

DESCRIPTION OF A NEW SPECIES OF *SOMANNIATHELPHUSA*
(DECAPODA, BRACHYURA, PARATHELPHUSIDAE) FROM VIETNAM

BY

DARREN C. J. YEO¹⁾ and NGUYEN XUAN QUYNH²⁾

¹⁾ Department of Biological Sciences, The National University of Singapore,
10 Kent Ridge Crescent, Singapore 119260, Republic of Singapore

²⁾ Department of Invertebrate Zoology, Faculty of Biology, The National University of Hanoi,
90, Nguyen Trai Road, Thanh Xuan, Hanoi, Vietnam

ABSTRACT

A new species of ricefield crab belonging to the genus *Somanniathelphusa* is described from Hanoi, Vietnam. It is the second *Somanniathelphusa* species to be described from Hanoi in recent years, differing from its congeners mainly by the form of its G1.

RÉSUMÉ

Une nouvelle espèce de crabe de rizière appartenant au genre *Somanniathelphusa* est décrite de Hanoi, Vietnam. C'est la seconde espèce de *Somanniathelphusa* à être décrite de Hanoi au cours des dernières années. Elle diffère de ses congénères principalement par la forme de la première paire de pléopodes du mâle.

INTRODUCTION

Ng & Kosuge (1995) recently described a new species of ricefield crab, *Somanniathelphusa pax*, from specimens obtained from markets in Hanoi, Vietnam. Subsequently, more lots of recently obtained crab specimens from markets in Hanoi were examined as part of the first author's revision of Indochinese freshwater crabs, resulting in the discovery of a second *Somanniathelphusa* species, apparently being sold in markets in heterogeneous lots together with *S. pax*. This second species has proven to be new to science and is named herein as *Somanniathelphusa dangi*.

Four species of ricefield crabs have previously been reported from northern Vietnam [formerly "Tonkin"], viz., *Somanniathelphusa sinensis* (H. Milne Edwards, 1853), *S. kyphuensis* Dang, 1975, *S. pax* Ng & Kosuge, 1995, and *Esanthelephusa dugasti* (Rathbun, 1902) [as *Somanniathelphusa dugasti*] (see Rathbun,

1905; Balss, 1914; Bott, 1968, 1970; Dang, 1975; Ng & Kosuge, 1995). Among these, the records of *S. sinensis* and *E. dugasti* are highly doubtful as they are only known to occur in south-western China and northeastern Thailand, respectively (Ng & Dudgeon, 1992; Ng & Kosuge, 1995). The records of *S. sinensis* from northern Vietnam are probably *S. dangi* sp. nov., *S. kyphuensis* or both, while those of *E. dugasti* from northern Vietnam are probably *S. pax*.

Naiyanetr (1994) split the genus *Somanniathelphusa* Bott, 1968, into four genera: *Somanniathelphusa* s. str.; *Sayamia* Naiyanetr, 1994; *Esanthelephusa* Naiyanetr, 1994; and *Chulathelphusa* Naiyanetr, 1994. However, forms with intermediate first gonopods G1 and/or carapace characters have been found, indicating that a reappraisal of these groupings may be necessary, but this will not be discussed any further here as it is not within the scope of the present paper. *Somanniathelphusa dangi* sp. nov. therefore, has been tentatively assigned to the genus *Somanniathelphusa* s. str. (sensu Naiyanetr, 1994) as the form of its G1 is closest to that of the type species, *S. sinensis* (H. Milne Edwards, 1853).

The present paper serves to describe *Somanniathelphusa dangi* sp. nov. The following abbreviations are used: G1 for male first pleopod, G2 for male second pleopod. Measurements are of carapace width and length respectively. Terminology used essentially follows Ng (1988). All measurements are in millimetres. Specimens examined are from the Zoological Reference Collection (ZRC), Department of Biological Sciences, National University of Singapore, Republic of Singapore; Zoological Museum of Hanoi University (ZMHU), Vietnam; United States National Museum (USNM), Smithsonian Institution, Washington D.C., U.S.A.; Muséum National d'Histoire Naturelle (MNHN), Paris, France; and Senckenbergischen Naturforschenden Gesellschaft (SMF), Frankfurt, Germany.

TAXONOMY

Family PARATHELPHUSIDAE Alcock, 1910

***Somanniathelphusa dangi* sp. nov. (figs. 1, 2)**

Potamon (*Parathelphusa*) *sinensis* (?) — Rathbun, 1905: 241 (part.).

Parathelphusa sinensis (?) — Balss, 1914: 408 (part.).

Somanniathelphusa sinensis sinensis — Dang, 1975: 76; Dang, 1980: 420, fig. 238 (not *Parathelphusa sinensis* H. Milne Edwards, 1853).

Somanniathelphusa pax — Ng & Kosuge, 1995: 61 (part.) (not *Somanniathelphusa pax* Ng & Kosuge, 1995).

Material examined. — Holotype: male, 46.6 by 36.8 mm, ZRC 1998.189, market at Ngo Si Lien Street, Hanoi, Vietnam, coll. P. K. L. Ng & D. C. J. Yeo, 8 September 1997. Paratypes: 4 males, largest 46.3 by 36.2 mm, ZRC 1998.190-193; 1 male, 46.1 by 36.6 mm, ZMHU; 1 male,

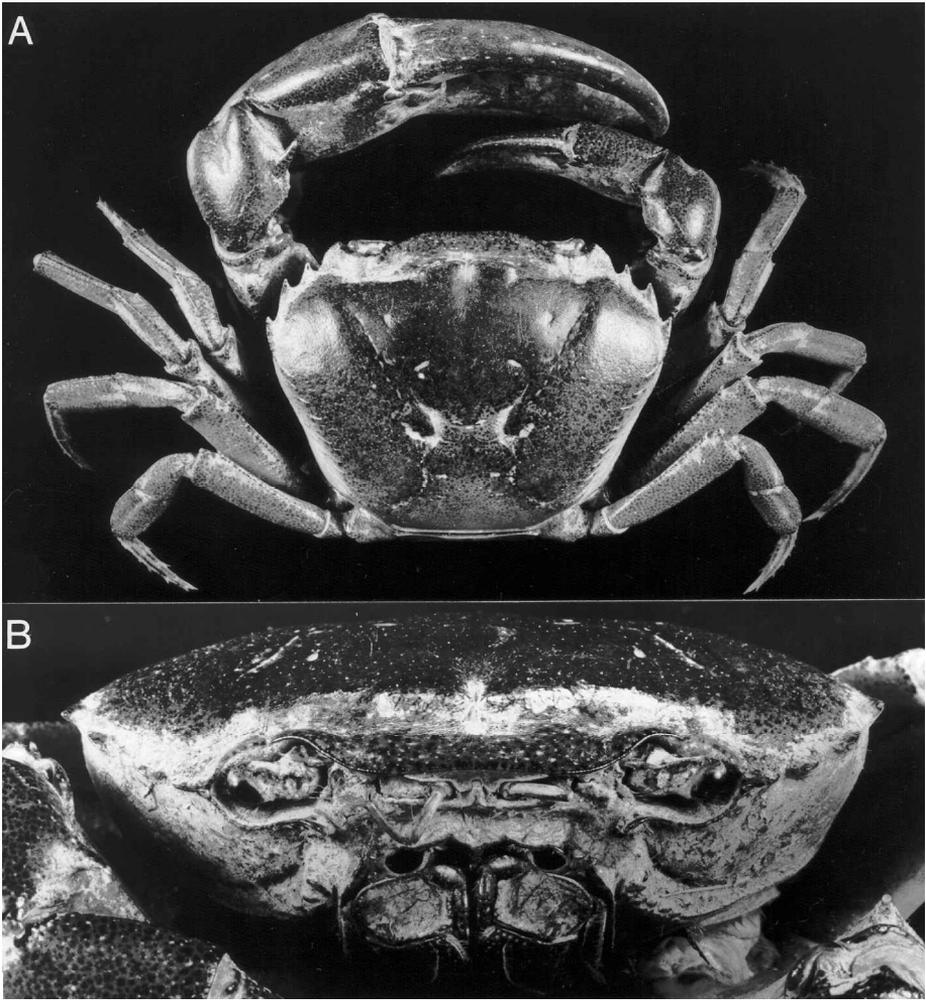


Fig. 1. *Somanniathelphusa dangi* sp. nov., holotype male (46.6 by 36.8 mm) (ZRC 1998.189).
A, dorsal view; B, frontal view.

46.9 by 36.8 mm, USNM, same data as holotype. Others: 1 male, 38.5 by 30.5 mm, MNHN-B.5235, Hanoi, Mission Permanente, 1904; 2 males, 2 females, larger male 30.9 by 24.8 mm, ZRC 1995.277, market in Hanoi, Vietnam, coll. A. U. Kara, September 1994.

Description of male holotype. — Carapace broader than long, relatively high; dorsal surface distinctly transversely convex, gently longitudinally convex; glabrous; regions clearly defined, with cervical grooves shallow but distinct, not reaching postorbital cristae, ending beyond outer edge of distinctly sharp postorbital cristae, H-shaped depression distinct (figs. 1A-B, 2A). Epigastric cristae well-developed, sharp, smooth, separated by distinct, narrow groove, slightly

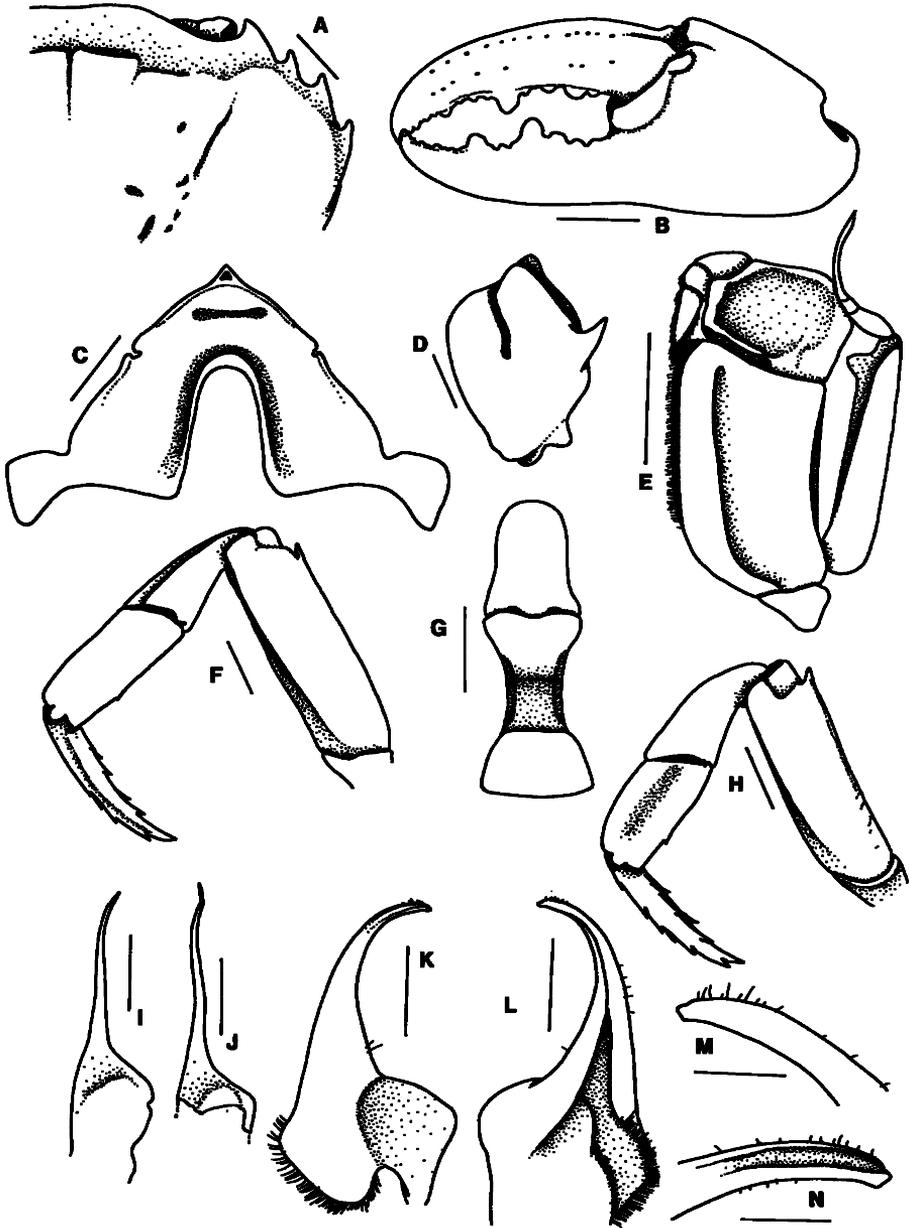


Fig. 2. *Somanniathelphusa dangi* sp. nov., A-H, J-N, holotype male (46.6 by 36.8 mm) (ZRC 1998.189); I, paratype male (46.3 by 36.2 mm) (ZRC 1998.190). A, anterior carapace; B, left chela; C, anterior part of thoracic sternum; D, carpus; E, left third maxilliped; F, left second ambulatory leg; G, telson to segment 5 of abdomen; H, left fourth ambulatory leg; I, right G2; J, right G2 (broken in basal part); K, dorsal view of right G1; L, ventral view of right G1; M, ventral view of tip of right G1; N, dorsal view of tip of right G1. Scales: A, C-H = 5.0 mm; B = 10.0 mm; I-L = 2.0 mm; M-N = 0.5 mm.

anterior of postorbital cristae, separated from postorbital cristae by short, shallow groove; postorbital cristae weak, sharp, broken on right side (entire on left side), inner edge not overlapping with outer edge of epigastric cristae, very short, outer edge not reaching level of midpoint of orbit or beginning of cervical groove, persisting beyond this point as rounded, gently curving cristae towards base of first epibranchial teeth (figs. 1A-B, 2A). Frontal margin gently sinuous, gently emarginate medially; frontal region raised, appearing relatively broad in dorsal view, smooth, with distinct frontal median triangle; supra- and infraorbital margins gently sinuous, the latter being very weakly cristate; orbital region smooth, relatively broad; eyes normal; subhepatic and subbranchial regions sparsely granulose (figs. 1A-B, 2A). External orbital angle triangular, outer margin gently convex, distinctly longer than inner margin; anterolateral margin with three strongly-developed, sharp, spiniform, forward-directed epibranchial teeth, second tooth largest; posterolateral margin very gently but distinctly convex to almost straight, convergent posteriorly; branchial region smooth, slightly swollen; metabranchial region lined with short oblique striae (figs. 1A, 2A). Epistome anterior margin straight; posterior margin with median triangular tooth (fig. 1B).

Ischium of third maxilliped rectangular, about 1.7 times longer than broad, with distinct, deep, longitudinal submedian sulcus; merus squarish, subequal to half of ischium length, with concave outer surface; palp normal; exopod long, reaching midpoint of merus, inner margin of distal part produced as a blunt tooth, with long, well-developed flagellum not exceeding width of merus (fig. 2E).

Chelipeds strongly heterochelous, left larger; outer surface of palm smooth, fingers gaping when closed, longer than palm, tips overlapping, with longitudinal rows of faint pits; carpus with smooth outer surface, with gently curved, obliquely directed, subdistal spine on inner margin; merus with weakly rugose outer surface, gently serrated outer edge, with distinct subterminal spine on outer edge (figs. 1A, 2B, D).

Ambulatory legs glabrous; second pair longest, dactylus long, slender, about 1.2 times as long as propodus, about 6.5 times longer than proximal width, with low, barely visible median ridge, carpus with sharply defined submedian ridge, merus smooth, with distinct subdistal spine on upper margin; other ambulatory legs similar (fig. 2F, H).

Suture between sternites 2 and 3 incomplete, faintly visible medially, not visible laterally; suture between sternites 3 and 4 discernible only by notches at lateral edges of sternum (fig. 2C). Male abdominal cavity reaching imaginary line joining anterior edges of cheliped bases (fig. 2C). Male abdomen T-shaped; telson 1.3 times longer than proximal width, with lateral margins gently concave, tip

broadly rounded; segment 6 subequal in length to telson, about 1.2 times longer than greatest width, distal width about 1.6 times proximal width, with distinctly concave but not strongly constricted lateral margins; segments 3 to 5 trapezoidal, segment 5 about 0.6 times longer than proximal width (fig. 2G).

G1 terminal segment not clearly demarcated from subterminal segment; distal part relatively long, subequal in length to basal part, distinctly and smoothly curved outwards, with proximal half broad, gradually tapering distally, distal part almost perpendicular to longitudinal axis, tip not bent, truncate, with weak but discernible subdistal notch on inner (upper) margin; basal part expanded, broad, forming a distinctive shelf, outer margin bluntly triangular (fig. 2K-N). G2 with very short distal segment (fig. 2J).

Colour. — The dorsal carapace of the holotype is mottled, with dark-brownish patches over a brownish background anteriorly, posteriorly becoming more spotted, with tiny dark-brownish spots replacing patches over a lighter-brown background. The major chela is dorsally purplish to ventrally brownish and the ambulatory legs are light brown with tiny dark brown spots.

Variation. — The paratype specimens differ externally from the holotype in that the second epibranchial teeth are sometimes not spiniform but broader and more triangular instead. In addition, the postorbital cristae are usually entire (not broken), sometimes with the inner edges overlapping with the outer edges of epigastric cristae. The G1 structures are very uniform, showing hardly any variation except in size. The colouration of some of the paratypes matches that of the holotype, while some differ in being either a lighter shade of brown or dark-purplish. All the paratypes, except one (male 46.3 by 36.2 mm) (ZRC 1998.190), display the mottled pattern on, at least, the anterior half of the dorsal carapace. The one exception has an overall plain light-greyish colouration and shows no mottling, which may indicate that it had recently molted.

Etymology. — The species is named after Professor Dang Ngoc Thanh (Vietnam National Centre for Natural Science and Technology), who has contributed substantially to carcinological research in Vietnam. The epitheton thus is a noun in the genitive singular.

Remarks. — *Somanniathelphusa dangi* sp. nov. was obtained from mixed lots of ricefield crabs, together with *Somanniathelphusa pax* Ng & Kosuge, 1995, being sold at markets in Hanoi, Vietnam. The two species are very similar externally and the non-type material of *S. pax* reported by Ng & Kosuge (1995) is, in fact, *S. dangi* instead. *Somanniathelphusa dangi* can, however, be immediately distinguished from *S. pax* by the following differences in G1 structures: (i) distal part relatively longer, about subequal to expanded proximal part (ver-

sus relatively shorter, about 0.8 to 0.9 times length of expanded proximal part); (ii) distal part smoothly curved outwards (versus relatively strongly and abruptly curved or hooked outwards from median point of distal part); (iii) tip of distal part truncate and not bent (versus tip sharp and distinctly bent laterally to posteriorly); and (iv) basal part with bluntly triangular outer margin (versus outer margin gently convex to almost flat). *Somanniathelphusa dangi* also usually differs from *S. pax* in the following external characters: (i) carapace more swollen in appearance, due in part to shallower cervical grooves (versus less swollen appearance); (ii) epibranchial teeth being spiniform, forward-directed (versus usually triangular, obliquely-directed); (iii) sixth male abdominal segment not strongly constricted (versus strongly constricted at subproximal part); (iv) sixth male abdominal segment more T-shaped, with distal width about 1.6 times proximal width (versus hour-glass shaped, with distal width about 1.3 times proximal width); (v) fifth male abdominal segment relatively taller, about 0.6 times longer than proximal width (versus usually relatively flatter, about 0.4 times longer than proximal width); and (vi) mottled to spotted pattern on dorsal carapace (versus plain coloured dorsal carapace, with no mottling or very little spotting). The above characters are quite consistent in *S. dangi* but variation in the contrasting characters in *S. pax*, occasionally result in overlap, making it difficult at times to tell the two species apart using these external differences alone. Examples of variation in *S. pax* that might cause confusion with *S. dangi* include more swollen carapaces; spiniform epibranchial teeth; and male abdomens with less distinctly hour-glass shaped sixth segments and less flat fifth segments.

Dang (1980) reported four *Somanniathelphusa* species from northern Vietnam, viz., *S. sinensis* (H. Milne Edwards, 1853), *S. brandti* Bott, 1968 [currently *Chulathelphusa brandti*], *S. kyphuensis* Dang, 1975, and *S. dugasti* Rathbun, 1902 [currently *Esanthelphusa dugasti*]. Unfortunately, due to it being shifted several times during the Vietnam War to avoid destruction by enemy bombing, the ZMHU collection is in disarray, with most of the specimens reported by Dang (1975, 1980) being mixed together, dried or missing (N. T. Dang, in litt.; pers. comm.). As such, we have not been able to examine any of these reported specimens. However, we are confident that Dang's (1975, 1980) "*S. sinensis*" and "*S. dugasti*" refer to *S. dangi* sp. nov. and *S. pax* Ng & Kosuge, 1995, respectively. *Somanniathelphusa sinensis* is actually found in south-western China (Ng & Dudgeon, 1992) and the illustrations of "*S. sinensis*" by Dang (1980, fig. 238) are very different from those made by Ng & Dudgeon (1992) of the lectotype. They do, however, match *S. dangi* well, especially in the spiniform, forward-directed epibranchial teeth; the inflated carapace; the T-shaped sixth male abdominal segment; and the G1 with relatively long, smoothly curving

distal part. The illustrations of “*S. dugasti*” in Dang (1980) were copied from Bott’s monograph (1970, figs. 45, 47, 82), which supposedly featured a Senckenberg Museum specimen (SMF 2764) of *Somanniathelphusa sinensis dugasti* from “Haiphong, N-Vietnam”. It should be noted that there is a mistake in the text by Bott (1968) with regards to the specimen. Specimen SMF 2764, which was originally included in the text under the material examined for *Somanniathelphusa sinensis sinensis*, was, however, assigned to figures of *S. sinensis dugasti* in the same paper. This mistake was apparently rectified in Bott (1970), where the material examined for *S. sinensis sinensis* included one specimen from Haiphong (SMF 2744), and the specimen SMF 2764 was placed in the text under *S. sinensis dugasti*. However, a second problem is apparent: the figures of *S. sinensis dugasti* in Bott (1968, figs. 13-14, 31; 1970, figs. 45-47, 82) are, inexplicably, not of specimen SMF 2764. This problem was discovered when the first author re-examined the actual Senckenberg Museum specimen (SMF 2764) and showed that it is not the same specimen that Bott (1968, 1970) figured, in that it has a right major cheliped with a much larger chela, while the latter has a left major cheliped with a smaller chela; and their G1s differ somewhat from the latter, with Bott’s figure closely resembling that of *Esanathelphusa dugasti* while the actual specimen is the same as that of *Somanniathelphusa pax*. Furthermore, *E. dugasti* is now known to be found only in north-eastern Thailand (Phaibul Naiyanetr, pers. comm.; unpubl. data). Considering the similarly strongly hooked distal part of the G1 of the two species, we believe that Dang’s (1975, 1980) “*S. dugasti*” most probably refers to *S. pax*. At present, we cannot ascertain the identity of Dang’s (1980) “*S. brandti*”, his figures were taken from Bott’s (1970, figs. 51, 53, 84), which feature the holotype from Thailand, and not the Vietnamese material which he identified as such. *Chulathelphusa brandti* has previously only been reported from northern Thailand (see Bott, 1968, 1970) and it seems unlikely that the same species would also occur in northern Vietnam as three major geographical barriers occur between the two localities, namely the Mekong River and the mountain ranges that form the Thai-Laotian and Laotian-Vietnamese borders respectively. Dang’s (1980) “*S. brandti*”, therefore, may instead represent an undescribed species of *Chulathelphusa*. The holotype of *Somanniathelphusa kyphuensis* Dang, 1975, from Bac Thai Province (just north of Hanoi) was deposited in ZMHU and cannot be located for re-examination and comparison against other *Somanniathelphusa* species (see earlier). However, from the drawings in Dang (1975, 1980), it appears to be a good species. *Somanniathelphusa dangi* differs from Dang’s (1975, 1980) drawings of *S. kyphuensis* in having a relatively strongly curved G1 distal part (versus slightly curved to almost straight G1 distal part). The G1 of *S. dangi* would not match

that of *S. kyphuensis* even when viewed from every possible orientation in order to ensure that the difference seen was not merely due to the G1 of the latter being orientated differently when drawn. *Somanniathelphusa dangi* also appears to differ externally from *S. kyphuensis* in having very gently but distinctly convex posterolateral carapace margins (versus very gently concave to straight posterolateral margins). This character is not likely to be age- or size-related, as the very gently but distinctly convex posterolateral carapace margins can be seen in all the *S. dangi* specimens including the smallest (a male 28.0 by 22.6 mm) (ZRC 1995.277), which is considerably smaller than the *S. kyphuensis* holotype (37 by 29 mm) (see Dang, 1975).

Apart from Dang (1975, 1980), other workers had also previously listed *Somanniathelphusa sinensis* (H. Milne Edwards, 1853) from northern Vietnam: Rathbun (1905), Balss (1914) and Bott (1968, 1970). However, Ng & Dudgeon (1992) doubted the validity of these records and recommended that the specimens be re-examined. *Somanniathelphusa dangi* sp. nov. is readily separated from *S. sinensis* (sensu Ng & Dudgeon, 1992) by the following external as well as G1 characters: (i) postorbital cristae very short, with outer edges distinctly not reaching external orbital angle bases (versus postorbital cristae long, with outer edges reaching external orbital angle bases); (ii) telson 1.3 times longer than proximal width (versus telson as long as proximally broad); (iii) G1 distal part relatively more strongly curved, without bifurcated tip (versus G1 distal part relatively less curved, with bifurcated tip). It is quite possible, that Rathbun's (1905) and Balss' (1914) Vietnamese material might belong one of the three *Somanniathelphusa* species at present recognized from northern Vietnam, i.e., *Somanniathelphusa dangi*, *S. pax* or *S. kyphuensis*; or even to an undescribed species.

In addition to *S. sinensis*, 14 other *Somanniathelphusa* species have been described from southern China (Wu, 1935; Ng & Dudgeon, 1992; Naiyanetr & Dai, 1997). *Somanniathelphusa dangi* sp. nov. is easily separated from most of these species by the general shape of its G1 except for *S. guilinensis* Naiyanetr & Dai, 1997, *S. yulinensis* Naiyanetr & Dai, 1997, and *S. longicaudus* Naiyanetr & Dai, 1997, which have similarly shaped G1s. *Somanniathelphusa dangi* can be differentiated from *S. guilinensis* by its G1 having a broader, distinctly shelf-like basal part, with a bluntly triangular outer margin, and a more strongly curved distal part (versus basal part less broad, not shelf-like, with distinctly convex outer margin, and a less strongly curved distal part). *Somanniathelphusa dangi* differs from *S. yulinensis* in having a truncate G1 tip (versus slightly bilobed) and a more slender, less constricted sixth male abdominal segment (versus more compact, distinctly constricted sixth male abdominal segment). The G1 structures

of *S. dangi* and *S. longicaudus* are very similar, especially in the tip. They can, however, be distinguished by differences in the G1 basal part (outer margin bluntly triangular in *S. dangi*; convex in *S. longicaudus*) and, most noticeably, in the relative proportions of the telson and sixth male abdominal segment (telson length subequal to sixth male abdominal segment in *S. dangi*; telson distinctly longer than sixth male abdominal segment in *S. longicaudus*).

Distribution. — The specimens of *Somanniathelphusa dangi* available were obtained together with large numbers of *Somanniathelphusa pax*, from a market in Hanoi city only. *Somanniathelphusa* specimens from rural markets in the countryside south of Hanoi were all identified as *S. pax* (one specimen from Haiphong, east of Hanoi turned out to be *S. pax* as well).

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LITERATURE CITED

- ALCOCK, A., 1910. On the classification of the Potamonidae (Telphusidae). *Rec. Indian Mus.*, **5**: 252-261.
- BALSS, H., 1914. Potamonidenstudien. *Zool. Jb., (Syst.)* **37**: 401-410, pl. 15.
- BOTT, R., 1968. Parathelphusiden aus Hinterindien (Crustacea, Decapoda, Parathelphusidae). *Senckenbergiana biol., Frankfurt*, **49** (5): 403-422.
- —, 1970. Die Süßwasserkrabben von Europa, Asien, Australien und ihre Stammesgeschichte. Eine Revision der Potamoidea und Parathelphusoidea (Crustacea, Decapoda). *Abh. Senckenberg. naturf. Ges., Frankfurt*, **526**: 1-338, pls. 1-58.
- DANG, N. T., 1975. Phan loại tom cua nuoc ngot mien bac Viet Nam. Tap san Sinh Vat — Dia Hoc, **13** (3): 65-78, figs. 1-5. [The identities of North Vietnamese freshwater shrimp and crabs. *Journal of Biology & Geology, National Institute of Science, Hanoi.*] [In Vietnamese, with French summary.]

- —, 1980. Dinh Loai Dong Vat Khong Xuong Song Nuoc Noot Bac Viet Nam. Nha Xuat Ban Khoa Hoc Va Ky Thuat, Ha Noi. [The identities of freshwater invertebrates of North Vietnam.] [In Vietnamese.]
- MILNE EDWARDS, H., 1853. Mémoire sur la famille des Ocypodiens. Ann. Sci. nat., Paris, (Zool., 3) **20**: 163-228, pls. 6-11.
- NAIYANETR, P., 1994. On three new genera of Thai ricefield crabs allied to *Somanniathelphusa* Bott, 1968 (Crustacea: Decapoda: Brachyura: Parathelphusidae). Raffles Bull. Zool., **42** (3): 695-700.
- NAIYANETR, P. & A. Y. DAI, 1997. On eleven new species of freshwater crabs of the genus *Somanniathelphusa* Bott, 1968, from southern China (Crustacea: Decapoda: Brachyura: Parathelphusidae). Raffles Bull. Zool., **45** (1): 73-96.
- NG, P. K. L., 1988. The freshwater crabs of peninsular Malaysia and Singapore: i-viii, 1-156, figs. 1-63, 4 colour pls. (Dept. Zool., National University of Singapore, Shinglee Press, Singapore).
- NG, P. K. L. & D. DUDGEON, 1992. The Potamidae and Parathelphusidae (Crustacea: Decapoda: Brachyura) of Hong Kong. Invertebr. Taxon., Melbourne, **6**: 741-768.
- NG, P. K. L. & T. KOSUGE, 1995. On a new *Somanniathelphusa* Bott, 1968, from Vietnam (Crustacea: Decapoda: Brachyura: Parathelphusidae). Proc. biol. Soc. Washington, **108** (1): 61-67.
- RATHBUN, M. J., 1902. Description des nouvelles espèces de *Parathelphusa* appartenant au Muséum de Paris. Bull. Mus. natn. Hist. nat., Paris, **1902** (3): 184-187.
- —, 1905. Les crabes d'eau douce. Nouv. Arch. Mus. Hist. nat., Paris, (4) **7**: 159-323, pls. 13-22.
- WU, H. W., 1935. On a new river crab, *Parathelphusa* (*Parathelphusa*) *chongi*, sp. nov. Chinese Journal of Zoology, **1**: 69-73.

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