

College of Fisheries, Kishanganj
Bihar Animal Sciences University, Patna
Lecture Plan (M.F.Sc. 1st Sem, Batch: 2025)

Course Title: Parasitic Diseases of Finfish and Shellfish

Course code & Credit Hours: AAH-504; 3 (2+1)

Assigned Teacher: Dr. Pushpa Kumari

Theory	
Topics	No. of Classes
1. Host-parasite relationship Introduction and concepts of different animal associations; Important ecological terms used in parasitology	3
2. General introduction to the classification of protozoan and metazoan parasites Life cycle and Host-parasite relationship	2
3. Protozoan parasitic diseases of finfish: Diseases of importance in aquaculture, Clinical signs, Etiology, pathology, Epidemiology, Host-parasite relationship, diagnosis, treatments and control • Protozoan parasites: (Amoebic gill disease-AGD); • Ichthyophthirius, Cryptocaryon, Trichodina) • Flagellates parasites- Ichthyobodo (Costia) necatrix, Cryptobia, Amyloodinium, Trypanosoma, Trypanoplasma	4
4. Myxosporean parasitic diseases of finfish: Diseases of importance in aquaculture, Clinical signs, etiology, Pathology, epidemiology, Host-parasite relationship, Diagnosis, Treatments and control of the disease caused by • Microsporidians parasites- Glugea, Pleistophoraetc • Myxozoans parasites (Myxobolus cerebralis, Spaerospora arenicola; Kudoa thyrsites, Tetracapsuloides bryosalmonae, etc.)	4
5. Metazoan parasitic diseases of finfish: Diseases of importance in aquaculture, Clinical signs, etiology, Pathology, epidemiology, Host-parasite relationship, Diagnosis, Treatments and control metazoan parasites • Monogeneans- Dactylogyrus, Gyrodactylus, • Digeneans- Diplostomum, Sanguinicola, Neascuscuticola, Schistosoma etc., Larval trematode infection (metacercaria) • Cestodes: Diphyllbothrium latum, Caryophyllaeus, Ligula; • Nematodes: Capillaria, Camallanus & Acanthocephala: Neoechinorhynchus	6
6. Crustacean parasitic diseases of finfish: Diseases of importance in aquaculture, Clinical signs, Etiology, Pathology, Epidemiology, Host-parasite relationship, Diagnosis, treatments and control of the disease caused by • Crustacean parasites; Branchiurans- Argulus; • Copepods- Lernaea, Caligus, Lepeophtheirus, Ergasilus • Isopods- Cymothoa, Cirolina, Nerocila.	4

7. Protozoan parasitic diseases of shellfish: Diseases of importance in aquaculture, Clinical signs, Etiology, Pathology, Epidemiology, Host-parasite relationship, Diagnosis, treatments and control of the disease caused by protozoan parasites; • Ciliates-Zoothamnium, Vorticella, Epistylis; Cephaline gregarines; • Microsporidian: Cotton shrimp disease-causing microsporidians, Enterocytozoon hepatopenaei (EHP); Haplosporidian. • Parasitic diseases of molluscs: Bonamia, Perkinsus, Marteilia.	4
8. Common anti-protozoal and antimetazoal drugs applied in aquaculture	2
9. Mode of application of antiparasitic drugs and their mode of action	2
10. Definition and Classification of zoonoses and approaches to their management; Parasitic zoonoses of fish/shellfish origin Trematodes, Cestodes & Nematodes	1
Total Number of classes	32
Practical	
1. Case studies of different organs and tissues of finfish/shellfish infected with ecto and endoparasites	2
2. Collection, preservation and fixation of suitable samples for laboratory examination.	1
3. Preparation microscopic examination of tissue impression, blood/haemolymph smears	1
4. Wet-mount preparation of gill, mucus, skin scrapings etc;	1
5. Collection of faecal, intestinal content and recovery of parasites	1
6. Collection and identification of parasites	2
7. Study of morphological characters of adults and developmental stages of the protozoan and metazoan parasites of importance in aquaculture	2
8. Preparation of permanent slides, micrometry and photomicrography	2
9. Microscopic examination of already prepared parasitic specimens (collection of permanent slides)	1
10. Histopathological analysis of parasite-infected tissues and identification of parasites and histological lesions	2
11. Examination of intermediate host for larval stages	1
Total Number of classes	16

Signature of Course Instructor:

Name of Course Instructor: Dr. Pushpa Kumari