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Note

A note on the blunthorn lobsters from Chennai

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Abstract

The Japanese blunthorn lobster, *Palinustus waguensis* was landed at Chennai's trawl landing centre by deep sea trawlers operating along the Tamilnadu coast in February, April, August and September 2004. The specimens collected were in the size range of 32 – 48 mm carapace length (CL) in February and 53 – 75 mm in August. The females sampled were all in an advanced state of maturation, with ripe ova, in both the months. The length-weight relationships were derived as $W = 0.000265\ L^{3.24}$ for males and $W = 0.000244\ L^{3.23}$ for females.

The Japanese blunthorn lobster, *Palinustus waguensis* Kubo, 1963, is so far been reported to occur in the waters off Honshu Island, Japan (Kubo, 1963). Sekiguchi and Okubo (1986) mentioned 15 specimens from the east and south coast of Kii Peninsula (Mie and Yamagata prefectures) without giving precise localities. Specimens have also been collected from the Andaman Sea (Thailand). A juvenile stage has been obtained from the Bay of Amboina (Indonesia). George and George (1965) reported catches of *P. mossambicus* from the southwest coast of India. Holthuis (1991), has stated that the taxonomic status of *P. waguensis vis a vis P. mossambicus* is far from clear and requires a closer study.

Large trawlers (OAL) operating in the depth range of 300 – 450 m off the Tamil Nadu coast from Pondicherry to Nagapattinam, landed deep sea lobsters at Kasimedu (Chennai) in February, April, August and September 2004. The lobster catch was comprised of *P. waguensis*, *Nephropsis carpenteri* (Wood-Mason, 1885) and *Nephropsis stewarti* Wood-Mason, 1872. This note presents in brief, the results of observations on *P. waguensis*.

Materials and methods

Data on catch and effort were collected by enquiry at the trawl landing centre at Kasimedu (Chennai). 42 specimens, comprising 24 males and 18 females were analysed for morphological and biological characteristics and morphometric measurements. The Carapace length (CL) - weight (W) relationship was derived by regression after log transformation and expressed as log W = a + b log CL. Analysis of covariance was done by the method of Snedecor (1961).

Results and discussion

Deep sea lobsters formed 0.01 – 0.54% of the total catch by deep sea trawlers during February, April, August and September 2004, with maximum catch in August (Table 1). Deep sea lobster catches along this coast are usually high during March – April and predominantly constituted by *Puerulus sewelli* while in 2004 the landings peaked during August – September and 99% of the catch was constituted by *P. waguensis*. The rest of the lobster catch was comprised of Galatheids. Interestingly, there was no landing of deep sea lobsters during October – December and the entire catch was made up of only deep sea shrimps.

Description: Body reddish brown in colour. Eyes dark brown. Antennular peduncles reddish. Antennules, antennae and pereiopods with white bands (Fig.1). Tail fan dark reddish brown. Heavily pubescent body with well developed spines. 5 -7 spines on anterior margin of carapace between supraorbital horns. 5 spines on inner margin of supraorbital horns. Antennal and branchiostegal spines almost as long as widest diameter of eye; postorbital spine shorter. 2 strong spines on dorsomesial surface of distal antennal segment. Epistome with central region evenly tuberculate. Thoracic margins serrated. Dactyli of pereiopods short. Abdominal tergites pubescent. Margin of I abdominal sternite heavily spinulose. Posterior margin of VI abdominal tergite distinctly serrated

The spines along the anterior margin of the carapace, the reddish brown ground colouration with banded antennae and legs in the specimens collected at Chennai match the description given by George and George (1965) and George (1973) for *P. mossambicus*. The specimens obtained in the present study bear several distinct

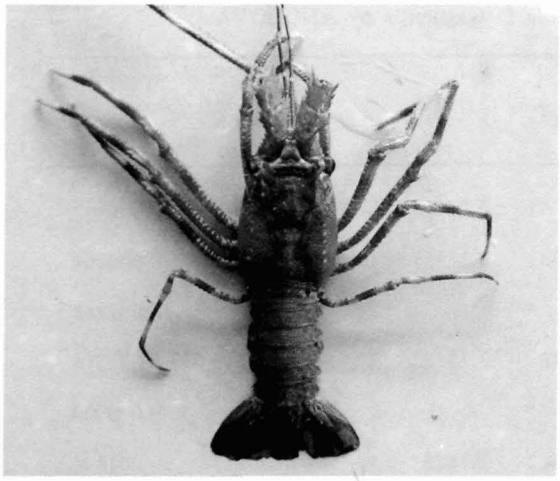

Fig. 1. *Palinustus waguensis* landed at Chennai trawl landing centre

spines along the anterior margin of the carapace and the inner margin of the frontal horns, which agree with the description given by Holthuis (1991) for *P. waguensis*. The sketches given by the author depict flexible antennae. The specimens obtained from Chennai, however, have rigid, non-flexible antennae. The morphological characteristics and appearance of these specimens are more in agreement with the description given by Chan and Yu (1995) for *P. waguensis*.

Size: The specimens collected in February 2004 were in the size range of 32 – 48 mm carapace length (CL). In August, the size range was 53 – 75 mm CL. The morphometric measurements of the specimens obtained are given in Table 2. The length of these specimens are considerably greater than the maximum lengths given by Holthuis (1991). The carapace length-weight relationships in males and females were derived from the samples collected (CL range : 32 – 75 mm, n = 24 males, 18 females) as –

Male : $W = 0.000265\ L^{3.24}$ ($r = 0.9663$)

Female : $W = 0.000244\ L^{3.23}$ ($r = 0.9986$)

The slopes of the two regression lines did not differ significantly. The elevations however, showed significant difference (Table 3). The average ratio of carapace length in total length in *P. waguensis* was 0.36, which is similar to the ratios observed in the spiny lobsters *Panulirus homarus* and *P. polyphagus*. All the females sampled in February and August were in an advanced state of maturation with ripe ova.

Table 1. *Landing of lobsters by deep sea trawlers at Chennai during 2004*

Month	Effort units	Lobster catch (kg)	Total catch (t)	% in total fish catch
Feb.	23	19	150	0.014
Apr.	54	13	1300	0.01
Aug.	3	350	64	0.54
Sep.	26	150	100	0.15
Oct.	25	0	33	0
Nov.	5	0	8	0
Dec.	5	0	6	0

Table 2. *Average morphometric measurements of* P. waguensis *landed by deep sea trawlers at Chennai during February and August 2004 (std. deviation values in parenthesis)*

Month	Sex	CL	TL (mm)	VSL (mm)	III walking leg (mm)	IV walking leg (mm)	V walking leg (mm)	Weight (g)	No. of samples
Feb.	M	39.6	110.6	28.2	105.1	92.5	82.9	43.2	17
		(4.4)	(11.1)	(3)	(9.7)	(8.4)	(5.5)	(14.4)	
	F	35.5	96.6	-	75	74.5	58.5	25.5	11
		(3.1)	(7.8)	-	(5.7)	(6.4)	(6.4)	(6.4)	
Aug.	M	64.3	173.4	-	-	-	-	182.1	7
		(8.5)	(21.2)	-	-	-	-	(65.7)	
	F	63.6	164.7	-	-	-	-	151.4	7
		(7.6)	(18.6)	-	-	-	-	(52.2)	

Table 3. *Comparison of CL-W regression of male and female* P. waguensis by ANOCOVA

Source	d.f.	sumX^2	sumXY	sumY^2	b	d.f.	Deviation from regression SS	MS
Males	23	0.05152	0.16696	0.57947	3.24065	22	0.0384	0.001746
Females	17	0.31508	1.0188	3.30333	3.23351	16	0.00902	0.000564
Pooled						38	0.04742	0.001248
Common	40	0.3666	1.18576	3.8828	3.23452	39	0.04743	0.001216
Regression coefficients						1	5E-06	0.000005
Total	41	0.40903	1.29355	4.15662	3.1625	40	0.06576	0.001644
Adjusted Means						1	0.01833	0.018328

Comparison of slope	0.004006	(1,39)	4.091278	NS
Comparison of elevation	15.07237	(1,40)	4.084746	S**

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