



PROGRAM & ABSTRACT BOOK

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**THE EFFECTS OF ACUTE EXPOSURE TO MAGNETIC FIELDS ON
MORPHOMETRIC CHARACTERISTICS OF BOMBYXIN-PRODUCING
NEUROSECRETORY NEURONS IN GYPSY MOTH CATERPILLARS.**

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These are the first data on the influence of external magnetic fields (strong static magnetic fields and extremely low frequency magnetic fields), on neurosecretory neurons which synthesize insulin-like neurohormone in the polyphagous phytophagous forest pest *L. dispar* L. (Lepidoptera: Lymantridae).

Immunocytochemical detection of bombyxin-like material in the protocerebral neurosecretory neurons of *Lymantria dispar* caterpillars was performed using a monoclonal antibody directed against a synthetic decapeptide corresponding to the N-terminus of the bombyxin A-chain. Caterpillars were exposed to strong static magnetic fields (235 mT) and extremely low frequency magnetic fields (2 mT) for three days after molting into the 4th instar.

We report the presence of immunoreactive molecules in A2 type of medial neurosecretory neurons (nsn) in caterpillars' brain of *L. dispar*. The 3-day exposure of caterpillars to stressogenic external magnetic fields changed the size of A2 type nsn, their nuclei and the intensity of protein band in the region of bombyxin molecular mass (4-6 kD) after exposure to extremely low frequency magnetic fields in comparison to control group and group treated by strong static magnetic fields.