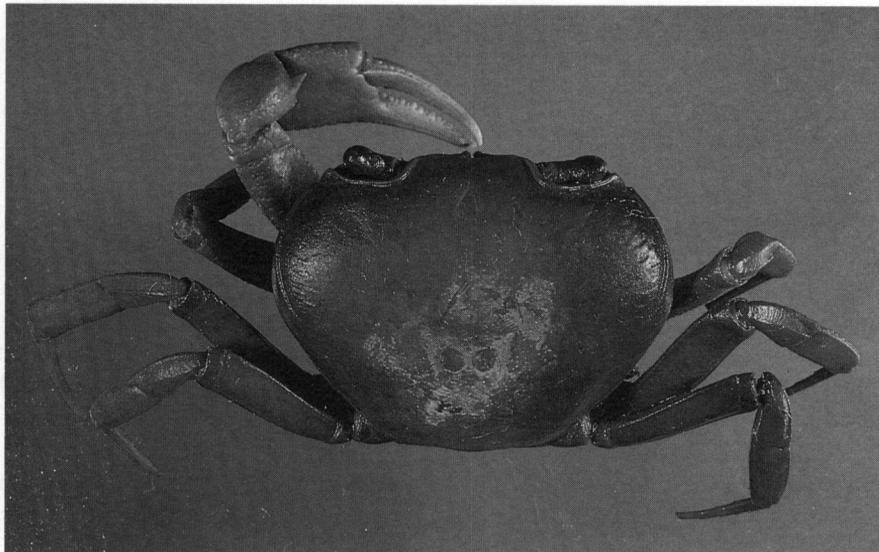


A



B



C

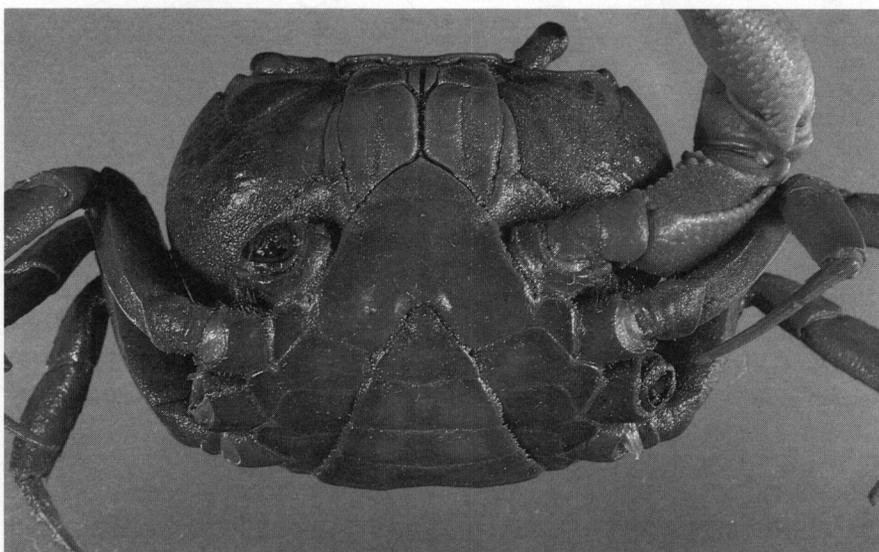


Fig. 13. *Pudaengon hinpoon*, new species. Holotype male (43.6 by 34.5 mm) (ZRC 1995.298). A, dorsal view; B, frontal view; C, ventral view.

*Pudaengon arnamicai*, new species

(Figs. 14, 15, 16H-J, 17H)

**Material examined.** - Holotype: male (42.8 by 33.6 mm) (ZRC 1995.300), Pakxe, Laos, coll. Pongsakorn Arnamica.

Paratype: female (46.8 by 36.6 mm) (ZRC 1995.301), same data as holotype.

**Diagnosis.** - Anterolateral regions mildly rugose, with weak and very flattened granules, surface appears uneven but not rough. Exopod of third maxilliped slightly over-reaches distal edge of merus. Proximal lateral margins of male telson distinctly convex, broadly triangular in shape. G1 terminal segment 0.46 times length of subterminal segment, dorsal fold 0.31 times length of terminal segment (from ventral view). G2 with distal segment 0.60 times length of basal segment.

**Etymology.** - The species is named after the collector, Mr. P. Arnamica.

**Taxonomic remarks.** - The exopods of both left and right third maxillipeds of the holotype male are abnormal in that they are very short, but the tip is rounded, and both have clearly been damaged recently (Fig. 16H, I). In the female paratype, the exopod is more typical (Fig. 16J). The distal segments of the G2s of both male type specimens are damaged.

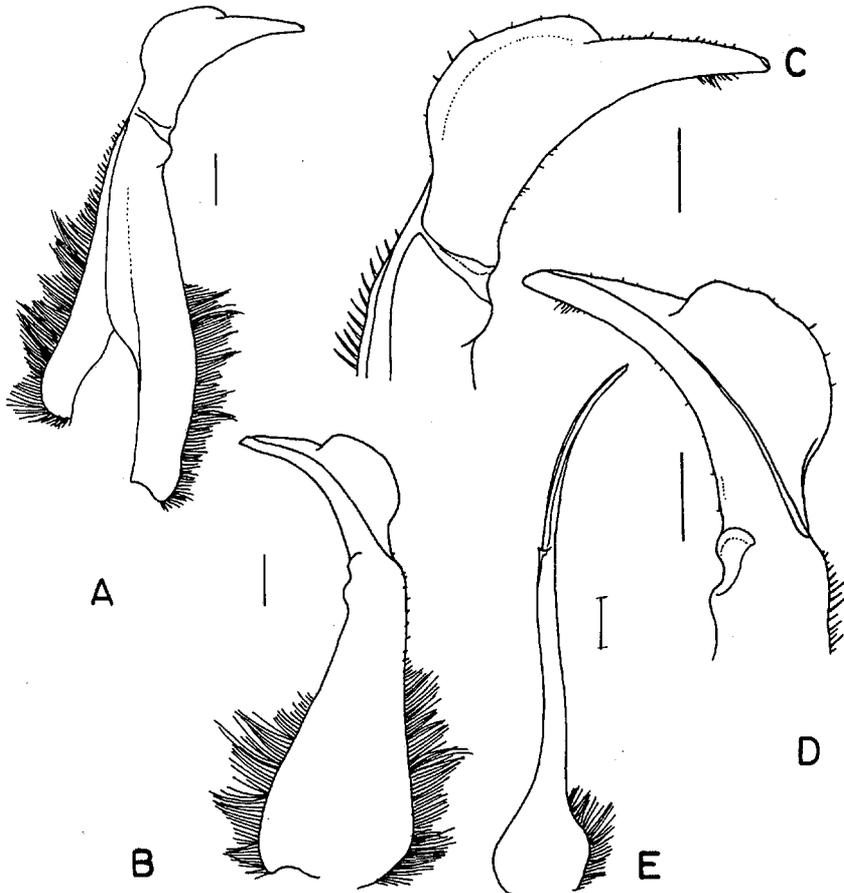
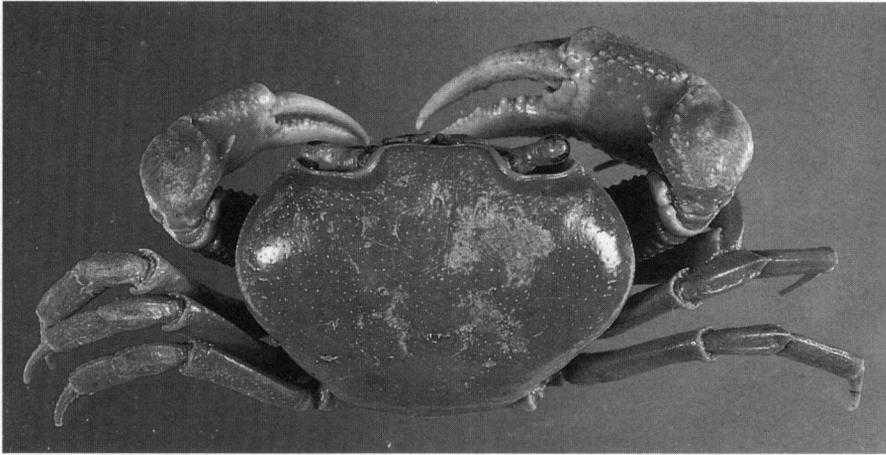
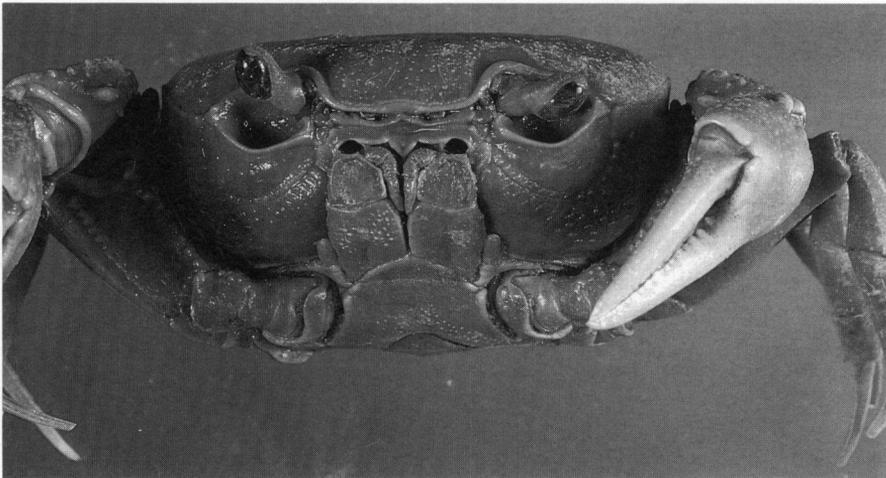


Fig. 14. *Pudaengon arnamicai*, new species. Holotype male (42.8 by 33.6 mm) (ZRC 1995.300). A, B, left G1; C, D, left G1 terminal segment; E, left G2. A, C, ventral view; B, D, dorsal view. Scales = 1.0 mm.

**A**



**B**



**C**

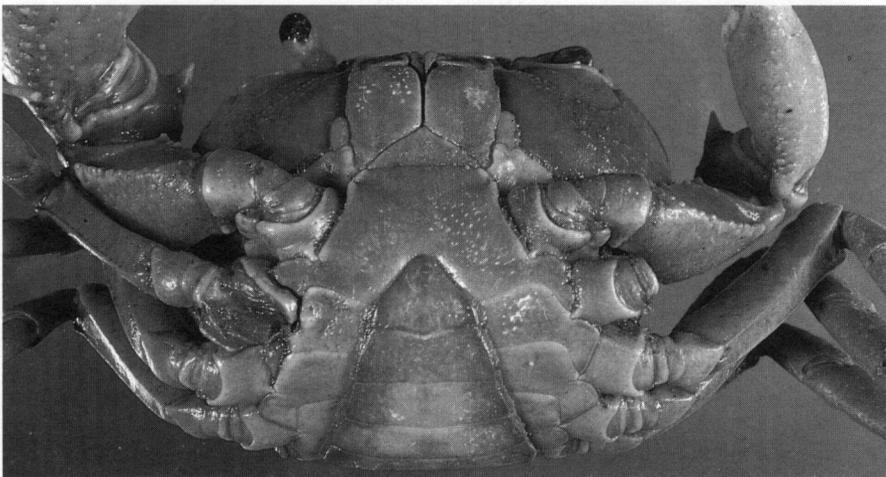


Fig. 15. *Pudaengon arnamicai*, new species. Holotype male (42.8 by 33.6 mm) (ZRC 1995.300). A, dorsal view; B, frontal view; C, ventral view.

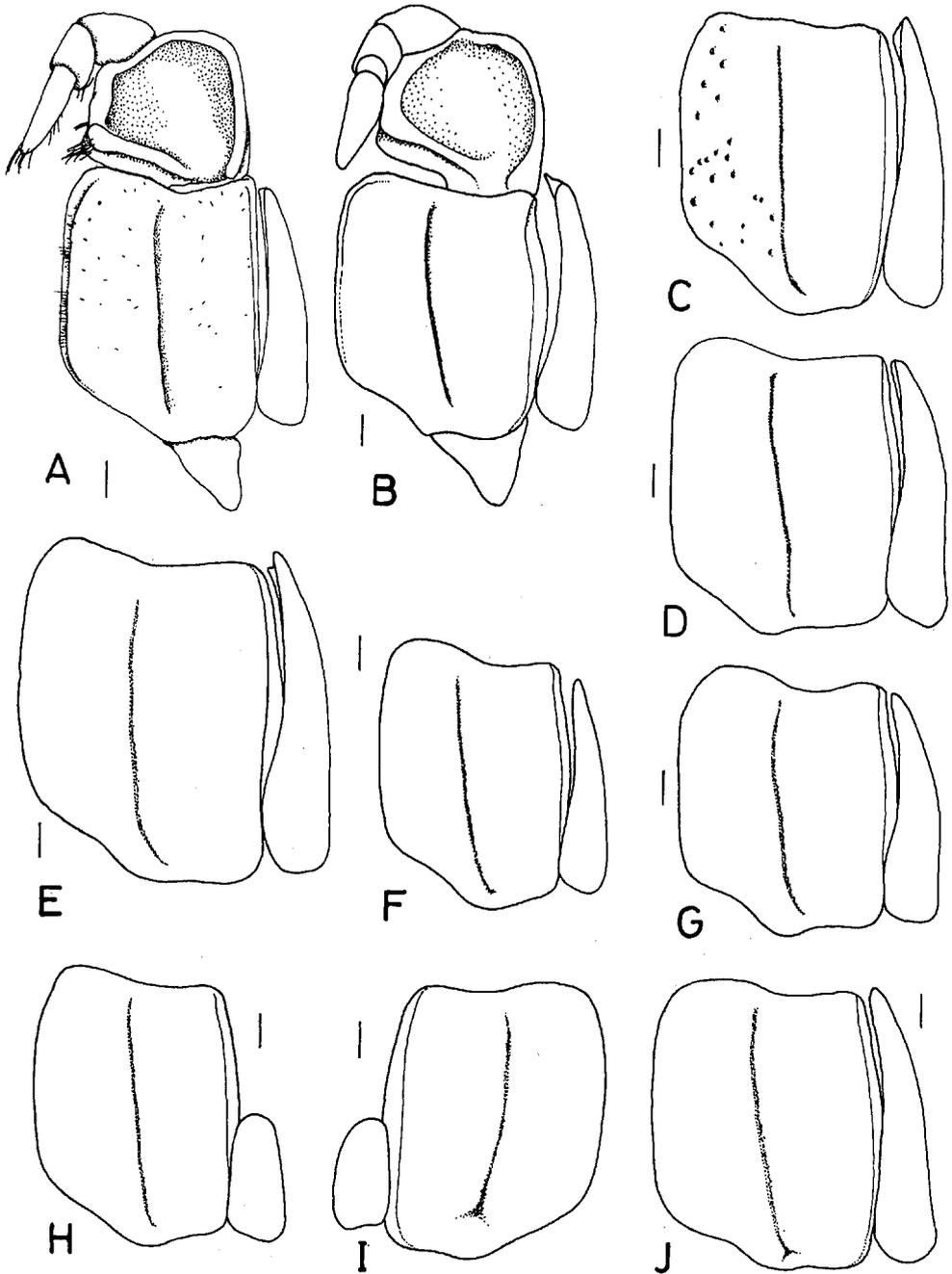


Fig. 16. Third maxillipeds of *Pudaengon* species. A, *P. inornatum* (Rathbun, 1904), lectotype male (48.7 by 38.8 mm) (MP-BP 192); B, *P. mukdahan*, new species, holotype male (44.1 by 35.0 mm) (ZRC 1995.288); C, *P. wanonniwat*, new species, holotype male (44.8 by 36.7 mm) (ZRC 1995.290); D, *P. sakonnakorn*, new species, holotype male (48.2 by 37.5 mm) (ZRC 1995.292); E, *P. thatphanom*, new species, holotype male (56.1 by 44.5 mm) (ZRC 1995.294); F, *P. khammouan*, new species, holotype male (41.1 by 31.7 mm) (ZRC 1995.296); G, *P. hinpoon*, new species, holotype male (43.6 by 34.5 mm) (ZRC 1995.298); H-J, *P. arnamicai*, new species, H, I, holotype male (42.8 by 33.6 mm) (ZRC 1995.300), J, paratype female (46.8 by 36.6 mm) (ZRC 1995.301). A-H, J, left maxilliped; I, right maxilliped; A, B, whole appendage; C-J, ischium and exopod. Scales = 1.0 mm.

Table 1. Differences between *Pudaengon* species

Character	<i>P. inornatum</i>	<i>P. mukdahan</i>	<i>P. wanonniwat</i>	<i>P. sakonnakorn</i>	<i>P. thatphanom</i>	<i>P. khammouan</i>	<i>P. hinpoon</i>	<i>P. arnamical</i>
Antero-lateral region	rugose, covered with flattened granules	rugose, covered with flattened granules	rugose, covered with flattened granules	strongly rugose, flattened granules prominent	rugose, covered with flattened granules	mildly rugose, with weak, very flattened granules, surface appears uneven but not rough	mildly rugose, with weak, very flattened granules, surface appears uneven but not rough	mildly rugose, with weak, very flattened granules, surface appears uneven but not rough
Exopod of third maxilliped	does not reach distal edge of merus	slightly over-reaches distal edge of merus	slightly over-reaches distal edge of merus	just reaches distal edge of merus	slightly over-reaches distal edge of merus	does not reach distal edge of merus	slightly over-reaches distal edge of merus	just reaches distal edge of merus
Male telson	broadly triangular, proximal lateral margins distinctly convex	triangular, proximal lateral margins gently convex	broadly triangular, proximal lateral margins distinctly convex	triangular, proximal lateral margins gently convex	broadly triangular, proximal lateral margins distinctly convex	triangular, proximal lateral margins gently convex	broadly triangular, proximal lateral margins distinctly convex	triangular, proximal lateral margins gently convex
G1 terminal segment	0.42 times length of subterminal segment	0.46 times length of subterminal segment	0.47 times length of subterminal segment	0.44 times length of subterminal segment	0.39 times length of subterminal segment	0.48 times length of subterminal segment	0.46 times length of subterminal segment	0.49 times length of subterminal segment
G1 terminal segment: dorsal fold	0.32 times length of terminal segment	0.29 times length of terminal segment	0.28 times length of terminal segment	0.30 times length of terminal segment	0.28 times length of terminal segment	0.27 times length of terminal segment	0.31 times length of terminal segment	0.30 times length of terminal segment
G1 sub-terminal segment	relatively slender, distal part distinctly neck-like	relatively stout, with distal part tapering but not distinctly neck-like	relatively stout, with distal part tapering but not distinctly neck-like	relatively stout, with distal part neck-like	relatively stout, with distal part tapering but not distinctly neck-like	relatively slender, distal part distinctly neck-like	relatively stout, with distal part tapering but not distinctly neck-like	relatively stout, with distal part tapering but not distinctly neck-like
G2 distal segment	not known length of	0.60 times length of basal segment	0.61 times length of basal segment	0.52 times length of basal segment	0.70 times length of basal segment	0.57 times length of basal segment	0.60 times length of basal segment	not known

### GENERAL DISCUSSION

The various species of *Pudaengon* recognised here are, as many potamids are, primarily distinguished by the structure of their G1s. The differences are particularly in the shape and proportions of the terminal and subterminal segments, shape, height and extent of the dorsal fold, and shape and proportions of the distal part of the terminal segment. These structures appear to be consistent for each species, even between specimens of differing sizes. These differences are also supported by the distinct distributions of the various species. There are also minor, but apparently consistent differences in the length of the exopod of the third maxilliped and the shape of the male telson (see Table 1). The minor differences in the roughness of the anterolateral regions seem to be less reliable, and might well be shown to be variable once more species are examined.

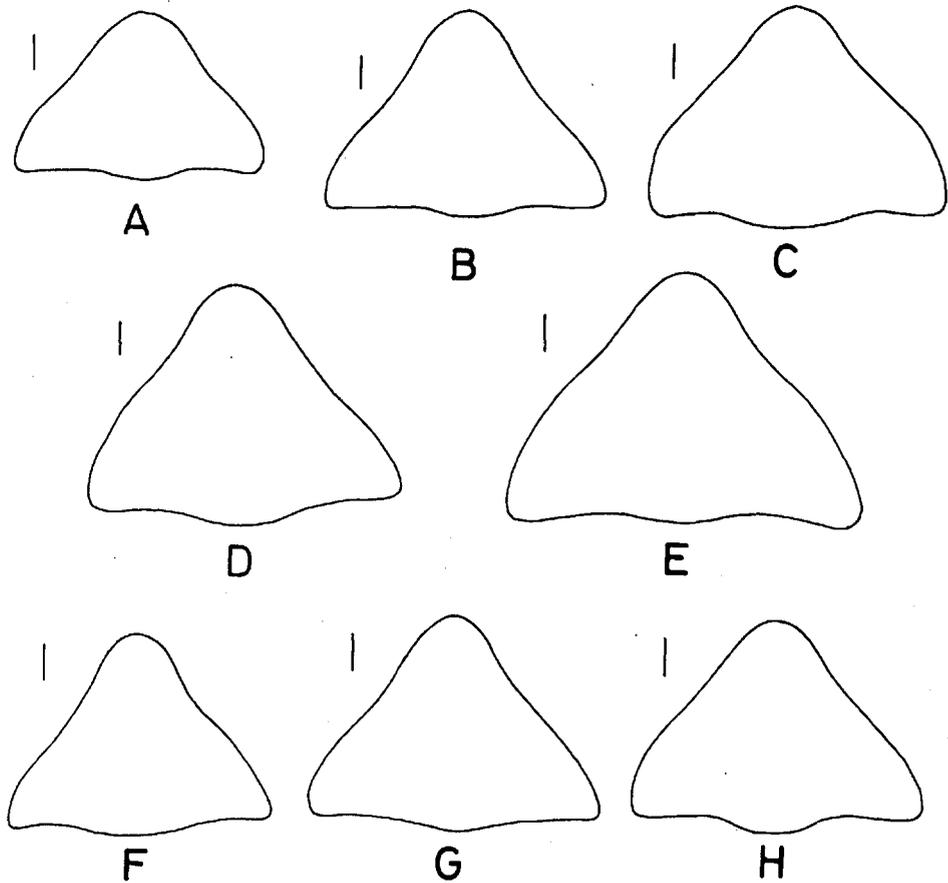


Fig. 17. Telsons of *Pudaengon* species. A, *P. inornatum* (Rathbun, 1904), lectotype male (48.7 by 38.8 mm) (MP-BP 192); B, *P. mukdahan*, new species, holotype male (44.1 by 35.0 mm) (ZRC 1995.288); C, *P. wanonniwat*, new species, holotype male (44.8 by 36.7 mm) (ZRC 1995.290); D, *P. sakonnakorn*, new species, holotype male (48.2 by 37.5 mm) (ZRC 1995.292); E, *P. thatphanom*, new species, holotype male (56.1 by 44.5 mm) (ZRC 1995.294); F, *P. khammouan*, new species, holotype male (41.1 by 31.7 mm) (ZRC 1995.296); G, *P. hinpoon*, new species, holotype male (43.6 by 34.5 mm) (ZRC 1995.298); H, *P. arnamicai*, new species, holotype male (42.8 by 33.6 mm) (ZRC 1995.300). A after Rathbun (1904). Scales = 1.0 mm.

On the basis of the male telson, the recognised *Pudaengon* species can be divided into two main groups. One group, with a broadly triangular male telson has the proximal lateral margins distinctly convex, and includes *P. inornatum*, *P. wanonniwat*, *P. thatphanom* and *P. hinpoon*. The second group have triangular telsons, with the proximal lateral margins gently convex, and includes *P. mukdahan*, *P. sakonnakorn*, *P. khammouan* and *P. arnamicai*. With regards to the length of the exopod of the third maxilliped, the species with the shortest exopods are *P. inornatum* and *P. khammouan*, in which it does not reach the edge of the merus; whilst those with the exopod slightly over-reaching the merus are *P. mukdahan*, *P. wanonniwat*, *P. thatphanom* and *P. hinpoon*. In *P. sakonnakorn* and *P. arnamicai*, the exopod just reaches the merus.

All members of *Pudaengon* are terrestrial crabs which dig burrows on the forest floor. They are collected for food by the local populace.

### ACKNOWLEDGEMENTS

The authors are grateful to Dr Danièle Guinot (MP) for her kind help with Rathbun's type material.

### LITERATURE CITED

- Alcock, A., 1909. Diagnoses of new species and varieties of freshwater crabs. Nos. 1-4. *Rec. Ind. Mus.*, 3: 243-252, 375-381.
- Alcock, A., 1910. Brachyura I. Fasc. II. The Indian Freshwater Crabs - Potamonidae. *Catalogue of the Indian Decapod Crustacea in the collection of the Indian Museum*. Calcutta, pp. 1-135, Pls. 1-14.
- Bott, R., 1966. Potamiden aus Asien (*Potamon* Savigny und *Potamiscus* Alcock) (Crustacea, Decapoda). *Senckenbergiana biol.*, Frankfurt, 47: 469-509, Pls. 16-21.
- Bott, R., 1970. Die Süßwasserkrabben von Europa, Asien, Australien und ihre Stammesgeschichte. Eine Revision der Potamoidea und Parathelphusoidea (Crustacea, Decapoda). *Abhand. Sencken. Naturf. Ges.*, Frankfurt, 526: 1-338, Pls. 1-58.
- Bott, R. & M. Türkay, 1977. 1. Nachtrag zur revision der Süßwasserkrabben von Europa, Asien und Australien. Die verwandtschaftlichen Beziehungen von *Ranguna longipes* (A. Milne-Edwards 1869) (Crustacea: Decapoda: Potamidae). *Senckenbergiana biol.*, Frankfurt, 58(1/2): 93-96.
- Naiyanetr, P., 1992. *Demanietta sirikit* n. sp., a new freshwater crab from Thailand (Decapoda, Brachyura, Potamidae). *Crustaceana*, Leiden, 62(2): 113-120, Pl. 1.
- Naiyanetr, P., 1993. *Thaipotamon chulabhorn* n. sp., a new freshwater crab from Thailand (Decapoda, Brachyura, Potamidae). *Crustaceana*, 65(1): 1-7.
- Naiyanetr, P., 1994. On two species of terrestrial crabs of the genus *Dromothelphusa* Naiyanetr, 1992 (Crustacea: Decapoda: Brachyura: Potamidae) from Thailand. *Raffles Bull. Zool.*, 42(3): 689-694.
- Ng, P. K. L., 1988. *The Freshwater Crabs of Peninsular Malaysia and Singapore*. Department of Zoology, National University of Singapore, Shinglee Press, Singapore, pp. i-viii, 1-156, Figs. 1-63, 4 colour plates.
- Ng, P. K. L., 1992. A new genus and species of cavernicolous crab (Brachyura: Potamidae) from Kanchanaburi, Thailand, with comments on the genera *Tiwaripotamon* Bott, 1970 and *Larnaudia* Bott, 1966. *Mém. Biospéol.*, Paris, 19: 159-167.
- Ng, P. K. L. & P. Naiyanetr, 1993. New and recently described freshwater crabs (Crustacea: Decapoda: Brachyura: Potamidae, Gecarcinucidae and Parathelphusidae) from Thailand. *Zool. Verh.*, Leiden, 284: 1-117, figs. 1-68.
- Rathbun, M. J., 1904. Les crabes d'eau douce. *Nouv. Arch. Mus. Hist. nat.*, Paris, (4)6: 225-312, Pls. 9-18.
- Rathbun, M. J., 1905. Les crabes d'eau douce. *Nouv. Arch. Mus. Hist. nat.*, Paris, (4)7: 159-323, Pls. 13-22.
- Rathbun, M. J., 1906. Les crabes d'eau douce. *Nouv. Arch. Mus. Hist. nat.*, Paris, (4)8: 33-122.
- Savigny, J. C., 1816. *Mémoires sur les Animaux sans Vertèbres*. I Partie, Paris.

Received 12 May 1995  
Accepted 25 Aug 1995