

## HAEMATOLOGICAL STUDY OF FRESH WATER FISH- *LABEO ROHITA* & *CATLA* *CATLA*

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Received on: 14/01/2020

Revised on: 04/02/2020

Accepted on: 25/02/2020

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### ABSTRACT

There are variations in blood cell count and percentage haemoglobin in different fish species, these variations are remarkable in planktophagous and carnivorous fishes found in fresh water reservoirs. In relation to change in habitat, seasonal changes, parasitic infection, effect of pollutants, relative physiological activities shows difference in haematological parameters. The blood sample of fish –*Labeo rohita* and *Catla Catla* were examined to study the blood cell count and haemoglobin percentage from vasundri Talao, Titwala (Distric-Thane.) The present study suggested that these fishes are important sources of animal protein and good for human health.

**KEYWORDS:** Differential blood cell count, Haemoglobin percentage, *Laebo rohita*, *Catla catla*.

### INTRODUCTION

The blood parameters in fishes are influenced by many factors. Quality of water, Temperature, food availability and physiological status of fish either directly or indirectly influence on blood constituents of fish. The sex, size, season and age of fishes are directly reflected on blood parameters. Changes in physico-chemical parameters may be reflected haematological parameters of the fishes. The haematological study in fishes is significant to understand the comparative physiology, in the study of phylogenetic relationship and to know the effect of pollutants on fish life. The study is also important in fisheries management especially to manage the artificial feeding and ecological parameters for effective fish culture .The remarkable work on fish haematology was by Krough and Latvh(1919), Yadav(1930)-worked on the haemotology of Channa sp. Later on other Scientist contributed in fish haematological studies are Marachi (1959), Priston (1960), Pradhan(1961)Srivastava(1968), Joshi(1990), Bhat and Singh (1981), Sharma and Joshi (1992). Recently it was observed that the haematological parameter greatly changes with seasonal change, Yeragi and Lendhe (2004).

### MATERIALS AND METHODS

The fish *Labeo rohita* And *Catla Catla* were collected from Vasundri Talao (Titwala). The blood was collected from the aorta with the help of syringe and blood was transferred to a 5 ml capacity with stopper containing EDTA as anticoagulant. Percentage of haemoglobin was determined by Cynohaemoglobin method outlined by

Blanhall and Daisley (1973). Blood cells were counted using Neubeur's hamecytometer using Hayem's solution as diluting fluid.

### RESULTS AND DISCUSSION

All the observations were from the healthy, non injured individuals. The selected haematological parameters were - Haemoglobin (Hb) for its percentage concentration from the blood, total erythrocytic count (TEC) for million/cu.mm.The Neutrophils, Eosinophils, Lymphocytes and Monocytes counting was in percentage concentration of the total W.B.C.

The haemoglobin percentage in *Labeo rohita* was 13.9%, the TEC was 1.77 million/cu mm. The percentage concentration of Neutrophils, Eosinophils, Lymphocytes and Monocytes in *Labeo rohita* was 36, 02, 40 ,02 respectively.

The haemoglobin percentage in *catla catla* was 14%, the TEC was 2.15 million/cu mm. The percentage concentration of Neutrophils, Eosinophils, Lymphocytes and Monocytes in *Labeo rohita* was 50,06, 44 ,0 respectively Breazible et.al. (1981) found less Monocytes 0.4% in carnivorous fish as compared to 2.0% in omnivorous fish, S.P Chavan et.al.(2010).

### CONCLUSION

Blood offers important profile to study fish health condition. Different blood parameters are often subjected to change depending upon stress condition and various other environmental factors. Decrease or increase in

certain blood parameters can be associated with the nature of species.

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