Biodiversity Journal, 2013, 4 (1): 129-134

A new species of false spider crab of the genus *Elamena* H. Milne Edwards, 1837 from Upper Gulf of Thailand (Decapoda Hymenosomatidae)

Sitthi Kulabtong[1*], Sawika Kunlapapuk[2] & Suvijak Sottiyothin[3]

[1]Save wildlife volunteer Thailand, Wangnoi District, Ayuttaya Province 13170, Thailand; e-mail: kulabtong2011@hotmail.com
[2]Aquatic Animal Production Technology Program, Faculty of Animal Sciences and Agricultural Technology, Silpakorn University, Phetchaburi IT campus, Sampraya, Cha-am, Phetchaburi, 76120 Thailand; e-mail: sawika@su.ac.th
[3]358/6 Sukumvit Rd. Paknum Subdistrict, Muang District, Samutprakan Province, Thailand; e-mail: suvijak_358@hotmail.com
[*]Corresponding author

ABSTRACT A new species of false spider crab (Decapoda Hymenosomatidae), *Elamena soonthronkitti* n. sp. from Upper Gulf of Thailand, is described. This species is distinguished from other species of the genus *Elamena* H. Milne Edwards, 1837 by the combination of the following characters: carapace longer than broad; dorsal surface smooth with deep gastrocardiac, cervical and thoracic grooves; rostrum truncated; no ventral rostral keel; abdomen octagonal with the tip rounded; chelipeds palm plump; both fingers equal or slightly shorter than palm with small setae; dactylus of the third ambulatory legs with no subterminal teeth. Biological features and current distribution of the new species and comparative notes are also reported.

KEY WORDS *Elamena*; Decapoda; Hymenosomatidae; Bangpu; Thailand.

Received 4.11.2012; accepted 22.12.2012; printed 30.03.2013

INTRODUCTION

The false spider crab family Hymenosomatidae is different from other crabs in many characters: the 4 pairs of ambulatory legs are longer (i.e. spider-like) than in other crabs, abdominal segments and telson are clearly different from other brachyuran crabs (Lucas, 1980; Dudgeon, 1999). Generally speaking, crabs are wildly distributed and comprise more than 100 species worldwide (Chuang & Ng, 1994; Naruse et al., 2008). In Southeast Asia more than 10 species are recorded; in Thailand there are 4 species (Kemp, 1917; Niyanetr, 1980; Chuang & Ng, 1994; Ng & Chuang, 1996) including:

Hymenicoides naiyanetri (Chuang et Ng, 1991)
Elamena magna Ng et Chuang, 1996
Halicarcinus coralicola (Rathbun, 1909)
Neorhynchoplax exigue (Kemp, 1917)

In a survey project involving two of the authors (KSi and SS) in Bangpu mangrove area, Samutprakan Province, Upper Gulf of Thailand (Figs. 1-2) carried out during November-December 2010, we found two specimens of false spider crab which were reported by us, at that time, as *Hymenicoides* cf. *naiyanetri* (Sottiyothin, & Kulabtong, 2011; Kulabtong & Sottiyothin, 2012).

Subsequently, a re-examination of those specimens, carried out by KSi and KSa revealed that they belong to a new species of the genus *Elamena* H. Milne Edwards, 1837 which is described in the present paper.

ACRONYMS AND ABBREVATIONS. Reference Collection of Aquatic Ecology, Silpakorn

University, Phetchaburi IT campus = RAESUP; Suvijak Sottiyothin = SS; Sawika Kunlapapuk = KSa; Sitthi Kulabtong = KSi

RESULTS

Order DECAPODA Latreille, 1802
Family HYMENOSOMATIDAE Macleay, 1838

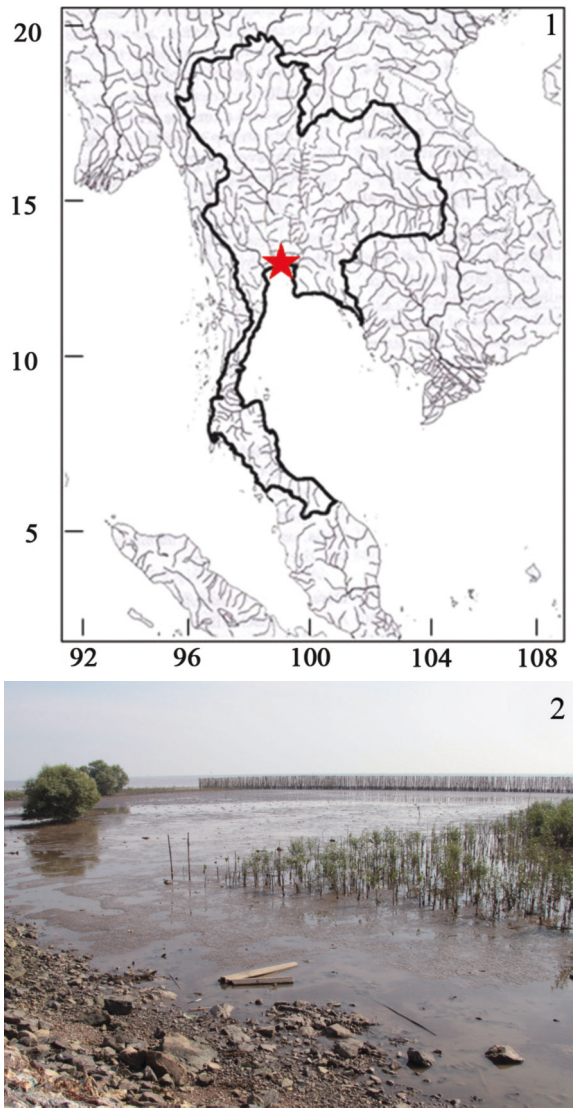
Elamena soonthronkitti n. sp.

Hymenicoides cf. *naiyanetri*; Kulabtong & Sottiyothin, 2012 (Samutprakan Province, Thailand)

EXAMINED MATERIAL. Holotypus male, RAESUP 132: Bangpu mangrove area, Bangpu Mai Subdistrict, Muang District, Samutprakan Province, Upper Gulf of Thailand, 29.XII.2010, legit Sitthi Kulabtong and Suvijak Sottiyothin (Fig. 3); Paratypus female, RAESUP 133, 1 specimen, same data of holotypus.

DESCRIPTION OF HOLOTYPUS. The carapace of this species is vase-like and longer than broad. Dorsal surface slightly concave, smooth with deep gastrocardiac, cervical and thoracic grooves, all branching. Rostrum unilobate, truncated, no ventral rostral keel. The eyes can be seen from the dorsal view (Figs. 4-6). Abdomen is octagonal and the tip is rounded (Fig. 11). Third maxillipeds cover almost three-quarters of the mouth area; ischium shorter than merus in outer lateral margins; carpus longer than propodus and dactyl; long setae on inner lateral margins of merus, propodus and dactyl; exopod longer than ischium and merus, with a long flagellum on the tip (Fig. 7). Chelipeds slightly larger than ambulatory legs; short setae along chelipeds; palm plump; immovable finger larger than movable finger; both fingers with 4-5 serrated-like teeth; both fingers equal or slightly shorter than palm with small setae; tips of both fingers slightly hooked-like (Fig. 9). Ambulatory legs very long and slender; small setae along the legs; tip of legs hooked-like. Dactylus of the third ambulatory legs with no subterminal teeth (Fig. 10).

Coloration in fresh specimen is light yellow, transparent along the body, legs and chelipeds. The carapace shows a clear dark V-shaped strip and many small brown dots (Fig. 3).



Figures 1, 2. Bangpu mangrove area, Samutprakan Province, Upper Gulf of Thailand.

VARIABILITY. Males (Figs. 3-11) differ from females by the abdomen shape and size (narrower in males) (Figs. 11-12).

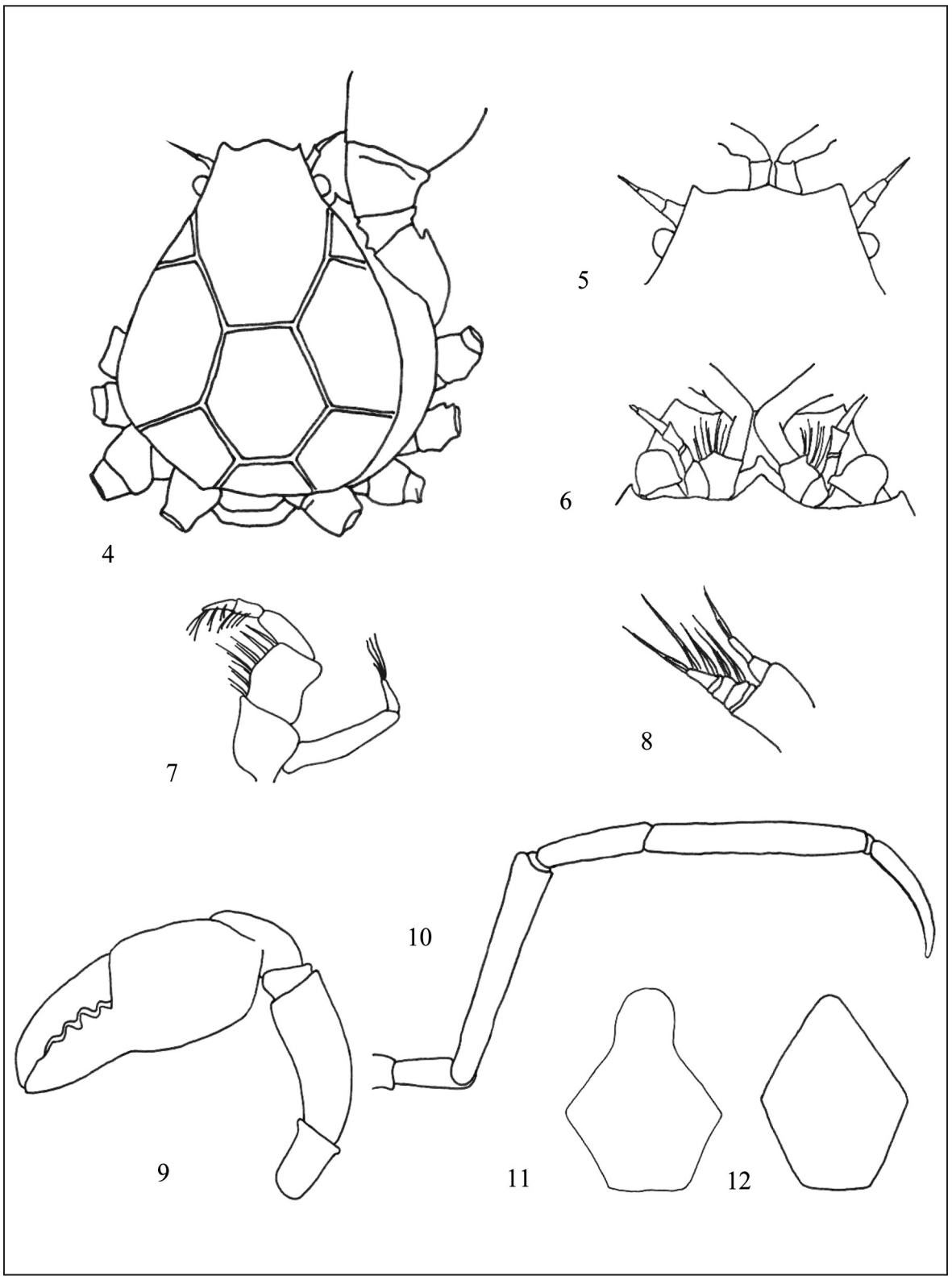
ETYMOLOGY. The specific name refers to Yananan Soonthronkit, Rajamangala University of Technology Tawan-ok: Chantaburi Campus, Thailand, who was the first teacher of taxonomy and aquatic ecology of KSi.

BIOLOGY AND DISTRIBUTION. *E. soonthronkitti* n. sp. was found only in the rocky shore ecosystem of Bangpu mangrove area, Upper Gulf of Thailand. This crab lives under the rocks and its habitat is

characterized by large rocks and a sandy mud bottom. In this area tidal fluctuations and salinity change frequently during all day. In the flood tide, these organisms move up to the rocky dam, whereas they reach the shore only in the neap tide, thus revealing, in our opinion, poor swimming skills. In the same area, we falso found many snapping shrimps (Decapoda Alpheidae) living under the large rocks too, known only from Bangpu mangrove area, Samutprakan Province, Upper Gulf of Thailand.

COMPARATIVE NOTES. In Southeast Asia, 7 species of false spider crabs belonging to the genus *Elamena* H. Milne Edwards, 1837 were recorded by Chuang & Ng (1991, 1994) and Ng & Chuang (1996) namely *E. cristatipes* Gravely, 1927 from India and Malay Peninsula, *E. globosa* Chuang et Ng, 1991 from Singapore, *E. mendosa* Chuang et Ng, 1991 from Malaysia and Singapore, *E. simplidenta* Ng et Chuang, 1996 from Indonesia, *E. sundaica* Ng et Chuang, 1996 from Indonesia, *E.* cf.

Figure 3. Holotypus of *Elamena soonthronkitti* n. sp. from Upper Gulf of Thailand.



Figures 4-12 *Elamena soonthronkitti* n. sp. Fig. 4: carapace. Fig. 5: dorsal view of rostrum. Fig. 6: ventral view of rostrum. Fig. 7: third maxilliped. Fig. 8: flagellum of antenna. Fig. 9: cheliped. Fig. 10: third ambulatory leg. Fig. 11: abdomen of male. Fig. 12: abdomen of female.

truncata (Stimpson, 1858) from Indonesia and Vietnam and *E. magna* Ng et Chuang, 1996 which was the only one found in Thailand.

Particularly, *E. soonthronkitti* n. sp. is clearly different from *E. magna* in many characters: carapace is vase–like and rostrum truncated (in *E. magna* both carapace and rostrum are triangular); dorsal surface with deep gastrocardiac, cervical and thoracic grooves (in *E. magna* dorsal surface without grooves); dactylus of the third ambulatory legs with no subterminal teeth (in *E. magna* with 2 subterminal teeth); chelipeds plump (in *E. magna* slender and elongate); fingers of chelipeds equal or slightly shorter than palm (in *E. magna* longer than palm); abdomen octagonal (in *E. magna* triangular) (Ng & Chuang, 1996).

E. soonthronkitti n. sp. is different from *E. cristatipes* in many characters: rostrum truncated (in *E. cristatipes* is rounded); dorsal surface with deep gastrocardiac, cervical and thoracic grooves (in *E. cristatipes* the cervical and thoracic grooves do not reach the anterolateral and posterolateral margins); rostrum with no ventral rostral keel (in *E. cristatipes* one rectangular ventral keel); long setae on inner lateral margins of merus (short setae in *E. cristatipes*); fingers of chelipeds equal or slightly shorter than palm (in *E. cristatipes* much shorter than palm); dactylus of the third ambulatory legs with no subterminal teeth (in *E. cristatipes* with 1 subterminal tooth); abdomen octagonal (in *E. cristatipes* is triangular) (Ng & Chuang, 1996).

E. soonthronkitti n. sp. is different from *E. globosa* in many characters: rostrum truncated (in *E. globosa* is triangular); dactylus of the third ambulatory legs with no subterminal teeth (in *E. globosa* with 3 subterminal teeth); abdomen octagonal (in *E. globosa* is triangular) (Chuang & Ng, 1991).

E. soonthronkitti n. sp. is clearly different from other species of the genus *Elamena* of Indonesia by the combination of the following characters: carapace is longer than broad (in *E. simplidenta* and *E. sundaica* is broader than long); rostrum with no ventral rostral keel (in *E. simplidenta* and *E. sundaica* with keel); dactylus of the third ambulatory legs with no subterminal teeth (*E. simplidenta* with one subterminal tooh and *E. sundaica* with 2 subterminal teeth) (Ng & Chuang, 1996).

E. soonthronkitti n. sp. differs from *E. mendosa* in many characters: rostrum truncated (in *E. mendosa* is triangular); dorsal surface with deep gastrocardiac, cervical and thoracic grooves (no distinct grooves in *E. mendosa*); chelipeds plump (slender and elongate in *E. mendosa*); dactylus of the third ambulatory legs with no subterminal teeth (in *E. mendosa* 2 subterminal teeth); abdomen octagonal (in *E. mendosa* is triangular) (Chuang & Ng, 1991).

E. cf. *truncata* from Indonesia and Vietnam, still has an unclear taxonomic status. *E. soonthronkitti* n. sp. is different from this taxon in many characters: chelipeds plump (in *E.* cf. *truncata* slender and elongate); dactylus of the third ambulatory legs with no subterminal teeth (in *E.* cf. *truncata* 2 subterminal teeth) (Ng & Chuang, 1996).

ACKNOWLEDGEMENTS

The authors are grateful to reviewers for reviewing this manuscript. A special thank to Miss Junthima Chatngern, who helped collecting the specimens employed in this study (based on the Survey project in Bangpu mangrove area, Upper Gulf of Thailand). We also wish to thank the Bangpu Nature Education Centre for supporting the survey project.

REFERENCES

Chuang C.T.N. & Ng P.K.L., 1991. Preliminary descriptions of one new genus and three new species of hymenosomatid crabs from Southeast Asia (Crustacea: Decapoda: Brachyura). The Raffles Bulletin of Zoology, 39: 363-368.

Chuang C.T.N. & Ng P.K.L., 1994. The ecology and biology of Southeast Asian false spider crabs (Crustacea: Decapoda: Brachyura: Hymenosomatidae). Hydrobiologia, 285: 85-92.

Dudgeon D., 1999. Tropical Asian stream: zoobenthos, ecology and conservation. Hong Kong University Press, Hong Kong, 830 pp.

Kemp S., 1917. Notes on Crustacea Decapoda in the Indian Museum: Hymenosomidae. Records of the Indian Museum, 13: 243-279.

Kulabtong S. & Sottiyothin S., 2012. False spider crabs (Hymenosomatidae) in Thailand. Journal of Faculty of Animal Science and Agricultural Technology Silpakorn University, 3: 1-6.

Lucas J.S., 1980. Spider crabs of the family Hymenosomatidae (Crustacea; Brachyura) with particular reference to Australian species: systematics and biology. Records of the Australian Museum, 33: 148-247.

Naruse T., Ng P.K.L. & Guinot D., 2008. Two new genera and two new species of troglobitic false spider crabs (Crustacea: Decapoda: Brachyura: Hymenosomatidae) from Indonesia, with notes on *Cancrocaeca* Ng, 1991. Zootaxa, 1739: 21-40.

Ng P.K. L. & Chuang C.T.N., 1996. The Hymenosomatidae (Crustacea: Decapoda: Brachyura) of Southeast Asia, with note on other species. The Raffles Bulletin of Zoology, Supplement No. 3, p. 82.

Niyanetr P., 1980. Crustacean fauna of Thailand (Decapoda and Stomatopoda). Department of biology, Fac. Sci., Chulalongkorn Univ., 196 pp.

Sottiyothin S. & Kulabtong S., 2011. Species diversity of blackish mollusk in Bang-poo Mangrove, Samutprakarn Province. Veridian e-Journal Silpakorn University, 4: 911-916.