

M.S.116. JALAJAKUMAR, V.S.—Parasite distribution and Histopathological Studies on certain commercially important Fishes of Cochin area—1989—Dr. V.J. Kuttyamma

Investigations were carried out on the distribution of parasites and histopathological effects on certain commercially important fishes of Cochin area. The literature related to the prevalence, mean intensity of infection and histopathological changes caused by the metazoan parasites, in particular by helminth, copepods and isopods, was reviewed.

Observations were made on the distribution pattern of parasites in relation to the season, sex and size of the host. It was found that the prevalence rate of *Rhadinorhynchus iridicus* infecting the alimentary canal of the fish *Tachysurus maculatus*, *Ergasilus*: sp. infecting the gills of *T. maculatus*, and *Lernaenicus ramosus* found on the body surface of *Nemipetrus japonicus* was higher during monsoon season. But *Agarna malayi* found in the opercular chamber and *Philometra cephalus* infecting the gonads of *Valamugil speigleri* showed a higher prevalence rate during the post monsoon season. This is discussed on the basis of the hydrographical characteristics prevailing in the study area during the three different seasons. It was also observed that the sex of the host did not influence significantly the distribution pattern of the parasites. Invariably, the size of the host was found to influence the parasite distribution pattern. It was observed that the prevalence rate showed an increase with increase in size of the fish. This was discussed on the basis of food habits of the host, along with other aspects. The histopathological effect of the various parasites on their respective sites of attachments on host fishes, was studied. It was found that except *Rhadinorhynchus iridicus*, all other parasites produced damages of varying intensity, in the form of hypertrophy, hyperplasia, haemorrhage, tissue disruption and ulcers. In *V. speigleri* the ovary infected with *Philometra cephalus* was less glossy in appearance. Infected ovary was swollen when compared with the uninfected one. Fibrin of the ovarian tissue, atrophy, displacement, and haemorrhage of primary and secondary oocyte was observed. The movement and feeding of the worm produced severe mechanical damage to the ovary.

A continuous increase in the deposition of a black pigment was observed. The acanthocephalan parasites, *Rhadinorhynchus indicus* found in the intestine of *T. maculatus* was found not to cause any serious damage to the intestine of the host fish. The gill filaments of *T. maculatus* infected with *Ergasilus* sp. showed hypertrophy at the point of attachment. Fusion of adjacent gill filaments was observed. The operculum of *V. speigleri* which harboured *Agarna malayi* became transparent due to the complete destruction of tissues covering it leaving the calcareous skeleton alone. Gill filaments were found broken at many places, thus reducing the surface area of gill available for respiration. There was excess mucous production. The copepod *Lernaenicus ramosus* infecting *N. japonicus* produced ulcer-like opening at the point of attachment. The scales at the point of attachment was destructed. The skin surface was found to be hyperaemic and swollen. Degeneration of muscular bundles was found around the bulla of the parasite that penetrated into the muscle.