

RESEARCH NOTE**A Survey on *Clonorchis sinensis* and some other species of metacercariae in fresh water fishes from Lake Izu-numa, Miyagi Prefecture**

The vicinity of Lake Izu-numa has been known as one of the endemic areas of clonorchiasis in Miyagi Prefecture, Japan.

YAMAGATA *et al.* (1952) and KOMIYA and SATO (1955) observed the human *Clonorchis* infection in 14% of 518 inhabitants and in 24% of 581 inhabitants respectively in Tamazawa-mura around the lake by fecal examinations. SUZUKI (1955) reported 22 positive cases of *C. sinensis* in 35 domestic cats from the same area. Thereafter, YAMAGATA *et al.* (1964) made a survey on the vector

snail in this area and found *Parafossarulus manchouricus* in the lake, from which they detected cercariae of *C. sinensis* in 0.6%. However, data are not yet available to elucidate the presence of the metacercaria of *C. sinensis* in the second intermediate host in the area.

The present work was undertaken to gain information on the *Clonorchis* metacercaria in fresh water fishes in the lake. Scales, fins, opercula and muscles of five species of fishes collected from the lake were ex-

Table: Results of examination of fishes for *Clonorchis* and some other species of metacercariae.

Metacercaria	No. of fishes infected with				
	<i>Sarcocheilichthys variegatus</i>	<i>Gnathopogon elongatus</i>	<i>Carassius auratus</i>	<i>Zacco platypus</i>	<i>Tribolodon hakonensis</i>
Number examined	7	7	13	2	1
<i>Clonorchis sinensis</i>	7	6	1	0	1
<i>Metagonimus yokogawai</i>	0	1	8	0	1
<i>Exorchis oviformis</i>	7	7	8	2	1
<i>Pseudexorchis major</i>	0	1	0	0	1
<i>Centrocestus armatus</i>	0	0	0	1	0
<i>Cyathocotyle orientalis</i>	0	6	4	1	1
<i>Holostephanus nipponicus</i>	7	7	5	1	1
<i>Holostephanus metorchis</i>	6	7	1	0	0
Unknown species belonging to Cyathocotylidae	5	6	1	1	0

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amined for metacercaria under a dissecting microscope. The results are shown in the table.

Aside from *Zacco platypus* which were free of *Clonorchis* metacercaria, the remaining 4 were all found infected with the metacercariae: all among 7 specimens of *Sarcocheilichthys variegatus*, 6 among 7 *Gnathopogon elongatus*, 1 among 13 *Carassius auratus* and one *Tribolodon hakonensis*, the average number of the metacercariae per fish being 33.9, 12.4, 7.7 and 9.0 respectively.

Thus, it has been ascertained that clonorchiasis is still now prevailed around the lake.

Metagonimus metacercariae were found in *G. elongatus*, *C. auratus* and *T. hakonensis* and the average number of the metacercariae per fish 0.1, 3.5 and 4.0 respectively. But the details of the prevalence of *Metagonimus* infection among inhabitants living in this area are not clear.

During the examination, seven different kinds of metacercariae other than *C. sinen-*

sis and *M. yokogawai*, were found in the fishes: *Exorchis oviformis*, *Pseudexorchis major*, *Centrocestus armatus*, *Cyathocotyle orientalis*, *Holostephanus nipponicus*, *H. metorchis* and unknown species belonging to Cyathocotylidae.

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