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A NEW SPECIES OF THE GENUS MACROPHTHALMUS LATREILLE, 1829 (DECAPODA: BRACHYURA: OCYPODIDAE) FROM THE GULF OF CARPENTARIA, QUEENSLAND

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(With one plate and one text-figure)

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SYNOPSIS

A description is given of *Macrophthalmus abercrombiei* sp. nov., based on three male specimens, and comparison is made with the closely allied *Macrophthalmus definitus* Adams & White, 1848.

INTRODUCTION

The genus *Macrophthalmus* is Indo-Pacific in distribution, occurring from South Africa (Barnard, 1950; 1955) to the Tuamotu Archipelago (Nobili, 1906), and from Japan (Sakai, 1939; 1965) to Australia (Haswell, 1882; Ortmann, 1897). Thirty-seven valid species have been described from this region.

DIAGNOSIS AND DESCRIPTION

Macrophthalmus abercrombiei sp.nov.

(Plate VIII; Text-figure 1A-D)

Material examined

1 ♂ (17.5 mm carapace length), trawled from mouth of Norman River, near Karumba, Gulf of Carpentaria, Queensland. Dec. 1963. C.S.I.R.O. Prawn Survey. Australian Museum Reg. No. P.15097. HOLOTYPE (specimen figured). 2 ♂♂ (15.25 and 17.0 mm carapace length), trawled from $1\frac{3}{4}$ fathoms, 17°36′S—140°09′E, South East corner of Gulf of Carpentaria, Queensland. 16 Dec. 1963. C.S.I.R.O. Prawn Survey. Australian Museum Reg. Nos. P.15141-42. PARATYPES.

Diagnosis

Proximal half of lateral margins of front studded with small granules, anterior margin straight. Outer quarter of lower orbital border without granules. Surface of carapace granulated, except central "shiny" areas. No longitudinal granular rows in branchial region, no transverse row at level of third anterolateral carapace teeth. Greatest carapace breadth between posterior margins of second lateral teeth. Palm of male cheliped elongate, narrow, hairless and with feeble granulation.

Description

Front (Plate VIII)

Narrow; deeply furrowed and with granular surface; lateral margins markedly constricted between ocular peduncles, proximal half of lateral margins with granules, distal half and anterior margin smooth, latter straight.

Orbital borders (Plate VIII)

Upper border transverse, with no backward slope, slightly curved, studded with rounded granules increasing in size towards external orbital

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angles. Lower border markedly projecting; inner three-quarters straight, studded with large tubercular granules; outer quarter abruptly sloping and without granules, smooth.

Anterolateral teeth (Plate VIII)

External orbital angle large, broad, pointed, directed forwards and outwards, separated from second lateral tooth by deep V-shaped incision; forward margin with large granules (continuation of granulation of upper orbital border); outer margin straight, margins diverging towards second lateral teeth, with smaller granules than forward margin. Second lateral tooth large, broad, bluntly pointed, directed outwards and forwards, projecting beyond external orbital angles, separated from third lateral tooth by small incision; outer margins convex, divergent, with granules as in preceding tooth. Third lateral tooth very small, pointed, outer margin with granules.

Carapace (Plate VIII)

Moderately broad, deeply furrowed, surface covered with granules except epigastric, protogastric, gastric, cardiac, intestinal, and contiguous hepatic and branchial regions, which are smooth and shiny. Granules largest surrounding gastric, cardiac and intestinal regions. Lateral margins convex, greatest carapace breadth occurring across posterior margin of second lateral teeth, behind which carapace sides parallel. Lateral margins with row of fine hairs along length. Sparse hairs on carapace in branchial region. Just above insertion of fourth pereiopod, short concave granular row, composed of nine, closely positioned granules; no other granular rows or clumps present.

Ocular peduncles (Plate VIII)

Long and narrow. Eyes reaching to bases of external orbital angles.

Male cheliped (Text-figure 1A)

(a) Merus

Elongate. Upper margin with a few granules centrally and longitudinal row of fine hairs. Lower margin with a few sharp granules distally, a thick mat of hairs proximally. Inner margin produced into long ridge for most of its length, completely covered in mat of hair. Outer surface smooth, hairless. Inner surface smooth with mat of hair near inner margin. Under surface completely covered with thick hair.

(b) Carpus

Elongate, hairless. Outer surface smooth; inner surface with scattered, isolated, large granules. Upper margin with sparse granules, lower margin smooth.

(c) Chela

Palm elongate, narrow, without hair, smooth, without granules or tubercles visible to naked eye, except sparse granules along proximal half of upper margin, and clump of forwardly directed tubercles, near joint with dactylus, on both inner and outer surfaces. Microscopically, small granules on outer surface of palm. No longitudinal ridge on outer surface.

Index long, markedly deflected downwards and inwards, lower margin forming concave line with that of palm. Outer surface smooth, inner surface with few small granules. Lower margin smooth. Cutting margin with large, wedge-shaped, serrated tooth, occupying proximal half; distal half with rounded granules. Index with spooned tip fringed with long hairs on inner margin, remainder of fingers hairless.

Dactylus curved, long, deflected inwards. Outer surface with few minute granules, inner surface with longitudinal series of slightly larger granules. Upper margin with longitudinal series of granules, largest distally. Cutting

margin with small quadrangular tooth near base; remainder of margin distally with scattered conical granules, densest near tip.

Pereiopods

Meri hairy; upper margin with longitudinal series of long hairs; under surface covered with "felt" of small hairs; sides with scattered hairs; no granules on under margins; well developed distal spines on upper margins of first to third meri. Carpi and propodi densely hairy on upper margins, finely hairy on under margins. Carpi without longitudinal ridges. Dactyli broad, lanceolate with median ridge, margins haired.

Male abdomen (Text-figure 1C)

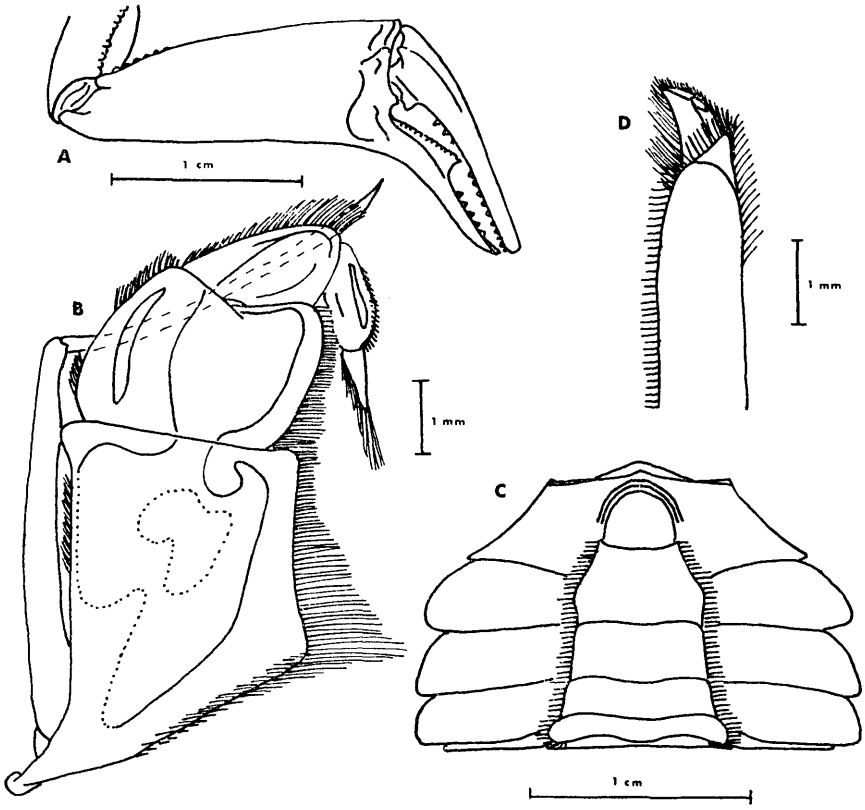
Fourth and fifth segments with straight, convergent lateral margins. Sixth segment with convex lateral margins. Sternum granulated near abdomen.

External maxilliped (Text-figure 1B)

Internal margin of ischium slightly concave; external margin straight, with marked protuberance on antero-external angle. Merus with slightly convex internal margin; external margin smoothly convex, without well developed postero-external convexity. Mero-ischium border straight.

Male pleopod (Text-figure 1D)

Straight; tip with shield-like projection externally.



Text-figure 1.—*Macrophthalmus abercrombiei* sp. nov.: A, outer surface of right chela; B, external surface of right external maxilliped (dotted lines indicate the normal position of that part of the exopodite obscured by the merus); C, male abdomen and sternum; D, sternal surface of tip of left, first pleopod of male.

Dimensions of Holotype (to the nearest 0.25 mm)

Carapace	
Greatest breadth	26.0 mm
Distance between external orbital angles	23.5 mm
Length along median longitudinal plane	17.5 mm
Breadth of anterior margin of front	3.25 mm
Cheliped (male)	
Length of merus	13.0 mm
Length of carpus	10.5 mm
Length of palm	18.5 mm
Greatest height of palm	7.75 mm
Length of index	9.0 mm
Length of dactylus	13.0 mm
Distance between most proximal part of palm and tip of index	25.0 mm
Third Pereiopod	
Length of merus	15.5 mm
Length of carpus	8.25 mm
Length of propodus	9.0 mm
Length of dactylus	7.5 mm

COMMENTS

In Tesch's (1915) key to the species of *Macrophthalmus*, *M. abercrombiei* fits into section 23. It can be distinguished from *M. depressus* Rüppell, 1830 and *M. japonicus* (de Haan, 1835) by the lack of longitudinal granular rows in the branchial region and from the closely related *M. definitus* Adams & White, 1848 by the characters shown in the following table:

M. definitus	*M. abercrombiei* sp. nov.
1. Transverse row of granules on each epigastric lobe	No rows of granules on epigastric lobes
2. Transverse rows of granules at level of third lateral teeth	No transverse rows of granules at level of third lateral teeth
3. Upper border of palm coarsely granular	Upper border of palm faintly granular
4. Inner surface of palm and fingers densely hairy	Inner surface of palm and fingers hairless
5. Transverse ridge on third abdominal segment in male	No transverse ridge on third abdominal segment in male

A number of subfossil *Macrophthalmus* were collected by Dr. J. C. Yaldwyn from the banks of the Norman River, close to the collection sites of the male *Macrophthalmus abercrombiei* here described. These subfossils, however, are not of the present species, but of *Macrophthalmus latreillei* (Desmarest, 1822).

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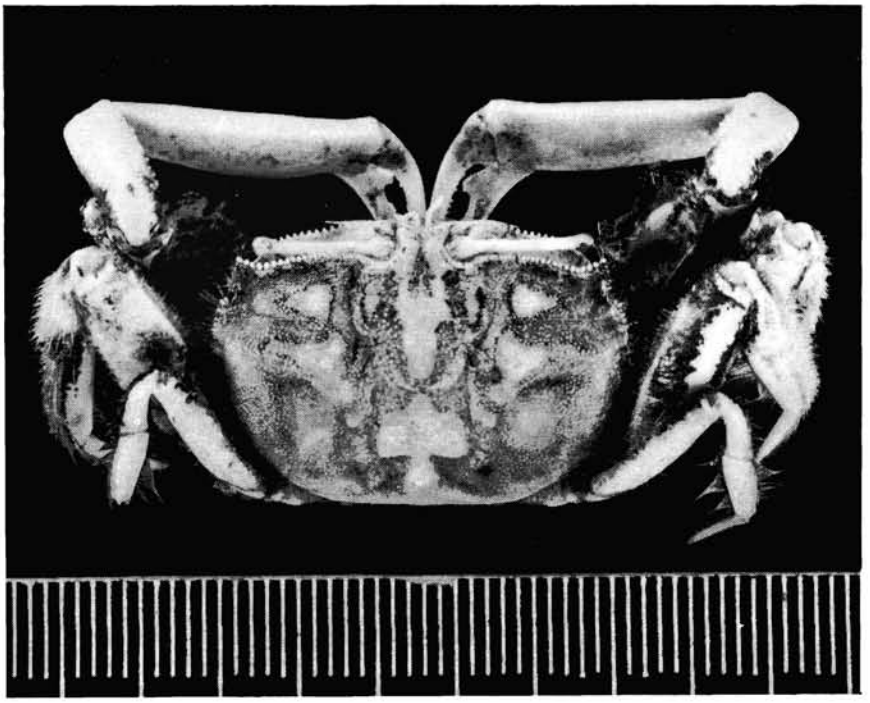

EXPLANATION OF PLATE VIII

Macrophthalmus abercrombiei sp. nov., dorsal surface of holotype male (scale in mm). Photograph by Photography Department, University of Queensland, Brisbane.