

**D-22 Seasonal and size-related changes in the food of *Anguilla bicolor bicolor* McClelland in the Bolgoda lagoon**

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The feeding biology of Anguillid eels has received considerable attention worldwide during recent times. Anguillid eels are a delicacy and protein rich source in the fishery of the world. *A. bicolor bicolor* is reported from inland waters of Sri Lanka. No previous studies have been recorded on their feeding biology in Sri Lanka. The present paper embodies the results and observations of a study covering 2½ years and gives an opportunity for comparative analysis as to whether any significant variations have occurred in food habits of eels in relation to their size and feeding intensities in relation to time of the year.

Samples of eels at all stages were collected from the catch of beach-seine and bamboo traps from 4 stations of the Bolgoda lagoon in the western province of Sri Lanka.

Retained samples were anaesthetized with 4 - amino ethyl benzoate, and length (mm) and weights (g) of each measured. Stomach contents were weighed to the nearest 0.1 mg and volume 0.5ml, and were identified to the species level as far as possible, by the eye-estimating method of Pillay (1952). The state of fullness of stomach (feeding intensity) was expressed in points.

Pooling the data for the period Dec. 1993 to May 1996, it was seen that on an average 40% stomach consisted of crustaceans, 31% fish, 17% molluscs, 3% annelids, 2% insects and the rest 15% miscellaneous.

The most marked differences in the size class of <300 mm were the lack of fish in the diet and predominantly the occurrence of crustaceans and insects. The

size class of 300 - 500 mm showed no variations of selection of the diet. While the eels >500 mm remained highly piscivorous with stomach contents of 62% fishes, and 30% crustaceans.

Similarity indices among the diet of different size groups were always above 86.5%.

In September - November, GSI had a maximum value of 0.0494 with the lowest frequency of 4.45% empty stomach, While in December - February, GSI has fallen to 0.0091 with high frequency (52.33%) of empty stomach.

The average condition factors 'K' and 'Kn' were 0.8262 and 0.6331 each. The relative importance of various food items in different size classes indicate that eels exercise considerable selection in feeding.

A grant from the Univ. of Sri Jayewardenepura is acknowledged.