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SCHISTOSOME MATERIALS FOR VACCINE DEVELOPMENT.(U)
SEP 81 M A STIREWALT, F A LEWIS N00014-81-C-0552

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Schistosoma mansoni; Biomphalaria glabrata; trematode; cercariae; eggs; adult worms; miracidia; snails; optimal maintenance conditions.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Parasite materials (S. mansoni) were supplied to investigators at the National Naval Medical Research Institute in Bethesda, Maryland for immunoparasitological research.

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OFFICE OF NAVAL RESEARCH

Contract No. N00014-81-C-0552

Task No. NR 204-117

ANNUAL REPORT NO. 1

Schistosome Materials for Vaccine Development

by

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September 1981

BACKGROUND

The Immunoparasitology Department at the Naval Medical Research Institute (NMRI) is involved in research centered primarily on the development of effective vaccines against several parasitic diseases. Immunological research in one such disease, schistosomiasis, is particularly difficult due to the limited quantity of schistosomal materials available to most laboratories. It has been the objective of this contract to supply large quantities of schistosomal materials to investigators at NMRI to help realize the goal for the development of an effective vaccine against schistosomiasis. The various materials provided included adult schistosomes, eggs, cercariae, schistosomules, and unisexual infection material.

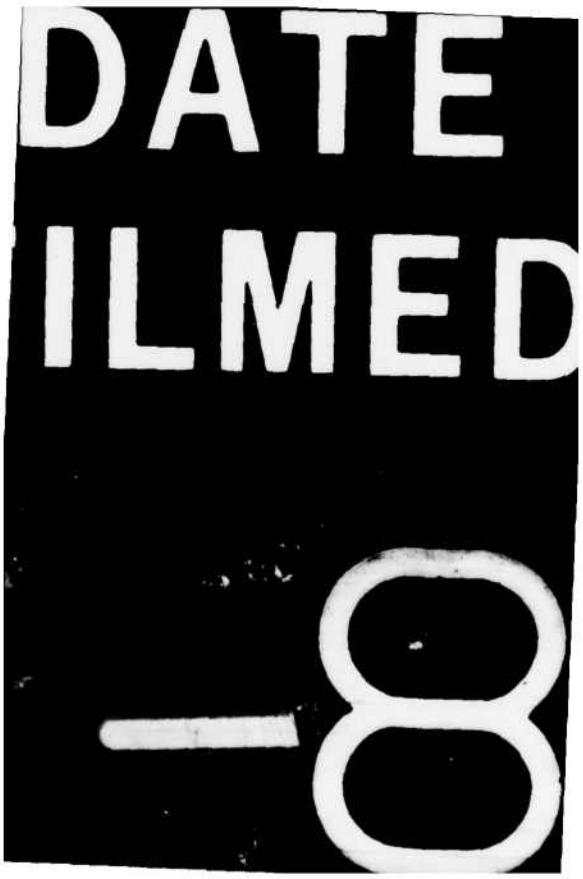
METHODOLOGY

A Puerto Rican strain of Schistosoma mansoni was maintained in Biomphalaria glabrata snails and Swiss albino mice. Uninfected snails were raised in six 20-gallon aquaria. Approximately 200 snails (5-7mm dia.) were collected each week and exposed individually with 6-8 miracidia. When requested, snails were exposed to 1 miracidium each for development of single-sex schistosomal infections. Miracidia were derived from livers of 8-week infected mice. A constant supply of approximately 200 infected snails was maintained for production of cercariae. Weekly yields of about 1 million cercariae were processed as needed or used for experimental work.

Adult parasites were perfused from 30 mice per week and used for production of adult worm antigens. Due to reduction in funds compared to previous years, no schistosome eggs, schistosomules, or cercarial secretion enzymes were collected on a regular basis for investigators at NMRI.

RESULTS AND DISCUSSION

Materials supplied daily as requested (within budgetory limits) consisted of adult worms, and populations of cercariae of a known single sex. Funds were insufficient to support research, so no publications were forthcoming.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