ANNUAL PROGRESS REPORT

SEATO Medic Study No. 21	Studies on *Opisthorchis viverrini* in Thailand - Snail Intermediate Hosts
Project No. 3A 025601 A 811	Military Medical Research Program S. E. Asia
Task 01:	Military Medical Research Program S. E. Asia
Subtask 01:	Military Medical Research Program SEASIA (Thailand)
Reporting Installation:	US Army-SEATO Medical Research Laboratory, APO 146, San Francisco, California.
	Division of Medical Research Laboratories
	Department of Medical Zoology
Period Covered by Report:	1 April 1963 to 31 March 1964
Principal Investigator:	Major Dale E. Wykoff, MSC
Associate Investigator:	MSGt Max M. Winn
Assistant Investigator:	Miss Kobkul Ariyaprakai
Reports Control Symbol:	MEDDH-288
Security Classification:	UNCLASSIFIED

ABSTRACT

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The object of this study is to discover the snail intermediate hosts of *O. viverrini* in Thailand. Many different families were collected and examined for those cercariae which, when encysted in fish, would produce metacercariae which in turn could cause an infection in experimental animals. It has been found that the family Bithyniidae contains three such intermediate hosts, *Bithynia goniomphalus* in the northeast, *B. funiculata* in the northwest, and *B. laevis* in the Bangkok area. Other species of snails are now being examined.

BODY OF REPORT

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Objective: This study was designed to determine which snails act as the intermediate hosts of *O. viverrini* in Thailand.

Description: When this investigation was initiated the description of the cercaria was unknown. Therefore, the only way in which the snail host could be found was by separating the various species of snails and letting them shed cercariae. Each type of cercaria was then exposed to a fish. After several months the fish was then fed to an experimental definitive host. Several families and numerous genera of snails were studied in this manner. Over 40 types of cercariae were exposed to fish.

Progress: Three species of snails were finally found to harbor a certain type of cercaria which was subsequently proven to be the larval stage of *O. viverrini*. These snails were *Bithynia goniomphalus* in the northeast, *B. funiculata* in the northwest and *B. laevis* in the central (Bangkok) area. Fewer than 0.1% of almost one million examined snails were positive.

Summary: Three species of snails are now known to be intermediate hosts of O. viverrini in Thailand. The low percentage of infection in the snails indicates that other still unknown species may be even more important hosts.

Conclusion: Although three snail species are now known to act as intermediate hosts, examinations of other Bithyniidae are necessary in order to determine which snails are the major hosts in Thailand.

List of Publications: The results thus for obtained are being incorporated in the following paper which is now in manuscript and which will be submitted for publication in May, 1964: Wykoff, D. E., Harinasuta, C., Juttijudata, P., and Winn, M. M. Studies on Opisthorchis viverrini in Thailand - Notes on the life cycle and comparison with O. felineus.