

Dung Beetles (Coleoptera, Scarabaeidae) of Thailand

Part 4. Genera *Phacosoma*, *Cassolus* and
Parachorius (Canthonini and Dichotomini)

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Abstract In the fourth part of the study on the Thai dung beetles, the genera *Phacosoma* and *Cassolus* (tribe Canthonini), and *Parachorius* (tribe Dichotomini) are taken up. Four *Phacosoma* forms including a new species, *Phacosoma ochii* sp. nov., are recognized. *Phacosoma fallcilaetum* MASUMOTO, 1989, is regarded as a junior synonym of *P. thai* PAULIAN, 1987, stat. nov. The other two are *P. obscurum* BOUCOMONT, 1920, and *Phacosoma thailandicum* MASUMOTO, 1989. Two *Cassolus* species, *C. nudus* SHARP, 1875, and *C. pongchaii* MASUMOTO, 1989 are known from Thailand. The genus *Parachorius* comprises a new species, *Parachorius lannathai* sp. nov. Keys are given to all the species of both *Phacosoma* and *Cassolus* distributed in Thailand, and explanatory photographs of habitus and male genitalia are provided for each species.

This is the fourth part of the serial study on the Thai dung beetles, and the genera *Phacosoma*, *Cassolus* and *Parachorius* are taken up. On the occasion of visiting European museums from 1998 to 2001, one of the present authors (K. M.) compared the Thai materials collected by them and preserved in the collections of Khon Kaen University Museum and the Insect Museum at the Division of Entomology and Zoology, Department of Agriculture, Bangkok, with types and some other materials. As the result, it has been confirmed that four *Phacosoma* forms including a new species, two *Cassolus* species and a new *Parachorius* species are distributed in Thailand. In this paper, the authors will enumerate the result of the study, describe two new species and propose a new synonym.

The authors wish to acknowledge the grant received from the Thailand Biodiversity Research and Training Programme. They also thank Dr. Rowan W. EMBERSON, Lincoln University, New Zealand, and Mr. Teruo OCHI of Osaka for giving them useful

comment. Deep indebtedness should be expressed to Dr. Yves CAMBEFORT, Muséum National d'Histoire Naturelle, Paris, Messrs. Martin J. D. BRENDALL and Malcolm D. KERLEY, the Natural History Museum, London, Dr. David KRAL, Charles University, Prague, Dr. Wolfgang SCHAWALLER, Staatliches Museum für Naturkunde in Stuttgart, and Dr. Giulio CUCCODORO, the Muséum d'Histoire naturelle, Genève, for permission to examine the type and other invaluable specimens under their care. Appreciation should be expressed to Dr. Makoto KIUCHI, National Institute of Sericultural and Entomological Science, for taking photographs of high quality inserted in this paper.

This work was partly supported by the TRF/BIOTEC Special Programme for Biodiversity Research and Training Grant BRT 142012.

Tribe Canthonini

Genus *Phacosoma* BOUCOMONT, 1914

Systematic position. BOUCOMONT (1914) erected this genus for *Phacosoma dytiscoides* BOUCOMONT, 1914. ARROW (1931) placed it between the genera *Onthophagus* and *Parachorius* in the tribe Coprini of the subfamily Coprinae. PAULIAN (1945) regarded it as a member of the subfamily Scarabaeinae. BALTHASAR (1963) regarded it as a member of the tribe Canthonini in the subfamily Scarabaeinae. OCHI, KON and KIKUTA (1996, 1997) placed it in the tribe Canthonini of the subfamily Scarabaeinae. They redescribed the type species of the genus and proposed a key to Bornean species. KABAKOV and NAPOLOV (1999) also placed this genus in the tribe Canthonini of the subfamily Scarabaeinae.

Genus *Phacosoma* BOUCOMONT, 1914

Phacosoma BOUCOMONT, 1914, Anns. Soc. ent. Fr., **83**: 249.

Type species: *Phacosoma dytiscoides* BOUCOMONT, 1914.

General features. Body broadly oval and rather depressed. Head flat, broadly dilated at genae (ocular lobes); clypeus not separated from frons, with apical margin bidentate in front. Antennae 9-segmented. Labrum broad, emarginate in front; mandibles long and narrow; maxilla long, with a rather broad outer lobe; mentum narrowed, emarginate in front; labial palpus rather narrow, with 3rd segment not very minute.

Pronotum short and broad; lateral margins angulate before the middle, nearly straight and parallel posteriad, with short interior carinae subparallel to lateral margins near base; base gently rounded. Scutellum absent.

Elytra flat, with six striae and very sharply inflexed broad epipleura, the outer edge representing the 7th stria acutely recurved.

Prothorax deeply hollowed in ventral areas of front angles; metasternum broad between nearly parallel mesocoxae, separated from mesosternum by a nearly straight

line.

Legs slender; protibia with three external teeth and minutely serrate between and above them; meso- and metatibiae long and not much widened at the extremities; protarsus short and slender, meso- and metatarsi long, rather narrow, and not much tapered from bases to tips, with basal segment about twice as long as 2nd, 2nd, 3rd and also 4th equal in length.

Second sexual features are often seen in male legs.

Distribution. Oriental and Ethiopian Regions. — Oriental Region: India, Sri Lanka, Myanmar, Thailand, Laos, Malay Peninsula, Borneo, Sulawesi.

Distributional record of the genus *Phacosoma* from Thailand was made by PAULIAN (Dec. 1987). He described *P. tristoides thai* and recorded *P. obscurum* BOUCOMONT, 1920, both from Chiang Mai Province, North Thailand. Meanwhile, MASUMOTO (Dec. 1988) recorded *P. laetum* ARROW, 1931 from Northwest Thailand. Later (June 1989), he found out that the Thai species is not identical with true *P. laetum* and gave it a new specific name, *P. fallcilaetum*. In addition, he described a new species, *P. thailandicum*, from the same area.

Notes. The members of this genus are coprophagous but in some cases they are collected by rotten fish traps.

***Phacosoma obscurum* BOUCOMONT, 1920**

(Figs. 1, 8)

Phacosoma obscurum BOUCOMONT, 1920, Anns. Soc. ent. Fr., **88**: 307. — PAULIAN, 1987, p. 718.

Distribution. Myanmar, Laos, N. Thailand.

***Phacosoma thai* PAULIAN, 1987, stat. nov.**

(Figs. 2, 9)

Phacosoma tristoides thai PAULIAN, 1987, Revue suisse Zool., **94**: 717.

Phacosoma laetum: MASUMOTO, 1988, Ent. Rev. Japan, Osaka, **43**: 142. [Nec ARROW, 1931.]

Phacosoma fallcilaetum MASUMOTO, 1989, Ent. Rev. Japan, Osaka, **44**: 34. (*Syn. nov.*)

Distribution. N. & NE. Thailand, Vietnam.

Notes. PAULIAN (1983, p. 616) described *Phacosoma tristoides* from “Inde: Bengale occidentale, district de Darjeeling, Teesta Rangpo, 350 m”, and later (1987) described *P. tristoides thai* from “Thailand, Chiang Mai, Doi Suthep”. Compared with the former, the latter can be distinguished “par l’absence de chagration sur le pronotum et par la ponctuation de l’avant-corps plus faible et surtout moins serrée.”

On the occasion of examining the types of the above two forms preserved in the collection of the Muséum d’Histoire naturelle, Genève, in March 1999, one of the authors confirmed the differences between the two forms and concluded that the latter should be raised to the species rank.

***Phacosoma thailandicum* MASUMOTO, 1989**

(Figs. 3, 10)

Phacosoma thailandicum MASUMOTO, 1989, Ent. Rev. Japan, Osaka, **44**: 32.*Distribution.* N. Thailand.***Phacosoma ochii* sp. nov.**

(Figs. 4, 11)

Brownish black, with anterior part of head and the areas around front angles and legs lighter in colour, each elytron with three yellow spots, one on the 5th, 6th and 7th intervals just behind base, one on the same intervals behind the middle, and one at the apical margin on the 2nd and 3rd intervals; head and pronotum moderately shining, elytra feebly sericeous. Ovate and depressed.

Head closely punctate; clypeus medially inclined anteriorly, emarginate at the middle of apex, whose sides are bidentate and reflexed dorsad.

Pronotum broad and feebly convex, closely punctate, the punctures being almost of the same size as those on head; front angles acute and directed anteriorly, hind angles obtuse and directed postero-laterad.

Elytra slightly convex in middle, depressed in posterior parts; lateral margins widely and evenly rounded laterad; disc microsculptured, finely and shallowly punctato-striate; intervals very weakly convex, finely rugoso-punctate. Pygidium convex, micro-shagreened and vaguely, sparsely punctate in basal part, strongly convex, shining, and closely, clearly punctate in apical part.

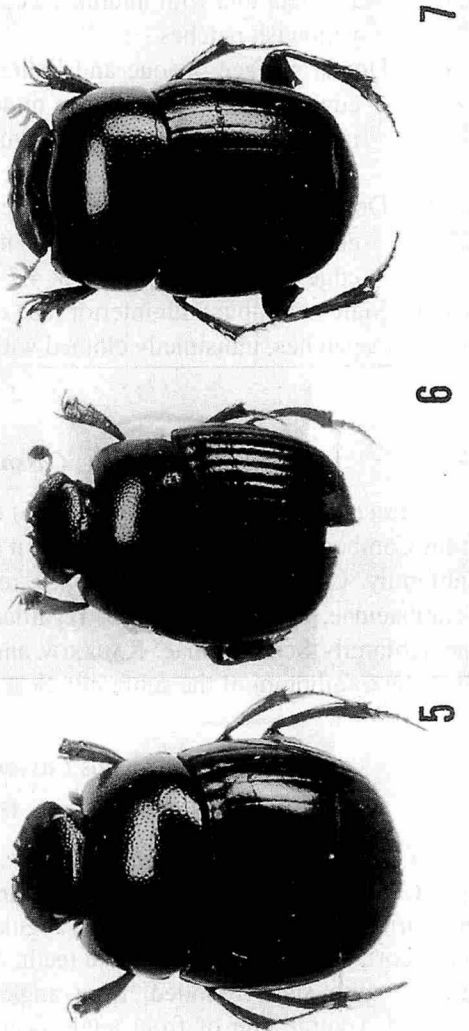
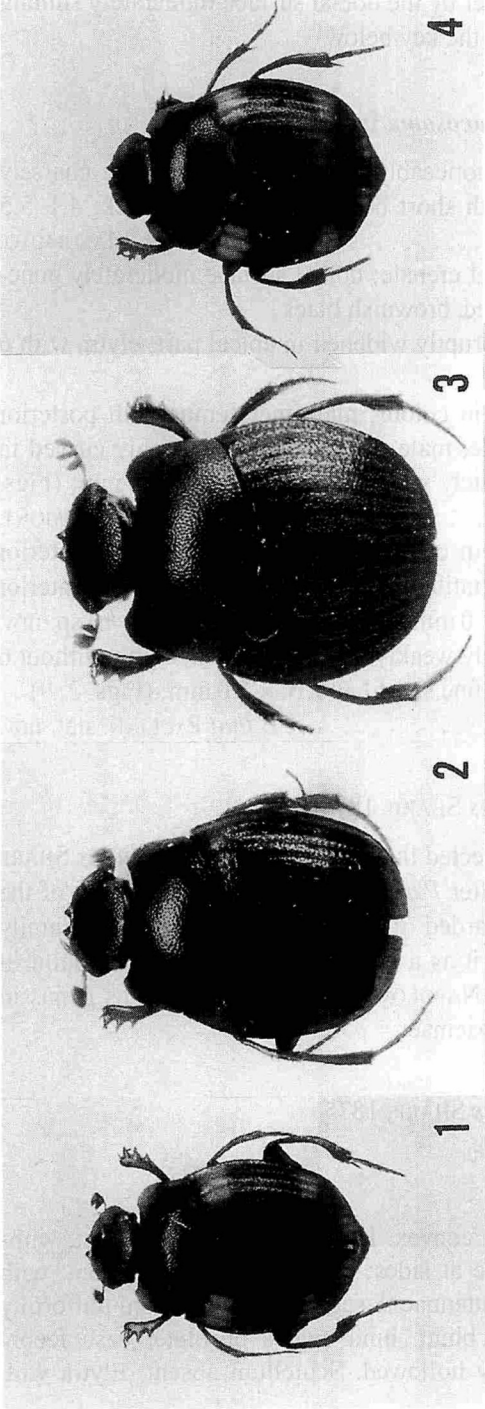
Male genitalia as shown in Fig. 11 (lateral view), 1.6 mm in length. Male metafemur with posterior edge gently triangular; male metatibia with interior edge rather abruptly widened in apical 2/5.

Body length: 4.7–5.0 mm.

Holotype: ♂, Phu Luang, Loei, NE. Thailand, 12–VII–2000, Y. HANBOONSONG leg. (DEZ). Paratypes: 1 ex., same data as for the holotype; 1 ex., WLS. Phulung, dry evergreen forest, Phu Luang, Loei, 4–V–2000, Y. HANBOONSONG leg.; 1 ex., dry evergreen forest, Nakhon Thai, Pitsanuloke, N. Thailand, 28–V–2000, Y. HANBOONSONG leg.; 1 ex., Mae Sa Vill., Chiang Mai Prov., N. Thailand, 28–V–1995, K. MASUMOTO leg.; 1 ex., Mae Sa Vill., 28–X–1996, K. MASUMOTO leg.; 1 ex., Doi Pha Hom Pok, Chiang Mai Prov., 25–XI–1998, K. MASUMOTO leg.; 1 ex., Doi Tung, Chiang Rai Prov., N. Thailand, 13–XI–1993, M. YIMYAEM leg.; Doi Tung, 15–XI–1995, K. MASUMOTO leg.

Notes. This new species resembles *Phacosoma obscurum* BOUCOMONT, 1920,

Figs. 1–7. Habitus of *Phacosoma*, *Cassolus* and *Parachorius* from Thailand. — 1, *Phacosoma obscurum* BOUCOMONT, ♂; 2, *P. thai* PAULIAN, stat. nov., ♂; 3, *P. thailandicum* MASUMOTO, ♂; 4, *P. ochii* sp. nov., holotype, ♂; 5, *Cassolus nudus* SHARP, ♂; 6, *Cassolus pongchaiti* MASUMOTO, ♂; 7, *Parachorius lannathai* sp. nov., holotype, ♂.



but can be easily distinguished from the latter by the dorsal surface moderately shining and darker in colour. For further details, see the key below.

Key to the Species of *Phacosoma* from Thailand

- 1 (2) Male metatibia with interior face noticeably crenate; dorsal surface coarsely punctate and densely clothed with short bent hairs; entirely black; 4.1–5.5 mm; (Figs. 3, 10). *P. thailandicum* MASUMOTO.
- 2 (1) Male metatibia with interior face not crenate; dorsal surface moderately punctate and glabrous or scarcely haired, brownish black.
- 3 (6) Male metatibia with interior face abruptly widened in apical part; elytra with 6 yellowish patches
- 4 (5) Dorsal surface opaque and lighter in colour; male metafemur with posterior edge strongly triangular in middle; male metatibia more strongly curved in middle, with interior edge angulately widened in apical 1/4; 4–5 mm; (Figs. 1, 8). *P. obscurum* BOUCOMONT.
- 5 (4) Dorsal surface shining and darker in colour; male metafemur with posterior edge gently triangular; male metatibia less strongly curved, with interior edge widened in apical 2/5; 4.7–5.0 mm; (Figs. 4, 11) *P. ochii* sp. nov.
- 6 (3) Male metatibia with interior face only weakly widened apicad; elytra without 6 patches, indistinctly clothed with fine short hairs; 3.7–5.0 mm; (Figs. 2, 9) *P. thai* PAULIAN, stat. nov.

Genus *Cassolus* SHARP, 1875

Systematic position. SHARP (1875) erected this genus for *Cassolus nudus* SHARP from Cambodia. ARROW (1931) placed it after *Parachorius* in the tribe Coprini of the subfamily Coprinae. PAULIAN (1945) regarded it as a member of the subfamily Scarabaeinae. BALTHASAR (1963) regarded it as a member of the tribe Canthonini in the subfamily Scarabaeinae. KABAKOV and NAPOLOV (1999) also placed this genus in the tribe Canthonini of the subfamily Scarabaeinae.

Genus *Cassolus* SHARP, 1875

Cassolus SHARP, 1875, Coleopt. Hefte, München, **13**: 40.

Type species: *Cassolus nudus* SHARP.

General features. Body compact and convex. Head short, broad and flat, without carinae or elevations, obtusely angulate at sides; clypeus rounded in front, with four short, sharp, slightly recurved teeth. Antennae 9-segmented. Pronotum uniformly convex, with sides rounded; front angles blunt, hind angles obsolete; base feebly rounded; ventral side of front angle deeply hollowed. Scutellum absent. Elytra with seven striae and narrow epipleura.

Mandibles rather long. Maxilla with broad outer lobe. Mentum transversely quadrate, broadly bilobed in front, labial palpus with 1st and 2nd segments short and 3rd long, not minute. Mesocoxae far apart and parallel. Mesosternum not very short, separated by a nearly straight line from metasternum, which is short and broad.

Middle and hind legs rather slender, the latter longer than the former; meso- and metafemora very slender at the bases, the latter with posterior edge angulate in males of some species; protibia with three external teeth, of which the apical one is located at the extremity and directed apico-ventrad in some species, e.g., *C. nudus*, *C. peninsularis* and *C. gotoi*, minutely serrate above and between them; meso- and metatibiae narrow, gently curved, only slightly widened apicad; protarsi slender; meso- and metatarsi slightly compressed, with segments of equal width, basal segments not so long as 2nd.

Distribution. India, Thailand, Cambodia, Vietnam, S. China, Taiwan, Sumatra, Java, Sulawesi.

MASUMOTO (1987) for the first time recorded *Cassolus nudus* SHARP, 1875, from Northwest Thailand, though a material from "Siam, 1930, W. R. S. LADELL" determined by BOUCOMONT is preserved in the Natural History Museum, London, and two materials, "Siam, 17-VI-1938", and "Nakhon-ratchasima, 30-VI-1962" are also preserved in the Insect Museum at the Division of Entomology and Zoology, Department of Agriculture in Bangkok.

Notes. According to KABAKOV and NAPOLOV (1999, p. 63), three species from Vietnam and some parts of adjacent countries were collected on rotten mushrooms. Besides, one of the authors (Y. H.) collected specimens on both mushrooms and dungs, and the other mostly collected them from dungs.

Cassolus nudus SHARP, 1875

(Figs. 5, 12)

Cassolus nudus SHARP, 1875, Coleopt. Hefte, München, **13**: 40.

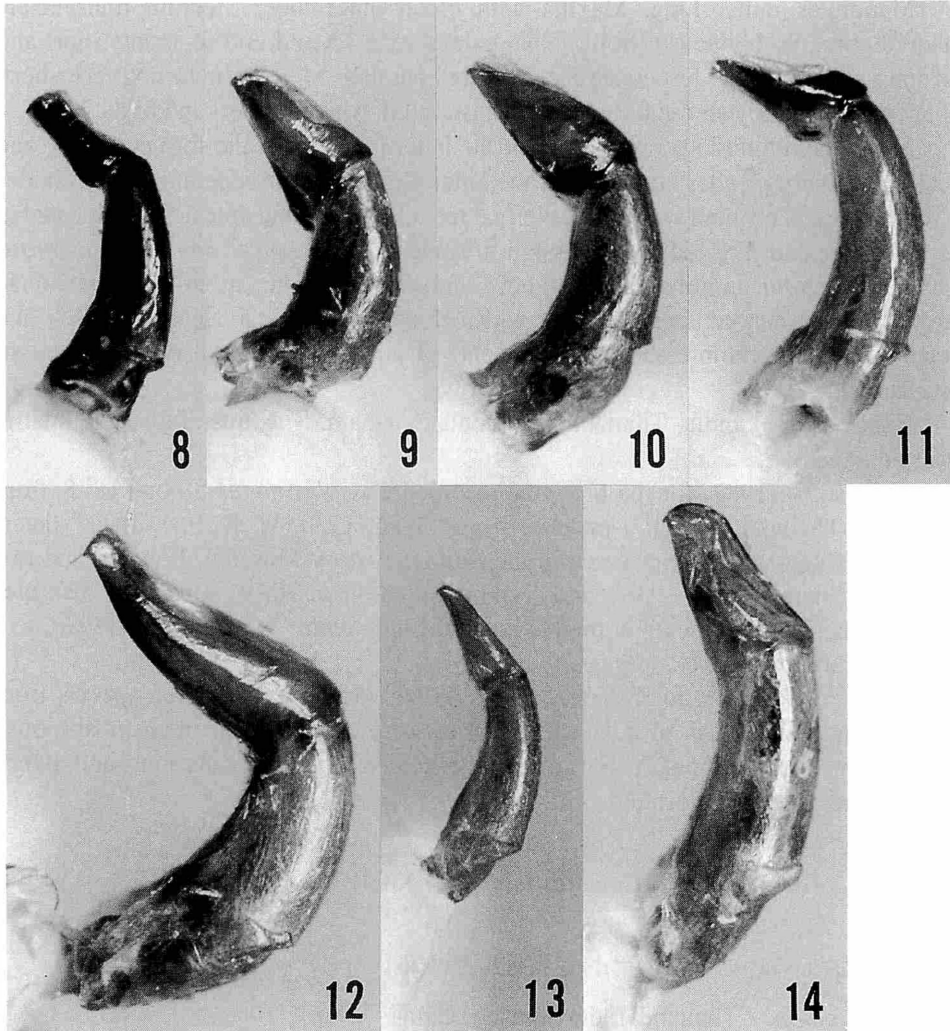
Distribution. Thailand, Indo-China, S. China.

Notes. Three specimens indetermined are preserved in the collection of the Muséum d'Histoire naturelle, Genève, dated "Thailand: Phetchaburi/Kaeng Krachan Nat Pk/450 m, 19. XI. 1985, Burckhardt-Löbl", "Thailand, 8. 10. 1990/Mae Hong Son Prov./Pha Suea Waterfall/Mae Hong Son Dist./420 m, P. Schwendinger", and "THAILAND-Chiang Mai/Doi Suthep 960 m./Barber F. III. 86/P. Schwendinger". Their bodies are rather small (4.0–4.2 mm in length) but possess major features of *C. nudus*.

Cassolus pongchaii MASUMOTO, 1989

(Figs. 6, 13)

Cassolus pongchaii MASUMOTO, 1989, Ent. Rev. Japan, Osaka, **44**: 31.



Figs. 8–14. Male genitalia (lateral view). — 8, *Phacosoma obscurum* BOUCOMONT; 9, *P. thai* PAULIAN, stat. nov.; 10, *P. thailandicum* MASUMOTO; 11, *P. ochii* sp. nov.; 12, *Cassolus nudus* SHARP; 13, *Cassolus pongchaii* MASUMOTO; 14, *Parachorius lannathai* sp. nov.

Distribution. N. Thailand.

Key to the Species of *Cassolus* from Thailand

- 1 (2) Body larger, more convex above; dorsal surface metallically shining; head and pronotum less strongly punctate; elytra finely striate, punctures on the striae less noticeable; intervals only feebly convex, indistinctly, finely punctate;

- male protibia with two outer teeth and a terminal tooth bent antero-ventrad; male metafemur with hind edge gently produced, gently narrowed in apical part; 4.0–5.0 mm; (Figs. 5, 12) *Cassolus nudus* SHARP.
- 2 (1) Body smaller, less convex above; dorsal surface vitreously shining; head and pronotum more strongly punctate; elytra more clearly striate, punctures on the striae more noticeable; intervals more noticeably convex, more distinctly punctate; protibia with three outer teeth; male metafemur with hind edge produced, abruptly narrowed at base; 3.7–4.0 mm; (Figs. 6, 13).
 *Cassolus pongchaili* MASUMOTO.

Tribe Dichotomini

Genus *Parachorius* HAROLD, 1873

Systematic position. HAROLD (1873) erected the genus *Parachorius* for *P. thomsoni* HAROLD from “India or.” ARROW (1931) placed it between *Phacosoma* and *Cassolus* in the tribe Coprini of the subfamily Coprinae. PAULIAN (1945) regarded it as a member of the subfamily Scarabaeinae. BALTHASAR (1963) regarded it as a member of the tribe Pinotini in the subfamily Coprinae. KABAKOV and NAPOLOV (1999) placed it in the tribe Dichotomini (Pinotini) of the subfamily Scarabaeinae.

Genus *Parachorius* HAROLD, 1873

Parachorius HAROLD, 1873, Coleopt. Hefte, München, **11**: 103.

Type species: *Parachorius thomsoni* HAROLD.

General features. Body oval and convex, almost glabrous. Head flat, ocular lobes strongly dilated; genae and clypeus not separated from frons; clypeus sharply notched and bidentate in front. Antennae 9-segmented. Pronotum strongly convex; sides not angulate but rounded; front and hind angles distinct, the latter very obtuse; base nearly straight in middle, not margined; ventral side of front angle hollowed. Scutellum absent. Elytron with seven striae and an epipleural carina.

Mentum subquadrate, slightly bilobed in front; labial palpus with three segments nearly equal in length, two basal segments as wide as long; meso-metasternal suture straight or gently curved.

Legs medium-sized; protibia with three external teeth and finely serrate above them, meso- and metatibiae short and regularly widened from base to extremities, but not greatly widened at the extremities, each without lateral ridge; protarsi slender; meso- and metatarsi hardly tapered, feebly flattened, with 1st segment about twice as long as 2nd, 2nd, 3rd and 4th slightly diminishing; claws minute.

Distribution. N. India, N. Thailand, N. Vietnam, S. China.

Notes. MASUMOTO (1987) recorded *Parachorius thomsoni* HAROLD, 1873 from Northwest Thailand, which is the first record of the genus from this area, but after a de-

tailed study the authors have come to the conclusion that the species in question is actually new to science.

Parachorius lannathai sp. nov.

(Figs. 7, 14)

This new species somewhat resembles *Parachorius thomsoni* HAROLD, 1873, but can be distinguished from the latter by the following characteristics:

Body rather rectangular. Head more clearly punctate; genae more produced laterad and feebly angulate. Pronotum narrower and more strongly convex above, more clearly but a little sparsely punctate; front angles rectangular, hind angles obtuse and feebly sinuous behind the corners. Elytra narrower, somewhat trapezoidal: lateral margins less strongly rounded, posterior parts feebly swollen postero-laterad and apical parts rather steeply inclined (lateral margins evenly rounded in *P. thomsoni*); disc obviously more deeply punctato-striate, the punctures notching intervals; intervals feebly raised (flattened in *P. thomsoni*), more clearly scattered with small punctures.

Male genitalia as shown in Fig. 14 (lateral view), 2.1 mm in length. Male profemur with anterior edge bluntly toothed (the tooth less sharp than in *P. thomsoni*) a little before the extremity and widely but weakly gouged in middle; metafemur with posterior edge more sharply toothed at apical 1/3, and also bluntly toothed at basal 1/3 (same as in *P. thomsoni*); protibia with ventral face strongly, vertically protrudent near the extremity and tumid near the base, the process and prominence almost of the same shape as in *P. thomsoni*.

Body length: 7.0–8.0 mm.

Holotype: ♂, Mae Sa Vill., Chiang Mai Province, N. Thailand, 3~6-V-1994, K. MASUMOTO leg. (NSMT). Paratypes: [Chiang Mai Prov.] 44 exs., Doi Suthep, 20-XI-1988, K. MASUMOTO leg.; 22 exs., Doi Suthep, 27-XI-1988, M. YIMYAEM leg.; 2 exs., Doi Suthep, 12/18-IX-1990, K. MASUMOTO leg.; 1 ex., Doi Suthep, 23-XII-1990, K. MASUMOTO leg.; 1 ex., Doi Suthep, 12-I-1990, M. YIMYAEM leg.; 1 ex., Doi Suthep, 5-VI-1993, K. MASUMOTO leg.; 1 ex., Doi Suthep, 9-XI-1995, K. MASUMOTO leg.; 1 ex., Doi Suthep, 14-V-1998, K. MASUMOTO leg.; 10 exs., Doi Suthep/Pui, 30-VII~5-VIII-1988, K. MASUMOTO leg.; 1 ex., Doi Suthep-Doi Pui, 5-XII-1989, M. YIMYAEM leg.; 4 exs., Doi Pui/Doi Suthep, 24-XII-1989, M. YIMYAEM leg.; 1 ex., Doi Pui, 23-X-1987, M. YIMYAEM leg.; 2 exs., Doi Pui, 8-VIII-1989, K. MASUMOTO leg.; 1 ex., Doi Pui, 28-IX-1990, K. MASUMOTO leg.; 51 exs., Mae Sa Vill., 26-VII~1-VIII-1987, K. MASUMOTO leg.; 2 exs., Mae Sa Vill., 30-VIII-1987, M. YIMYAEM leg.; 1 ex., Mae Sa Vill., 28-VI-1990, M. YIMYAEM leg.; 5 exs., Mae Sa Vill., 4-VII-1990, M. YIMYAEM leg.; 2 exs., Mae Sa Vill., 14-VIII-1994, K. MASUMOTO leg.; 3 exs., Mae Sa Vill., 12-XI-1995, K. MASUMOTO leg.; 1 ex., Mae Sa Vill., 30~31-VII-1997, K. MASUMOTO leg.; 1 ex., Mae Sa Vill., 30~31-VII-1999, K. MASUMOTO leg.; 1 ex., Mae Rim Vill., 21-IX-1990, K. MASUMOTO leg.; 3 exs., Chiang Dao, 24-XI-1988, K. MASUMOTO leg.; 1 ex., Phrao Dist.,

10-VIII-1987, M. YIMYAEM leg.; 1 ex., Phrao Dist., 15-VIII-1987, M. YIMYAEM leg.; 1 ex., Doi Saket, 12-X-1989, M. YIMYAEM leg.; 1 ex., Mae Taeng Dist., 10~20-IX-1987, M. YIMYAEM leg.; 2 exs., Chiang Mai, 10-XI-1988, M. YIMYAEM leg.; 4 exs., near Chiang Mai, 1,000 m alt., 21-V-1987, H. HIRASAWA leg.; 1 ex., Doi Inthanon, 30-VII~3-VIII-1988, K. MASUMOTO leg.; 1 ex., Doi Inthanon, 1-X-1988, M. YIMYAEM leg.; 4 exs., Doi Inthanon, 12-XI-1988, M. YIMYAEM leg.; 1 ex., Doi Inthanon, 15-IX-1988, K. MASUMOTO leg.; 2 exs., Doi Inthanon, 30-IX-1990, M. YIMYAEM leg.; 2 exs., Doi Pha Hom Pok, 1,200 m alt., 24-XI-1994, K. MASUMOTO leg.; 2 exs., Doi Pha Hom Pok, 16-XI-1995, K. MASUMOTO leg. [Chiang Rai Prov.] 1 ex., Doi Mae Salong, 24-IX-1990, K. MASUMOTO leg.; 3 exs., Doi Mae Salong, 8-IX-1991, M. YIMYAEM leg. [Phrae Prov.] 1 ex., Wieng Ko Sai N. P., 18-V-1985, H. AKIYAMA leg. [Phetchabun Prov.] 1 ex., Nam Nao, 2-XII-1998, K. MASUMOTO leg. [Phitsanulok Prov.] 1 ex., Tung Salaeng Luang N. P., 8-VII-2000, Y. HANBOONSONG leg.

要 約

Y. HANBOONSONG・益本仁雄：タイ産の食糞コガネムシ類。IV. *Phacosoma*, *Cassolus* および *Parachorius* 属について。—— タイ産の食糞コガネムシ (Scarabaeidae) 研究の第4回として、ダイコクコガネ亜科 (Coprinae) Canthonini 族 *Phacosoma* 属および *Cassolus* 属、ならびに Dichotomini 族 *Parachorius* 属をとりあげた。*Phacosoma* 属では、*P. obscurum* BOUCOMONT, 1920, *P. thailandicum* MASUMOTO, 1989 に加えて、1新種 *P. ochii* sp. nov., および *P. thai* PAULIAN, 1987, stat. nov. (*Phacosoma fallcilaetum* MASUMOTO, 1989 は新参シノニム) の4種が分布していることが明らかになった。*Cassolus* 属では、*C. nudus* SHARP, 1875 および *C. pongchaili* MASUMOTO, 1989 の2種が分布している。*Parachorius* 属では、従来 *P. thomsoni* HAROLD, 1873 と考えられていた種が実は別の新種で、*Parachorius lannathai* sp. nov. と命名した。前2属には検索表を用意し、全種に明瞭な写真をつけ、同定を容易にするようにつとめた。

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Elytra, Tokyo, **29** (1): 140, June 15, 2001

A Food Habit of *Onthophagus bonarae* (Coleoptera, Scarabaeidae)

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In the course of the survey on the Thai dung-beetle fauna, I collected several specimens of *Onthophagus bonarae* ZUNINO, 1976 from rotten fruits of wild persimmon in northern Thailand. ARROW (1931, p. 332) mentioned that *Onthophagus deflexicollis* LANSBERGE, 1883 had been captured from rotten jack-fruit and detritus beneath the sheaths of bamboo-stems. I collected both the species also from human and animal excrements. These two species form a species-group, the *deflexicollis* group, and *O. aloysiellus* ZUNINO, 1977 is also a member of the group distributed in Thailand. It is very interesting that they are similar to one another in their food habit.

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