

# Study on environmental effects upon reproductive Biology of *Cyprinus intha* (Annandale, 1918) for replenishment of commercially viable endemic species in Inle Lake

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## Introduction

Every species of organisms must be reproduces for perpetuation of their own kinds. Reproduction in lower vertebrates including fish is seasonal, through some fish species may show a continuous reproductive cycle such as mouth brooding cichlid, *Oreochromis* spp. Most fishes spend much of their lives and energies for reproduction. The Inlay carp, locally known as Nga-phane, *Cyprinus intha* Annandale, 1918, is a native fish and is inhabited in a variety of aquatic environments in Southern Shan State (Annandale, 1918) as well as Thanlwin (Salween) basin and probably Mekong basin (Fishbase, 2007a). This species plays an important role in the food supply, as well as come into being a culture symbol of the local Intha species. It is likely that its population is more and more decrease year after year in various waters of Inlay environs.

## Materials and methods

*Cyprinus intha* species studied were randomly collected per month from local fishermen and the market of Inle environs. The timing and duration of the spawning season was estimated by the gonadosomatic index (GSI). The GSI as the quotient between the gonad weight and total weight of the fish. To examine monthly variations in feeding intensity and to correlate these variations with breeding cycles by the Hepatosomatic index (HSI). Monthly mean values of condition factor (K) were also calculated to confirm the spawning season. The basic assumption underlying the use of condition factors is that fish in better "condition" (nutritional and health status) are more full-bodied and therefore heavier at a given length.

## Result

Table .1 GSI, HIS and Condition factor of (20) Female *Cyprinus intha* in October 2019 to January 2020. The results show the condition factor (K) value in female was greater than 1. The environmental factors, food supply and parasitism have great influence on the health of the fish. The condition factor also give information when comparing two populations

in certain feeding, density, climate and other condition; when determining the period of gonadal maturation and when following up the degree of feeding activity of a species to verify whether it is making good use of its feeding source. Furthermore, confirmed that lowest K values during the more developed gonadal stages might mean resource transfer to the gonads during the reproductive period.

	GSI	HIS	K
Oct, 2019	5.91	1.64	2.92
Nov, 2019	4.55	1.41	2.92
Dec, 2019	6.44	1.58	2.76
Jan, 2020	6.10	1.20	2.09

## Discussion and conclusion

A total of 35 Specimens of *Cyprinus intha* from Samkar environs in Nyaung Shwe Township were investigated during October 2019 to January 2020. In the present study, during the study period the number of individual recorded was very low (only 35 Individuals) compared to the data of previous researchers of Inle Lake. It is assumed that, the decline of this study fish species due to the fisherman in the Inle lake are using electric shock that not only affect the fish but also wiped out the fries and eggs and also seriously damaged the overall aquatic fauna. Thus, there is a need to put awareness in local people to save endemic species of the Inle Lake and the importance of conservation of the wetland for the future generations to come. Due to the decline in the species population, genetic testing research is being carried out to ascertain whether it has hybrid with other cyprinid species.

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