

Comparative Study of the Major Nutrients of *Macrobrachium idella* (Hilgendorf, 1898)

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Proximate analysis has great importance for assessing the nutritive value of food organisms. Such data on many aquatic products are not available. The proximate composition of palaemonid prawns have not been determined. The present paper is a comparative study of the proximate composition of *Macrobrachium idella* (Hilgendorf, 1898) from three biotops.

M. idella were collected fortnightly for one year during 19.00 - 21.00 h by using castnet from Vellayani lake (freshwater), Aukulam lake (fresh and brackish waters depending on the opening and/or closure of bar mouth) and Poonthura lake (brackish water). Males and females were separated. Males were classified, into subadults and adults and females into subadults, adults, berried and dehiscent (Jayachandran & Joseph, 1988). The prawn meat was analysed for moisture (AOAC, 1975), glycogen (Seifter *et al.*, 1956) lipid (Bligh & Dyer, 1959) and total protein (Wong, 1923). All colourimetric measurements were made in spectronic 20.

Results of the proximate composition of the various groups of *M. idella* from three biotops are given in Table 1. The lowest value of protein was found in female dehiscent from Vellayani lake (13.83 ± 2.7) and highest value in female dehiscent from Aukulam lake (19.37 ± 3). Statistical analysis showed no significant difference in protein content between sexes and prawns inhabiting the three biotops. Fat content was high

in these species. High lipid content has been reported in mature females of *Metapenaeus affinis* and *Penaeus merguensis* (Achuthankutty & Parulekar, 1984). Glycogen content in all the samples was in the range 0.33 to 0.51%. Moisture content ranged between 69.4 to 78.08%. It can be deduced from the present analysis that the chemical composition of the muscle tissue of *M. idella* does not significantly change with size, sex, or degree of maturity.

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Table 1. Percentage composition of major nutrients of *M. idella* from Vellayani (V), Aukulam (A) and Poonthura (P) lakes. All values are on wet weight basis

Stage/sex	Biotope	Glycogen %	Protein %	Fat %	Moisture %
Male sub-adult	V	0.360±0.05	16.48±2.1	4.67±0.69	74.42±3.48
	A	0.42±0.06	18.82±2.6	5.21±0.78	70.98±4.03
	F	0.41±0.10	17.72±2.4	5.05±0.66	72.93±5.53
Male adult	V	0.40±0.07	18.39±1.3	5.27±0.47	71.63±2.18
	A	0.37±0.06	17.85±1.3	5.05±0.33	72.72±1.96
	F	0.33±0.03	16.18±1.4	4.64±0.41	75.24±2.08
Female sub-adult	V	0.37±0.06	15.51±2.2	4.71±0.75	75.56±3.52
	A	0.35±0.08	16.93±2.3	4.83±0.63	73.66±3.60
	F	0.35±0.07	14.83±2.4	4.25±0.63	76.81±3.41
Female adult	V	0.40±0.01	15.55±0.3	4.73±0.17	76.01±0.79
	A	0.41±0.06	17.73±1.1	5.11±0.29	73.09±1.54
	F	0.30±0.01	17.26±0.9	4.93±0.36	74.06±1.17
Female berried	V	0.36±0.06	17.22±1.0	5.50±0.42	73.52±1.58
	A	0.42±0.06	18.40±1.7	5.54±0.49	71.96±2.54
	F	0.36±0.07	16.14±2.9	4.79±0.84	75.21±4.54
Female dehisid	V	0.34±0.08	13.83±2.7	4.01±0.75	78.08±4.27
	A	0.51±0.04	19.37±3.0	5.38±0.69	69.40±4.37
	F	0.36±0.09	14.87±2.0	4.13±0.66	76.85±3.43
Average		0.38±0.05	16.84±1.48	4.88±0.43	74.01±2.19

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