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New host record, black scorpionfish *Scorpaena porcus* (Pisces, Scorpaenidae) for *Nerocila orbigny* and *Ceratothoa parallela* (Crustacea, Isopoda, Cymothoidae)

Josipa FERRI^{1*}, Mirela PETRIĆ¹, Sanja MATIĆ-SKOKO² and Jakov DULČIĆ²

¹University of Split, Center of Marine Studies, Livanjska 5/III, 21 000 Split, Croatia

²Institute of Oceanography and Fisheries, P.O.Box 500, 21 000 Split, Croatia

*Corresponding author; e-mail: josipa.ferri@unist.hr

Two isopod species, Nerocila orbigny and Ceratothoa parallela (Crustacea, Isopoda, Cymothoidae) are reported for the first time on and in the black scorpionfish, Scorpaena porcus, collected from the eastern Adriatic Sea. Cymothoids parasitized 5.5 % (6 of 109) of the collected fish.

Key words: Cymothoidae, parasitic isopods, *Scorpaena porcus*, Adriatic Sea

INTRODUCTION

Cymothoids (Crustacea, Isopoda) are ectoparasites of marine and freshwater teleost fishes. Most species settle on the skin, in the buccal cavity or in the gill chamber and in most cases cymothoids do not appear to have important deleterious effect on their host (BRUSCA, 1981). Cymothoid isopods initiate their parasitic life by feeding on blood and tissues of a suitable host (TRILLES, 1969; HORTON & OKAMURA, 2003). 14 species of Cymothoidae are known from marine fish in Adriatic (TRILLES *et al.* 1989; TRILLES, 1994) and this is new host record, black scorpionfish *Scorpaena porcus* for *Nerocila orbigny* (Guérin-Meneville, 1829-1832) and *Ceratothoa parallela* (Otto, 1828).

MATERIAL AND METHODS

Cymothoid isopods were found during examination of *S. porcus* captured from two locali-

ties in the middle (Čiovo archipelago - 43°29' N; 16°12'88" E) and south Adriatic (Ploče - 42°56'14" N; 17°27'75" E) during November 2006, January, February and April 2007. Isopods were removed from the host fish and their location was noted. Identification and morphometric characteristics follow TRILLES *et al.* (1989).

RESULTS AND DISCUSSION

The parasites found on and in six black scorpionfish, *S. porcus* belong to the 2 isopod species *N. orbigny* and *C. parallela*. Overall, 6 out of 109 fish specimens (5.5 %) were infested with cymothoids. No tissue damage and no other effects were noticed on fish hosts.

Nerocila orbigny (Guérin-Meneville, 1829-1832)

In November 2006, a *N. orbigny* individual, of 14 mm body length and 7 mm width, was found

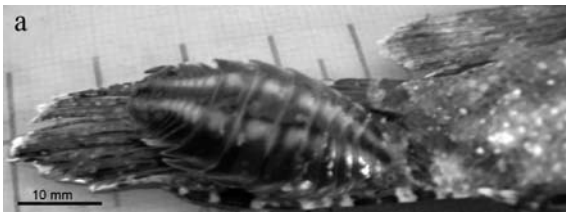


Fig. 1a. *Nerocila orbigny* on a caudal fin of *Scorpaena porcus* in the eastern Adriatic Sea



Fig. 1b. A female *Ceratothoa parallela*, found in the branchial cavity of *Scorpaena porcus* from the eastern Adriatic Sea

on the caudal fin of a juvenile *S. porcus*, collected in Čiovo archipelago. A second *N. orbigny* specimen, of body length 18 mm and 9 mm width was found at the base of the dorsal fin of a female *S. porcus*, from the south Adriatic in January 2007. In February and April 2007, 3 specimens of *N. orbigny* were found on the caudal fin of one juvenile and two male *S. porcus* specimens on the site in the middle Adriatic (Fig. 1a).

This species has already been recorded in the Mediterranean (TRILLES 1977; 1994), along the Turkish coasts (ÖKTENER & TRILLES, 2004), from Morocco (DOLLFUS & TRILLES, 1976) and Tunisia (TRILLES & RAIBAUT, 1973; CHARFI-CHEIKHROUHA *et al.*, 2000). *N. orbigny* settles preferentially on the Mugilidae (TRILLES, 1994; ÖKTENER & TRILLES, 2004). In Africa, particularly in Tunisia, it has been collected from *Mugil cephalus*, *Liza aurata*, *Liza ramado*, *Chelon labrosus* and *Liza saliens* (TRILLES & RAIBAUT, 1973; CHARFI-CHEIKHROUHA *et al.*, 2000). However, this euryxenic species has also been reported from several other fish: on *Alosa fallax nilotica* (TRILLES & RAIBAUT, 1973), *Halobatrachus didactylus*, *Solea senegalensis* (DOLLFUS & TRILLES, 1976), *Dicentrarchus labrax*, *Solea solea*, *Serranus scriba*, and *Diplodus annularis* (CHARFI-CHEIKHROUHA *et al.*, 2000), *Callorhynchus milli* (HALE, 1940; BRUCE, 1987) and *Chimaera sp.* (HALE, 1926).

It was also collected from the caudal fin of *Mugil cephalus*, from the head of *Trigla lyra* and from the caudal fin of *Symphodus tinca* from Algerian waters (RAMDANE *et al.*, 2007).

***Ceratothoa parallela* (Otto, 1828)**

In January 2007 a female *C. parallela*, of 12 mm body length and 4 mm width, was found in

the branchial cavity of a juvenile black scorpionfish, in the middle Adriatic (Fig. 1b).

C. parallela was identified in Turkey from the Aegean Sea and the Sea of Marmara on *Boops boops*, *Citharus macrolepidotus*, *Diplodus annularis* and *Spicara maena* (ÖKTENER & TRILLES, 2004). It was also reported in the buccal cavity of *Boops boops* from the French and Tunisian waters (TRILLES 1968; 1994; CHARFI-CHEIKHROUHA *et al.*, 2000). *C. parallela* was also occasionally found on other fish species: *Raja asterias*, *Raja clavata* (CAPAPÉ & PANTOUSTIER, 1976; TRILLES, 1994), *Sparus aurata*, *Sarpa salpa*, *Spicara maena*, *Spicara smaris*, *Chelidonichthys lucernus*, *Mullus sp.*, *Trisopterus minutus*, *Merluccius merluccius* (TRILLES, 1994), cultured *Sparus aurata* (PAPAPANAGIOTOU & TRILLES, 2001) and *Diplodus annularis* (CHARFI-CHEIKHROUHA *et al.*, 2000). RAMDANE *et al.* (2007) reported this species in the buccal cavity of *Boops boops*, *Spicara smaris* and *Trachurus trachurus* from the Algerian waters. This euryxenic species was also found in the mouth and stomach of the striped dolphin *Stenella coeruleoalba* (CERIONI & MARINIELLO, 1996).

In this study, two isopod species *N. orbigny* and *C. parallela* were reported for the first time from the black scorpionfish, *S. porcus*. We assume that black scorpionfish is an occasional or accidental host for these species so further studies of cymothoid parasites infecting wild fish populations are needed as a requirement for understanding the biology of these parasites and their effects on their hosts.

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Škrpun *Scorpaena porcus* (Pisces, Scorpaenidae), novi domaćin za parazitske jednakonošce *Nerocila orbigny* i *Ceratothoa parallela* (Crustacea, Isopoda, Cymothoidae)

Josipa FERRI^{1*}, Mirela PETRIĆ¹, Sanja MATIĆ-SKOKO² i Jakov DULČIĆ²

¹*Sveučilište u Splitu, Centar za studije mora, Livanjska 5/III, 21 000 Split, Hrvatska*

²*Institut za oceanografiju i ribarstvo, P.P. 500, 21 000 Split, Hrvatska*

**Kontakt adresa; e-mail: josipa.ferri@unist.hr*

SAŽETAK

Parazitski jednakonošci *Nerocila orbigny* i *Ceratothoa parallela* (Crustacea, Isopoda, Cymothoidae) su po prvi put zabilježeni na škrpunu, *Scorpaena porcus*, na području istočnog Jadrana. Od ukupnog broja pregledanih škrpuna, ovi rakovi su utvrđeni u 5.5% cjelokupnog uzorka (6 od 109 jedinki).

Ključne riječi: Cymothoidae, parazitski jednakonošci, *Scorpaena porcus*, Jadransko more