

On the occurrence of young *Sardinella aurita* in the Adriatic Sea

by

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Summary

Young *Sardinella aurita* occurred in commercial quantities together with sardine and anchovy in the middle Adriatic in spring and early summer 1974. Specimens 13 cm long prevailed. This is the first note of young *Sardinella aurita* in the Adriatic. It is supposed that the same has not achieved yet its first maturity. The numerous occurrence of the young *Sardinella aurita* might be a result of some environmental factors changes.

Résumé

Au cours du mois de mai et de juin de l'année 1974 est apparue dans l'Adriatique moyenne, avec la Sardine et l'Anchois, la jeune *Sardinella aurita* (Sardinelle) en quantités plus importantes. Les spécimens de 13 cm de longueur y prédominaient. C'est la première fois que l'on notait la jeune Sardinelle dans l'Adriatique. On suppose qu'elle n'a pas encore atteint sa maturité sexuelle. L'apparition en masse de la jeune Sardinelle peut refléter les changements de quelques facteurs du milieu.

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Young and immature *Sardinella aurita* occurred in commercial catches of sardine and anchovy in the middle Adriatic in May and June.

Sardinella aurita is unknown species of pelagic fish in the Adriatic. From time to time it was found some adult specimen of this fish in catches of sardine but it happened rarely. Therefore, the occurrence of young *Sardinella aurita* in bigger quantities is important, for its distribution seems to be bounded by longitude 40° to the north [BEN-TUVIA, 1959].

Size composition shows that the specimens of 13 cm dominated (fig. 1 A). Average length of fish in catch was 13,10 cm during 24.5.74, and 13,14 cm during 13.6.74. The smallest specimen was 12 cm and the largest one was 15 cm LX'.

Sardinella aurita was distributed along the coast, bays, channels and in the open Adriatic in the mentioned period and later (fig. 1 B). Judging from the first observations on gonads they were undeveloped. It seems to be possible that the *Sardinella aurita* from the Adriatic is an immature fish according to that which has been known by now about first maturity of this fish. It is found out that spawning of *Sardinella aurita* occurs in waters of high temperatures which are above 20°C, usually during the hot summer months (BEN-TUVIA, 1959, BINI, 1970). The eggs and larvae of this fish were found in the Mediterranean in summer and early autumn (BEN TUVIA, 1959). It could be supposed that *Sardinella aurita* hatched in September-October, when average sea temperatures are about 21-22°C in the Adriatic, but it did not achieve its maturity by May-June.

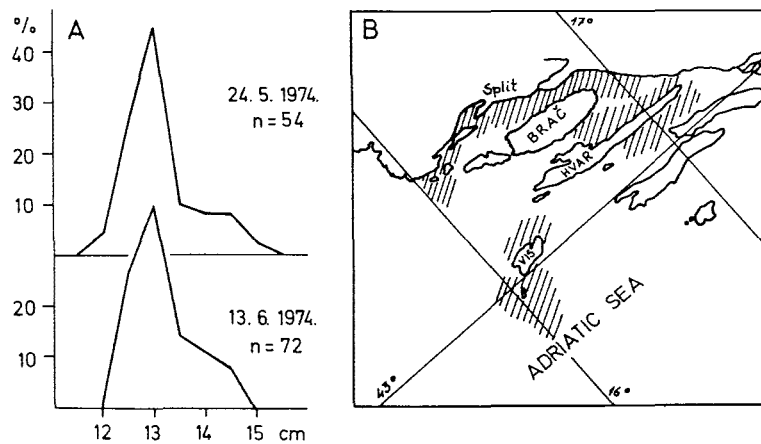


Fig. 1. The young *Sardinella aurita* in the Adriatic:
A - frequency distribution, B - area of distribution

It has been completely unknown the spawning ground in the Adriatic. The eggs and larvae were not found in the stations of ichthyoplanktons in the Adriatic [KARLOVAC & REGNER, *personal contact*]. It can be hardly supposed that the young *Sardinella aurita* immigrated from the Mediterranean to the middle Adriatic. It is more real to suppose that some changes of environmental factors were convenient to its development in the Adriatic.

References

- BEN-TUVIA (A.), 1959. — Synopsis of biological data on *Sardinella aurita* of the Mediterranean Sea and other waters. Proc. of the World Scientific Meeting of the Biology of Sardines and Related Species. Vol. II. pp. 287-382.
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