

Anchovy and Sardine Eggs and Larvae on the Continental Shelf of the Ligurian Sea (1985-1989)

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Since 1985 the Institute of Marine Environmental Science is carrying on a research on the evaluation of anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilcardus*) stocks by eggs and larvae method (Albertelli et al., 1988).

The areas of interest under study in the Ligurian Sea are its continental shelf and a pilot area located in the Eastern Riviera (Chiavari).

Double-oblique hauls are collected by sets of bongo plankton net at 4 fixed stations located in the pilot area on the continental shelf (between 40 - 200 m depth) every fortnight. Each time on each station transparency of water, water column temperature and weather data are recorded. Every fortnight, in the pilot area, currents are also recorded at the same station at 5, 45 and 75 m depths (Fig. 1). Surface hauls are carried out seasonally, every ten miles, over the continental shelf in water about 100 m deep along the Ligurian coast within 48 hours (Fig. 1).

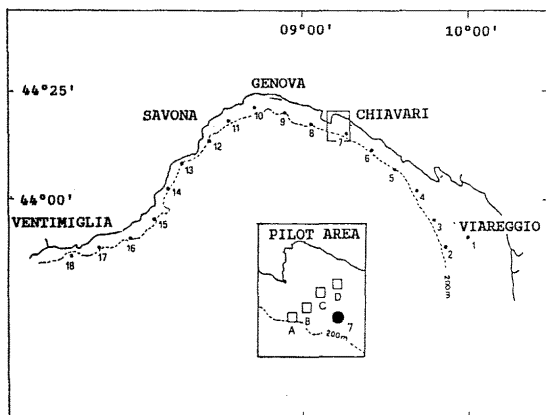


FIGURE 1 - Sampling stations on the continental shelf of the Ligurian Sea and on the Pilot Zone off Chiavari.

The preliminary results have determined the spawning time for anchovy as well as the fluctuations on the eggs and larvae /square metre (Albertelli et al., 1988). Sardine eggs and larvae are present through the years but discontinuously and with low density values.

The biological data concerning 930 samples (Albertelli et al., 1988 a; b; c; 1989) will be examined in relation to some environmental parameters such as "transparency, temperature on the water column and currents, as well as to weather conditions". Some data are presented in the Table 1.

TABLE 1.

STATIONS	EGGS/SM MEAN VALUE ON 48 MONTHS				LARVAE/SM MEAN VALUE ON 48 MONTHS				SURFACE TEMPERATURE IN °C		SECCHI DISK TRANSPARENCY IN METRE	
	ANCHOVY	SARDINE	OTHER FISHES	TOTAL	ANCHOVY	SARDINE	OTHER FISHES	TOTAL	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
A	17.61	1.13	31.33	50.07	27.98	3.91	69.87	100.78	12.5	26.1	5	44
B	16.09	2.13	41.34	59.56	41.87	4.85	112.43	158.18	12.2	26.2	6	41
C	14.63	12.19	69.94	96.78	29.91	7.06	139.40	174.61	11.5	26.6	4	33
D	8.62	10.17	62.71	81.71	24.86	5.26	57.64	86.44	11.8	26.3	3.5	30

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