleiro and Santos, 2009); *Chelidonichthys kumu*, *Chrysophrys auratus*, *Acanthopagrus butcheri*, *Sillago bassensis*, *Pomatomus saltatrix*, *Mola mola*, *Girella tricuspidata*, *Dactylopera orientalis*, *Pseudocaranx dentex*, *Callorhynchus mili* (Bruce, 1987); *Mugil cephalus*, *M. auratus*, *M. capito* and *M. labrosus*, *Alosa fallax nilotica*, *D. labrax* (Trilles and Raibaut, 1973); *Batrachus*

didactylus and *Solea senegalensis* (Dollfus and Trilles, 1976). According to Moreira and Sadowsky (1978) this species was reported on *Callorhynchus mili* and *Chimaera* sp. as well by Hale (1926, 1940).

Besides, Trilles *et al.* (1989) summarised the known hosts *Liza ramada*, *L. saliens*, *L. aurata*, *Chelon labrosus*, *Lophius budegassa*, *Syphonostomes*, *M. auratus*, *M. capito*, *M. chelo*, *M. labrosus*, *M.cephalus*, *Platichthys flesus*, *D. labrax*, *Salmo trutta*, and *Tilapia galilea* for *N.orbigyni*.

In Turkey, it has been reported from the operculum and pectoral fin of the sole (*S. Solea*) in the Black Sea (Kayış and Ceylan, 2011), on the operculum of *L. aurata* (Öktener and Trilles, 2004) in the Black Sea, and in *D. labrax* of the Aegean Sea (Horton and Okumura, 2001).



Figure 1: Map of the study area.



Figure 2: *Nerocila orbigny* on a caudal fin of *Serranus cabrilla* in the Levantine Sea (A, B).

The parasite cymothoid isopod, *N. orbigny* has been found on the caudal fin of *S. cabrilla* (Perciformes, Serranidae). Only one serranid fish species (*Serranus scriba*) belonging to the genus *Serranus* is known to be infested by *N. orbigny* up to date. *S. cabrilla* have not been reported to be infested by *N. orbigny* so far. *S. cabrilla*, the serranid fish species is a new host recorded for this parasite. It is clear that the serranid fish species are accidental or an occasional potential host for *N. orbigny*.

The authors thank Suat captain and the crew of the vessel “Umut” for their help in collecting the material.

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