CHLORINATED HYDROCARBONS IN MUSSELS FROM ALGIERS' BAY

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Built around a commercial harbour, Algiers is a large metropolitan area with many industries. Urban and industrial wastes are directly discharged in the harbour and the bay (fig. 1). This bay has already been described by many authors (ASSO, 1980 and others). During the winter 1991, two mussels species (*Mytilus galloprovincialis* and *Perna perna*) were selected in order to assess PCBs (arochlors 1254 & 1260), DDT, DDD, DDE, aldrin, gHCH and HCB levels. Two stations are sampled in the harbour (st. 1 & 2) and one at Bordj-el-kiffan (st. 3). A fourth one (st. 4) in Mellah lagoon (east side of Algeria) (fig. 2), is used as a potential reference sector. Analysis is held using GC with electron capture detector, following the UNEP/FAO/IAEA protocole (1982). Intercalibration exercises are made on two reference materials coded 351 and MAB3/OC, (IAEA, Monaco). Hexan extractible organic matter (HEOM) is also estimated in all the samples, in order to see how it is related to the acccumulation of these compounds.

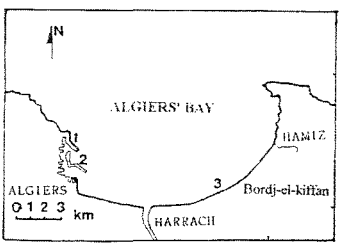

Fig. 1 : Algiers bay; sampling stations.

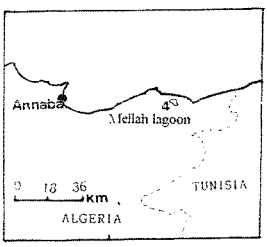

Fig. 2 : Mellah lagoon.

A review of data, expressed in ng/g wet weight, is given in table 1; results in dry weight are shown in fig. 3.

Station	Specie	PCBs	DDTs	Aldrin	γHCH	HCB
1	M.galloprovincialis	51.5	20.2	0.76	0.27	0.05
	P. perna	40.3	13.2	0.21	0.08	0.57
2	M. galloprovincialis	15.5	11.7	0.51	0.30	ND
	P. perna	76.2	28.5	0.70	0.51	0.07
3	M. galloprovincialis	12.2	4.3	0.06	0.16	0.01
4	M. galloprovincialis	4.0	3.0	ND	ND	0.02

Table 1 : Concentrations of chlorinated hydrocarbons (ng/g - wet weight) in the mussels *M. galloprovincialis* and *P. perna*.

In comparison with levels measured by CHOUIKHI *et al.*, 1988 in the same area, concentrations show an increase for PCBs and DDTs in the harbour stations, and are lower in the east side of the bay (st. 3).

As predicted, concentrations detected at Mellah lagoon, which is a protected area, caracterise a reference sector.

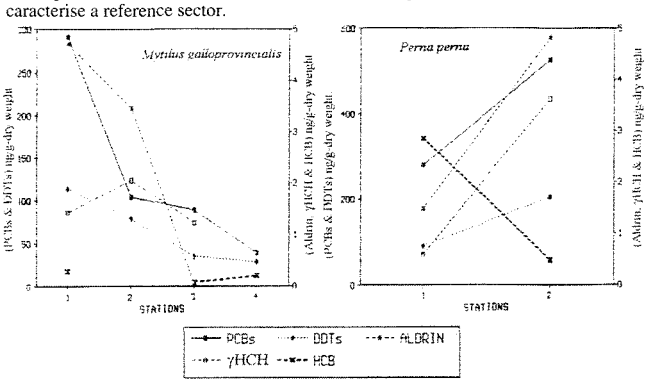

Fig. 3 : Variations of chlorinated hydrocarbons in mussels from Algiers' bay and Mellah lagoon (ng/g- dry weight).

DDTs/PCBs ratios are less than one; this general trend may confirm the predominance of industrial inputs in the study area, where DDT appear to be introduced formerly (AGUILAR, 1984).

Aldrin and HCB are positively correlated to HEOM contents in the mussel *P. perna*. For the other chlorinated hydrocarbons the tendency is similar but not statistically significant. On the other hand, *M. galloprovincialis* presents significant correlations between these chemicals, especially DDT and PCBs, and the percentages of HEOM.

The differences noticed in the accumulation of these compounds between *M. galloprovincialis* and *P. perna* can be attributed to the chronological differences in their reproductive cycles.

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