

INFECTION DYNAMICS AND MOLECULAR IDENTIFICATION OF METACERCARIAE IN CYPRINOIDS FROM CHIANG MAI AND SAKON NAKHON PROVINCES

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Abstract. The infection dynamics of metacercariae were assessed in cyprinoid fish (cyprinoids) from Chiang Mai and Sakon Nakhon Provinces, Thailand, during October 2008 to September 2009. The samples were collected during 3 seasons from rivers and local markets. Metacercarial infection was determined by acid-pepsin digestion and confirmed using HAT-RAPD PCR method. Thirteen and 16 species of cyprinoids were collected from Chiang Mai and Sakon Nakhon with overall prevalences of metacercarial infection of 84.5 and 47.6%, respectively. *Haplorchis taichui*, *Haplorchoides* sp, and *Centrocestus caninus* were found in Chiang Mai and 4 species of metacercariae: *H. taichui*, *Haplorchoides* sp, *O. viverrini* and an unknown trematode species in Sakon Nakhon. *H. taichui* and *Haplorchoides* sp metacercariae in 3 species of cyprinoids (*Henicorhynchus siamensis*, *Cyclocheilichthys armatus*, *Amblyrhynchichthys truncatus*) had the highest prevalence (100%) in Chiang Mai, while the highest prevalence (100%) of metacercaria in Sakon Nakhon was *Haplorchoides* sp in 1 species of cyprinoids (*Cyclocheilichthys armatus*). The overall prevalence from Chiang Mai Province was highest in the rainy season (95.6%), lower in the hot-dry season (88.1%) and lowest in the cool season (72.5%). In Sakon Nakhon Province the highest prevalence was in the hot-dry season (52.7%), and lower in the rainy and cool season, 44.4% and 43.5%, respectively. The HAT-RAPD profiles confirmed the identity of metacercariae and adult stage of *H. taichui*, *Haplorchoides* sp, *C. caninus* and *O. viverrini*.

Keywords: metacercariae, cyprinoids, infection dynamic, molecular identification

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