



# Hematotoxic and biochemical effects of UVA on the Egyptian toad (*Bufo regularis*)

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## Abstract:

**Purpose:** To study the adverse impacts of ultraviolet radiation-A (UVA 320–400 nm) on some hematological and biochemical parameters of *Bufo regularis* was considered. **Materials and methods:** Samples were classified into four groups: (i) Control; (ii) ultraviolet radiation (UVR)-treated group (for 3 days/for 15 min/day); (iii) UVR-treated group (for 3 days/for 30 min/day); and (iv) (for 3 days/for 60 min/day). The destructive effects of UVA radiation was evaluated by red blood cells (RBC) count, hemoglobin content (Hb), hematocrite (Ht), erythrocytic indices, white blood cells (WBC) count, total protein, glucose, aspartic amino transferase (AST), alanine amino transferase (ALT), alkaline phosphatase (ALP), lactate dehydrogenase (LDH), glucose-6-phosphate dehydrogenase (G6PDH) and total bilirubin. **Results:** No mortality was observed. However, some physiological effects after the exposure to UVA were reported. The UVA-induced malformations recorded in the red blood cells included crenated cells (Cr), Acanthocytes (Ac), tear drop-like cells (Tr) and sickle cells (Sk). **Conclusion:** The present study revealed the exposure to UVA from 15–60 min/day for three days could promote several biochemical and physiological disturbances as well as some changes in RBC.

## Keywords:

UVA, *Bufo regularis*, erythrocytes, biochemical, decline

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