RESEARCH PAPER:

Morphometric and meristic characters with age of Indian major carp (*Labeo rohita* Ham) in alkaline pond soil

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SUMMARY

In the present study some changes in morphometric and meristic characters (Body traits) with age on *Labeo rohita* (Ham) "Rohu" was made at age of six, eighteen, thirtysix, and sixty months old fishes in alkaline soil pond having pH more than 9.5. Study was also compared with fishes grown in five year old pond of normal soil pH (7.0) in complete randomized design (CRD).In both type of test fishes total length, head length, muscular body length, caudal peduncle, total tail length, and body weight percentage *viz.,* fin, scale, viscera, gills and head percentage were studied. Highest total length, maximum head length and other body traits were higher in sixty month old fishes but posses lower value in alkaline soil pond as compared to normal soil pond fishes. All parameters varied significantly among themselves. In weight percentage of some body parts viz, scales and head percentage though varied significantly but fins, gills and viscera did not differ significantly in both pond fishes. The corresponding higher value of total body length in experimental fishes was recorded for fishes of same age group grown in normal soil pond. An increasing pattern in fins, scales and head percentage was reported with age whereas decreasing pattern was observed in gills percentage.

Morphometric and meristic characters are important parameter to distinguish one fish to other on the basis of body traits. In addition, taxonomy study of fishes also require characteristics and traits of the body including meristic details. Morphomertic and meristic characters though ranged from genetic variability but wide influences with rearing environmental parameters (Benguil *et al.*, 1995). Determination of age and growth contribute significantly to assess the yield potential of fishes in a water body and its characteristics. Hormonic development of important tissues results from simulation and retention of chemical components such as protein, lipids etc. require continuous acclimatization to the environment which basically occur due to alterations in water quality and also to maintain growth and health of fishes. Since pond bottoms acts as laboratory where process of minerization of organic matter takes and nutrients are released to overlying water columns hence growth,health and productivity of fish ponds depend upon physical, chemical and biological properties of pond soil.Chemical properties like pH, organic carbon, available nitrogen and potash are essential for effective pond management. Slightly acidic to neutral soil is congenial for good body growth of fishes but higher acidity or alkanity of pond water causes adverse effect not only on growth and body traits but also on biochemical constituents.

Labeo rohita Ham *"Rohu"* is one of Indian major carps due to best in protein quality and is supposed to tastiest fish but very little in formations is available on variability of body traits with age in alkaline soil pond as shown in Fig. 1.

Fig. 1 : *Labeo rohita* Ham

MATERIALS AND METHODS

Indian major carps *Labeo rohita (Ham)* of following age groups were used for study