

rate is quicker as compared with sumithion. Clonic (repetitive movements) and tonic (rigid body) convulsions were found and fish lost their equilibrium and swam on their sides after their transfer to sumithion and Sevin. Similarly gill opercular movements increased initially but later decreased and examination of the gills of Sumithion and Sevin exposed fish exhibited formation of "coagulation film" (disappearance of mucus membrane). Autopsy of sumithion treated fish revealed highly congested visceral parts. The intestine was found to be completely filled with water and occupied a major part in the body. Presumably failure of osmoregulatory machinery would have resulted in the storage of water. Experiments to study the effect of pesticides on the ionic composition of the fish are in progress.

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SEX RATIO IN *ACANTHOSENTIS OLIGOSPINUS* AN ACANTHOCEPHALAN PARASITE FROM THE GUT OF *MYSTUS GULIO*

THE acanthocephalans are unique endoparasitic pseudocoelomate vermiform organisms for which the intermediate host is generally an aquatic invertebrate and the final host a vertebrate.

Live *Mystus gulio* were brought to the laboratory and dissected in 0.85% sodium chloride solution. The alimentary canal of each fish was transferred to a petri-dish containing 0.85% sodium chloride, uncoiled and incised lengthwise using a fine needle to collect the acanthocephalan parasite, *Acanthosentis oligospinus*.

Table 1 shows the details of the data collected. Large number of parasites were available during September, October, November and December (the North-East monsoon period) when nutrients and intermediate hosts are available in plenty.

The sex ratio in the whole population of juvenile *Echinorhynchus truttae* collected from *Gammarus pungenis padanus* was found to be 1:1¹ and cystacanths of *Moniliformis moniliformis* collected from the haemocoel of *Periplaneta americana*, also revealed the same ratio (unpublished). Crompton² reported that a sex ratio of 1:1 exists in the earlier part of the infection, and that the sex ratio of acanthocephalans appears to

TABLE I
Degree of infestation of Acanthosentis oligospinus
in the gut of Mystus gulio during 1978

Month	No. of fish examined	No. of fish infected
January	9	9
February	10	6
March	12	8
April	15	12
May	15	14
June	7	7
July	14	11
August	10	7
September	16	6
October	11	11
November	8	8
December	12	12

Month	Total number of parasites	Percentage of males	Percentage of females
January	50	52.00	48.00
February	32	46.88	53.12
March	32	53.12	46.88
April	85	50.59	49.41
May	82	47.56	52.44
June	74	48.65	51.35
July	26	46.15	53.85
August	275	49.46	50.54
September	360	49.72	50.28
October	445	49.66	50.34
November	320	49.38	50.62
December	530	49.81	50.19

be under genetic control not influenced by the environment provided by the intermediate host.

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