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## A NOTE ON THE FIRST REPORT OF *MACROBRACHIUM JOSEPHI* JAYACHANDRAN, 2001 OUT OF THE TYPE LOCALITY

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### INTRODUCTION

While examining the freshwater prawns deposited in the Southern Regional Station of the Zoological Survey of India, the authors have come across *Macrobrachium josephi* Jayachandran, 2001 (Plate-1), which is known to occur only in Kerala. From earlier reports it is known that nearly 10 species of the freshwater prawns of the genus *Macrobrachium* are available in Tamil Nadu (Raghunathan and Valarmathi, 2005). The species reported are *Macrobrachium aemulum* (Nobili), *Macrobrachium australe* (Guerin-Meneville, 1838), *Macrobrachium canarae* (Tiwari, 1958), *Macrobrachium lamarrei lamarrei* (H. Milne Edward, 1952), *Macrobrachium malcolmsonii* (Milne Edward, 1837), *Macrobrachium nobilii* (Henderson and Matthai, 1910), *Macrobrachium rosenbergii* (de Man, 1879), *Macrobrachium rude* (Heller, 1862), *Macrobrachium scabriculum* (Heller, 1862), *Macrobrachium indicum* Jayachandran et Joseph, 1986. The present study yields one more species of *Macrobrachium* to Tamil Nadu.

### MATERIAL EXAMINED

3G and 3E from a rock pool, Medavakkam, Chennai, Tamil Nadu, 09-VII-2004, Coll. : K. Valarmathi.

### DIAGNOSTIC CHARACTERS

Rostrum with slight basal crest raised above the orbit and is longer than the antennular peduncle but falls short of the antennal scale. The upper margin of the rostrum is provided with 10 to 13 teeth of which 2 or 3 are located on the carapace, and the lower margin of the rostrum possesses 5–6 teeth. The structure and the arrangement of spines on the rostrum are similar to *Macrobrachium malcolmsonii*. The length of the rostrum is shorter than the carapace (rostrum 0.57 to 0.6 times of

the Carapace). In larger adult males the carapace is scabrous due to the presence of minute prickles. But in females and smaller males the carapace is smooth. Sexual dimorphism is observed based on the II cheliped. In male the second cheliped is very strong and well developed with thick tubercles but in females it is short, slender and smooth. The second cheliped in larger adult males are longer than the total body length (cheliped 1.63 to 1.66 times of the total body length). The fingers are dissimilar, the movable finger is slightly shorter than the immovable finger and is covered with dense pubescence except in the tip, but the immovable finger lacks such pubescence. Both the fingers are slightly curved at the tip and they oppose each other when closed. Both the fingers have two small tubercles which fix when the fingers are closed. Fingers are distinctly shorter than palm (Fingers 0.45 to 0.72 times of the palm). Carpus longer than the finger, palm, merus and ischium but shorter than the chela and the combined length of the merus and ischium. Merus shorter than the palm and carpus but longer than the finger and ischium.

Appendix masculina of the male II pleopod reaches half of the endopod and provided with setae on its entire length.

**COMPARISION OF *MACROBRACHIUM JOSEPHI* AND  
*MACROBRACHIUM MALCOLMSONII* :**

The following table shows the difference between the *Macrobrachium josephi* and *Macrobrachium malcolmsonii*.

<i>Macrobrachium josephi</i>	<i>Macrobrachium malcolmsonii</i>
1. Carapace 1.49–1.73 times longer than the rostrum.	1. Carapace 1.11–1.55 times longer than the rostrum.
2. Carapace of the adult males scabrous due to the presence of minute prickles.	2. Carapace of the adult males smooth.
<b>3. II Cheliped of the adult male.</b> a) Total length of the II cheliped is 1.63–1.66 times of the total body length. b) Finger/Palm = 0.45–0.72. c) Chela/Carpus = 7.35–11.92 d) Movable finger is very densely pubescent. e) Entire cheliped is with well developed strong tubercles. f) Maximum size recorded 193mm (Male)	<b>3. II Cheliped of the adult male.</b> a) Total length of the II cheliped is 0.75–1.09 times of the total body length. b) Finger/Palm = 0.67–0.87. c) Chela/Carpus = 5.98–8.67. d) Movable finger is slightly pubescent. e) Entire cheliped is with poorly developed weak tubercles. f) Maximum size recorded 230 mm (Male)

<p>g) Length of the various proportion of the II cheliped of 184.5 mm male.</p> <p>Finger = 34mm Palm = 76mm Chela = 110mm Carpus = 87 mm Merus = 65 mm Ischium = 36mm</p> <p>Total length of the cheliped = 300. 8mm</p> <p>h) The average % of various proportion of male second cheliped.</p> <p>Finger = 13.86% Palm = 23.01% Carpus = 26.38% Merus = 20.44% Ischium = 14.42%</p> <p>i) The average % of various proportion of female second cheliped.</p> <p>Finger = 13.23% Palm = 18.75% Carpus = 26.53% Merus = 20.89% Ischium = 20.60%</p>	<p>g) Length of the various proportion of the II cheliped of 184.5 mm male.</p> <p>Finger = 34.5m Palm = 47.5mm Chela = 82mm Carpus = 52 mm Merus = 42 mm Ischium = 32mm</p> <p>Total length of the cheliped = 208mm</p> <p>h) The average % of various proportion of male second cheliped.</p> <p>Finger = 16.78% Palm = 21.86% Carpus = 24.96% Merus = 19.96% Ischium = 16.41%</p> <p>i) The average % of various proportion of female second cheliped.</p> <p>Finger = 13.23% Palm = 16.76% Carpus = 28.12% Merus = 21.03% Ischium = 20.89%</p>
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#### DISTRIBUTION

Veli Lake (Type locality), Kulathoor rivulet (Kerala, India).

#### REMARKS

Earlier *Macrobrachium josephi* was described by Jayachandran (2001) from Kerala and the maximum size of the species recorded by him is 185 mm. In his account on the Biodiversity, Taxonomy, Biology and Management of Palaemonid prawns Jayachandran (2001) has differentiated *Macrobrachium josephi* from other larger species like *Macrobrachium birmanicum* and *Macrobrachium malcolmsonii*. For the first time *Macrobrachium josephi* is recorded outside Kerala from Tamil Nadu. Also it is worthy to mention that the maximum size recorded during the present study is 193 mm. this will form the largest specimen of the species so far reported.

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