

## Melolonthidae (Coleoptera) from Thailand, I

**Takeshi ITOH**

Higashi-naruo-chô 2-1-13-212, Nishinomiya, Hyôgo, 663 Japan

**Abstract** Nine Siamese species of the melolonthine genus *Sophrops* FAIRMAIRE are dealt with. Five known species are commented and 4 new species, *S. rotundicollis*, *S. opacidorsalis*, *S. excisus* and *S. pallidus* are described.

### Introduction

To date, we have had little systematic knowledge about the Siamese fauna of the Melolonthidae, especially of Melolonthinae, though there are several old records or descriptions of Indochinese and Chinese species of the family. Lately, chances have been increasing to look over Thai materials of the Melolonthidae, and it can be said that we are ready to study them. Since I began to pay attention especially to the Melolonthinae of this country, it has gradually become apparent that they include many species different from the ones previously known from the neighboring countries in spite of their close similarity.

In this series of papers, I will report new knowledge gained on the Melolonthinae of Thailand based mainly on materials of the collection in the Entomological Laboratory of the University of Osaka Prefecture and on those of my collection obtained from personal collectors. At first, I am going to report the species of the genus *Sophrops* FAIRMAIRE.

The abbreviations used herein are as follows: CL – length of clypeus; CW – width of clypeus; PL – length of pronotum; PW – greatest width of pronotum; PAW – pronotal width at the anterior margin; FW – greatest width of metafemur; FL – length of metafemur; IN – interocular distance; HW – head width; A – arithmetic mean; [OPU] – collection of the Entomological Laboratory of the University of Osaka Prefecture; NSMT – collection of the National Science Museum (Nat. Hist.), Tokyo; ZMHU – collection of the Zoological Museum (Natural History) of Humboldt University, Berlin.

Before going further, I wish to express my hearty gratitude to Prof. Dr. S. MORIUTI of the Entomological Laboratory of the University of Osaka Prefecture, Prof. Dr. F. HIEKE, Prof. Dr. M. UHLIG and Mr. J. SCHULZE of the Zoological Museum of Humboldt University, Berlin, and Messrs. M. SAWAI, K. WADA, H. HIRASAWA and Dr. K. KAWANO for their kindness extended to me in various ways.

1. *Sophrops bituberculatus* (MOSER, 1908), comb. nov.

(Figs. 1, 16, 27, 36, 39, 41, 50–51, 68)

*Brahmina bituberculata* MOSER, 1908, 359–360 (Laos); FREY, 1972, 354.*Sophrops kadleci* FREY, 1969, 110–111; 1972, 354 [synonymized].

*Diagnosis. Male*:— IN/HW 0.66–0.69 (A 0.67) in 10 exs. Occipital area punctate regularly, densely and wholly behind vertex. Antennal club longer than the preceding 5 segments combined. Mentum with 2 dull longitudinal ridges along the both sides; anterior margin notched. Last abdominal segment with a dull transverse ridge along the anterior margin. Mesofemur slightly shining, coarsely and less densely punctate and well reflexed along the upper margin; upper margin sharply declivous. Metafemur slender, opaque at least on the upper half, FW/FL 0.30–0.32 (A 0.31) in 10 exs.; surface coarsely punctate, with a row of short bristles rather regularly arranged from the base toward the apex, the bristles being about 1/5 times the width of metafemur. Protibia with a sharp carina from the base toward the apex on the dorsal surface. Longer one of metatibial spurs almost as long as the 1st metatarsal segment or slightly shorter than that, the latter being slightly shorter than the 2nd. Claw with a weakly truncate median tooth.

*Female*:— IN/HW 0.65–0.71 (A 0.68) in 10 exs. Occipital area punctate in the same way as in male. Antennal club longer than the preceding 5 segments combined. Pronotum often with a pair of impunctate small areas near the anterior margin. Last abdominal segment without conspicuous transverse ridge along the anterior margin. Metafemur entirely shining, FW/FL 0.33–0.36 (A 0.34) in 10 exs.; bristles on the surface about 1/4 times the width of metafemur. Longer one of metatibial spurs distinctly longer than the 1st metatarsal segment, the latter distinctly shorter than the 2nd.

*Distribution.* Laos, Thailand [new record].

*Specimens examined.* 1 ♀, Doi Pa Muang, Hang Chat, Lampang Prov., N. Thailand, 19–V–1985, M. SAWAI leg.; 24 ♂♂, 42 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14~15–V–1983 [OPU]; 1 ♂, 1 ♀, same locality, 17–V–1983 [OPU]; 1 ♂, Sanean Salai, Nan Prov., N. Thailand, S. OHMOMO leg.

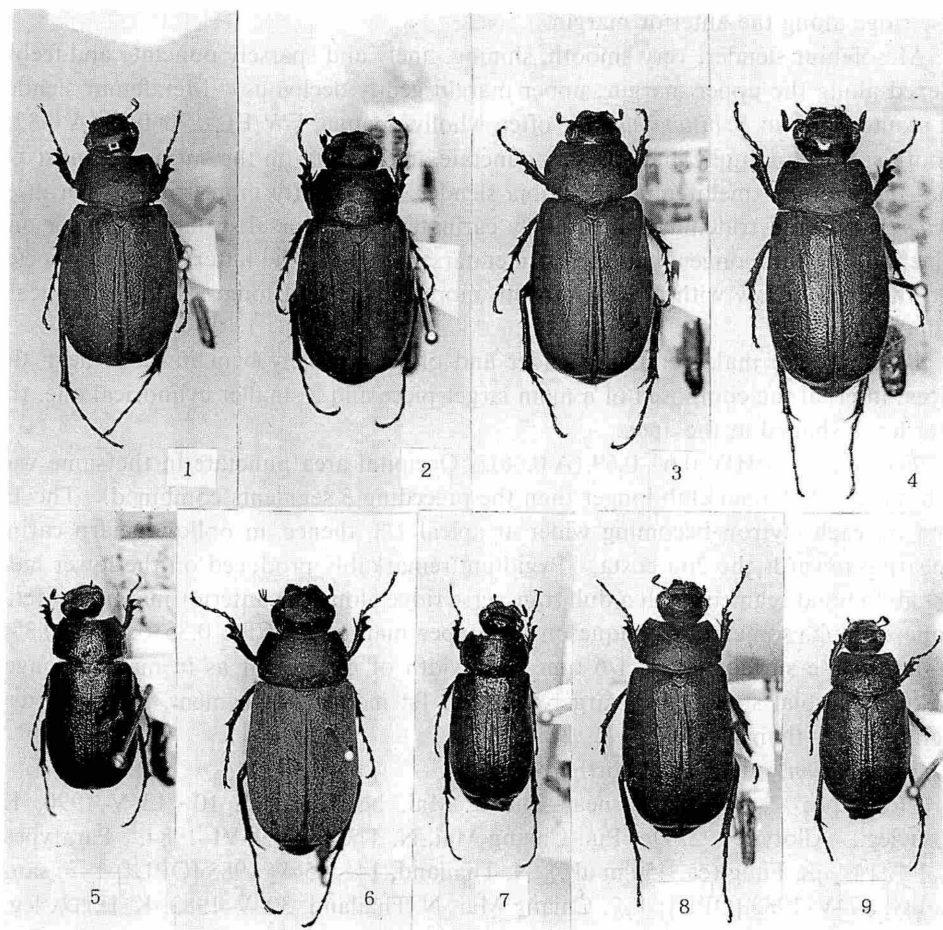
2. *Sophrops rotundicollis* T. ITOH, sp. nov.

(Figs. 2, 10, 17, 28, 37, 40, 42, 52–53, 69)

*Description.* Length: 13.7–18.0 mm.

*Male*:— Body elongate-oval. Head, antennae, palpi pronotum and legs dark reddish brown; elytra brown to dark brown; pygidium and abdomen yellowish brown. Head and pronotum shining, while the elytra are opaque.

Clypeus bilobed; anterior margin well emarginate. CW/CL 2.9–3.8 (A 3.4). Frons flat, densely punctate. IN/HW 0.62–0.66 (A 0.64). Occipital area punctate regularly, densely and wholly behind vertex. Antennal club longer than the preceding



Figs. 1-9. — 1, *Sophrops bituberculatus* (MOSER), comb. nov.; 2, *S. rotundicollis* sp. nov.; 3, *S. foveatus* (MOSER), comb. nov.; 4, *S. brunneus* (MOSER), comb. nov.; 5, *S. promeanus* (MOSER), comb. nov. [holotype]; 6, *S. opacidorsalis* sp. nov.; 7, *S. excisus* sp. nov.; 8, *S. tonkinensis* (MOSER), comb. nov.; 9, *S. pallidus* sp. nov.

6 segments combined. Mentum with 2 longitudinal, more or less sharp carinae along the both sides, the carinae forming a semblance of a shallow concavity on the disc; anterior margin distinctly notched.

Pronotum very convex and seemingly round, punctate regularly and slightly less densely, the distance between two close punctures on the disc much larger than their diameters; anterior margin rimmed; anterior angle subrectangular and posterior one more obtuse; lateral margin gently curved just at the middle; disc without an impunctate longitudinal median line. Scutellum generally slightly punctate. Each elytron with 4 weak costae and a sutural one; the 1st one gradually vanished from the apical 1/3. Pygidium slightly produced. Last abdominal segment with a dull trans-

verse ridge along the anterior margin.

Mesofemur slender, very smooth, shining, finely and sparsely punctate and feebly reflexed along the upper margin; upper margin gently declivous. Metafemur slender but stouter than in *S. bituberculatus*, often wholly opaque, FW/FL 0.30–0.33 (A 0.32); smooth surface minutely and sparsely punctate and bristles on the surface at most 1/6 times the width of metafemur. Protibia slender, but slightly more robust than in *S. bituberculatus* and tridentate and weakly carinate on the dorsal surface. Longer one of metatibial spurs longer than the 1st metatarsal segment, the latter distinctly shorter than the 2nd. Claw with an apical tooth more slender and longer than the truncate median one.

Parameres of male genitalia slender and often gradually bent inwards near the apices; internal sac composed of a main larger piece and a smaller cylindrical one, the latter hook-shaped at the apex.

*Female*.— IN/HW 0.64–0.69 (A 0.66). Occipital area punctate in the same way as in male. Antennal club longer than the preceding 5 segments combined. The 1st costa on each elytron becoming wider at apical 1/3, thence an oblique sharp carina appearing towards the 2nd costa. Pygidium remarkably produced on the lower half. Last abdominal segment with a dull transverse ridge along the anterior margin. Metafemur shining, sometimes opaque on the upper margin, FW/FL 0.35–0.38 (A 0.37); bristles on the surface about 1/6 times the width of metafemur as in male. Longer one of metatibial spurs much larger than the 1st metatarsal segment, the latter distinctly shorter than the 2nd.

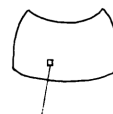
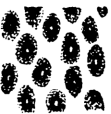
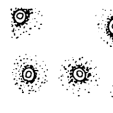
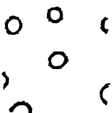
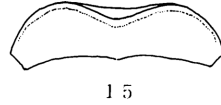
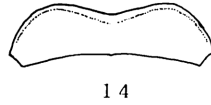
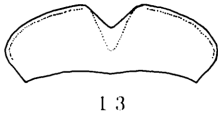
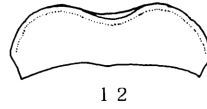
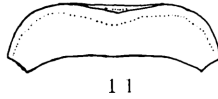
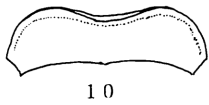
*Distribution*. Thailand (northern region).

Holotype: ♂, Doi Sang, near Chiang Mai, N. Thailand, 10~13-V-1990, K. KUME leg. Allotype: ♀, Doi Pui, Chiang Mai, N. Thailand, 9-VI-1984. Paratypes: 15 ♂♂, 14 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14~15-V-1983 [OPU]; 1 ♂, same locality, 17-V-1983 [OPU]; 1 ♂, Chiang Mai, N. Thailand, 30-V-1983, K. IKEDA leg.; 1 ♂, same locality, VI-1985. The holo- and allotypes are deposited in NSMT, 3 paratypes in ZMHU, 20 paratypes in OPU and 9 paratypes in the author's collection.

*Notes*. The present species belongs to what BRENSKE calls "*Brahmina abscessa* group" and is closely allied to *Sophrops abscessus* (BRENSKE, 1892), comb. nov. In

Figs. 10–49. — 10–15. Clypeus (♂). — 10, *S. rotundicollis* sp. nov.; 11, *S. promeanus*; 12, *S. opacidorsalis* sp. nov.; 13, *S. excisus* sp. nov.; 14, *S. tonkinensis*; 15, *S. pallidus* sp. nov. — 16–26. Distribution of punctures in occipital area. — 16, *S. bituberculatus*, ♂; 17, *S. rotundicollis* sp. nov., ♂; 18, *S. foveatus*, ♂; 19, *S. brunneus*, ♂; 20, same, ♀; 21, *S. opacidorsalis* sp. nov., ♂; 22, same, ♀; 23, *S. tonkinensis*, ♂; 24, same, ♀; 25, *S. pallidus* sp. nov., ♂; 26, same, ♀ — 27–35. Punctures on pronotum. — 27, *S. bituberculatus*; 28, *S. rotundicollis* sp. nov.; 29, *S. foveatus*; 30, *S. brunneus*; 31, *S. promeanus*; 32, *S. opacidorsalis* sp. nov.; 33, *S. excisus* sp. nov.; 34, *S. tonkinensis*; 35, *S. pallidus* sp. nov. — 36–38. Apical 1/4–1/3 of elytron in female. — 36, *S. bituberculatus*; 37, *S. rotundicollis* sp. nov.; 38, *S. foveatus*. — 39, Mesofemur [*S. bituberculatus*, ♂]; 40, metafemur [*S. rotundicollis* sp. nov., ♂]. — 41–49. Inner claw of protarsus in male. — 41, *S. bituberculatus*; 42, *S. rotundicollis* sp. nov.; 43, *S. foveatus*; 44, *S. brunneus*; 45, *S. promeanus*; 46, *S. opacidorsalis* sp. nov.; 47, *S. excisus* sp. nov.; 48, *S. tonkinensis*; 49, *S. pallidus* sp. nov.





this new species, however, the pronotum is more sparsely punctate and not rugosely so, and devoid of an impunctate median line on the disc. The male genitalia are apparently smaller in size than those of *S. abscessus*. It is also allied to *S. sjoestedti* (MOSER, 1921), comb. nov., but it is dark reddish brown in colour and the interocular distance for head width is larger than that of the latter.

### 3. *Sophrups foveatus* (MOSER, 1908), comb. nov.

(Figs. 3, 18, 29, 38, 43, 54–55, 70 (a)–(b))

*Brahmina foveata* MOSER, 1908, 476–477 (Tonkin); FREY, 1972, 354.

*Diagnosis. Male*:— IN/HW 0.64–0.67 (A 0.65) in 10 exs. Occipital area punctate regularly, densely and wholly behind vertex. Antennal club almost as long as the preceding 6 segments combined. Mentum with 2 dull longitudinal ridges along the both sides; anterior margin distinctly notched.

Last abdominal segment with a dull transverse ridge along the anterior margin.

Mesofemur shining, sparsely punctate and feebly reflexed along the upper margin; upper margin gently declivous. Metafemur slender, opaque on the upper half, FW/FL 0.28–0.30 (A 0.29) in 10 exs.: surface smooth and bristles on the surface 1/6–1/4 times the width of metafemur. Longer one of metatibial spurs almost as long as the 1st metatarsal segment, the latter being slightly shorter than the 2nd. Claw with a truncate median tooth.

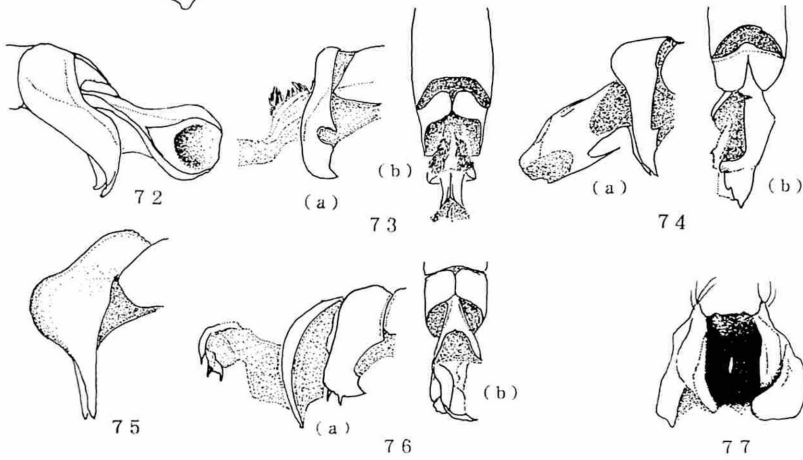
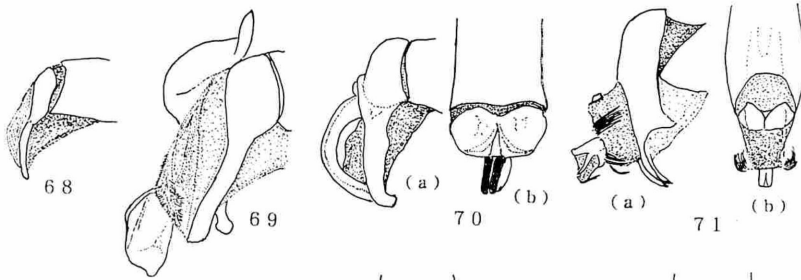
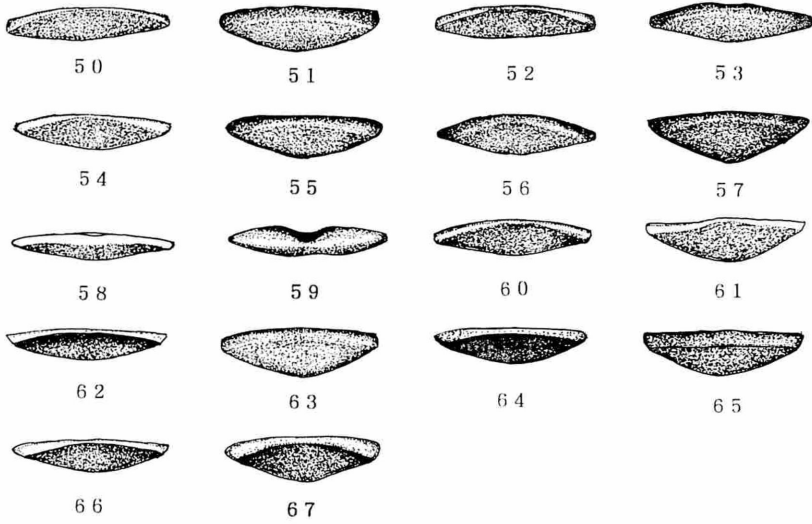
*Female*:— IN/HW 0.65–0.70 (A 0.67) in 10 exs. Occipital area punctate in the same way as in male. Antennal club as long as the preceding 6 segments combined or shorter than that. Last abdominal segment without conspicuous transverse ridge along the anterior margin. Metafemur shining except on the upper margin, FW/FL 0.33–0.36 (A 0.35) in 10 exs.; bristles on the surface about 1/4 times the width of metafemur. Longer one of metatibial spurs longer than the 1st metatarsal segment, the latter being distinctly shorter than the 2nd.

*Distribution.* Vietnam, Laos [new record], Thailand [new record].

*Specimens examined.* 1 ♂, 5 ♀♀, Samneua, NE. Laos, 28–V–1992, Y. MIYAKE leg.; 1 ♀, Doi Suthep, near Chiang Mai, N. Thailand, 23–V–1980, M. TAO leg.; 2 ♂♂, same locality, 1~4–VI–1980, same collector; 1 ♀, same locality, 23–V–1988, same collector; 1 ♂, same locality, 29–V–1982, A. NISHIYAMA leg.; 2 ♂♂, 2 ♀♀, same locality, 3–V–1988, A. YAMASHITA leg.; 1 ♂, same locality, 22–V–1986; 2 ♂♂, same

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Figs. 50–77. — 50–67. Last abdominal segment. — 50, *S. bituberculatus*, ♂; 51, same, ♀; 52, *S. rotundicollis* sp. nov., ♂; 53, same, ♀; 54, *S. foveatus*, ♂; 55, same, ♀; 56, *S. brunneus*, ♂; 57, same, ♀; 58, *S. promeanus*, ♂; 59, same, ♀; 60, *S. opacidorsalis* sp. nov., ♂; 61, same, ♀; 62, *S. excisus* sp. nov., ♂; 63, same, ♀; 64, *S. tonkinensis*, ♂; 65, same, ♀; 66, *S. pallidus* sp. nov., ♂; 67, same, ♀. — 68–76. Male genitalia. — 68, *S. bituberculatus*; 69, *S. rotundicollis* sp. nov.; 70 (a–b), *S. foveatus*; 71 (a–b), *S. brunneus*; 72, *S. promeanus*; 73 (a–b), *S. opacidorsalis* sp. nov.; 74 (a–b), *S. excisus* sp. nov.; 75, *S. tonkinensis*; 76 (a–b), *S. pallidus* sp. nov. — 77. Median lobe of female genitalia in *S. brunneus*.



locality, 23~29-V-1983, M. SAWAI leg.: 2 ♂♂, Phuping Palace, Chiang Mai, N. Thailand, 20~21-V-1985, same collector; 4 ♂♂, 4 ♀♀, Chiang Mai, N. Thailand, IV~VI-1985, N. KOYAMA leg.: 2 ♂♂, same locality, VI-1986, same collector; 1 ♂, 1 ♀, Doi Sang, Thailand, 10~13-V-1990, K. KUME leg.: 1 ♂, 1 ♀, Maeta Teak replantation Forest, Lang Phrae Prov., 19-V-1985, M. SAWAI leg.: 1 ♀, Doi Pa Muang, Lampang Prov., 18-V-1985, same collector; 23 ♂♂, 27 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14~15-V-1983 [OPU]; 1 ♂, 1 ♀, same locality, 17-V-1983 [OPU]; 2 ♂♂, 1 ♀, Doi Chiang Khian, 27~29-V-1983 [OPU]; 6 ♂♂, 9 ♀♀, Bang Nang Bang, near Saiyok, W. Thailand, 11~15-V-1985, M. SAWAI leg.: 1 ♂, Koh Anem Village, Ban Rai, Kanchanaburi Prov., 13~14-V-1985, same collector.

*Notes.* This species also belongs to what BRENSKE calls "*Brahmina abscessa* group". It seems widely distributed within the Indochinese Peninsula.

#### 4. *Sophrops brunneus* (MOSER, 1915), comb. nov.

(Figs. 4, 19-20, 30, 44, 56-57, 71 (a)-(b), 77)

*Microtrichia brunnea* MOSER, 1915, 585-586 (Yunnan); FREY, 1972, 354.

*Diagnosis. Male:*— IN/HW 0.64-0.69 (A 0.66). Occipital area usually bearing a patch of punctures near the eye behind vertex, but sometimes bearing more extensive band of punctures towards the base. Antennal club much longer than the preceding 6 segments combined. Mentum with 2 sharp longitudinal carinae along the both sides. PAW/PW 0.70-0.75 (A 0.73), this parameter being higher in Siamese specimens than in topotypical specimens. Each elytron with a conspicuous marginal membrane.

Abdomen shining, smooth and glabrous in the main central area. Last abdominal segment with a dull transverse ridge along the anterior margin. Pygidium moderately produced.

Mesofemur slender, smooth, shining, punctate finely and slightly less densely, and almost straight along the upper margin: upper margin sharply declivous. Metafemur slender, shining, FW/FL 0.26-0.30 (A 0.28); bristles on the surface 1/7-1/6 times the width of metafemur. Longer one of metatibial spurs almost as long as the 1st metatarsal segment, the latter slightly shorter than the 2nd. Claw with an apical tooth longer than the sharply truncate median one.

Internal sac of male genitalia with a cylindrical piece and several bundles of bristles.

*Female:*— IN/HW 0.67-0.71 (A 0.69). Occipital area bearing more extensive band of punctures near the eye behind vertex towards the base. Antennal club about as long as the preceding 6 segments combined. PAW/PW 0.65-0.72 (A 0.70). Last abdominal segment without conspicuous transverse ridge. Metafemur stout, shining, FW/FL 0.32-0.35 (A 0.33); bristles on the surface 1/7-1/5 times the width of metafemur. Longer one of metatibial spurs much larger than the 1st metatarsal segment, the latter distinctly shorter than the 2nd.

*Distribution.* China, Thailand [new record], Laos [new record].

*Specimens examined.* 3 ♂♂, 1 ♀, Fang (ca. 450 m alt.), N. Thailand, 14~15-

V-1983 [OPU]; 1 ♀, Doi Chiang Khian, N. Thailand, 29-V-1983 [OPU]; 1 ♂, Doi Suthep, near Chiang Mai, 1-VI-1980, M. TAO leg.; 1 ♂, 1 ♀, same locality, 29-V-1983, M. SAWAI leg.; 1 ♀, same locality, 3-V-1988, A. YAMASHITA leg.; 1 ♂, Chiang Mai, VI-1985, N. KOYAMA leg.; 1 ♀, Phuping Palace, Chiang Mai, 20~21-V-1985, M. SAWAI leg.; 1 ♂, 1 ♀, Erawan Resort, near Chiang Mai, 22-IV-1992, K. KAWANO leg.; 1 ♂, Sanean Salai, Nan Prov., N. Thailand, 17-V-1993, S. OHMOMO leg.; 1 ♀, Samneua, NE. Laos, 28-V-1992, Y. MIYAKE leg.; 1 ♂, "Yunnan", "*Microtrichia brunnea* Mos. Type ♂", "Zool. Mus. Berlin"; 1 ♂, same locality, "Zool. Mus. Berlin"; 1 ♀, same locality, "*Microtrichia brunnea* Mos. Type ♀", "Zool. Mus. Berlin"; 1 ♀, same locality, "Zool. Mus. Berlin".

*Notes.* This species is closely allied to *S. sericeicollis* (MOSER, 1915), comb. nov., and *S. chinensis* (BRENSKE, 1892), comb. nov., but is distinguishable from the former by the following points:

1. Antennal club distinctly longer than the preceding 6 segments combined;
2. Shape of the paramere of male genitalia;
3. Shape of the median lobe of female genitalia;

and from the latter by the following points:

1. Shape of the paramere of male genitalia;
2. Pronotal disc more or less longitudinally rugose.

##### 5. *Sophrops promeanus* (MOSER, 1918), comb. nov.

(Figs. 5, 11, 31, 45, 58-59, 72)

*Microtrichia promeana* MOSER, 1918, 244-245 (Burmah: Prome); FREY, 1972, 355.

*Diagnosis. Male:*— Clypeus weakly emarginate. Frons flat. Vertex not carinate but sharply declivous anteriorly. IN/HW 0.59-0.63 (A 0.61). Occipital area not punctate at all and smooth. Antennal club distinctly longer than the preceding 6 segments combined. Apical segment of maxillary palpus normally spindle-shaped, not extremely swollen. Mentum without sharp longitudinal carinae along the both sides; anterior margin not or feebly notched.

Pronotum with a rectangular anterior angle; antero-lateral margin reflexed near the anterior angle. Last abdominal segment with a relatively dull transverse ridge.

Mesofemur shining, less densely punctate and feebly reflexed along the upper margin; upper margin gently declivous. Metafemur relatively stout and shining, FW/FL 0.30-0.32 (A 0.31); smooth surface less densely and coarsely punctate; bristles on the surface about 1/5-1/4 times the width of metafemur. Longer one of metatibial spurs distinctly or slightly longer than the 1st metatarsal segment, the latter being distinctly shorter than the 2nd. Claw with an apical tooth almost as long as the median one or longer than that; the latter seemingly truncate.

Internal sac of male genitalia with a spoon-like sclerotized piece.

*Female:*— IN/HW 0.61-0.63 (A 0.62). Occipital area not or hardly punctate as in male. Antennal club almost as long as the preceding 6 segments combined. Apical

knob on each elytron shining, sparsely punctate. Pygidium more or less produced on the lower half. Last abdominal segment with a dull, transverse ridge and emarginate at the middle of anterior margin. Metafemur stout, shining, FW/FL 0.35–0.37 (A 0.36); bristles on the surface about 1/5 times the width of metafemur. Longer one of metatibial spurs much longer than the 1st metatarsal segment, the latter being distinctly shorter than the 2nd.

*Distribution.* Burma, Thailand [new record].

*Specimens examined.* 1 ♂, “Burmah, Prome”, “*Microtrichia promeana* Mos. Type ♂”, “Zool. Mus. Berlin”; 1 ♀, same locality, “*Microtrichia promeana* Mos. Type ♀”, “*promeana* Mos.”, “Zool. Mus. Berlin;” 2 ♂♂, 3 ♀♀, Fang (ca. 450 m alt.), N. Thailand, 14~15-V-1983 [OPU]; 2 ♂♂, 2 ♀♀, Pu Nam Long Hot Spring, 100 km N.W. of Kanchanaburi, W. Thailand, 6~8-V-1993, T. ITOH leg.

*Notes.* The present species seems to form a species-group with *S. burmanicus* (MOSER, 1913), comb. nov. from Burma and with *S. reticulata* FREY, 1969 from Laos to Chiang Mai Province of Thailand.

#### 6. *Sophrops opacidorsalis* T. ITOH, sp. nov.

(Figs. 6, 12, 21–22, 46, 60–61, 73 (a)–(b))

*Description.* Length: 17.0–18.8 mm.

*Male:*— Body elongate-oval. Head, mouth part and pronotum almost blackish; antennae, elytra, pygidium, legs and ventral surface reddish brown. Elytra iridescent and opaque dorsally.

Clypeus bilobed; anterior margin well emarginate. CW/CL about 3.0–3.6 (A 3.2). Frons flat, very densely punctate. IN/HW 0.69–0.72 (A 0.71). Occipital area usually bearing a small-scale, narrow and extensive band of punctures near the eye slightly apart from vertex towards the base, but sometimes punctate merely sparsely. Antennal club slightly shorter than the preceding 6 segments combined. Mentum with 2 sharp longitudinal carinae along the both sides; anterior margin distinctly notched.

Pronotum convex, very finely and very densely punctate on the disc; anterior margin rimmed; anterior angle obtuse but subrectangular, posterior one very obtuse; lateral margin gently curved just behind the middle. Scutellum coarsely and less densely punctate.

Each elytron slightly rugose, coarsely punctate wholly and with almost obsolete 4 costae in addition to the sutural one. Pygidium moderately convex, wholly pubescent and shining only around the apex. Last abdominal segment with a dull, transverse ridge along the anterior margin.

Mesofemur slender, shining, coarsely and less densely punctate and feebly reflexed along the upper margin; upper margin sharply declivous. Metafemur slender, usually shining except on the opaque upper marginal area, FW/FL 0.27–0.30 (A 0.29); smooth surface a little less finely and a little less densely punctate, bristles on the surface about 1/10 times the width of metafemur. Protibia tridentate. Longer one of

metatibial spurs about as long as the 1st metatarsal segment, the latter about as long as the 2nd or slightly shorter than that. Claw with an apical tooth more slender than the sharply truncate median one.

Internal sac of male genitalia with a paired patches of short bristles and a sclerotized piece.

*Female*:— IN/HW 0.69–0.72 (A 0.71). Occipital area usually bearing more impressive and more extensive band of punctures near the eye apart from vertex towards the base. Antennal club slightly longer than the preceding 5 segments combined. Last abdominal segment with a very dull transverse ridge along the anterior margin. Metafemur stout, shining except on the opaque upper marginal area or opaque on the upper half, FW/FL 0.29–0.34 (A 0.31); bristles on the surface about 1/12 to 1/6, sometimes to 3/13 times the width of metafemur. Longer one of metatibial spurs longer than the 1st metatarsal segment or as long as that, the latter about as long as the 2nd.

*Distribution*. Thailand.

Holotype: ♂, Doi Pui, near Chiang Mai, N. Thailand, 11–V–1985, I. MATOBA leg. Allotype: ♀, same locality as for the holotype, 9–V–1985, H. NARA leg. Paratypes: 1 ♀, same data as for the holotype; 1 ♀, same data as for the allotype; 1 ♂, same locality as for the holotype, 3–VI–1985, H. HIRASAWA leg.; 1 ♂, near Chiang Mai (alt. 1,300 m), N. Thailand, 17–V–1987, H. HIRASAWA leg.; 3 ♂♂, 1 ♀, Chiang Mai, N. Thailand, V–1985; 1 ♂, Doi Mae Salong, Chiang Mai, 21–V–1992, K. KAWANO leg.; 1 ♂, Mt. Doi Ku Sathan, Na Noi, Nan, N. Thailand, 16–V–1993, S. OHMOMO leg.; 2 ♂♂, Doi Chiang Khian, N. Thailand, 29–V–1983, [OPU]; 1 ♂, Doi Ang Khang, N. Thailand, 16–V–1983 [OPU]; 1 ♂, Khao Poata, Surat Thani, S. Thailand, 27–III–1989, M. OHNISHI leg. The holo- and allotype are deposited in NSMT, 3 paratypes in ZMHU, 2 paratypes in OPU and the remaining 9 paratypes in the author's collection.

*Notes*. The present species is closely allied to *S. lata* FREY, 1972, from Fukien, but is distinguishable from it by the following points:

1. Pronotal anterior angle subrectangularly obtuse and not rectangular;
2. Pronotal posterior angle very obtuse, but not obsolete.

### 7. *Sophrops excisus* T. ITOH, sp. nov.

(Figs. 7, 13, 33, 47, 62–63, 74 (a)–(b))

*Description*. Length: 10.8–13.8 mm.

*Male*:— Body elongate. Head, pronotum, elytra and tibiae blackish brown or reddish brown; antennae, palpi, pygidium, ventral surface, femora and tarsi yellowish brown. Dorsal surface shining. Clypeus much notched and distinctly bilobed. CW/CL 2.5–3.0 (A 2.7). Frons neither flat nor smooth, often sparsely punctate near the clypeo-frontal suture. Vertex not so declivous anteriorly. IN/HW 0.60–0.64 (A 0.62). Occipital area not punctate at all near the eye behind vertex. Antennal club longer than the preceding 6 segments combined. Apical segment of maxillary palpus more or less flat and truncate at apex. Mentum without sharp longitudinal carinae along the

both sides; anterior margin distinctly notched.

Pronotum sparsely punctate; antero-lateral margin distinctly reflexed and roughly serrate; anterior angle slightly produced, posterior one obtuse. Ventral surface wholly shining, not opaque. Metasternum pubescent mainly on the basal half. Last abdominal segment with a sharp transverse carina along the anterior margin.

Mesofemur very shining, sparsely punctate and almost straight along the upper margin; upper margin gently declivous. Metafemur stout, wholly shining but sometimes opaque around the upper margin, FW/FL 0.32–0.36 (A 0.33); smooth surface sparsely punctate, bristles on the surface 1/6 to 1/5 or rarely to 1/4 times the width of metafemur. Protibia tridentate; small and sharp basal denticle situated at the basal 1/3. Longer one of metatibial spurs slightly shorter than the 1st metatarsal segment, the latter remarkably shorter than the 2nd. Claw with an apical tooth slightly longer than the truncate median one.

Internal sac of male genitalia with a shapeless sclerotized piece.

*Female*:— IN/HW 0.60–0.63 (A 0.61). Occipital area not punctate as in male. Antennal club shorter than the preceding 6 segments combined. Last abdominal segment usually without conspicuous transverse ridge.

Metafemur very stout, wholly shining, FW/FL 0.36–0.39 (A 0.37); bristles on the surface 1/6 to 1/4 times the width of metafemur. Longer one of metatibial spurs about as long as the 1st metatarsal segment or longer than that, the latter remarkably shorter than the 2nd as in male.

*Distribution*. Thailand (northern region).

Holotype: ♂, Doi Suthep, Chiang Mai, 23–V–1980, M. TAO leg. Allotype: ♀, Doi Chiang Khian, N. Thailand, 29–V–1983 [OPU]. Paratypes: 1 ♂, Doi Pui, near Chiang Mai, N. Thailand, 30–V–1983 [OPU]; 2 ♂♂, Doi Suthep, near Chiang Mai, 23–V–1980, M. TAO leg.; 1 ♂, 2 ♀♀, same locality, 3–V–1988, A. YAMASHITA leg.; 1 ♀, Chiang Mai, V–1985, N. KOYAMA leg.; 3 ♂♂, 2 ♀♀, Doi Chiang Khian, N. Thailand, 29–V–1983 [OPU]. The holotype, allotype and 3 paratypes are deposited in OPU, 3 paratypes in ZMHU and the remaining 6 paratypes in the author's collection.

*Notes*. The present species seems allied to *Sophrops callosifrons* (MOSER, 1913), comb. nov., but is distinguishable from the latter by the following points:

1. Clypeus deeply emarginate;
2. Frons without callosities;
3. Protibial 1st denticle small, sharp and situated at the basal 1/3;
4. Longer one of metatibial spurs almost as long as the 1st metatarsal segment.

#### 8. *Sophrops tonkinensis* (MOSER, 1908), comb. nov.

(Figs. 8, 14, 23, 34, 48, 64–65, 75)

*Brahmina tonkinensis* MOSER, 1908, 342 (Montes Mauson); FREY, 1972, 356.

*Diagnosis*. *Male*:— Body slightly stout and robust. IN/HW 0.61–0.63 (A 0.62). Occipital area bearing a small-scale, narrow and a little extensive band of punctures



near the eye behind vertex. Antennal club usually longer than the preceding 5 (sometimes 6) segments combined. Mentum with 2 longitudinal, moderate to a little sharp carinae along the both sides; anterior margin not emarginate or feebly notched.

Metasternite without pubescence in the central area. Last abdominal segment with a sharp transverse carina along the anterior margin.

Mesofemur slender, almost straight along the upper margin; upper margin gently declivous. Metafemur slender, usually shining wholly or so except in more or less opaque upper marginal area, FW/FL 0.24–0.27 (A 0.26); surface coarsely and less densely punctate, bristles on the surface about 1/10 times the width of metafemur. Longer one of metatibial spurs slightly shorter than that. Claw with an apical tooth distinctly more slender than the truncate median one.

*Female*:— IN/HW 0.62–0.63 (A 0.63). Occipital area usually bearing more impressive band of punctures. Antennal club longer than the preceding 5 segments combined or as long as the preceding 6 segments combined. Last abdominal segment with a less sharp, transverse carina along the anterior margin. Metafemur less slender, wholly shining, FW/FL 0.29–0.31 (A 0.30); bristles on the surface about 1/12–1/10 times the width of metafemur. Longer one of metatibial spurs slightly longer than the 1st metatarsal segment, the latter slightly shorter than or as long as the 2nd.

*Distribution*. Vietnam, Thailand [new record].

*Specimens examined*. 2 ♂♂, Doi Chiang Khian, N. Thailand, 29–V–1983 [OPU]; 1 ♂, Khao Yai, C. Thailand, 15–VI–1983 [OPU]; 3 ♂♂, 2 ♀♀, Doi Sang, N. Thailand, 10~13–V–1990, K. KUME leg.; 2 ♂♂, 2 ♀♀, Phuping Palace, Chiang Mai, 2~5–V–1990, M. YAGI leg.; 2 ♂♂, Tam Dao, Vinh Phu, Vietnam, 2~4–V–1993, M. HORI leg.; 2 ♂♂, “Tonkin, Montes Mauson, April–Mai, 2–3000’, H. FRUHSTORFER”, “100749”, “Zool. Mus. Berlin”; 2 ♂♂, same data as the preceding except for the numerical label “100750”.

### 9. *Sophrops pallidus* T. ITOH, sp. nov.

(Figs. 9, 15, 25–26, 35, 49, 66–67, 76 (a)–(b))

*Description*. Length: 9.2–12.2 mm.

*Male*:— Body elongate-oval. Head, pronotum, antennae and legs reddish brown; elytra, pygidium and ventral surface yellowish; sutural costae on elytra brown or blackish brown.

Clypeus wide, shallow, more or less emarginate at the anterior margin. CW/CL about 3.6–4.2 (A 3.9). Frons flat, reticulately punctate. Vertex not carinate, but sharply declivous anteriorly. IN/HW 0.59–0.64 (A 0.62) in 12 exs. Occipital area bearing a small scale-patch of punctures near the eye behind vertex, sometimes bearing more extensive band of punctures and sometimes merely a sparse one. Antennal club as long as the preceding 6 segments combined or longer than that. Mentum with 2 moderate longitudinal carinae along the both sides; anterior margin not or feebly notched.

Pronotum uniformly, densely, coarsely and umbilicately punctate on the disc,

distance between 2 close punctures sometimes equal to diameters of the punctures, otherwise larger than these; anterior margin rimmed; anterior angle obtuse but sub-rectangular, posterior one more obtuse; lateral margin gently curved just behind the middle; disc with an impunctate longitudinal median line. Scutellum coarsely punctate except on the anterior margin to the central area. Each elytron almost smooth, but the sutural costa is relatively raised and somewhat blackish. Pygidium hardly produced and punctate coarsely and densely. Last abdominal segment with a sharp transverse carina along the anterior margin.

Mesofemur slender, smooth, shining, coarsely and less densely punctate and feebly reflexed along the upper margin; upper margin relatively declivous. Metafemur stout, wholly shining, FW/FL 0.27–0.30 (A 0.28); smooth surface coarsely and slightly less densely punctate and bristles on the surface about 1/10–1/7 times the width of metafemur. Protibia tridentate. Longer one of metatibial spurs about as long as the 1st metatarsal segment, the latter also about as long as the 2nd. Claw with an apical tooth slightly more slender than the truncate median one.

Each paramere of male genitalia with a small projection near the apex; internal sac forming such a structure as a spout of a teakettle and also with a thick sclerotized piece.

*Female*:— IN/HW 0.59–0.64 (A 0.62) in 16 exs. Occipital area usually bearing more impressive and more extensive patch of punctures, but sometimes bearing only a small scale-patch. Antennal club about as long as the preceding 6 segments combined. Last abdominal segment with a sharp transverse carina as in male. Metafemur still stout, wholly shining, FW/FL 0.31–0.36 (A 0.33); bristles on the surface about 1/9–1/7 times the width of metafemur. Longer one of metatibial spurs slightly longer than the 1st metatarsal segment, the latter about as long as the 2nd.

*Distribution*. Thailand (northern to central regions).

Holotype: ♂, Fang (ca. 450 m alt.), N. Thailand, 14–V–1983 [OPU]. Allotype: ♀, same data as for the holotype. Paratypes: 16 ♂♂, 23 ♀♀, same data as for the holotype; 6 ♂♂, 13 ♀♀, Khao Yai, C. Thailand, 15, 20–VI–1983 [OPU]; 1 ♂, Wiang Sa, Nan, N. Thailand, 14–V–1993, S. OHMOMO leg. The holo-, allo- and 48 paratypes are deposited in OPU, 4 paratypes in ZMHU and the other 7 paratypes in the author's collection.

*Notes*. The present species is easily distinguishable from other species of the genus *Sophrops* by the blackish sutural costa.

## 要 約

伊藤 武: タイのコフキコガネ科の研究, I. — タイ国からのコフキコガネ科の甲虫の報告はこれまできわめて乏しく, 組織だって報告されたものがなかった. 今回, 大阪府立大学の森内 茂博士から, 同大学によるタイにおける鱗翅類調査の際に得られた本科甲虫標本を調査する機会を与えられ, いくつかの知見を得ることができた. その成果を, 筆者の所蔵標本の研究結果とともに, 数回にわたって報告する. 本稿では, ヒメクロコガネ属 *Sophrops* を扱い, 5 種, *S. bituberculatus* (MOSER),

*S. foveatus* (MOSER), *S. brunneus* (MOSER), *S. promeanus* (MOSER) と *S. tonkinensis* (MOSER) に解説を施し, 4 新種, *S. rotundicollis*, *S. opacidorsalis*, *S. excisus*, *S. pallidus* の記載を行った。

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