

OBSERVATION ON AGE AND GROWTH OF SARDINE, *SARDINA PILCHARDUS* (WALB.)
IN THE MIDDLE ADRIATIC

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ABSTRACT: *This paper presents the age-length data of sardine specimens (955) from the middle Adriatic. Growth curve was computed in function of total length according to von Bertalanffy's equation. It was determined that $L_{\infty} = 20.5$ cm, $K = 0.46$ and $t_0 = -0.5$*

RESUME: *Ce travail présente les données sur l'âge et la taille des exemplaires de la sardine de l'Adriatique centrale. La courbe de croissance a été calculée en fonction de la taille totale d'après l'équation de von Bertalanffy. On a déterminé que $L_{\infty} = 20.5$ cm, $K = 0.46$ et $t_0 = -0.5$.*

The purpose of this paper is to present growth data on sardine from the middle Adriatic. Such data are necessary to understand the life history and population dynamics of this most important fish species of Yugoslav commercial fishery.

A total of 955 sardine specimens were collected from the pelagic catches between September 1979 and March 1981. Data on sardine length referring to their total length are expressed in centimetres. Alizarine stained otoliths were used for aging the sardine. They were viewed by binocular microscope using reflected light and black background. The von Bertalanffy's growth equation was used to obtain the values of growth parameters.

Growth curve computed in function of total length according to von Bertalanffy's equation is:

$$l_t = 20.5 [1 - e^{-0.46(t + 0.5)}]$$

and shows greater length increment in the first and second year of age. After that, sardine growth flattens out and stabilizes at the sixth year of life.

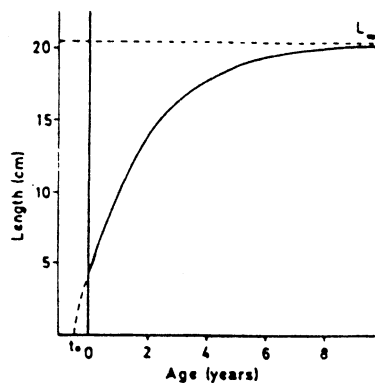
The estimates of $L_{\infty}=20.5$ cm correspond closely to the maximum observed length (20.3 cm). Also the value of $t_0=-0.5$ corresponds closely to the hatching period of the eggs which indicates that this parameter has been correctly estimated.

Values of asymptotic length ($L_{\infty}=20.5$) and growth coefficient ($K=0.46$) are very similar to those which were obtained by BEVERTON (1963) on the basis of data from 1946 to 1952 (MUŽINIĆ, 1954) for the sardine from eastern Adriatic ($L_{\infty}=19.0$ cm, $K=0.45$). In addition, similar values were recorded for sardine from western Mediterranean. LARRAÑETA (1960) obtained the values of $L_{\infty}=20.0$ cm and $K=0.45$, and ANDREU *et al.* (1950) the values of $L_{\infty}=20.5$ and $K \approx 0.5$.

The analysis of sardine catches showed that catch samples included sardine of age 1+ to 8+ with the highest proportion of the ages three and four.

REFERENCES

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Growth curve of sardine