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## Abstract

### **Spatio-Temporal Profiles of Testicular Histology of Mussels Inhabiting Different Polluted Locations**

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#### **Abstract**

**Background and Aim:** This work aims to investigate the effects of the pollutants on the mussel *Donax trunculus* inhabiting the coast of Annaba experiencing different types of contaminants. Mussels are known to be a bioindicator species that are used for pollution monitoring.

**Method:** Animals were obtained from a non-polluted site (S1) and two other locations receiving untreated sewage (S2) and a mixture of contaminants (S3) in January, February, and March. Meat yield of males and females were realized all over the year. The histology of male testes was carried out in January, February and March.

**Results:** There was a significant increase in meat yield from January to April, where the highest value was recorded in January (16.45%) and February (17.45%) in S1. However, during August, the meat yield recorded the lowest values (6.47%). There was a significant decrease in MY in the two polluted sites S2 and S3 compared to S1, especially during the months of high MY. Testicular tissues demonstrated histopathological alterations in mussels subjected to anthropogenic activities in the three months studied. Conversely, the study revealed that the tissues of males living in the non-polluted site appeared unaffected during the study period.

**Conclusion:** Meat yield and the reproduction of *Donax trunculus* were affected spatially and temporally, which is likely related to the types of pollution and the changing monthly environmental stressors.

**Keywords:** *Histology, Mussels, Donax trunculus, Ovary, Reproduction, Bioindicator*

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