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PO-037 - (22719) - MORPHOFUNCTIONAL CHANGES IN PELOPHYLAX RIDIBUNDUS AS INDICATORS OF ENVIRONMENTAL POLLUTION IN THE HRAZDAN RIVER

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No conflict of interest

Pelophylax ridibundus, leading both a coastal and aquatic lifestyle, is highly suitable for assessing environmental pollution as it absorbs pollutants through its skin, water, and food. This study aims to investigate the morphofunctional changes in the spleen and skin of *Pelophylax ridibundus* frogs living in the surroundings of the Razdan River, characterized by different degrees of pollution (3rd to 5th degree).

This study aims to investigate the morphofunctional changes in the spleen and skin of *Pelophylax ridibundus*, living in the surroundings of the Hrazdan River, characterized by different degrees of pollution (3rd to 5th degree). We use 50 frogs weighing 15-20 grams from five locations along the Razdan River (near Qaghsi, Argel, Darbnik, Geghanist, and Arzni Hydroelectric Power Station). Frogs from Hanqavan village served as controls. Spleen and skin samples were prepared as 5-6 µm thick paraffin sections and stained with hematoxylin-eosin and Giemsa and May-Grünwald solutions.

Frog spleens' reaction to contamination was seen as a decrease in mass, increased reactivity, and activation of protective immune processes. This included an increased relative volume of white pulp due to heightened mitotic activity of lymphoid cells and a significant rise in the number of pigment and mast cells. In the skin, destructive processes included intensified keratinization, structural changes in glands, and increased protective immune responses marked by more mast cells.

Increased reactivity in the spleen and skin, marked by higher mitotic activity, and a rise in pigment and mast cells, reveal the body's response to contaminants. .

Palavras-chave : Hrazdan river pollution, Pelophylax ridibundus, spleen, skin