INTRODUCTION

Since fishes are very important and most acceptable food by consumers because its nutritive value, so much emphasis is given to fish production in India. Being a peninsula it is known to have a wide variety of fishes which constitute an important part of international trade, currently worth more than U.S. $ 50 billion.

The current need to expand the world supply of food for the increasing population has resulted in the intensive production rates of fishes which can be maintained by checking the parasitic infestation.

Seasonal changes in nature are very clearly related to organic life. It is therefore natural to expect that parasites (ectoparasites as well as endoparasites) which do not have tie with the external environment, should not remain indifferent to the annual cycles of climatic changes. Parasites are influenced by same conditions of specific differentiation and phylogenetic development as free living animals and the hosts in addition act as the environment (Szidat, 1956, 1958). The concept that the parasite gets influenced by two environmental habitats was recognized
(Dogiel, 1927, 1932, 1947), the first by immediate habitat of the parasite in its host body and second by the external environment surrounding of the host. It is also stated by Dogiel et al. in 1961 that a host group which is abundant in a particular habitat influences parasite fauna of other host species in the habitat and the parasite species usually specific to the abundant host will spread to other host in which they would not normally occur. Chubb (1977) has stated that patterns of intensity and incidence of infection can be related in precise manner to the effect of abiotic factors as oxygen tension, water temperature or biotic factors as host species, behaviour of migration, immunity or to the interaction of both biotic and abiotic factors. Further Chubb (1979, 1980 and 1982) has pointed out that the information about seasonal prevalence and mean density of parasites in fresh water fishes in tropical environment is lacking. He has mentioned in his review that seasonal studies on metacercariae have been carried out in the tropical zone of the world.

As parasitic infections have inflicted heavy losses by way of fish mortality, loss of their body weight and impairing sexual capabilities with consequent devaluation of market prices of the edible fishes.
As trematodes are a whole considered one of the major groups of helminths parasite infesting fishes. Even the digenetic trematodes among trematoda groups exhibit greater diversity in form and life cycles and from time to time this aspect has been repeatedly emphasized by the helminthologists.

Among the variety of parasites invading fishes helminths assume special significance because they not only infect and destroy the fishes but sometimes utilize them as intermediate host so as to reach finally to the human, birds, or other mammals and thus causing several serious diseases to them. Due to this helminthic attack in fish biomass, fertility and population dynamic create a serious problem of food scarcity for human beings. This global phenomenon bounds human being to think more and take deep interest in research.

The digenetic trematodes exhibit greater diversity, population dynamics, and morphological changes, these changes are also bound to create more interest in the study of host parasites relationship.

The digenetic trematodes (flukes) occur throughout the year. The flukes exhibited a seasonal cycle of occurrence with a peak with both in incidence and intensity from the month of May to
September. For the rest of the year the population remains constant and there by balanced between recruitment and loss from the trematodes population.

The incidence, intensity, and population dynamics of infection were not independent on the fishes, but female fishes were noted to be more heavily infected than the male.

In fresh water fishes digenetic trematodes infection causes several diseases which lead to mass death of fishes in water bodies. *Diplostomum spathaceum* metacercaria lodged in vitrus humour and *Hysteromorphatriloba* in muscles cause ‘parasitic contact’ and ‘Black spot’ disease respectively in a variety of fresh water fishes; metacercaria of *Isoparorchis* species which invades Siluroid as well as minor carps are responsible for ‘Ink spot’ disease; ‘Opisthorchiasis’ disease in human being and other mammals is due to encysted form of *Ophisthorchis felineus* in cyprinoidae fishes and encysted *Clinostomum complanatum* infects eyes and nasal region of *Channa punctatus, Aphanius dispar, Colisa faciatus*, and other fishes.

The digenetic trematodes are reported from alimentary tract, gall bladder, urinary bladder, liver, blood and from each and every organs of the fishes.
Only a few Indian workers have tried to reveal the population dynamics of digenetic trematodes with reference to percent incidence, intensity, density and percent dominance and along with its morphological structure of fishes in eastern Uttar Pradesh.

This shows that little work has been done on helminth fauna along with its population of fresh water fishes of district Jaunpur. The trematodes fauna of fresh water fishes of river Gomti; its tributaries, Kanhai Tal, Ara Tal, Gujar Tal and different ponds, such as Ranjeetpur, Saidanpur, Palpur and some famous local ponds at district Jaunpur (U.P.) needs to be explored to the null points.

Therefore, the present study has been taken to explore the incidence and population dynamics of digenetic trematodes including intensity, density and percent dominance in relation to fresh water fishes of Jaunpur.