

**AII 07 Analysis of proximate composition of selected three reef fish species in the Southern region. (*Epinephelus merra*, *Lethrinus olivaceus* and *Lutjanus rivulatus*)**

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Data on chemical composition of reef fish being harvested from Southern region of Sri Lanka are limited. Therefore muscle proximate composition of commercially important three reef fish species, *Epinephelus merra*, *Lethrinus olivaceus* and *Lutjanus rivulatus* in Southern coast were studied. Moisture, protein, fat, ash and total energetic value was determined and gonado-somatic index (GSI), hepato-somatic index (HSI) and condition factor (K) was calculated. Two-way ANOVA results indicated that proximate compositions of fish depend on species but also to a great extent in reaction to sex. Within three species there was no significant difference in moisture and ash content, but there was a significant ( $P < 0.05$ ) difference in protein and fat content. Although males and females were significantly different in moisture and protein content of each species, for fat and total energetic value only *E.merra* females and males are significantly different. There was a negative correlation between moisture and protein content for three species. *E.merra* contained highest energetic value ( $6.10 \text{kJg}^{-1}$ ) of all samples and all fish investigated were high in protein (20-24%) while lipid content was less than 3%. *L.rivulatus* males have the highest condition factor (3.20), while all have condition factor higher than 1. Therefore they have enough food, space etc. and reef environment in Southern region provides better living conditions for them. Higher GSI values of males and females of *E.merra* between February and April coincided with their peak spawning season, while *L.olivaceus* has minimum GSI value whose spawning period ranged from September to October and for *L.rivulatus* from May to October. HSI is negatively correlated with total energy of females of *E.merra* and *L.olivaceus*. This may be due to energy reservation in liver than in muscles for their reproduction. But *L.rivulatus* is a fish which has lipid storage structures in their body cavity has no such correlation.

**Keywords:** proximate composition, condition factor, gonado-somatic index, hepato-somatic index, reef fish