

## IMPACT OF POLLUTANTS ON ANEUPLOIDY IN THE PACIFIC OYSTER, *CRASSOSTREA GIGAS*.

BOUILLY K. S<sup>1</sup>, LEITÃO A.<sup>1</sup>, McCOMBIE H.<sup>1</sup>, MIRAMAND P<sup>2</sup> & S. LAPÈGUE S<sup>1</sup>

<sup>1</sup>IFREMER, Laboratoire de Génétique et Pathologie, avenue de Mus de Loup, 17390 La Tremblade, France

<sup>2</sup>Laboratoire de Biologie et Environnement Marins, LBEM-FRE 2727, CNRS, Université de La Rochelle, Avenue Michel Crépeau, 17042 La Rochelle cedex, France

Aneuploidy is the alteration of the normal diploid chromosome number. In the Pacific oyster, *Crassostrea gigas*, hypodiploid cells have regularly been reported as have a negative correlation between this phenomenon and growth and evidence for a genetic basis. We previously demonstrated a positive relationship between a pollutant, atrazine, and aneuploidy in *Crassostrea gigas* adults and juveniles. To evaluate the persistence of this impact, the present study focused on a sample of the same juveniles previously exposed to different atrazine treatments (0.01 mg/l which represents a peak value found in a polluted environment and 0.1 mg/l) for three and a half months. Then, we evaluated them for aneuploidy after another two and a half months in non polluted conditions. Their aneuploidy level remained significantly different between the treatments applied. In addition, our study examined the offspring of the adult population previously treated and found that these offspring exhibited significantly higher aneuploidy levels when the parents had been exposed to atrazine. Recently, adult oysters contaminated by another pollutant, cadmium (50 and 500 ng/l), also showed higher aneuploidy levels than the controls. These results demonstrate the persistence of atrazine impact in time within and between generations and clearly show that environmental factors can influence aneuploidy in Pacific oysters.

**Keywords:** aneuploidy, Pacific oyster, pollutant, atrazine, cadmium.