

AQUATIC QUALITY AND RESIDUES OF PERSISTENT ORGANIC POLLUTANTS (POPs) IN THE COASTAL AREA OF CALLAO, PERÚ

Cabello Torres, R. J. and Guadalupe Sánchez Rivas

The Peruvian Sea Research Institute carried out a prospection in the coastal area of Callao in December 2004, to evaluate the parameters of aquatic quality and residues of organic polluting agents, according to the Institutional Program and the Project of Monitoring and Control of the Southeast Pacific and Panama. Sample of bivalve mollusks (*Semimytilus algosus* and *Argopecten purpuratus*) were collected between the islands San Lorenzo and El Fronton. To study the aquatic quality, the authors used three guidelines; a) Protocol for Monitoring Receptor Bodies and Effluents MIPE/2001 (Peruvian Fishery Ministry 2001), b) Referential Methods for Studies of Marine Contamination N° 20: UNEP/COI/IAEA 1992, and c) Guidance GPM (UNEP, 2004) for the evaluation of POPs residues. The environmental parameters showed a state of coastal upwelling. The human activity discharged a little significant load of total coliforms (up to 150.000 NMP/L) and thermotolerants (up to 20.000 NMP/L) focused in the coastal line. Also a greater frequency of DDT residues as metabolites has been registered: p'p'DDE (<30,0 ng/g), p'p'DDD (<20,0 ng/g), p'p'DDT (<6,0 ng/g) in *Argopecten purpuratus*. In spite of it, the concentrations were lower than referential values established in the FDA (<0,3 ppm) (Source NOAA: Technical Memorandum OMA, 1990).

RESIDUES OF PERSISTENT ORGANIC POLLUTANTS (POPs) IN COASTAL AREA OF CALLAO, PERU. AUSTRAL WINTER 2005

Cabello Torres, R.J. and G. Sánchez Rivas

In the winter 2005, the IMARPE established a monitoring, operation included in the OEA-Panama Project, carried out in Callao, from July 27th to August 2nd, in the area influenced by the San Lorenzo island: the cabinza and El Fronton islands and El Camotal area, which do not receive major impact by human activity. Three Pelecypod species inhabiting the rocky and sandy seabed were collected: the scallop *Argopecten purpuratus* and the mussel *Aulacomya ater*, both of economic importance; and the small mussel *Semimytilus algosus* of ecological importance. Two guidelines were used a) The Referential Methods for Studies on Marine Pollution N°20: UNEP/COI/IAEA 1992 and b) Guidance GPM (UNEP 2004). Residues of the DDTs group (including its metabolites p'p'DDD and p'p'DDE) were frequently present in the studies individuals. Highest values residues were found in *Aulacomya ater* with 30.7 ng/g of the metabolite p'p'DDE. In none case the concentrations exceeded the International Quality Standards for Aquatic Products.

RESIDUES OF PERSISTENT ORGANIC POLLUTANTS (POPs) IN COASTAL AREA OF CALLAO, PERU. AUSTRAL SUMMER 2006

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A monitoring in the summer of 2006 was carried out according to the program established by IMARPE in the framework the OEA - Panama Project. Three species inhabiting the rocky and sandy seabed were collected in San Lorenzo island, an area not directly impacted by the human

activity. Two of them have ecological importance (the snails *Bursa ventricosa* and *tegula atra*) and the other one is object of direct human consumption (the hairy crab, *Cancer setosus*). In the study two guidelines were used: a) Referential Methods for Studies on Marine Pollution N°20: UNEP/COI/IAEA 1992 and b) Guidance GPM (UNEP 2004). The residues of the DDTs group (including its metabolites p'p'DDD and p'p'DDE) were present in high concentrations. The highest values were found in *Tegula atra* (3,20 ng/g). The two snails showed low concentrations of pesticides aldrin, endrin and other organic compounds. The crab showed presence of DDTs only. Concentrations never exceeded the International Quality Standards for Aquatic Products

ENVIRONMENTAL PARAMETERS AND RESIDUES OF PERSISTENT ORGANIC POLLUTANTS (POPs) IN COSTAL AREA OF PISCO – PARACAS, PERÚ.

AUSTRAL WINTER 2005

Cabello Torres, R.J. and G. Sánchez Rivas

The Peruvian Sea Research Institute participated in the Monitoring and Control of the Coastal Marine Contamination in the Southeastern Pacific of Latin America and Panama Project, supported by OEA, and coordinated by Panama within the frame of the Permanent Commission of the South Pacific (CPPS). The selected area included the coastal area of Pisco-Paracas, specially around the Ballestas islands and Lagunillas inlet. The work was made during the Austral winter, from August 29th to September 1th 2005. The authors applied the method of sampling recommended in the First Workshop of Specialists on Standardization of Sampling Methods and Criteria of Quality Control for Analysis of POPs (Panama 2004). The physical chemical characteristics of the sea water masses from coastal upwelling were observed, with acceptable oxygen concentrations, high nutrient values and typical salinities of cold coastal waters. The guidelines provided by the workshop were applied for sample collecting, their treatment in the field work and handling for laboratory delivery. In the analyses for the determination of organochlorines residues, in the chorito *Semimytilus algosus* DDTs metabolites were found as p'p'DDD (34,8 ng/g) and p'p'DDE (7,9 ng/g) (dry weight).