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Black scorpionfish, *Scorpaena porcus*, is the most abundant species of Scorpaenidae family along the eastern Adriatic coast. It lives on the bottom, at small depths. Therefore this species is an important fishing object of different coastal fishing gear, particularly trammels and "strasin". In the 1982-1988 period these fish made up 35.6% of the number and 28.7% of the weight of fishes occupying the top position (JARDAS and PALLAORO, 1989). After these authors their proportion in catches showed an increase trend in the 1962-1982 period.

**Material and methods**

Fish age and growth was studied from a total of 377 black scorpionfish specimens caught by trammels along the Croatian Adriatic coast between September 1986 and December 1990, mainly in summer (213 individuals) during intensive spawning. Fish length was 58-300 mm (Lt), weight 13-585 g. Age was determined by otolith reading.

**Results**

Fish age from the collected material was 1 to 11 years. The fish of 2-4 years of age were best represented (59.4%). (Table 1). Mean length and weight were determined for each age group (Table 2). FORTUNATOVA (1949) obtained considerably lower mean lengths for all estimated ages (1-6), particularly for the first three to four years of these fish from the Black Sea (Sevastopol region).

Table 1.- *Scorpaena porcus* - Size and estimated age of 377 specimens studied.

LT (MM)	ESTIMATED AGE											N
	1	2	3	4	5	6	7	8	9	10	11	
50 - 58	1											1
60 - 68	5											5
70 - 79	1											1
80 - 89	3											3
90 - 99												
100 - 109		2										2
110 - 119		5										5
120 - 129		17										17
130 - 139		36										36
140 - 149		4										4
150 - 159		25										25
160 - 169		37										37
170 - 179		11		4								15
180 - 189		2		22								24
190 - 199		11		26								37
200 - 209		1		18								19
210 - 219				4								4
220 - 229				17								17
230 - 239				4								4
240 - 249				14								14
250 - 259				6								6
260 - 269				1								1
270 - 279				1								1
280 - 289				1								1
290 - 299				1								1
300 - 309				1								1
N	10	64	75	85	36	35	21	17	13	11	10	377
Z	2.6	17.0	19.9	22.5	9.5	9.3	5.6	4.5	3.4	2.9	2.6	

Table 2.- *Scorpaena porcus* - Average length and weight per age.

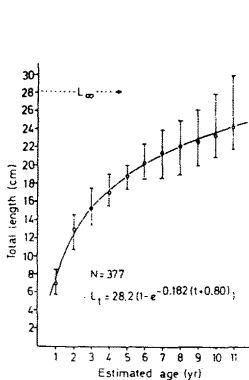
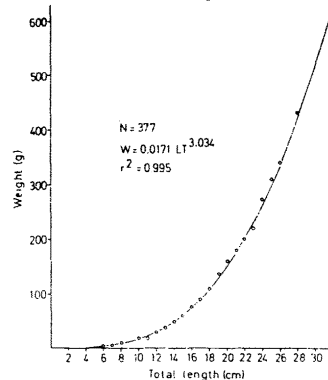
Age	1	2	3	4	5	6	7	8	9	10	11
$\bar{X}_{Lt}$ (cm)	6.99	12.96	15.28	17.15	18.94	20.39	21.46	22.21	22.28	23.51	24.30
$\bar{X}_W$ (g)	7.9	39.9	61.3	93.8	131.8	168.4	191.4	222.4	246.9	262.3	289.5

Values of growth parameters after von Bertalanffy's growth equation, obtained from Table 2 for both sexes together were:

$$L_{\infty} = 28.2 \text{ (cm)} \quad K = 0.182 \quad t_0 = -0.80$$

Characteristic growth curve obtained from the above values is shown in Fig. 1.

The length (Lt cm) weight (g) relationship for both sexes together gave the equilibrium constant  $b = 3.034$ , pointing to isometric growth. Characteristic length-weight relationship curve is shown in Fig. 2. Condition factor obtained from this relationship was  $c.f. = 1.878$ .

Fig. 1.- *Scorpaena porcus* - growth curveFig. 2.- *Scorpaena porcus* - Length - weight relationship curve**REFERENCES**

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The unihorn octopus *Scaergus unicolor* Erbigney, 1840, occurs more frequently in the Sicilian Channel (Central Mediterranean Sea: JEREB & RAGONESE, 1990) than in other areas of the Mediterranean (MANGOLD & BOLETZKY, 1987) where the species was firstly described and is considered endemic (MANGOLD & BOLETZKY, 1988).

At Mazara, this species is well commercialized even though its economic value remains inferior to that of other octopuses (JEREB & RAGONESE, 1990; RAGONESE & JEREB, 1990). Local fisherman call it "purpu ricciu" ("curly octopus") due to its main characteristic feature, i.e. the presence of round cutaneous papillae (or warts) all over the mantle.

Systematically, however, the species differs from all other octopuses for the typical hectocotylus (with a large deep-spoon chaped ligula) and a very long diverticulum of the penis.

In this note the descriptive features of adult specimens of both sexes for the Sicilian Channel population are reported for the first time. The gonadic apparatus in different developmental stages is also described in both males and females.

Observation come from experimental trawl surveys carried on by our Institute (see LEVI, 1990, research program TRAWL, for further details) combined with ancillary information collected among local fishermen.

In both male and female specimens the characteristic papillae are very prominent on the dorsal mantle surface, where they seems to form linear ridges. They are almost undistinguishable on the ventral surface, which appears smooth and has a rather uniform whitish color even in the live animals. The dorsal mantle coloration is very variable, going from reddish brown with golden-yellow reflection and greenish blue iridescence to green blue dominant tones with reddish brown spots.

The mantle is oblong and compact, with a distinguishing peripheral ridge that encircles the lateral edge, dividing the dorsal from the ventral surface and forming the characteristic lateral pallial fold (VOSS, 1951; SANCHEZ and ALVAREZ, 1988).

The head is narrower than the body, with slightly prominent eyes and a bifid cirrus over each eye. The arms are subequal except the III left one in adult male, which is shorter and bears the extocotylus (but see JEREB *et al.*, 1989, about some anomalies observed).

These morphological characteristic and the coloration observed, agree with other descriptions of the genus which is considered to be monospecific (ROBSON, 1929; VOSS, 1951; MANGOLD & BOLETZKY, 1987; SANCHEZ & ALVAREZ, 1988).

Some differences are detectable in the habitus of the two sexes: females exhibit a more delicate structure than males, with a narrower and a more elongate mantle, thinner arms and much smaller proximal suckers.

The enlarged proximal suckers in adult males which characterize also three other Mediterranean octopuses, namely *Octopus vulgaris*, *O. macropus* and *O. salutti*, seem to have a significant role in reproductive behaviour (MANGOLD & PORTMANN, 1964), being displayed in front of the female as a clear sign that the other sex is present.

The gonadic apparatus generally conforms to the octopus-like scheme. In immature males the testis is more or less bulky, with a scarcely visible spermatophoric gland and Needham's sac; the penis and its diverticulum are very thin and translucent. The maturing testis is bulkier with the spermatophoric gland already evident as well as Needham's sac. However, only few, scarcely-formed spermatophores are present; the penis and its diverticulum are thicker and opaque. At the fully mature stage the testis is very bulky, the spermatophoric gland is fully developed and Needham's sac contains well developed spermatophores (up to 12-14 with a length range of 30-52 mm) which can also be found in the diverticulum and in the penis.

Immature females have a hemispheric milk-white ovary; the proximal part of the oviducts is thin, filiform and almost transparent, and the oviducal glands are very small; the distal oviducal parts are slightly thicker. The maturing ovary occupies a large portion of the pallial cavity (overlapping the oviducal glands when the mantle cavity is open), and it is light straw-colored, with the eggs (2.2.5 mm long) visible through the transparent ovarian membrane.

No morphological variation was observed between *Scaergus unicolor* specimens coming from the different "subareas" investigated. This is in good agreement with the existence of a "unit" population of the unihorn octopus in the Sicilian Channel.

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