

HIGHER EDUCATION CENTRE SEZANA
Laboratory for Geomagnetism and Aeronomy

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Abstracts booklet

7. - 8. november 2008
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EFFECTS OF MAGNETIC FIELDS ON ACTIVITY OF SUPEROXIDE DISMUTASE,
CATALASE AND TOTAL GLUTATHIONE IN *BACULUM EXTRADENTATUM* B

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POSTER ABSTRACT

Current scientific literature makes it apparent that the magnetic field represents a very important environmental factor. The effects of the magnetic field on physiological and biochemical processes have been reported mainly in higher organisms, but the effects on these processes in insects are poorly examined. Magnetic fields can initiate number of biochemical and physiological alterations in cells. It can affect increase of free radical production and modulate antioxidative defense and it can be one of the possible mechanisms of magnetic field effects on biological systems.

The aim of our work was investigation of activity of superoxide dismutase, catalase and total glutathione in hemimetabolous insect *Baculum extradentatum*, which was developed in constant magnetic field (320 mT) and intermittent magnetic field (50 Hz, 6 mT).

Our results show significant increase of superoxide dismutase and catalase activity in individuals treated with intermittent magnetic field. Constant magnetic field significantly increase superoxide dismutase activity, while glutathione amount tend to increase in individuals treated with both, constant and intermittent magnetic fields.

Our results indicate that both constant and intermittent magnetic fields exposures change antioxidative defense in *Baculum extradentatum*.

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