

IMMUNE RESPONSE ANALYSIS OF *PHYSALAEMUS CUVIERI* EXPOSED TO A MIXTURE OF FUNGICIDES

Jenifer Eduarda Luterek; Cristina Bridi; Aline Pompermaier; Flávia Bernardo Chagas; Paulo Afonso Hartmann; Marília Hartmann.

Federal University of Fronteira Sul – Erechim Campus, Laboratory of Ecology and Conservation, RS-135, 200 – Rural Zone, Erechim, RS, ZIP Code: 99700-000

E-mail: luterekjenifer@gmail.com

INTRODUCTION: Environmental contamination by pesticide residues exposes organisms to multiple agrochemicals, representing a threat to their health and conservation of biodiversity. Many pesticides are sold as mixtures, such as tebuconazole and azoxystrobin—two fungicides combined to enhance efficacy and control. However, little is known about their effects on non-target organisms, especially regarding immune and stress responses, which can be evaluated through leukocyte profiles. Amphibians, due to their semipermeable skin and biphasic life cycle, are effective bioindicators and frequently used in toxicological studies to assess the effects of contaminants on native species. **OBJECTIVES:** Investigate alterations in the immune response of *Physalaemus cuvieri* tadpoles exposed to a commercial mixture of tebuconazole and azoxystrobin. **MATERIALS AND METHODS:** Egg clutches of *P. cuvieri* were collected from a pond at the Federal University of Fronteira Sul and reared under controlled laboratory conditions until hatching. When tadpoles reached the complete larval stage, they were exposed for seven days to 2.60, 5, 50, 100, and 180 µg/L of the commercial formulation Azimut. After exposure, blood was collected from ten tadpoles per group, fixed on microscope slides, and stained with a Rapid Panoptic Kit. One hundred leukocytes per slide were counted and identified based on morphology as lymphocytes, neutrophils, basophils, eosinophils, or monocytes. **RESULTS AND CONCLUSIONS:** Among all leukocytes counted, 56.21% were lymphocytes, 28.60% basophils, 6.73% monocytes, 4.87% eosinophils, and 3.59% neutrophils. Neutrophil numbers significantly decreased at all concentrations ((F 5,46) = 22.09, P<0,0001), while no differences were found for other leukocyte types. The neutrophil/lymphocyte ratio was significantly reduced in exposed groups ((F 5,46) = 20.78, P<0.0001). Since neutrophils are central to phagocytic immune responses, changes in their count suggest that the fungicide mixture induces stress in exposed tadpoles.