FRESHWATER CRABS OF THAILAND

by

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ABSTRACT

Sixteen species of freshwater crabs from Thailand were identified and re-arranged in their classification discriminating mostly on the structures of the first gonopod by Bott (1970).

Freshwater crabs had been studied earlier by Rathbun (1904-1906), Alcock (1909,1910) and others. Kemp (1923) reported only 5 species of river crabs found in Thailand. Recently, Bott (1970) rearranged the classification of freshwater crabs using the structures of the first gonopod as the discriminating taxa and reported 14 species from Thailand in his publication.

Observation of freshwater crabs in the collection of the Museum of Fisheries, Kasetsart University, Bangkok, Thailand revealed that the changing from *Ranguna* (*Ranguna*) *siamensis*, (BOTT, 1970) to *Ranguna* (*Demanietta*) *siamensis* is taxonomically logical. A new subspecies of *Ranguna* (*Demanietta*) *tenasserimensis* from Thailand was also described.

The sixteen species of freshwater crabs belonging to two families (Parathelphusidae and Potamidae) were studied and described.

Carapace width : carapace length : carapace thickness : front width were measured in mm. All gonopods were from the right hand side and in order to avoid confusion, the following terms were used in this paper for the first gonopod:

(1) Basal = proximal,

(2) Channel = a longitudinal groove formed laterally on the distal and predistal segments,

(3) Distal segment = the last segment at the distal end,

(4) Dorsal portion = the surface area on the distal segment inwhich in contact with the sternum of the crab. Smalley (1964) named it as 'cephalic surface',

(5) Predistal segment = the segment between distal segment and basiopodite or the last but one segment at the distal end, and

(6) Ventral portion = the surface area on the distal segment which could be seen directly when the abdomen was opened. Smalley (1964) named it the 'caudal surface'.

Abbreviations in text are:

Go–1	first gonopod,
Go–2	second gonopod,
KUMF	Kasetsart University, Museum of Fisheries, Bangkok,
MLei	Rijksmuseum van Natuurlijke Historie Leiden,
MHa	Zoologisches Staatsinstitut und Zoologisches Museum Hamburg,
MPa	Muséum d'Histoire Naturelle Paris
MWa	US National Museum Washington, USNM.
Mxp–3	third maxilliped,
P–1	first pereiopod or chelae,
P–5	fifth pereiopod or last walking leg,
P2–5	second to fifth pereiopods, and
SMF	Senckenberg Museum Frankfurt am Main.

FAMILY PARATHELPHUSIDAE COLOSI 1920.

1920 Parathelphusini COLOSI, Boll. Mus. Zool. Anat. comp. Torino, **35** (734) : 9
1968 Parathelphusidae, BOTT, Senck. biol., **49** : 403.
1969 Parathelphusidae BOTT, Senck. biol., **50** : 363
1970 Parathelphusidae, BOTT, Rev. suisse (Zool.), 77 : 337.
1970 Parathelphusidae, BOTT, Ark. Zool. Stockholm, (2) **22** : 628.

Diagnosis: Front projected horizontally to cover the epistome. Triangular ceiling oblique posteriorly. Secondary front margin more or less joined laterally with the primary front margins. Antero-lateral border frequently with 2 or 4 teeth, occasionally, with only epibranchial teeth. Epigastric crests and post-orbital crests mostly distinct and sharp-edged, frequently joined together in a uniform curve. Abdomen T-shaped, often with slender or biconcave at distal segments. Go–1 four segments, very short, and the last two segments fused together as one segment, or slender and longer, then the last segment spiral, twisted like a cork-screw or the ventral portion strongly overlapping the dorsal portion, occasionally the distal segment straight. Mandibular palps always with bilobed distal segments. Medium to large crabs with relative plain carapaces and P–1 strongly unequal in males.

Distribution : Ceylon, Indo-China, South China, Sunda Islands and Palawan

Subfamily Somanniathelphysinae BOTT 1968.

1968 Somanniathelphusinae BOTT, Senck. biol., **49** : 406.
1969 Somanniathelphusinae, BOTT, Senck. biol., **50** : 364.
1970 Somanniathelphusinae, BOTT, Rev. suisse (Zool.), **77** : 338.

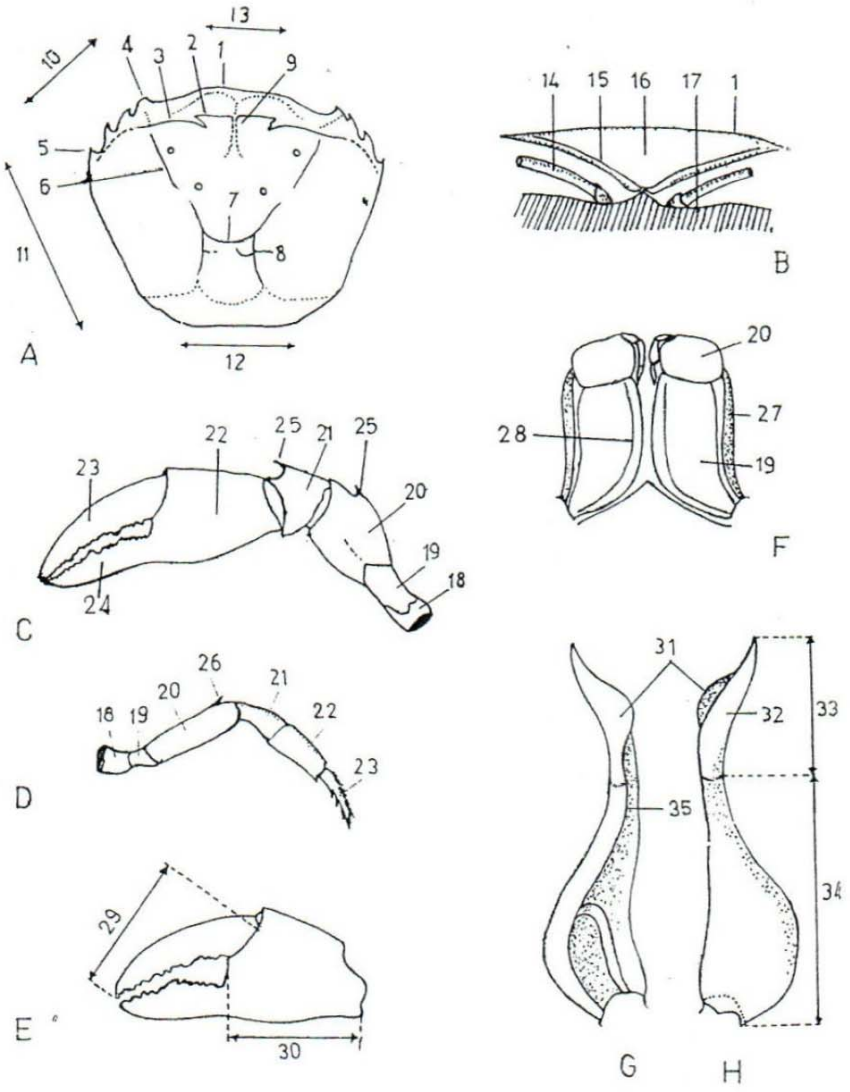
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Figure 1.

A = carapace, B = front, C = chelae (first pereiopod), and D = fifth pereiopod of *Somanniathelphusa germaini*; F = third maxilliped; G = ventral view, and H = dorsal view of right first gonopod of *Ranguna* (*Demanietta*) *tenasserimensis smalleyi*; E = chelae :

1 = front (secondary) or upper front,
2 = epigastric crest,
3 = post-orbital crest,
4 = exorbital tooth (first tooth),
5 = epibranchial tooth (last tooth),
6 = cervical groove,
7 = semi-circular groove,
8 = H-groove,
9 = middle groove,
10 = antero-lateral border,
11 = postero-lateral border,
12 = posterior border,
13 = front border,
14 = antennule,
15 = primary front or lower front,
16 = triangular ceiling,
17 = epistome,
18 = basis,
19 = ischium,
20 = merus,
21 = carpus,
22 = propodus,
23 = dactylus,
24 = index,
25 = inner spine,
26 = predistal spine,
27 = exopodite,
28 = longitudinal groove,
29 = length of finger,
30 = length of palm,
31 = ventral portion,
32 = dorsal portion,
33 = distal segment,
34 = predistal segment, and
35 = channel.

Diagnosis : Antero-lateral border with 4 teeth, including exorbital and epibranchial teeth. Go–1 twist from behind outwardly and then toward the front, so that the channel for Go–2 facing the observer. Go–1, distal segment fused with predistal segment forming a whip-liked apex, or short and blunt, with the exception of distinct distal segment in *Salangathelphusa*. Epigastric crests and post-orbital creasts more or less overlapped with each other. Abdomen extremely T-shaped, with strongly concave lateral margins. Triangular ceiling with good boundary, as wide in front. Upper front convex.

Distribution : Indo-China.

1. Go–1: no dividing zone between distal and predistal segments, expanded base, slender distally, whip-liked terminal and slightly bent.....*Somanniathelphusa.*

— Go–1: no dividing zone between distal and predistal segments, not broad at base, short and straight terminal.....*Siamthelphusa.*

Somanniathelphusa BOTT 1968.

1853 *Parathelphusa* H. MILNE-EDWARDS, Ann. Sci. nat., (3) **20** : 213 (part.).
1871 *Paratelphusa*, WOOD-MASON, J. asiat. Soc. Bengal, **40** (2) : 213 (part.).
1905 *Potamon* (*Parathelphusa*), RATHBUN, Nouv. Arch. Mus., (4) **7** : 228 (part.).
1910 *Paratelphusa*, ALCOCK, Cat. ind. decap. Crust. ind. Mus., **1**(2) : 70 (part.).
1937 *Parathelphusa*, BALSS, int. Rev. Hydrobiol., 34 : 244 (part.).
1968 *Somanniathelphusa* BOTT, Senck. biol., **49** : 407.
1969 *Somanniathelphusa*, BOTT, Senck. biol., **50** : 365.

Diagnosis: Go–1 strongly expanded at the base and arch but reduced rapidly toward the whip-liked distal end and twisted from behind outward and then to the front; distal segment not separated from predistal one. Four antero-lateral teeth, including exorbital and epibranchial teeth.

Distribution: Indo-China and South China.

1. Post-orbital crest ended before reaching the antero-lateral borders, P–1 strongly unequal. Go–1 with slender and about-turn terminal, broad basal part with straight outside margin .....*dugasti.*

— Post-orbital crest reaching the bases of epibranchial teeth..... 2

2. Post-orbital crests hook-like turned posteriorely before reaching the bases of epibranchial teeth..... *germaini.*

— Post-orbital crests obliquely reaching the bases of epibranchial teeth..... 3

3. Go–1 duck-bill, turning distally..... *juliae.*

— Go–1 distal and slightly turns outward..... *brandti.*

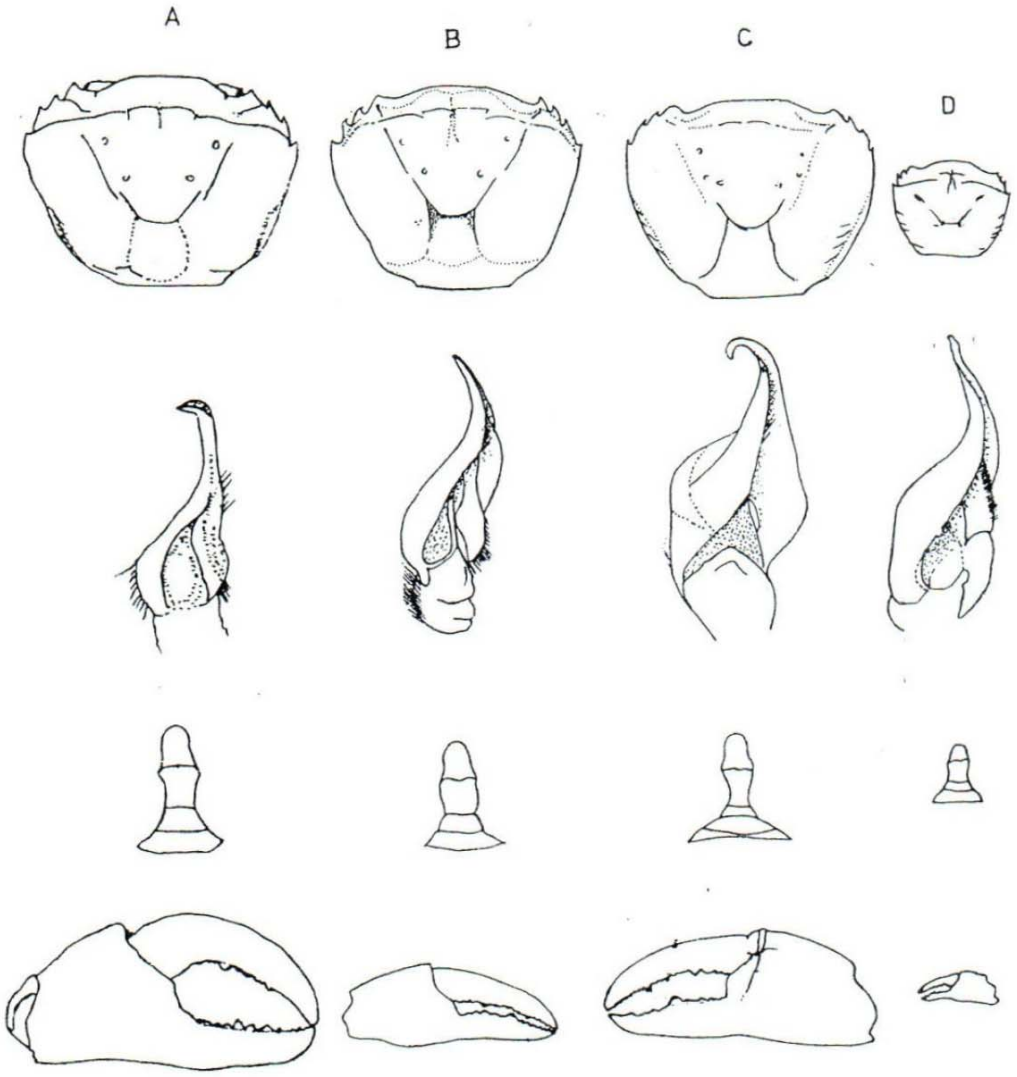

Figure 2.

Carapace, ventral view of first gonopod, abdominal segments, propodus and dactylus of first pereiopod of:

A = *Samanniathelphusa juliae*
B = *S. germaini*
C = *S. sinensis dugasti*, and
D = *S. brandti*

Somanniathelphusa juliae BOTT 1968.

Fig. 2A.

1901 *Potamon* (*Parathelphusa*) *sinensis*, LANCHESTER, Proc. zool. Soc. London, 545.

1910 *Paratelphusa* (*Paratelphusa*) *sinensis*, ALCOCK, Cat. ind. decap. Crust. ind. Mus., **1**(2) : 76, pl. 12, fig. 54.

1968 *Somanniathelphusa juliae* BOTT, Senck. biol., **49** : 408, ill. 7,8, 28.

1970 *Somanniathelphusa juliae*, BOTT, Abh. senckenb. naturforsch. Ges. 526 : 109—110, pl. 20. fig. 35—37; pl. 30, fig. 79.

Diagnosis: Slender part of Go–1 straight and at the distal end looks like duck-bill which turns outwardly at a right angle. Post-orbital crest normally bended posteriorly when reaching the base of epibranchial teeth. Sixth abdominal segment distinctly thick, lateral margin very thin.

Description: Carapace distinctly arched, exorbital tooth blunt and followed with three lateral teeth. Front plain and forward. Triangular ceiling large, sharp margin and as wide as the unbordered front. Epigastric and post-orbital crests little apart from each other and clear crests. Post-orbital crests not interrupted and first slightly oblique with the first bent one-third outwardly and reaching the bases of epibranchial teeth. Cervical groove and H-groove deep. Postero-lateral border approximately twice the length of antero-lateral border. Last lateral tooth about as far away from the last but one, but more than those of the others. Front and lateral sides of front border swollen. Abdomen strongly T-shaped, especially the base of sixth abdominal segment strongly reduced and gradually thick toward its outer surface. The narrowest part is at the segment line between fifth and sixth segments. P–1 on adult male strongly different. Dactylus of large P–1 strongly curved and widely gapped, indistinct teeth, carpus with large inner spine pointed outwardly, merus with small predistal spine, P2–5 slender.

Measurement: 51 : 39 : 26 : 15 (Holotype ♂)

Local Type: Malaysia, Perlis, Chuping.

Distribution: Malaysia, Burma, Thailand.

Material: Malaysia, Perlis, Chuping (1 ♂ Holotype SMF 2767a, 1 ♂, 1♂ Paratype SMF 2767b); Perlis, Kaki Bukit (1 ♂ Paratype SMF 2770); Nord Kedah (1♀ Paratype SMF 2769); Tale Nawi near Sigora (1 ♂ 1 ♀ Paratype SMF 2768); Trong (1 ♂ Paratype MHa 22523); Mt. Kedah (1♂1♀Paratype MBa 750d); Nakhon Nayok, Thailand (1 ♂ 1 ♀ Paratype); Pong Nam Ron, Chanthaburi (1♂1♀)

Somanniathelphusa germaini (RATHBUN 1902).

Fig. 2B.

1901 *Potamon* (*Paratelphusa*) *sinensis*, LANCHESTER, Proc. zool. Soc. London, 545

1902 *Potamon* (*Parathelphusa*) *germaini* RATHBUN, Bull. Mus. Hist. nat. Paris, 186.

1902 *Potamon* (*Parathelphusa*) *neissi* RATHBUN, Bull. Mus. Hist. nat. Paris, 186.

1902 *Potamon* (*Parathelphusa*) *tetragonum* RATHBUN, Bull. Mus. Hist. nat. Paris, 186.

1905 *Potamon* (*Parathelphusa*) *neissi*, RATHBUN, Nouv. Arch. Mus., (4) 7 : 249, pl. 11, fig. 5, ill. 61.

1905 *Potamon* (*Parathelphusa*) *germaini*, RATHBUN, Nouv. Arch. Mus., (4) 7 : 249, pl. 9, fig. 9, ill. 60.

1905 *Potamon* (*Parathelphusa*) *tetragonum*, RATHBUN, Nouv. Arch. Mus., (4) 7 : 250, pl. 12, fig. 2.

1906 *Potamon* (*Paratelphusa*) *sexpunctatum* LANCHESTER, Rep. Crust. (Malayenses, Zool.), 3 : 29, ill. 7.

1918 *Paratelphusa* (*Paratelphusa*) *germaini*, KEMP, Mem. asiat. Soc. Bengal 6 : 247 (part).

1923 *Paratelphusa* (*Paratelphusa*) *tetragonum*, KEMP, J. nat. Hist. Soc. Siam, 6 : 36, pl. 4, fig. 11.

1968 *Somanniathelphusa germaini*, BOTT, Senck. biol., 49 : 408, ill. 9, 10, 29.

1970 *Somanniathelphus a germaini*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 110-111, pl. 20, fig. 39-41; pl. 40, fig. 80.

Diagnosis: Go-1 with slightly bending or straight terminally. Post-orbital crests turned laterally hook-like and parallel to antero-lateral borders and then contracted with the bases of epibranchial teeth. Abdomen with concave lateral margins.

Description: Carapace arched, shine, front almost straight, triangular ceiling high and as broad as the front. Secondary front border convex. Antero-lateral teeth 4, including exorbital and epibranchial teeth. Deep grooves run from the bases of exorbital teeth to post-orbital crests, and certainly at those positions where the cervical grooves end. Cervical grooves and H-groove distinct. No posterior border of gastric region. Two dimples located at inner side of cervical groove, placed one after the other; therefore, 4 dimples together. Occasionally, it is possible to find 6 dimples (Lancester, 1906). Epigastric crests sharp ridges, a little forward. Post-orbital crests double curving, at first a forwardly convex curve concave near the cervical groove and again curved forward. Finally, the crests reach near the antero-lateral borders about to the middle level of second antero-lateral teeth then turn straight to the bases of epibranchial teeth and pass them. Abdomen T-shaped with concave lateral margins. Go-1 expanded at based and slender distally with a very slight bend. Go-2 with a short-thread distal

segment. P-1 strongly unequal, dactylus strongly gapped and arched, scarcely coarse spines, only an apparently large coarse spine at the middle of index (and aside in position), two coarse spines on the dactylus, palm broad and thick, carpus with inner spine, merus with predistal spine, upper sides of palm, carpus and merus totally dark ni color. P2-5 slender.

Measurement: 37 : 30 : ? : 13 (Rathbun), 55 : 44 : 29 : 14 (largest ♂).

Local Type: Cochin-China.

Distribution: Thailand, Cambodia and South Vietnam.

Material: Nong-Kai, Saraburi (1 ♂ 1 ♀ SMF 4402); Ratchaburi (1 ♂ 1 ♀ SMF 5276); Nong Gae, Saraburi (2 ♂ 2 ♀ SMF 5705).

Remarks: According to the description of the synonymous references, the specimens are very variable in carapace form.

Somanniathelphusa sinensis dugasti (RATHBUN 1902).

Fig. 2C.

1902 *Potamon* (*Parathelphusa*) *dugasti* RATHBUN, Bull. Mus. Hist. nat. Paris, 185.
1902 *Potamon* (*Parathelphusa*) *prolatus* RATHBUN, Bull. Mus. Hist. nat. Paris, 186.
1905 *Potamon* (*Parathelphusa*) *dugasti*, RATHBUN, Nouv. Arch. Mus., (4) **7** : 242, pl. 11, fig. 10, ill. 58.
1905 *Potamon* (*Parathelphusa*) *prolatus*, RATHBUN, Nouv. Arch. Mus., (4) 7 245, pl. 11, fig. 4, ill. 59.
1909 *Paratelphusa* (*Paratelphusa*) *grayi* ALCOCK, Rec., ind. Mus., **3** : 375.
1910 *Paratelphusa* (*Paratelphusa*) *grayi*, ALCOCK, Cat. ind. decap. Crust. ind. Mus., **1** (2) : 78, pl. 5, fig. 17.
1935 *Parathelphusa* (*Parathelphusa*) *chongi* WU, Chinese J. Zool., **1** : 69, 1 ill.
1968 *Somanniathelphusa sinensis dugasti*, BOTT, Senck. biol., **49** : 409, ill. 13, 14, 31,
1970 *Somanniathelphusa sinensis dugasti*, BOTT, Rev. suisse (Zool.), **77** : 339.
1970 *Somanniathelphusa sinensis dugasti*, BOTT, Abh. senckenb. naturforsch. Ges. 526 : 112-113, pl. 21, fig. 45-47; pl. 30, fig. 82.

Diagnosis: P-1 strongly unequal, larger P-1 widely gapped, dactylus with 3 coarse spines on the cutting edge. Index with shorter edge. At the base of sixth abdominal segment very narrow. Post-orbital crests very short. Go-1 basal long expanded.

Description: Carapace arched, smooth, protruded front shallow, broad, triangular ceiling large and broad, clear boundary. Cervical grooves shallow. H-groove distinct. Epigastric crests separated by a pit from almost horizontal post-orbital crests. Sharp ridges of post-orbital crests only at the beginning, gradually disappear but reappear at level of second antero-lateral teeth. Abdomen strongly T-shaped, in addition the sixth abdominal segment narrow, neck-shaped. Go-1 strongly expanded, long with

straight outside margins; distal end hook-shape and slender, narrow whip-like apex. Go-2 with short thread distal segment. P-1 strongly unequal, dactylus very slender and almost semi-circular gapped, with 2 coarse spines, index with a short coarse spine. otherwise no spines; carpus with vigorous inner spine, merus with predistal spine. P2-5 slender.

Measurement: 31 : 25 : ? : 11 (Rathbun), 43 : 35 : 24 : 14 (largest ♂).

Local Type: Laos, Lakhone.

Distribution: North Vietnam, Thailand.

Material: Khon Kaen Rice Station (6 ♂ SMF 5278).

Somanniathelphusa brandti BOTT 1968.

Fig. 2D.

1968 *Somanniathelphusa brandti* BOTT, Senck. biol., **49** : 410, ill. 17, 28, 33.
1970 *Somanniathelphusa brandti*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 113-114, pl. 21, fig. 51-53; pl. 30, fig. 84.

Diagnosis: Epigastric crests low and forward, post-orbital crests oblique toward the epibranchial teeth, passing their bases. Abdomen at fifth and sixth segments slightly biconcave. Go-1 hairy at distal end. P2-5 very slender.

Description: Carapace slightly arched. Front border shallow pit and oblique toward lateral sides and curved up till the middle of upper orbits. Triangular ceiling as broad as in front. Epigastric crests forward, short middle groove in between. Post-orbital crests almost straight and oblique posteriorly to the epibranchial teeth and, slightly curved when passing their bases. Cervical grooves only deep in the middle no border visible and in addition the semi-circular groove discontinued at the middle. Abdomen: fifth and sixth segments slightly concave lateral margins. Go-1 slender distal part horn-shaped, bended outward, basal part expanded, dorsal portion covering the ventral portion, terminal part rolling with bristle setae, channel for Go-2 perfectly seen, curved from inner base toward dorsum outwardly, distal segment very short. P-1 not very unequal, weakly gapped by dactylus and index, piercing and slender, very unclear coarse spines, carpus with very slender and pointed inner spine, merus with predistal spine, ventral margin smooth. P2-5 very slender and weak.

Measurement: 24 : 18 : 11 : 8 (Holotype ♂)

Local Type: Thailand, Tad San Waterfall, Dan Sai, Loei.

Material: Tan San Waterfall (1 ♂ Holotype SMF 4405), Nam San River, Dan Sai, Loei (3 ♀ Paratype SMF 4425).

Siamthelphusa BOTT 1968.

1968 *Siamthelphusa*, BOTT, Senck. biol. **49** : 411.
1969 *Siamthelphusa*, BOTT, Senck. biol., **50** : 365.

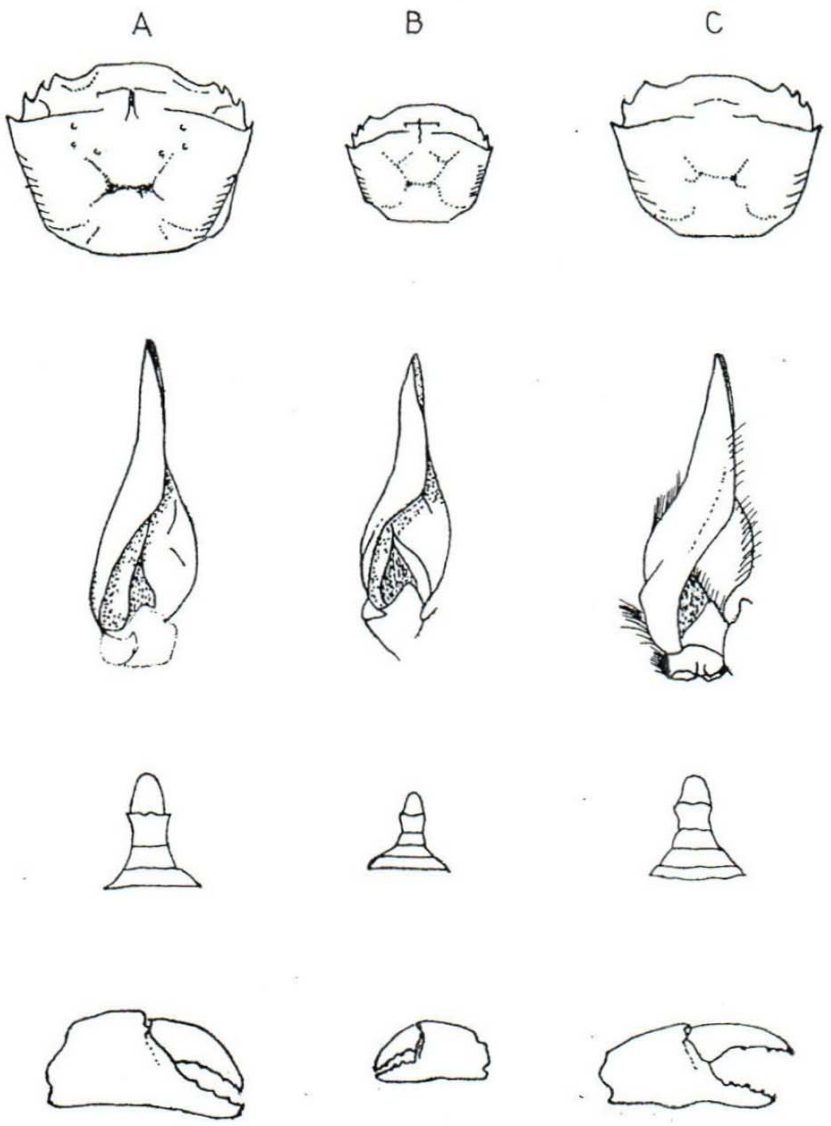

Figure 3.

Carapace, ventral view of first gonopod, abdominal segments, propodus and dactylus of first pereiopod of:

A = *Siamthelphusa improvisa improvisa*,

B = *S. improvisa tweediei*, and

C = *S. paviei*.

Diagnosis: Post-orbital crests very long and posteriorly distinct. Epigastric crests far forward. Antero-lateral teeth 4, including exorbital and epibranchial teeth. Occasionally, gradually larger teeth posteriorly or different in sizes. Abdomen T-shaped and with concave lateral margins. Go-1 bottle-shaped, distal segment completely fused with predistal segment, very short, normally reduced toward apex, and therefore the basal part not so strikingly broader, rolled slightly from inner rear outward, so that the channel can be seen. Small crabs, mostly from plain areas, with distinct boundary of triangular ceiling.

Distribution: Thailand, Laos, Malaya.

1. P–1, dactylus shorter than palm..... *tweediei.*
— P–1, dactylus approximately as long as palm.....2.
2. Exorbital teeth blunt, antero-lateral teeth larger posteriorly.....*paviei.*
— Exorbital teeth sharp, other 3 antero-lateral teeth approximately same size.....
..... *improvisa.*

Siamthelphusa improvisa improvisa (LANCHESTER 1901).

Fig. 3 A.

1901 *Potamon* (*Parathelphusa*) *improvisum* LANCHESTER, Proc. zool. Soc. London, 546, pl. 33, fig. 2.

1905 *Potamon* (*Parathelphusa*) *improvisum*, RATHBUN, Nouv. Arch. Mus., (4) 7 : 252.

1968 *Siamthelphusa improvisa improvisa*, BOTT, Senck. biol., 49 : 411, ill. 19, 20, 34.

1970 *Siamthelphusa improvisa improvisa*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 114-115, pl. 21, fig. 54-56; pl. 30, fig. 85.

Diagnosis: Antero-lateral teeth 4, included exorbital and epibranchial teeth. Post-orbital crests located as far from epigastric crests as epigastric crests from front border. Post-orbital crests passing over the epibranchial teeth. The teeth between exorbital and epibranchial teeth small.

Description: Carapace flat, not level, declined toward front. Front border straight, broad and oblique to lateral sides and then curved up to the middle of upper orbits. Triangular ceiling high, not as broad in front with distinct boundary. Epigastric crests far forward. Post-orbital crests transversely running, beginning about the same distance from front border to epigastric crest, and passing the epibranchial teeth posteriorly. Four antero-lateral teeth, including exorbital and epibranchial teeth. Cervical grooves very narrow. Semi-circular groove distinct. Postero-lateral borders starting from the outside margins of epibranchial teeth. Mxp-3 with deep longitudinal groove near the inner edge, with flagellum. Abdomen T-shaped, slightly concave margins. Go-1 short, distal segment fused with predistal segment, basal margins occupying full base, distal end slightly bent forward, channel for Go-2 curve from inner distal end

outwardly. Go-2 with moderately long distal. P-1 strongly unequal, larger one gapped, spacious coarse spines, dactylus slender and long about as long as the palm, carpus with a forward bent inner spine, merus with predistal spine. P2-5 very slender with predistal spines.

Measurement: 37 : 21 : ? : 5 (Lanchester), 39 : 30 : 18 : 13 (largest ♂).

Local Type: Malay Island, Malay Peninsula.

Material: Sungai, Chuping, Perlis (2 ♂ 1 ♀ SMF 2771), Thung Sond, Nakhon Sri Thammarat (2 ♀ SMF 5311).

Siamthelphusa improvisa tweediei BOTT 1968.

Fig. 3B.

1968 *Siamthelphusa improvisa tweediei* BOTT, Senck. biol., **49** : 142, ill. 21, 22, 35.

1970 *Siamthelphysa improvisa tweediei*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 115-116, pl. 22, fig. 57-59; pl. 30, fig. 86.

Diagnosis: P-1, dactylus shorter than palm. Post-orbital crests convex. Epibranchial teeth pointed outward.

Description: Carapace flat, not level, four antero-lateral teeth, including exorbital and epibranchial teeth. Teeth gradually larger toward the rear. Epibranchial teeth pointed outward and discontinued with the others. Front border straight with oblique sides. Triangular ceiling with sharp boundary. Epigastric crests distinct with deep middle groove, post-orbital crests curved at middle groove, long toward the rear till almost the tip level of epibranchial teeth and curved down to connect with the inner-margins of epibranchial teeth. Semi-circular groove distinct. Mxp-3 with longitudinal grooves near the inner margins, exopodites with flagella. Abdomen T-shaped, fifth and sixth segments with concave margins. Front margin of sixth abdominal segment not expanded, but as wide as the rear margin of seventh segment. Go-1 short distal segment fused with predistal segment, bottle-shaped, channel for Go-2 at first curved toward inner and then toward the back. Go-2 with moderately long distal. P-1 very unequal, dactylus of larger P-1 curved down and deeply sloped to the inner margin of index, therefore strong gapped, dactylus shorter than palm, almost no coarse spines, carpus with small inner spine located about the middle of inner border, merus short with acute predistal spine. P2-5 very long and slender.

Measurement: 23 : 19 : 10 : 8 (Holotype ♂)

Local Type: Malay Islands, Singai, Chuping, Perlis.

Material: Huai Moe Chlang, Phrae (6 ♂ 1 ♀ SMF 5312).

Siamthelphusa paviei (DE MAN 1898)

Fig. 3C

1898 *Parathelphusa paviei* DE MAN, Bull. Soc. philom. Paris, **10** : 41.
1902 *Potamon* (*Parathelphusa*) *beauvoisi* RATHBUN, Bull. Mus. Hist. nat. Paris, 185.
1902 *Potamon* (*Parathelphusa*) *harmandi* RATHBUN, Bull. Mus. Hist. nat. Paris, 185.
1905 *Potamon* (*Parathelphusa*) *faxoni* RATHBUN, Nouv. Arch. Mus., (4) 7 : 251, pl. 12, fig. 8, ill. 63.
1905 *Potamon* (*Parathelphusa*) *beauvaisi*, RATHBUN, Nouv. Arch. Mus., (4) 7 : 253, pl. 12, fig. 14, ill. 65.
1905 *Potamon* (*Parathelphusa*) *harmandi*, RATHBUN, Nouv. Arch. Mus., (4) 7 : 255, pl. 12, fig. 13, ill. 66.
1905 *Potamon* (*Parathelphusa*) *paviei*, RATHBUN, Nouv. Arch. Mus., (4) 7 : 252, pl. 12, fig. 10, ill. 64.
1968 *Siamthelphusa paviei*, BOTT, Senck. biol., **49** : 413, ill. 23, 24, 36.
1970 *Siamthelphusa paviei*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 116, pl. 22, fig. 60-62; pl. 30, fig. 87.

Diagnosis: Epigastric crests very long and forward. Post-orbital crests oblique and without pit at the corners of epibrachial teeth. Exorbital teeth blunt and apparently larger teeth posterioriorly, occasionally a second antero-lateral tooth disappearing.

Description: Carapace flat, front border straight; triangular ceiling with sharp boundary, large, as broad as front border. Epigastric and post-orbital crests far from each other. Post-orbital crests slightly convex and oblique toward and connected with epibranchial teeth. A blunt exorbital tooth followed behind by three gradually larger teeth with one of them possibly disappearing. A tooth might possibly disappear from one or both antero-lateral borders. Branchial regions flat and low. Gastric region high. Semi-circular groove deep, cervical grooves barely recognizable. Mxp-3 with deep longitudinal groove on inner margin, exopodite with flagellum. Abdomen T-shaped, slightly concave margins. Go-1 very short, slender, bottle-shaped, basal part little enlarged, channel for Go-2 curve from inside of base outward and then to distal end. P-1 unequal. Small P-1 with very slender, occasional spines found on dactylus. Large P-1 gapped, no coarse spines, dactylus as long as palm, carpus with acute inner spine, merus with long predistal spine and smooth lower margin. P2-5 very slender, meri with various sizes of predistal spines, frequently P-5 with sharp predistal spine and the others without spines.

Measurement : 33 : 15 : 14 : 10 (largest ♂)

Local Type : Thailand, West Laos, West Nielog-Mine, Mt. Su-Tep.

Material : Lopburi River, Lop Buri (2 ♂ SMF 4441).

Remarks : Shapes of carapace possibly vary relative to the descriptions of the synonymous references. Go-1 character could be a key to a standard of determination for this species.

FAMILY POTAMIDAE ORTMANN 1896.

1896 Potamoninae ORTMANN, Zool. Jb. (Syst.), **9** : 445

1904 Potamoninae, RATHBUN, Nouv. Arch. Mus., (4) **6** : 274 (Lit.)

1964 Potamidae, OPIN, 712, Bull. zool. Nomencl. **21** (5) : 312.

1967 Potamidae, BOTT, Vid. Medd. dansk nat. Foren., **130** : 10.

1970 Potamidae, BOTT, Rev. suisse (Zoll.), **77** : 333, 339.

Diagnosis: Go–1 four segments; distal segment sloping to form a needle apex, shorter than the predistal segment and pointed outward. Mandibular palp three segments including the simple distal segment. Front without triangular ceiling.

Distribution: Europe, West-Asia, Himalayas, Indo-China, Japan.

1. Go–1 rolled toward ventral, so that the channel for Go–2 visible even in the distal segment ..... Potaminae.

— Go–1 rolled toward dorsal, so that the channel for Go–2 especially in the distal segment, not visible; mostly ventral portion of distal expanded .... Potamiscinae.

Subfamily Potaminae ORTMANN 1896.

1896 Potamoninae ORTMANN, Zool. Jb. (Syst.), **9** : 445.

1904 Potamoninae, RATHBUN, Nouv. Arch. Mus., (4) **6** : 274 (part.).

1970 Potaminae, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 134.

Diagnosis: Go-1 rolled toward ventral, so that the channel for Go-2 visible even in the distal segment or the channel running along the inner margin.

Distribution: Europe, West-Asia, Himalayas.

Tiwaripotamon BOTT 1970.

Type specimen: *Geotelphusa annamensis* BALSS 1914.

Diagnosis: Go-1, distal segment semi-sickle-shaped, bent inward, separated from predistal segment, channel for Go-2 curved ventrally or turned to inner margin. P2-5 frequently long and slender. Front narrow, carapace with mostly shallow grooves and flat.

Distribution: Indo-China, Philippines.

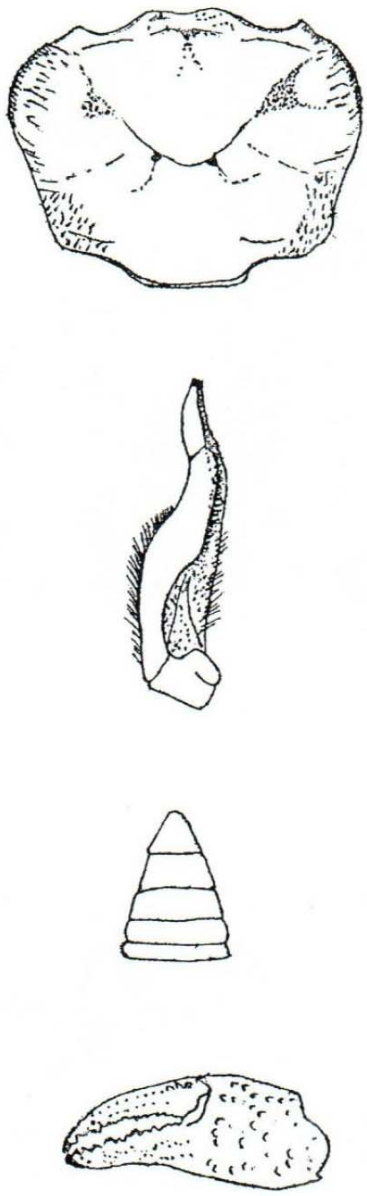

Figure 4.

Carapace, ventral view of right first gonopod, abdominal segments, dactylus and propodus of first pereiopod of *Tiwaripotamon beusekomae*.

Tiwaripotamon beusekomae BOTT 1970.

Fig. 4.

1970 *Tiwaripotamon beusekomae* BOTT, Abh. senckenb. naturorsch. Ges., 526 : 153-154, pl. 58, fig. 91, 95.

Diagnosis: Distal segment of Go-1 with divided joint and sickle-shaped, bent inward, ventral portion only at the top slightly overlapping the dorsal portion. Carapace and P2-5 bristle hairy. Seventh abdominal segment sharp-top triangle. Cervical grooves deep till epibranchial corners and without interruption at the lateral parts of semi-circular groove. Medium size crab.

Description: Carapace weakly arched, epigastric crests with oblique front ridges, a little forward, post-orbital crests short, cervical grooves laterally oblique toward the front. Antero-lateral border with edge, branchial regions wrinkle along the oblique direction. Middle groove broad, containing a spear-shaped extended part of the mesogastric region which at the lateral part is unrecognizable. Front deflexed with an almost straight border, upper region with paired, rough high areas. Mxp-3 with little oblique longitudinal grooves, exopodite on Holotype with only blunt, short flagellum, on Paratype with longer flagellum or invisible on one side. Abdomen slender with triangular seventh segment, lateral margins slightly concave with seventh segment forming top. Go-1 sickle-shaped, bent inward with reduced distal segment, ventral portion a little overlapped only before the apex, basal part of predistal segment arched outward. Go-2 with long distal segment. P2-5 and carapace bristles, hairy, especially very distinct on the walking legs. P-1 with bended dactylus, weakly gapped; palm, carpus and merus ununiform and rough, carpus with short inner spine, merus without predistal spine and with fine granules on lower margin. P2-5 stumpy.

Measurement: 46 : 36 : 19 : 7 (Hololype ♂)

Local Type: Thailand, Khao Yai National Park, Khao Khie, Nakhon Ratchasima, 14° 30′ N, 101° 25′ E.

Material: From local type (1♂ Holotype, 2♀ Paratypes MLei).

Subfamily Potamiscinae BOTT 1970.

1970 Potamiscinae BOTT, Abh. senckenb. naturforsh. Ges., 526 : 157.

Diagnosis: Distal and predistal segment of Go-1 rolled toward dorsum ventral portion often more or less expanded inwhich the channel for Go-2 is covered especially in the distal segment.

Distribution: Indo-China.

1. Go-1, ventral portion on distal segment round expanded to cover the dorsal portion .....2.
— Go-1, ventral portion on distal segment not expanded and not cover the dorsal portion. Distal and predistal segment very slender and straight.....*Larnaudia*.

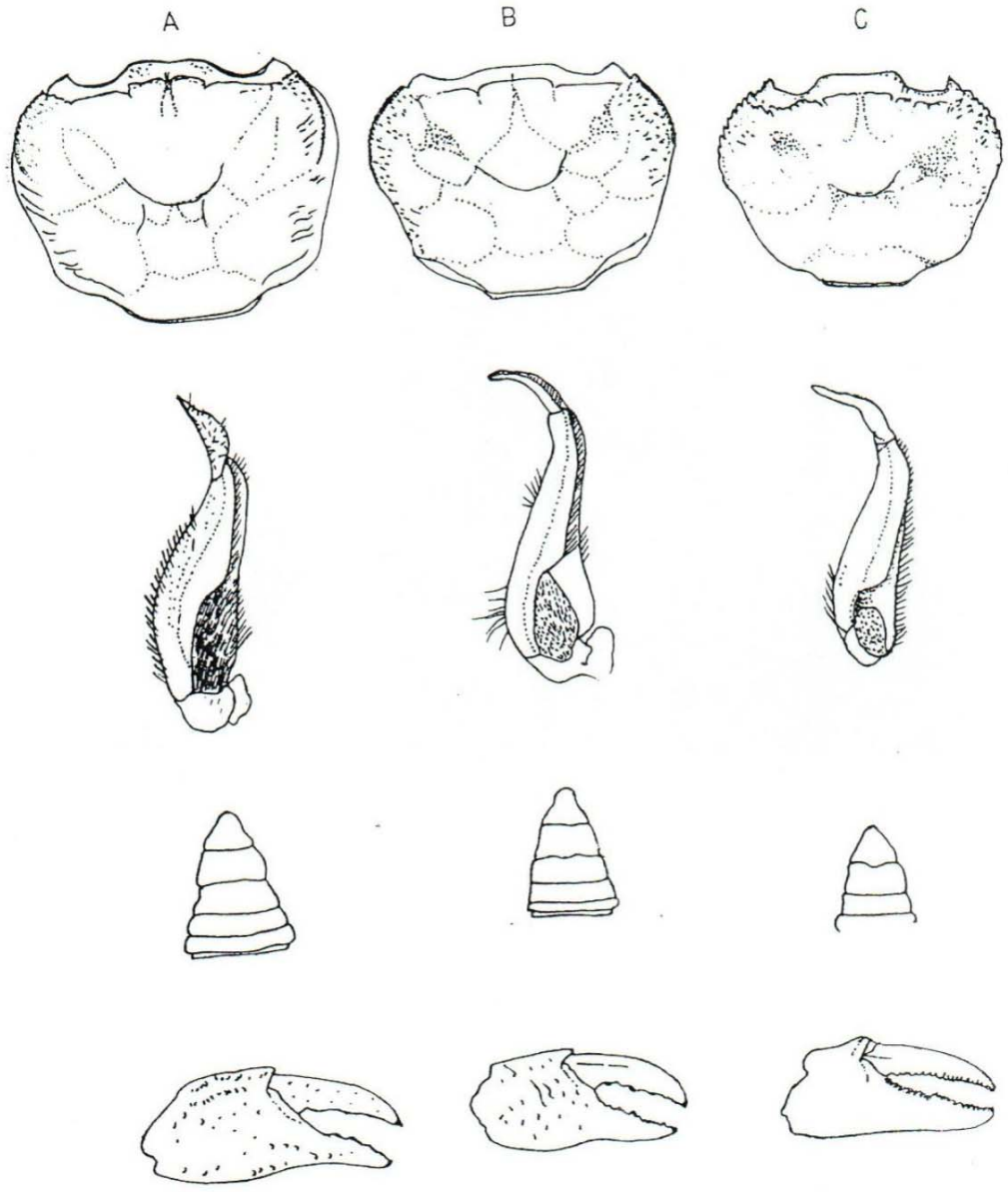

Figure 5.

Carapace, ventral view of right first gonopod, abdominal segments, dactylus and propodus of firsl pereiopod of :

A = *Ranguna* (*Ranguna*) *smithiana*,
B = *R.* (*Ranguna*) *luangprabangensis phuluangensis*, and
C = *R.* (*Ranguna*) *cochinchinensis*.

2. Predistal segment on Go-1 with unstrikingly reduced distal end..... ..... *Ranguna* (*Ranguna*).
— Predistal segment on Go-1 with strikingly reduced, neck-shaped distal end. .....*Ranguna* (*Demanietta*).

Ranguna (*Ranguna*) BOTT 1966.

1966 *Potamiscus* (*Ranguna*) BOTT, Senck. biol., **47** : 481.
1970 *Ranguna* (*Ranguna*) BOTT, Abh. senckenb. naturforsch. Ges., 526 : 162.

Diagnosis: Go-1 with short distal segment, separated and pointed outward, ventral portion lobe-liked stretched to cover the dorsal portion, predistal segment without strickingly neck-shaped reduction.

Distribution: Lower Burma, Tenasserim, Thailand, Cambodia and South Vietnam.

1. Large crabs. Go-1 with or without extended ventral portion on the distal segment, distal segment slender, more or less sickle-shaped and bent outwardly .....2.
— Large crabs with post-orbital and epigastric crests. Go-1 with extended ventral portion on the distal segment, distal segment conical-shape, short about 1/4 of predistal segments and outside margin slightly concave.....*smithiana*.

2. Go-1, distal segment reduced regularly toward the apex.....*luangprabangensis*.
— Go-1, distal segment at the proximal end a little enlarge.....*cochinchinensis*.

Ranguna (*Ranguna*) *smithiana* (KEMP 1923).

Fig. 5 A.

1923 *Potamon* (*Potamon*) *smithianum* KEMP, J. nat. Hist. Soc. Siam, **6** : 5, pl. 1, fig. 1.
1970 *Ranguna* (*Ranguna*) *smithiana*, BOTT, Abh. senckenb. naturforsch. Ges., 526: 167-168, pl. 38, fig. 34; pl. 47, fig. 30.

Diagnosis: Slender distal segment on Go–1, conical, oblique outwardly, ventral portion overlapped dorsal portion, gradually reduced toward apex. P-1 short, palm thick.

Description: Carapace plainly arched, smooth ridges appearing only at the antero-lateral borders. Front narrow notch, post-orbital and epigastric crests barely separated from each other. Cervical grooves begin at the rough areas, epibranchial corners recognizable. Middle groove distinct, semi-circular groove deep. Cervical grooves very shallow. Mxp-3 with oblique longitudinal groove, exopodite with flagellum; merus with oblique outer margin, distinct outer corner and transverse distal border. Abdomen slender, triangular with slightly concave margins, sixth segment laterally a little long, seventh segment with equal curved sides which run to form the distal top.

Go-1 slender, distal segment clearly separated, conical, bent outward, ventral portion overtopped dorsal portion from basal. P-1 with slender, occasional spines and gapped dactylus which is shorter than the palm, palm rough and longer than the dactylus, carpus rough with inner spine, merus regularly coarse at lower edge. P2-5 vigorous and broad. Large crab.

Measurement: 57 : 45 : 27 : 8

Local Type: Thailand, Chanthaburi, Khao Sebap.

Material: Thailand, Chanthaburi, Khao So Tao Tai, 1,600 m. (1 ♂ SMF 4428); Khao Yai National Park, Khao Khie, Nakhon Ratchasima (1 ♂ 4 ♀ MLei).

Ranguna (*Ranguna*) *luangprabangensis phuluangensis* BOTT 1970.

Fig. 5B.

1970 *Ranguna* (*Ranguna*) *luangprabangensis phuluangensis* BOTT, Abh. senckenb. naturforsch. Ges., 526: 169-170, pl. 39, fig. 41; pl. 43, fig. 6.

Diagnosis: Go-1 slender, long, horn-shape, bent outward, ventral portion of distal segment a little expanded. Carapace smooth, plain.

Description: Carapace slightly arched, smooth, rough only in the rear of epigastric and post-orbital crests and at the lateral side of branchial region. Front bent down looking like four lobes from the top view, from the front view slightly high areas. Middle groove broad, epigastric crests bearly separated from the post-orbital crests which appear only about the high part of blunt exorbital teeth and converge with the regular wrinkled part. Epibranchial corner low, separated by a notch. Antero-lateral borders with fine granules. Semi-circular groove shallow, cervical grooves run through a plain area indicated by a half-bottle shaped groove almost horizontal in position. Mxp-3, merus with oblique front border which is distinct from lateral margin by the obtuse-angle edge, ischium with oblique longitudinal groove, exopodite with long flagellum. Abdomen triangular with almost straight lateral margins, fifth segment a little curved, sixth segment slightly concave margins. Go-1 slender with horn-shaped, apex pointed outward. P-1 slightly unequal; dactylus weakly gapped, indistinct spines, shorter than palm, upper side slightly rough; palm rough, especially on the upper edge; carpus with conical inner spine, upper side slightly rough, lower edge pearl-like, strong middle spine near the distal articulate and in between the two edges. P2-5 strong, broad and short. Large crab.

Measurement: 53 : 40 : 22 : 13.

Local Type: Thailand, Phu Luang, Udon Thani.

Material: From local type, 900 m. 101° 25′ E, 17° 25′ N (1 ♂ Holotype 2 ♂ Paratypes MLei, 2 ♂ 1 ♀ Paratypes SMF 4427); Nam Mae Gon, 17 km SE Phrae (1 ♂ Paratype SMF 5580); Yhad Faa Waterfall, 20 km W Lomsak, Phetchabun (1 ♂ 1 ♀)

Ranguna (*Ranguna*) *cochinchinensis* (DE MAN 1898).

Fig. 5C.

1898 *Potamon* (*Potamon*) *cochinchinensis* DE MAN, Bull. Soc. philom., **10** : 45.
1904 *Potamon* (*Potamon*) *cochinchinensis*, DE MAN, Mission Pavie (Zool.), 8, pl.18.
1904 *Potamon* (*Potamon*) *cochinchinensis*, RATHBUN, Nouv. Arch. Mus., (4) **6** : 282, pl. 11, fig. 4.
1923 *Potamon* (*Potamon*) *phymatodes* KEMP, J. nat. Hist. Soc. Siam, **6** : 13, pl. 1, fig. 3.
1970 *Ranguna* (*Ranguna*) *cochinchinensis*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 170, pl. 39, fig. 42; pl. 48, fig. 37.

Diagnosis : Antero-lateral borders strikingly distinct, serrulated; distal segment fused with predistal segment, strongly bent outward, ventral portion round and overlapping the dorsal portion. Large crab.

Measurement: 50 : 43 : 22 : 14.

Local Type: Cochin China.

Material: (Thailand, Khao Sabap, Chanthaburi (1 ♂ USNM 132376 MWa)).

Ranguna (*Demanietta*) (BOTT 1966).

1966 *Potamiscus* (*Demanietta*) BOTT, Senck. biol., **47** : 487.
1970 *Ranguna* (*Demanietta*), BOTT, Abh. senckenb. naturforsch. Ges., 526 : 173.

Diagnosis : Go-1, ventral portion of distal segment lobe-like and overlapped, distal end of predistal segment and proximal end of distal segment reduced to neck-shape. Epigastric and post-orbital crests joined into one ridge or indistinctly separated. Post-orbital crests pass the antero-lateral borders.

Distribution: Lower Burma, Tenasserim.

1. Post-orbital crests sharp ridges, separated by a short fissure, slightly curved forward at the antero-lateral borders.....2.
— Post-orbital crests sharp ridges, joined with the little advanced epigastric crests. Ventral portion of the distal segment of Go-1 little lobe-shape overlaps beginning at 1/4 of the proximal end.....*chantaburiensis*.
2. Carapace smooth, shallow grooves.....3.
— Branchial regions rough, carapace with deep grooves. Go-1 distal segment not curved, weakly S-shaped, ventral portion regularly rounded reduced.....*manii*.
3. Go-1, ventral portion little extended at the middle of distal segment, rapidly reduced at the proximal end.....*smalleyi*.
— Go-1, ventral portion of distal segment lobe-shape, extremely overlapped beginning at 1/5 of the proximal end.....*siamensis*.

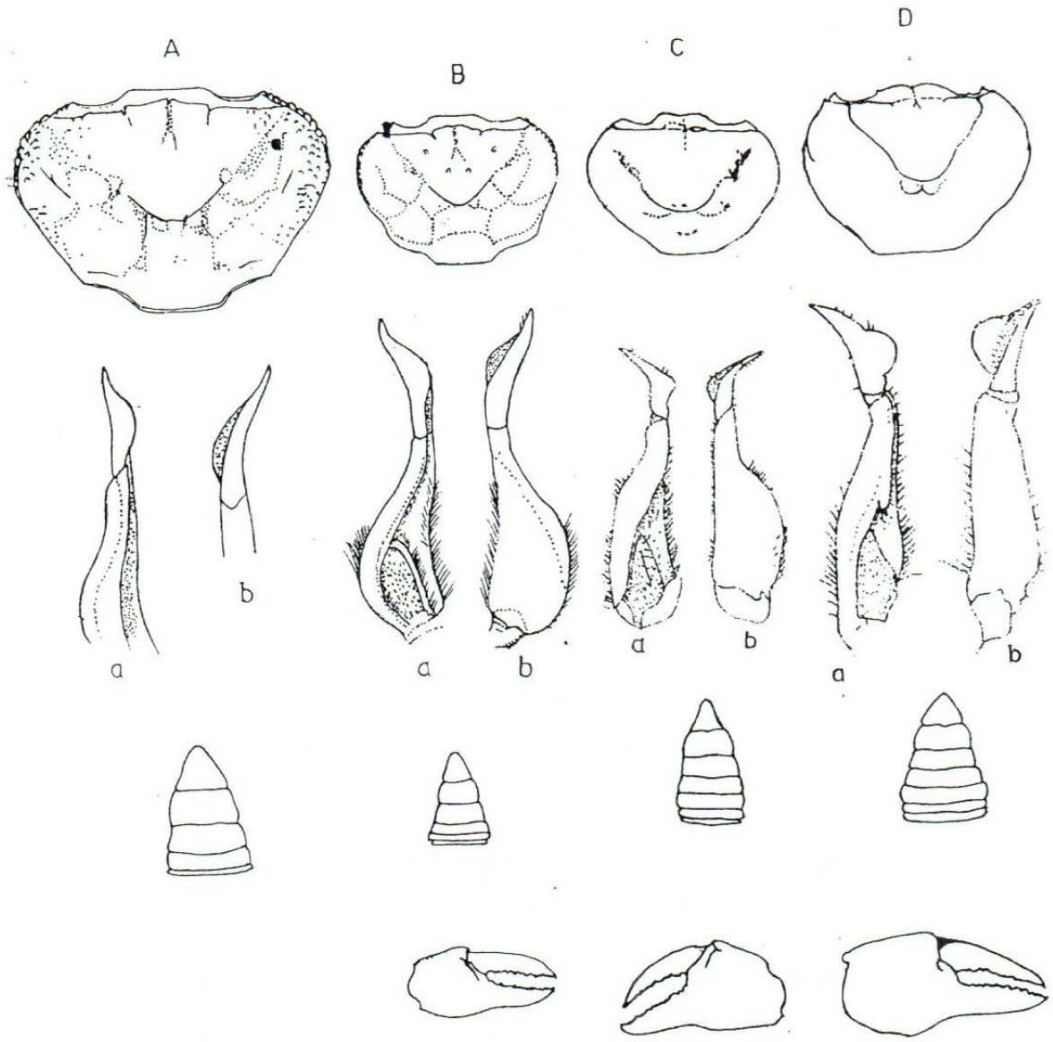

Figure 6.

Carapace, ventral (a) and dorsal (b) portions of right first gonopod, abdominal segments, dactylus and propodus of first pereiopod of :

A = *Ranguna (Demanietta) tenasserimensis manii,*
B = *R. (Demanietta) tenasserimensis smalleyi,*
C = *R. (Demanietta) tenasserimensis chantaburiensis, and*
D = *R. (Demanietta) siamensis.*

Ranguna (*Demanietta*) *tenasserimensis manii* (RATHBUN 1904).

Fig. 6A.

1904 *Potamon* (*Potamon*) *manii* RATHBUN, Nouv. Arch. Mus., (4) **6** : 276, pl. 11, fig. 6, ill. 15.

1966 *Potamiscus* (*Demanietta*) *tenasserimensis manii*, BOTT, Senck. biol., **47** : 489, pl. 19, fig. 7, ill. 24. (Lit.).

1970 *Ranguna* (*Demanietta*) *tenasserimensis manii*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 174, pl. 39, fig. 48; pl. 49, fig. 44.

Diagnosis: Go-1, distal end of predistal segment and proximal end of distal segment strikingly slender; round ventral portion overlapping the dorsal portion, apex, slightly bent inward. Carapace plain, branchial regions coarse and rough, front border notch deeply semi-circular shaped in the middle, lateral sides steep. Post-orbital crest separated from epigastric crest by a distinct fissure, sharp ridge and passes the epibranchial corner. Middle groove long, cervical grooves and semi-circular groove deep. P-1 of adult male gapped with thick basal spine on index. Large crab.

Measurement: 48 : 35 : 21 : 12.

Local Type: Bangkok?

Distribution: Thailand.

Material: (Bangkok (1♂ Holotype MPa 3602-82)).

Ranguna (*Demanietta*) *tenasserimensis smalleyi* (BOTT 1966).

Fig. 6B.

1923 *Potamon* (*Potamon*) *larnaudii*, KEMP, J. nat. Hist. Soc. Siam, **6** : 12.

1966 *Potamiscus* (*Demanietta*) *tenasserimensis smalleyi*, BOTT, Senck. biol., **47** : 490, pl. 19, fig. 8, ill. 25.

1970 *Ranguna* (*Demanietta*) *tenasserimensis smalleyi*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 175, pl. 39, fig. 49; pl. 50, fig. 45.

Diagnosis: Go-1, distal end of predistal segment and proximal end of distal segment extremely slender; round ventral portion on distal segment, overlapping the dorsal portion at a distance from the dividing line. Carapace plain, smooth with distinct grooves. Epigastric crests with oblique margins, separated by fissure from the almost horizontal post-orbital crests which pass with a little curve forward at the epibranchial corners. P2-5 slender. Medium to large crab.

Measurement: 38 : 28 : 26 : 10 (Holotype ♂)

Local Type: Ko-Chang, Tapli.

Distribution: only known from Ko-Chang, Tapli.

Material: Ko-Chang, Tapli, Malay Peninsula (1 ♂ 1 ♀ SMF 2808).

Ranguna (*Demanietta*) *tenasserimensis chantaburiensis*, CHUENSRI 1973.

Fig. 6C.

1973 *Ranguna* (*Demanietta*) *tenasserimensis chantaburiensis* CHUENSRI, Kasetsart Univ. Fish. Res. Bull. No. 6 : 20—23.

Diagnosis: On the first gonopod: ventral portion of the distal segment little lobe-shape overlaps approximately 1/4 of the proximal end; acute apex, distal segment suddenly turned at the middle of the segment out to lateral side; distal end of predistal segment and proximal end of distal segment reduced to neck-shape. Epigastric and post-orbital crests fused together as one ridge. Post-orbital ridges gradually sharper outwardly and joined with antero-lateral ridges. Carapace slightly arched. Large freshwater crab.

Description: Carapace smooth, arch, the front border is invisible from the top view. Front with two sharp outer corners, straight borders, which are joined to together at the middle. Epigastric crests a little advanced joined with post-orbital crests. Distinct anterolateral borders. Cervical groove shallow and broad, indistinct boundary associated with semi-circular groove. H-groove recognizable. Mxp-3 with distinct longitudinal groove in the middle of ischium, exopodite with flagellum. Chelipeds slightly unequal; dactylus slender weakly gapped, distinct teeth; carpus normal margin with acute inner spine pointed forward and with a small spine under the inner spine; merus with two coarse lower edges and without predistal spine. Walking legs slender.

Measurement: 35.8 : 27.6 : 20.2 : 8.9 (largest ♂)

Local Type: Pong Nam Ron, Chanthaburi, Thailand.

Material: Pong Nam Ron, Chanthaburi, Thailand (1 ♂ 1 ♀ KUMF 2-003; 1 ♀ KUMF 2-004).

Remarks: The figure of *Potamon* (*Potamon*) *siamensis* in KEMP's (1923) report looked similar to this species. Unfortunately, He did not characterize the first gonopod which made it impossible to identify his specimen. In addition, the collecting site was far away from that of the type-specimen.

The specimens were collected by Mr. T. SMITINAND in November 1956 and preserved in 70 per cent alcohol. The local name Pu Pang (= crab - flour).

Ranguna (*Demanietta*) *siamensis* (A. MILNE-EDWARDS, 1869)

Fig. 6D.

1869 *Thelphusa siamensis* A. MILNE-EDWARDS, Nouv. Arch. Mus., 5 : 173, pl. 8, fig. 5-5a.

1898 *Potamon siamense*, DE MAN, Ann. Mus. civ. Stor. nat. Genova, (2) **19** : 438.

1904 *Potamon* (*Potamon*) *siamensis*, RATHBUN, Nouv. Arch. Mus., (4) **6** : 306, pl. 13, fig. 1.

1970. *Ranguna* (*Ranguna*) *siamensis*, BOTT, Abh. senckenb. naturforsch. Ges., 526: 171-172, pl. 49, fig. 41.

Diagnosis: On the first gonopod: ventral portion of distal segment lobe-shape extremely overlapped, acute apex pointed toward the exorbital corner; distal end of predistal segment and proximal end of distal segment reduced to neck shape. Post-orbital crests associated with antero-lateral border. Carapace strongly arched, especially the deep front border invisible from the top view. Large freshwater crab.

Description: Carapace very strongly arched, smooth, especially the front border which falls down so that it is invisible from the top view. Front two lobes. Epigastric crests a little high, slightly forward and separated by a fissure which is the beginning of a long fork-shaped middle groove. Epigastric crests separated from post-orbital crests by a comma notch. Post-orbital crest very near to the upper orbit, divided into two-parts, the long inner one reaching the narrow and distinct cervical groove, and the short one reaching the indistinct antero-lateral border. Cervical groove very narrow, almost a fissure, complete and associated with semi-circular groove. H-groove recognizable to the dry specimen, but on the wet one barely recognizable. Third maxilliped with distinct, slightly oblique longitudinal groove in the middle of ischium, exopodite with flagellum. Chelipeds slightly unequal; dactylus slender, weakly gapped, low but distinct teeth; carpus puffed margin with acute inner spine pointed anteriorly and with a little spine just under it; merus with coarse lower edges and without predistal spine. Walking legs short and with almost parallel margins on meri.

Measurement: 43.3 : 31.6 : 22.4 : 12.5 (largest ♂).

Local Type: In the vicinity of Bangkok?

Material: Kan Suri (1 ♂ USNM 102772); Pong Nam Ron, Chanthaburi (1 ♂ KUMF 2-001); Pa Khau Lam, Kanchanaburi (2 ♀ KUMF 2-002).

Remarks: The female of 41.4 mm carapace breadth carried 50 eggs averaging 4.1 mm in diameter.

The identification was based on BOTT's (1970) work. According to the gonopod character, this crab belongs to the subgenus *Demanietta*. The reports of specimens from Bangkok and Chanthaburi are doubtful. In my opinion, the specimens were all collected from Kanchanaburi where the two females were found. The bottle of specimen from Chanthaburi contained also *Ranguna* (*Demanietta*) *tenasserimensis chantaburiensis*. The specimen was probably packed by mistake, because all *R. chantaburiensis* found were from Chanthaburi Province. The figure of *Potamon* (*Potamon*) *siamensis* in KEMP's (1923) report is not identical to the author's specimens.

The local name of *Ranguna* (*Demanietta*) *siamensis* is Pu Pa (= crab-forest). They lived in holes at the edges of the dry forest.

Larnaudia BOTT 1966.

1966 *Potamiscus* (*Larnaudia*) BOTT, Senck. biol., 47 : 490.
1970 *Larnaudia* BOTT, Abh. senckenb. naturforsch. Ges., 526 : 175.

Diagnosis: Go-1 long and slender, regular cylinder-shape. basal part barely expanded outward, distal segment short, indistinctly separated, ventral portion rolled toward dorsum. Large crab.

Distribution: Indo-China.

Larnaudia larnaudii (A. MILNE-EDWARDS 1869).

Fig. 7.

1869 *Telphusa larnaudii*, A. MILNE-EDWARDS, Nouv. Arch. Mus., **5** : 166, pl. 10, fig. 4.
1880 *Telphusa larnaudii*, MIERS, Ann. Mag. nat. Hist., (5) **5** : 304.
1888 *Telphusa larnaudii*, DE MAN, J. linn. Soc. London, **22** : 94.
1892 *Telphusa larnaudii*, DE MAN in MAX WEBER, Zool. Ergbn. niederl. O-Indien, **2** : 294.
1893 *Telphusa larnaudii*, HENDERSON, Trans. linn. Soc. London (Zool.), **5** : 385.
1898 *Potamon larnaudii*, DE MAN, Ann. Mus. civ. Stor. nat. Genova, **19** : 402.
1900 *Potamon larnaudi*, DOFLEIN, S.-B. Akad. Wiss. Munchen, 1900:140 (part.).
1904 *Potamon* (*Potamon*) *larnaudii*, RATHBUN, Nouv. Arch. Mus., (4) **6** : 275, pl. 10, fig. 7, ill. 14.
1910 *Potamon* (*Potamon*) *larnaudii*, ALCOCK, Cat. ind. decap. Crust. ind. Mus., **1**(2) : 47.
1966 *Potamiscus* (*Larnaudia*) *larnaudii*, BOTT, Senck. biol., **47** : 490, ill. 26.
1970 *Larnaudia larnaudii*, BOTT, Abh. senckenb. naturforsch. Ges., 526 : 175-176, pl. 39, fig. 50; pl. 50, fig. 46.

Diagnosis: Front border notch into semi-circular shape in the middle. Go-1 slender and long, basal part barely expanded outward; distal segment short, indistinctly separated, curved inward, ventral portion rolled toward dorsum and over-topping the dorsal portion. Sixth abdominal segment concave on lateral margins.

Description: Front border notch is semi-circular-shape. Epigastric crest forward, separated from post-orbital ridges by fissure. Post-orbital crests are sharp ridges, reach the highest area of the orbit, and granulous. Antero-lateral borders with granulous edges. Epibranchial corners small. Branchial regions rough, upper areas of carapace smooth with small spots. Cervical grooves plain, expanded anteriorly and fused with semi-circular groove posteriorly. Middle groove deep. Mxp-3 with longitudinal groove, exopodite with median flagellum. First sternal groove deep and the second one distinct only at the corners. Abdomen slender, triangular with straight lateral margins, sixth segment expanded laterally round. Go-1 slender and long with short distal segment indistinctly separated from the predistal segment; distal segment rolled toward dorsum and the ventral portion overlapping the dorsal portion; predistal segment slightly expanded at the base, otherwise regular and slender. P-1 slightly unequal, upper side rough, dactylus weakly gapped with low spines, carpus with acute inner spine, merus lower edge granulous. P2-5 vigorous.

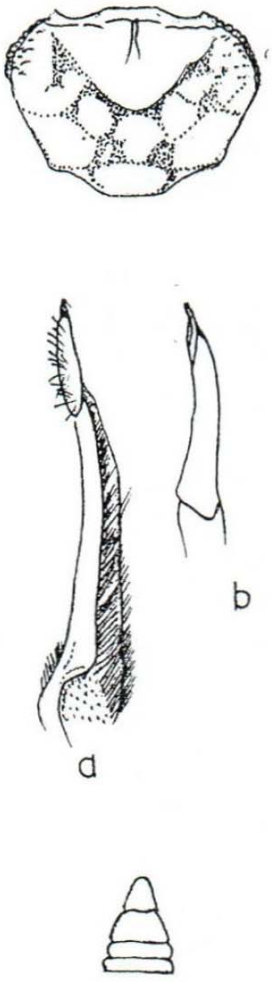

Figure 7.

Carapace, ventral (a) and dorsal (b) portions of right first gonopod, and abdominal segments of *Larnaudia larnaudii*.

Measurement: 45 : 38 : 22 : 12 (Lectotype ♂).

Local Type: Surrounding Bangkok?

Material: (Surrounding Bangkok (1 ♂ Lectotupe, 1 ♀ Paratype MPa). North Cochin-China, Mois Chero (2 ♂ 1 ♀ MPa 886-77)).

Remarks: Specimens from Simla, Himalayas and perhaps from Calcutta, which von Doflein indentified as this species, do not belong to *Larnaudia larnaudii* On the contrary, specimens from the collecting place in Sumatra are presumably correct, but are imprecisely described. Earlier, specimens frequently identified as this species but are imprecisely described. Earlier, specimens frequently identified as this species did not belong to *L. larnaudii.*

ACKNOWLEDGEMENTS

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