

SOME NOTES ON THE ANALYSES OF SARDINE, ANCHOVY
AND SPRAT CATCHES REALIZED BY PELAGIC TRAWL

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Abstract

Sardine, anchovy and sprat catches realized by pelagic trawl in the extreme north of the Adriatic were sampled for length and sex frequency distribution.

The data on the spatial distribution of these fish species are given, too.

It is discussed whether fishing by this kind of net has any effect on selectivity between sexes of pelagic fish populations in this area of the Adriatic.

Résumé

On a analysé les longueurs et le sexe de la sardine, de l'anchois et du sprat, pris au moyen du filet pélagique dans le Nord de l'Adriatique. On a présenté les données sur la distribution des espèces sus-citées. On a discuté l'influence de ce genre de pêche sur la sélection des sexes dans la population des poissons pélagiques dans ladite région de l'Adriatique.

The possibility to introduce pelagic trawl in fishing of a small pelagic fish was explored in the northern Adriatic the samples of sardine, anchovy and sprat were collected and then subjected to analyses.

Pelagic trawl for two boats was used. It was of modified Italian "Larsen" type which had proved to be the most suitable one.

Catches analyses results showed the following:

Sardinia pilchardus Walb.

Fish length ranged from 13.6 - 18.8 cm, with the averages 14.9 (November) - 16.6 cm (May). Length fluctuations amplitudes were low, except for the sample of November.

Length frequency distribution curves were unimodal and symmetric.

Dominant modal lengths were at 16 cm (summer catches) except for the autumn catches with dominant mode at 14.5 cm.

Engraulis encrasicolus (Linn.)

Length frequency distribution of the summer samples showed a 12.0 - 16.5 cm fish group, that of autumn samples a 13.2 - 16.4 cm fish group.

Means varied from 13.1 - 15.9 in summer and from 14.7 - 14.8 in autumn. Variations amplitudes were rather prominent in the two catches of July and August.

Length frequency distribution curves were unimodal and symmetric. Dominant modal lengths were at 13.0-14.5 (those of autumn) Sprattus sprattus (Linn.)

Fish length range was 14.4 - 14.5 cm. Lengths averaged 11.5 - 12.4 cm in summer, and 12.0 - 12.5 cm in autumn.

Considerable length variations amplitudes were noted in only one of the catches.

Length frequency distribution curves were unimodal and symmetric, with dominant modal lengths at 11.0 - 12.5 cm.

Following conclusions have been drawn:

No prominent aberrancy was noted of the sex ratio in all three species.

Large sardine prevailed in the catches throughout the period of investigations.

No selectivity between sexes was noticed to be due to pelagic trawl fishing. If it had occurred it would have been of a considerable importance to the total pelagic fish stock.

Of a particular importance it may be for anchovy and sprat because a lot of accounts given earlier on purse-seine (light fishing) showed quite the opposite sex ratio. We may presume that fish concentration as a whole is caught by pelagic trawl.

Our data and those of G a m u l i n (1964) on sardine, anchovy and sprat fishing grounds distribution agree with only few exceptions. Results correction refers partially to anchovy distribution. Namely, larger catches of this fish species had been previously realized in the area adjacent to Istrian coast, not farther than 1.5 Nm off Rovinj. Some corrections could, also, be made of the data on sprat distribution. Sprat were found 10-12 Nm off the Istrian coast as early as summer.

Finally we are encountered with two fundamental questions: first, what causes large sardine to inhabit the Istrian waters area and how to protect fish resources in this small Adriatic area by an effective control of the pelagic trawl uses.

References

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