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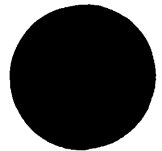
The Taxonomy of *Sesarma tangi* Rathbun, 1931 and *S. stormi* De Man, 1895 (Crustacea: Decapoda: Brachyura: Grapsidae: Sesarminae), with Establishment of a New Genus for *S. stormi*

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(Accepted January 27, 1999)



The Taxonomy of *Sesarma tangi* Rathbun, 1931 and *S. stormi* De Man, 1895 (Crustacea: Decapoda: Brachyura: Grapsidae: Sesarminae), with Establishment of a New Genus for *S. stormi*

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Peter K. L. Ng and Hung-Chang Liu (1999) The taxonomy of *Sesarma tangi* Rathbun, 1931 and *S. stormi* De Man, 1895 (Crustacea: Decapoda: Brachyura: Grapsidae: Sesarminae), with establishment of a new genus for *S. stormi*. *Zoological Studies* 38(2): 228-237. The identities and generic affinities of 2 poorly known species of grapsid crabs, *Sesarma tangi* Rathbun, 1931 and *S. stormi* De Man, 1895, currently provisionally placed in *Chiromantes*, are clarified. The type, and only known specimen of *S. tangi*, from mainland China, is redescribed in detail, and it is retained in *Chiromantes* for the time being. *Sesarma stormi* is redescribed from specimens recently collected in southern Taiwan and is a new record for the island. This species has several peculiar features which indicate that it should be referred to its own genus. Notes on the ecology of *S. stormi* are also provided.

Key words: *Sesarma tangi*, *Sesarma stormi*, New record, New genus.

Serène and Soh (1970), in their reappraisal of the genera of Indo-Pacific Sesarminae Dana, 1851, made only passing comments about the genus *Holometopus* H. Milne Edwards, 1853. In their key, these authors defined the genus for species which do not have the antennae excluded from the orbit, a lateral carapace margin which is entire with no trace of an epibranchial tooth, and the dorsal margin of the palm of the male chela with only 1 longitudinal pectinated ridge or with none at all (see also Tesch 1917: 235). Although Serène and Soh (1970) did not name the species belonging to *Holometopus*, Serène (1968: 107) had earlier listed 13 species from this genus. Two of the species he included in *Holometopus*, however, *Sesarma stormi* De Man, 1895 and *Sesarma tangi* Rathbun, 1931 are poorly known. *Sesarma stormi* was described from specimens collected from northern Sumatra and it has never been reported since then. *Sesarma tangi* was described on the basis of 1 male specimen from Fujian, China, and was redescribed subsequently by Dai et al. (1986) (probably based on the same type

male). Following the nomenclatural amendments by Holthuis (1977: 170), the genus *Holometopus* is now known as *Chiromantes* Gistel, 1848 (type species *Grapsus (Pachysoma) haematochir* De Haan, 1833). The species which had been placed in *Chiromantes* by Serène and Soh (1970) and other workers are now referred to *Perisesarma* De Man, 1895 instead (Holthuis 1977: 171).

Most species of *Chiromantes sensu stricto* have distinctly squarish to subrectangular carapaces. Only 3 species have more trapezoidal carapaces in which the anterior part of the carapace is much wider than the posterior part and the lateral margins distinctly converge towards the relatively narrow posterior carapace margin, viz. *C. obtusifrons* (Dana, 1851), *C. stormi* (De Man, 1895), and *C. tangi* (Rathbun, 1931) (see Tesch 1917, Rathbun 1931, as *Holometopus*).

Of these 3 distinctly trapezoidal *Chiromantes* species, the authors recently had an opportunity to study specimens of 2 Chinese species, *C. stormi* (De Man, 1895) and *C. tangi* (Rathbun, 1931). *C. tangi*

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agrees well with the current understanding of the genus despite its somewhat unusual carapace shape, possessing the generic characters defined by Serène and Soh (1970). *C. stormi*, on the other hand, differs so markedly from typical *Chiromantes* species in several key characters that requires that it be referred to a new genus, here named *Stelgistra*.

The present paper serves to redescribe *C. stormi* and *C. tangi*, as well as to provide detailed figures of both species. Notes on the unusual habitat and feeding habits of *Stelgistra stormi* are also included. The abbreviations G1 and G2 are used for the male 1st and 2nd pleopods, respectively. Measurements provided are of the carapace width and length, respectively. Specimens examined are deposited in the Taiwan Museum (TMCD), Taipei; Beijing Natural History Museum (BNHM), Beijing; National Museum of Natural History (USNM), Smithsonian Institution, Washington D. C.; Nationaal Naturhistorisch Museum (ex Rijksmuseum van Natuurlijke Historie, RMNH), Leiden; and the Zoological Reference Collection (ZRC) of the Raffles Museum, Department of Biological Sciences, National University of Singapore.

TAXONOMY

Chiromantes Gistel, 1848

Type species: Grapsus (Pachysoma) haematochir De Haan, 1833 (subsequent designation by Holthuis, 1977: 170).

Diagnosis: Carapace squarish or rectangular to trapezoidal, anterior margin of carapace as wide as or slightly wider than posterior margin; lateral margins of carapace entire, without trace of epibranchial tooth, subparallel or converging towards posterior carapace margin; regions of carapace usually distinct; frontal margin deflexed to varying degrees; antenna entering orbit; basal segments of antenna and antennules may or may not be separated by septum; exopod of 3rd maxilliped with long flagellum; dorsal margin of palm of cheliped with a pectinated ridge or row of granules; dorsal margin of dactylus of chelae granulated or smooth, granules may or may not be arranged in a distinct row; tips of fingers of both chelipeds scalloped, margins pectinated; inner distal margin of merus of cheliped angular but not lamelliform or projecting, edges not visible from dorsal view when chelipeds are gently appressed against carapace; coxae of ambulatory legs 2 and 3 may have dense tuft of long setae on ventral surface; male thoracic sternites 2-4 broad to relatively narrow; male abdomen triangular to broadly triangular.

Remarks: Of the 13 species of *Chiromantes* listed by Serène (1968), 2 species should be removed. *Sesarma villosum* A. Milne Edwards, 1869 is probably not a true member of the genus; with regard to its carapace features and setose surfaces, it is more likely to be a species of *Clistocoeloma* A. Milne Edwards, 1873 instead. *Sesarma obesum* Dana, 1851 is more likely to be a species of *Metasesarma* H. Milne Edwards, 1853 as Serène (1968: 107) himself had indicated when he questioned the placement of this species in *Chiromantes* (as a *Holometopus*).

Of the remaining 11 species, 2 major groups can be discerned. In the 4 species of the *C. elongatus* group, the dorsal margin of the palm has a pectinated longitudinal ridge, and the dorsal margin of the dactylus has differentiated granules. This group includes *C. elongatus* (A. Milne Edwards, 1869), *C. eydouxi* (H. Milne Edwards, 1853), *C. eulimene* (De Man, 1895), and *C. ortmanni* (Crosnier, 1965). In the *dehaani* group, the dorsal margin of the palm has no ridge and the dorsal margin of the dactylus has no differentiated granules. This group includes 7 Indo-Pacific species, viz. *C. dehaani* (H. Milne Edwards, 1853), *C. haematochir* (De Haan, 1833), *C. granosimana* (Miers, 1880), *C. obtusifrons* (Dana, 1851), *C. stormi* (De Man, 1895), *C. boulengeri* (Calman, 1920), and *C. tangi* (Rathbun, 1931).

Chiromantes dehaani and *C. granosimana* have squarish to transversely subrectangular carapaces, but differ markedly from *C. haematochir* (type species of *Chiromantes*) in having the segments of the antenna and antennule separated by a distinct septum (vs. septum absent), the fused male thoracic sternites 2-4 being distinctly narrower with the abdominal cavity reaching almost to the anterior margin of sternite 2 (vs. thoracic sternites 2-4 proportionately broader and abdominal cavity reaching midway of fused sternites 2-4), the male abdomen being proportionately broader, appearing subrectangular (vs. narrower and distinctly triangular in shape), and the inner surface of the male chela having a transverse ridge of granules (vs. smooth).

The 3 species with trapezoidal carapaces are distinctive. While the carapace of *C. tangi* is trapezoidal in shape, it is only slightly more so when compared to that of *C. granosimana*. The basal segments of the antennae and antennules of *C. tangi*, however, are separated by an incomplete septum, with the median part of the septum missing. In all other aspects (male thoracic sternites 2-4 relatively more narrow with the abdominal cavity reaching almost the anterior margin of sternite 2, the male abdo-

men proportionately broader and the inner surface of the male chela with a transverse ridge of granules), *C. tangi* agrees with species like *C. dehaani* and *C. granosimana*. *C. stormi* is distinctive in that its carapace is the most trapezoidal in shape, with the posteriorly sloping supraorbital margin enhancing the effect; the frontal margin is so strongly deflexed that part of the basal portion of the antennae and most of the antennules are completely shielded from frontal view. There is also no trace of a septum between basal segments of the antennae and antennules. *C. stormi*, however, is significantly different from all congeners in several other key features, and as such, a new genus is established for it here (see remarks for new genus).

As for the widely distributed *C. obtusifrons* (from the eastern Indian Ocean to Hawaii) (Tesch 1917: 179; Tweedie 1947: 33), other than in its trapezoidal carapace shape, it agrees in general with most species in the *C. dehaani* group in that there is no septum between the basal segments of the antennae and antennules, in the structure of the shape of the male abdomen, the form of the anterior male thoracic sternum, the possession of a transverse ridge on the inner surface of the palm, and the structure of the finger tips. The dorsal margin of the fingers, however, are smooth and completely unarmed.

The differences observed above also suggest that even with the transfer of the very different *C. stormi* to its own new genus, *Chiromantes* still remains heterogeneous in its species composition. Certainly members of the *C. elongatus* group can easily be referred to their own genus. Among the species currently placed in the *C. dehaani* group, *C. haematochir* is distinct in several features (especially in the structure of the anterior male thoracic sternum) and should be generically separated from the other species in the group. When this is done, the generic position of *C. obtusifrons* should also be reappraised. The authors prefer to defer action on these generic actions until more of the species now placed in *Chiromantes* can be re-examined.

Comparative materials: *Chiromantes haematochir* – 2 ♂♂ (larger 31.7 by 27.4 mm) (ZRC 1964.9.8.12-13), Japan, coll. S. Miyake. *C. dehaani* – 1 ♂ (27.3 by 24.5 mm) (ZRC 1968.4.22.12), Japan, coll. T. Sakai. *C. granosimana* – 2 ♂♂ (larger 15.6 by 13.4 mm), 1 ovig. ♀ (14.8 by 12.3 mm), 3 non-ovig. ♀♀ (largest 16.5 by 13.7 mm) (ZRC 1965.7.29.179-184), Kuching, Sarawak, Malaysia, coll. MWF. Tweedie. *C. obtusifrons* – 1 ♂ (13.6 by 10.2 mm) (ZRC 1965.7.29.153), Christmas Is., coll. 1932; 3 ♂♂ (largest 11.5 by 8.7 mm, smallest 8.9 by 6.4 mm) (ZRC 1965.7.29.154-163), Christmas Is., coll. 1932. *C. ortmanni*

– 1 ♂ (20.1 by 15.2 mm) (ZRC 1968.1.22.1), Africa, coll. MacNae, Apr. 1967. *C. eulimene* – 1 ♂ (22.4 by 17.3 mm), 1 ♀ (15.8 by 12.2 mm) (ZRC 1968.1.22.2-3), Africa, coll. MacNae, Apr. 1967.

Chiromantes tangi (Rathbun, 1931)

(Figs. 1-4)

Sesarma (*Holometopus*) *tangi* Rathbun 1931: 93, pl. 15; Serène 1968: 107; Dai et al. 1986: 489, fig. 274(3-4), pl. 68(8); Dai and Yang 1991: 535, fig. 274(3-4), pl. 68(8).

Material examined: Holotype ♂ (16.0 by 12.3 mm) (USNM 61875), Guantao, near Foochow, Fukien (= Fujian), China, coll. Tang through SF. Light, July 1923.

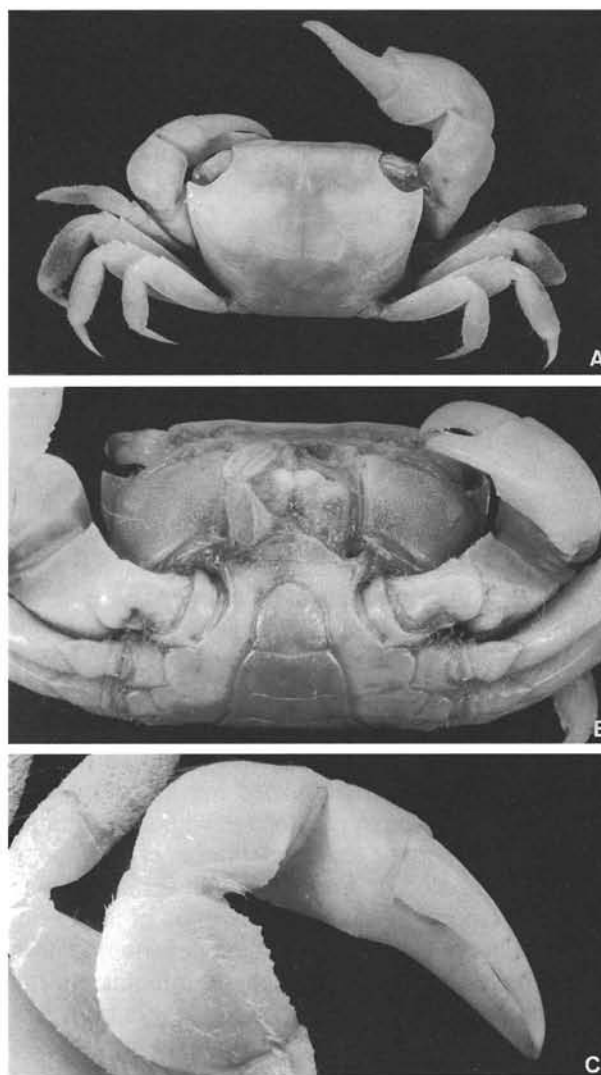


Fig. 1. *Chiromantes tangi* (Rathbun, 1931). Holotype male (16.0 by 12.3 mm) (USNM 61875), Fujian, China. A, dorsal view; B, ventral view; C, anterior view of left cheliped.

Description: Carapace trapezoidal, surfaces smooth; regions poorly defined; surface adjacent to anterolateral margin smooth; surface adjacent to posterolateral margin with strong, oblique striae; antero-median surface with shallow but distinct Y-shaped groove. Front deflexed downwards, margin slightly sinuous, indistinctly bilobed. Supraorbital margin entire, confluent with triangular external orbital tooth. Anterolateral margin entire, without trace of tooth. Posterolateral margin distinctly converging towards straight posterior carapace margin.

Ischium of 3rd maxilliped with submedian sulcus; merus subovate with distinct median ridge which extends to anteroexternal angle of ischium; exopod slender, with long flagellum.

Chelipeds distinctly unequal. Larger chela very high, outer surface punctate; inner surface with raised surface but not ridge-like or granulated, surface punctate to gently rugose; dorsal margin of palm with sinuous row of small granules, with 3-4 short interrupted ridges behind it; fingers very slender, curved, longer than palm; dorsal margin of dactylus with 4 large submedian granules and row of numerous small granules along proximal margin, cutting edge with 2 teeth and several small denticles; propodus with 2 teeth and numerous denticles; tips of fingers pectinated, slightly excavated along inner surface. Smaller chela with outer surface gently rugose; fingers longer than palm; cutting edges of both fingers with 2 teeth and numerous denticles; dorsal margin of dactylus with 4 large submedian granules and row of numerous small granules along proximal margin; tips of fingers pectinated, slightly excavated along inner surface. Outer surface of carpus gently squamiform; inner distal angle not produced or granulated. Inner margin of merus lined with sharp granules of varying sizes; margins not lamelliform; outer margin gently convex, granulated; inner surface with oblique row of stiff setae. Basis and ischium separated by distinct suture.

Ambulatory legs short, 2nd pair longest. Outer surface of merus, carpus, and propodus smooth or minutely punctate. First and 2nd propodi with dense, low pubescence and scattered long, simple setae; 3rd propodus with distinctly less pubescence; 4th propodus almost glabrous. Meri laterally flattened, with sharp, subdistal dorsal spine. Outer surface of carpus with 2 low, indistinct carinae. Base of dactylus of all legs with 2 lobes which fit rounded knob on posterior margin of propodus. Inner surface of coxae of 1st to 3rd ambulatory legs with short to long setae; antero-ventral margin with only short setae, never long or tufted.

Sutures and margins of anterior thoracic sterni-

tes strongly setose. Sternites 1 and 2 completely fused. Sternites 2 and 3 separated by suture which is distinct, median part shallower, slightly concave toward buccal cavity. Sternites 3 and 4 completely fused, narrow, abdominal cavity reaching just before anterior margin of fused sternites.

Abdomen narrowly triangular. Telson relatively long, lateral margins gently convex, tip rounded. Segment 6 with strongly arcuate latero-distal margins, proximal part almost straight. Segments 3-5 progressively more trapezoidal. Segments 2 and 3 subequal in width.

G1 almost straight from ventral view; outer surface gently excavated; distal part bent outwards at about 45°, pectinated.

Taxonomic remarks: *Chiromantes tangi* is known only from Fujian Prov. of southern China thus far. Dai et al. (1986) and Dai and Yang (1991) included this species in their synopsis of the Chinese

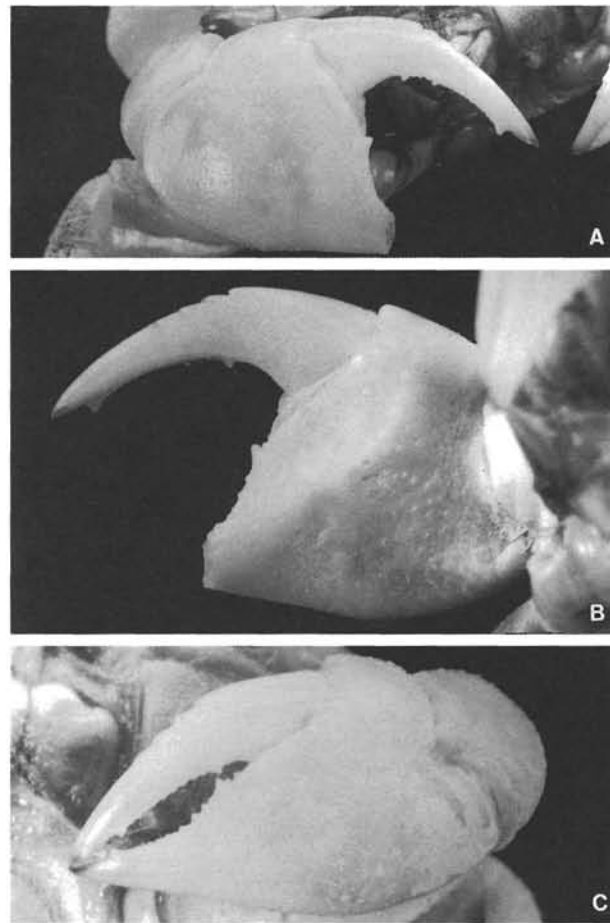


Fig. 2. *Chiromantes tangi* (Rathbun, 1931). Holotype male (16.0 by 12.3 mm) (USNM 61875), Fujian, China. A, outer surface view of right (larger) chela (propodal finger broken); B, inner surface view of right chela; C, outer surface view of left (smaller) chela.

fauna and provided figures of the whole animal, G1, and abdomen. They, however, did not indicate how many specimens they had from Fujian and, in all likelihood, the record of Dai et al. (1986) and Dai and Yang (1991) was also based on the holotype.

On the reprint of Rathbun's paper describing *Sesarma tangi*, the cover stated that it was published in December 1929. On the inner back cover of the reprint, however, the date July 31st 1931 was clearly printed, indicating that the paper was actually published in 1931 and not 1929.

Color: Not known.

Ecology: Not known.

Stelgistra gen. nov.

Type species: *Sesarma* (*Sesarma*) *stormi* De Man, 1895, by present designation.

Diagnosis: Carapace distinctly trapezoidal, anterior margin of carapace much wider than posterior margin; lateral margins of carapace entire, without trace of epibranchial tooth, strongly converging towards posterior carapace margin; regions of carapace well defined by distinct grooves; frontal margin

strongly deflexed, covering most of antennules and part of the antennae from frontal view; antenna entering orbit; basal segments of antenna and antennules not separated by a septum; exopod of 3rd maxilliped with long flagellum; dorsal margin palm of chelipeds with no ridges, row of granules, or stridulatory structure; dorsal margin of dactylus of chela with numerous low transverse granules; tips of fingers of both chelipeds strongly spooned evenly, not pectinated; inner distal margin of merus of cheliped prominently lamelliform, projecting anteriorly, edges clearly visible from dorsal view when chelipeds are gently appressed against carapace; coxae of ambulatory legs 2 and 3 with dense tuft of long setae on ventral surface; male thoracic sternites 2-4 relatively narrow, male abdominal cavity extending almost to anterior margin of sternite 2; male abdomen triangular.

Etymology: The name is derived from the Greek "stelgistra" for scraper. Gender, feminine.

Remarks: The 2 most distinctive characters which separate *Chiromantes stormi* from all congeners are the strongly spoon-shaped and non-pectinated tips of the fingers of its chela and the large lamelliform inner distal margin of the merus of the cheliped. As discussed earlier, these and other characters necessitate the transfer of this species to establish a new genus. In many sesarmines, the tips of the fingers may be partially scalloped, especially along the inner edge, and may be used to feed on algae or leaf epidermis (Sivasothi et al. 1993). This scalloped edge is always pectinated. In no known species, however, are the finger tips so strongly and evenly spooned as in *Stelgistra* as well as being unpectinated. In fact, the condition of the finger tips of

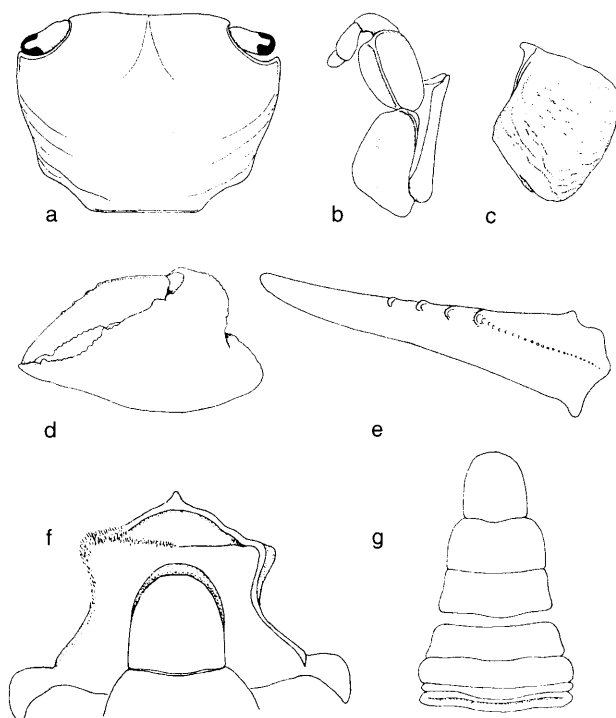


Fig. 3. *Chiromantes tangi* (Rathbun, 1931). Holotype male (16.0 by 12.3 mm) (USNM 61875), Fujian, China. a, carapace; b, left 3rd maxilliped (setae denuded); c, right carpus of cheliped; d, left chela; e, anterior margin of dactylus of left cheliped; f, anterior thoracic sternites (setae on left side denuded); g, abdomen.

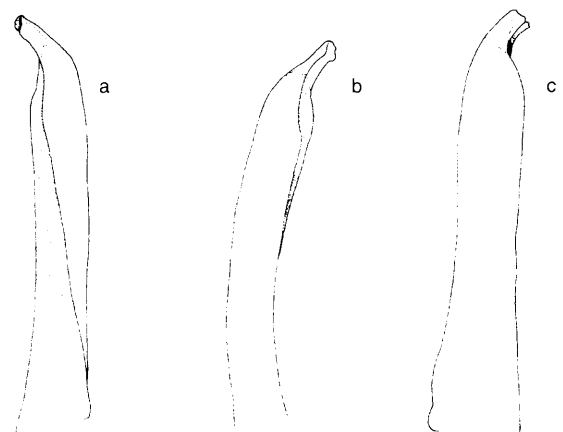


Fig. 4. *Chiromantes tangi* (Rathbun, 1931). Holotype male (16.0 by 12.3 mm) (USNM 61875), Fujian, China, left G1. a, dorsal view; b, dorso-medial view; c, ventral view. Setae denuded.

Stelgistra closely resembles that of many species of Xanthidae (e.g., Etsinae, Chlorodiinae, and Kraussiinae) (Serène 1984, Ng 1993). In addition, *Stelgistra* has no ridges or stridulatory structures on the palm of the chela. The lamelliform inner distal margin of the merus of the cheliped is also very distinct and not as well developed as in any other species of *Chiromantes*. This structure is so large that it is visible even when viewed dorsally.

The habitat of *Stelgistra stormi* is unusual for the group, occurring among dead coral rocks in the supralittoral zone (see below). Known *Chiromantes* species occur in intertidal habitats with soft substrates like estuaries and mangroves or under wood and rocks (unpubl. data, see also Tan and Ng 1994).

The antero-ventral surface of the coxae of ambulatory legs 2 and 3 of *S. stormi* has a large tuft of long setae, in addition to the short setae present on the lateral surfaces of coxae of ambulatory legs 1-3 present on most *Chiromantes* species. However, such long setae are also present in *C. obtusifrons*, *C. ortmanni*, and *C. eulimene*. Such long setae, however, are probably useful for absorbing water from the substrate and are closely associated with the

habits of the species. The merus of the ambulatory legs of *S. stormi* is also strongly foliaceous, more so than that of any of its congeners, with the inner postero-distal surface deeply excavated. The structure of the merus of the ambulatory leg of *C. granosimana* is also foliaceous but it is relatively more slender than that of *S. stormi*.

Stelgistra also resembles the type species of *Metasesarma* H. Milne Edwards, 1853, *M. roussauxi* H. Milne Edwards, 1853. *Stelgistra*, however, can easily be separated by its distinctly more trapezoidal carapace (against slightly trapezoidal carapace), the regions being well defined with distinct grooves (against regions barely discernible), the antennae entering the orbits (against been excluded from the orbit), the presence of a distinct flagellum on the exopod of the 3rd maxilliped (against absent or with only a vestigial flagellum), and the fingers being distinctly spoon-tipped (against sharp to only partially scalloped along the inner margin) (see Crosnier 1965, Ng and Davie 1995). The 2 known species of *Metasesarma* also have different habitats, being highly terrestrial species occurring on sand, and sometimes on muddy substrates in and slightly be-

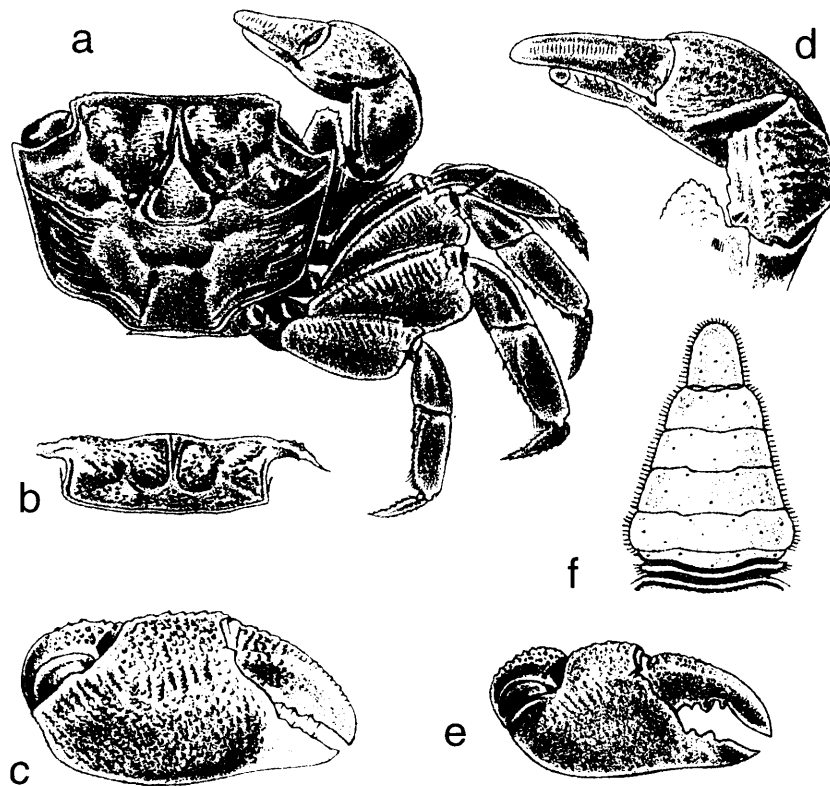


Fig. 5. *Stelgistra stormi* (De Man, 1895). Aceh, northern Sumatra. a-d, f, male (16.5 by 12.0 mm); e, female (14.5 by 10.5 mm). a, overall view of male; b, front (frontal view); c, right male chela; d, anterior view of right male cheliped; e, right female chela; f, male abdomen. (After De Man, 1898: pl. 29 fig. 29).

yond the supralittoral zone (Ng and Davie 1995).

***Stelgistra stormi* (De Man, 1895) comb. nov.**
(Figs. 5-10)

Sesarma (*Sesarma*) *stormi* De Man 1895: 148; De Man 1898: 702, pl. 29 fig. 29.

Sesarma (*Holometopus*) *stormi* – Tesch 1917: 200, 237; Serène 1968: 107.

Materials examined: 1 syntype ♂ (10.3 by 7.3 mm) (RMNH), Aceh, northern Sumatra, Indonesia, coll. Storm, don. Lübeck Museum. 11 ♂♂ (smallest 13.5 by 9.7 mm, largest 22.0 by 16.6 mm), 5 non-ovig. ♀♀ (largest 18.4 by 13.4 mm), 3 ovig. ♀♀ (smallest 14.3 by 10.4 mm) (ZRC 1998.832), 1 ♂, 1

♀ (TMCD), 1 ♂, 1 ♀ (BNHM), Kenting National Park, Pingtung Co., southern Taiwan, coll. PKL Ng, H-C Liu and SH Tan, June 1997.

Description of male: Carapace trapezoidal, surfaces smooth; regions well defined; entire surface rugose to finely granulated; surface adjacent to antero- and posterolateral margins lined with strong, oblique striae; antero-median surface with distinct Y-shaped groove. Front strongly deflexed downwards, margin bilobed, each lobe broadly convex, separated by shallow cleft. Supraorbital margin entire, separated from external orbital tooth by small but distinct cleft. Anterolateral margin entire, with no trace of tooth. Posterolateral margin strongly converging towards gently concave posterior carapace margin.

Ischium of 3rd maxilliped with shallow submedian sulcus; merus subovate with distinct median ridge which extends to anteroexternal angle of ischium; exopod slender, with long flagellum.

Chelipeds unequal. Outer surface of larger chela strongly rugose, granulate and squamate; inner surface rugose, gently convex, not distinctly raised; dorsal margin of palm granuliform but without trace of ridge; fingers short, distinctly shorter than palm; dorsal margin of dactylus with row of 13-21 low but distinct transversely subrectangular granules, most distinct medially, blending with granuliform proximal part of finger and becoming very low and

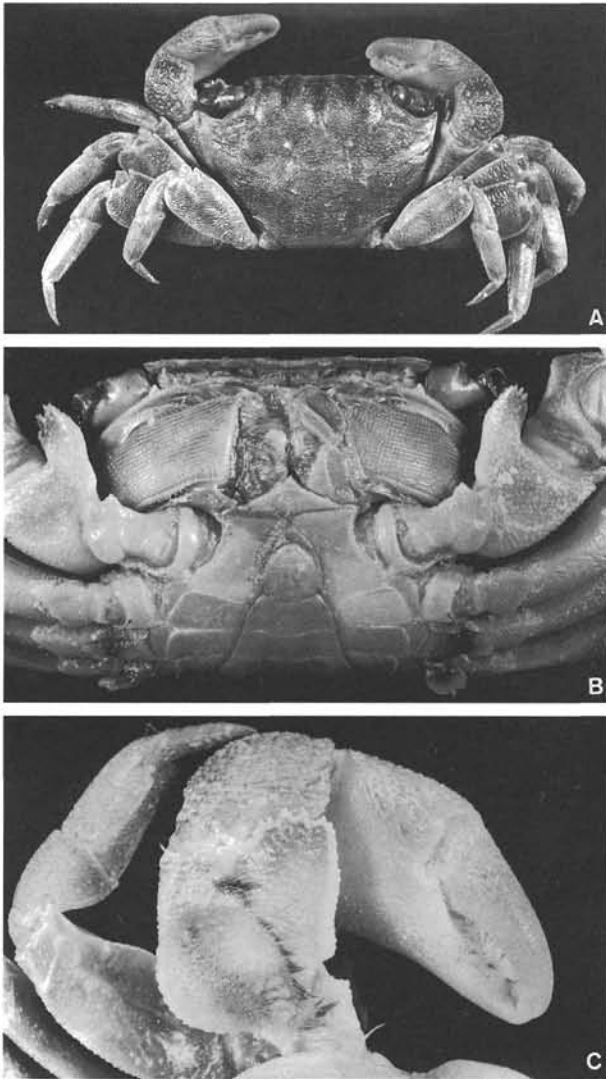


Fig. 6. *Stelgistra stormi* (De Man, 1895). Male (18.8 by 14.2 mm) (ZRC), southern Taiwan. A, dorsal view; B, ventral view; C, anterior view of left cheliped.

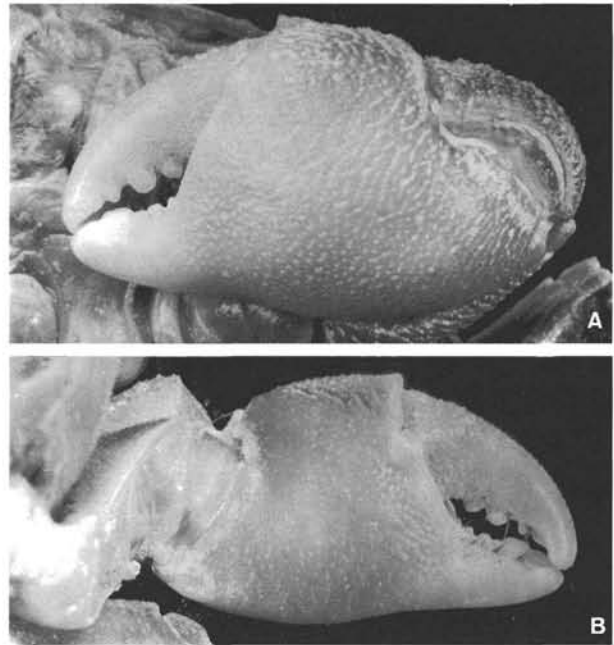


Fig. 7. *Stelgistra stormi* (De Man, 1895). Male (18.8 by 14.2 mm) (ZRC), southern Taiwan. A, left male chela (outer view); B, left male chela (inner view).

indistinct distally, cutting edge with 3 submolariform teeth; propodus with 3 teeth; tips of fingers not pectinated, distinctly spatulate, inner surface deeply excavated. Smaller chela with outer surface strongly rugose, granulate, and squamate; fingers shorter than palm; cutting edges of both fingers with 3 teeth and numerous denticles, dorsal margin of dactylus with row of 13-21 low but distinct transversely subrectangular granules; tips of fingers not pectinated, distinctly spatulate, inner surface deeply excavated, margins slightly expanded. Outer surface of carpus squamiform to rugose; inner distal angle not distinctly produced, margins granulated. Outer margin of merus strongly convex, sublameliform, granulated; inner margin strongly expanded distally, lamelliform, margins lined with sharp granules of varying sizes, distal part visible from dorsal view even when chelipeds are apposed tightly against carapace; inner surface with oblique row of stiff setae. Basis and ischium separated by distinct suture.

Ambulatory legs short, 2nd pair longest. Outer surfaces of merus, carpus, and propodus rugose to

slightly squamate. Propodi glabrous or only with scattered long, simple setae. Meri laterally flattened, foliaceous, margins finely granulated; with sharp, subdistal dorsal spine; outer part of postero-distal margin strongly expanded, inner surface with deep concavity. Outer surface of carpus with 2 distinct carinae, lowest on the 4th carpus. Base of dactylus of all legs with 2 swollen lobes which fit swollen rounded knob on posterior margin of propodus. Inner surface of coxae of 1st to 3rd ambulatory legs with ring of short to long setae; antero-ventral margin of 2nd and 3rd coxae with dense tuft of long setae.

Sutures and margins of anterior thoracic sternites strongly setose. Sternites 1 and 2 completely fused. Sternites 2 and 3 separated by suture which is distinct, interrupted medially, distinctly concave toward buccal cavity. Sternites 3 and 4 completely fused, relatively broad, abdominal cavity extending

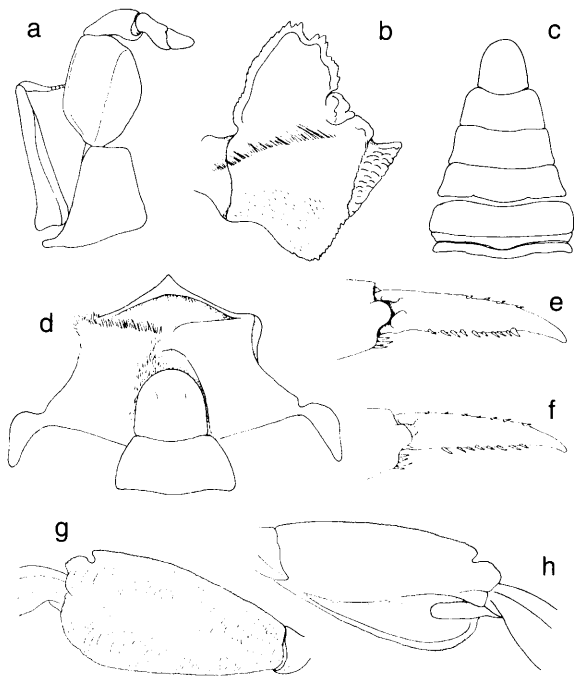


Fig. 8. *Stelgistra stormi* (De Man, 1895). a-f, male (18.8 by 14.2 mm) (ZRC), southern Taiwan; g, h, male (22.0 by 16.6 mm) (ZRC). a, right 3rd maxilliped (setae denuded); b, right merus of cheliped (anterior view); c, abdomen; d, anterior thoracic sternites (setae on left side denuded); e, right dactylus of 3rd ambulatory leg; f, right dactylus of 4th ambulatory leg; g, merus of left 3rd ambulatory leg (outer view); h, merus of left 3rd ambulatory leg (inner view).

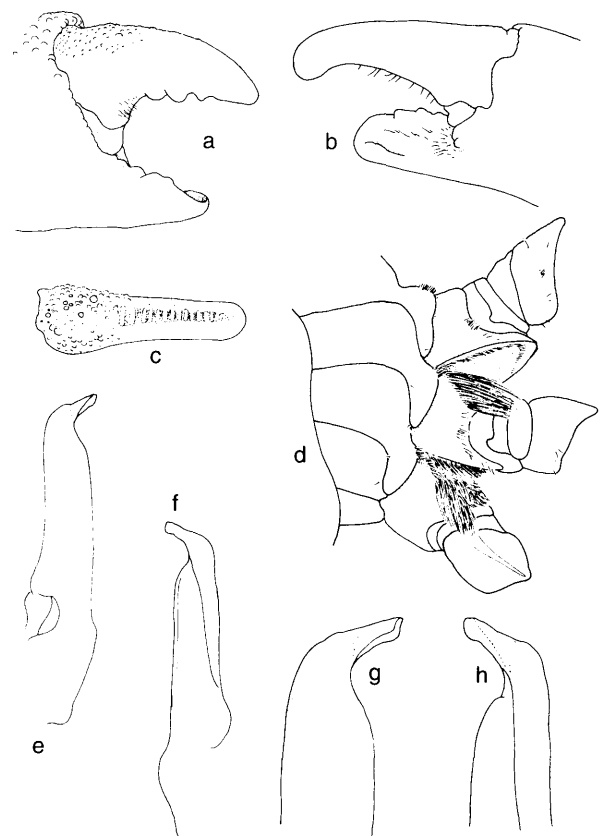


Fig. 9. *Stelgistra stormi* (De Man, 1895). a, c, male (18.8 by 14.2 mm) (ZRC), southern Taiwan; b, d-h, male (22.0 by 16.6 mm) (ZRC). a, fingers of right chela (outer view); b, fingers of right chela (sub-anterior view); c, anterior margin of dactylus of right chela; d, left thoracic sternites and base of legs showing pattern of setation; e, left G1 (ventral view); f, left G1 (dorsal view); g, distal part of left G1 (ventral view); h, dorsal part of left G1 (dorsal view). Setae on G1s denuded.

to just before anterior margin of fused sternites 2-4.

Abdomen triangular. Telson subcircular, lateral margins gently convex, tip rounded. Segment 6 with strongly arcuate latero-distal margins, proximal part almost straight. Segments 3-5 progressively more trapezoidal. Segments 2 and 3 subequal in width.

G1 almost straight from ventral view, relatively stout; distal part bent at about 45° outwards, pectinated.

Females: The chelipeds of females are equal, and there are no stridulatory granules on the dorsal margin of the dactylus. In addition, the chelae of females are relatively smaller, and the tips of the fingers are even more distinctly spatulate, with the lateral edges more expanded.

Taxonomic remarks: *Stelgistra stormi* was described on the basis of 8 males and a female from Aceh (= Atjeh) in northern Sumatra and has not been reported since. The present specimens from Taiwan agree well with the excellent descriptions and figures of De Man (1895 1898) and we are confident they are conspecific. We also examined a syntype male specimen, and it agrees very well with the Taiwan

specimens. The granules on the dorsal margin of the dactylus of the chela, however, are very low in this small syntype male, but this character is usually more prominent in larger specimens in the series from Taiwan. The lateral edges of the frontal margin of De Man's largest male specimen (present as Fig. 5a) are more distinctly granulated. In the Taiwan specimens, this area is gently granulated (Fig. 6A), but is never as prominent as that figured by De Man (1898). The teeth on the cutting edges of the chela of the larger males from Taiwan (Fig. 7A) are much stronger than those figured by De Man (present Fig. 5c) but this is associated with body size.

Color: In life, the carapace is light brown with yellowish streaks and patches, especially on the anterior part. The chelae are pale to bright orange, with much of the carpus brick-red. In larger specimens, the anterior part of the dorsal surface of the carapace is mottled brown and dirty white or dirty orange (Fig. 10).

Ecology: *Stelgistra stormi* was collected only among highly eroded dead coral heads in the supralittoral zone. Most of this area is, however, wet to moist, being splashed by waves during incoming tides, but it is usually not submerged except by the highest spring tides. The crabs hide deep in numerous crevices in the rock during the day and were observed only at night. Many were observed climbing down the rock face. The crabs feed by scraping the uneven coral rock surface with their spoon-tipped fingers, presumably consuming the algae. The action of their fingers creates tiny depressions in the rock.

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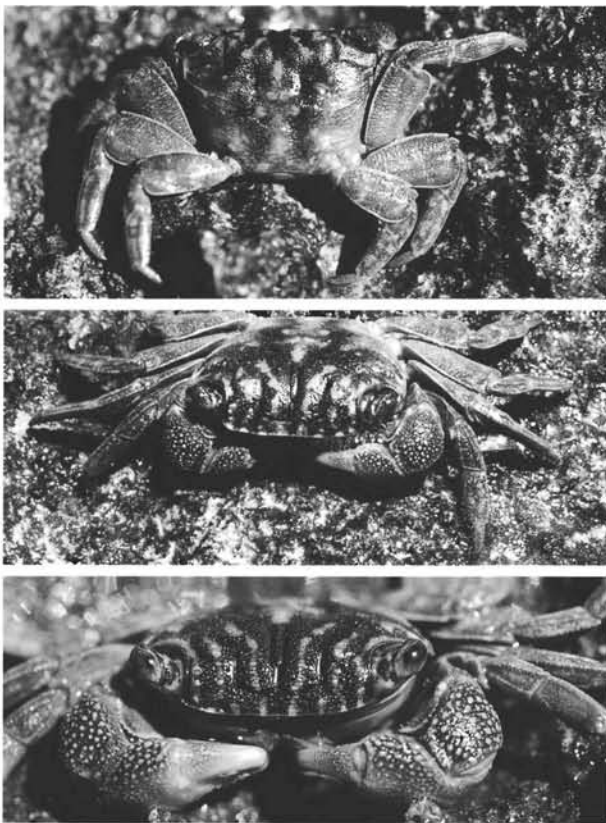


Fig. 10. *Stelgistra stormi* (De Man, 1895). Male, Kenting National Park, southern Taiwan, not preserved. Live colors.

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唐氏相手蟹和斯氏相手蟹之分類及一新屬之建立

黃禎麟¹ 劉烘昌²

本文澄清了兩種相手蟹 – 唐氏相手蟹 *Sesarma tangi* Rathbun, 1931 和斯氏相手蟹 *S. stormi* De Man, 1895 的物種鑒定和屬間關係。這兩種所知甚少的蟹類，以往皆被暫置於螳臂蟹屬 *Chiromantes* 內。產自中國大陸的唐氏相手蟹目前僅有一模式標本，本文即據此唯一標本對該種詳細地重新描述。經比較研究，該種被保留於螳臂蟹屬中。斯氏相手蟹為臺灣島新記錄種，本文以採自臺灣南部的標本重新描述了該種。此種蟹類具備幾個奇特的特徵，表明它應被分出另立新屬。本文亦記述斯氏相手蟹的生態學特性。

關鍵詞：唐氏相手蟹，斯氏相手蟹，新記錄，新屬。

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