P9 - Populational and biochemical response of sand lizard to the influence of metal-working manufacturing

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Lizards are still of low studied group from the viewpoint of environmental pollution influence despite recent increase of respective research. Heavy metals are priority and dangerous pollutants of global concern.

We studied 3 populations of the sand lizard (*Lacerta agilis* Linnaeus, 1758) inhabited ecosystems near the metalworking factory "Avtoshtamp" (Oleksandriia, Ukraine), which is characterised by annual toxic emission of 12.4 tons. The populations occupies sites in affected (polluted) zone at the factory, buffer zone (4 kilometres from the factory) and control zone (8 kilometres from the factory).

The highest density of the sand lizard population estimated by line transect method was observed in the control zone and averages up to 330 individuals per hectare. The population density in the polluted zone was about seven times less. Females mostly dominated in that population (up to 73%).

The content of Cd, Pb, Fe and Mn both in kidneys and liver of the sand lizard from the contaminated site was 1.4–4 times more compared to the animals from both the buffer and control sites.

The lizards from polluted zone had decreased content of total protein, albumins and globulins in the blood serum. At the same time, there were an increase in creatinine and aspartate aminotransferase activity. The lipid peroxidation (malondialdehyde) are twice intensive in the lizards' liver from contaminated and buffer zones compared with the animals in the control site. Thus, the lipid peroxidation was launched in lizards from buffer zone as well as in polluted one.

Our data testify to the pronounced effect of environmental pollution on the sand lizard both at populational and biochemical levels.