

POT FISHERY OF *NEPHROPS NORVEGICUS* (L.) IN THE CHANNELS OF THE EASTERN-CENTRAL ADRIATIC

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Abstract

Catches of pots used for Norway lobster (*Nephrops norvegicus*) fishery in Brac and Hvar channel in the central Adriatic Sea during different seasons were analysed. Data on fishing effort, qualitative and quantitative composition of total catch of 13 800 pot deployments, sex ratio, length-weight relationship and length distribution of Norway lobster were collected. Based on actual fisherman records of *N. norvegicus* catch long term trend was obtained.

Keywords: *Decapoda, Central Adriatic Sea, Demersal, Fisheries*

Introduction

Norway lobster is of major commercial importance in Croatia whose catch according to Croatian statistical data in 2013 amounted 300 tons. Earlier investigations of distribution and abundance of Norway lobster in Adriatic Sea [1] have shown it's widespread in the northern and central Adriatic where it's exploited with pots and bottom trawl nets at open sea and channel areas. According to the legislation total number of pots per license is 300. The Norway lobster is mainly targeted by bottom trawlers whose selectivity is poor. Due to the unselectivity of trawl alternative fishing methods targeting *N. norvegicus* like pot fishing are an important area of research.

Material and methods

The research was carried out in the Brac and Hvar Channel (Easter-Central Adriatic), at a depth of 69-90 meters from March till August 2014. All pots were immersed within 1.5 NM from the coast, and the period of immersion was usually one day. The pot's frame is made of iron wire with a diameter of 5 mm, covered by netting with mesh size of 40 mm. Dimensions of used pots are: length 70 cm, width 45 cm and height 27 cm. Pots were deployed in 10 series of 30 pieces and the distance between every single pot was 25 m. The pots were baited with horse mackerel and sandy swimming crab (*Liocarcinus depurator*) which is also a by-catch in pot fishery. Data of fishing effort, qualitative and quantitative composition of total catch of 13 800 deployed pots were standardized as average catch in kilograms per 100 pots. All sampled individuals of Norway lobster (N=2866) were sorted according to sex. TL for each specimen was measured as the distance from the tip of the rostrum to the end of the telson to nearest 0.1 cm using a ruler. Based on actual fisherman records of *N. norvegicus* catch from 1988 till 2015 long term trend was obtained.

Results and discussion

Average total catch in the investigated period was 4.1 kg per 100 pots. The proportion of Norway lobster within total catch was 54,76% while the by-catch was dominated by nursehound (*Scylliorhinus stellaris*) and octopus (*Octopus vulgaris*), 10,95% and 8,29% respectively. Average catch of Norway lobster ranged from 1.41 in March to 2.86 kg in April. Earlier studies [2] showed similar data of catch composition but average catch of Norway lobster was 2.94 kg. Total length of all analyzed specimens ranged from 9.4 to 21.9 cm (14.65 ± 2.09) and the sex ratio was 1:1.1 in favor of females. Dominant length class was 13.5 cm (9.68%). TL of females ranged from 9.4 to 21.6 cm (14.24 ± 1.92), while TL of males ranged from 9.7 to 21.9 cm (15.10 ± 2.17). Females were mostly dominant in length class 13.5 cm (12.10%), while males within length class 14.5 cm (9.91%). There were no specimens with TL less than 9.0 cm (immature specimens), which proves high selectivity of this fishing. The length-weight relationship of analysed specimens showed positive allometry ($b=3.2604$). Similar growth pattern has been estimated in other areas of Adriatic Sea [3]. The average catch of *N. norvegicus* per unit of fishing effort shows a negative historical trend (Fig.1), as it points to a significant decline in 2001 while from 2004 until today ranges from 2.7 to 3.4 kg per 100 pots.

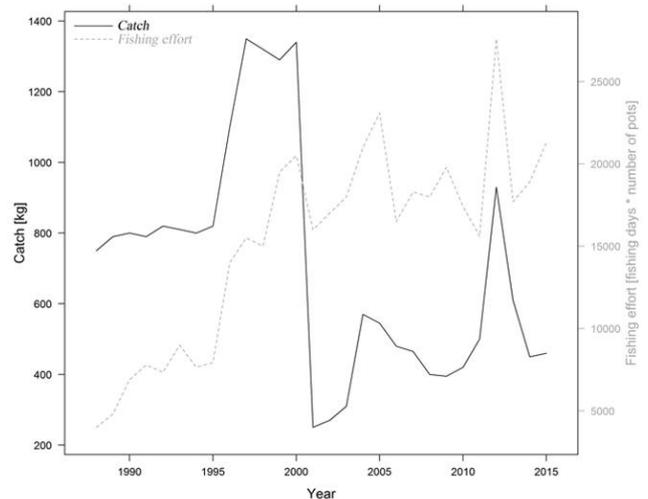


Fig. 1. The average catch of Norway lobster and fishing effort in Brac and Hvar channel based on actual fisherman records during the past.

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