

Impact of Environmental Changes on Blood Parameters in the *Pelophylax ridibundus*

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Abstract : Amphibian and Reptilian species are influenced by pollution and habitat destruction. Blood parameters of Amphibia species were particularly affected by the negative environmental conditions. Studied frog samples 36 clinically normal *Pelophylax ridibundus* individuals were captured along the Biga Stream between April-June 2014. When comparing our findings with the Turkish legislation (Water pollution control regulation), the 1. Locality of the Biga stream in terms of total coliform classified as "high quality water" (Coliform: 866.66 MPN/100 mL), while the 2. locality was a "contaminated water" (Coliform: 53266.66 MPN/100 mL). Blood samples of the live specimens were obtained in the laboratory within one day of their capture. The blood samples were taken from the etherized frogs by means of ventriculus punctures, via heparinized hematocrit capillaries. Hematological and biochemical analyses based on high quality water and contaminated water, respectively, are as follows: Red blood cell count (444210.52-426846.15 per cubic millimeter of blood), white blood cell count (4215.78-4684.61 per cubic millimeter of blood), hematocrit value (29.25-29.43 %), hemoglobin concentration (7.76-7.22 g/dl), mean corpuscular volume (637.64-719.99 fl), mean corpuscular hemoglobin (184.78-174.75 pg), mean corpuscular hemoglobin concentration (29.44-24.82 %), glucose (103.74-124.13 mg/dl), urea (87.68-81.72 mg/L), cholesterol (148.20-197.39 mg/dl), creatinine (0.29-0.28 mg/dl), uric acid (10.26-7.55 mg/L), albumin (1.13-1.39 g/dl), calcium (11.45-9.70 mg/dl), triglyceride (135.23-155.85 mg/dl), total protein (4.26-3.73 g/dl), phosphorus (6.83-17.86 mg/dl), and magnesium (0.95-1.06 mg/dl). The some hematological parameters in *P. ridibundus* specimens are given for the first time in this study. No water quality dependent variation was observed in clinic hematology parameters measured.

Keywords : *Pelophylax ridibundus*, hematological parameters, biochemistry, freshwater quality

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