

# STUDY OF MORPHOMETRIC AND MERISTIC CHARACTERS AND FOOD PREFERENCE OF *ANABAS TESTUDINEUS* (BLOCH 1795) (CLIMBING PERCH) COLLECTED FROM DIFFERENT LOCATIONS OF SRI LANKA

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## Introduction

The climbing perch, *Anabas testudineus* (Bloch 1792) is a freshwater food fish species belongs to the family Anabantidae and order Perciformes. It is widely distributed in Sri Lanka except in the central hills (Pethiyagoda 1991). It occurs mainly in low lying water bodies like swamps, marsh lands, lakes, canals, ponds, paddy fields, pools, small pits and estuaries. The species is listed as LC (Least Concern) in National Conservation Status and DD (Data Deficient) in Global Conservation Status under the National Red list 2012 of Sri Lanka. Research on morphometric and meristic characters of *Anabas testudineus* is scarce in Sri Lanka. The present study is based on the morphometric and meristic characters and food preference of *Anabas testudineus* collected from different locations in Sri Lanka.

## Methodology

Study was carried out from May to July in 2013 at four different locations, Umayalapuram tank at Paranthan,

Galkanda tank at Medawachchi, Ranaweeratank at Dambulla and Tissatank at Thissamaharamaya. A minimum number of twenty five fish were collected from each location. Keys of Pethiyagoda (1991), Fernando *et al.* (2007) and Sampath de Alwis (2007) were used in identification. Morphometric characters total length, body depth, head length, head width, snout length, postorbital length, eye diameter, length of upper jaw, length of dorsal fin base, length of anal fin base were considered. Lateral line scales, number of dorsal fin rays and spines, number of pectoral fin rays, number of pelvic fin rays and spines, number of anal fin rays and spines, number of gill rakers on first gill arch considered as the meristic characters of the fish. Gut analysis and food preference was studied using the same individuals from each sample.

## Results and discussion

Tissamaharamaya sample were with dark greenish body colour than that of Paranthan sample. They also have

slight orange in colour in the pelvic fin and belly and with a dark spot on the percale edge. Their eyes were yellowish and dark strips on the body were not distinguishable. Dambulla sample had dark greenish/ blackish coloured body and the dark bands on the body were not prominent. Although they had dark spot on the percale, belly was light orange colour and eyes were yellowish in colour. Paranthan sample with yellowish pelvic fins with dark edges and had dark coloured spot at the base of the caudal fin. A special observation in Tissamaharamaya sample was all the individuals had fused pelvic fin whereas it was absent in others. Comparatively smaller body size was recorded from Kilinochchi district and with light body coloration compared to other samples. This condition may be prevailed due to the ecological conditions such as climatic condition and water quality parameters such as salinity, turbidity, chemical compounds in the water.

The morphometric and meristic characters didn't show any significant difference ( $p > 0.05$ ) between the samples (Table 1). However the number of gill rakers was between 5-10 in the Paranthan sample whereas it was between 7-8 in other samples.

Gut analysis of the fish samples revealed that *Anabas testudineus* mainly an insectivore and also show omnivores feeding habit. According to the gut volume, main component in their diet was insect matter and plant matter whereas less amount of protein rich food such as small fish and worms was also observed. The feeding habit of the fish didn't show any variation among the study locations in the country.

### Conclusions

Although *Anabas testudineus* shows variations in the body colour pattern among the study locations, there was no such significant evidence ( $p > 0.05$ ) which contributes to different sub species level in Sri Lanka.

**Table 1 :** Some important Morphometric characters of *Anabas testudineus*

Characters	Samples (Mean $\pm$ SD)			
	Tissamahar amaya	Dambulla	Medawachchi	Paranthan
Mean standard length (cm)	7.51 ( $\pm$ 2.15)	11.53 ( $\pm$ 0.84)	9.62 ( $\pm$ 0.35)	7.36 ( $\pm$ 0.71)
Mean body depth (cm)	3.26 ( $\pm$ 0.85)	3.92 ( $\pm$ 0.49)	3.30 ( $\pm$ 0.44)	2.62 ( $\pm$ 0.59)
Average length of caudal peduncle (cm)	2.03 ( $\pm$ 0.99)	3.01 ( $\pm$ 0.48)	02.78 ( $\pm$ 0.02)	2.27 ( $\pm$ 0.40)
Mean caudal peduncle depth (cm)	1.5 ( $\pm$ 0.03)	1.88 ( $\pm$ 0.25)	1.71 ( $\pm$ 0.70)	1.30 ( $\pm$ 0.45)