

THE FIRST MEDITERRANEAN RECAPTURE USEFUL FOR GROWTH STUDIES, OF TAGGED SWORDFISH

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SUMMARY

A swordfish, belonging to a group of 35 juveniles (60-80 cm LJFL) tagged in the autumn of 1994, was recovered on September 19, 1997, in the western Ligurian Sea, in a location a few miles from the point of release. This fish was an adult male, which grew 54 cm during the 33 months at large, with an average growth rate of 1.59 cm per month. This datum represents a good validation of previous growth studies in the area.

RÉSUMÉ

Un espadon appartenant à un groupe de 35 juvéniles (60-80 cm de LJFL) marqué en automne 1994 a été repris le 19 septembre 1997 dans l'ouest de la Mer Ligure, à quelques milles de l'endroit où il avait été remis à l'eau. Il s'agissait d'un mâle adulte, qui avait grandi de 54 cm, soit à rythme moyen de croissance de 1,59 cm par mois. Cette information constitue une bonne validation des études antérieures sur la croissance dans la zone.

RESUMEN

Un ejemplar de pez espada, perteneciente a un grupo de 35 juveniles (60-80 cm LJFL) marcado en el otoño de 1994, fue recuperado el 19 de septiembre de 1997 en el oeste del Mar de Liguria, a pocas millas del lugar en que fue marcado. Se trataba de un ejemplar adulto, que había crecido 54 cm en 33 meses, con una tasa media de crecimiento de 1,59 cm por mes. Este dato es una buena validación de otros estudios sobre crecimiento hechos en la zona.

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During the research program "Characterization of large pelagic stocks in the Mediterranean", financed by E.C., 1993 – 1995, a small number of swordfish (N = 35) was tagged and released in the Ligurian Sea with the support of professional fishermen who caught the fishes by longline. For cost constrains and also in order to reduce risks for the operator, the tagging was effected in autumn and addressed to young specimens (0 group, ljl range 60 – 80 cm).

The tags were ICCAT yellow "spaghetti".

Till now only one fish has been recovered, however this datum is interesting because about three years have elapsed from tagging to recovering and, as far as we know, it is the first case of recapture useful for growth studies in the Mediterranean.

The fish was tagged on 13 December 1994 at 43° 45' N, 07° 53' E and recovered on 19 September 1997 by Mr. Natale Ianni, fisherman of Bordighera, in a position only few miles West of the tagging site. As he accepted to delay gutting, a complete biological sampling was possible.

The sex was male; the IGS 0.06; the LJFL at tagging 80 cm (the highest figure for 0 group at time of tagging), the LJFL at recovery 134 cm; the gilled and gutted weight 27 kg with an estimated gain of 25 kg.

The growth in length resulted 54 cm during 33 months, with an average growth rate of 1.59 cm per month.

On the basis of the structure of the anal fin ray, the specimen had an age of 3+.

In a previous study of the growth of swordfish in the Ligurian Sea (Orsi Relini *et al.* 1996) the seasonalized growth functions resulted:

	L_{∞}	K	T_0	W_p	C
Female	193.568	0.306	-0.951	0.543	0.941
Male	157.702	0.4	-1.008	0.491	0.531

and the length at age of male:

1	2	3	4
87.2	110.44	126	136.5

The function was calculated choosing 1 July as average date of births in the Ligurian Sea. If we assign the same birth date to the fish, the length at age 3 + 2 months (September) given by the growth curve is 129.5 cm LJFL.

This fish was at tagging 9.5 cm above the average length and after 3 years has maintained in part this advantage (4,5 cm above the average length) (Fig. 1). Its overall growth during 33 months represent a good validation of the growth function.

References

ORSI RELINI L., PALANDRI G., GARIBALDI F., CIMA C., (1996). Accrescimento e maturazione del pesce spada. Nuove osservazioni in Mar Ligure. *Biol. Mar. Medit.* 3 (1): 352 – 359.

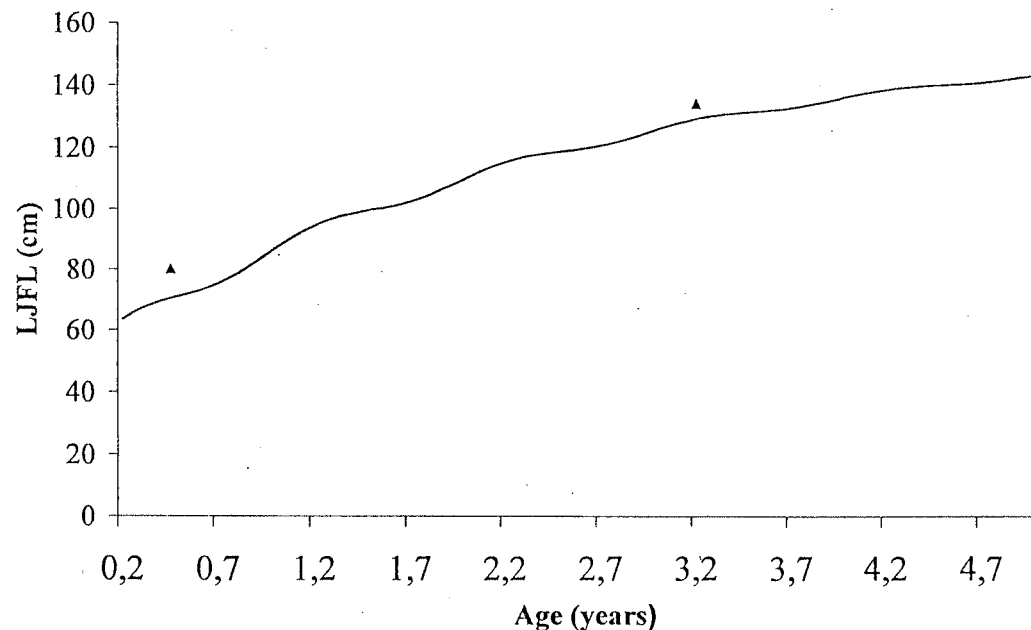


Fig. 1 - Seasonalized growth curve for male swordfish and length at tagging and recovering of the present specimen