

A new species of the genus *Leucosia* from Australia and Papua New Guinea (Crustacea, Brachyura) *

by A.A. OVAERE

Abstract

Leucosia galantua sp. nov. found in Western Australia and northern Papua New Guinea is described and figured. The relationships with other species are discussed.

Key-words: Brachyura, *Leucosia*, taxonomy, new species, Australia, Papua New Guinea.

Résumé

Leucosia galantua sp. nov. trouvée en Australie occidentale et en Papouasie Nouvelle-Guinée est décrite et figurée. Les rapports avec des espèces voisines sont discutés.

Mots-clefs: Brachyours, *Leucosia*, taxonomie, nouvelle espèce, Australie, Papouasie Nouvelle-Guinée.

Introduction

In an earlier study (OVAERE, 1987) on *Leucosia angulata* (RATHBUN, 1911) it has been suggested that the specimen WAM 227-60 from Maud Landing, Western Australia, described by TYNDALE-BISCOE and GEORGE, 1962 belongs to a separate species. The study of this interesting specimen and of an additional specimen from northern Papua New Guinea and the comparison with five specimens of *L. angulata* (RATHBUN, 1911) in the collections of the Koninklijk Belgisch Instituut voor Natuurwetenschappen (Brussels), confirmed this opinion. Specimen WAM 227-60 is chosen as the holotype of *Leucosia galantua* sp. nov. and is deposited in the Western Australian Museum, Perth. The other material mentioned is deposited in the collections of the Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels.

Systematic account

Order DECAPODA LATREILLE, 1803
Infraorder BRACHYURA LATREILLE, 1803
Family LEUCOSIIDAE SAMOUELLE, 1819
Genus *Leucosia* WEBER, 1795

Leucosia galantua sp. nov.
(Figs. 1-3)

SYNONYMY

Leucosia angulata. – TYNDALE-BISCOE & GEORGE, 1962 : p. 77-80, pl. 1, fig. 3, pl. 2, fig. 3. [NON (RATHBUN, 1911)]

MATERIAL EXAMINED

A. Holotype :

An intact adult female (c.l. 15.7 mm; c.b. 15.5 mm), WAM 227-60, Western Australia, Maud Landing, dredged at 10 fathoms (approx. 18.3 m) on sand, weed and rock, leg. Mr. R.D. ROYCE on the "Davena" during the *Bernice P. Bishop Museum of Hawaii Expedition to Western Australia*, 20 Mai 1960.

B. Paratype :

A young female (c.l. 11.1 mm, c.b. 10.3 mm), B.C. 1168, Papua New Guinea, Hansa Bay (Madang Province), Laing Island, dredged on sandy bottom at – 19 to – 20 m, leg. : team of Prof. J. BOUILLON, 23 December 1979.

TYPE LOCALITY

Western Australia, Maud Landing, 23°12'S-113°45'E.

DERIVATION OF NAME

Anagram of *angulata*, because the species was originally referred to as *Leucosia angulata* (RATHBUN, 1911) by TYNDALE-BISCOE & GEORGE, 1962.

* Leopold III Biological Station, Laing Island, Contribution no. 178.

DIAGNOSIS

Carapace slightly longer than wide; antero-lateral margins of the carapace angulate due to the projection of the hepatic margin; anterior margin of merus of chelipeds with large pearl-like tubercles; thoracic sinus with a row of tubercles, the two anteriormost being large and pearl-shaped.

DESCRIPTION

(based on the holotype, unless otherwise stated)

Measurements :

Adult female WAM 227-60 (holotype), carapace length 15.7 mm, carapace breadth 15.5 mm, cheliped length 22.0 mm; juvenile female B.C. 1168, carapace length 11.1 mm, carapace breadth 10:3 mm, cheliped length 14.4 mm.

Carapace :

A little longer than wide; high in the middle; scattered hairs on the upper surface of the carapace, becoming more dense on the true postero-lateral margins, though not forming a strip of fur (those hairs are absent in the specimen from Papua New Guinea); front moderately prominent, rounded, weakly quadrilobate in the adult female holotype, bilobate in the young female; antero-lateral margin milled, with a pronounced rounded projection of the hepatic angle; hepatic region slightly elevated; antero-lateral margin forming a re-entering angle with the rounded lateral epibranchial angle; lateral epibranchial angle milled; true postero-lateral margin (in the holotype) with a higher density of hairs than the rest of the dorsal surface of the carapace; epimeral edge moderately broad, milled, beginning at the basis of the first pair of walking legs, continuous and forming rounded angles with the posterior margin; posterior margin milled, convex; a tooth in the middle of the intestinal region (as well in holotype as paratype).

Thoracic sinus :

Anterior part deep, anteriorly defined by the strongly overhanging posterior margin of the pterygostomial region, dorsally defined by the overhanging lateral epibranchial angle; 2-3 large pearly tubercles in its anterior part followed by a row of smaller tubercles above the basis of the chelipeds; lower margin of the sinus finely milled; filled with long hairs, especially in its anterior and superior parts.

Mouthframe :

As figured; third sternite with a rounded tooth on its antero-lateral side.

Chelipeds :

Moderately long, 1.3 (young female) - 1.4 (holotype) times the carapace length; merus with a dense fur proximally; anterior margin of the merus with 2-3 large pearly tubercles in the median portion and smaller rounded tubercles in the proximal and distal portion; posterior margin of merus with a double row of tubercles fused to 3 upstanding oval tubercles in the median portion; lower margin with a triangular cluster of rounded tubercles; carpus with a row of small

tubercles on the outer and inner upper margins; length of palm and fingers almost equal; immovable finger with a sharp cutting edge and a tooth at one fourth of its length (this tooth being absent in the young female).

Walking legs :

Merus of the first and second pair with two dorsal and two ventral rows of granules; merus of the third and fourth pair with a single dorsal and a double ventral row of granules (granules worn in the holotype, clearly visible in the paratype); carpopodites rounded ventrally, keeled dorsally; propodi keeled dorsally and ventrally; dactyli long.

Female abdomen :

Three pieces visible, second segment free; third to sixth segment fused into a strongly vaulted plate; telson somewhat longer than wide, rounded anteriorly.

Colours of specimens preserved in alcohol :

Ground-colour ivory white, mottled with brown-grey on the upper parts, conspicuous orange brown spot on the posterior margin above the first walking legs; spots of the same colour distributed on the abdomen and the underparts.

DISTRIBUTION

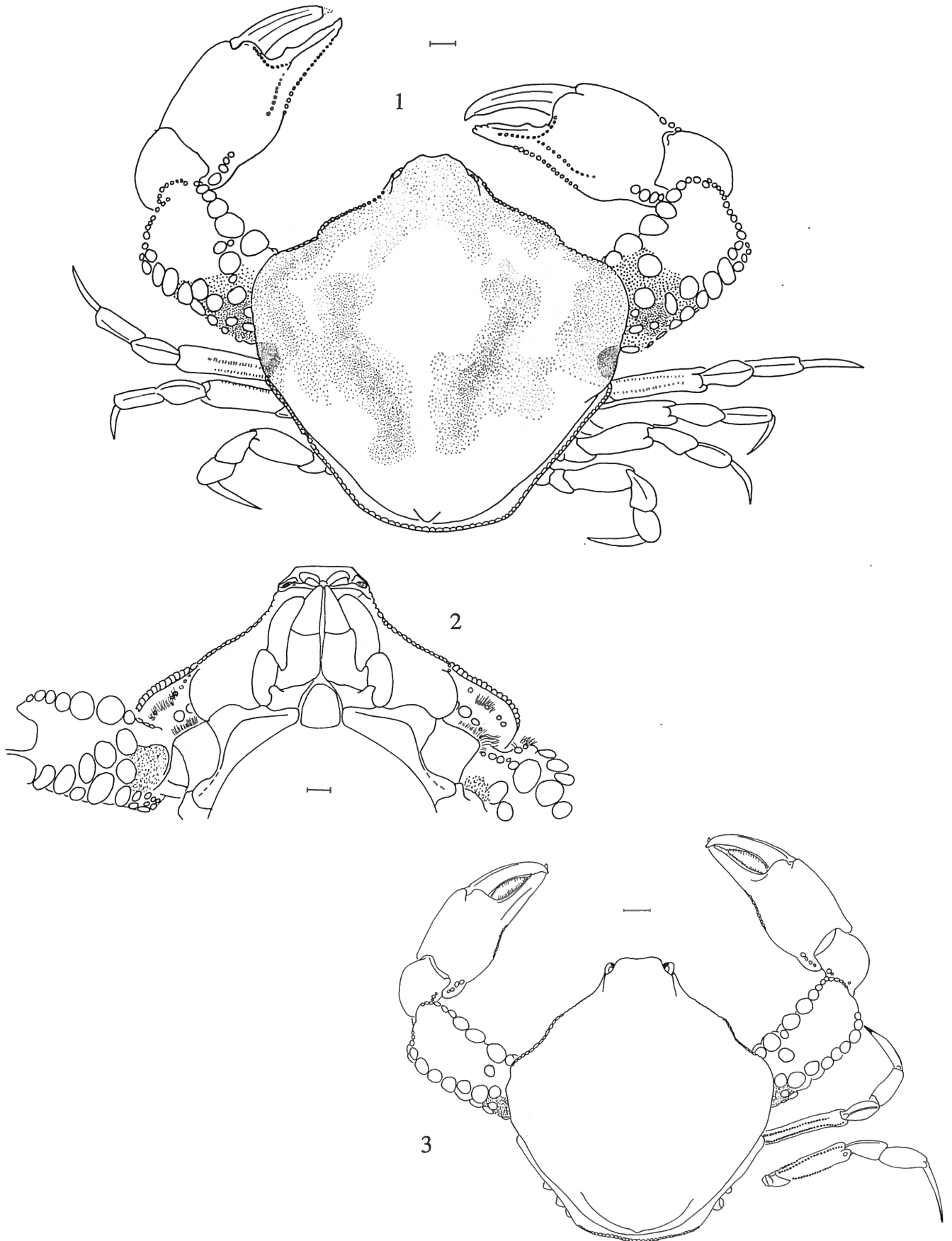
Western Australia, Papua New Guinea.

DISCUSSION

Although at first sight *Leucosia angulata* (RATHBUN, 1911) and *L. galantua* can be confused because of their angular antero-lateral margins of the carapace and their quadrilobate front, they are clearly separated by the form of the tubercles on the anterior margin of the merus of the chelipeds, these tubercles being flattened and tooth-like in *L. angulata*, while rounded and pearl-shaped in the new species. The ornamentations of the thoracic sinus are different in both species: one large mushroom-shaped tubercle in *L. angulata* versus 2-3 large rounded tubercles in *L. galantua*. Whether the presence of a tooth on the intestinal region is a good distinctive character between the two species remains questionable as mentioned earlier (OVAERE, 1987) in relation to the variability of this character in *L. sagamiensis* SAKAI, 1961. Nevertheless *L. galantua* sp. nov. is more closely related to *L. angulata* than to any other *Leucosia* yet described. The new species belongs to the group of urn-shaped, fur-bearing *Leucosia* as described in OVAERE, 1987.

Acknowledgements

I am most grateful to Dr. G. MORGAN and Dr. D.S. JONES of the Western Australian Museum for borrowing specimen 227-60. I wish to thank Dr. J. VAN GOETHEM and Dr. K. WOUTERS for their encouragement and critically reading of the manuscript. The Papua New Guinea research project is supported by the Leopold III Foundation and by the F.K.F.O. (Belgian Fund for Joint Basic Research).



Figs. 1-3. - *Leucosia galantua* sp. nov.

1. female holotype WAM 227-60, dorsal view; 2. female holotype WAM 227-60, ventral view with chelipeds in different positions to show the thoracic sinus; 3. juvenile female paratype BC1168, dorsal view. Scale = 1 mm.

Literature cited

- OVAERE, A.A., 1987. The fur-bearing species of the genus *Leucosia* from Northern Papua New Guinea, with a description of two new species (Crustacea, Brachyura). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique, Biologie*, 57 : 185-204.
- RATHBUN, M.J., 1911. The Percy Sladen Trust Expedition to the Indian Ocean in 1905. No. XI. Marine Brachyura. *The Transactions of the Linnean Society of London, Zoology*, 14 (2) : 191-261, pl. 15-20.
- SAKAI, T., 1961. New species of Japanese crabs from the Collection of His Majesty the Emperor of Japan. *Crustaceana*, 3 (2) : 131-150.
- TYNDALE-BISCOE, M. & GEORGE, R.W., 1962. The Oxystomata and Gymnopleura (Crustacea, Brachyura) of Western Australia with Descriptions of Two New Species from Western Australia and one from India. *Journal of the Royal Society of Western Australia*, 45 (3) : 65-96.

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