



Effects of short time UV-A exposures on compound eyes and haematological parameters in *Procambarus clarkii* (Girad,1852)

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Abstract:

The amount of ultraviolet radiation(UVR)reaching the Earth's surface has been increasing as a result of an increasingly thinner ozone layer. The UV-A component of the UVR is able to generate oxidative stress in the compound eye and haemolymph of *Procambarus clarkii* when the latter was exposed for as little as 15min daily for one week to UV-A. Changes in the eye involved corneal material, crystalline cones, pigments in cones, retinula cells, rhabdom integrity, haemocyte infiltration, and haemal spaces. UV-A had significant impacts on haemolymph iron and glucose, whereas Ca ions were unaffected. Total Protein and Cu ions showed no significant changes following UV-A radiation. Involvement of lipid peroxidation and DNA fragmentation was significant with regard to the tissue damage caused by the UV-A. UV-A further more induced biological effects on serum electrophoretic patterns: some fractions either increased in size or others decreased. The described changes can be used as reference guide lines in evaluations of UV-A induced stress effects in *P. clarkii*

Keywords:

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