A Study of Some Metric Parameters of the Erythrocytes in *Rana ridibunda* (Amphibia: Anura) Derived from an Area of Highly Developed Chemical Industry

Zhivko M. Zhelev¹, Mladen V. Angelov², Ivelin A. Mollov³

Abstract: Some metric parameters of the erythrocyte (big cell diameter (D-cell), small cell diameter (d-cell), big nuclear diameter (D-nucleus) and small nuclear diameter (d-nucleus)) in the blood of *Rana ridibunda*, inhabiting highly developed chemical industry area, were established. The results were compared with the data from our previous work, carried out in a relatively unpolluted area and another industrial area with different kind of pollution. Considerable variations in cell and nuclear parameters were detected.

Key words: red blood cells, frogs, cell diameters, nuclear diameters, Prise-Jones curves

Introduction

Erythrocytes in the blood are a physiologically regulated system of cells the composition of which has to be heterogeneous and this heterogeneity has to be subordinated to certain physiologically based regularities (Gitelson, Terskov 1960).


The town of Dimitrovgrad is one of the several regions with highly developed chemical industry in Bulgaria. The biggest polluting factories in the region are: “Neohim” (chemical factory); Steam Power Station ”Maritsa-3”; “Vulkan” (cement factory). The pollutants that frequently exceed the limit of admissible concentration...