

SEPIA OFFICINALIS L. IN THE COMMERCIAL TRAMMEL NET CATCHES IN THE NORTH ADRIATIC IN AUTUMN-WINTER

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Abstract

Sepia officinalis made 7.1% and 11.7 % of the total commercial trammel net catches in the North Adriatic during autumn-winter. Mantle length ranged from 8.2 to 23.2 cm (mean = 13.9 ± 1.83 cm) and weight from 84.0 to 1,054 g (mean = 300.7 ± 115.8 g). Two dominant length classes were identified. The value of the exponent b of the length-weight relationship was 2.5559.

Keywords: cuttlefish, trammel net catches, North Adriatic

Introduction

Generally, cuttlefish, *Sepia officinalis*, is east Atlantic and Mediterranean demersal, neritic species occurring predominantly on sandy and muddy bottoms from the coastline to about 200-250 m depth, but most abundant in the upper 100 m (1, 3-6). It is one of the most abundant Adriatic cephalopod species, occurring in the catches of different inshore and offshore fishing gears all over the year (1-3), particularly in warmer months (1, 2) and at depths less than 60 m (2, 3). Seasonal offshore-inshore (vertical) migrations have been reported for both Mediterranean and Adriatic stocks (1, 3, 5, 6). In early spring, Adriatic individuals leave deeper water, where they spent the winter at 50-60 m depth, to migrate into shallower ones (10-30 m) for spawning (in April-July). The North Adriatic is one of the most important cuttlefish fishing areas (1).

This study deals with commercial trammel net ("listarica") fishing in the North Adriatic during autumn-winter in respect of quantitative participation, length frequency distribution, age, and length-weight relationship of cuttlefish in the catches.

Material and methods

Samples were collected during December 2002 and January-February 2003 from 51 commercial trammel net (so-called "listarica", operating only in North Adriatic, for fishing *Solea* catches (6,057 nets were used) in the North Adriatic over an area of 410 km² along the west Istrian Peninsula north of 45° 23', Lovrečica Cove, to the territorial sea frontier in Piran Bay and at depths down to 30 m. The construction characteristics of the trammel nets were: length 18-20 m, depth up to 1 m, mesh bar length of external and internal panels 160 and 40 mm respectively. Overall, 225 specimens were analysed. Mantle length (ML) was measured to the nearest 0.1 cm and weight to the nearest 1 g. The commonly used length-weight relationship was applied: $W = a (ML)^b$. Age was determined on the basis of length frequency distribution.

Results and discussion

Overall, 48 fish, 5 edible crustacean (Stomatopoda, Decapoda) and 3 cephalopod species were identified. Two species dominated the catches, both in terms of numbers and weight (W): common sole (70.9% and 70.4%) and cuttlefish (7.1%, and 11.7%). CPUE (catch per one net) was $No\ ind. = 0.82$ and $W = 0.17$ kg for whole catch, $No\ ind. = 0.58$ and $W = 0.12$ kg for common sole, and $No\ ind. = 0.06$ and $W = 0.02$ kg for cuttlefish. Consequently, low fishing efficiency of "listarica" trammel nets in relation to cuttlefish was established.

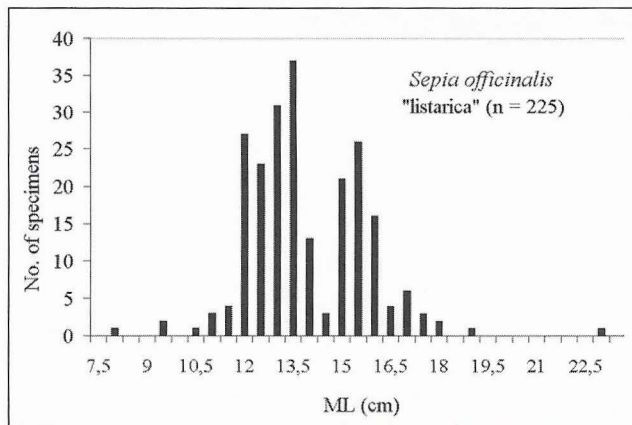


Fig. 1. *Sepia officinalis*: Length frequency distribution.

Cuttlefish ML and weight ranged from 8.2 to 23.1 cm (mean = 13.9 ± 1.83) (Fig. 1) and from 84 to 1,054 g (mean = 300.7 ± 115.1 g).

The slope (value b) of the length-weight relationship (Fig. 2) was $b = 2.5559$ ($SE_b = 0.073$) and differed significantly from 3 (t -test, $t = 7.15$, $t_{crit} = 2.576$, $p < 0.05$), as it has been reported in previous studies (2, 4), indicating negative allometric growth.

The ML frequency distribution exhibited two main modes: at 13.5 and 15.5 cm.

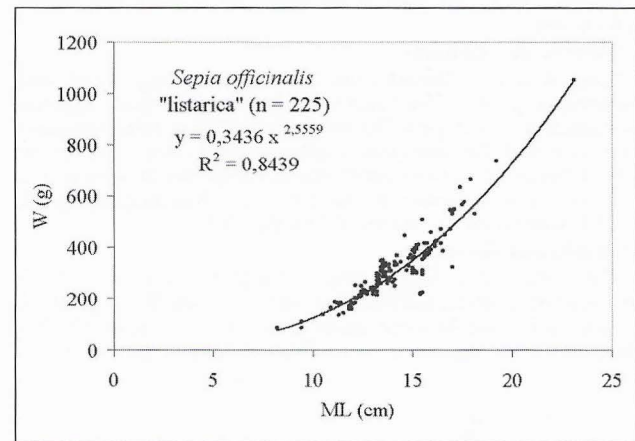


Fig. 2. *Sepia officinalis*: Length-weight relationship.

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