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Dr. W. L. Schmitt ✓

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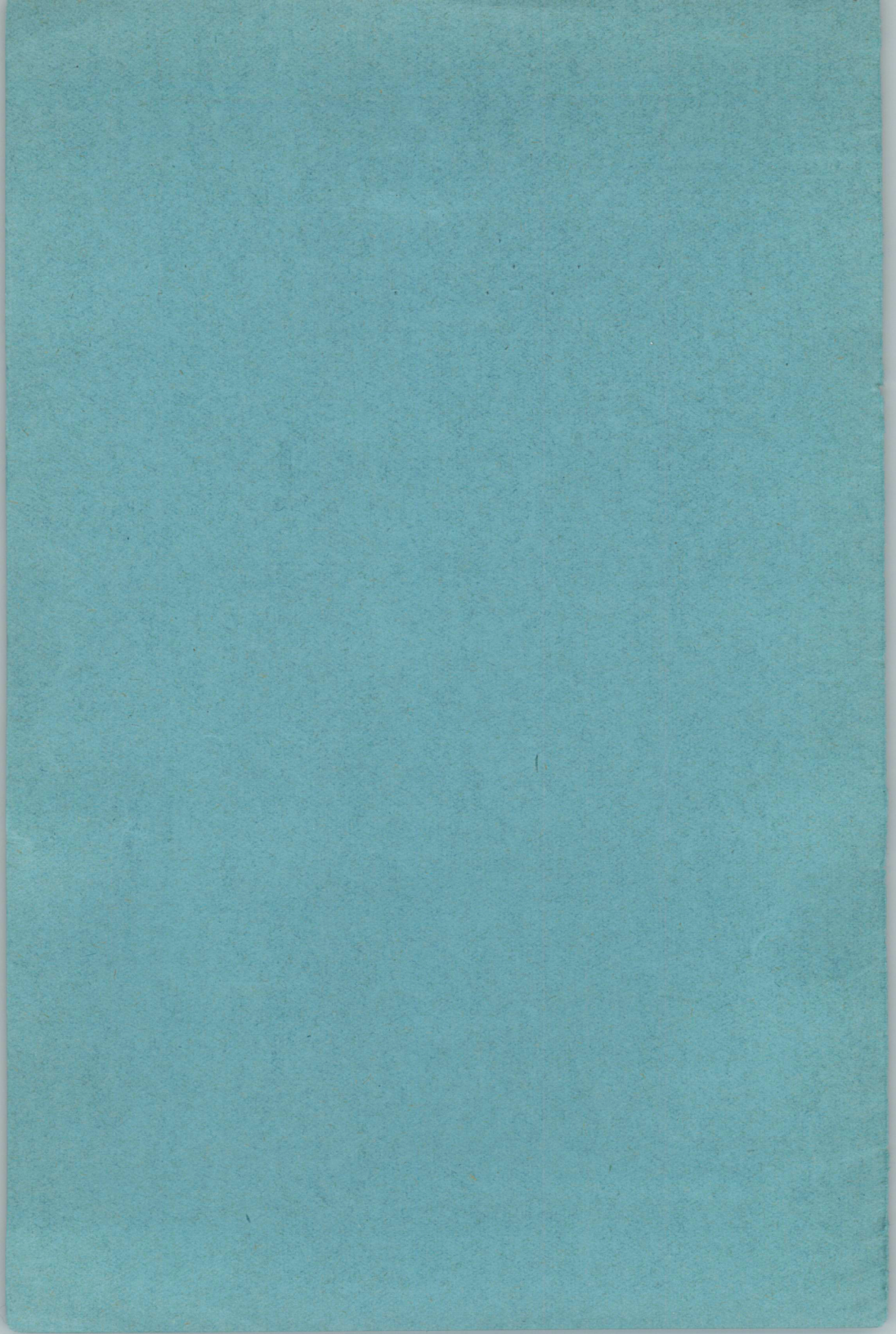
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Gordon, Isabella

Notes on several Indo-Pacific species of *Sesarma*  
(Crustacea Brachyura).

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INVERTEBRATE  
ZOOLOGY  
Crustacea



Notes on several Indo-Pacific species of *Sesarma* (Crustacea  
Brachyura). By Dr. ISABELLA GORDON, D.Sc., Ph.D.,  
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*Sesarma* (*Sesarma*) *maculata* de Man.

1892. De Man, Weber's Zool. Ergebn. Reise niederl. Ost-Indien, ii,  
p. 347, pl. 21, f. 19 (*nec* 1902).

? 1917. Tesch, Zool. Meded. Leiden, iii, p. 170.

1934. Balss, Zool. Anz. Leipzig, cvi, p. 180.

*Remarks.*—Two male and two female specimens of this  
species from the British Solomon Islands, collected by R. A.

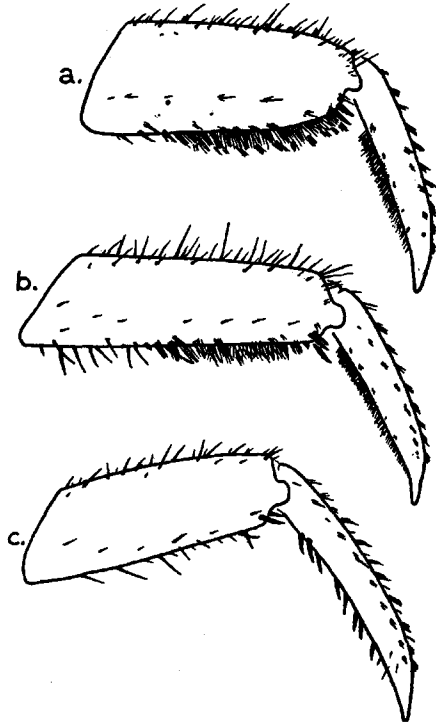


FIG. 1 a-c.—*Sesarma maculata* de Man, 1892 *nec* 1902, ♂ (c.l. = 15 mm.).  
Propodus and dactylus of first, second, and fourth walking-leg  
respectively.

Lever, F.L.S., show the sexual dimorphism first described by  
Dr. Balss in 1934. In the male the ventral margin of the  
propodus and dactylus of the first walking-leg are heavily  
setose as represented in fig. 1 a. These hairy patches are  
also present on the second leg, but they are less pronounced

(fig. 1 b). In the larger male (*l.* of carapace = 15 mm.) there are a few traces of short setae on the ventral margin of the third dactylus which is also beset with 6-7 short dark brown spines. The ventral margin of the fourth dactylus bears spines only (fig. 1 c). These dark brown brush-like patches of setae, so

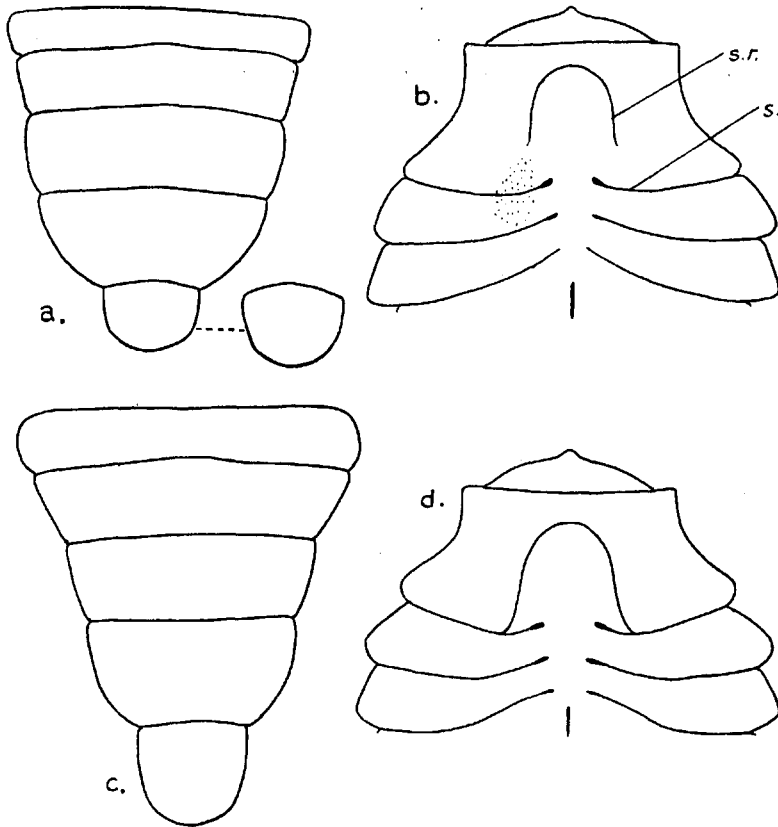


FIG. 2.—‘*Sesarma maculata*’ de Man, 1902 *nec* 1892. a. Segments 3-7 of male abdomen (*c.l.* = 13 mm.). b. Diagram of anterior portion of sternal plate of male, showing the ridge that bounds the 7th abdominal segment when flexed (*s.r.*) and three pairs of transverse grooves or sutures (*s.*). *Sesarma maculata* de Man, 1892 *nec* 1902. c. Segments 3-7 of male abdomen (*c.l.* = 15 mm.). d. Diagram of anterior portion of the sternal plate of male.

conspicuous in the male, are absent in the female, and all the legs are beset with sparse dark brown bristles, some of which are rather spinose.

Wishing to confirm my determination, I sent to the Leiden Museum for the loan of a male specimen of *S. maculata* determined by de Man. The specimen from Ternate that I received shows no trace of hairy patches on the two anterior pairs of legs, and differs in other respects from the males from the Solomon Islands. The abdomen is less triangular (cf. fig. 2 a & c); the median depression in the sternal plate\*, over

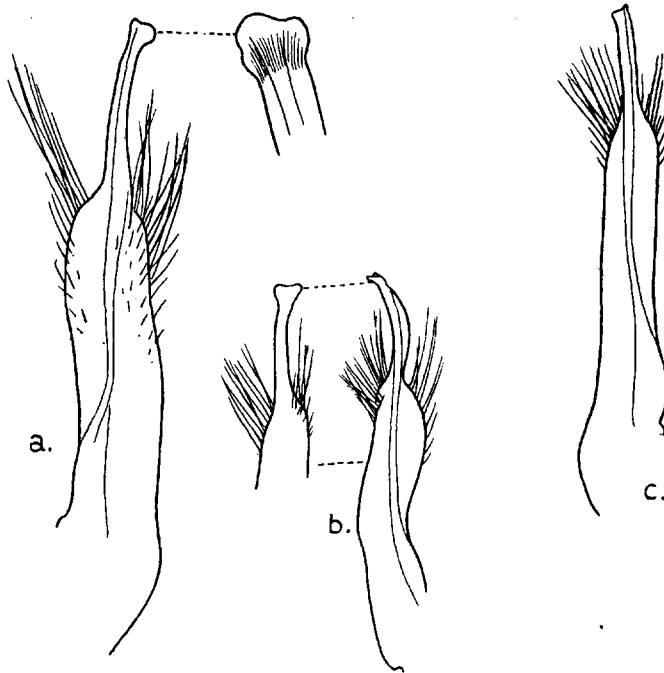


FIG. 3.—*Sesarma maculata* de Man, 1892. a. First pleopod of larger male from British Solomon Islands from sternal (or concave) side, with apex more highly magnified. b. Same of smaller male, with another view of the apex. '*Sesarma maculata*' de Man, 1902 nec 1892. c. First pleopod of male, from sternal side.

which the abdomen folds, is much shallower and the sternal arch (marked by a ridge), which embraces the seventh abdominal segment, terminates, or fades out, some distance in front of the anterior pair of sternal grooves or sutures (fig. 2 b). In the specimens from the Solomon Islands, on the other hand,

\* For shortness, the 'post-oral cephalothoracic sterna', which are fused to form a single plate, are referred to as the 'sternal plate'.

the ridge of the sternal arch is continued posteriorly to meet, or almost meet, the anterior pair of sternal sutures (fig. 2 *d*). The first pleopods are rather similar in both, as illustrated in fig. 3 *a-c*.

Mr. Tweedie, who kindly examined the type-material of *S. maculata* in the Amsterdam Museum, wrote to me as follows: ' (1) The arch of the sternal depression, in front of the first sternal suture, is marked by a ridge, depressed below the level of the sternum, which is distinct right up to its contact, on each side, with the suture. (2) The hairy tufts are present on the propodi and dactyli of the first two pairs of walking-legs, but much more distinct on the first, which is just as you have drawn it in the upper figure [sketch of fig. 1 *a*]. The rest of the legs carry only stiff, widely spaced setae.'

It is thus clear that the specimens determined by Balss (1934) and the present specimens from the Solomon Islands are conspecific with the types of *S. maculata*. The male specimen from Ternate (Kükenthal, 1893/4, Cat. no. 1205) now in the Leiden Museum, although determined by de Man (1902, Abh. Senckenb. Ges., Frankfurt a. M. xxv, 3, p. 517) does not belong to *S. maculata*, but to some other species. Perhaps this also applies to all the specimens that de Man had before him in the Kükenthal collection, and, in that case, the differences between these and the type-material of *S. maculata*, mentioned in de Man's later description (1902) would be explained. It may well be, also, that Tesch based his *S. maculata* characters (1917, p. 246, in key, and p. 170) largely on the specimens from Ternate, determined erroneously by de Man. Until all the material referred by various authors to *S. maculata* has been re-examined it is not possible to decide which specimens actually belong to the species. The known distribution is as follows:—Flores (type-locality), Amboina, Taroena, and British Solomon Islands.

Specimens of the following two species, which are closely related to *S. maculata* (according to Tesch's key, 1917, pp. 245–246), were also obtained on loan from Leiden Museum:—

*Sesarma* (*Sesarma*) *ocypoda* Nobili  
subsp. *gracillima* de Man.

1902. De Man, Abh. Senckenb. Ges., Frankfurt a. M. xxv, 3, p. 522, pl. 19, f. 9.

1917. Tesch, Zool. Meded., Leiden, iii, pp. 179–182, pl. xvii, f. 1.

*Remarks*.—The male received for examination (Cat. no. 1954, Natoena Islands) is one of those described at some length by Tesch, and the determination was confirmed by de Man.

The first pleopod is almost triangular in cross-section, and is quite distinct from that of *S. maculata*; as it has never

been figured, camera-lucida sketches were made from three different aspects—abdominal, sternal, and median (fig. 4). The median sternal depression is deep and the ridge of the

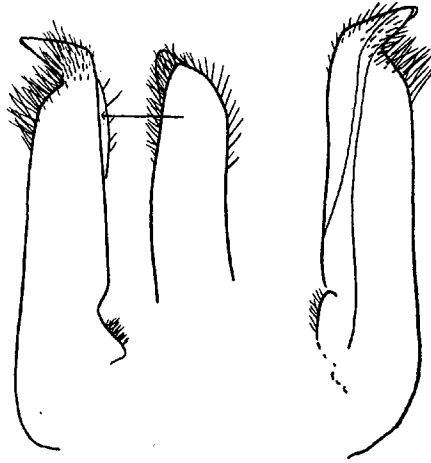


FIG. 4.—*Sesarma ocy-poda* Nobili, subsp. *gracillima* de Man.  
First pleopod of male, from three different aspects (*c.l.* = 13 mm.).

sternal arch, bounding the terminal abdominal segment, is continued posteriorly to meet the first sternal suture or groove on either side (as in fig. 2*d*).

*Sesarma (Sesarma) sylvicola* de Man.

1892. *Sesarma (Geosesarma) sylvicola* De Man, Weber's Zool. Ergebn. Reise niederl. Ost.-Indien. ii, p. 345, pl. 20, fig. 18.  
1899. *Sesarma (Geosesarma) sylvicola* Nobili, Ann. Mus. Civ. st. nat., Genova, (2) xx, p. 513.  
1902. *Sesarma (Sesarma) sylvicola* De Man, Abh. Senckenb. Ges., Frankfurt a. M. xxv, 3, p. 522, pl. 19, fig. 11.  
1910. *Sesarma (Sesarma) sylvicola* Rathbun, Bull. Mus. Comp. Zool., Harvard, lii, p. 309.  
1917. *Sesarma (Sesarma) sylvicola* Tesch, Zool. Meded., Leiden, iii, p. 200.

*Remarks.*—Only two of the three cotypes mentioned by de Man (1892) are now in the collection of the Amsterdam Museum. These were kindly sent on loan by Professor de Beaufort, and, on examination, *both* proved to be females. De Man described his cotypes as 'zwei Männchen und ein junges Weibchen'. The genital openings are indicated in both specimens, although they may not be perforate; in the smaller specimen (*c.l.* = 5.5 mm.) the abdomen is narrow and not unlike that of the male, but the pleopods are of the female type. In all probability the third and largest cotype, that

measured by de Man (1892, p. 346), is a male, and it may have been from this specimen that de Man obtained the illustrations for pl. 19, figs. 11, 11 *a-c*, in his later paper (1902) \*.

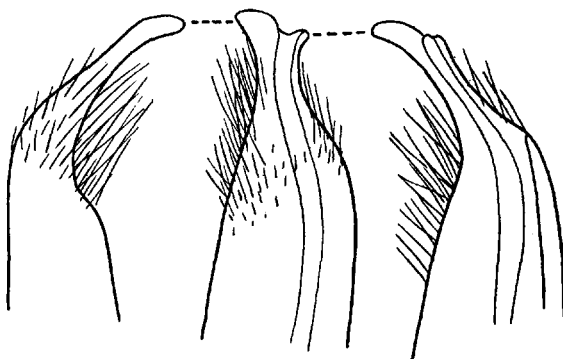


FIG. 5.—*Sesarma sylvicola* de Man, from Takfak.  
Apex of first pleopod of male, from three  
different aspects (*c.l.* = 10 mm.).

The only male specimen of *S. sylvicola* that I have examined is one from Takfak, New Guinea, in the collection of the Leiden Museum (Cat. no. 2192). This specimen, which was determined by de Man, has the first pleopod of the type represented in fig. 5; the sternal depression is deep, and the arch that bounds the seventh abdominal segment, when flexed, reaches to the first sternal groove or suture on either side.

*Sesarma (Sesarma) gracilipes* H. Milne-Edwards.

1917. *Tesch, Zool. Meded., Leiden, iii, p. 154.*

*Remarks.*—*Sesarma schüttei* from New South Wales, determined by Miers, 1886, *Challenger Reports, Zool. xlix, p. 271*, must be removed from the synonymy of *Sesarma gracilipes* listed by Tesch. The walking-legs are not nearly as slender as in *S. gracilipes*, and the shape of the carapace and of the male abdomen is also different. The chelipeds are represented by small limb-buds and must both have been lost some time prior to the capture of the specimen.

*Acknowledgments.*—I have to thank Mr. R. A. Lever, Government Entomologist, Tulagi, British Solomon Islands, for presenting the specimens of *Sesarma maculata* de Man, together with other material, to the British Museum. I am also indebted to Professor L. T. de Beaufort of the Amsterdam Museum, Dr. H. Boschma of the Leiden Museum, and the

\* I have been unable to trace this third specimen; it is not in the Leiden or Senckenberg Museum Collections.



Director of the Senckenberg Museum, Frankfurt, for sending me material on loan and for replying to my enquiries relating to type-specimens. My thanks are also due to Mr. M. W. F. Tweedie, of the Raffles Museum, Singapore, who kindly examined for me the type-material of *Sesarma maculata* de Man during a short visit to the Amsterdam Museum.

