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GEORGEOPLAX, NEW GENUS FOR *LITOCHEIRA GLABRA* BAKER, 1906 (CRUSTACEA: DECAPODA: BRACHYURA)

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SUMMARY

Georgeoplax new genus is proposed for *Litocheira glabra* Baker, 1906, as the shape of the male first pleopod is different from that of *Litocheira bispinosa* Kinahan, 1856. Both genera share the primitively catometopan configuration of the male reproductive system with coxal genital openings and the penis situated in a groove between the seventh and eighth sternites, as well as the general torsion of the basal part of the first male pleopod as shown by the direction of the sperm channel. For these reasons both genera are monotypic.

INTRODUCTION

Litocheira glabra was first described by W.H. Baker (1906) in his "Notes on South Australian Crustacea" from a female specimen dredged in St Vincent's Gulf (South Australia). Baker placed his species in the genus *Litocheira,* as he found close resemblence to its type-species *L. bispinosa.* He pointed out the two main differences in gross morphology between *L. bispinosa* and *L. glabra:* the former has a well-developed spine on the antero-lateral borders of the carapace behind the exorbital corner and has a double-edged front, while the latter has an indentate antero-lateral border of the carapace and a simple front.

Baker's specimen remained the only one known for a very long time. Hale (1927: 170, 171) mentioned the species in both his key and the current text, but had only the type before him. He suggested that *glabra* might be merely a variety of *L. bispinosa.* Griffin & Yaldwyn (1971: 57) repeated the differences between *L. bispinosa* and *L. glabra,* but had no material of the latter. Türkay (1975) revised the genus *Litocheira,* which was very heterogenous, and excluded all species but *L. bispinosa* and *L. glabra.* The latter was provisionally left in the same genus, because there was no material of it available, and a superficial similarity could be concluded from Baker's original description and figure. As the holotype was a female no better judgement would have resulted from its examination.

Recently a good series of *L. glabra* including male specimens was dredged between Rottnest Island and Fremantle (Western Australia) and made available for study by R.W. George of the Western Australian Museum. The present study is based on this material and the holotype, which was borrowed from the South Australian Museum (SAM). The recently collected specimens are deposited in the Western Australian Museum (WAM) and a pair has been deposited in the Senckenberg Museum, Frankfurt (SMF).

SYSTEMATIC ACCOUNT

Georgeoplax n. gen.

Type species: *Litocheira glabra* Baker, 1906 (by monotypy).

Diagnosis. Carapace glabrous, front simple-edged, antero-lateral borders indentate. Male genital opening coxal, penis situated in a groove. First male pleopod twisted with sperm channel beginning dorsally and ending in the ventrally situated distal opening; distal end of the pleopod flattened and provided with broad, scale-like structures. Second male pleopod distinctly shorter than first.

Remarks. The present new genus is still allied to *Litocheira*. It is a rather primitive catometopan crab as shown by the organisation of the male reproductive system. The male genital openings are coxal, but the penis is already situated in a groove between 7th and 8th sternites. This configuration is identical in *Litocheira* and shows both genera to have the same evolutionary rank. Moreover the torsion of the basal part of the first male pleopod shown by the direction of the sperm channel is identical in both genera, but the distal part of the pleopod is more twisted in *Litocheira,* and the distal opening is dorsal, while the opening in *Georgeoplax* is situated medio-ventrally.

In spite of these fundamental common features there are also some important differences, which suggest the separation of both genera. The endpiece of the male first pleopods is of very different shape (cf. Figs. 1-2) and there are other differences in gross morphology, which are helpful for the recognition of the genus. A list of the differences is given below:

Georgeoplax	*Litocheira*
(1) Front simple.	(1) Front double-edged.
(2) Antero-lateral borders of carapace at most with a faint knob.	(2) Antero-lateral borders of carapace with a sharp spine.
(3) Ambulatory legs naked.	(3) Ambulatory legs rather conspicuously hairy.
(4) Propodi of ambulatory legs considerably enlarged; posterior border of last one distinctly convex.	(4) Propodi of ambulatory legs slender; posterior border of last one nearly straight.
(5) First male pleopod with flattened distal end. (Fig. 1).	(5) First male pleopod with cylindrical distal end. (Fig. 2).

Derivation of name: This new genus is dedicated to R.W. George (Western Australian Museum), who provided the material for this study, in appreciation of his work on Western Australian and Indo-Pacific decapods. *Gender:* feminine.

Georgeoplax glabra (Baker, 1906)
Figs 1, 3-4

Litocheira glabra Baker, 1906: 110-112, pl. 2 figs 1-1a, pl.3.—Hale, 1927: 170, 171.—Griffin & Yaldwyn, 1971: 57.—Türkay, 1975: 124-125, 128-129.

Material examined. South Australia: St Vincent's Gulf, Dredged by Dr Verco (1 ♀ Holotype SAM C 1483).—Western Australia: Between Rottnest Isle and Fremantle, FRV "Flinders", 10–20 m (2 ovig. ♀ WAM 230-79, 2 ovig. ♀ WAM 231-79, 2 ♂ 2 ovig. ♀ WAM 233-79, 2 ♂ 2 ovig. ♀ WAM 234-79, 1 ♂ 2 ovig. ♀ SMF 9220).—Western Australia: off Fremantle, 14 m (1 ovig. ♀ WAM 232-79).

Remarks. The species shows considerable variation in the prominence of the front, which in comparison to the holotype is much more advanced in some of the Western Australian specimens (cf. Figs 3a, 4a). However, the variability of this feature becomes evident in the series WAM 233-79 and 234-79, in which no specimens are similar in that respect. Also no connection of the prominence of front with either size or sex is evident. The larger of the two female specimens of WAM 230-79 has a front identical to the holotype's, so that all intergradations from a less to a much advanced front exist.

Another variable feature is the distinctness of the faintly marked knob on the antero-lateral borders, which is rather pronounced in the holotype and several other specimens, but nearly extinct in others.

Usually the right cheliped is slightly larger than the left, but in some specimens (1 ♂ and 1 ♀ of WAM 234-79, and 1 ♀ of WAM 230-79) the left one is larger than the right.

Size. A small species. Holotype: Carapace breadth = 9.0 mm, Carapace length = 8.0 mm. Largest specimen (a male out of WAM 234-79): carapace breadth: 12.1 mm, carapace length: 10.2 mm.

Distribution: The species is known only from its type-locality (St Vincent's Gulf) and southwestern Australia (near Fremantle). It is possibly a southern faunal element, but this can only be concluded after examining more material.

ACKNOWLEDGEMENTS

Thanks are due to R.W. George (Western Australian Museum) for making the Western Australian material available for study and loaning material of *Litocheira bispinosa* for comparative study, to W.

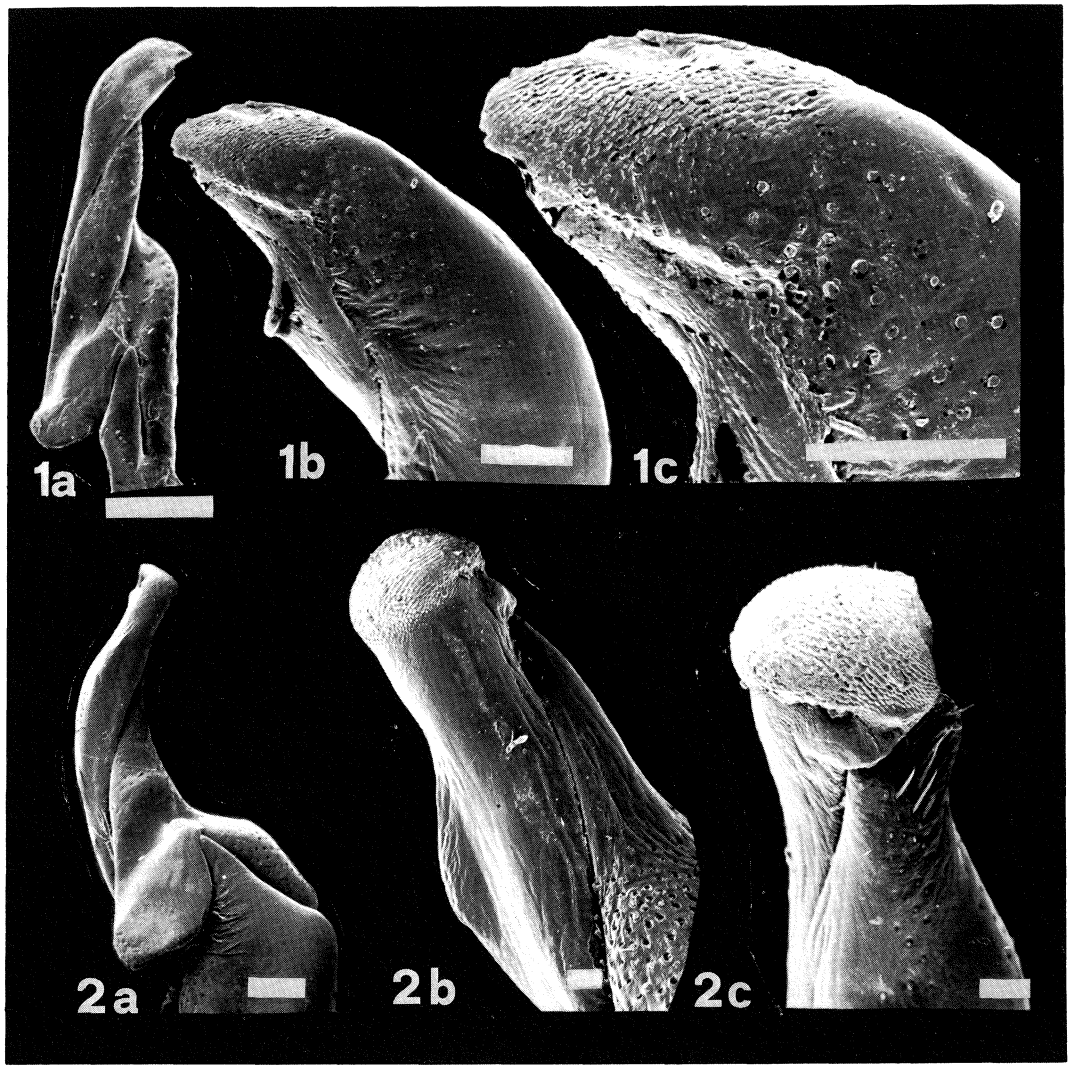

Fig. 1 (upper). *Georgeoplax glabra* (Baker, 1906), male, right first pleopod (SMF 9220): **a**, total organ, lateral aspect; **b**, distal part, fronto-median aspect; **c**, endpiece, fronto-median aspect. (Scales: total organ 1/2 mm, all others 1/10 mm.)

Fig. 2 (lower). *Litocheira bispinosa* Kinahan, 1856, male, right first pleopod (WAM 237-79): **a**, total organ, lateral aspect; **b**, distal part, median aspect; **c**, endpiece, medio-ventral aspect. (Scales: total organ 1/2 mm, all others 1/10 mm.)

Zeidler (South Australian Museum) for loaning the holotype of Baker's species and to D.J.G. Griffin and J.K. Lowry (both Australian Museum, Sydney) for loaning material of *L. bispinosa* for comparison.

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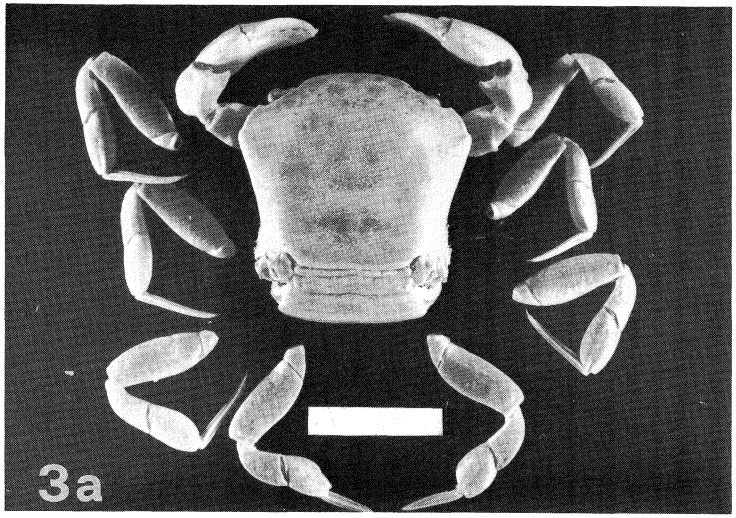

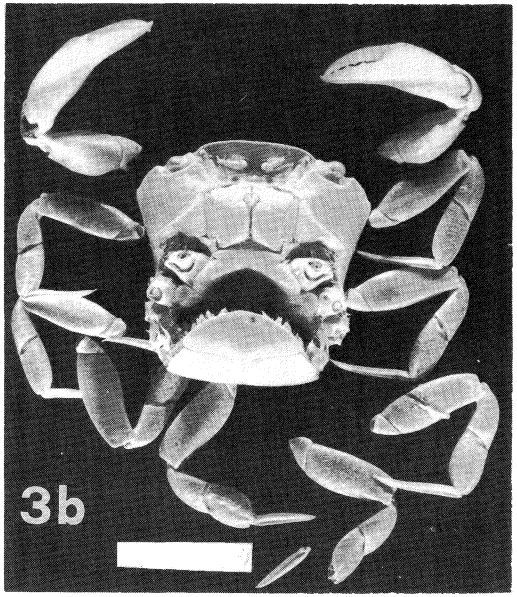

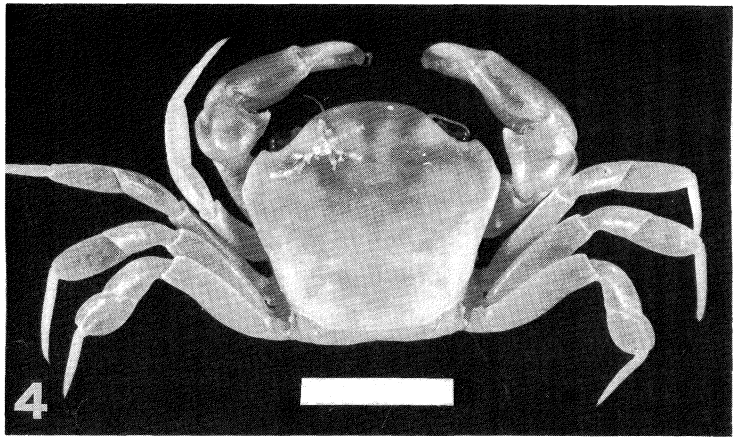

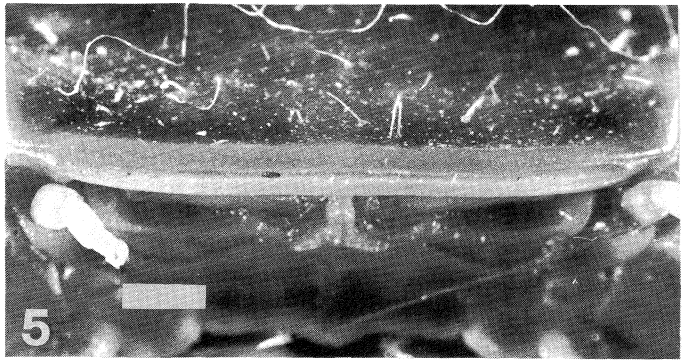

Fig. 3. *Georgeoplax glabra* (Baker, 1906) (Holotype SAM C 1483): **a,** dorsal aspect; **b,** ventral aspect. (Scale: 5 mm.)
Fig. 4. *Georgeoplax glabra* (Baker, 1906) (male specimen SMF 9220), dorsal aspect. (Scale: 5 mm.)
Fig. 5. *Litocheira bispinosa* Kinahan, 1856 (male specimen WAM 237-79), front. (Scale: 1 mm.)

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