

## Evidence for geographic heterogeneity and population differentiation in *Puntiuschola* (Cyprinidae) using morphometric analysis

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Intraspecific variation in selected morphometrics was studied in *Puntius chola*, a freshwater Cyprinid commonly reported Sri Lanka. Linear data on 18 morphometrics were obtained from individual fish collected from localities representing four distinct freshwater bodies, namely, Nilwala River (L1), Gin River (L2), Walawe River (L3) and MalwathoOya (L4). Discriminant function analysis based on size-corrected data derived a function, which had five significant contributors (head depth, anal fin length, pre-dorsal length, eye diameter and pre-orbital length) for population differentiation in *P. chola*. The function indicated a significant discriminatory power (Wilk's Lambda = 0.041,  $p < 0.001$ ) where the head depth (HD) had the greatest contribution. The first two canonical variates (CV) were accounted for 94.4% of the total variation in size corrected data (CV1: 59.2%, CV2: 35.2%). Average classification success using derived classification functions was 89.2%, where as 100% success was found for population at L3 and L4, indicating the utility of significant morphometrics for population differentiation. The plot of the canonical scores clearly separated L3 population from all the others, and L4 from others while considerable overlap was found between L1 and L2 populations. The results clearly show the population differentiation in *Puntius chola* among the studied localities. In conservation point of view, the knowledge on the existing intra-specific variation and the degree of differentiation among separate geographic demes is important.

**Key words:** Freshwater bodies, Morphometrics, *Puntius chola*

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