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Pollutant bioaccumulation in anchovy (*Engraulis encrasicolus*) tissue, fish species of commercial interest at the Romanian Black Sea coast

Mădălina GALAŢCHI[1, 2,*], Andra OROS[1], Valentina COATU[1], Mioara COSTACHE[3], Dragomir COPREAN[2, 4], Liviu-Daniel GALAŢCHI[2]

[1]*National Institute for Marine Research and Development Grigore Antipa, Bd. Mamaia nr. 300, RO-900581, Constanţa 3, Romania*

[2]*Faculty of Natural and Agricultural Sciences, Ovidius University of Constanta, Aleea Universitatii nr. 1, corpul B, RO-90047, Constanta, Romania*

[3]*Fish Culture Research and Development Station Nucet, Str. Principala nr. 549, RO-137335, Nucet, Dambovita, Romania*

[4]*Academy of Romanian Scientists, Splaiul Independentei nr. 54, Sector 5, Bucharest, Romania*

Abstract. The pollution of the marine ecosystem is a world-wide problem. Heavy metals and organochlorine compounds are among the most harmful elemental pollutants and are of particular concern because of their toxicity to humans. Anchovy (*Engraulis encrasicolus*, Linnaeus 1758), small pelagic fish with a key ecological role in the marine food web, is an important link connecting the lower and upper trophic levels, being also a valuable species for human consumption. Thus, anchovy samples were collected from different stations along the Romanian Black Sea coast and the analyzed contaminants were organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) and heavy metals (Cd, Pb, Ni, Cu and Cr) in muscle tissue. Cd and Pb are the heavy metals that exceeded the allowed levels under the EU legislation (0.3 μg/g), Cd recorded values within the range 0.29-0.51 μg/g (average 0.36 ± 0.09 μg/g) and Pb recorded values within the interval 0.29-1.62 μg/g (average 0.75 ± 0.57 μg/g). Regarding organochlorine pesticides, the highest level was recorded by *p,p'*-DDE (6.76±1.21 ng/g/dry weight), followed by *p,p'*-DDD (3.88±0.97 ng/g/dry weight). Among PCB's, the highest level was recorded by PCB 28 (5.19±1.29 ng/g/dry weight). The results of this study revealed that heavy metals, pesticides and polychlorinated biphenyls values identified in anchovy tissue, species of commercial interest from the Black Sea, are not threatening to human consumers.

Keywords: heavy metals, organochlorine pesticides (OCPs), polychlorinated biphenyl (PCBs), Black Sea, anchovy.

[*] Corresponding author. *E-mail address*: madalina.galatchi@yahoo.com (M. Galaţchi)