

HEMATOLOGICAL EFFECTS OF CROWDING STRESS IN EUROPEAN CHUB *LEUCISCUS CEPHALUS* L. AND COMMON CARP *CYPRINUS CARPIO* L.

Malgorzata Witeska, Elzbieta Kondera, Katarzyna Lugowska, Aneta Dmowska

*Department of Animal Physiology, Siedlce University of Natural Sciences and Humanities
Prusa 12, 08-110 Siedlce, Poland; E-mail: wites@uph.edu.pl*

Abstract. Hematological changes following short-time confinement in two cyprinid fish species: European chub and common carp were compared. Juvenile chub *Leuciscus cephalus* and carp *Cyprinus carpio* were subjected to a 30 min. confinement. Hematological parameters were evaluated 2 weeks before, immediately after, and one week post treatment. Within a month most chub died, while all carp survived. Both species developed stress reaction that was indicated by hyperglycemia observed immediately post treatment. In chub, it was accompanied by reduction of oxidative metabolic activity of phagocytes and thrombocytopenia, while in carp a decrease in erythroblast frequency was observed. In one week post confinement chub showed anemia (reduced hematocrit and hemoglobin levels accompanied by erythroblastosis), and oxidative metabolic activity of phagocytes remained decreased. In carp, leukopenia and thrombocytopenia occurred, and frequency of erythroblasts remained reduced. No changes in differential leukocyte count were observed in any species. The results indicate higher sensitivity of chub to confinement stress compared to carp.

Keywords: European chub, common carp, crowding stress, hematological parameters