

Morphological Variation and Species Identification of Leaping Blenny Fish (Family Blenniidae) in Western Coast, Sri Lanka

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Leaping blenny fish which belongs to the family Blenniidae exhibits amphibious behaviors and are common inhabitants in the rocky intertidal zones throughout the world. But there is no adequate data available to show their presence in many parts of the tropics including the Northern Bay of Bengal region. In this study, morphological and molecular methods were used to identify leaping blenny fish species on the Western coast of Sri Lanka. Samples were collected from Negombo, Panadura, and Beruwala beaches to represent the Western coastal belt of Sri Lanka. Thirty blennies were collected from each site. All collected fish were analyzed morphologically by considering twelve morphometric characters and five meristic characters. Condition factor of fish at each site was also calculated. Five fish randomly selected from each site were subjected to do molecular analysis. When considering morphometric characters, there was a significant difference between the fish collected from the three sites in terms of body weight, standard length, total length, head length, maximum body depth, head depth, mouth gape, orbital length, predorsal length, length of the dorsal base, length of anal fin base and length of pectoral fin base. When comparing the mean values of each morphometric measurement for three sites, fish collected from the Panadura site showed a higher mean value than that of Negombo and Beruwala. Condition factor of fish at Negombo (0.97 ± 0.20) and Panadura (1.14 ± 0.35) showed a well-conditioned habitat, while the fish in Beruwala ($K = 0.59 \pm 0.08$) were quite lean. Overall, four different species on the Western coast of Sri Lanka were identified using molecular methods. *Entomacrodus striatus* and *Alticus monochrus* were recorded from the Beruwala site and *Istiblennius dussumieri* was recorded from Negombo. From the Panadura site, *Entomacrodus epalzeocheilos* and *Alticus monochrus* were identified. The phylogenetic tree shows that the two species belonging to the genus *Entomacrodus* are very similar to each other even though they have been found in different locations. This study shows that though the species are living in different locations they have not genetically diverged.

Keywords - Morphology, Morphometric, Meristic, Molecular, Diversity