

# A new record and a redescription of *Myra acutidens* IHLE, 1918 (Brachyura, Leucosiidae) from northern Papua New Guinea\*

by A.A. OVAERE

## Abstract

New material from Hansa Bay (Papua New Guinea) allowed a full redescription of IHLE's *Myra kessleri* var. *acutidens* and its establishment as a clearly distinct species. The variability of the species is discussed.

## Résumé

Des spécimens récoltés dans la Baie de Hansa (Papouasie Nouvelle-Guinée) ont permis la redescription détaillée de la var. *acutidens* de *Myra kessleri* décrite par IHLE en 1918 et son élévation au rang d'espèce. La variabilité de l'espèce est discutée.

## Introduction

In 1918 IHLE (pp. 260-261) described the var. *acutidens* belonging to *Myra kessleri* PAULSON, 1875. In the brief original description the very long and slender chelipeds and the long median posterior projection were mentioned, the latter character also being figured (fig. 139). The var. *acutidens* has been overlooked for some time. Only SERENE (1955, p. 196) and ROMIMOHTARTO (1967, p. 15) refer to the existence of IHLE's aberrant specimen in their descriptions of *Myra kessleri* but without disposing of new material.

An abundant material now available from Papua New Guinea reveals that IHLE's specimen belongs to a clearly distinct species. Because the original description was very concise, it is necessary to give a full redescription of this species, and to discuss its variability.

## Material

The present material was collected by Mr. J. PIERRET, Dr. J. VAN GOETHEM and Prof. J. BOUILLON at different localities in Hansa Bay (N. Papua New Guinea) during the expeditions from 1976 to 1981, sponsored by the Leopold III Foundation and the

Ministry of National Education. A total of some hundred specimens collected in twenty samples are deposited in the collections of the "Koninklijk Belgisch Instituut voor Natuurwetenschappen" with IG numbers 25484, 25681, 25715, 25930, 26080, 26227, 26253 and 26373.

## Systematics

Family LEUCOSIIDAE DANA, 1852  
Subfamily PHILYRINAE RATHBUN, 1937  
Genus: *Myra* LEACH, 1817  
Species: *Myra acutidens* IHLE, 1918

## TYPE REFERENCE

IHLE, 1918, *Siboga Exped.*, 39 b2, p. 260-261, fig. 139.

## TYPE-LOCALITY

Indonesia, Kei Islands, Banda Sea.

## DESCRIPTION

### *Carapace:*

Ovoid; surface evenly covered with small flattened granules less marked anteriorly; regions of the carapace indistinctly indicated except for the intestinal region; cardiac region not delimited anteriorly in adults, weakly so in juveniles; subhepatic facet not bordered above and below by a distinct line of larger granules in adults, more or less so in juveniles; hepatic angle rounded; as in *M. kessleri* lateral borders of the carapace not defined by a beaded line of granules in adults, weakly so in very young juveniles; the two lateral posterior projections petaloid and situated in a much lower plane than the median posterior projection, this projection being an acute spine of variable length, its

\* Leopold III Biological Station, Laing Island, Contribution n° 94.

basal portion covered with large rounded granules, becoming smaller distally; tip of the median posterior projection devoid of granules and slightly pointing upwards; large tubercle on the intestinal region always present; more tubercles may be present on the carapace as discussed below (fig. 1).

*Chelipeds:*

Very long and slender ( $3 \times$  carapace width); proximal part of the merus covered with large rounded granules, becoming smaller and more flattened distally; propodus very slender; movable finger  $1.45 \times$  length of the superior border of the palm; cutting edges of the fingers with fine dentitions alternating at regular intervals with larger teeth.

*Walking legs:*

Slender, not covered with granules.

*Male abdomen:*

$1 + 2 + (3-6) + 7$ ; fused segments 3-6 bearing a large distal spine; triangular telson with long stiff distal hairs (fig. 3).

*Female abdomen:*

$1 + 2 + 3 + (4-6) + 7$ ; fused segments 4-6 forming a large glossy cup, occupying the whole thoracic sternum; telson elongate with a triangular distal extremity bordered by stiff hairs and fitting perfectly in the space between the basal parts of the maxillipeds.

*Male first pleopod:*

As figured in fig. 2; clearly different from *Myra kessleri* as figured by TYNDALE-BISCOE and GEORGE (1962, fig. 7, 9).

*Colour of spirit material:*

Pale orange to white; traces of orange banding on merus and palm of chelipeds.

*Colour of living material:*

Colour slides made by Dr. J. VAN GOETHEM reveal *Myra acutidens* as a surprisingly decorated species (fig. 4). The upper side of the carapace is marked by a variable ox-blood reticulation on a creamy white background. The same ox-blood is found in bandings on the chelipeds and walking legs.

VARIABILITY OF THE SPECIES

The body proportions of fifty specimens of different age and sex are shown in table 1. A larger length/width-ratio together with a longer posterior projection give males a more slender appearance than females.

There is also a variability in the development of the tubercles on the dorsal side of the carapace.

The tubercles are conical and built up by an accumulation of granules. They can form a typical constellation. When fully developed there are four tubercles on the midline (two on the gastric region: a small one followed by a large one situated centrally on the carapace, one on the cardiac region and a large one on the intestinal region); two tubercles on an imaginary line between the central tubercle and the notch on the antero-lateral border between the hepatic and branchial regions; a tubercle on the hepatic region posteriorly to the hepatic angle and a tubercle near the postero-lateral border on each side of the carapace. This constellation, although not identical, resembles that of *M. kessleri* figured by SERENE (1955, fig. 8). Both constellations contain more tubercles than the "cruciform constellation" of five tubercles described by ALCOCK (1896, p. 208).

In juveniles the constellation is always present and usually fully developed as described above. However, the small anterior tubercle on the midline and the tubercles near the postero-lateral borders may be absent. The constellation is then more Y-shaped.

In most adult males and females a Y-shaped constellation can be perceived but it is seldom very conspicuous. In some specimens of both sexes it is completely absent, leaving only the large tubercle on the intestinal region.

The variability in the development of the tubercles in adults seems not to be a result of abrasion, as in males it proved to be totally independent of the posterior spine length / carapace width-ratio (S/W): males with very high or very low ratios may or may not have the Y-shaped constellation.

DISCUSSION

*M. acutidens* is closely related to *M. kessleri*. The petaloid form of their lateral posterior projections and the absence in adults of a beaded line marking their lateral border of the carapace put them apart from the other species of the genus.

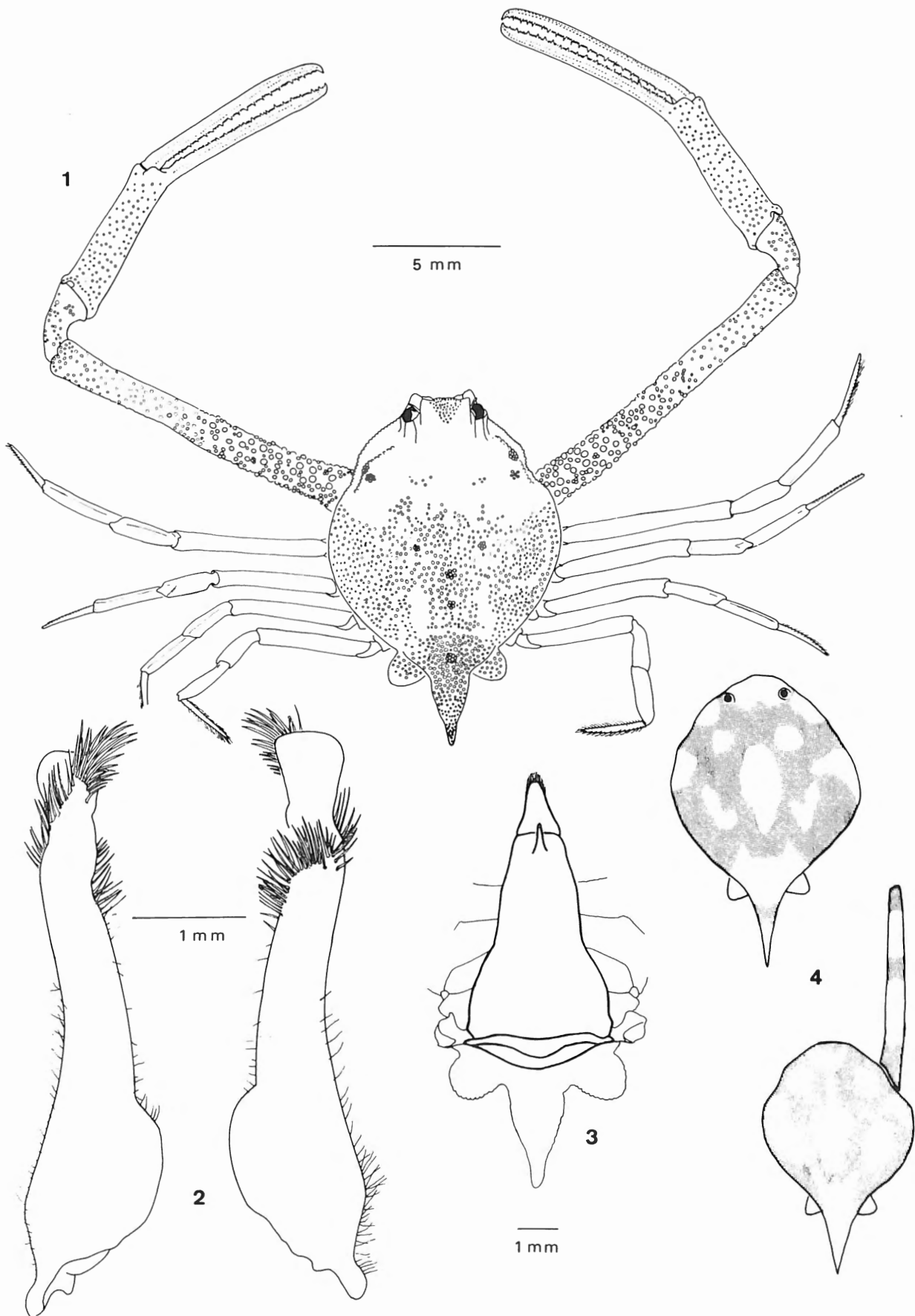
A comparison of the available *M. acutidens* material with specimens of *M. kessleri* from the very same localities and with data from literature reveal *M. acutidens* to be a valid species.

The cheliped length is  $3 \times$  the carapace width in *M. acutidens*, and only  $2 \times$  in *M. kessleri*. The palm of the chelipeds is slender (length/height = 3.5) in *M. acutidens*, whereas it is ventrally swollen (length/height = 2.1) in *M. kessleri*.

The median posterior projection is never petaloid in *M. acutidens*, but it is always petaloid in *M. kessleri*.

The male first pleopods are strikingly different.

In dorsal view the frontal region is slightly concave in *M. acutidens*, while it is fluted in *M. kessleri*.



Figs. 1-4. *Myra acutidens* IHLE, 1918. 1. dorsal view male; 2. first pleopod male (dorsal and ventral view); 3. male abdomen; 4. decoration of two living specimens (after colour slides by Dr. J. VAN GOETHEM).

Table 1.

Body dimensions (in mm) of fifty specimens of *Myra acutidens* IHLE, 1918 (N: number of specimens; L: carapace length without posterior projection) W: carapace width; S: length of posterior spine).

	N	L range mean (SD)	W range mean (SD)	S/W range mean (SD)	L/W range mean (SD)
MALES	21	10.3-12.1 11.1 (0.47)	8.8-10 9.4 (0.35)	0.27-0.47 0.36 (0.068)	1.11-1.27 1.18 (0.030)
FEMALES	14	11.4-13.9 12.6 (0.68)	9.8-12.3 11.0 (0.62)	0.22-0.30 0.26 (0.026)	1.07-1.18 1.15 (0.052)
JUV.	15	6.0-10.1 8.7 (1.11)	5.4-8.8 7.7 (0.94)	0.16-0.32 0.25 (0.047)	1.04-1.23 1.13 (0.052)

#### LOCALITIES

Papua New Guinea, Madang Province, Hansa Bay, around Laing Island (4°10'20" S, 144°52'20" E) at depths from -25 to -50 m on coral sand; Duangit Reef (4°09'40" S, 144°52'29" E) at depths from -30 to -50 m on sand with *Halimeda* debris, coral sand and sandy mud; off Duangit Reef; Wanginem Reef (4°08'00" S, 144°52'20" E) at -45 m on black sand.

#### DISTRIBUTION

Indonesia, Kei Islands, Banda Sea (IHLE, 1918). Papua New Guinea, Hansa Bay (Laing Island, Duangit Reef, Wanginem Reef).

#### Acknowledgements

I am most grateful to Dr. J. VAN GOETHEM for giving me the opportunity to study the vast brachyuran collections from Papua New Guinea. I wish to thank Dr. K. WOUTERS for his continued encouragement and for critically reading the manuscript.

#### References

- ALCOCK, A., 1896. Materials for a Carcinological Fauna of India. No 2. The Brachyura Oxystoma. - *J. Asiat. Soc. Beng.*, 65 (2) : 157-291, pls. 6-8.
- IHLE, J.E.W., 1918. Die Dekapoda Brachyura der Siboga-Expedition. III. Oxystomata: Calappidae, Leucosiidae, Raninidae. - *Siboga Exped.*, 39 b2 : 159-322, figs. 78-148.
- PAULSON, O., 1875. Studies on Crustacea of the Red Sea, Part I, 164 pp., Kiev.
- SERENE, R., 1955. Sur quelques espèces rares de Brachyours (Leucosiidae) de l'Indo-Pacifique (2<sup>e</sup> partie). - *Treubia*, 23 (1) : 137-218, figs. 1-11, pls. 6-11.
- ROMIMOHTARTO, K., 1967. The Oxystomatous crabs of the Baruna Expedition. - *Mar. Res. Indonesia*, 8 : 21 pp., 3 pls.
- TYNDALE-BISCOE, M. & GEORGE, R.W., 1962. Oxystomata and Gymnopleura (Crustacea Brachyura) of Western Australia with description of two new species from Western Australia and one from India. - *J. R. Soc. West. Aust.*, 45 (3) : 65-96, figs. 1-9, pls 1-3.

A.A. OVAERE,  
Koninklijk Belgisch Instituut  
voor Natuurwetenschappen,  
Recent Invertebrates Section,  
Vautierstraat 29, B-1040 Brussels, Belgium.