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STUDIES ON LENGTH WEIGHT RELATIONSHIP AND REPRODUCTIVE BIOLOGY OF *MIYAKEA NEPA* (LATREILLE, 1828) FROM THE TRAWL BYCATCHES OF MANGALORE COAST, KARNATAKA

Kishor C.*, Venkatappa, O. R. Nataraju, S. R. Somashekar and Puneeth R.

Department of Inland Fisheries, Fisheries Resources and Management,
University of Agricultural Sciences, Bengaluru and Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar,
Inland Fisheries Unit, GKVK, Bengaluru – 560 065, India.
*e-mail : kishuffishco@gmail.com

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ABSTRACT : The present study deals with growth parameters and reproductive biology of *Miyakea nepa* landed from the commercial trawl catches along the Mangalore coast of Karnataka. The length-weight showed no significant difference between the sexes. Females ranging from 3.4cm-12.6cm and males ranging from 2.4cm-11.2cm. During spawning periods the empty stomach indicates that the body cavity were covered with gonads and the species spawns peak during the month from January to April. Data on the size at first maturity of *Miyakea nepa* using cumulative frequency method showed that males mature earlier than females; the size at first maturity was 85mm in males and 90mm in females. Fecundity ranged from 36,400 to 2, 93,000 ova with an average of about 66,000 ova per female.

Key words : *Oratosquilla nepa,* fecundity, relative condition, length-weight, spawning periods.

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INTRODUCTION

Stomatopods constitute a greater part of shrimp trawl bycatches in India, indicating their dominance in the marine environment, while the utilization for food purpose is limited to few coastal people. Stomatopod is such a non-target group, their biomass in the ecosystem may have direct or indirect effects on other target groups. Mantis shrimps inhabit estuaries, coral reefs, subtidal sandflats, and waters beyond 200 m depth. They play an important ecological role in structuring marine benthic food webs (Antony *et al*, 2010) as diet of crustaceans fishes (Navia *et al*, 2011). Their burrowing activities were found to bioturbate the sediments, thus affecting the energy flow and nutrient cycling (Laverock *et al*, 2011). They are good ecological indicators of pollution stress in coral reef ecosystems (Erdmann and Caldwell, 1997) and also support economically important fishery resources worldwide. However, despite their economic and ecological importance, taxonomy of stomatopods is least studied among the Indian crustaceans. Trawling is the major human intervention in marine environment to exploit fishery resources, especially the bottom dwelling groups like stomatopods, and in the last century the extent and intensity of this fleet has expanded immensely. Recently a lot of attention has been directed at assessing the impacts of fisheries on marine ecosystems (Lai and Leung, 2003). Kodama *et al* (2006b) reported ten stages of oocyte development in *Oratosquilla oratoria*, while Ecoutin *et al* (2012) reported six stages of oocyte development in *O. massavensis*, including the post-spawning period. In order to develop appropriate fisheries management practices for mantis shrimp, both in terms of cultivation and conservation, it is imperative to understand the basics of reproductive biology along with the specific analysis of reproductive morphology and physiology. In Crustacea, oogenesis is a complex process of transformation and development of germinal cells; however, in order to control this process in artificial systems, it is vital that we understand the basic reproductive process. Thus, understanding the sequence of developmental stages in the female gonad is essential (Mulyono *et al*, 2017). Males attained sexual maturity at

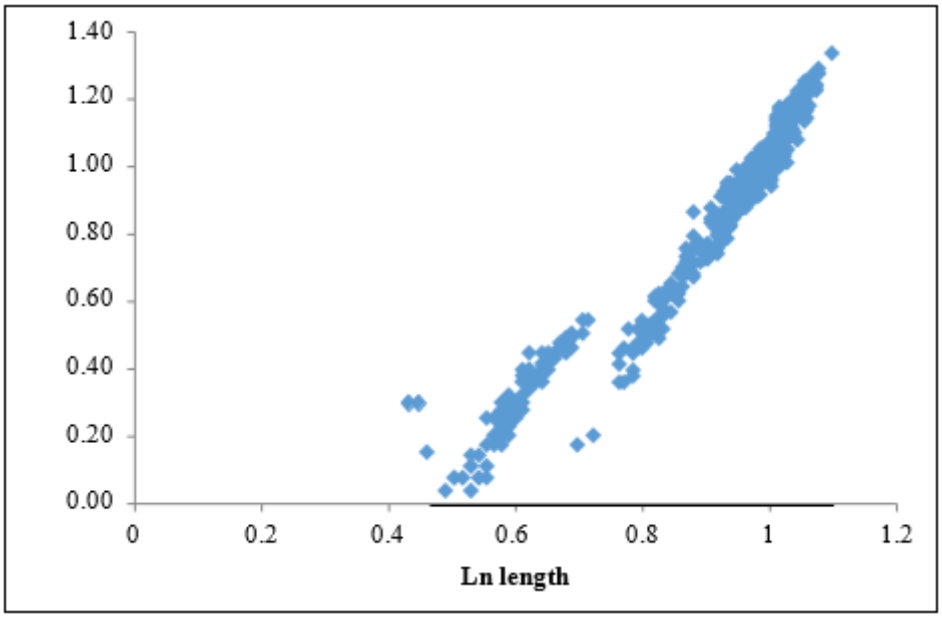

Fig. 1 :

Table 4(b) : Mean value of Relative condition factor (Kn) of *Oratosquilla nepa.*

Months	Male		Female	
	N	Kn	N	Kn
September 2014	28	0.618255	72	0.628262
October	23	0.631813	77	0.622127
November	26	0.642021	74	0.622393
December	39	0.681279	61	0.610282
January 2015	31	0.711705	69	0.722694
February	31	0.72963	69	0.709088
March	25	0.733903	75	0.704654
April	30	0.73188	70	0.711615
May	17	0.685782	83	0.658062

stages, it was observed that the size range at first maturity was 80-85mm and 85-90mm for males and females of *Miyakea nepa*, respectively

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