

Family : Ploceidae

100. House sparrow *Passer domesticus*
101. Baya weaver *Ploceus philippinus*
102. Whitebacked munia *Lonchura striata*

103. Spotted munia *Lonchura malacca*

Family : Emberizidae

104. Yellow-breasted bunting *Emberiza aureola*

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References

- Ali, S. 1989. *The Birds of Sikkim*. Oxford University Press.
Ali, S. 1990. *The book of Indian birds*. Oxford University Press.
Ali, S. and S. D. Ripley 1994. *A Pictorial Guide to the Birds of Indian subcontinent*, Oxford University Press.
Fleming, R. L. (Sr.), R. L. Fleming (Jr.) and L. S. Bangdel 1984. *Birds of Nepal with reference to Kashmir and Sikkim*. Nature Himalayas Kathmandu, Nepal.
Shrestha, T. K. 2001. *Birds of Nepal, Vol.2*, R. K. Printers, Kathmandu, Nepal.
Subba, B. R. 1995a. Checklist of Birds of Dharan, *Newsletter for Birdwatchers* **34** (4): 115-116.
Subba, B. R. 1995b. Checklist of Birds of Biratnagar *Newsletter for Birdwatchers* **34** (6): 128-129.

4. Ecological Study of Helminth Parasites in Fishes

Parasites depend upon other organisms for food and shelter. The relationship between the parasite and the host is termed Parasite Ecology. Parasites choose the host and usually appear fewer hazards than a predator of its prey. However a host suffers from variety of parasites at the same time and also a parasite can use different host for nutrient materials plus shelter.

Helminthes parasite victimizes fishes. Chauhan (1943), Yamaguti (1971), Shrivastava (1985) contributed on fish helminth parasites. To observe fish helminthes parasite in peritoneal cavity and gut, a study was carried out in fishes of Morang and Sunsari districts during July 1994-June 1995, regarding the

period of occurrence, incidence and intensity of infection.

During the study 900 fishes of different species were collected and examined freshly as well as in preserved condition. The fishes were cut ventrally to open the body cavity and the parasites were collected carefully. After removing the parasites from the peritoneal cavity (body cavity), gut was cut into several pieces of convenient length and each was vigorously shaken in a dish of warm water. The smaller worms were left at the bottom of the dish. The pieces of gut were then cut open and the mucosa was scraped off into a dish of water to take out cestodes and other smaller worms if present. All the parasites recovered from each fish were collected and counted. The collected

trematodes and cestodes were fixed in warm AFA solution, for 24 hours to a week. The preserved parasites were then thoroughly washed in tap water to remove the fixative. The parasites then were stained in Gower's solution for overnight. After staining, the worms were dehydrated in ascending grades of alcohol, cleaned in methyl salicylate and mounted in DPX. In case of nematodes the collected worms were washed in 1% saline water and immediately dropped into boiling 70% alcohol or 5% formalin. They were preserved in 70% alcohol with 50% glycerin. It was difficult to stain the nematodes, so they were directly mounted in Canada balsam without staining. The parasites were identified after mounting.

A total of seven helminth species were recorded from the fishes examined. Among them, two parasites belonged to class cestoda, three to trematoda and two nematoda. The parasites were identified only up to generic level. The parasites belonging to class cestoda were *lytocestus sp.* and *Pseudocapingentrides*

sp. Class trematoda includes *Ophiocorchis sp.*, *Ascocotyle sp.* and *Aspidogaster sp.* and class trematoda were *Travenema sp.* and *Philometra sp.* Out of 900 fishes examined, 364 (40.44%) were found to be infected by helminth parasites.

Regarding frequency distributions it was found that 133 (14.8%) fishes carried trematodes, 43 (4.8%) fishes carried cestodes and 210 (23.3%) carried nematodes. Analysis revealed that a single or a multiple group of parasites infected a fish. In general, the severity of infection was heavy in August and low in March. The quality of water didn't play any significant role in the infection. The analysis showed that the infection was equal in both kinds of fishes from clean to contaminated water.

On the topic, only few workers (Chubb 1967, Sinha 1986) have done work. It is unfortunate that very few studies from Nepal have been reported on the subject.

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References

- Chauhan, B. S. 1943. Trematodes from Indian Marine fishes. *Proc. Ind. Acad.Sc.*17: 97-117.
- Chubb, J. C. 1967. A review of seasonal occurrences and maturation of tapeworms in British fresh water fish. *Parasitology*.57: 13-14.
- Sinha, K. P. 1986. *Studies on helminth parasites of some air breathing fishes*. Ph. D. Thesis, L. N. Mithila University, Darbhanga.

- Shrivastava, A. K. 1985. Studies of host -parasites relationship in the cestode infection of the *Ichthyofauna of Jhansi reservoir*.
- Yamaguti, S. 1971. *Synopsis of digenetic trematodes of vertebrates vol. I & II*. Keigaku Publishing Co. Japan.

5. Role of Birds in Agricultural Pest Control

Birds are more glorious animals for recreational value than others. Birds have always fascinated mankind with their intrinsically beautiful plumage, melodious songs and artistic

behaviour (Shrestha 2000). Besides this, birds are valuable for many aspects. They are sensitive indicator of pollution. They also play great role in pest control. According to Robert Van Den