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## RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

**Title:** Morphological studies of peripheral blood cells of the Chinese sturgeon, *Acipenser sinensis*

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**Date:** 24 October 2007

Publication Number: CRSP Research Report 07-223

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**Abstract:** The peripheral blood cells of one-year-old Chinese sturgeon (*Acipenser sinensis*) have been studied by light microscopy and transmission electron microscopy. The erythrocyte count was  $84.86 \times 10^4$  cell  $\text{mm}^{-3}$  in the peripheral blood of the fish and that of leukocytes was  $2.24 \times 10^4$  cell  $\text{mm}^{-3}$ . The erythrocytes and four main types of leucocyte—thrombocytes, lymphocytes, granulocytes (including neutrophils and eosinophils), and monocytes, were identified in the peripheral blood. In addition to normal erythrocytes, reticulocytes and division of erythrocytes were observed. Thrombocytes were the most numerous among the leukocytes, and the number of neutrophils with lobated nuclei was larger than for other fish. The structures of the erythrocytes, lymphocytes, monocytes, granulocytes, and thrombocytes of the fish were studied. The erythrocytes were almost completely devoid of organelles, except for some mitochondria and granules. A large number of vacuoles and a few organelles were observed in cytoplasm of the monocytes. There were many microvilli on the membrane and pseudopodia-like cytoplasm bulge in the lymphocytes. The neutrophils were round or oval in shape with bilobed, trilobed, or multilobed nuclei whereas the eosinophils had big special granules, dark stained. There were many vesicles in some thrombocytes, which were related to its phagocytosis; some thrombocytes had almost no cytoplasm or organelles.

This abstract is excerpted from the original paper, which was in *Fish Physiology and Biochemistry* 33(3):213-222

**CRSP RESEARCH REPORTS** are published as occasional papers by the Program Management Office, Aquaculture Collaborative Research Support Program, Oregon State University, 418 Snell Hall, Corvallis, Oregon 97331-1643 USA. The Aquaculture CRSP is supported by the US Agency for International Development under CRSP Grant No.: LAG-G-00-96-90015-00. See the website at <pdacrsp.orest.edu>.