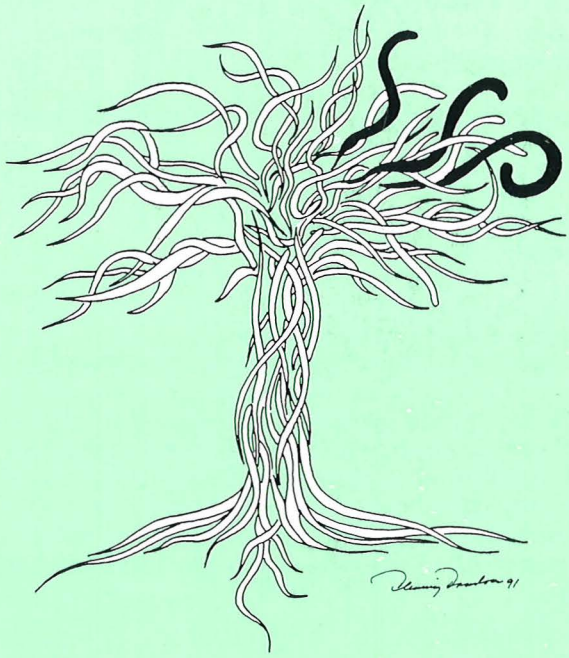
Bulletin of the SCANDINAVIAN SOCIETY FOR PARASITOLOGY



WITH PROCEEDINGS OF THE SYMPOSIUM ON ECOLOGICAL PARASITOLOGY ON THE TURN OF MILLENIUM, ST. PETERSBURG, RUSSIA, 1-7 JULY, 2000

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BULLETIN OF THE SCANDINAVIAN SOCIETY FOR PARASITOLGY

The Bulletin is a membership journal of the Scandinavian Society for Parasitology. Besides membership information, it also presents articles on all aspects of parasitology, with priority given to contributors from the Nordic countries and other members of the Society. It will include review articles, short articles/communications. Comments on any topic within the field of parasitology may be presented as Letters to the Editor. The Bulletin is also open for a short presentation of new projects. All contributions should be written in English. Review articles are commissioned by the editor, however, suggestions for reviews are welcomed.

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Cover: In Norse mythology, the giant ash tree - Yggdrasill - spreads its limbs over the entire mankind. The ash has three roots, each of them sucking water from its own spring. The first spring- Hvergelmir - is found in the ice cold North; next to the spring, the serpent Níðhoggr is ceaselessly gnawing at the roots of the ash. The second spring - Mímisbrunnr - is the source of wisdom and is guarded by Mímir. The third spring - Urðarbrunnr - is guarded by three women, the Norns, which mete out man's thread of life.

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arranged on behalf of the

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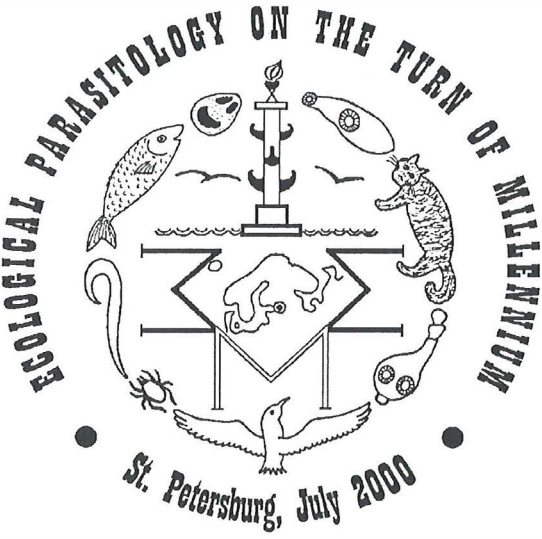
and the

Scandinavian Society for Parasitology

in

St. Petersburg, Russia

1-7 July, 2000



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SUBMITTED PAPERS- ORAL PRESENTATIONS

SIGNIFICANCE OF THE AMOEBOCYTE-PRODUCING ORGAN OF *BIOMPHALARIA GLABRATA* SNAILS (STRAINS SELECTED FOR SUSCEPTIBILITY/RESISTANCE) IN CELLULAR RESPONSE TO *ECHINOSTOMA CAPRONI* MOTHER SPOROCYST INFECTION

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The dynamics of haemocyte encapsulation of *Echinostoma caproni* mother sporocysts (MS) in a resistant strain of *Biomphalaria glabrata* snails was investigated previously (Ataev, Coustau, 1999). The result of further research was the determination of the role of the snail's amebocyte-producing "organ" (APO) in this process and the collection of information on the cellular response to sporocyst early development. The first signs of a cellular response to *Echinostoma caproni* MS in susceptible and resistant strains of *Biomphalaria glabrata* snails were observed several hours after infection. This reaction is usually manifested by insignificant infiltration of small parenchymatous lacunas by haemocytes. Sometimes one could see large aggregations of haemolymph cells around sporocysts. Haemocytes from surrounding tissues take part only in such local heart formation. However, real capsules are not formed and MS retain their ability to complete their migration to the heart of the snail (Ataev, 1998).

In addition, MS penetration activates APO situated between the pericardium and mantle epithelium. Therefore, rapid increase in the number of haemolymph haemocytes is observed in snails of both strains after approximately one day of infection (Ataev, Coustau, 1999). But MS encapsulation occurs in a resistant strain at 3-4 days post-exposure (PE) only. The result of this is MS death at 5-7 days PE, by which time APO reaches a full development. Haemocytes safely isolate disintegrated sporocyst remains and dead amoebocytes in the centre of the capsule. The decrease in APO activity in resistant snails was noted at 10 days PE. After 15 days of infection there will be neither capsules nor agglutinations (haemocyte accumulation not observed in MS location). Snails remained viable throughout the experiment.

APO stays in active condition in susceptible snails. However, haemocytes do not encapsulate MS, and they become adherent in agglutinations.

The observed variations of resistant snails for single species are probably some of the reasons for local differences of host infection in natural populations.