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Taxonomic notes on the Oriental Scydmaenidae. Part II: Systematic position of the Siamitini FRANZ, with redescription of *Siamites loebli* FRANZ (Coleoptera: Staphylinoidea)

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ABSTRACT. *Siamites loebli* FRANZ, the only representative of the Siamitini FRANZ (Coleoptera, Scydmaenidae), is redescribed, and important characters (including the aedeagus) are illustrated. As a result of morphological analysis, the genus *Siamites* FRANZ is redefined, and the tribe Siamitini is placed as a junior synonym of Cyrtoscydmini SCHAUFUSS.

Key words: entomology, taxonomy, Coleoptera, Scydmaenidae, Cyrtoscydmini, Siamitini, *Siamites*, new synonym, Orient.

INTRODUCTION

FRANZ (1989) established the tribe Siamitini for a new genus *Siamites*, described from Thailand. The genus contains only a single species, *S. loebli* FRANZ, and the tribe was treated as belonging to the subfamily Scydmaeninae by NEWTON & FRANZ (1998). In the original description very inaccurate diagnostic characters of the new tribe are given. The diagnosis contains only a brief comparison of the Siamitini to the Chevrolatiini, and a statement that the Siamitini shows a combination of features of the latter tribe and the Stenichnini (= Cyrtoscydmini). The differential diagnosis is based partly on the characters that the Siamitini lacks, and partly on the features shared with other known tribes: the new tribe differs from the Chevrolatiini in lacking the frontal rostrum, the antenna without club, the maxillary palpomere IV acuminate, the elytra covering the pygidium and in „der

ganz anderen Bau des männlichen Kopulationsapparates" (a completely different shape of the male copulatory organ). The broad frontal rostrum covering antennal insertions seems to be a unique character for *Chevrolatia* Jacquelin DU VAL (O'KEEFE 1997) and is not found in any other genus of the Scydmaenidae; but the lack of the antennal club is not uncommon within the family. The acuminate maxillary palpomere IV occurs in many (possibly all) genera of the Cyrtoscydmini, and the entire elytra covering the pygidium are also typical for the Cyrtoscydmini (the more or less exposed pygidium can be found in the Eutheiini, Chevrolatiini, and Scydmaeniini). The original description and illustrations of the male copulatory organ of *Siamites loebli* were based on a partly damaged, strongly distorted aedeagus, as discovered during reexamination of the type series for the purpose of the present study. Therefore, the comparison of the aedeagi of *Siamites, Neuraphes* THOMSON and *Neuraphanax* FRANZ, undertaken by FRANZ in the original description, is misleading. The original generic diagnosis of *Siamites* does not contain any useful characters, and the genus needs to be redefined. In fact, the present study revealed no particular characters justifying placement of *Siamites* in a separate tribe, and the name Siamitini is herein treated as a junior synonym of the Cyrtoscydmini (discussed in further parts of this paper).

The material used during this study is deposited in the Naturhistorisches Museum Wien (NMW) and Museum d'histoire naturelle, Geneva (MHNG).

TAXONOMY

The family Scydmaenidae is currently divided into two subfamilies: the large and diverse Scydmaeninae LEACH, and the much smaller Mastiginae FLEMING. The latter group is well defined by a very long antennomere I and a peculiar design of the aedeagus; it is most likely monophyletic. Taxa showing characters different than those of the Mastiginae are grouped into a rather heterogeneous and poorly defined subfamily Scydmaeninae. This group is currently divided into eight tribes: Eutheiini, Cephenniini, Cyrtoscydmini, Plaumanniolini, Siamitini, Chevrolatiini, Leptoscydmini and Scydmaenini. Most of them need a comprehensive revision and must be redefined. Relatively well defined is the tribe Cephenniini, which is characterized by a unique shape of the labrum bearing a pair of suction discs (however, this feature has not yet been examined in some genera of the tribe). The recent transfer of *Paraneseuthia* FRANZ from the Cephenniini to the Eutheiini (JAŁOSZYŃSKI & HOSHINA 2004) provided data supporting a hypothesis that the two tribes may be sister groups, with genera *Neseuthia* SCOTT (Cephenniini), *Paraneseuthia* FRANZ (Eutheiini) and *Euthiconnus* REITTER (Eutheiini) showing some primitive features, possibly reflecting those of the common ancestor of the whole group. The Cephenniini-Eutheiini complex is much different from all other Scydmaeninae, and its placement as a separate subfamily might be justified. Both Eutheiini and Cephenniini do not have the sclerotized spermatheca, in contrast to most of the examined members of the Scydmaenini, Cyrtoscydmini and

Chevrolatiini (this character has never been described for the Plaumanniolini and Leptoscydmini). The tribe Chevrolatiini (comprising only one genus, *Chevrolatia*) is also well defined. It shows some degree of similarity to the Eutheiini (the flat body, exposed pygidium, a similar shape of the mandibles), but some characters (e.g. the frontal rostrum, the head vestiture and the presence of spermatheca) justify the separate position of this small group. The placement of the Leptoscydmini as basal or intermediary between the Chevrolatiini and Scydmaenini was suggested (briefly discussed by FRANZ 1985). However, to discuss such relationships, a clear differential diagnosis of the Leptoscydmini must be given. The notched apex of antennomere I and the metepimera not covered by the elytra seem to be good characters to distinguish the Scydmaenini from all other tribes. Relationships of the Plaumanniolini remain unclear, and any characters unique for the Cyrtoscydmini have never been given or discussed. The latter tribe comprises a majority of the Scydmaenidae; various authors have placed in this tribe taxa that simply do not possess any characters peculiar enough to establish for them a separate tribe. The group is very diverse and includes many genera whose status and diagnoses must yet be verified. At the current stage of solving the actual relationships within the family, some cyrtoscydmines can be grouped into several distinct lineages, like the *Neuraphes* complex (*Neuraphes* THOMSON, *Scydmoraphes* REITTER, *Parastenichnaphes* FRANZ) or the *Horaeomorphus* complex (*Horaeomorphus* SCHAUFUSS, *Syndicus* MOTSCHULSKY, *Loeblites* FRANZ, *Anhoraeomorphus* FRANZ, and probably also *Homoconnus* SHARP); such preliminary divisions facilitate further analyses. The common feature shared by all the genera of the Cyrtoscydmini studied by the author (e.g. *Stenichnus* THOMSON, *Neuraphes* THOMSON, *Scydmoraphes* REITTER, *Syndicus* MOTSCHULSKY, *Lophioderus* CASEY, *Borneosabahia* FRANZ, *Euconnus* THOMSON, *Sciacharis* BROUN, *Horaeomorphus* SCHAUFUSS, *Loeblites* FRANZ, *Microscydmus* SAULCY & CROISSANDEAU, *Stenichnaphes* FRANZ, and others) is the more or less acuminate terminal segment of the maxillary palpi. However, this character has never been described in some genera. The maxillary palpomere IV is short and subconical or even very short and truncate in the Cephenniini, Eutheiini, Chevrolatiini and Scydmaenini. The terminal palpomere in the Plaumanniolini is broadly triangular, and in the Leptoscydmini it is pointed, but not acute (both cases not studied by the author; after O'KEEFE, personal communication). Therefore, the acuminate palpomere IV can be preliminarily assigned to the Cytroscydmini as the diagnostic feature of the tribe.

The genus *Siamites*, as described in detail below, shares some characters with such cyrtoscydmines like *Euconnus, Leptocharis, Lophioderus* or *Scydmoraphes*. The maxillary palpomere IV in *Siamites* is acuminate, and there are no peculiar characters justifying the maintenance of a separate tribe for this single genus. Therefore, the Siamitini is treated herein as a junior synonym of the Cyrtoscydmini.

Tribe *Cyrtoscydmini* Schaufuss

Cyrtoscydmini Schaufuss, 1889: 2; type genus: *Cyrtoscydmus* Motschulsky, 1869 (=*Stenichnus* Thomson). Adopted as valid name for tribe by Newton & Thayer (1992).
Scydmaenini Reitter, 1882: 159; type genus *Scydmaenus* Thomson, 1859 (nec Latreille, 1802 = *Stenichnus* Thomson, 1859). Based on misidentified type genus.
Glandulariidae Schaufuss, 1889: 3; type genus: *Glandularia* Schaufuss, 1889 (=*Euconnus* (*Napochus*) Thomson, 1859). Synonymized by Franz (1970).
Lophioderini Casey, 1897: 356; type genus: *Lophioderus* Casey, 1897. Synonymized by Franz (1985).
Euconnini Casey, 1897: 362; type genus: *Euconnus* Thomson, 1859. As synonym of Neuraphini in Csiki (1919).
Opresini Casey, 1897: 493; type genus: *Opresus* Casey, 1897.
Stenichnini Ganglbauer, 1899: 25; type genus: *Stenichnus* Thomson, 1859. As synonym of Neuraphini in Csiki (1919).
Neuraphini Csiki, 1909; type genus: *Neuraphes* Thomson, 1859; also as valid name for tribe in Csiki (1919). Treated as a junior synonym of Cyrtoscydmini Schaufuss by Newton & Franz (1998).
Syndicini Csiki, 1919: 17; type genus: *Syndicus* Motschulsky, 1851. Synonymized by Franz (1971).
Sciacharini Csiki, 1919: 69; type genus: *Sciacharis* Broun, 1893. Synonymized by Franz (1980).
Siamitini Franz, 1989: 44; type genus: *Siamites* Franz, 1989; **n. syn.**

Genus *Siamites* Franz

Siamites Franz, 1989: 44. Type species: *Siamites loebli* Franz, 1989 (orig. des.).

Diagnosis

Siamites can be distinguished from all other genera of the Cyrtoscydmini by the following combination of characters: antenna with indistinctly separated club composed of antennomeres IX-XI; tempora with symmetrically distributed dense bunches of thick, straight setae; pronotum without sharp lateral edges or carinae, subconical, widest at base, with distinct ante-basal transverse groove connected at each side with indistinct, shallow and small pit; each elytron with single, well visible basal fovea and humeral callus delimited by long, only minimally raised longitudinal carina; pro- and metacoxae contiguous, mesocoxae narrowly separated by mesosternal carina which is relatively low (i.e. not expanded ventrally beyond coxae).

Redescription

Body small, about 1 mm in length, relatively slender, moderately convex; head about as wide as anterior margin of pronotum, with tempora short in males and long in females (as in Figs. 2, 3); neck broad; maxillary palpi with enlarged palpomere III and small, elongate, acuminate palpomere IV; eyes in males well developed, very convex and coarsely faceted, in females reduced to a single ommatidium; posterior part of vertex with symmetrically distributed dense bunches of thick, straight setae directed dorsally and posteriorly; antenna slender, with

relatively indistinctly separated club composed of antennomeres IX-XI; pronotum without sharp lateral edges or carinae, subconical, widest at base, with distinct ante-basal transverse groove connected at each side with indistinct, shallow and small pit; scutellum small but well visible; each elytron with single, relatively large basal fovea, moderately expanded humeral callus and long, only minimally raised longitudinal internal humeral carina; hind wings well developed; pro- and metacoxae contiguous, mesocoxae narrowly separated by mesosternal carina which is not expanded ventrally beyond coxae (Fig. 5); femora distinctly clavate; posterior margin of mesosternal cavities with several dense bunches of thick, straight setae; six abdominal sternites visible (here numbered I-VI), sternites I-IV with similar bunches of setae as those on vertex; aedeagus (Figs. 6-8) symmetrical, with stout median lobe, relatively simple internal armature and pair of long parameres bearing apical setae. Spermatheca not found.

REMARKS

Siamites has the general morphology, especially the shape of the pronotum, similar to that of some species of *Euconnus*. It can be easily distinguished from all

1. *Siamites loebli* FRANZ; holotype male (actual length 1.07 mm)

the species of that genus by low mesosternal carina, which in *Euconnus* is strongly expanded ventrally beyond mesocoxae, forming a thin and high keel. Palearctic *Leptocharis* REITTER (originally described as a subgenus of *Euconnus*) seems to have morphology similar to *Siamites*. Both genera share some characters, e.g. the pro- and metacoxae contiguous, the mesocoxae narrowly separated by low mesosternal carina; a similar shape of the maxillary palpi, the pronotum without lateral carinae; a single basal fovea on each elytron; and the scutellum small but well visible. *Leptocharis* can be easily distinguished from *Siamites* on the basis of a different shape of the pronotum, which in the former genus is more similar to that of *Stenichnus*, i.e. it is widest in anterior half, distinctly narrowing toward base, and has no transverse groove. Moreover, *Leptocharis* does not have dense bunches of thick setae on the vertex, mesosternum and abdominal sternites, and also the shape of the aedeagus is different in the two genera. The most similar genus to *Siamites* in the New World seems to be Nearctic *Lophioderus*, which has a very similar shape of the head, and also contiguous hind coxae (illustrated in O'KEEFE 1996). However, *Lophioderus* has distinct sharp lateral edges of the pronotum, in contrast to *Siamites*, which has sides of pronotum without edges or carinae. The transverse groove on the pronotum makes *Siamites* similar to *Scydmoraphes*. The latter genus, however, has the pronotum with lateral edges, at least in its hind part; *Siamites* has sides of the pronotum rounded.

***Siamites loebli* FRANZ**

(Figs. 1-8)

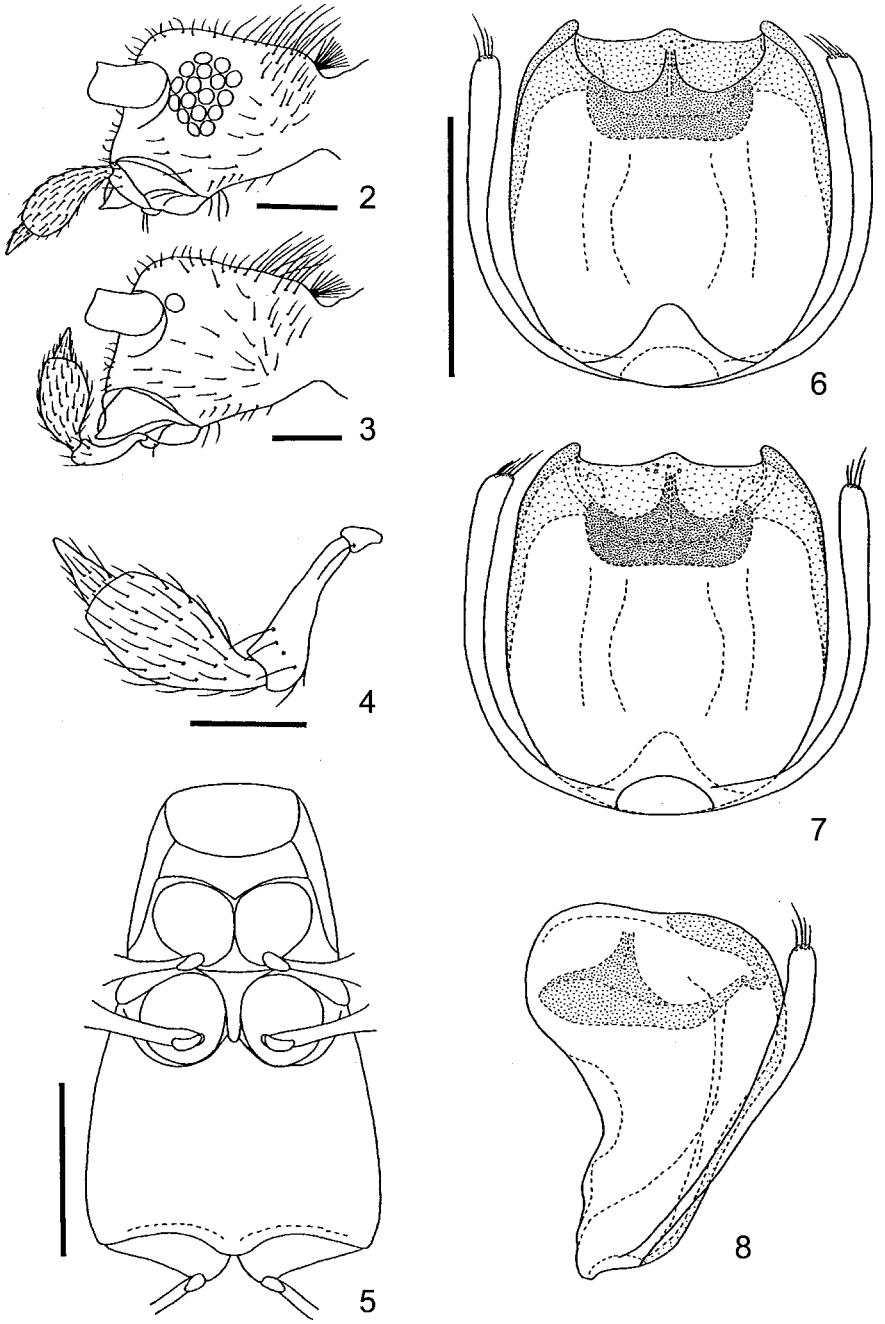
Siamites loebli FRANZ, 1989: 45, fig. 11.

DIAGNOSIS

This is the only known species of *Siamites*, and it can be identified on the basis of the generic diagnosis.

REDESCRIPTION

Male (Fig. 1). Body length 1.07-1.09 mm (mean 1.08 mm); general shape elongate, slender, slightly flattened, pigmentation reddish-brown, palpi, antennae and legs distinctly lighter; basic setation moderately dense, rather short, suberect, light brown. Head (Fig. 2) wider than long, widest at eyes, length 0.14-0.15 mm (mean 0.145 mm), maximum width 0.20 mm. Tempora moderately long, rounded, strongly narrowing posteriorly; vertex only slightly wider than long, in posterior part with shallow median impression; eyes very large and convex, in lateral view oval, elongate dorso-ventrally, coarsely faceted, composed of 16-18 ommatidia; supraantennal tubercles only minimally raised, distinctly delimited from vertex by shallow impressions; frons subtrapezoidal, strongly lowering toward clypeus, nearly flat. Punctation indistinct; basic setation on frons and anterior part of vertex sparse, composed of short, thin, suberect to erect setae, posterior part of vertex with longer, erect setae directed dorsally and posteriorly, posterior margin



2-8. *Siamites loebli* FRANZ; 2 – head of male in lateral view; 3 – head of female in lateral view; 4 – left maxillary palpus in dorsal view; 5 – pro-, meso- and metasternum in ventral view, simplified; 6-8 – aedeagus in dorsal (6), ventral (7) and lateral (8) views (scale bars: 2-4, 6 – 0.05 mm, 5 – 0.2 mm)

of vertex additionally with transverse row of 4-6 dense bunches of relatively short, straight, erect and thick setae. Antenna relatively slender, longer than head and pronotum together, length 0.47-0.52 mm (mean 0.49 mm), antennal club indistinctly delimited, composed of antennomeres VIII-XI, antennomeres I and II each about twice as long as wide, III small, subquadrate, IV-VI subequal, slightly longer than III, about as long as wide, VIII only slightly longer than VII, about as long as wide, IX-X distinctly larger than VIII, 1.5x as wide as long, XI subconical, minimally narrower than X, slightly less than 1.5x as long as wide.

Pronotum subconical, longer than wide, widest at base, slightly narrowing toward anterior margin, length 0.29 mm, width 0.26 mm. Anterior margin only slightly rounded, lateral margins minimally rounded, without lateral edge or carina; base arcuate, minimally expanded posteriorly in middle. Pronotum with distinct ante-basal transverse groove connected at each side to indistinct elongate pit. Punctation indistinct, fine and sparse; setation sparse, composed of thin, moderately long, suberect setae directed toward middle line.

Elytra oval, widest distinctly anterior to middle, length 0.64-0.65 mm (mean 0.645 mm), maximum width 0.42-0.45 mm (mean 0.43 mm), EI 1.44-1.52. Base of each elytron with single, deep and broad fovea located in broad impression delimited from well developed humeral callus by indistinct carina nearly as long as 1/3 of elytron; apices of elytra separately rounded. Scutellum well visible, small, subtriangular; narrow adscutellar area on each elytron raised. Elytral punctation sparse and very fine; setation moderately dense, setae short, only slightly suberect. Hind wings well developed.

Legs long and slender, all femora with slender basal third and expanded, clavate distal part; all tibiae minimally recurved; tarsi slender.

Ventral part of body covered with short to moderately long suberect setae, with additional dense bunches of thick, straight erect setae along posterior margin of mesocoxal cavities and on anterior four out of six visible abdominal sternites.

Aedeagus (Figs. 6-8) very small, 0.07 mm in length, stout, relatively lightly sclerotized, with rounded base and truncate, biemarginate apex, in lateral view inversely pear-shaped, with slightly darker sclerotized, relatively simple internal armature located in apical part of median lobe; parameres long and slender, each with several short apical setae.

Female. Very similar to male, slightly larger, differs distinctly in the development of eyes, which are composed of a single ommatidium only; vertex with more distinct median impression in posterior part; tempora longer; most females have four bunches of setae on vertex, in one specimen bunches are very broad and nearly connected one to another. Body length 1.10-1.17 mm (mean: 1.14 mm), length of head 0.16-0.17 mm (mean 0.17 mm), width of head 0.17-0.20 mm (mean 0.18 mm), length of antenna 0.42-0.47 mm (mean 0.45 mm), length of pronotum 0.29-0.31 mm (mean 0.30 mm), width of pronotum 0.26-0.27 mm (mean 0.265 mm), length of elytra 0.65-0.69 mm (mean 0.67 mm), width of elytra 0.42-0.46 mm (mean 0.44 mm), EI 1.50-1.55.

Spermatheca not found (see remarks).

TYPE MATERIAL

Holotype (male): white printed label „THAILAND: Phetchaburi, Kaeng Krachan Nat. P., 450 m, 18. XI. 1985, Burckhardt-Löbl", white label with handwritten „Siamites loebli m." and printed „det. H. Franz", red handwritten label „Holotypus" (MHNG). Paratypes: 1♂, 6♀♀, all with white printed labels „THAILAND: NE Bangkok, Khao Yai Nat. Park, Khao Khieo, 1150 m, Burckhardt-Löbl, 28. XI. 85", yellow labels with handwritten „Siamites loebli m." and printed „PARATYPUS", three specimens additionally with small white labels with „♀" (4 in MHNG, 3 in NMW).

DISTRIBUTION

Thailand.

REKMARKS

Spermatheca was not found during the present study. To avoid the possibility of overlooking or loosing spematheca during preparation a single, non-dissected transparent-mounted female was examined with a compound microscope. However, no spermatheca was found. It is possible that this structure is extremely small or very lightly sclerotized in *Siamites loebli*.

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