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ON A NEW RECORD AND REDESCRIPTION OF *MACROBRACHIUM NOVAEHOLLANDIAE* FROM INDIAN WATERS (DECAPODA, PALAEMONIDAE)

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INTRODUCTION

Macrobrachium novaehollandiae is a medium sized prawn which was considered as exhibiting isolate distribution, having been recorded only from the Australian region (Holthuis, 1950). During a survey of the palaemonid prawns of the south-west coast of India, specimens belonging to the above species were obtained. Since a few major variations have been noticed in these forms a brief redescription of the species is attempted.

SYSTEMATIC ACCOUNT

Macrobrachium novaehollandiae (De Man)

1882. *Palaemon ornatus* : of Haswell, *Catal. Austr. Crust.* : 196 (non Olivier, 1811).
1908. *Palaemon* (*Eupalaemon*) *novae-hollandiae* De Man, *Ann. Mag. nat. Hist.* (8) 1 : 363-370, pl. 16.
1835. *Palaemon* (*Parapalaemon*) *aemulus* : Boone, *Bull, Vanderbilt mar. Mus.* 6 : 157, pl. 40 (non Nobili, 1906).
1950. *Macrobrachium novaehollandiae* Holthuis, *Siboga Exped.* 39 (a9) : 155-156.

Material : Three adult specimens of *M. novaehollandie* were collected from Paravur Lake, Quilon District, Kerala, India during September, 1982.

Measuremets (mm) of a male specimen of 87 mm in Total length : Carapace length-23, length of rostrum-17, length of telson-12.5. First chelate leg—Ischium (i)-6.5, merus (m) -9.5, carpus (c) -12, propodus (p) -5, dactylus (d) -2.5

Second chelate leg-i-14, m-17, c-32, p-40, d-13. First non-chelate leg-i-6, m-12, c-6.5, p-10.5, d-3.5. Second non-chelate leg-i-5.5, m-11, c-7, p-11, d-3.5. Third non-chelate leg-i-6.5, m-11, c-6.5, p-11, d-3.5

Description : Rostrum long, slender, extending as far as the distal end of the antennal scale ; basal crest not elevated ; distal end of rostrum curved upwards ; upper margin with 9 teeth ; first three teeth behind the orbit ; the first dorsal tooth situated at about the anterior 1/4 the length of the carapace ; second tooth slightly separated

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from the first ; 2nd to 7th teeth equidistantly spaced ; 8th tooth separated from the 7th by a distinct gap, 9th tooth closer to 8th. Ventral margin with four teeth ; 1st ventral tooth almost at the level of the 6th dorsal tooth ; 2nd between 6th and 7th dorsal teeth ; 3rd almost at the level of the 7th dorsal todth ; 4th behind the level of the 8th dorsal tooth. The rostral formula of the species is 9/4 of which first 3 teeth are post-orbital (Fig. 1a).

Carapace smooth ; antennal and hepatic spines characteristic of the genus present ; the latter situated behind an below the level of the former (Fig. 1a).

Abdomen glabrous ; pleurae of 1st to 3rd typical ; that os 4th and 5th backwardly directed and that of 6th spinous (Fig. 1b).

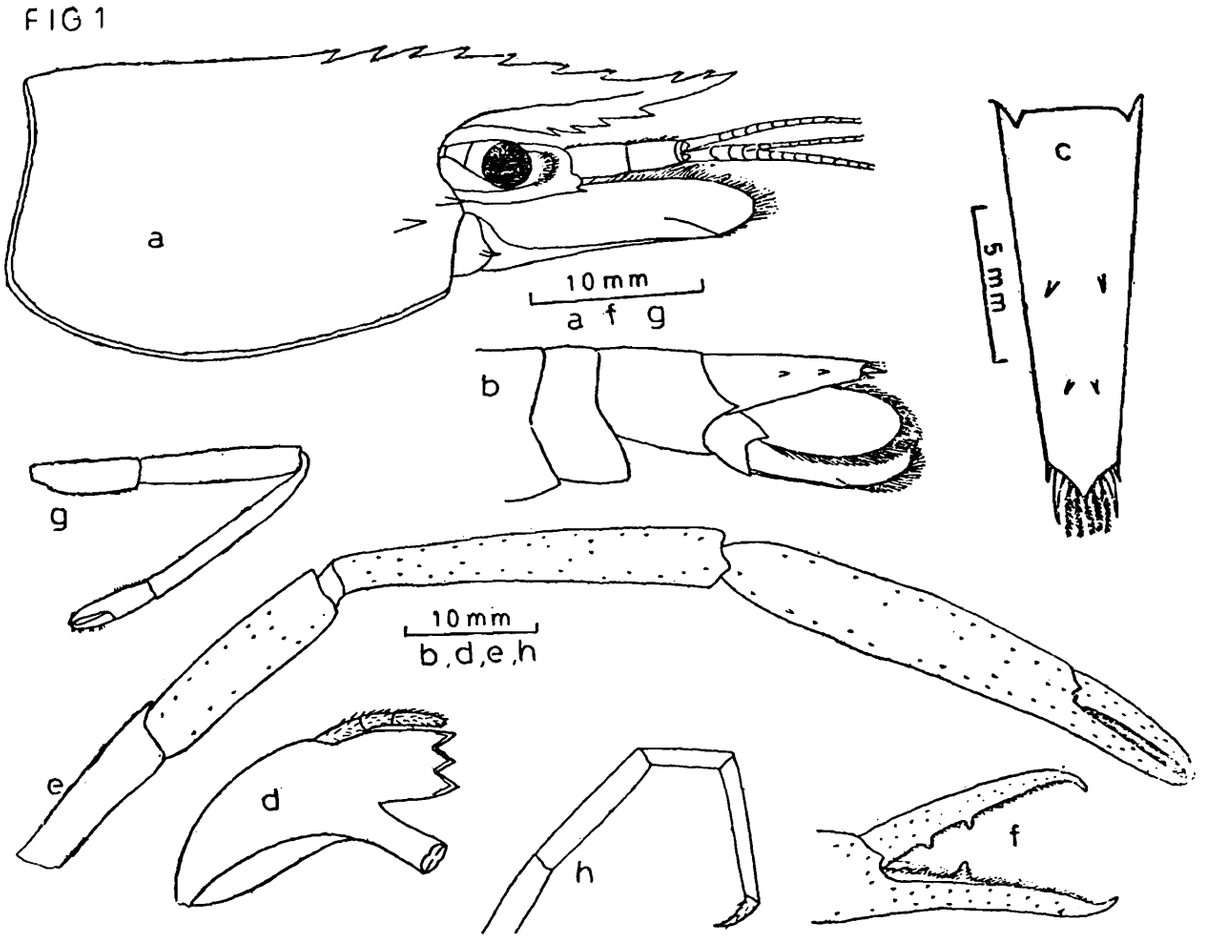

Fig. 1. *Macrobrachium novaehollandiae ;* a—Caphalothorax ; b—posterior abdomen ; c—Telson entire ; d—mandible ; e—second chelate leg ; f—part of 2nd chela showing denticle on the cutting edges of the fingers ; g—first chelate leg ; h—first non-chelate leg.

Telson robust ; posterior end of telson extends beyond the outer spine of the exopod of the uropod. The dorsal surface with two pairs of spines ; the proximal pair

situated slightly above the midway along the length of telson ; the distal pair above the midway between the first pair and tip of telson. Posterior end of telson bears two pairs of spines ; the outer pair smaller and immovable ; inner pair longer and movable, overreaches the tip of telson. A few plumose setae present in between the movable spines (Fig. 1c).

Antennules typical ; three segments of the peduncle in the ratio 7.5 : 3 : 3.5. Antennae typical. Mandibles with the apophysis about 11/2 times as long as the incisor process ; incisor process tridentate ; mandibular palp three segmented ; first segment smaller than the third segment ; middle segment smallest and the third segment longest (Fig. 1d). First maxillae, second maxillae, first to third maxllipeds typical. Third maxillipeds with endopod reaching beyond the tip of the antennal flagellar peduncle.

First pair of chelate legs typical ; ischium longer then propodus, dactylus ; but shorter than merus, carpus. Merus shorter than carpus, reaches the level of the distal end of the antennal flagellar peduncle ; carpus reaches the level of the distal end of the antennal scale ; plam equal to fingers (Fig. 1g).

Second chelate legs robust, equal sized ; ischium flat and smaller than merus, carpus and propodus ; but slightly longer than dactylus. Merus smaller than carpus, propodus ; distal end of merus reaches almost to the level of the antennal scale. Carpus shorter than the chela and slightly longer than palm but almost equal to the combined length of ishium and merus. Palm swollen ; dactylus about 1/2 the length of propodus, proximal part of the cutting edge with two denticles ; fixed finger with one prominent denticle and two smaller denricles present between the prominent denticle and the proximal part of the finger. A few short setae present on the cutting edges of the fingers (Figs. 1e & f).

Three pairs of non-chelate peraeopods simple ; ischium shorter than carpus ; merus equal to propodus or slightly longer ; dactylus simple (Fig. 1 h).

Pleopods and uropods typical.

Remarks : *M. novaehollandiae* is recorded for the first time from India. The species has been recorded only from the Australian region (from Australia and New Caledonia) (Holthuis, 1950). With this report, the distribution of the species has been Scientific name *Palaemon ornatus* Olivier, 1811 by Haswell (1882).

De Man (1908) has extensively described a new species *Palaemon* (*Eupalaemon*) *novaehollandiae* from Sydney, New South Wales. In recording this, De Man pointed out that the species recorded by Haswell does not belong to *P. ornatus* Olivier but a new species described by him as *P.* (*E.*) *novaehollandiae.* In the revision of the subfamily Palaemoninae, Holthuis (1950) has agreed to the above suggestion. In his own words ".....as pointed out by De Man (1908) the specimens mentioned by Haswell under the name *Palaemon ornatus* do not belong to that species (= *Macrobrachium lar*), but are in

reality *M. novaehollandiae*". In retaining the scientific name Holthuis (1950) writes" .....as the present species, as far as I can find, has not been described as new before 1908, the name *novaehollandiae* proposed by De Man, in case that the species might prove to be distinct from *Palaemon danae*, must be used". *Palaemon ornatus* Olivier, 1811 has been synonomysed with *Macrobrachium lar* (Fabricius, 1798).

The specimens studied here agree with the detailed descriptions of De Man (1908). A few differences exhibited by the present specimens on comparison with the original descriptions of De Man (1908) are given in Table I.

Table 1

A comparison of different characters of *M. novaehollandiae* from Sydney (based on De Man, 1908) and that from Kerala (present description)

Characters	Sydney	Kerala
1. Nature of rostrum	Reaches to the midway between the tip of the antennal scale and that of the spine at the far end of the outer margin	Reaches up to the tip of the antennal scale
2. No. of dorsal rostral teeth	10, of which 3 post-oribtal	9, of which 3 post-orbital
3. Nature of 2nd to 8th dorsal rostral teeth	2nd to 8th dorsal rostral teeth are equidistantly spaced	2nd to 7th dorsal rostral teeth are equidistantly spaced
4. Relation between merus and antennal scale (1st chela)	Merus projects 2/3 length beyond the antennal scale	Merus ends at the level of the tip of the antennal scale
5. Nature of 2nd Chela	Chela slender	Chela slightly swollen
6. Relation between chela and carpus	Chela 1/4 the length longer than carpus	Chela 1/5 the length longer than carpus
7. Width of palm and carpus	Width of palm equal to carpus	Width of palm greater than carpus and swollen

This report of the species from India proves beyond doubt that it is a clear case of discontinuous distribution.

Summary

M. novaehollandiae is a medium sized prawn considered as exhibiting an isolated distribution in the Australian region. A few specimens were recorded from Indian

waters for the first time. A redescription of the species is given because of a few major differences noted. With this report this species has to be considered as exhibiting a case of discontinuous distribution.

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