

TREMATODE INFECTION IN FRESHWATER SNAILS FROM MAHA SARAKHAM PROVINCE, THAILAND

Naruemon Bunchom¹, Warayutt Pilap¹, Warong Suksavate², Kotchaphon Vaisusuk³, Narufumi Suganuma⁴, Takeshi Agatsuma⁴, Trevor N. Petney⁵ and Weerachai Saijuntha¹

¹Walai Rukhavej Botanical Research Institute, Biodiversity and Conservation Research Unit, Mahasarakham University, Maha Sarakham; ²Department of Forest Biology, Faculty of Forestry, Kasetsart University, Bangkok; ³Department of Veterinary Technology, Faculty of Agricultural Technology, Rajabhat Maha Sarakham University, Maha Sarakham, Thailand; ⁴Department of Environmental Medicine, Kochi Medical School, Kochi University, Nankoku, Japan; ⁵Department of Paleontology and Evolution, State Museum of Natural History Karlsruhe, Karlsruhe, Germany

Abstract. Several trematode species utilize freshwater snails as intermediate hosts. The transmission stage of trematodes from the snail host to their next intermediate or final host involves cercarial and metacercarial stages. Thus, it is important to survey trematode infections in species of freshwater snails in human and/or animal endemic regions. Prevalence and types of trematode cercariae and metacercariae found in common freshwater snails in Maha Sarakham Province, Northeast Thailand were determined. Freshwater snails ($n = 3,757$) collected from canals, ponds and paddy fields at 51 sites belonged to six species, namely, *Bithynia siamensis goniomphalos* (Morelet, 1866) (prevalence = 60.8%, trematode infection = 15.2%), *Filopaludina martensi* (Frauenfeld, 1865) (prevalence = 13.4%, trematode infection = 0.6%), *Indoplaborbis exustus* (Deshayes, 1834) (prevalence = 8.6%, trematode infection = 1.6%), *Melanoides tuberculata* (Müller, 1774) (prevalence = 8.8%, trematode infection = 4.8%), *Pomacea canaliculata* (Lamarck, 1819) (prevalence = 3.3%, trematode infection = 0%), and *Radix rubiginosa* (Michelin, 1831) (prevalence = 5.1%, trematode infection = 6.8%), with nine and eight different types of cercariae and metacercariae respectively. The most common trematodes were xiphidio and longifurcate-pharyngeate (strigea) cercariae, while highest infection rate (5.24%) was with echinostome cercaria. These findings indicate freshwater snails in Maha Sarakham Province act as both first and second intermediate hosts of several trematode species of medical and veterinary importance.

Keywords: *Bithynia siamensis goniomphalos* (Morelet, 1866), *Filopaludina martensi* (Frauenfeld, 1865), *Indoplaborbis exustus* (Deshayes, 1834), *Melanoides tuberculata* (Müller, 1774), *Pomacea canaliculata* (Lamarck, 1819), *Radix rubiginosa* (Michelin, 1831), freshwater snail, public health, northeastern Thailand, trematode

Correspondence: Weerachai Saijuntha, Walai Rukhavej Botanical Research Institute, Mahasarakham University, Maha Sarakham 44150, Thailand.

Tel: +66 (0) 4375 4333, Fax: +66 (0) 4375 4407

E-mail: weerachai.s@msu.ac.th