OCCURRENCE OF TREMOCTOPUS VIOLACEUSDELLE CHIAJE, 1830 (CEPHALOPODA–TREMOCTOPODIDAE) IN THE STRAIT OF SICILY (MEDITERRANEAN)

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Abstract

The occurrence of blanket octopus Tremoctopus violaceusDelle Chiaje, 1830 is reported for the first time in the Strait of Sicily. The specimen was collected by trawling on January 2003, about 50 nm southward Lampedusa Island on 265 m depth bottoms. The individual was a maturing female of 133 mm dorsal mantle length and 342 g total weight. Ovary appeared whitish, weighed 4.30 g, with up to six clusters of oocytes whose size ranged between 0.1 and 2.4 mm.

Keywords: Tremoctopus violaceus, fecundity, Strait of Sicily

Introduction

Tremoctopus violaceusDelle Chiaje, 1830 is an epipelagic octopus distributed in Atlantic Ocean, Caribbean and Mediterranean seas [1,2,3]. Although the species was considered as "rare", its presence is well documented along the Italian coasts. In the last decades, stranded individuals were reported in the Strait of Messina [4]. A particularly abundant catch was reported by purse-seine in the Northern Tyrrhenian Sea, along the coast of Piombino (Leghorn) [5]. The same authors reported the occurrence of other individuals in the waters around the Tuscan island of Giglio and Sardinian coast, off Olbia. The species presence in Italian waters is indirectly documented from a study of swordfish stomach contents caught in the Southern Adriatic Sea [6]. Recently, a live, mature female, brooding egg masses at the base of the first arms, was photographed in the superficial water off the island of Ponza (Central Tyrrhenian Sea) [7]. The species has not been previously reported from the Strait of Sicily [8], though an interesting study about reproductive aspects of T. violaceuswas recently conducted in Aegean Sea [9].

Material and methods

The specimen was collected by the trawler M/P Salvatore Caterina of Mazara del Vallo ?eet, trawling a deep water pink shrimp fishing ground (265 m depth), at about 34°45'00 N and 12°57'00 E. The specimen was preserved in formol 4% and the main morphological features were measured [10]. The sex was determined, the reproductive system removed, and the ovary weighed (0.01 g) to estimate the potential fecundity (the oocyte number in the ovary). In particular, three oocyte samples of 0.050 g were taken from three different parts of the gonad (upper, central and lower) in order to have a better representation of the whole ovary. Then, in each ovarial sample, all the oocytes were measured by stereo-microscope under 16x magnification (longest diameter, μ) and counted to provide the oocyte size distribution.

Results

The external morphology and the colour pattern of this individual agree with the description of literature [2] and the main morphological data are reported in Table 1. The individual, weighting 342 g, was a maturing female without ripe eggs in the oviduct. The ovary weighted 4.30g,representing the1.3% of the body weight. The estimated number of oocytes was 125,500 with a predominant group of tiny oocytes (No = 66,500, 53% of the total oocyte stock) ranging between 0.1 and 0.6 mm (modal size: 0.4 mm). Five consecutive clusters of maturing oocytes were present. Their numbers were estimated as 23,150 (modal size: 0.7 mm), 12,150 (1.0 mm), 14,000 (1.3 mm) 6,500 (1.6 mm) and 3,200 (1.9 mm) (Fig. 1).

Discussion

The estimated potential fecundity of the specimen collected falls within the range of values reported in literature [9] (100,000-300,000 eggs depending on female size). The longest egg size resulted very close to that found in the eastern Mediterranean [9] (2.4 mm in the Strait of Sicily, 2.2 mm in Aegean sea) and larger than those reported for the western basin [11] (up to 1.5 mm).

Previous reports documented maturing specimens in May-August, but the present female was caught in January. Furthermore, the presence of several batches of maturing oocytes agreed with the reproductive pattern of the species, classified as "intermittent and terminal spawning" [12].

Table 1. Main morphological features of the female of Tremoctopus violaceuscaught in the Strait of Sicily (lengths in mm).

Dorsal mantle length	133	Arm length III	98
Mantel width	88	Arm length IV	135
Head length	40	Funnel length	20
Head width	70	Funnel width	23
Eye diameter	12	Gill length	33
Arm length I	155	Gill lamellae number	13
Arm length II	250		

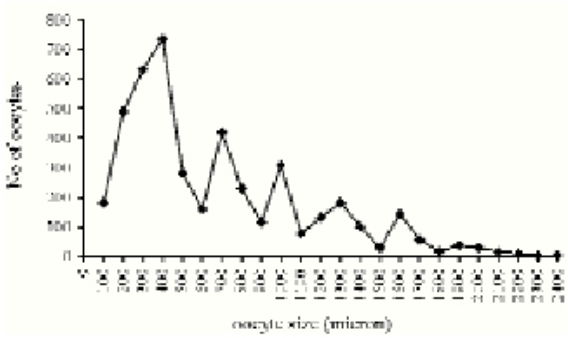

Fig. 1.Tremoctopus violaceus-Oocytes size distribution.

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