

Samples of seawater were collected in August 1991, during a cruise with the Oceanographic Vessel *N/O Minerva* (CNR, Consiglio Nazionale delle Ricerche). Sampling was carried out with acid cleaned borosilicate glass bottles at the following depths: 0.2, 5 and 10 meters. Salinity and temperature were recorded by bathysonde CTD ME (Meerestechnik-Elektronik) for all sampling sites. GPS equipment was used for vessel's positioning. Mercury determinations were done on unfiltered samples with the cold vapour technique after preconcentration over gold, with Atomic Fluorescence detection. The analytical methodology for total mercury (Hg-T) and the critical steps (sampling, storage of samples, samples pretreatment, and blank values) were described by MINGANTI *et al.* (1991). The detection limit of the method is 0.2 ng L⁻¹. Reactive mercury (Hg-R) was determined with the same equipment directly on board the ship without any pretreatment of the samples. Accuracy and precision of analytical determinations were evaluated, and results are shown in Table 1.

Table 1. Results obtained for total mercury determination on ORMS-1 Riverine Water Reference Materials for Mercury of the National Research Council of Canada. All results are in ng L⁻¹. Confidence limits (c.l.) are calculated at p% = 95 of confidence level.

Results obtained	Bottle A:	5.1	5.5	5.6
	Bottle B:	6.5	6.2	
	x±c.l.	5.8 ± 0.7		
Certified value	x±c.l.	6.8 ± 1.3		

Sampling sites, together with a summary of Hg-T levels are shown in Figure 1. Increasing levels of mercury are represented with darker shading.

No correlation was found among Hg-T, Hg-R, salinity, temperature, and depth. Median, mean, standard deviation (S.D.), number of samples (n), minimum and maximum values for the parameters considered are reported in Table 2.

Table 2. Summary statistics and number of data for Hg-T and Hg-R (ng L⁻¹), Hg-R/Hg-T ratio, salinity (‰), temperature (°C).

	Median	Mean	S.D.	n	Min	Max
Hg-T	0.7	0.8	0.5	32	0.3	2.3
Hg-R	0.3	0.3	0.2	33	0.2	0.8
Hg-R/Hg-T	0.4	0.5	0.2	32	0.1	1.0
Salinity	38.105	38.133	0.108	21	37.982	38.293
Temp.	24.68	24.79	0.62	21	23.50	25.67

Levels found are lower than those reported by other authors for offshore waters of the Mediterranean. FERRARA and MASERTI (1986) reported values ranging 1-6 ng L⁻¹, with a mean of 4 ng L⁻¹.

Data concerning the outer part of the Estuary of River Krka (Adriatic Sea), reported by MIKAC *et al.* (1990), are lower, ranging 0.9-1.2 ng L⁻¹, at 38‰ salinity. Hg-R is about 90-100% of Hg-T, higher than what found in this work.

Data concerning Hg-T and Hg-R levels in offshore water of the Ligurian sea were reported by COPIN-MONTEGUT *et al.* (1986). No differences were reported between Hg-T and Hg-R, and mean level about 2.5 ng L⁻¹.

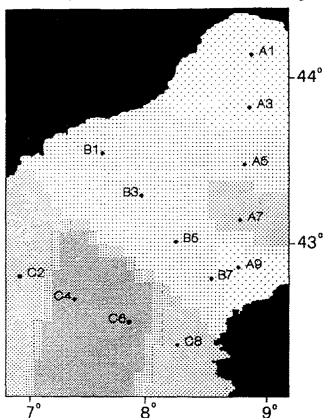


Figure 1. Sampling sites in the Ligurian Sea. Increasing levels of mercury are shown with darker shading

FILEMAN *et al.* (1991) in surface water samples from the Dogger Bank and the Outer Silver Pit (North Sea), reported a Hg-T mean level (as Hg-Dissolved + Hg-Particulate) of 0.4 ng L⁻¹, with 70% of Hg-R.

COSSA and FILEMAN (1991) in unfiltered surface waters of English Channel, reported a Hg-T concentration of 0.2 ng L⁻¹ in Mid Channel, rising to 0.6 ng L⁻¹ inshore. These values are in good agreement to the most recent measures in surface oceanic waters (Hg-T ≤ 0.5 ng L⁻¹), as reported by GILL and FITZGERALD (1987) and FILEMAN and HARPER (1989).

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