

Abundance of Pomacentrid, Acanthurid, and Cheatodontid fishes and the common fishing methods in Polhena and Weligama reef lagoons in the Southern Sri Lanka

Polhena and Weligama reefs are two marine habitats of Southern Sri Lanka where ornamental fish collection and capture of food fish are important activities, which have mainly affected the diversity and distribution. Reef fish are a conspicuous and diverse element of the reef fauna. Some families of reef fish are considered as valuable groups for monitoring the health of reefs and for investigating the factors influencing the high species density of reef ecosystems.

Observations were made from September 1999 to December 2001 and fish were identified and their numbers were recorded along 50m transects. The observations were made along 32 transects in Polhena and 31 transects in Weligama reef lagoons. The most abundant species were of family Pomacentridae (64 ± 77 and 74 ± 50 no. of fish per transect respectively) followed by Acanthuridae (19 ± 18 and 16 ± 17 no. of fish per transect respectively) and Cheatodontidae (4 ± 6 and 5 ± 4 no. of fish per transect respectively). In Polhena and Weligama most abundant species was *Neopamacentrus azysron* (28 ± 36 and 32 ± 36 no. of fish per transect respectively) followed by *Abudefduf vaigiensis* (15 ± 6 and 14 ± 9 no. of fish per transect respectively) and *Plectroglyphidodon dickii* (10 ± 9 and 13 ± 15 no. of fish per transect respectively). In Acanthuridae and Chaetodontidae, *Ctenocheatus striatus* (10 ± 6 and 9 ± 13 no of fish per transect respectively) and *Lutjanus decussates* (2 ± 2 and 3 ± 3 no. of fish per transect respectively) were the most abundant species in Polhena and Weligama respectively. Least abundant species of Pomacentridae, Acanthuridae and Cheatodontidae at Polhena were *Pomacentrus anularis* (0.03 ± 0.1 no. of fish per transect), *Acanthurus dussunieri* (0.2 ± 1 no. of fish per transect) and *Zanclus cornutus* (0.02 ± 0.2 no. of fish per transect) and at Weligama they were *Chrysiptera mimaculalata* (0.3 ± 0.2 no. of fish per transect), *A. dussunieri* (0.1 ± 0.6 no. of fish per transect) and *Z. cornutus* (0.03 ± 0.2 no. of fish per transect) respectively. Weligama reef lagoon showed a higher density of reef fish (239 per transect) when compared to that of Polhena reef lagoon (162 per transect), which may be due to its higher depth and less disturbance from anthropogenic activities.

Scoop netting (18 ± 4 and 14 ± 4 no. of persons per month respectively) is commonly used for ornamental fish collection. Long line (14 ± 7 and 6 ± 2), cast netting (6 ± 3 and 8 ± 5) and pole and line (5 ± 3 and 6 ± 2) are used for food fish in Polhena and Weligama reef sites. Stilt fishing (17 ± 6) is also commonly used to catch food fish in Polhena reef lagoon.