

## **Illustration of Key Morphological Characteristics of Highly Demanded, Export Restricted and Export Prohibited Marine Ornamental Fish Species in Sri Lanka**

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The marine ornamental fish export industry becomes a valuable foreign income generator over the past few years. However, illegal exporting of marine ornamental fishes has threatened the most marine species. Illegal exports continue, despite the available sufficient regulations including Fauna and Flora Protection Act No 49 of 1993 and Fisheries and Aquatic Resources Act No. 02 of 1996 of Sri Lanka. Illegal exporting of marine ornamental fishes also attributed to the misidentification of the marine species. Therefore, the present study aimed to develop a user-friendly marine ornamental fish identification guide based on a dichotomous key which aids to minimize the misidentification issues. Ten highly demanded marine ornamental species were selected from the Sri Lanka Customs database. In addition to that, 14 export restricted marine ornamental species and 17 export-prohibited species were chosen for preparation of the guide based on Fisheries and Aquatic Resources Act No. 02 of 1996. Secondary data were utilized to identify the morphometric and meristic characters that discriminate against the fish families. Morphological characters used to identify the species are included; body colour, body patterns, pectoral fin length, presence of stripes, number and position of the photophores, and head length. Fish species that live in the same area at the adult growth stage was used for collecting morphological characteristics among individuals of the same species. Forty-one species under the 16 families were included in the dichotomous key to find out from the study that Family *Chaetodontidae* has the highest number of restricted species ( $n=12$ ). Under the prohibited species, family *Haemulidae* bears the highest number of species ( $n=4$ ). The developed guide is important for fish divers, collectors, exporters as well as customs officers to identify the restricted and prohibited species. The dichotomous key developed in the present study will be utilized for the development of marine ornamental fish identification mobile application.

*Keywords:* Dichotomous key, Marine ornamental fish, Sri Lanka, Mobile application