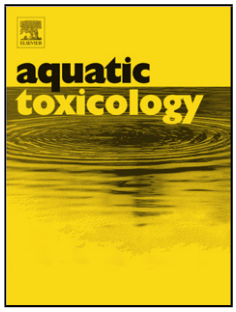

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Authors: Sabrina Elisa de Oliveira, Pauliane de Melo Costa, Sara Batista do Nascimento, Whocely Victor de Castro, Rosy Iara Maciel de Azambuja Ribeiro, Hélio Batista dos Santos, Ralph Gruppi Thomé

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Highlights

- Atrazine causes an increase of aneurysm in gills of Nile tilapia.
- Atrazine promotes an immunomodulation in different concentrations.
- The melanomacrophage centres are responsive to atrazine stimulation at 1 ppm.
- Caspase 3 activity is increased in spleen after 15 days of atrazine exposure (2 ppm).

Abstract

Atrazine is a herbicide that is banned in Europe but remains widely used on different types of crops in several countries in the American continent. Atrazine is known to be an endocrine disruptor and its effects on gonads have been extensively reported, but the toxic action on other organs is poorly documented. In this paper, we investigated the toxicity of atrazine on the gills and spleens of Nile tilapia (*Oreochromis niloticus*). The median lethal concentration (LC_{50}), capable of killing one-half of the test animals was calculated, and sublethal concentrations of atrazine were used in a semistatic and subchronic assay. The following four experimental