

ORAL BD024

## Morphology and Stomach Content Analysis of Green Rough-Backed Pufferfish, *Lagocephalus lunaris* from Kuching, Sarawak

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### ABSTRACT

A total of 101 individuals of green rough-backed pufferfish, *Lagocephalus lunaris* were collected at two sampling sites and were assessed for their morphological characteristics and diet by stomach content analysis. The physical characteristics were observed and body weight (BW), total length (TL), standard length (SL) and number of fins also had been measured. The results showed that the physical body measurement in all individuals were almost similar in their range of size (TL:  $8.6 \pm 0.3$  cm; SL:  $7.0 \pm 0.2$  cm; BW:  $14.3 \pm 1.5$  g) and most individual had same distribution of spines at the dorsal part which extended to dorsal fin. The numbers of caudal, dorsal, pectoral and anal fin rays were counted, and ranged from 5 to 12, 7 to 11, 9 to 12 and 7 to 17, respectively. Analysis of the diet composition showed the fish is carnivores which prey on crabs, prawns, small fish and squids. The percent index of relative importance analysis was used to determine the important prey item of this species. From the results, crabs was identified as most important prey in Site 1 and Site 2, with value of (47.5, 55.6 %), and followed by prawns (36.3, 38.2 %), fish (5.6, 11.2 %), squids (0.7, 2.9 %) and bivalves (0.1, 1.7 %). To our knowledge, this is the first report to record the morphological characteristics and to determine stomach content of *L. lunaris* from Sarawak waters.

**Keywords:** *Lagocephalus lunaris*, morphology, stomach content analysis, index of relative importance.

### INTRODUCTION

Green rough-backed puffer, *Lagocephalus lunaris* are in the Tertaodontidae family which specifically have large four teeth. This marine pufferfish commonly distributed in tropical and subtropical seas including the South and East China Seas (Hwang *et al.*, 1992) and easily can be found in Malaysian waters. To date, only three species, *L. lunaris*, *L. spadiceus* and *L. sceleratus* which belong in *Lagocephalus* group have been recorded in Asia region which associated with pufferfish poisoning and their toxicities. Among them, *L. lunaris* is notorious species, because it contains potent neurotoxin or known as tetrodotoxin even in their muscle (Man *et al.*, 2010) and has caused severe food poisoning in Malaysian waters (National Poison Centre Report, 2009).