

**A STUDY OF SOME BIOLOGICAL AND FISHERIES ASPECTS OF
SELECTED EDIBLE REEF FISHES ON THE EAST AND WEST
COASTS OF SRI LANKA**

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KASUN RANDIKA DALPATHADU

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ABBREVIATIONS

- AGRRA – Atlantic and Gulf Rapid Reef Assessment
- DFAR – Department of Fisheries and Aquatic Resources
- EEZ – Exclusive Economic Zone
- FAO – Food and Agriculture Organization of the United Nations
- FARA – Fisheries and Aquatic Resources Act
- GDP – Gross Domestic Production
- GSI – Gonado Somatic Index
- HSI – Hepato Somatic Index
- LWR – Length-weight relationship
- NARA – The National Aquatic Resources Research and Development Agency
- OFRP – Out-boat engine Fiberglass Reinforced Plastic Boats
- ORE – Ocean Research & Education Foundation, Inc.
- SL – Standard Length
- SPC – The Pacific Community
- SW – Somatic weight
- TL – Total Length
- TW – Standard Length
- UNEP – United Nations Environment Programme

A Study of Some Biological and Fisheries Aspects of Selected Edible Reef Fish Species on the East and West Coasts of Sri Lanka

Kasun Randika Dalpathadu

Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

National Aquatic Resource Research & Development Agency, Crow Island, Colombo 15, Sri Lanka

Rock fishes, locally known as ‘gal malu’, are a major part of the demersal catch from the coastal waters. Though there is an increasing trend for export of the rock fish in Sri Lanka, a considerable threat for the survival of these species has been raised concurrently. The present study was undertaken with the aim of studying reproductive biological aspects and fisheries aspects of three major rock fish species with export interest (*Cephalopholis sonnerati*, *Lutjanus fulviflamma* and *Epinephelus longispinis*) found on west and east coasts of Sri Lanka. A fishery dependant survey was carried out in order to obtain relevant biological and fisheries data. Data and sample collection were carried out from January 2017 to December 2018 on a monthly basis at major landing sites and markets in the west and east coasts. The results included the Length-Weight Relationship (LWR), Fulton’s condition factor (K), Hepato-Somatic Index (HSI), size at 50% maturity (L_{50}) and spawning season(s) of *C. sonnerati*, *L. fulviflamma* and *E. longispinis*. The LWR for the west coast was $W = 0.01TL^{3.20}$, $W = 0.02TL^{2.98}$ and $W = 0.01TL^{3.14}$ while for the east coast it was $W = 0.01TL^{3.19}$, $W = 0.03TL^{2.84}$ and $W = 0.01TL^{3.02}$ for above species respectively. The L_{50} for female *C. sonnerati* on the west and east coasts were 33.9 cm (Total Length-TL) and 36.3 cm (TL) respectively. The L_{50} for female *L. fulviflamma* on the west coast was 23.0 cm (TL) while it was 22.1 cm (TL) on the east coast. The spawning season of *C. sonnerati* in studied regions is in January and February. *C. sonnerati* and *E. longispinis* populations in both regions were at a risk state due to the capturing of a large portion of immature individuals. Further, it was found that hook sizes of No. 10 and 11 are not appropriate for bottom set long line gear, as this gear largely captures immature *C. sonnerati* and *E. longispinis*. The results of this study would be useful especially for fishery biologists and fishery managers in proposing appropriate management strategies where necessary in order to manage the relevant fish stocks in a sustainable manner.