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MANNINGIA RAYMONDI SP. NOV., A NEW EURYSQUILLID STOMATOPOD FROM THE NORTHERN TERRITORY, AUSTRALIA

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ABSTRACT

Manningia raymondi sp. nov. (Stomatopoda: Eurysquillidae), a new stomatopod, is described and illustrated, and distinguished from related species, *M. zehntneri* Manning and *M. andamanensis* Ghosh. It is the third species of the genus to be found in Australian waters and has so far been found only in the Arafura Sea and Gulf of Carpentaria. The species is remarkable for its bilobed rostral plate and heavy telsonic spinulation, together with a characteristic colour pattern.

KEYWORDS: Crustacea, Stomatopoda, Eurysquillidae, *Manningia*, new species, North Australia.

INTRODUCTION

At present, seven species of the genus *Manningia* Serène, 1962, have been described, all from the Indo-West Pacific region and mainly from scattered records involving few specimens. Two species, *M. notialis* Manning, 1970, and *M. australiensis* Manning, 1966, have already been recorded from Australia's tropical waters but all others are from the Red Sea, Indian Ocean and South and East China Seas.

The fishing surveys carried out by the Northern Territory Department of Ports and Fisheries have indicated that a further species is present in north Australian seas and this species is here described and illustrated. All measurements are in millimetres.

SYSTEMATICS

Manningia raymondi sp. nov. (Figs 1-3)

Type material. HOLOTYPE - ♂, Northern Territory Museum (NTM) Cr.001306, TL 83 mm, Gulf of Carpentaria, off Groote Eylandt, 13°30.0'S 136°30.0'E, Stn. AP, coll. D. Elder, F.V. "Gemini", 15-16 July 1976. PARATYPES - NTM Cr.001308, 1 ♀, TL 83.5 mm, Arafura Sea, 10°58.0'S 132°10.0'E, 27 m, F.V. "Anson", coll. A. J. Bruce, 19 October 1981; NTM Cr.001374, 1 ♂, TL 80 mm, same, 20 October 1981; NTM Cr.001526, 1 ♀, TL 89 mm, Arafura Sea, 11°00.0'S 132°04.5'E, F.V. "Gemini", coll. J. Elder, September 1976.

Description. Eyes with cornea reduced, strongly bilobed and set very obliquely on stalk, with outer margin much longer than inner; not extending beyond end of first antennular segment; ophthalmic segment and base of eyes completely covered by rostrum; eye scales separate, truncate.

Antennular peduncle equal to about 0.9 of carapace length.

Antennal scale slender, about 5.5 times longer than broad, with setose margins; protopod with single ventral papilla.

Rostal plate about 1.7 times broader than deep, distinctly bilobed with anterior portions convex, posterior part flat; without apical spine.

Carapace smooth, narrowed anteriorly, with antero-lateral angles rounded; without carinae other than posterior marginal.

Mandible with palp. Five pairs of epipods present (one specimen with four pairs).

Second thoracopod robust; dactylus with four finely serrulate teeth, outer-margin with feeble basal notch; propodus broad, about 3.0 times longer than deep, superior margin pectinate throughout length with three large mobile spines proximally; carpus with two acute teeth on upper margin, distal tooth larger than proximal; merus without acute tooth at inferior disto-lateral angle; ischio-meral articulation terminal.

Third to fifth thoracopods with chelae devoid of ribbing or beading; propod of fifth

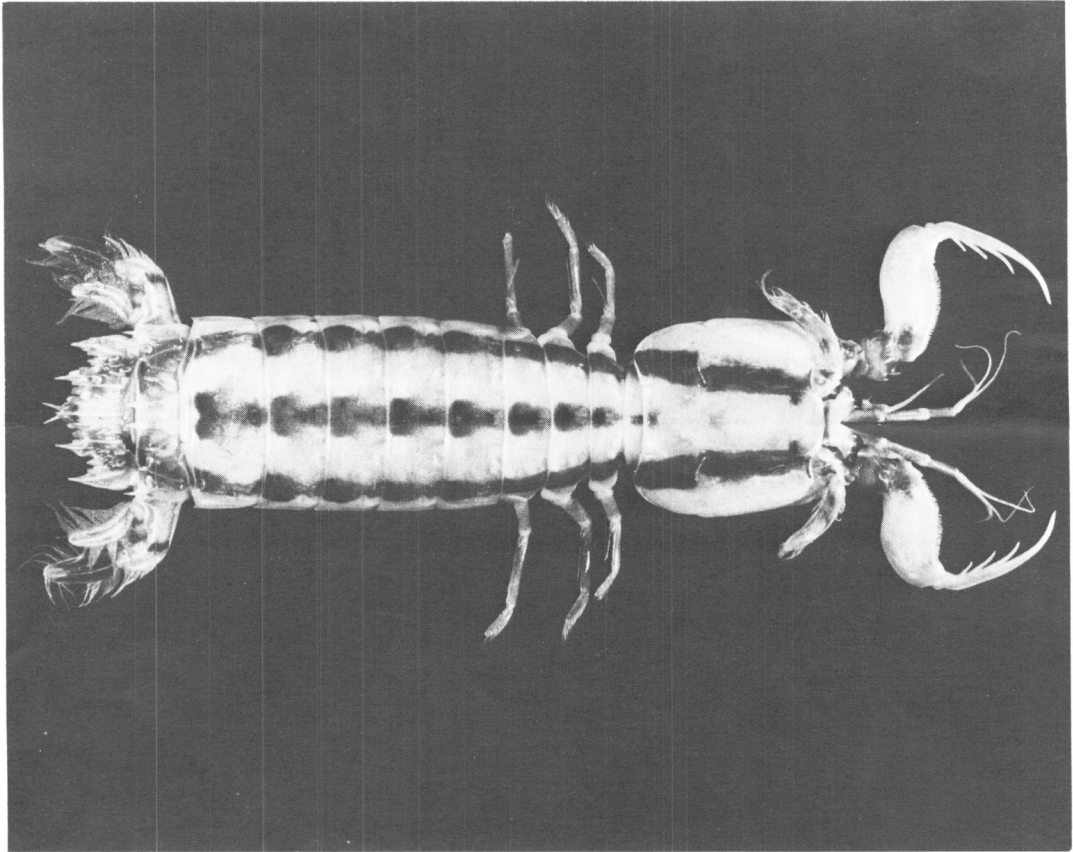


Fig. 1. *Manningia raymondi* sp. nov., holotype ♂. Total body length 83mm.

with dense tuft cleaning setae distally; carpus with group of about 10 spines ventrally.

Sixth to eighth thoracopods slender; intermediate segment of protopod about 5.0 times longer than wide; outer ramus two segmented, distal segment about 7.0 times longer than broad, lower border feebly setose, about 5.0 times longer than proximal segment; inner ramus with proximal segment about 6.5 times longer than wide, slightly expanded distally, distal segment about 0.6 of proximal segment length, slightly tapered distally, with a dense brush of setae distally.

Lateral processes of fifth thoracic segment inconspicuous, concealed under postero-lateral angle of carapace; lateral processes of sixth and seventh segments rounded; all segments smooth with feeble lateral carinae on sixth to eighth segments. Last thoracic sternite with a small median tubercle.

Abdomen smooth, flattened, with first to fourth segments devoid of armament but first four segments with a feeble submarginal groove; fifth segment with spinose lateral and marginal carinae with a short medial and two longer intercalated carinae; sixth segment with submedian, intermediate and lateral posterior spines, with the intermediates slightly anterior to the posterior border, with broad low carinae anteriorly, submedian spines with low carinae. First four abdominal sternites with small low median carina, fifth with small acute tooth.

Endopod of male first pleopod broad, as wide as long. Petasma with robust hook-like process laterally, and tapering tube-like process medially.

Uropod with six slender mobile spines along outer border of proximal segment of exopod, with longest spine distally, reaching to about middle of distal segment, with strong postero-lateral fixed spine, distal segment about 2.5 times longer than broad;

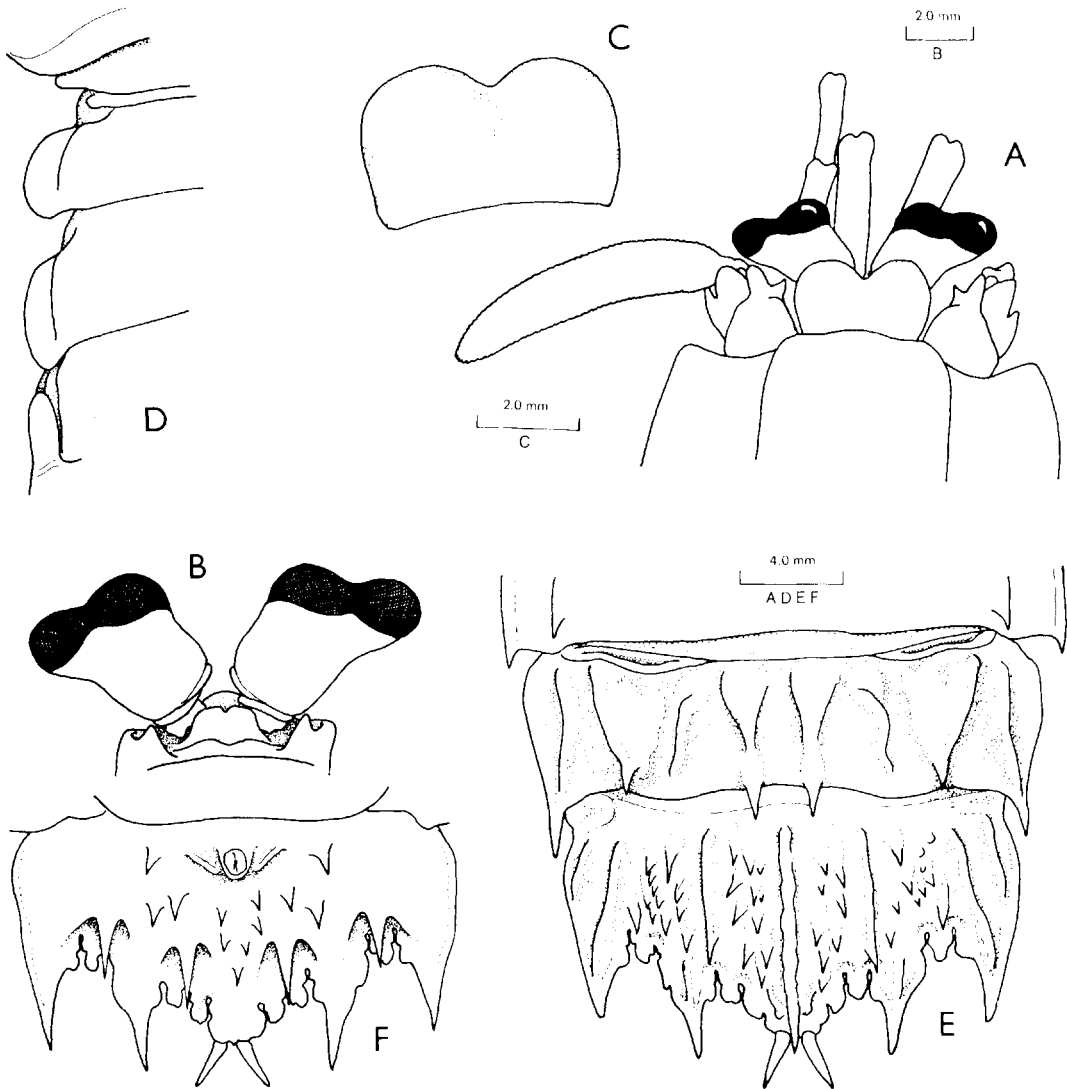


Fig. 2. *Manningia raymondi* sp. nov., holotype ♂: A, anterior carapace, rostrum, eyes and basal antennal peduncles; B, eyes and ophthalmic somite; C, rostral plate; D, lateral processes of exposed thoracic somites; E, posterior abdominal segments and telson; F, telson, ventral surface.

endopod about 4.5 times longer than wide; basal process of protopodite with medial spine exceeding endopod and bearing small accessory lobe laterally, medial border with about eight acute teeth; disto-dorsal border with strong spine, ventral border unarmed.

Telson almost twice as broad as long, with three pairs of marginal teeth; submedians contiguous, with robust mobile spines, intermediate and lateral teeth well developed, slender, acute, without mobile spines but with feeble carinae; submedian denticles absent, two blunt intermediate denticles and 1-2 similar lateral denticles

present, without spinules. Median carina well developed, with posterior spine; intermediate carina with posterior spines present; areas between median and intermediate, and intermediate and lateral carinae with numerous acute spines; ventral aspect without post-anal carina, anal tubercle flanked by short oblique carinae. Four conspicuous spines, remote from margins, arise from ventral surface in the spaces corresponding to intermediate and lateral denticles, numerous small acute spines occur lateral and posterior to anal tubercle.

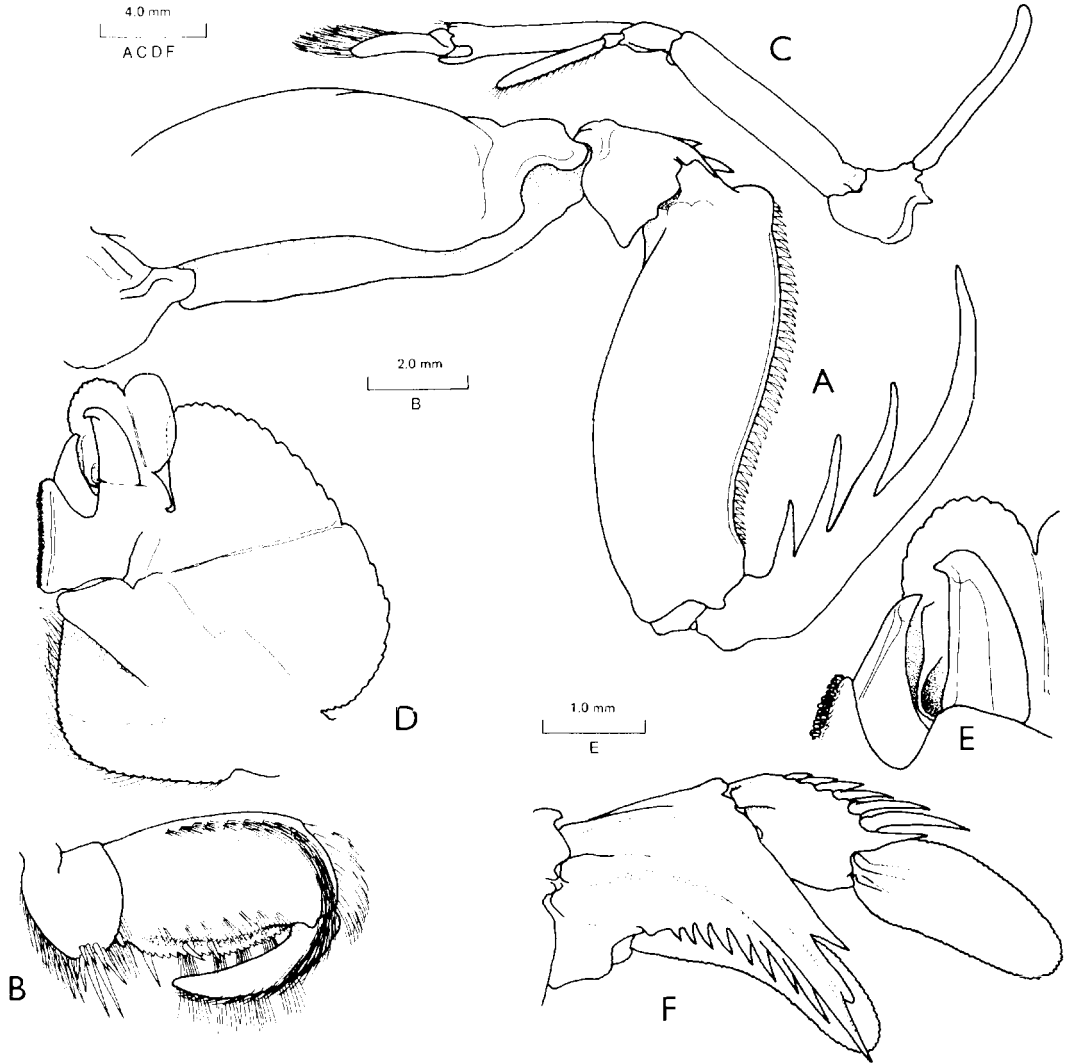


Fig. 3. *Manningia raymondi* sp. nov., holotype ♂: A, second thoracopod; B, chela and carpus of fifth thoracopod; C, eighth thoracopod; D, endopod of first pleopod; E, same, petasma; F, uropod, ventral aspect.

Colouration. In well preserved specimens, conspicuous bands of dark brown extend from the anterior margin of the carapace along the line of the gastric groove, sublaterally along all thoracic and abdominal segments, to converge on the submedian spines of the telson, with a similar, less intense median band commencing narrowly on the posterior border of the carapace and broadening posteriorly to the posterior border of the fifth abdominal segment; distal merus, disto-lateral carpus and a spot proximally on lateral aspect of propodus of second thoracopod, distal segment of exopod of uropod, except tip, all dark brown. The tips of the intermediate

and lateral teeth, the submedian mobile spines and the spine of the median carina of the telson are vermilion in preserved specimens, together with the mobile spines on the exopod of the uropod.

Measurements.

| | TL | CL | CW | A5 | tl | tw |
|---------------|------|----|----|------|------|------|
| NTM Cr.001306 | | | | | | |
| ♂ | 83 | 20 | 22 | 21.5 | 10.5 | 17.5 |
| NTM Cr.001308 | | | | | | |
| ♀ | 83.5 | 18 | 17 | 19.5 | 10 | 20 |
| NTM Cr.001374 | | | | | | |
| ♂ | 80 | 17 | 17 | 19 | 9 | 15.5 |
| NTM Cr.001526 | | | | | | |
| ♀ | 89 | 21 | 29 | 21.5 | 11.5 | 17 |

Distribution. Known only from the southern Arafura Sea, off the Cobourg Peninsula, and western Gulf of Carpentaria, north of Groote Eylandt.

DISCUSSION

A key for the identification of most *Manningia* species has been provided by Manning (1970). Based on the characters of this key, *M. raymondi* is most closely related to *M. australiensis*. It can be readily distinguished from this species by the shape of the rostral plate, which is acutely pointed anteriorly in the latter species. Since Manning's key, two further species of *Manningia* have been described, *M. andamanensis* Ghosh, 1975, and *M. zehntneri* Manning, 1974. Both these species have a rostrum without an acute anterior point and which is feebly bilobed. Both these species lack an accessory lobe on the lateral side of the large inner spine of the basal process of the uropodal protopodite. Like *M. zehntneri*, *M. raymondi* has two pairs of acute posterior spines on the fifth abdominal segment, whereas *M. andamanensis* has only the postero-lateral spines present. The protopod of the uropod also has an acute spine disto-ventrally at the base of the exopod in *M. andamanensis*, which is absent in *M. zehntneri* and *M. raymondi*, but these both have a spine disto-laterally on the ventral aspect of the proximal segment of the exopod, which is absent from *M. andamanensis*. From *M. zehntneri*, *M. raymondi* also differs conspicuously in the increased spinulation of the dorsal surface of the telson and the presence of numerous small accessory spines ventrally.

It should be noted that, in the present specimens, the conspicuous ventral spines of the telson protrude into vision in dorsal

view, usually exactly below the intermediate and lateral denticles, thereby making these denticles appear to have mobile spinules distally, as have been reported in some species of *Manningia*, but which are definitely absent in *M. raymondi*.

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