

## On the Taxonomy of *Cylindromicrus gracilis* SHARP in Japan (Coleoptera: Bothriideridae)

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**Abstract** *Cylindromicrus gracilis* is recorded for a second time long after the original description by SHARP (1885). The specimens formerly recorded from Japan as “*Cylindromicrus gracilis*” are found to be a different species new to science. Both the species are described, illustrated and their distinctive morphology is discussed.

“*Cylindromicrus gracilis*” collected in Japan was illustrated by SASAJI (1985) in “The Coleoptera of Japan in Color, III” and recently reported also by NARUKAWA and TANAKA (2004) with illustration. However, the body shape of “*C. gracilis*” in both the illustrations seems to be much stouter as compared with the figure in the original description by SHARP (1885), suggesting a possibility that the Japanese specimens are not specifically identical with the slender SHARP’s species. In the meantime, Mr. Yukihiko HIRANO collected a *Cylindromicrus* specimen which has very slender body. A close examination of this specimen revealed that it must be identical without doubt with SHARP’s species. The discretion becomes more reliable by the fact that HIRANO’s specimen was collected in Kumamoto near the type locality of SHARP’s species.

I am going to give in the present paper a redescription of the true *Cylindromicrus gracilis* and a description of the other species which has hitherto been believed as *C. gracilis* and is now considered a new species.

### *Cylindromicrus gracilis* SHARP ( Figs. 1, 2 and 5 )

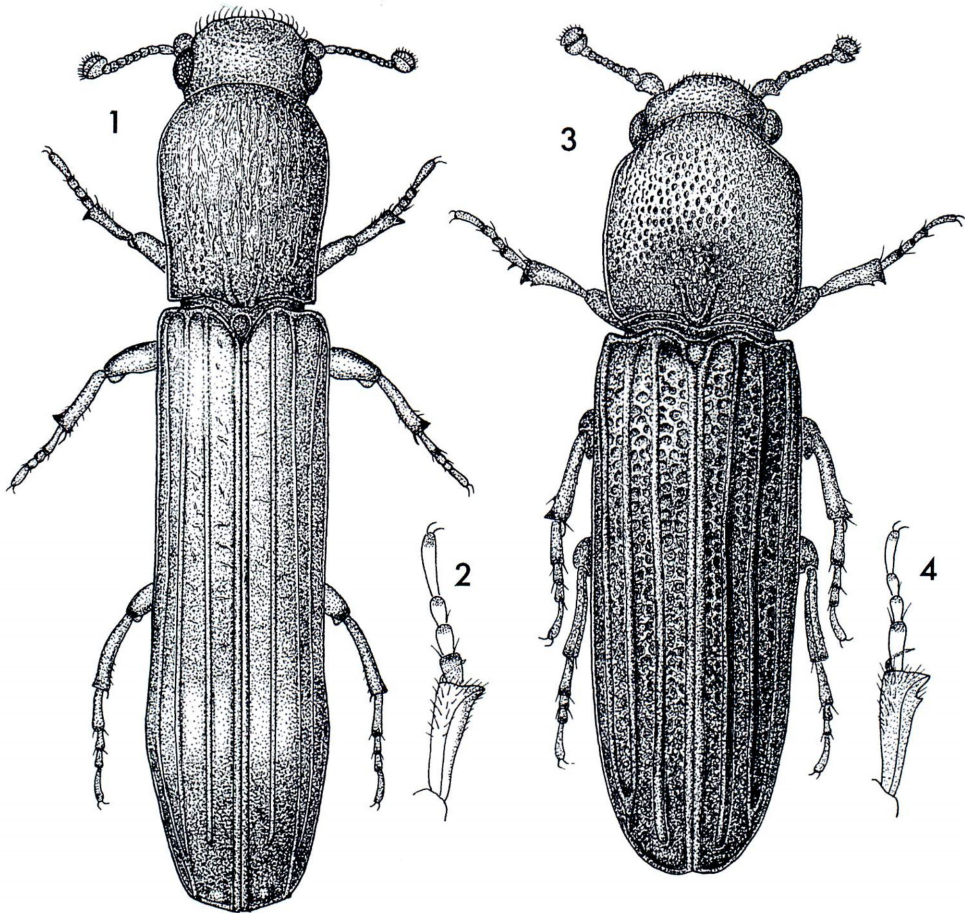
*Cylindromicrus gracilis* SHARP, 1885, p.73, pl. 19, fig. 6.

Length: 3.5 mm.

Female. Color of head and pronotum reddish dark brown, elytra blackish brown, antennae reddish brown. Surface of head finely punctured. Antenna 11-segmented; segment II a little larger than each of III - IX; X and XI forming a large club, broader than long.

Pronotum elongate, about  $2.8\times$  as long as wide, gradually narrowed posteriad; anterior margin arcuate; surface with a dull sculpture of elongate punctures or scratches; a pair of obscure longitudinal ridges in front of scutellum; posterolateral corners making a right angle.

Elytra elongate, about  $2.5\times$  as long as wide and  $2.8\times$  as long as pronotum; sides parallel, weakly swollen out posteriorly, where the largest width occurs, with oblique declivity near apex; each elytron with five sharply elevated costae; costa II ending abruptly in mid-distance along the declivity of elytron, leaving posteriorly enough space toward apex; costae III and IV



Figs. 1–4. Two species of *Cylindromicrus* in Japan.—1, *Cylindromicrus gracilis* SHARP; 2, tarsus and tibia of fore leg of *C. gracilis*; 3, *Cylindromicrus hiranoi* sp. nov.; 4, tarsus and tibia of fore leg of *C. hiranoi*.

joining together posteriorly to reach apex of elytron; interspace of costae flat, almost smooth, only with very weak irregular wrinkles.

Leg reddish brown, dark-colored only near tips of femora and tibiae; apical part of each femur with a rounded ventral appendage; tibiae expanded apically, each with a curved spine; fore tibia with a number of short setae on apical half; segment I of fore tarsus almost as long as II and III, distinctly shorter than IV (Fig. 2); segment I of middle and hind tarsi a little longer than IV.

Material examined: 1 ♂, Naidaijin-kyô in Yamato-chô, Kumamoto Prefecture, southern Japan, 22. X. 2007, H. HIRANO leg. Deposited in the collection of the National Museum of Nature and Science, Tokyo.

Distribution: Kyushu (Kumamoto Prefecture).

***Cylindromicrus hiranoi*** AOKI, sp. nov.

(Figs. 3, 4, 6, 7 and 8)

*Cylindromicrus gracilis*: SASAJI, 1985, p. 294, pl.48, fig. 21.— NARUKAWA & TANAKA, 2007, p. 19. fig.

Length: 3.7–4.4 mm.

Color mostly black, only antennae, tibiae and tarsi reddish dark brown.

Female. Head distinctly and densely punctured; clypeus flattened, with sparse pile; antenna 11-segmented; segment II a little larger than each of III–IX; X and XI forming a large, rounded club.

Pronotum rather broad and convex dorsally, 1.08–1.11 (average 1.09)× as long as wide, with arcuate anterior margin, narrowed posteriorly to form obtuse angles of 120° at posterolateral corners; surface sculptured densely with distinct oval foveoles; in front of scutellum a pair of weak longitudinal ridges connecting with each other to form a U- or V-shaped structure; posterior margin of pronotum gouged out on both sides of the median structure.

Elytra elongate, 2.55–2.65 (average 2.62)× as long as wide, parallel-sided, without posterior swelling, the largest width of elytra occurring anteriorly, just behind proximal corners; each elytron with five sharply elevated costae; costa II strongly elevated apically and then ending abruptly near apex; costae III and IV joining together to reach apical margin of elytron; interspace of costae with deep sculpture of foveoles forming network.

Legs a little paler in color than body; apical part of each femur with a rounded ventral appendage; tibiae expanded apically, with a strong curved spine; fore tibia with a short denticle just behind anterior expansion (Fig. 4); segment I of fore tarsus longer and thicker than II and III, nearly as long as IV (Fig. 4); segment I of middle and hind tarsi longer than IV.

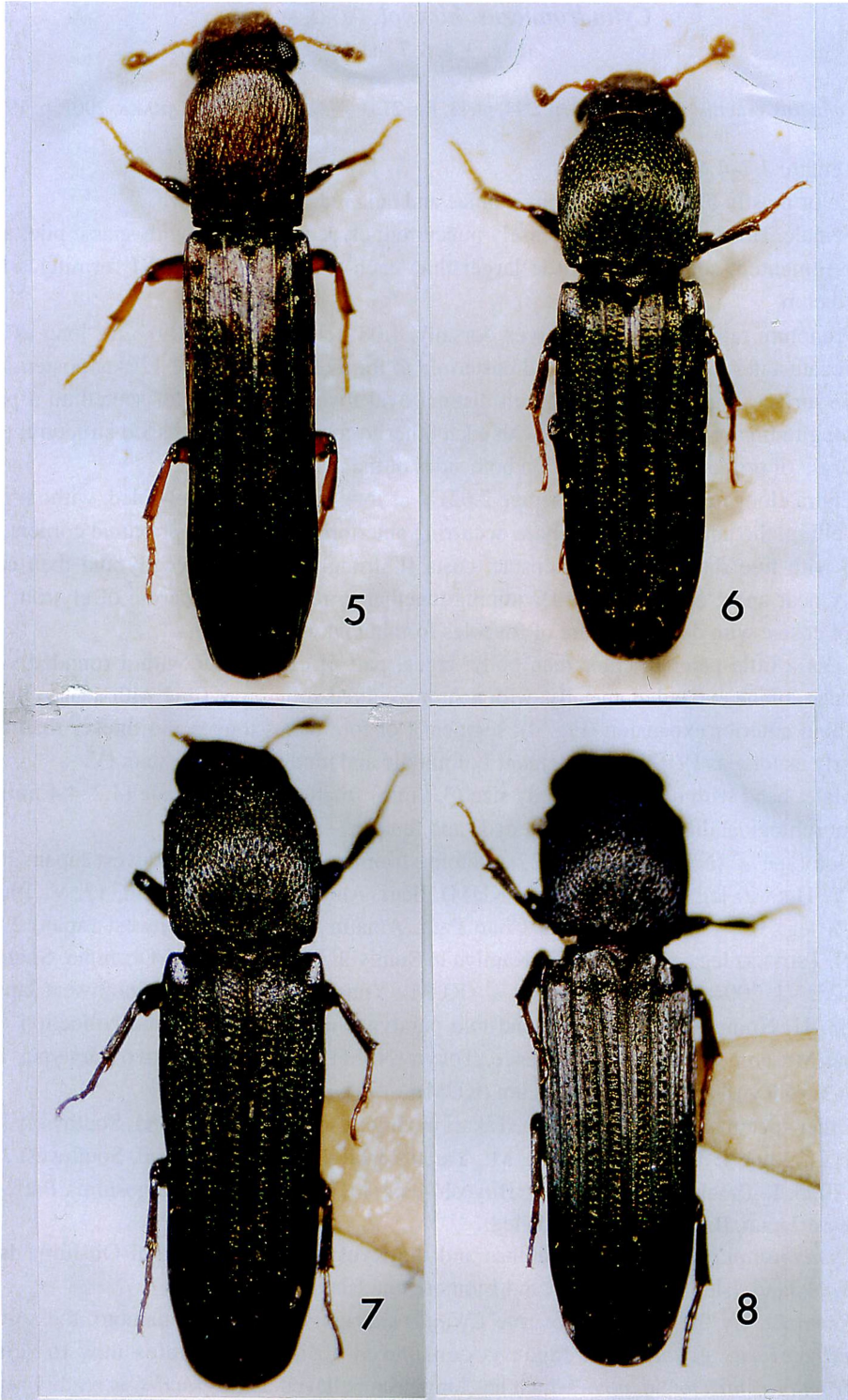
Male: head with dense pile. Body size (3.7 mm) smaller than in female (4.2–4.4 mm). No other morphological difference between male and female.

Holotype ♂ (NSMT-I-C-200122), Ohtomi, Iriomotejima Island, Southwest Japan, 20. IV. 2004, Y. HIRANO leg. Paratypes: 1 ♂ (KUM), Ikari, Amami-Ohshima Island, 17. V. 1960, T. SHIBATA leg.; 1 ♀ (NSMT), Kamiya Chuo Path, Amami-Ohshima, Southwest Japan, 29. VI. 1998, S. TSUYUKI leg.; 1 ♀ (NSMT), Kamiya in Sumiyoh Village, Amami-Ohshima, Southwest Japan, 25. VI. 2004, S. TSUYUKI leg.; 1 ♂ (KUM), Yona, Okinawa Island, Southwest Japan, 5. V. 1963, H. Nomura leg. Holotype and two paratypes are deposited in the collection of the National Museum of Nature and Science, Tokyo (NSMT), and the other two paratypes in the collection of Kyushu University Museum (KUM).

Other specimens examined. 1 ex., Takari in Ohgimison, Okinawa Island, Southwest Japan, 18–22. VI. 2003, I. Tanaka leg.; 1 ex., Mt. Yarabu-dake, Ishigakijima Island, Southwest Japan, 8. III. 2006, I. Tanaka leg.; 1 ex., Mt. Hoyoshi-dake in Takayama-cho, Kagoshima Prefecture, Southwest Japan, II. 1996, M. Nishida leg.

*Distribution*: Kyushu (Kagoshima) and the Ryukyu Islands (Amami-Ohshima Island, Okinawa Island, Ishigakijima Island and Iriomotejima Island).

*Remarks*. By the discovery of true *Cylindromicrus gracilis* in Kumamoto, the so-called “*Cylindromicrus gracilis*” in Japan is considered a different species new to science. *Cylindromicrus hiranoi* sp. nov., which has long been believed as *C. gracilis*, is readily separated from true *C. gracilis* by its far stocky body shape. For more exact discrimination, the distinguishing characters are summarized in Table 1. Judging from the position of legs (See Fig.7),



Figs. 5–8. Photos of the two species of *Cylindromicrus* in Japan.—5, *Cylindromicrus gracilis* SHARP; 6, *Cylindromicrus hiranoi* sp. nov. (from Iriomote-jima Is., holotype); 7, *C. hiranoi* (from Amami-Ohshima Is., paratype); 8, *C. hiranoi* sp. nov. (from Okinawa Is., paratype).

one of the paratypes doubtless represents the specimen which was used for the photo material of “*C. gracilis*” in the book “Coleoptera of Japan in Color”.

**Table 1. Distinguishing characters  
of *Cylindromicrus gracilis* SHARP and *C. hiranoi* sp. nov.**

	<i>C. gracilis</i> SHARP	<i>C. hiranoi</i> sp. nov.
<b>Body color</b>	Dark reddish brown	Black
<b>Pronotum</b>		
<i>Shape</i>	Elongate (2.8× as long as wide)	Broad (1.08-1.11× as long as wide)
<i>Surface</i>	With dull sculpture of elongate punctures or scratches	With distinct sculpture of oval foveoles
<i>Posterolateral corners</i>	Right angle	Obtuse angle
<b>Elytra</b>		
<i>Shape</i>	Elongate (3.5× as long as wide)	Broad (2.55-2.65× as long as wide)
<i>Interspace of costae</i>	Nearly smooth	Deeply sculptured
<i>Posterior end of costa II</i>	Distant from apex	Close to apex
<i>Apical part</i>	With strong declivity	Without strong declivity
<b>Legs</b>		
<i>Segment I of fore tarsus</i>	As long as II and III, shorter than IV	Longer than II and III, as long as IV
<i>Middle and hind legs</i>	Widely separated	Not widely separated

### Acknowledgement

I wish to express my sincere thanks to Mr. Yukihiro HIRANO (Odawara City), who collected the genuine *C. gracilis* and offered me a chance to inspect taxonomical status of the so-called “*C. gracilis*” in Japan, and the specific name of the new species is given after him. Dr. Katsura MORIMOTO, Prof. emeritus of Kyushu University, was kind enough to find and loan me the specimens of “*C. gracilis*” (= *C. hiranoi*) deposited in Kyushu University Museum and gave me useful suggestions. Mr. Isamu TANAKA (Nishinomiya City) offered me some specimens from his collection. Dr. Shun-Ichi UÉNO, emeritus curator of the National Museum of Nature and Science, Tokyo, gave me valuable advice after careful reading of my manuscript.

## 要 約

青木淳一：日本のセスジツツホソカタムシの分類学的検討。——セスジツツホソカタムシ *Cylindromicrus gracilis* SHARP, 1885 は南中国, シッキムおよび北オーストラリアに生息するとされ, 日本でも九州, 屋久島および奄美大島で分布が確認され, 原色日本甲虫図鑑 (保育社) に図説されている。また, 最近は生川・田中 (2004) によって沖縄島からも写真とともに報告されている。しかし, これらの文献に掲載された写真を SHARP (1885) の原記載の図と比較してみたかぎり, 一見して同種とは思われないほど形態が異なっている。そのような疑問を抱いていた折から, *C. gracilis* の基準産地の熊本県下で, SHARP の記載したものと同一と思われる細長い個体が平野幸彦氏によって採集され, これが本物の *C. gracilis* であると断定した。一方, わが国で従来 “*C. gracilis*” とされてきたものは新種であることが判明し, ここに両種を改めて記載した。新種セスジツツホソカタムシ *Cylindromicrus hiranoi* sp. nov. は, そのずんぐりした体形, 前胸背板および鞘翅の明瞭な彫刻, 前付節の I 節が II・III 節よりも長いことなどにより, ヒゴホソカタムシ (新称) *C. gracilis* SHARP とは容易に区別できる。

## References

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## Two Species of *Physoronia* (*Lordyodes*) from Indochina (Coleoptera: Nitidulidae: Nitidulinae)

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**Abstract** *Physoronia* (*Lordyodes*) *dentipes* JELÍNEK, 1978, originally described from Bhutan, is reported from Laos, its description is supplemented and genitalia of both sexes are figured. *Physoronia* (*L.*) *excisa* JELÍNEK, sp. nov. is described from Vietnam and Laos and compared with related species.

Systematics of the genus *Physoronia* REITTER, 1884 is not yet satisfactorily settled. KIREJTSHUK (1997), partly following KIREJTSHUK (1992) and AUDISIO (1993) considered the former genera *Physoronia* REITTER, 1884, *Pocadiodes* GANGLBAUER, 1899 and *Lordyodes* Reitter, 1884 as subgenera of *Physoronia* and his approach was accepted by JELÍNEK (1999), who proposed key to identification of the three subgenera. Recently KIREJTSHUK (2006) described a new species *Physoronia intermedia* from the Far East of Russia. He pointed out that this species occupied a transitional position between the three subgenera and consequently reduced both *Lordyodes* and *Pocadiodes* to mere synonyms of *Physoronia*. *Physoronia* is characterized especially by its apomorphic specialized ovipositor with missing styli and diverging gonocoxites with recurrent subapical teeth, but the ovipositor of *P. intermedia* figured by KIREJTSHUK (2006) differs from it in having gonocoxites contiguous all along their inner margins and missing recurrent subapical teeth, so that the systematic position of this species as well as the infra-generic classification of *Physoronia* will be probably subject of further discussion.

Nevertheless the species currently placed in the subgenus *Lordyodes* apparently represent a monophyletic group, no matter which status it may receive. They share a synapomorphic modification of prosternum, which is elevated in front of prosternal process and delimited by raised edges laterally. To this group belong *P. (L.) latipes* (REITTER, 1884) from Japan, redescribed by HISAMATSU (1976) and *P. (L.) dentipes* (JELÍNEK, 1978) described from one damaged specimen from Bhutan. Description of the latter species is supplemented below, based on a short series of specimens recently collected in northern Laos. Third species, *P. (L.) excisa* JELÍNEK, sp. nov. is described from Vietnam and Laos in the present paper. *P. kaszabi* (KIREJTSHUK, 1984) from India listed as member of the subgenus *Lordyodes* by JELÍNEK (1999) and JELÍNEK & AUDISIO (2007) is according to KIREJTSHUK (2006) junior synonym of *P. gracilis* (JELÍNEK, 1978), which belongs to the subgenus *Pocadiodes*.

Following acronyms are used throughout the paper: NHMB - Naturhistorisches Museum, Basel, Switzerland), NMPC - National Museum, Prague, Czech Republic. LE/WE - ratio length

of elytra: width of elytra; WP/LP - ratio width of pronotum: length of pronotum; P/A index is ratio distance between posterior pronotal angles : distance between anterior pronotal angles.

It is my pleasant duty to express my thanks to M. BRANCUCCI (Naturhistorisches Museum Basel, Switzerland) and V. KUBÁ (National Museum, Prague, Czech Republic), who enabled me to study the specimens from Laos.

*Physoronia (Lordyodes) excisa* JELÍNEK, sp. nov.

(Figs 2, 3-8)

Type locality: Vietnam, Tam Dao.

Description of holotype. Male. Oval, strongly convex, black, distal ends of antennomeres 2-5 yellow-brown, tarsi brown. Vestiture black, consisting of semierect curved setae on pronotum, on elytra with recumbent setae on elytral striae and with erect stout seriate setae born of fine simple punctures on interstriae. Length 5.6 mm, width 3.3 mm.

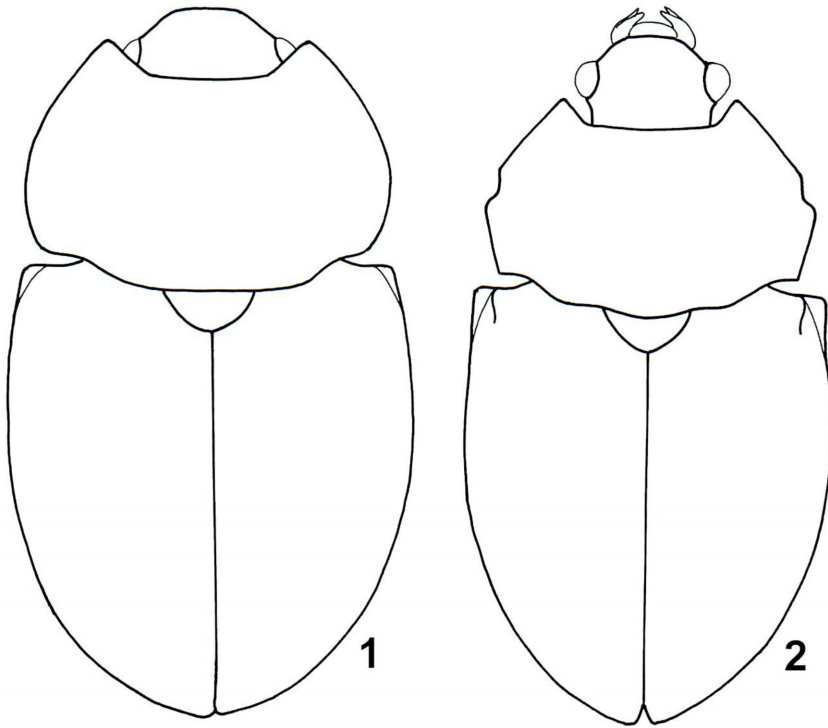
Head. Clypeus transverse, finely punctulate and dull, its anterior margin truncate, not bordered. Frons flat, slightly depressed at internal margins of eyes, with pair of deep impressions between insertions of antennae and with pair of low elongate bulges converging posteriorly above antennal insertions. Large flat impressed punctures with diameter about three times that of eye-facets separated by less than one diameter, becoming smaller anteriorly and shallower near eyes; spaces between them smooth and shining. Temples very short, converging posteriorly.

Antennae slender, longer than width of head across eyes. Antennomeres 2-6 longer than wide, 5 somewhat shorter than neighbouring ones, 7 subequal, nearly as long as wide, 8 transverse. Antennal club three-segmented, oblong ovate, 1.75 times longer than wide, occupying one third of antennal length; antennomere 9 asymmetrical (Fig. 3).

Pronotum widest behind its midlength, twice as wide as in the middle long. P/A index 1.71. Anterior margin truncate, not bordered, anterior angles strongly prominent, acute, with bordered inner side. Sides immediately before the widest point with broadly obtusangulate sinuosity, lateral margins in front of and behind the sinuosity almost rectilinear, converging forwards and backwards respectively. (Fig. 2). Posterior angles obtuse. Base in the middle not bordered, slightly projecting posteriorly against scutellum, at sides oblique, bordered and broadly concave. Disc strongly convex, its median portion strongly convex in posterior half, the convexity complex, consisting of four more or less confluent partial bulges delimited at sides by oblong subparallel impressions. Further, deeper and broader impressions diverging anteriorly are situated at pronotal base opposite of inner sides of humeral bulges. Area between both impressions at either side of pronotum separately vaulted. Large flat punctures somewhat smaller and shallower than those of frons, separated by about one diameter, spaces between them smooth and shining on disc, duller laterally. Posterior side of the posteromedian composed bulge steeply sloping down against scutellum, impunctate, smooth and strongly shining. Scutellum almost semicircular with narrow impunctate border, otherwise with punctures nearly equal to those of pronotum and separated by less than one diameter.

Elytra widest before their midlength, rather strongly narrowed posteriorly, with maximum length at suture, 1.05 times longer than their combined width. Humeral angles obtuse, rounded, lateral margins finely rimmed, shallowly concave behind humeral angles, otherwise regularly





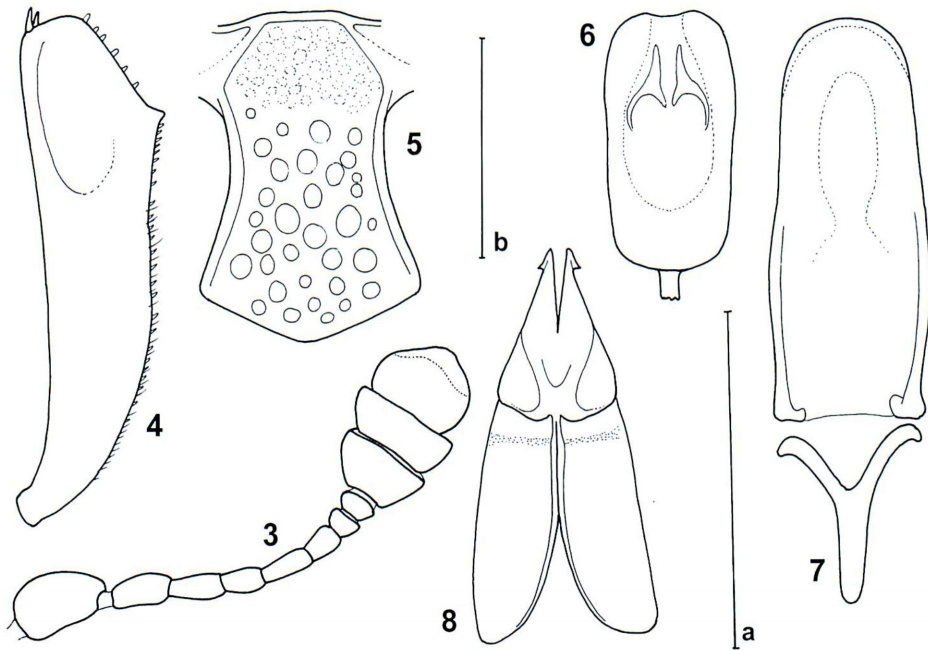
Figs. 1–2. Form of body of *Physoronia (Lordyrodes) dentipes* (JELÍNEK) (1) and *Physoronia (Lordyrodes) excisa* JELÍNEK, sp. nov. (2).

flatly arcuate, not explanate except for humeral angles, not visible simultaneously from above in basal fourth. Surface strongly convex, broadly transversely impressed in basal fourth between fifth striae of both elytra. Humeral bulge strongly convex, elytral base besides scutellum and sutural interstria immediately behind scutellum less strongly but distinctly bulged, all bulges separated by broad shallow impressions. Another flat bulge occurs behind humeral bulge in apical third of each elytron. Surface of elytra with irregular double rows of shallow oval umbilicate punctures bearing recumbent black hairs, rows 5 and 8 shallowly impressed in basal portion; intervals with simple series of stout semierect setae born of simple fine seriate punctures.

Submentum with deeply impressed large umbilicate punctures separated by much less than one diameter. Antennal furrows short and deep, raised outer margins of paragenae converging posteriorly, paragenal grooves well developed.

Median portion of prosternum in front of prosternal process elevated, 2.5 times wider than long, flat, rugosely punctate and dull, delimited at sides by raised blunt edges converging anteriorly and not projecting into teeth prominent beyond anterior prosternal margin (Fig. 5). Hypomera and lateral portions of prosternum concave, impunctate. Prosternal process as wide as distance between metacoxae, bluntly angulate apically, feebly longitudinally convex, impressed umbilicate punctures separated by less than one diameter, interspaces smooth and shining.

Mesosternum situated more dorsally than metasternum, transversely convex, impunctate, microscopically isodiametrically reticulate, dull, with blunt, smooth and shining mediolongitu-



Figs. 3–8. *Physoronia (Lordyodes) excisa* JELÍNEK, sp. nov. 3, antenna; 4 anterior tibia; 5, median portion of prosternum with prosternal process; 6, median lobe of aedeagus; 7, tegmen; 8, ovipositor. Scale a: 0.5 mm, Figs. 3–5; scale b: 0.5 mm, Figs. 6–8.

dinal edge. Metasternum transversely swollen between mesocoxae, its anterior intercoxal process with low concave perpendicular wall, posterior margin between metacoxae shallowly arcuate. Surface depressed behind the midpoint, punctures large, flat, with diameter about five times that of eye-facets, separated by one diameter in the middle, becoming smaller and closer, sometimes almost contiguous laterally, interspaces smooth and shining. Broad arcuate spaces in front of metacoxae as well as vaguely delimited mediolongitudinal strip in posterior half impunctate, glabrous. Mesocoxal lines closely following posterior margins of mesocoxal cavities, in anterolateral corners of metasternum turning posteriorly and running parallel to metasternopleural sutures. Lateral axillary space as wide as antennomere 2, impunctate, microscopically alutaceous. Metepisterna punctate like opposite sides of metasternum, but densely alutaceous, dull. Epipleura nearly as wide as maximum width of metepisterna, with large and deep umbilicate punctures, smooth and moderately shining, concave at humeral angles.

First abdominal sternum depressed between metacoxae, large flat punctures with diameter five to six times that of eye-facets, separated by less than one diameter. Interspaces smooth and shining in the middle, obsolete microreticulate laterally. Metacoxal lines closely bordering posterior margins of metacoxal cavities. Abdominal sterna 2–4 in basal half with transverse series of flat umbilicate punctures equal in size to those of metasternum and with series of fine simple punctures separated by two to three diameters along posterior margin; interspaces obsolete reticulate. Hypopygium broadly rounded apically, punctures of variable size, generally smaller than on preceding sterna.

Fore femora 2.5 times longer than wide, widest in proximal half, anterior margin shallow-

ly emarginate at distal end. Fore tibiae straight, outer subapical angle situated at distal fifth of tibia (Fig. 4); inner subapical angle with pair of short unequal spurs; outer margin of tibia arcuate, finely crenulate and spinulose; dorsal surface with oval concavity in distal third, its inner side distinctly delimited by longitudinal fault, outer side open. Middle and hind femora about three times longer than wide, widest at their midlength. Middle and hind tibiae about five times longer than wide with prominent outer subapical angle, inner subapical angle with pair of very short unequal spurs. Tarsi not dilated, tarsal claws simple.

Eighth abdominal tergite not exposed. Male genitalia as figured (Figs. 6-7), median lobe of aedeagus broadly shallowly concave apically.

Female: externally not different from male. Ovipositor as figured (Fig. 8). Outer basal angles of gonocoxites rounded, basal margins of coxites at central point curved distad.

Variation. The lateral sinuosity of pronotum is either marked by a faint concavity or absent in small specimens. Yellow-brown colour of distal ends of antennomeres 2-5 may be more extended, antennomere 2 sometimes completely yellow-brown. Body length 4.5-5.9 mm, width 2.7-3.3 mm, WP/LP 1.92-2.00, LE/WE 1.03-1.08, P/A index 1.70-1.82.

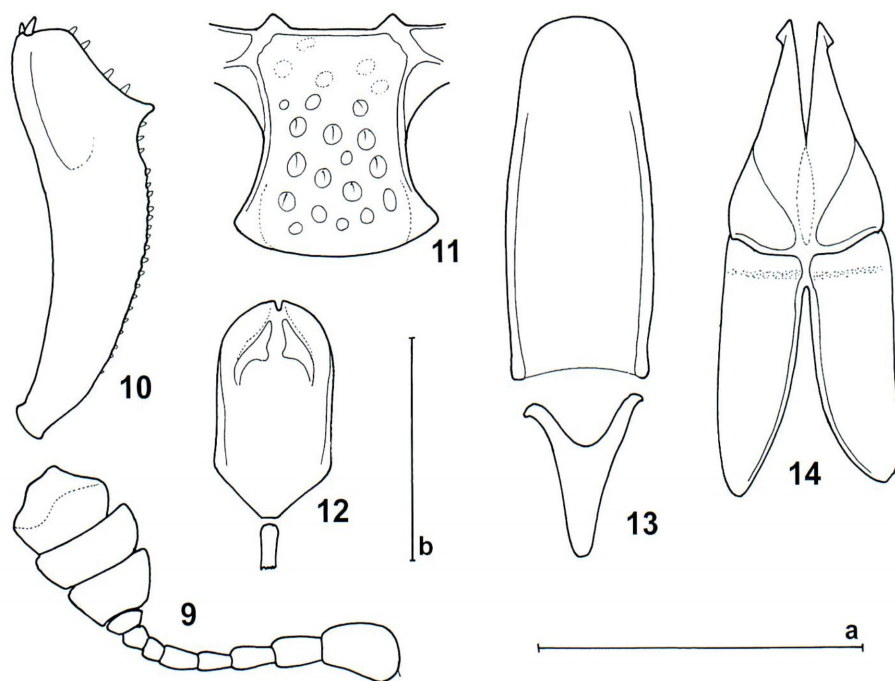
Differential diagnosis. *P. excisa* sp. nov. differs from the sympatric *P. dentipes* as follows. *P. dentipes* (JELÍNEK, 1978): body smaller (length 3.1-4.2 mm), black, sometimes with dark red spots at the base of elytra and/or at pronotal angles. Antennae apart from the black club yellow-brown. Posterior angles of pronotum rounded, lateral margins of pronotum never excised. Elytra more broadly rounded posteriorly. Lateral edges of prosternal disc projecting as small teeth over anterior margin of prosternum (Fig. 11). Anterior intercoxal process of metasternum with raised transverse ridge, metasternum with subtriangular impunctate area between metacoxae and midpoint. Fore tibiae moderately curved, its outer margin shallowly concave both before and behind outer subapical tooth (Fig. 10). Median lobe of aedeagus broadly rounded apically with small terminal incision (Fig. 12). Outer basal angles of the gonocoxites of the ovipositor angulate, basal margin of gonocoxites straight (Fig. 14). *P. excisa* JELÍNEK, sp. nov.: body larger (length 4.5-5.9 mm), black without red spots, antennae black, only distal ends of antennomeres 2-5 yellow-brown. Posterior angles of pronotum distinct, obtusely angulate, lateral margins usually with distinct obtusangulate excision. Lateral edges of prosternal disc without prominent teeth (Fig. 5). Elytra more strongly narrowed posteriorly. Anterior intercoxal process of metasternum somewhat transversely swollen, but without sharp ridge, metasternum with irregular mediolongitudinal impunctate strip behind its midlength. Fore tibiae straight, hardly concave besides subapical tooth. Median lobe of aedeagus broadly and shallowly concave apically (Fig. 6). Outer basal angles of gonocoxites rounded, basal margins of coxites curved distad at "central point" (Fig. 8).

*P. latipes* (REITTER, 1884) from Japan has prosternum similar to that of *P. excisa* sp. nov., but differs from both above species by the absence of the prominent subapical tooth of fore tibia (cf. Hisamatsu, 1976).

Type material. Holotype, ♂, N. Vietnam, Tam Dao, 900-1400 m, 3-11. VI. 1985, J. JELÍNEK lgt. Deposited in the National Museum, Prague. Paratypes: Laos, Phongsaly province, Phonsaly env., 21°41'N, 102°6'E (1500 m), 6-17. V. 2004, V. KUBÁ lgt., 5 ♀♀ (NHMB and NMPC).

*Geographic distribution.* Northern Laos and northern Vietnam.

*Name derivation.* Latin adjective excisus, -a (excised), referring to the characteristic obtusangulate excision of pronotal sides.



Figs. 9–14. *Physoronia (Lordyodes) dentipes* (JELÍNEK).— 9, antenna; 10, anterior tibia; 11, median portion of prosternum with prosternal process; 12, median lobe of aedeagus; 13, tegmen; 14, ovipositor. Scale a: 0.5 mm, Figs. 9–11, 14; scale b: 0.5 mm, Figs. 12–13.

***Physoronia (Lordyodes) dentipes* (JELÍNEK, 1978)**

(Figs 1, 9–14)

*Lordyodes dentipes* JELÍNEK, 1978: 204. (Type locality: Bhutan, Phuntsholing).

Because the species was described only from damaged holotype, some additional observations are given.

Body black, dark red spots sometimes occur at the base of elytra between humeral bulge and scutellum and/or on anterior corners of pronotum, in one specimen also on posterior pronotal corners. Antennomeres 1–7 yellow-brown, antennal club black. Vestiture on head, pronotum and scutellum whitish, semierect and curved, otherwise black.

Body length 3.1–4.2 mm, width 1.9–3.0 mm, WP/LP 1.75–1.86, WE/LE 0.90–1.03, P/A index 1.70–1.86.

No sexual dimorphism observed, the eighth abdominal tergite in males completely retracted, not visible from outside. Male genitalia as figured (Figs. 12–13), median lobe of aedeagus broadly rounded apically with small terminal incision. Ovipositor as figured (Fig. 14), outer basal angles of gonocoxites angulate, basal margin of gonocoxites straight.

*Material examined*: 7 spec. (NHMB and NMPC), N. Laos, Louangphrabang province, Thong Khan, 19°35'LN, 101°58'LE (750 m), 11–21. V. 2002, V. KUBÁ. lgt.

## 要 約

JELÍNEK, Josef: インドシナ産ヒラタケシキスイの2新種——*Physoronia (Lordyrodes) dentipes* JELÍNEK, 1978 をラオスから記録し、記載を補足し、雌雄交尾器を図示した。*Physoronia (L.) excisa* JELÍNEK をベトナムとラオスから新種記載し、近縁種と比較した。

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## New Tenebrionid Beetles from Taiwan (4)

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**Abstract** Five new tenebrionid species are described from Taiwan under the names: *Plesiophthalmus lijainus* sp. nov., *Strongylium lini* sp. nov., *S. shigeoi* sp. nov., *S. anna-shanum* sp. nov. and *S. hsiaoi* sp. nov.

Succeeding to the previous paper (MASUMOTO *et al.*, 2007), the present authors are dealing with five more new species of the tenebrionid beetles collected from Taiwan.

Before going further into details, they would like to express their cordial acknowledgement to Messrs. Yu-Long LIN, Taipei, Shigeo TSUYUKI, Zushi City, Hanmei HIRASAWA, Nagano Pref., Chung-I HSIAO, Taipei Zoo, Taipei, for offering the materials. They also thank Dr. Makoto KIUCHI, Tsukuba City, for taking clear photographs inserted in this paper.

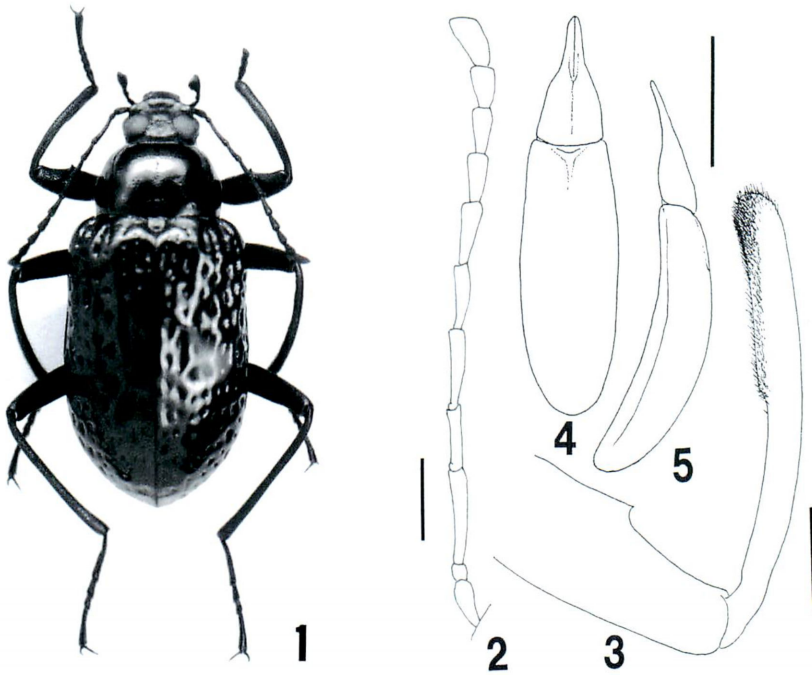
The abbreviations used herein are as follows: NMNST = National Museum of Natural Science, Taichung; NSMT = National Museum of Nature and Science, Tokyo.

### Descriptions of New Species

#### *Plesiophthalmus lijainus* sp. nov.

(Figs. 1–5)

Piceous, head with ventral side and legs, pro- and mesosterna, lateral parts of metasternum, lateral and apical parts of abdomen with feeble coppery tinge, pronotum, scutellum and elytra with weak brassy tinge, apical halves of 11th antennal segments reddish brown; head, pro- and



Figs. 1–5. *Plesiophthalmus lijainus* sp. nov., holotype, ♂ —1, habitus; 2, right antenna; 3, profemur and protibia; 4, genitalia (dorsal view); 5, same (lateral view). Scales = 1 mm.

mesosterna, lateral parts of metasternum, lateral and apical parts of abdomen and dorsal side of legs rather sericeously, weakly shining, pronotum fairly strongly, metallicly shining, scutellum, elytra, ventral side of legs, major central part of metasternum and intero-basal parts of abdomen moderately shining; body surface except for antennae, ventro-apical sides of tibiae and tarsi almost glabrous. Body subovate, strongly convex dorsad, rather hunch-backed.

Male: Head transversely subelliptic, covered with isodiametric microsculpture, truncate at apex; clypeus transversely hexagonal and gently convex, rather closely punctate, each puncture with a bent hair, fronto-clypeal border weakly impressed and widely U-shaped, extending to outer margins; genae trapezoidal, gently raised outwards, punctulate and finely haired, with outer margins weakly produced antero-laterad; frons somewhat boldly Y-shaped, flattened and gradually inclined anteriorly, irregularly punctulate and haired; diatone (distance between eyes) about 0.9 times the width of eye diameter. Eyes somewhat comma-shaped in dorsal view, convex laterad, roundly inlaid into head. Antennae subfiliform, reaching basal  $2/9$  of elytra, ratio of the length of each segment from base to apex: 0.57, 0.17, 1.06, 0.63, 0.72, 0.61, 0.60, 0.53, 0.51, 0.39, 0.64.

Pronotum subtrapezoidal, wider than long (4 : 3), with base wider than apex; apex very slightly sinuous on each side, bordered and rimmed; base weakly produced in middle, feebly truncate opposite to scutellum, gently sinuous on each side, not bordered; sides rather steeply declined to lateral margins, which are rounded, very weakly sinuous before base, bordered and finely rimmed, the rims visible from above; front angles obtuse, without angular corners, hind angles obtusely angular; disc strongly, somewhat hemispherically convex, weakly impressed on midline, also weakly impressed close to base on each side, very weakly covered with isodiamet-



ric microsculpture, scattered with minute and round punctures, each with a minute decumbent hair, sparsely scattered with larger punctures near basal parts. Scutellum subhexagonal, weakly raised, feebly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures, with a transverse impression at posterior 1/3.

Elytra subovate, 1.58 times as long as wide, 3.06 times the length and 1.79 times the width of pronotum, widest at apical 3/5; dorsum strongly convex, with a weak gibbosity at basal 3/10 where is the highest, feebly depressed in inverted V-shape before the gibbosity; disc very weakly covered with isodiametric microsculpture and scattered with microscopic punctures, often very weakly, rather transversely aciculate, with rows of punctures, which are elongate, often connected with one another, with striae in interior parts, and often longitudinally foveolate in medial and lateral parts; intervals weakly convex, feebly undulate; humeri weakly swollen antero-laterad; apices rounded.

Terminal segment of maxillary palpi securiform with curved outer side about twice the length of inner, 1.1 times that of apical. Mentum somewhat obtrapezoidal, convex in intero-apical part, covered with isodiametric microsculpture, sparsely pubescent; gula somewhat narrowly trapezoidal, microshagreened and wrinkled, obliquely bordered by impressions. Prosternum short, coarsely rugoso-punctate; prosternal process rather rhombic, depressed, with lateral corners rounded and pointed at the apex. Mesosternum rugoso-punctate, depressed in anterior part, raised in V-shape in posterior part. Metasternum weakly convex and smooth in medial part, wrinkled and haired in lateral parts. Abdomen punctulate and covered with fine bent hairs; anal sternite with rounded apex.

Male profemur with anterior face spined at apical 1/3; male protibia curved, with interior face noticeably gouged in basal 3/5 and haired in apical 2/5; male mesotibia gently curved interiad; male metatibia nearly weakly curved interiad; ratios of the lengths of pro-, meso- and metatarsal segments: 0.38, 0.27, 0.24, 0.22, 1.04; 0.59, 0.37, 0.31, 0.32, 1.19; 1.29, 0.39, 0.34, 1.21.

Male genitalia subfusiform, 2.73 mm in length, 0.61 mm in width, gently curved in lateral view; fused lateral lobes 0.89 mm in length, longitudinally impressed on midline, with apical 1/3 gently prolonged.

Body length: 13.3 mm.

Female: unknown.

Holotype: ♂, Taiwan: Taitung, Lijai logging trail (利嘉林道), 10. VI. 2007, leg. Y.-L. LIN (NMNST).

*Notes.* This new species is very unique in the shape, particularly the elytra being longitudinally impressed instead of being striated. No species possessing such characteristic has known from East Asia.

The specific name is given after the place where the holotype was collected.

***Strongylium lini* sp. nov.**

(Figs. 6, 10, 14, 17 and 18)

Blackish brown, head, pronotum, antennae, anterior legs, apical parts of mesofemora, whole parts of mesotibiae, apical parts of metafemora, and whole parts of metatibiae darkened, elytra with very feebly coppery to brassy tinge, mouth parts and prothrochanters yellowish brown;

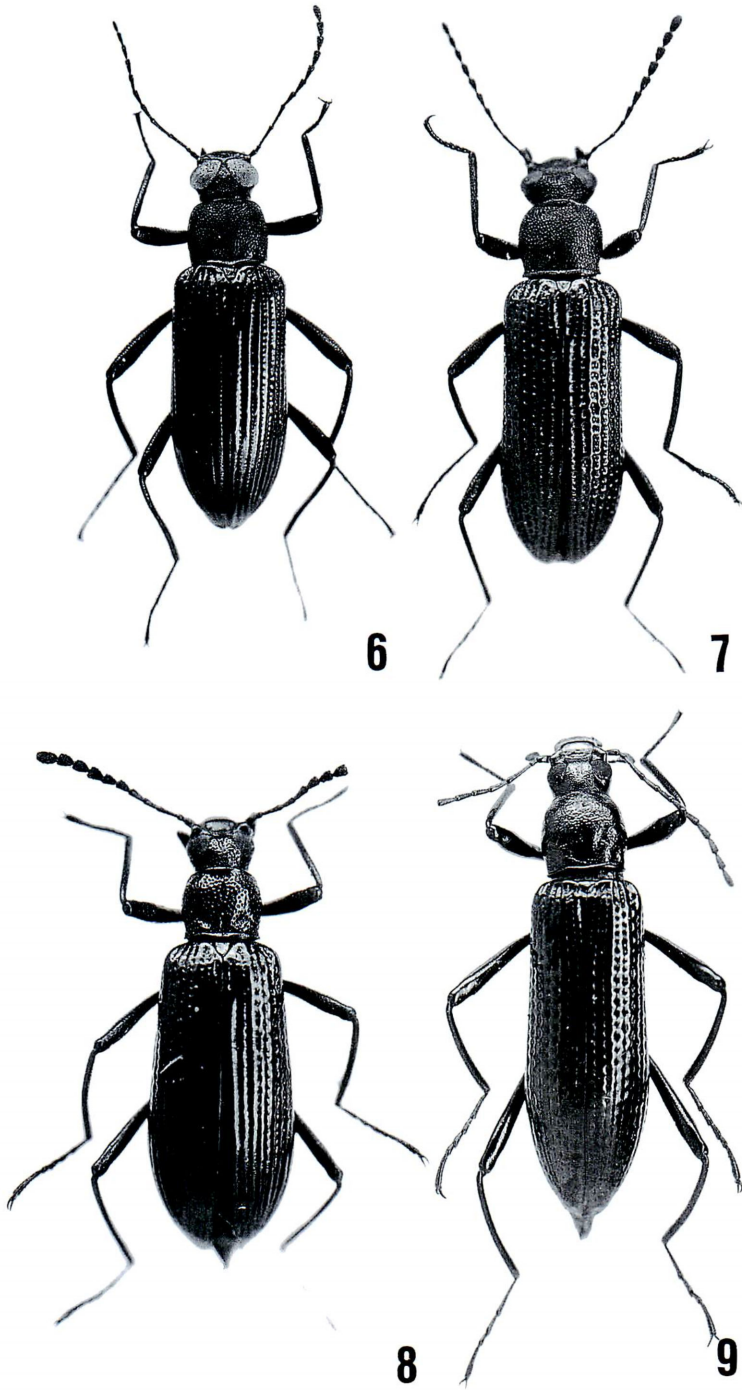
head, pronotum and scutellum feebly, rather sericeously shining, elytra weakly shining, ventral surface except for ventral part of neck rather alutaceous, ventral part of neck including gula somewhat vitreously shining; body surface except for antennae and tarsi beneath hardly haired. Body elongated subfusiform, gently constricted between head and pronotum, and pronotum and elytra, respectively, rather strongly convex dorsad.

Male: Head subdecagonal, wholly covered with isodiametric microsculpture, weakly grooved along eyes; clypeus transversely subelliptical, gently inclined anteriorly, rather strongly bent ventrad in front, scattered with small, round punctures, which become closer and smaller apicad, fronto-clypeal border widely curved and impressed, the impression extending to outer margins; genae rather strongly raised and produced antero-laterad, irregularly punctulate, with outer margins subparallel in basal parts in dorsal view; frons somewhat T-shaped, steeply inclined anteriorly, nearly vertical in area behind fronto-clypeal border, sparsely, irregularly scattered with punctures in anterior part, almost impunctate in middle (anterior area between eyes), rather closely, irregularly scattered with punctures in posterior parts; vertex weakly convex, rather closely, irregularly punctate; ventral part of neck closely covered with punctures, each with a fine scale at the centre. Eyes large, obliquely subovate in dorsal view, strongly convex laterad, obliquely, roundly inlaid into head, approximate with each other, with diameter about 1/8 times the width of an eye diameter. Antennae subfiliform, reaching about basal 1/4 of elytra, ratio of the length of each segment from base to apex: 0.21, 0.12, 0.52, 0.48, 0.36, 0.34, 0.32, 0.31, 0.30, 0.29, 0.32.

Pronotum subquadrate with rounded sides, hardly sinuous before bases in dorsal view, wider than long (5 : 4), widest at the middle, more or less covered with isodiametric microsculpture; apex nearly straight, rimmed, the rim tapering laterad, punctulate; base gently bisinuous, rather strongly bordered by a groove, which is deepened in central part, sparsely punctulate; sides gently declined to lateral margins, which are weakly bordered, finely rimmed, and invisible from above; front angles rounded, hind angles subrectangular, with acute corners; disc gently convex, weakly depressed in posterior parts, impressed close to basal groove on each side, closely punctate, the punctures sometimes fused with one another, each with a microscopic bent scale at the centre. Scutellum sublinguiform, feebly convex, covered with isodiametric microsculpture, finely wrinkled.

Elytra elongated subfusiform, about 2.17 times longer than wide, 4.09 times the length and 1.55 times the width of pronotum, widest near base and at apical 4/9, weakly constricted at basal 1/3; dorsum rather strongly convex, weakly undulate, highest at basal 2/5, weakly depressed along scutellary striae; disc punctato-striate, the punctures somewhat ovate, deepened anteriorly, rather closely set in interior parts, 1st stria and 2nd, 3rd and 4th connected with each other in basal parts, 5th deepened and reaching base, 1st stria and 2nd, 3rd and 6th, respectively, connected with each other in apical parts; intervals convex, covered with isodiametric microsculpture, very weakly, somewhat transversely microaciculate, sparsely scattered with microscopic punctures; humeri weakly convex; apices gently produced and slightly dehiscent.

Terminal segment of maxillary palpi securiform, with feebly curved exterior side 1.67 times the length of interior, and 0.83 times the length of nearly straight apex. Mentum rather obtrapezoidal, convex in intero-apical part, ruguloso-punctate; gula somewhat parabolic, almost smooth, very weakly transversely wrinkled, with a pair of impressions on the lateral borders. Prosternum ruguloso-punctate, strongly raised between coxae, with prosternal process roundly produced, gently depressed and rugulose; mesosternum short, depressed and punctulate in anterior part,



Figs. 6–9. Habitus of species.— 6, *Strongylium lini* sp. nov., holotype, ♂; 7, *S. shigeoi* sp. nov., holotype, ♂; 8, *S. anmashanum* sp. nov., holotype, ♂; 9, *S. hsiao* sp. nov., holotype, ♀.

raised in areas before coxae, mesepisternum scattered with coarse punctures; metasternum impressed on midline, weakly convex on each side, feebly covered with isodiametric microsculpture and very weakly, rather transversely wrinkled, ruguloso-punctate in basal and lateral parts. Abdomen very weakly covered with isodiametric microsculpture, three basal sternites sparsely, finely punctate (each puncture with a microscopic scale) and rather longitudinally wrinkled, fourth sternite more closely punctate (each puncture with a more noticeably hair) and weakly, transversely wrinkled; anal sternite rather closely scattered with punctures (each with a longer hair), weakly depressed in postero-medial part, and truncate at apex.

Legs slender in members of *Strongylium*; male mesotibiae curved interiad with interior faces haired; male metatibiae weakly gouged and haired on interior faces of basal halves, gently twisted in apical halves with interior faces haired; ratios of the lengths of pro-, meso- and metatarsal segments: 0.13, 0.09, 0.10, 0.9, 0.56; 0.65, 0.38, 0.26, 0.23, 0.62; 0.66, 0.29, 0.25, 0.64.

Male genitalia 1.68 mm in length, elongated subfusiform, tapering apicad and weakly narrowed at the border of basal piece and lateral lobes in dorsal view, weakly curved in basal part in lateral view; fused lateral lobes 0.78 mm in length, gently prolonged apicad, with rather spatulate apices.

Body length: 8.3 mm.

Female: unknown.

Holotype: ♂, Taiwan: Pingtung, Lilongshan (里龍山), 25. V. 2007, Y.-L. LIN leg. (NMNST).

*Notes.* This new species somewhat resembles *Strongylium nakanei* MASUMOTO, 1981, from Sungkang, Nantou Hsien, but can be easily distinguished from the latter by the body less elongate (more fusiform), with the antennae slenderer, the eyes larger and more approximate with each other, the pronotum covered with isodiametric microsculpture and punctate with umbilicate, somewhat penta- or hexagonal punctures, the scutellum not triangular but sublinguiform, and the elytra covered with isodiametric microsculpture, and striae punctures weaker and rather ovate.

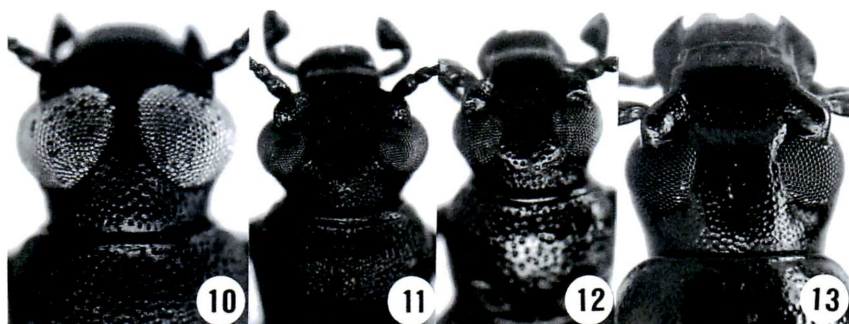
The specific name of this new species is given after Mr. Y.-L. LIN, who kindly offered the type specimen.

### *Strongylium shigeoi* sp. nov.

(Figs. 7, 11, 15, 19 and 20)

Brownish black, margins of pronotum and prosternum reddish brown, elytra blackish brown, mouth parts, ventral part of neck and claws yellowish brown; head and pronotum hardly shining, scutellum and elytra weakly, somewhat sericeously shining, ventral surface except for ventral part of neck rather alutaceous, ventral part of neck including gula somewhat vitreously shining; body surface except for antennae and ventral sides of tarsi hardly haired. Body elongate and subparallel-sided, convex longitudinally.

Male: Head subdecagonal; clypeus rather obtapezoidal, gently inclined anteriorly, closely ruguloso-punctate, each puncture with a bent hair, fronto-clypeal border nearly straight, not sulcate, clypeo-genal borders oblique; genae somewhat parallelogram, closely, finely punctate, rather strongly raised antero-laterad, with outer margins rounded in middle and subparallel in basal parts; frons very widely T-shaped, gently inclined anteriorly, coarsely, closely punctate, the



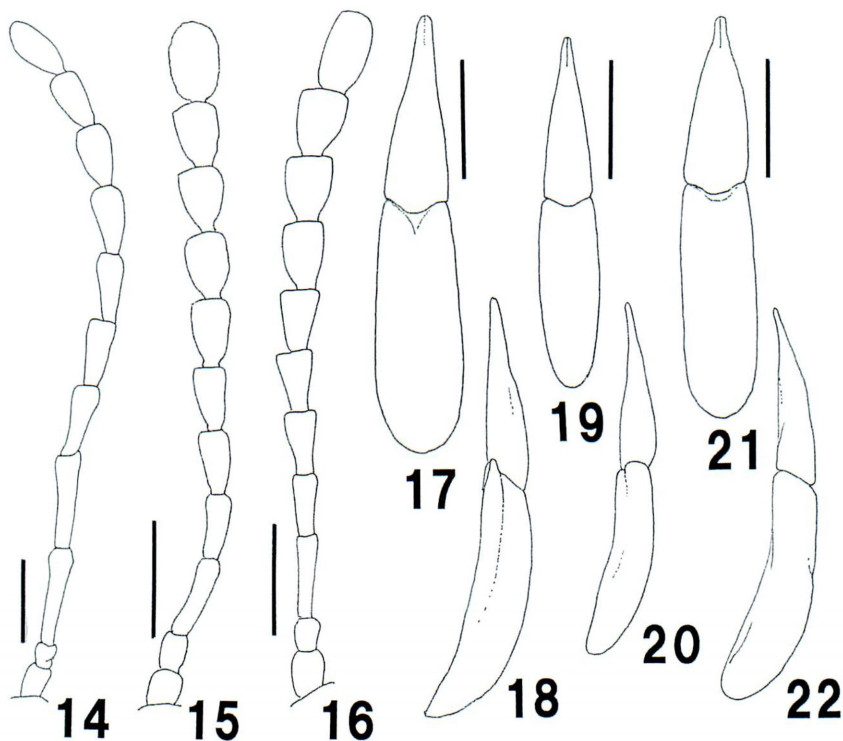
Figs. 10–13. Head of species—10. *Strongylium lini* sp. nov. ♂; 11, *S. shigeoi* sp. nov., ♂; 12, *S. ammashanum* sp. nov., ♂; 13, *S. hsiaoi* sp. nov., ♀.

punctures often fused with one another, each with a bent hair; vertex weakly convex, closely punctate. Eyes rather small in members of this genus, subreniform in dorsal view, moderately convex laterad, obliquely, roundly inlaid into head, with diameter about 1.25 times the width of an eye diameter. Antennae weakly widened apicad, reaching about basal 1/4 of elytra, ratio of the length of each segment from base to apex: 0.14, 0.10, 0.26, 0.23, 0.24, 0.24, 0.24, 0.25, 0.24, 0.23, 0.27.

Pronotum somewhat barrel-shaped, slightly wider than long (8 : 7), widest at the middle; apex weakly produced, boldly rimmed, the rim tapering laterad, rather closely punctulate in anterior margin, almost impunctate in posterior margin; base feebly bisinuous, bordered by an impression and rimmed, the rim sparsely punctulate; sides rather steeply inclined laterad, enveloping ventral parts, with the borders of ventral parts visible only in apical parts (near front angles) and disappeared in remaining parts; front angles rounded, hind angles angularly projected; disc gently convex, weakly impressed close to basal groove on each side, weakly covered with isodiametric microsculpture, closely, shallowly punctate, each puncture with a microscopic bent hair at the centre, those sometimes fused with one another. Scutellum sublinguiform, feebly elevated, weakly depressed in antero-medial part, weakly covered with isodiametric microsculpture, very sparsely scattered with small punctures.

Elytra oblong, about 2.19 times longer than wide, 3.39 times the length and 1.42 times the width of pronotum, widest at apical 2/5 and weakly narrowed at basal 2/7 in dorsal view; dorsum rather strongly convex, highest at basal 1/4, weakly flattened in medio-posterior parts; disc with rows of punctures somewhat quadrate, each central part deeply punctate; intervals convex, often transversely connected with one another, weakly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures, 1st interval and 3rd connected with each other near base, 2nd and 8th, 3rd and 7th connected, respectively, with each other near apex; humeri gently convex; apices weakly produced and rounded.

Terminal segment of maxillary palpi securiform, with gently curved exterior side about twice the length of interior, and of the same length of nearly straight apex. Mentum somewhat obtapezoidal, convex in intero-apical part, ruguloso-punctate, with basal part ridged and weakly bent at the middle; gula rather widely parabolic, smooth, with a pair of impressions on the lateral



Figs. 14–22.—14,17–18, *Strongylium lini* sp. nov., ♂; 15, 19–20, *S. shigeoi* sp. nov., ♂; 16, 21–22, *S. anmashanum* sp. nov., ♂; 14–16, right antenna; 17, 19, 21, genitalia (dorsal view); 18, 20, 22, same (lateral view). Scales = 0.5 mm.

borders in anterior parts. Prosternum weakly covered with microsculpture, transversely and sometimes longitudinally wrinkled in anterior part, strongly raised between coxae, with prosternal process widely triangularly produced, rather strongly depressed, coarsely ruguloso-punctulate; mesosternum short, ruguloso-punctate, depressed in anterior part, raised in areas before coxae, mesepisternum scattered with coarse punctures; metasternum impressed on midline, weakly convex on each side, feebly covered with isodiametric microsculpture, rather closely punctate, the punctures haired, becoming sparser and smaller posteriad. Abdomen covered with isodiametric microsculpture, closely punctate, each puncture with a bent hair; anal sternite rounded at apex.

Legs ordinary in size and shape in members of *Strongylium*, without special modification; ratios of the lengths of pro-, meso- and metatarsal segments: 0.14, 0.09, 0.11, 0.10, 0.39; 0.39, 0.19, 0.16, 0.14, 0.49; 0.46, 0.16, 0.12, 0.48.

Male genitalia 1.30 mm in length, elongated subfusiform, tapering apicad and weakly narrowed at the border of basal piece and lateral lobes in dorsal view, feebly curved in middle in lateral view; fused lateral lobes 0.66 mm in length, weakly prolonged in apical part, with rather spatulate apices.

Body length: 6.2 – 7.7 mm.

Female: Antennae shorter and bolder; head and pronotum more ruguloso-punctate; eyes smaller, with diatone about 2.2 time the width of an eye diameter.

Holotype: ♂, Mt. Kuantaoshan, Nantou Hsien, Formosa, 2. VI. 1995, S. TSUYUKI leg.

(NSMT). Paratypes: 1 ♂ 1 ♀, same locality as the holotype, 15. VI. 1993, LUO Chinchu leg.; 1 ♀, same locality as the holotype, 2. VI. 1983, H. HIRASAWA leg.

*Notes.* This new species closely resembles *Strongylium yokoyamai* MASUMOTO, 1981, from Meifeng, Nantou Hsien, but can be distinguished from the latter by the head more finely punctate, with eyes a little more transverse, the pronotum more finely punctate, with apex more clearly bordered, and the elytra noticeably covered with isodiametric microsculpture and scattered with microscopic punctures, and the punctures in rows more closely set.

The specific name of this new species is given after Mr. Shigeo TSUYUKI, who has been supported the authors' study on Asian tenebrionid beetles for a long time, and offered the type specimen.

### *Strongylium anmashanum* sp. nov.

(Figs. 8, 12, 16, 21 and 22)

Piceous, antennae, clypeus, genae, anterior and posterior margins of pronotum, scutellum, elytra, terminal segments of maxillary palpi, ventral side of neck, profemora, apical halves of meso- and metafemora dark reddish brown, basal halves of meso- and metafemora, all the tibiae and tarsi reddish brown, mouth parts and trochanters yellowish brown; body with dorsal surface and major parts of ventral surface mostly moderately, rather vitreously shining, pro- and mesosterna weakly shining, dorsal surface except for antennae almost glabrous, ventral surface hardly haired except for ventral faces of tibiae in apical halves and ventral faces of tarsi. Body elongate, convex longitudinally.

Male: Head subdecagonal; clypeus semicircular, gently flattened in basal part, rather strongly inclined in apical part, scattered with small punctures, each with a decumbent fine hair, fronto-clypeal border rounded, each lateral part extending to outer margins; genae strongly raised antero-laterad, irregularly punctulate, with outer margins roundly produced; frons somewhat widely T-shaped, steeply inclined anteriorly, covered with isodiametric microsculpture in anterior and posterior parts, coarsely, irregularly punctate, the punctures often fused with one another, each with a bent hair, with a subovate impression between eyes; vertex weakly convex, rather closely punctate. Eyes rather small in members of *Strongylium*, subovate in dorsal view, moderately convex laterad, feebly obliquely, roundly inlaid into head, with diameter about the same width of an eye diameter. Antennae weakly widened apicad, reaching about basal 1/4 of elytra, ratio of the length of each segment from base to apex: 0.27, 0.12, 0.30, 0.25, 0.24, 0.22, 0.23, 0.24, 0.22, 0.23, 0.27.

Pronotum somewhat barrel-shaped, slightly wider than long (8 : 7), widest slightly before the middle, gently sinuous before base; apex weakly produced, rather boldly rimmed, the rim tapering laterad, punctulate in anterior half, and almost impunctate in the remaining part; base feebly bisinuous, clearly bordered by an impression and rimmed, the rim sparsely punctulate in posterior part; sides steeply inclined laterad, bordered from ventral sides by fine ridges, which are visible in anterior halves from above; front angles rounded, hind angles weakly, angularly projected; disc gently convex, with a pair of oblong impressions in basal 1/3, rather coarsely, irregularly punctate, each puncture with a microscopic bent hair. Scutellum sublinguiform, weakly covered with isodiametric microsculpture, very sparsely scattered with minute punctures

in marginal areas.

Elytra oblong, about 2.27 times longer than wide, 4.40 times the length and 1.68 times the width of pronotum, widest at apical 1/3, and very weakly narrowed at basal 1/4 in dorsal view; dorsum moderately convex, highest at basal 1/4, very weakly depressed in area around scutellary striae; disc punctato-striate, the punctures in striae deeply rather closely set, and finely edged along lateral margins, the striae often weakened in antero-lateral parts, where the punctures become larger and often form ovate foveae, 1st stria and 2nd connected with each other near base, 1st and 9th (lateral stria), 3rd and 6th, respectively, also connected with each other in apical parts; intervals gently convex, microaciculate; humeri weakly convex; apices weakly produced and rounded.

Terminal segment of maxillary palpi securiform, with gently curved exterior side about twice the length of interior, and slightly longer than apex. Mentum somewhat obtapezoidal, convex in intero-apical part, rather smooth, with basal part ridged and weakly bent at the middle; gula rather widely parabolic, smooth, with a pair of impressions on the lateral borders in anterior parts. Prosternum weakly covered with transverse microsculpture, scattered with small punctures in lateral and posterior parts, strongly raised between coxae, with prosternal process rounded and strongly depressed, somewhat roundly wrinkled; mesosternum rugoso-punctate, depressed in anterior part, gently raised in areas before coxae, wrinkled; mesepisternum rather smooth, sparsely scattered with rather strong punctures; metasternum finely impressed on midline in posterior part, weakly convex on each side, rather smooth in central part, weakly rugulose in lateral parts, rugoso-punctate in anterior part (area in posterior part of intermesocoxae), scattered with punctures in antero-lateral parts, rugulose in latero-marginal parts. Abdomen rather smooth, scattered with small punctures, each with a bent hair, antero-lateral parts of three basal sternites with isodiametric microsculpture; anal sternite weakly, somewhat ovately depressed in apical part, with rounded apex.

Legs slender; male mesotibiae gently curved intero-ventrad; male metatibiae feebly twisted in apical halves; ratios of the lengths of pro-, meso- and metatarsal segments: 0.16, 0.09, 0.12, 0.11, 0.56; 0.32, 0.19, 0.17, 0.15, 0.62; 0.48, 0.39, 0.16, 0.62.

Male genitalia 1.56 mm in length, elongated subfusiform, very weakly narrowed at the border of basal piece and lateral lobes in dorsal view, weakly curved in middle in lateral view; fused lateral lobes 0.74 mm in length, with prolonged and spatulate apices.

Body length: 6.4 – 7.9 mm.

Female: unknown.

Holotype: ♂, Taiwan: Taichung, Anmashan (鞍馬山), 1. VII. 2005, C.-F. LEE leg. (NMNST). Paratype: 1 ♂, same data as the holotype.

*Notes.* This new species also closely resembles *Strongylium yokoyamai* MASUMOTO, 1981, from Meifeng, Nantou Hsien, but can be distinguished from the latter by the head narrower and more sparsely punctate, with genae more strongly raised, and eyes larger, the pronotum narrower and more sparsely punctate, with a pair of impressions in posterior parts, the scutellum larger, not concave, and the elytra with punctures on striae or in rows weaker and more closely set.

The specific name of this new species is given after the place where the type series were collected.



*Strongylium hsiaoi* sp. nov.

(Figs. 9 and 13)

Brownish black, seven basal segments of antennae, mouth parts, tarsi and ventral side of neck reddish brown, four apical segments of antennae yellowish brown; dorsal surface and medial parts of abdomen moderately, sericeously shining, ventral side of neck rather vitreously shining, pro-, meso- and metasterna and lateral parts of abdomen sericeously shining; body surface except for antennae, interior sides of tibiae and ventral sides of tarsi almost glabrous. Body elongate, convex longitudinally.

Female: Head subdecagonal, covered with isodiametric microsculpture; clypeus semicircular, gently flattened in major basal part, gently bent ventrad in apical part, scattered with fine punctures, which are rather opened anteriorly and furnished with decumbent hairs, fronto-clypeal border roundly curved, weakly impressed, lateral parts of the impression extending to outer margins; genae gently raised antero-laterad, with outer margins obtusely produced, scattered with minute punctures; frons somewhat extremely widely T-shaped, gently inclined anteriorly, weakly concave in medial part (=interocular space), irregularly punctulate; vertex weakly convex, closely punctulate, steeply inclined postero-laterad. Eyes somewhat transversely subreniform in dorsal view, moderately convex laterad, feebly obliquely, roundly inlaid into head, with diameter about 1.3 times the width of an eye diameter. Antennae very weakly widened apically, reaching base of elytra, ratio of the length of each segment from base to apex: 0.54, 0.18, 0.73, 0.56, 0.57, 0.59, 0.57, 0.52, 0.51, 0.43, 0.58.

Pronotum somewhat barrel-shaped in dorsal view, slightly wider than long (8 : 7), widest at the middle, feebly sinuous before base; apex nearly straight, finely rimmed in lateral parts; base feebly bisinuous, coarsely bordered by a groove and rimmed, the rim sparsely punctulate; sides steeply inclined laterad, bordered from ventral sides by weak rims, which are invisible from above; front angles rounded, hind angles acutely projected; disc gently convex, weakly depressed on the midline, obliquely impressed in basal 2/5 on each side, and also subtriangularly impressed close to base in lateral parts, covered with isodiametric microsculpture, irregularly scattered with shallow punctures, which are often fused with one another, and sparsely intermixed with minute punctures among them. Scutellum slightly wide triangular, feebly convex, very weakly covered with isodiametric microsculpture.

Elytra oblong, about 2.58 times longer than wide, 4.03 times the length and 1.44 times the width of pronotum, widest at apical 1/3 and very weakly narrowed at basal 1/4 in dorsal view; dorsum moderately convex, feebly flattened in medial part, highest at basal 2/5, very weakly depressed in area around scutellary striae; disc punctato-striate, the striae rather fine, 1st and 2nd striae, 3rd and 4th, respectively, connected with each other near base, the punctures in striae elongate, those in lateral parts becoming larger and forming longitudinal foveae, those in apical parts becoming finer; intervals covered with isodiametric microsculpture, 3rd and 5th intervals more strongly convex than others; humeri gently, rather longitudinally convex; apices weakly produced and rounded.

Terminal segment of maxillary palpi subsecuriform, with gently curved exterior side about 1.5 times the length of straight interior and 1.3 times the length of feebly curved apex. Mentum

somewhat obtapezoidal, convex in intero-apical part, gently inclined in apical 1/3 apico-laterad, rather alutaceous; gula subparabolic, rather smooth, weakly, transversely wrinkled, with a pair of impressions on the lateral borders in anterior parts. Prosternum not short, covered with isodiametric microsculpture, somewhat transversely granulate and weakly wrinkled, gently raised between coxae, with prosternal process rounded, depressed in general but convex in medial part, covered with isodiametric microsculpture and rugulose; mesosternum covered with isodiametric microsculpture, rugoso-punctate, gently depressed in anterior part, gently raised in areas before coxae, wrinkled, sparsely punctulate; mesepisternum covered with isodiametric microsculpture; metasternum finely impressed on the midline from anterior part (not at base) to posterior margin, rather noticeably convex in anterior part (area between metacoxae), and weakly so in posterior parts on each side, rather coarsely rugulose in anterior part, feebly rugulose in medial and posterior parts, covered with isodiametric microsculpture and scattered with shallow punctures in antero-lateral parts. Abdomen covered with isodiametric microsculpture, particularly noticeable in lateral parts, weakly, longitudinally wrinkled in basal parts of three anterior (basal) sternites, rather closely scattered with small punctures, these in three basal sternites shallow, and these in two apical being smaller and deeper; anal sternite weakly depressed in apical part, with rounded apex.

Legs slender; femora gently becoming bolder at apical 1/3 – 1/4; meso- and metatibiae gently curved intero-ventrad (in female); ratios of the lengths of pro-, meso- and metatarsal segments: 0.25, 0.21, 0.22, 0.19, 0.78; 0.72, 0.43, 0.37, 0.22, 0.91; 1.09, 0.61, 0.32, 0.98.

Body length: 13.4 – 13.5 mm.

Male: unknown.

Holotype: ♀, Taiwan: Taitung, Shouka (壽卡), 7–9. XII. 2005, C.-I. HSIAO leg. (NMNST).

Paratype: 1 ♀, same data as the holotype.

*Notes.* This new species somewhat resembles *Strongylium longissimum* GEBIEN, 1913, from “Banshoryo-Distr.”, but can be distinguished from the latter by the body not slender, with the head and pronotum more shining and finely punctate, and the elytral punctures not subquadrate but longitudinal.

The specific name of this new species is given after the person who collected the type series.

## 要 約

益本仁雄・秋田勝己・李 奇峰：台湾産ゴミムシダマシ科の新種について(4)．—— 筆者らは台湾産ゴミムシダマシ科の再検討を継続的におこなっている．今回は以下の5新種を記載した．*Plesiophthalmus lijainus* sp. nov., *Strongylium lini* sp. nov., *S. shigeoi* sp. nov., *S. anmashanum* sp. nov. および *S. hsiaoi* sp. nov. である．

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Notes on the Species of Staphylinidae (Coleoptera) from Japan  
XIII. Three New Species of the Genus *Ochthephilum* STEPHENS  
from Japan

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**Abstract** The three new species belonging to the *chibaense*-group of the genus *Ochthephilum* are described. They are *O. biwakense* sp. nov. from Shiga Pref., *O. shinanense* sp. nov. from Nagano Pref. and *O. hokkaidense* sp. nov. from Hokkaido.

Recently I have had an opportunity to examine the holotype-specimen of *Ochthephilum chibaense* NAOMI which is preserved in the collections of Natural History Museum and Institute, Chiba through the courtesy of Dr. A. SAITO. After close examination on the type specimens, I concluded that *chibaense* and its allied species constitute a species group. Therefore, in this paper I would like to establish a *chibaense*-species group with those species.

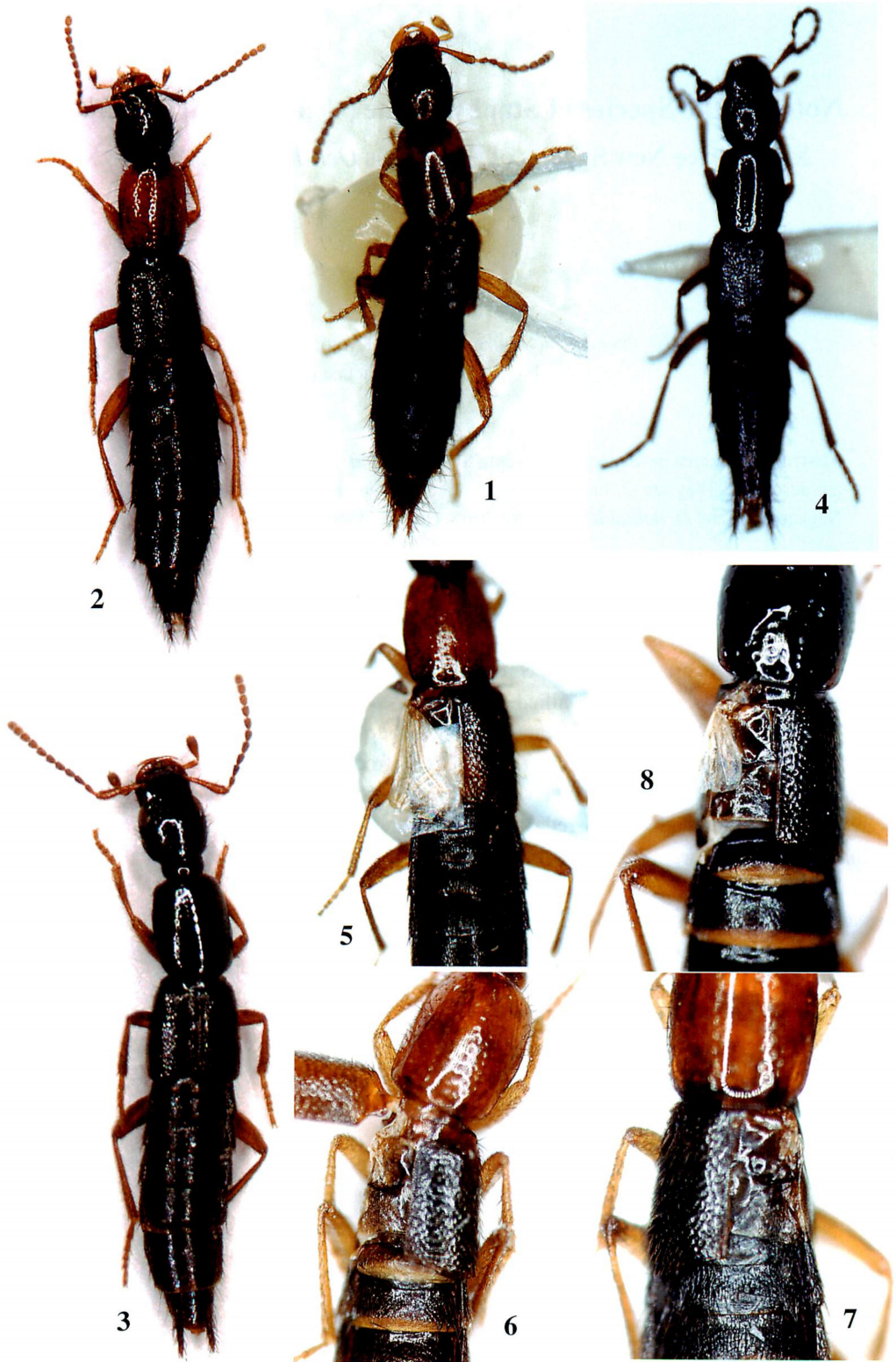
The *chibaense*-group of the genus *Ochthephilum* from Japan has some sharing characteristics *i.e.* the inhabitant on fresh water wetlands in the cold season (winter to early spring), the body clearly shining and small-sized, the male 8th sternite much narrowly and deeply excised medianly at apical margin, the wings brachypterous in most species but occasionally macropterous in female, and 7th tergite of abdomen with very thin white apical seam in both brachypterous and macropterous specimens. The group is composed of the following four species, namely, *O. chibaense* NAOMI, *O. biwakense* sp. nov., *O. shinanense* sp. nov. and *O. hokkaidense* sp. nov. at present.

Before going further I would like to express my deep cordial thanks to Dr. S. NAOMI (Natural History Museum and Institute, Chiba) and Messrs. S. SHIYAKE (Osaka Museum of Natural History), K. IJIMA (Kawakami, Hokkaido) and Y. FURIHATA (Matsumoto, Nagano) for their kindly offering materials examined in this study.

*Ochthephilum chibaense* NAOMI  
(Figs.1 and 5)

*Ochthephilum chibaense* NAOMI, 1995, Jpn. J. Syst. Ent. 1: 165–167.

*Specimens examined.* 1 ♂, holotype (Type No. CBM-ZI 33678), Motosuganaya, Narutocho, Chiba Pref., 28. XII. 1989, T. TAKEDA leg.; 1 ♀, paratype, Hasunuma-Kaihin Park,



Figs. 1–8, *Ochthephilum* spp.1, *Ochthephilum chibaense* NAOMI (holotype); 2, *O. biwakense* T. ITO, sp. nov. (red form); 3 : *O. biwakense* T. ITO, sp. nov. (black form); 4, *O. hokkaidense* T. ITO sp. nov.; 5, *O. chibaense* NAOMI (macropterous, paratype); 6, *O. biwakense* T. ITO, sp. nov. (brachypterous); 7, *O. shina-nense* T. ITO, sp. nov. (brachypterous); 8 : *O. hokkaidense* T. ITO, sp. nov. (brachypterous)

Hasunuma-cho, Chiba Pref., 28. XII. 1990, T. TAKEDA leg.

*Notes.* In brachypterous form of examined specimens, the wings are degenerated, small and shorter than a half of elytral length, but in macropterous form, the wings are well developed (Fig. 5).

*Ochthephilum biwakense* T. ITO, sp. nov.

(Figs. 2, 3, 6, 9 and 11)

Body small, rather slender, shining, dark brownish black to black, pronotum brownish red (Fig. 2 = red form), sometimes dark brownish black (Fig. 3 = black form), mouth parts and antennae blackish brown, legs yellowish brown, pubescence blackish brown, those on tibiae and tarsi paler.

Length : 4.6–5.8 mm.

Head long, narrowed apically, longer than wide (1.24 : 1), expanded at basal third, widest just behind eyes, coarsely and sparsely punctate, almost impunctate on clypeofrontal area, faintly microsculptured on basal area; antennal tubercles slightly developed; vertex evenly convex; eyes of moderate size, each longitudinal diameter longer than a half length of postgenae; antennae geniculate, weakly and gradually becoming incrassate apically from 3rd segment, 1st more than three times as long as 2nd, 3rd longer than wide, a little shorter than the preceding segment and the narrowest, 10th as long as wide, 11th as wide as and longer than 10th.

Pronotum oblong, scarcely rounded laterally, longer than wide (1.24 : 1) and longer (1.27 : 1) and wider (1.18 : 1) than head, sparsely, more or less irregularly punctate except for median longitudinal line which is rather wide and smooth, without any microsculptures; the punctures finer than on head, those serially situated at both sides of the median line and relatively larger than the others; margins thick throughout except for apicolateral corners which are invisible when viewed from above. Scutellum triangularly elongate and impunctate.

Elytra subquadrate, slightly widened apically, longer (at shoulders) than wide (1.10 : 1), wider (1.10 : 1) and shorter (1 : 1.11) than pronotum, coarsely and densely punctate, densely pubescent, and with a long conspicuous seta at each shoulder. Wings brachypterous (Fig. 6), almost shorter than a half length of elytra, occasionally macropterous in female.

Abdomen slightly dilated laterally, widest at 5th or 6th segment, with very dense and fine punctures, with a fine and clearly lineolate microsculpture, which is indistinct on 3rd one. In the male 7th sternite weakly and widely sinuate at apical margin, weakly and triangularly depressed in front of the sinuosity, the depression furnished with several short bristles except for marginal area; 8th very narrowly and deeply excised at apical margin in the middle (Fig. 9), the basal sides of the deep excision, as if, seemingly subparallel-sided to each other; 9th with rather sparse and somewhat fine long hairs.

Legs moderate in length.

Aedeagus bulbous, widest behind middle, apparently blunt at apex, internal armatures complex and not robust (Fig. 11).

Holotype: ♂, Adogawa, Lake Biwa (= Biwako), Shiga Pref., 6. IV. 2006, T. ITO (eventually deposited in the collection of the Osaka Museum of Natural History). Paratypes : 1 ♂, 5 ♀, the same data as holotype; 2 ♂, 1 ♀, Adogawa, Lake Biwa, Shiga Pref., 7. IV. 1998, S. SHIYAKE leg.; 1 ♀, Shin-Asahi, Lake Biwa, Shiga Pref., 11. VIII. 2003, T. WADA leg.; 1 ♂,

Adogawa, Lake Biwa, Shiga Pref., 10. IV. 2004, S. SHIYAKE leg.

*Distribution.* Japan (Honshu: Kinki district: Shiga Pref.).

*Notes.* The present new species is allied to *O. chibaense* NAOMI from Chiba Pref. in general appearance, but is differentiated from the latter in the aedeagus being differently shaped in outline, less pointed and rather dull at apex, widest behind the middle instead of near middle, and the internal armatures are different; in the male the 7th sternite is more clearly emarginate at apical margin, the 8th is more narrowly and deeply excised at apical margin in middle, and the 9th is furnished with longer and sparser hairs.

*Etymology.* The specific name of this new species is given after Biwako (= Lake Biwa) whose lakeside is the type locality of the present species.

***Ochthephilum shinanense* T. ITO, sp. nov.**

(Figs. 7 and 12)

The present new species is close to the preceding one, *O. biwakense* sp. nov., in general appearance, but is different by the following points: the depression of male 7th sternite of abdomen without any distinct short bristles and with a clearly wider impunctate marginal area; the body somewhat paler in color, head blackish brown, pronotum brownish red (the blackish form unknown), all of antennal segments longer than wide, 10th segment hardly so; the elytra shorter, about as long as wide; wings more reduced, small and almost vestigial and macropterous form unknown in both sexes; the aedeagus (Fig. 12) differently shaped in outline, the swelling of lateral sides indistinct, the apex subtruncate, the armatures delicate and different in manner. And it is apparently distinguished also from *O. chibaense* NAOMI in the different outline of aedeagus and different manner of internal armatures.

Body length : 4.3–5.2 mm.

Holotype: ♂, Karakemi, Yasaka-mura, Kitaazumi, Nagano Pref., 19. IV. 2005, Y. FURIHATA leg. (eventually deposited in the collection of the Osaka Museum of Natural History). Paratypes: 1 ♂, 1 ♀, the same data as holotype.

*Distribution.* Japan (Honshu: Chûbu district: Nagano Pref.).

*Etymology.* The specific name is given after Shinano which is the classical name of the type locality.

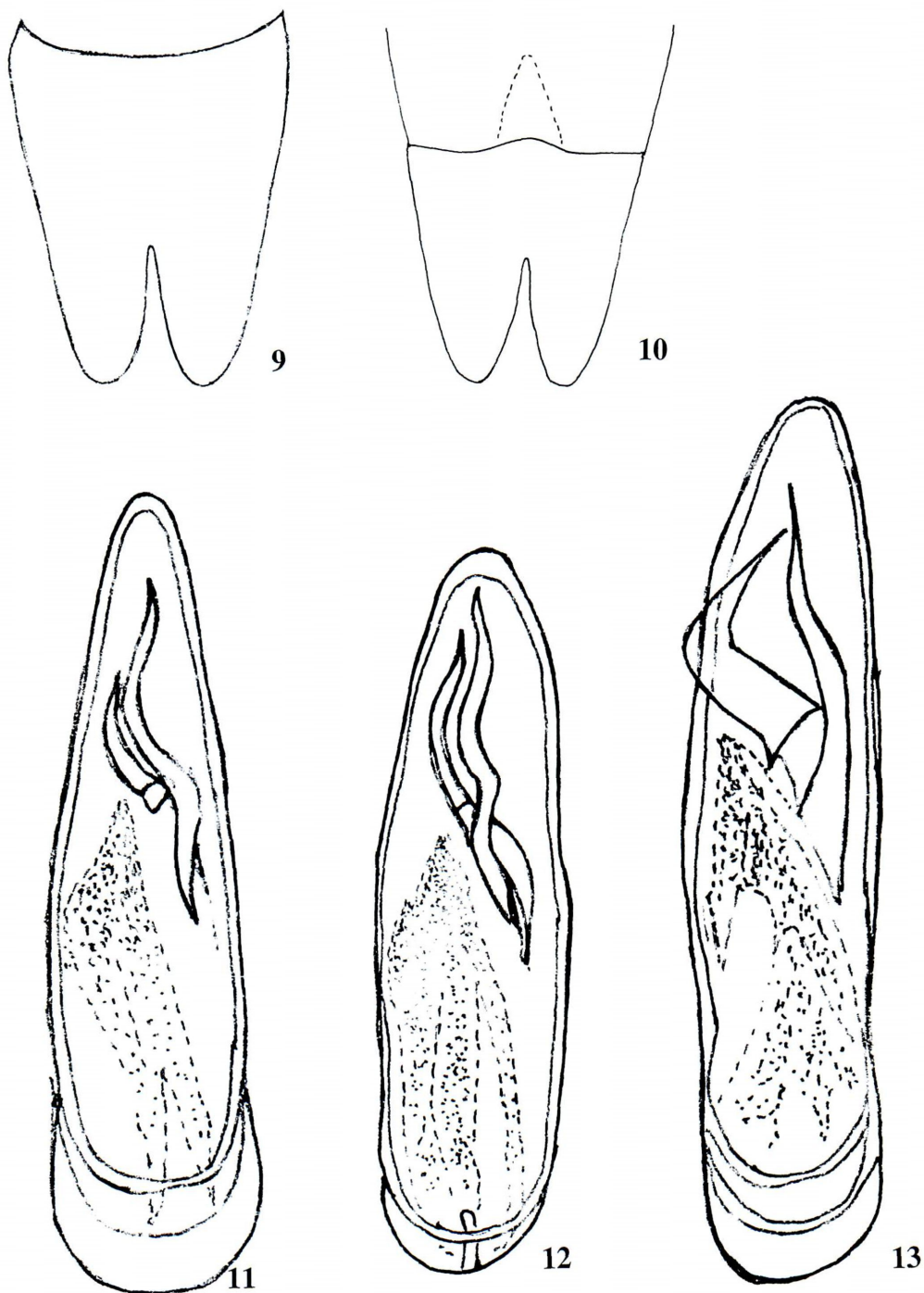
***Ochthephilum hokkaidense* T. ITO, sp. nov.**

(Figs. 4, 8, 10 and 13)

Body moderately small, shining, black, frons, pronotum and a few apical segments of abdomen somewhat paler in color, dark brown to brownish black, mandibles, antennae except for several middle segments darker as well as maxillary palpi, and legs yellowish brown; undersides of head and prosternum more or less dark reddish brown.

Length : 4.9–5.6 mm.

Head elongate-ovate (length/width = 1.31), widest just behind eyes, rather coarsely and sparsely punctate, the top of vertex and clypeofrontal narrow area impunctate, and micro-sculpture indistinct; eyes relatively small, each longitudinal diameter nearly as long as a half length



Figs. 9–13. *Ochthephilum* spp.— 9, *O. biwakense* T. ITO, sp. nov., outline of male 8th sternite; 10, *O. hokkaidense* T. ITO, sp. nov., outlines of male 7th and 8th sternites; 11, *O. biwakense* T. ITO, sp. nov., aedeagus in dorsal view; 12, *Ochthephilum shinanense* T. ITO, sp. nov., aedeagus in dorsal view; 13, *O. hokkaidense* T. ITO, sp. nov., aedeagus in dorsal view.

of postgenae; antennae with 3rd segment narrowest, then slightly and gradually becoming wider apically from 4th to 10th which is a little longer than wide; terminal segment as wide as and longer than the preceding one.

Pronotum oblong, clearly longer than wide (length/ width = 1.31), longer (1.11 : 1) and wider (1.10 : 1) than head, widest near middle; apical half of lateral margin including corner invisible when viewed from above; surface sparsely covered with coarse punctures similar to those on head; interstices very shining along median line which is wide and smooth; any microsculptures not discernible. Scutellum impunctate, concealed under pronotum except for apical part.

Elytra subquadrate, slightly and apically widened to apicolateral corner, longer (at shoulders) than wide (1.13 : 1), wider (1.15 : 1) and as long as pronotum, widest near apex, coarsely, densely and uniformly punctate, densely pubescent. Wings reduced, brachypterous, about two-thirds of elytral length, but occasionally macropterous in both sexes.

Abdomen slightly enlarged laterally at 5th or 6th segment, with very dense and fine punctures, with a fine and clearly lineolate microsculpture throughout. In the male 7th sternite apparently and widely emarginate at apical margin, clearly and triangularly depressed in front of the sinuosity, each outside of which bearing some thick stiff hairs, the depression furnished with many bristles except for narrow apicomarginal area; 8th sternite very narrowly and deeply excised at apical margin in the middle (Fig. 10).

Legs moderate in length.

Aedeagus bulbous, narrowly elongate, almost subparallel-sided in outline, apparently blunt at apex, internal armatures complex and robust (Fig. 13).

Holotype : ♂, Kami-shunbetsu, Hokkaido, 20. VII. 1977, S. NAOMI leg. (coll. to be eventually deposited in the Osaka Museum of Natural History). Paratypes: 1 ♂, the same data as holotype; 1 ♀, Lakeside forest of Abashiri-ko, Hokkaido, 21. VIII. 1990, M. SAKAI leg.; 1 ♂, Tohro lakeside, Kushiro, Hokkaido, 28. VII. 1986, S. NOMURA leg.; 1 ♂, Todowara, Notsukezaki pen., Hokkaido, 6. VII. 1986, S. NOMURA leg.; 1 ♂, Kimonto, Taijyu-cho, Hokkaido, 7. VII. 1991, K. HAGA leg.; 1 ♀, Saruharai, Soya-gun, Hokkaido, 29. VII. 1987, K. HAGA leg.; 1 ♂, Tohro lakeside, Shibechea, Kushiro, Hokkaido, 21. X. 1993, K. IJIMA leg.; 1 ♀, Tohro lakeside, Shibechea, Kushiro, Hokkaido, 27. IX. 1993, K. IJIMA leg.; 1 ♀, Futatsuyama, Shibechea, Kushiro, Hokkaido, 12. IX. 1991, K. IJIMA leg.; 1 ♀, Shirarutoro, Shibechea, Kushiro, Hokkaido, 11. V. 1994, K. IJIMA leg.

*Distribution.* Japan (Hokkaido).

*Notes.* Though the present new species is similar to the preceding three species at a glance, but it is easily distinguished from the latter by the different aedeagus with the narrower in outline, especially the internal armatures much more robust, the male 7th sternite of abdomen more clearly emarginate in the middle of apical margin, the reduced wings of brachypterous form is rather longer and wider, the body a little larger in size and the pronotum darker in color and so on.

*Etymology.* The specific name of this new species is given after Hokkaido which is the district name of the type locality.



## 要 約

伊藤 建夫：日本産ハネカクシ類覚え書き，13・日本産ナガエハネカクシ属 (*Ochthephilum*) の 3 新種。——本論文において，ナガエハネカクシ属に *chibaenase-group* を設け，共有形質について述べた。この種群は一般的には短翅型で，一部には長翅型が出現するが，湿地帯から寒冷期にのみ発見されている。既知種 *O. chibaense* NAOMI は千葉県，*O. biwakense* sp. nov. は滋賀県，*O. shinanense* sp. nov. は長野県，*O. hokkaidense* sp. nov. は北海道のそれぞれ湿地帯から見い出されている。長翅型に飛翔能力があるか不明だが，短翅型も含め，両者とも第 7 腹背板後縁に非常に繊細な襞 (apical seam) が認められた。

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## New or Little-known Tenebrionid Species (Coleoptera) from Japan (6) Two New Species from Honshu and Ishigaki-jima Island

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**Abstract** Two new tenebrionid species are described from Japan under the names of *Cryphaeus morii* sp. nov. and *Hosohamudama hanatanii* sp. nov. Keys to Japanese species of the genus *Cryphaeus* and the male species of the genus *Hosohamudama* are provided.

In the course of a revisional study on the Japanese tenebrionid species, the authors had an opportunity of examining two unknown species. One of them collected from Hyôgo Prefecture, Honshu, was assigned to the genus *Cryphaeus* of Tenebrioninae and the other from Ishigaki-jima Island, Yaeyama Islands, to the genus *Hosohamudama* of Lagriinae. After a careful study, the authors have concluded that both of them are new to science. Thus, they are going to describe two new species from Japan.

Before going further in details, the authors wish to express cordial thanks to Messrs. Masato MORI, Nishinomiya City, Tatsuo HANATANI, Ishigaki City, and Tatsunosuke KIMOTO, Tokyo, for offering the type materials. The authors also appreciate Dr. Makoto KIUCHI, Tsukuba City, for taking photographs inserted in the present paper.

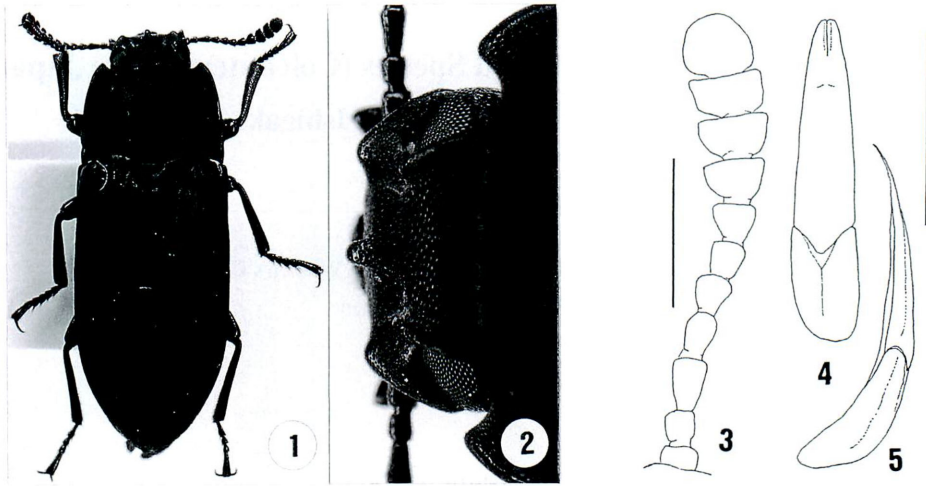
The holotypes will be deposited in the collection of the National Museum of Nature and Science, Tokyo (NSMT).

*Cryphaeus morii* sp. nov.

[Japanese name: Futo-himetsuno-gomimushidamashi]

(Figs. 1 – 5)

Black, hairs on mouth parts and antero-ventral faces of tibiae yellowish brown; dorsal surface almost mat and feebly sericeous, apical part of cephalic process in male, ventral surface and legs gently shining; dorsal surface almost glabrous, ventral surface covered with fine bent hairs.



Figs. 1–5. *Cryphaeus morii* sp. nov., holotype, ♂. — 1, Habitus; 2, head; 3, right antenna; 4, male genitalia (dorsal view); 5, same (lateral view). Scales = 1 mm.

Body elongated ovate, moderately convex longitudinally.

Male. Head transversely subhexagonal, very weakly covered with isodiametric microsculpture, closely, finely punctate, each puncture with a decumbent minute hair; clypeus transversely hexagonal, raised in medial parts, inclined anteriorly, emarginate in front, also inclined posteriorly, depressed in areas of the borders of genae and frons, with a blunt process at the middle near apical margin; genae somewhat ill-shaped quadrate, raised laterally, closely punctulate, rather strongly depressed along anterior margins of eyes, with outer margins gently swollen near genaclypeal borders; frons gently inclined anteriorly, very slightly concave in middle, scattered with large and shallow punctures in anterior part, with an impunctate area in middle, and also with oblique ridges along interior margin of eyes; vertex feebly convex, scattered with small punctures. Eyes obliquely subovate in dorsal view, not divided into dorsal and ventral portions by extensions of genae, with interocular space 2.5 times the width of an eye diameter. Antennae somewhat shorter in the members of the genus, hardly reaching basal part of pronotum, four apical segments clubbed, ratio of the length of each segment from base to apex: 0.28, 0.24, 0.36, 0.25, 0.24, 0.23, 0.25, 0.27, 0.29, 0.29, 0.38.

Pronotum subquadrate, wider than long (4 : 3), widest at base, moderately roundly narrowed anteriorly, notched from sides at basal 1/6; apex gently emarginate, widely substraight in middle, not margined; base not margined, rather strongly sinuous on each side, feebly produced in medial part and slightly truncate opposite to scutellum; front angles rather strongly and acutely produced, directing anteriorly in dorsal view, hind angles triangular, directing postero-laterally; sides gently and then rather steeply declined to lateral margins, which are rather boldly bordered by punctato-grooves, and scattered with microscopic punctures; disc gently convex, very weakly covered with isodiametric microsculpture, rather closely scattered with small punctures, which are intermixed with minute ones among them. Scutellum wide-triangular, weakly covered with isodiametric microsculpture, rather closely scattered with microscopic punctures in basal 2/3,

each with a minute hair.

Elytra 1.91 times as long as wide, 2.74 times the length and 1.05 times the width of pronotum, widest at anterior 3/8, weakly narrowed basad, roundly narrowed apicad, very weakly constricted at basal 1/3 in dorsal view; dorsum gently convex, highest at basal 2/9, very weakly depressed in area around scutellum; disc very weakly covered with isodiametric microsculpture, with rows of small, irregularly arranged punctures, these in lateral parts becoming larger and sparser; intervals gently convex, sparsely scattered with microscopic punctures; sides abruptly declined to lateral margins, which envelope the ventral body, and are bordered by grooves.

Terminal segment of maxillary palpi subsecuriform, with arcuate external side twice length of internal, 1.47 times length of apical. Mentum roundly widened apicad, punctulate and finely haired, emarginate in front, with front corners angular; gula subparabolic, rather smooth, with a pair of impressions on the borders of neck in anterior part.

Prosternum rather obtrapezoidal, raised medio-posteriad, rather closely punctate, the punctures somewhat transverse and furnished with bent hairs; intercoxial space strongly raised, grooved and punctate, with prosternal process depressed posteriad, triangularly reflexed at tip; mesosternum rather short, strongly depressed in anterior part, moderately raised in Y-shape in posterior part, closely rugoso-punctate and haired; metasternum rather short and wide, gently convex and weakly flattened widely in middle, coarsely, shallowly punctate and haired in basal parts, finely punctate and haired in the remaining parts, with a shallow median groove from anterior 1/5 to posterior margin. Abdomen closely, finely punctate and haired; anal sternite very weakly depressed in apical 1/3, the punctures becoming smaller and closer apicad, the hairs shorter and denser apicad.

Legs not modified; ratios of the lengths of each tarsal segment from base to apex: 0.25, 0.21, 0.21, 0.23, 0.58; 0.27, 0.23, 0.23, 0.24, 0.62; 0.41, 0.25, 0.23, 0.61.

Male genitalia elongated subfusiform, 1.78 mm in length and 0.36 mm in width, strongly curved at basal 1/5 (about at the middle of basal piece) in lateral view; lateral lobes slender and flattened, 1.38 mm in length, with apices feebly prolonged and spatulate.

Female. Clypeus without process; genae with anterior parts of outer margins less strongly produced; frons with oblique ridges along interior margins of eyes weaker; pronotum with front angles less strongly produced anteriad.

Body length: 11.6–12.6 mm

Holotype: ♂, Japan: Hyôgo-ken, Kôbe-shi, Kita-ku, Dôjô-chô, Ikuno, ca. 200 m alt., 18. VIII. 2007, Masato MORI leg. (NSMT). Paratypes. 5 ♂♂, 4 ♀♀, same data as the holotype; 2 ♂♂, 4 ♀♀, same locality and collector as the holotype, 12. VIII. 2007.

*Notes.* Five *Cryphaeus* species including the present new one are distributed in Japan. A key to the Japanese species of this genus is given below.

The specific name is after the honor of the collector of the type series of this new species.

### Key to the Species of the Genus *Cryphaeus* from Japan

- 1(2) Four apical segments of antennae clubbed; clypeus with a small process at the middle in male; 11.6 – 12.6 mm in length. Honshu ..... *C. morii* sp. nov.  
 2(1) Three apical segments of antennae clubbed; clypeus without process in male ..... 3

- 3(4) Rows of punctures on elytra grooved; intervals scattered with small punctures; anterior margins of genae produced in male ..... 5
- 4(3) Rows of punctures on elytra not clearly grooved; intervals not scattered with small punctures; anterior margins of genae not produced in male ..... 7
- 5(6) Body larger (9.0–15.6 mm in length) and slenderer. Legs and antennae reddish brown to dark reddish brown; male genae with anterior margins obtuse-triangularly produced anteriorad and reflexed dorsad; female genae with anterior margins weakly, roundly produced, and areas close to eyes weakly raised; pronotum widest at anterior 1/4 in male, at the middle to posterior 1/3 in female. Hokkaido, Honshu, Shikoku, Kyushu, Sado Is. .... *C. duellicus* (LEWIS)
- 6(5) Body smaller (8.3–9.5 mm in length) and bolder. Legs and antennae blackish brown to black; male genae only feebly produced; female genae with anterior margins not produced anteriorad, and areas close to eyes not raised; pronotum widest at posterior 1/3 in both sexes. Honshu, Shikoku, Kyushu ..... *C. punctatulus* (LEWIS)
- 7(8) Body bolder; pronotum widest at base; front angles feebly projected; punctures on scutellum very small, shallow and sparse; elytra with punctato-striae, the punctures obviously transverse; malehead with a pair of horns, which are flattened, and form triangular in lateral aspect; 7.8–9.0 mm in length. Honshu, Shikoku, Kyushu ..... *C. boleti* (LEWIS)
- 8(7) Body narrower; pronotum widest at the middle; front angles widely rounded; punctures on scutellum very clear, almost same size as on pronotum; elytra irregularly punctate, without clear punctato-striae; male head with a pair of thin horns, which extend dorsad in large individuals; 7.2–9.0 mm in length. Kuchino-erabu-jima Is., Tokara-Nakanoshima Is., Amami-oshima Is., Okinawa-jima Is., Ishigaki-jima Is., Iriomote-jima Is., Taiwan, Lutao Is ..... *C. satoi* KASZAB

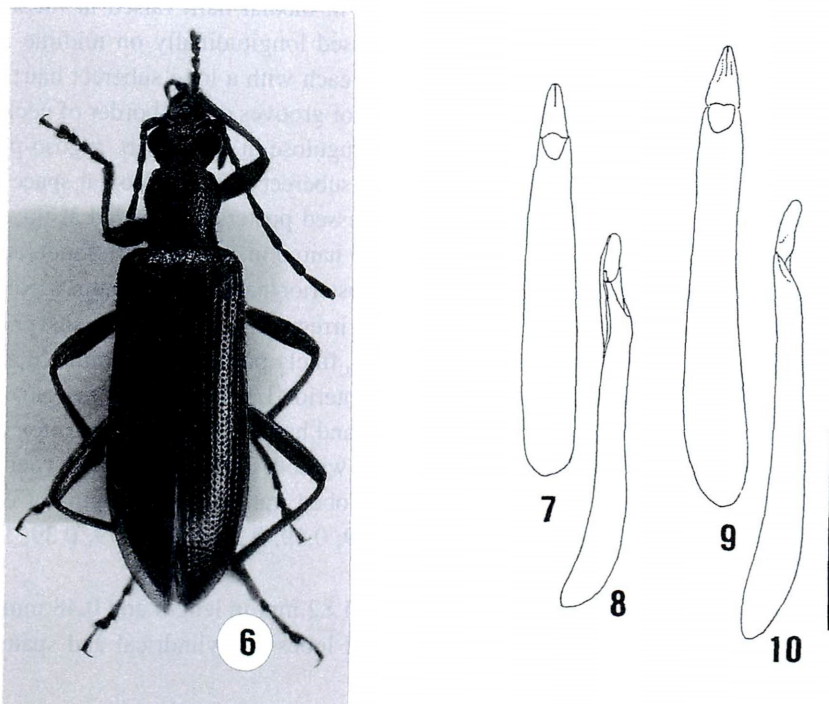
*Hosohamudama hanatanii* sp. nov.

[Japanese name: Usuiro-hamushidamashi]

(Figs. 6–8)

Yellowish brown to light reddish brown, eyes brownish black in major parts, head and pronotum darker in color, hairs body surface pale yellow; head, pronotum and major parts of ventral side weakly, somewhat vitreously shining, scutellum, elytra, femora and tibiae gently, rather vitreously shining; body wholly covered with suberect, rather long hairs. Body elongate, moderately convex longitudinally.

Male. Head subdecagonal and hardly convex, partly, very weakly covered with isodiametric microsculpture, irregularly punctate, each puncture with a long hair; clypeus transversely subelliptical, weakly, transversely convex in middle, bordered from genae and frons by a curved very fine impression, finely punctulate; genae noticeably raised obliquely anteriorad, rather sparsely, irregularly punctulate, with outer margins roundly produced; frons rather long, gently inclined anteriorad, rugulose in anterior part (behind the fronto-clypeal border), rugoso-punctate in posterior part, area between eyes nearly flat or feebly concave; vertex weakly convex, rugoso-punctate. Eyes transversely subovate in dorsal view, gently convex dorsad and laterad, rather broadly, roundly inlaid into head, with diatone about 1.3 times the width of an eye diameter. Antennae (three apical segments are lost in the holotype, therefore, the description concerning



Figs. 6–10. *Hosohamudama* spp. — 6–8, *H. hanatanii* sp. nov., holotype, ♂; 6, habitus; 7, male genitalia (dorsal view); 8, same (lateral view); 9–10, *H. miyakei* MASUMOTO, holotype, ♂; 9, male genitalia (dorsal view); 10, same (lateral view). Scale = 1 mm.

the antennae is based on a male paratype) long and filiform, reaching apical 1/3 of elytra, ratio of the length of each segment from base to apex: 0.33, 0.21, 0.43, 0.42, 0.56, 0.58, 0.52, 0.53, 0.54, 0.52, 1.12.

Pronotum somewhat barrel-shaped, wider than long (8 : 7), widest at apical 3/7, roundly narrowed anteriorly, slightly more strongly so basad, noticeably sinuate before base; apex feebly produced, very finely rimmed; base bordered by grooved and rimmed, the rim obviously bolder than that of apex; front angles obtusely angulate, hind angles feebly obtusely angulate in dorsal view; disc gently convex, feebly flattened in medio-anterior part, partly, very weakly covered with isodiametric microsculpture, rather closely, irregularly scattered with umbilicate, long-haired punctures, which are often fused with one another, and form rugosities. Scutellum triangular with feeble rounded sides, rather closely scattered with microscopic punctures, each with a fine long hair.

Elytra 2.59 times as long as wide, 5.11 times the length and 1.64 times the width of pronotum, widest at posterior 3/8, slightly narrower basad, roundly so apicad, very weakly narrowed at basal 1/4 in dorsal view; dorsum gently convex, highest at the middle, very weakly flattened or depressed in medial part of basal 1/5; disc with rows of small, closely arranged punctures, each with a fine scale; intervals gently convex, with rows of smaller punctures, each with a long suberect hair; sides abruptly declined to lateral margins, which are finely rimmed, the rims furnished with long, substraight hairs.

Terminal segment of maxillary palpi elongated-subsecuriform, with substraight external side 2.94 times the length of internal, 1.31 times length of arcuate apex. Mentum roundly sub-

quadrate with rounded sides, weakly produced basad in medial half, raised in medio-anterior part, gently depressed in lateral parts, weakly impressed longitudinally on midline in antero-medial part, sparsely scattered with minute punctures, each with a long suberect hair; gula sub-parabolic, weakly wrinkled in anterior part, with a pair of grooves on the border of neck.

Prosternum rather long, raised medio-posteriad, rugulose in apical part, rugoso-punctate in medial and posterior parts, each puncture with a long suberect hair; intercoxial space very narrow and strongly raised, with prosternal process depressed posteriad, rounded at tip; mesosternum rather short, strongly depressed and rather densely haired in anterior part, moderately raised in Y-shape, closely, rugoso-punctate and haired in posterior part; metasternum medium-sized, gently convex and weakly flattened in widely middle, irregularly, somewhat transversely punctate and haired in basal and lateral parts, rather smooth, finely punctate and haired in medial and posterior parts, with a shallow median groove from anterior 1/5 to posterior margin. Abdomen rather long and very feebly sericeous, finely punctate and haired, the punctures often connected with one another by transverse rugulosity; anal sternite without modification, with rounded apex.

Legs slender; tarsi with penultimate segment bilobed; ratios of the lengths of each tarsal segment from base to apex: 0.59 0.16, 0.18, 0.17, 0.29; 0.59, 0.26, 0.24, 0.19, 0.39; 1.91, 0.47, 0.17, 0.44.

Male genitalia distinctly elongated subfusiform, 1.82 mm in length and 0.48 mm in width, very feebly curved at basal 2/5 in lateral view; lateral lobes subcylindrical and spatulate, 0.26 mm in length, with rounded apices.

Female. Dorsal surface, particularly head and pronotum, more coarsely punctate; diatone about 1.5 times the width of an eye diameter; terminal segment of maxillary palpi less strongly dilated apicad; legs shorter.

Body length: 8.3–10.6 mm

Holotype: ♂, Japan: Ryukyus, Ishigaki-jima Is., Maezato-dam, 31. I. 1999, K. TAKAHASHI leg. (NSMT). Paratypes. 4 exs., same data as the holotype; 1 ex., Omoto-dake, Ishigaki-jima Is., Okinawa Pref., 11. III. 1992, T. HANATANI leg.

Notes. M. T. CHÛJÔ (1985, p. 343, pl. 58, no. 14) illustrated this species as “*Arthromacra abnormalis* KÔN Ô”, 1929, originally described from Arisan (Alishan). MASUMOTO (1987, p. 59, fig. 80) mentioned that this is not *A. abnormalis* but a new species. The true *A. abnormalis* (= *Hosohamudama abnormalis*) occurs in high mountain areas in Central Taiwan. A key to all the species in males (females unknown in some species) of the genus *Hosohamudama* to which the new species belongs is given below.

The specific name is after the first collector of the present type series.

### Key to the Species of the Genus *Hosohamudama* in Males

- 1(2) Dark reddish brown (only elytra dusty yellowish), hairs of dorsal side and legs pale yellow, hairs of elytra not erected, directing posteriad; antennae bold and short, reaching middle of elytra; elytra with rows of punctures rather irregularly set; intervals irregularly scattered with rather large, haired punctures, thus, the intervals irregularly concave; 8.5 mm in length. Taiwan (Alishan) ..... *H. abnormalis* (KÔNO)
- 2(1) Yellowish brown to reddish brown; hairs of dorsal side and legs yellow; hairs of elytra suberected; antennae slender, reaching beyond the middle of elytra; elytra with rows of



- punctures regularly set ..... 3
- 3(4) Larger in size (11–14 mm in length); reddish brown; pronotum rather sparsely scattered with punctures unequal in size; elytra with rows of punctures, which become smaller and sparser posteriad, and are almost of the same size in apical 1/4. Taiwan (Pilu, Meifeng, Nanshanchi) ..... *H. sasajii* MASUMOTO
- 4(3) Smaller in size (8.3–10.6 mm in length); yellowish brown to dark reddish brown; pronotum rather closely punctate; elytra with rows of punctures which are almost of the same size from basal part to apical part ..... 5
- 5(6) Hairs on body longer and denser; punctures on pronotum smaller and closer; genitalia larger (2.28 mm in length), lateral lobes 0.11 times as long as total length of genitalia; 9–10 mm in length. Taiwan (Lalashan, Pilu, Sungkang, Alishan, Nanfangshan, Fengkangshan) ..... *H. miyakei* MASUMOTO
- 6(5) Hairs on body shorter and sparser; punctures on pronotum larger and denser; genitalia smaller (1.83 mm in length), lateral lobes 0.14 times as long as total length of genitalia; 8.3–10.6 mm in length. Ishigaki-jima Is. .... *H. hanatanii* sp. nov.

## 要 約

益本 仁雄・秋田 勝己：日本産ゴミムシダマシ科甲虫の新種・稀少種（第6報）. 本州および石垣島産の2新種. —— 日本産ゴミムシダマシ科甲虫のうち，本州（兵庫県）からゴミムシダマシ族ヒメツノゴミムシダマシ属の新種 *Cryphaeus morii* sp. nov. フトヒメツノゴミムシダマシ，および石垣島からハムシダマシ族ホソハムシダマシ属の新種 *Hosohamudama hanatanii* sp. nov. ウスイロハムシダマシを記載命名した. また，前者には日本産ヒメツノゴミムシダマシ属の，後者には日本および台湾産ホソハムシダマシ属（雄）の検索表を付した.

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## New Species of the Genus *Onthophagus* (Coleoptera: Scarabaeidae) from Thailand

### Part 3. Descriptions of Five New Species and New Records of Six Species from Thailand

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**Abstract** Five new species and new records of six species of the genus *Onthophagus* from various areas of Thailand are dealt with. The new species are described under the following names: *Onthophagus* (*Onthophagus*) *thainuaensis* sp. nov., *O.* (*Indachorius*) *ranongensis* sp. nov., *O.* (*Parascatonomus*) *thaitai* sp. nov., *O.* (*Parascatonomus*) *masahiroi* sp. nov., and *O.* (*Furconthophagus*) *karenensis* sp. nov. A key to the Thai species of *Onthophagus deflexicollis* and its relatives and a key to the related species of *O. denticollis* are also given. *Onthophagus* (*Gibbonthophagus*) *taeniatus* BOUCOMONT, 1914, *O.* (*O.*) *infucatus* HAROLD, 1877, *O.* (*O.*) *batillifer* HAROLD, 1875, *O.* (*O.*) *obscurior* BOUCOMONT, 1914, *O.* (*O.*) *parenthesis* BOUCOMONT, 1913, and *O.* (*Pseudophanaeomorphus*) *mentaveiensis* BOUCOMONT, 1914 are new records from Thailand.

This paper is the third part of the study on the *Onthophagus* from Thailand. The present authors are going to describe five new species and to give records of six species new to the fauna of Thailand.

Before going further in details, the authors would like to express their thanks to the financial support by TRF/BIOTEC Special Programme for Bio-diversity Research and Training Grant of Thailand: BRT 142012, and to Dr. Hans BÄNZIGER, Chiang Mai University, who offered materials from his ecological studies in North and South Thailand. They are indebted to Dr. Masahiro KON, University of Shiga Prefecture, for offering invaluable materials, and also indebted to Dr.

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The holotypes of new species designated are to be deposited in the following instituts with the abbreviations: NSMT (=National Museum of Nature and Science, Tokyo, Japan), EMKKU (=Entomology Department Museum, Faculty of Agriculture, National Khon Kaen University, Khon Kaen, Thailand), EACU (=Entomology Department Museum, Faculty of Agriculture, Chiang Mai University, Chiang Mai, Thailand).

### Descriptions of New Species

#### *Onthophagus (Onthophagus) thainuaensis* sp. nov.

(Figs. 1, 6–8)

Brownish black, margin of head, front corners of pronotum, patches in basal parts on 4th and 6th intervals and intero-apical parts of elytra, mouth parts, and legs dark reddish brown, body surface almost mat, apex of head and legs more or less gently shining, covered with brownish yellow and fine scales. Body ovate, weakly convex, flattened in major medial parts of elytra.

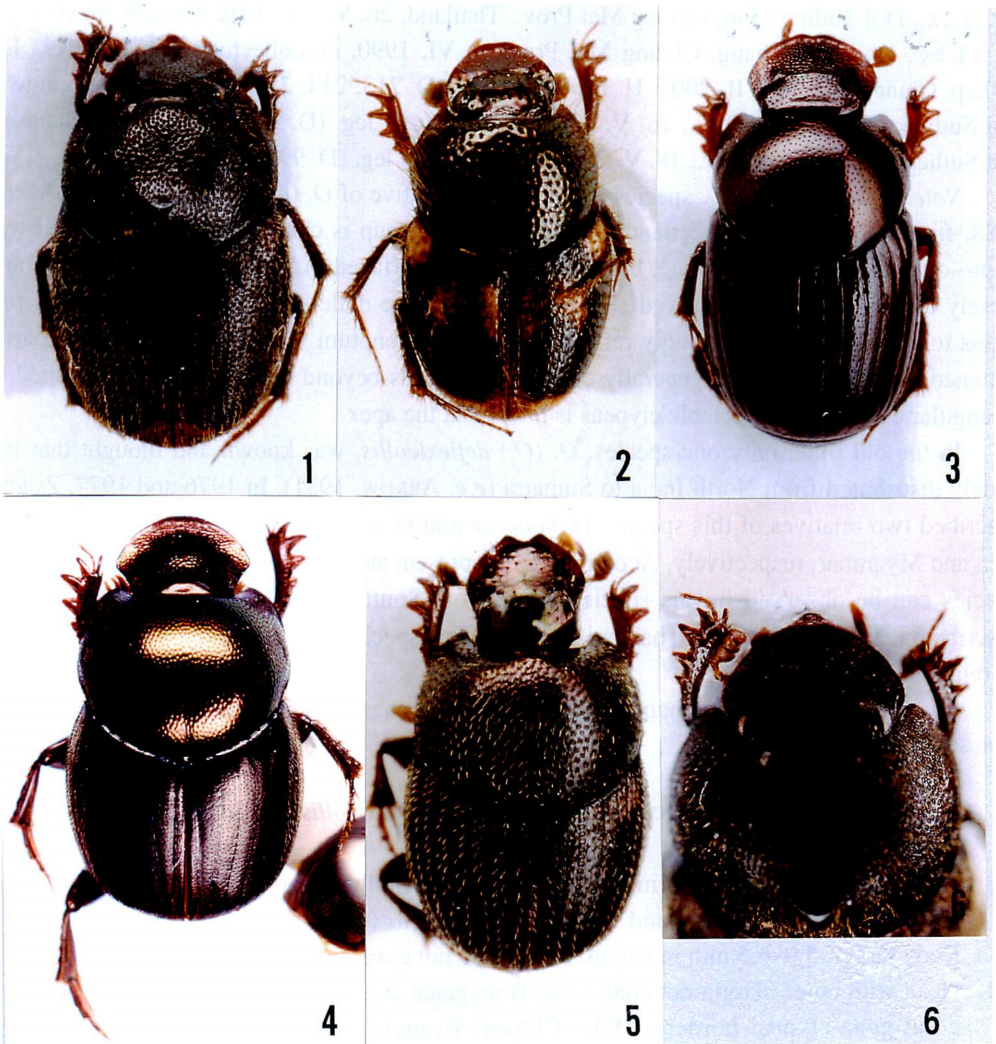
Male. Head somewhat pentagonal, gently inclined anteriad, with outer margin finely rimmed; clypeus rather triangular with apex produced, noticeably reflexed and truncate in front, closely covered with punctures, which are ocellate in the posterior part, the border of frons not defined; genae (ocular lobes) subrhombic, inclined and weakly produced laterad, closely covered with ocellate punctures; frons gently raised posteriad, closely covered with ocellate punctures, with oblique impunctate humps on each side, from which weak ridges with very fine impressions (clypeo-genal sutures) extend to outer margins; vertex closely covered with ocellate punctures, with a rather transverse impunctate part in medio-basal area. Eyes crescent-shaped, feebly rimmed along exterior and interior margins.

Pronotum 1.38 times as wide as long; apex gently and widely emarginate, wholly finely rimmed; front angles subrectangular with rounded corners, hind angles indistinct; base widely rounded, margined by a row of ocellate punctures; lateral margins produced, very weakly angulate in the middle, and finely rimmed; disc gently convex, closely covered with scaled and ocellate punctures, with a somewhat trigonal pyramid-shaped tubercle behind the middle in large-sized male, the area before the tubercle weakly depressed and inclined anteriad, whereas in small-sized male, the tubercles in middle small.

Elytra shallowly punctato-striate, the punctures in striae transverse (each puncture consists of smaller punctures on both sides); intervals weakly convex, covered with scaled and ocellate punctures.

Pygidium rather strongly convex behind the middle, closely covered with scaled, ocellate and elliptical punctures. Aedeagus somewhat robust. Phallobase about 0.7–0.8 mm in length, about 0.3 mm in apical width. Parameres rather short and stout, about 0.4–0.4 mm in length, each with a distinct lateral tooth, which is situated near the middle of ventral face in lateral view.

Legs ordinary in shape as in members of *Onthophagus*; protibiae with four outer teeth, terminal spur rather bold; ratios of the lengths of spur of metatibia and metatarsal segments: 0.58;



Figs. 1–6. Habitus, head and pronotum of *Onthophagus* spp. from Thailand.—1, *Onthophagus (Onthophagus) thainuaensis* sp. nov., male, holotype; 2, *O. (Indachorius) ranongensis* sp. nov., male, holotype; 3, *O. (Parascatonomus) thaitai* sp. nov., male, holotype; 4, *O. (Parascatonomus) masahiroi* sp. nov., male, holotype; 5, *O. (Furconthophagus) karenensis* sp. nov., male, holotype; 6, Head and pronotum of *Onthophagus (Onthophagus) thainuaensis* sp. nov., male, holotype.

1.00, 0.39, 0.27, 0.13, 0.34.

Female. Clypeus less strongly produced anteriorly, bilobed at apex; pronotum simply convex.

Body length: 4.3–4.7 mm.

Holotype: ♂, Doi Suthep / Pui, Chiang Mai Prov., Thailand, 30. VII.–5. VIII. 1988, K. MASUMOTO leg. (NSMT). Paratypes: 9 exs., same data as the holotype; 7 exs., Doi Inthanon, Chiang Mai Prov., 30. VII.–3. VIII. 1988, K. MASUMOTO leg.; 4 exs., Doi Inthanon, Chiang Mai Prov., 9. VII. 1988, Y. MANIT, leg.; 1 ex., Doi Inthanon, Chiang Mai Prov., 2–3. VII. 1988, Y. MANIT, leg.; 1 ex., Doi Suthep, Chiang Mai Prov., 30. XII. 1989, Y. MANIT, leg.; 1 ex., Doi Suthep, Chiang Mai Prov., 12. X. 1990, Y. MANIT, leg.; 1 ex., Doi Suthep, Chiang Mai Prov., 15. V. 1999, K. MASUMOTO leg.; 1 ex., Doi Suthep, Chiang Mai, 18. V. 1998, K. MASUMOTO

leg.; 1 ex., Doi Suthep / Pui, Chiang Mai Prov., Thailand, 26. VII.–1. VIII. 1987, K. MASUMOTO leg.; 1 ex., Doi Ang Khang, Chiang Mai Prov., 9. VI. 1990, no collector's name; 3 exs., Doi Suthep, Chiang Mai, 4. VII. 2007, H. BÄNZIGER leg. (D. 213, 214, 252); 1 ex., Above Sangwal, Doi Suthep, Chiang Mai Prov., 16. V. 2006, H. BÄNZIGER leg. (D. 92); 1 ex., Above Sangwal, Doi Suthep, Chiang Mai Prov., 18. V. 2006, H. BÄNZIGER leg. (D. 99).

*Notes.* The present new species is obviously a relative of *O. (O.) deflexicollis* LANSBERGE, 1888, from “Archipel indo-néerlandais”. This species group is characterized by the head with fronto-clypeal suture not carinate, but most completely effaced in both sexes, and vertex transversely carinate, the carina curved slightly posteriad. The male clypeus are more or less produced to a point, which is strongly reflexed. The male pronotum with the antero-median part is flattened. The flattened area generally extends backwards beyond the middle and is limited by an angular elevation. The female clypeus is bilobed at the apex.

In the old time, only one species, *O. (O.) deflexicollis*, was known and thought that it is widely distributed from North India to Sumatra (e.g. ARROW, 1931). In 1976 and 1977, ZUNINO described two relatives of this species, *O. bonorae* and *O. aloysiellus*, from Thailand, and Vietnam and Myanmar, respectively. According to the present authors' study, a high diversity of this species can be observed in this species group from Southeast Asia. On this occasion, they describe one new species from Thailand. A key to Thai species of *Onthophagus deflexicollis* and its relatives is shown below.

*Etymology.* The specific name is given after the area of North Thailand in Thai, where the type series were collected.

#### Key to the Thai Species of *Onthophagus deflexicollis* and its Relatives

- 1(2) Body smaller, 4.3–4.7 mm in length; dorsal side wholly covered with very crowded ocellate punctures; North Thailand ..... *Onthophagus (Onthophagus) thainuaensis* sp. nov.
- 2(1) Body larger, 5.0–6.5 mm in length; dorsal side not covered with ocellate punctures ..... 3
- 3(4) Head with outer margin not continuous from genal angle to clypeal apex, obviously notched at gena-clypeal borders. Male: Clypeus strongly expanded anteriorly slightly before fronto-clypeal suture. Female: Clypeal margin weakly incised in the middle, and feebly bilobed on either side of the incision; 5–6.5 mm in length; Thailand, Vietnam, Myanmar ..... *O. (O.) aloysiellus* ZUNINO
- 4(3) Head with outer margin continuous from genal angle to clypeal apex. Male: Clypeus not strongly expanded anteriorly slightly before fronto-clypeal suture. Female: Clypeal margin distinctly or strongly incised in the middle, and noticeably bilobed on either side of the incision ..... 5
- 5(6) Male: Pronotum declivous in apical half or slightly over the middle, the declivous area narrowly flattened, with a tubercle at the top of the declivity. Female: Head with a strong broad transverse carina between eyes; 5.0–5.1 mm in length. Thailand ..... *O. (O.) bonorae* ZUNINO
- 6(5) Male: Pronotum declivous in apical 2/3–4/5, the declivous area broadly flattened, with three tubercles, of which one is situated at the top of the declivity and two situated at the lateral parts of the declivity. Female: Head with a weak fine transverse carina between eyes; 4.8–5.5 mm in length; Malay Peninsula, Sumatra, Thailand ..... *O. (O.) deflexicollis* LANSBERGE

*Onthophagus (Indachorius) ranongensis* sp. nov.

(Figs. 2, 9–10)

Brownish black, apical margin of head, mouth parts, gula and legs lighter in colour, elytra black with patches and bands brownish yellow, antennal clubs pale yellow; body surface moderately, somewhat vitreously shining, lateral parts of head and apical part of pronotum with bronzy lustre; posterior part of head, pronotum and elytra noticeably covered with suberect long hairs. Body ovate and compact, gently convex, flattened in major medial parts of elytra.

Male. Head feebly raised slightly behind the middle, weakly covered with isodiametric microsculpture, with outer margin weakly reflexed; clypeus transversely subhexagonal, feebly concave in anterior part, scattered with microscopic punctures in anterior part, sparsely scattered with large, piliferous punctures in posterior part, with apex produced, truncate in front, the fronto-clypeal border arcuate and gently carinate, the clypeo-genal borders clearly ridged; genae weakly concave, scattered with large, piliferous punctures, and sparsely scattered with microscopic punctures, with outer margins weakly, roundly produced; frons obtrapezoidal, raised posteriad to a transverse, substraight carina on the fronto-vertex border with each lateral end feebly raised, very feebly concave widely in medial part, sparsely scattered with microscopic punctures in anterior and medial parts, also with large, piliferous punctures in medial and posterior parts, weakly ridged on the fronto-genal borders; vertex inclined posteriad, sparsely scattered with large, haired punctures in anterior part, and rather closely so with small punctures in posterior part. Eyes crescent-shaped, feebly rimmed along exterior and interior margins.

Pronotum 1.39 times as wide as long; apex gently, widely emarginate and feebly bisinuous, wholly finely rimmed; front angles rectangular with angular corners, hind angles obtuse; base widely triangular, margined by a row of small punctures; lateral margins produced ventrolaterad, very weakly sinuous in posterior 2/5, wholly, finely rimmed; disc rather strongly convex, closely scattered with large, feebly ocellate punctures, each with a long suberect hair.

Elytra shallowly punctato-striate, the striae margined by fine rims, the punctures in striae sparsely set and notching intervals; disc with subovate patches in humeral parts, ill-shaped transverse bands in anterior 1/3 of interior part, and transverse bands along apical margins; intervals very weakly convex, with one or two rows of piliferous punctures, which are connected with one another, thus form oblique rugosities.

Pygidium moderately convex in postero-medial part, rather closely scattered with haired punctures. Aedeagus rather short. Phallobase about 0.8 mm in length, about 0.4 mm in apical width. Parameres relatively large and simply formed, slightly asymmetrical in dorsal view, about 0.6 mm in length, each without a lateral tooth; apical portion of each paramere almost glabrous.

Legs somewhat short as in members of the subgenus; protibiae with four outer teeth, the fourth small behind the third; terminal spur strong and curved ventrad; ratios of the lengths of spur of metatibia and metatarsal segments: 0.71; 1.00, 0.34, 0.25, 0.23, 0.34.

Female. Similar to male in general features; head slightly narrower, with the substraight carina on the fronto-vertex border slightly shorter.

Body length: 3.3–4.2 mm.

Holotype: ♂, Hills above Ranong, Ranong Prov., S. Thailand, 17. VIII. 2007, H. BÄNZIGAR leg. (D. 199) (EACU). Paratypes: 3 exs., same data as the holotype (D. 195, 196, 198); 2 exs., same collecting place and collector, 11. IX. 2005 (D. 43, 253); 1 ex., same collecting place and collector, 15. VII. 2007 (D. 197).

*Notes.* The present new species is one of smallest species in the subgenus *Indachorius* distributed in Thailand and resembles *Onthophagus (I.) jingping* MASUMOTO, OCHI et HANBOONSONG, 2007, described from Northeast Thailand. The new species can be distinguished from the latter by the head more strongly produced anteriorly, with clypeus simply truncate in front (weakly bilobed in *O. (I.) jingping*), fronto-clypeal border shorter, and the fronto-vertex border with a transverse carina (two tubercles in *O. (I.) jingping*), and the pronotum more coarsely punctate.

*Etymology.* The specific name is given after the place where the type series were collected.

***Onthophagus (Parascatonomus) thaitai* sp. nov.**

(Figs. 3, 11–12)

Dark reddish brown, interior and posterior parts of head, elytra darker in colour, antennal clubs pale yellow; body surface rather strongly, vitreously shining; dorsal surface and legs almost glabrous, metasternum and abdomen covered with bent hairs. Body ovate and compact, gently convex, flattened in major medial parts of elytra.

Male. Head gently raised posteriorly, with outer margin feebly margined; clypeus widely subhexagonal, produced apically, obviously notched at the middle, rather closely granulo-punctate, transversely rugulose, sparsely scattered with minute punctures, the fronto-clypeal border very feebly arcuate, finely impressed and weakly carinate, the clypeo-genal borders impressed and extending to outer margins; genae subrhombic, weakly concave in areas before eyes, scattered with small punctures, with outer margins produced laterad and feebly angular; frons obtapezoidal, feebly concave in posterior part, rather closely scattered with small, somewhat transverse punctures; vertex weakly and rather transversely convex, sparsely scattered with minute punctures. Eyes crescent-shaped.

Pronotum 1.32 times as wide as long; apex gently, widely emarginate and very feebly produced in middle, wholly, very finely rimmed; front angles rectangular with rounded corners, hind angles indistinct; base rounded, with a row of microscopic punctures along margin; lateral margins roundly produced ventro-laterad in anterior 2/5, obliquely truncate and slightly sinuous in medial and posterior parts, wholly, finely rimmed; disc rather strongly convex, moderately scattered with small punctures, each with a microscopic short scale.

Elytra rather strongly punctato-striate, the punctures in striae gently notching intervals; intervals moderately convex, irregularly scattered with small punctures, each with a microscopic short scale.

Pygidium moderately convex in postero-medial part, rather closely scattered with shallow, somewhat transverse punctures, each with a fine scale. Aedeagus somewhat elongate. Phallobase about 0.8 mm in length, about 0.4 mm in apical width. Parameres broad in dorsal view, about 0.5 mm in length, each with a distinct ventral tooth.

Legs somewhat short as in members of the subgenus; protibiae with four outer teeth; terminal spur bold and curved ventrad; ratios of the lengths of spur of metatibia and metatarsal segments: 0.71; 1.00, 0.52, 0.33, 0.20, 0.48.

Female. Unknown.

Body length: 4.3 mm.

Holotype: ♂, Hills above Ranong, Ranong Prov., S. Thailand, 17. VIII. 2007, H. BÄNZIGAR leg. (D. 187) (EACU).



*Notes.* The present new species is closely related to *Onthophagus* (*Parascatonomus*) *apilularuis* MASUMOTO, 1995, described from Northwest Thailand, but can be distinguished from the latter by the body smaller (4.3–5.5 mm in the latter) and wider, the head with clypeal margin less noticeably produced and gently notched in the middle (narrowly truncate or feebly notched in the latter), fronto-clypeal suture finely carinate (strongly carinate in the latter), and the pronotum more weakly punctate, with areas of front angles less strongly produced intero-anteriad.

*Etymology.* The specific name is given after the area where the type specimen was collected, which in Thai means “Southern Thailand”.

***Onthophagus* (*Parascatonomus*) *masahiroi* sp. nov.**

(Figs. 4, 13–14)

Blackish brown with feebly coppery tinge, posterior and lateral parts of head and anterior part of pronotum with dark greenish metallic lustre, elytra almost black, antennal clubs and hairs on surface pale yellow; head and pronotum rather strongly shining, elytra weakly, somewhat sericeously shining, ventral side gently to weakly shining; dorsal surface moderately covered with short fine hairs, ventral surface rather densely covered with long bent hairs. Body ovate and compact, gently convex, weakly depressed area along the border of pronotum and elytra, flattened in major part of elytra.

Male. Head gently raised posteriad, very weakly covered with isodiametric microsculpture, with outer margin roundly produced, reflexed and feebly rimmed; clypeus weakly produced apicad, slightly truncate in front, closely punctate, transversely rugulose, the fronto-clypeal border not defined, the clypeo-genal borders finely impressed and reaching outer margins; genae subrhombic, weakly concave in anterior parts of eyes, scattered with small punctures, with outer margins obtusely angular laterad; frons rather transversely ruguloso-punctate, with an impunctate swelling at the middle, areas behind it inclined posteriad; vertex weakly covered with isodiametric microsculpture, rather strongly raised, with a transverse carina along the posterior border, the summit of the carina flattened and weakly inclined posteriad and sparsely scattered with microscopic punctures. Eyes crescent-shaped.

Pronotum wider than long (5 : 4), weakly covered with isodiametric microsculpture, irregularly scattered with microscopic punctures; apex gently, widely emarginate, finely rimmed; front angles rectangular with rounded corners, hind angles indistinct; base widely triangular, not margined; lateral margins roundly produced ventro-laterad in anterior 2/5, obliquely truncate and slightly sinuous in medial parts (in areas of around hind angles), wholly, finely rimmed; disc strongly convex, weakly, somewhat elliptically depressed close to base on both sides, rather closely scattered with small punctures, each with a fine hair.

Elytra shallowly punctato-striate, the punctures in striae feebly notching intervals; intervals weakly convex, irregularly scattered with small punctures, each with a decumbent fine hair.

Pygidium moderately convex in postero-medial part, closely scattered with shallow punctures, which are often transversely or obliquely fused with one another, each with a decumbent fine hair. Aedeagus short and robust. Phallobase distinctly stout, about 1.1 mm in length, about 0.6 mm near apical width. Parameres large, strongly convex dorsally, about 0.7 mm in length, with two ventral teeth.

Legs slightly short in size as in members of the subgenus; protibiae with four outer teeth, the first tooth (= apico-external part of protibia) acutely produced, terminal spur slender and bent ventrad; ratios of the lengths of spur of metatibia and metatarsal segments: 1.27; 1.00, 0.34, 0.20, 0.22, 0.28.

Female. Similar to male in shape except for the head more distinctly ruguloso-punctate.

Body length: 6.8–8.3 mm.

Holotype: ♂, Ranong, Ranong Prov., S. Thailand, 25. VIII. 1997, M. KON leg. (NSMT).

Paratypes: 1 ♂, 8 ♀ ♀, the same data as the holotype.

*Notes.* The present new species is a member of the subgenus *Parascatonomus* of the genus *Onthophagus*. The subgenus might be consisted of several species groups. The new species is closely related to *Onthophagus (Paeascatonomus) atratus* KABAKOV, 1992, described from Vietnam, *O. (P.) denticollis* LANSBERGE, 1883, from Sumatra, and *O. (P.) panfilovi* KABAKOV, 1992, Vietnam. These four species possess parameres which are very similar to one another. It is distinctly narrowed sides in the middle in dorsal view. They can be easily distinguished mutually by the following key.

*Etymology.* The specific name is given after Dr. Masahiro KON, who collected the type specimens.

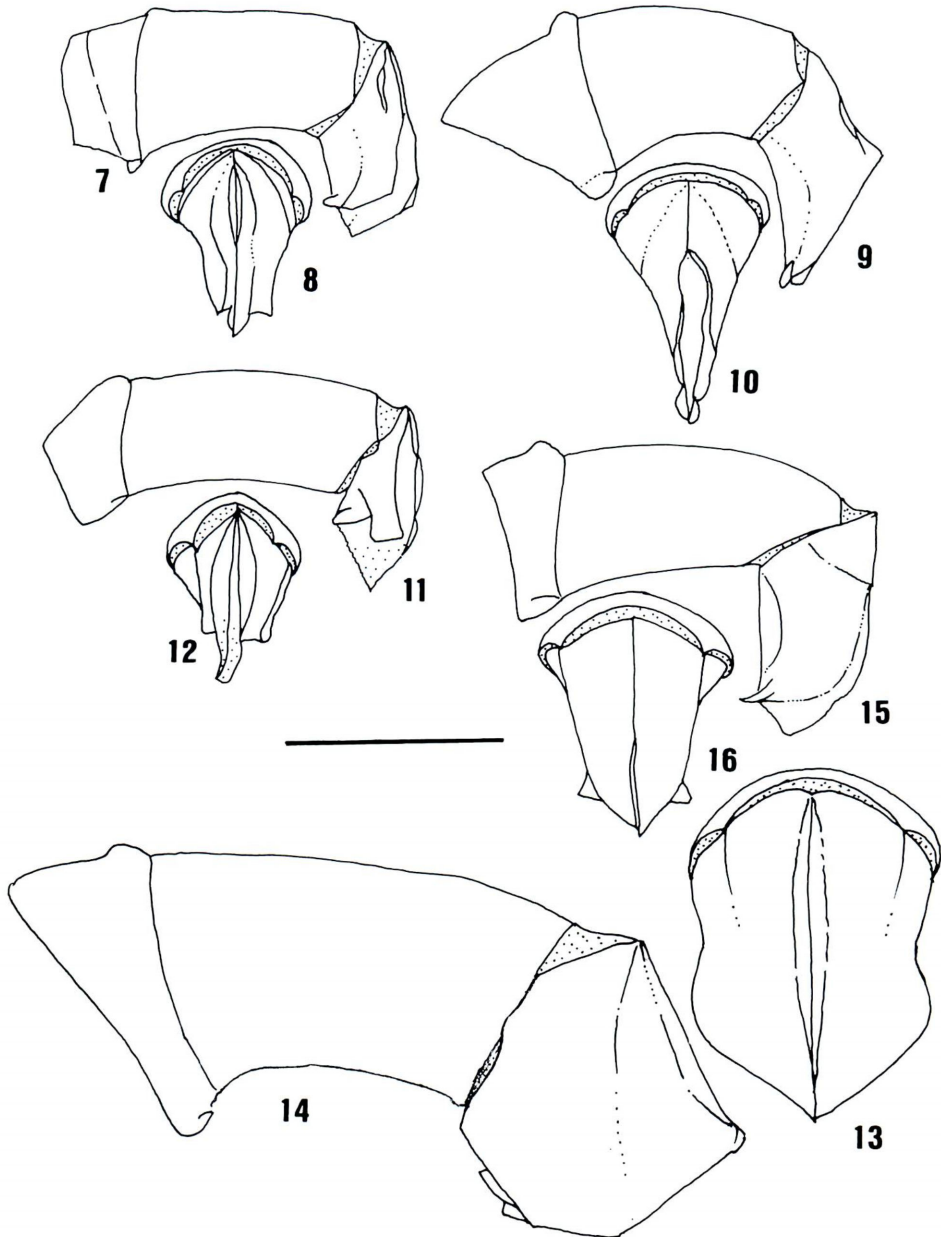
#### Key to the Related Species of *O. denticollis*

- 1(4) Head with clypeal margin rounded at apex.
- 2(3) Head with fronto-clypeal suture distinctly carinate in the middle; vertex not distinctly and transversely carinate; 7.5–8.0 mm in length; Vietnam ..... *O. (P.) atratus* KABAKOV
- 3(2) Head with fronto-clypeal suture completely obliterated; vertex strongly and arcuately carinate; 6.0–7.0 mm in length; Vietnam ..... *O. (P.) panfilovi* KABAKOV
- 4(1) Head with clypeal margin briefly truncate at apex.
- 5(6) Head with weak transverse carina on vertex; fronto-clypeal suture completely effaced. Elytra with intervals rather sparsely covered with asperate and distinct punctures; 5.5–6.8 mm in length; Sumatra, Malay Peninsula, Sulawesi (?) ..... *O. (P.) denticollis* LANSBERGE
- 6(5) Head with strongly raised transverse carina on vertex; fronto-clypeal suture usually weakly carinate in the middle, rarely not carinate. Elytra with intervals sparsely covered with asperate and fine punctures; 6.8–8.3 mm in length; South Thailand .....  
..... *O. (P.) masahiroi* sp. nov.

#### *Onthophagus (Furconthophagus) karenensis* sp. nov.

(Figs. 5, 15–16)

Brownish black, elytra with obscure reddish patches on 6th intervals close to base, anterior parts of head and pronotum with weak coppery lustre, posterior part of head and anterior declivity of pronotum with weak bronzy lustre, anterior margin of head, mouth parts, gula and legs dark reddish brown, antennal clubs and scales on body surface pale yellow, the latter partly darker in colour, head and anterior declivity shining, pronotum and elytra very weakly shining, legs moderately shining, ventral surface rather alutaceous; head sparsely haired, pronotum rather



Figs. 7–16. Male genitalia.—7–8, *Onthophagus* (*Onthophagus*) *thainuaensis* sp. nov., 7, lateral view, 8, frontal view; 9–10, *O.* (*Indachorius*) *ranongensis* sp. nov., 9, lateral view, 10, frontal view; 11–12, *O.* (*Parascatonomus*) *thaitai* sp. nov., 11, lateral view, 12, frontal view; 13–14, *O.* (*Parascatonomus*) *masahiroi* sp. nov., 13, lateral view, 14, frontal view; 15–16, *O.* (*Furconthophagus*) *karenensis* sp. nov., 15, lateral view, 16, frontal view. Scale: 0.5 mm.

closely clothed with shorter and finer scales, elytra rather closely clothed with longer and bolder scales, metasternum and abdomen covered with short fine scales. Body ovate and compact, rather strongly convex, flattened in major medial parts of elytra.

Male. Head subelliptical; clypeus inclined anteriorly, reflexed along outer margin, feebly micro-reticulate, moderately scattered with microscopic punctures, sparsely scattered with larger, setiferous punctures, obviously notched at the middle of apex, both sides of the notch lobed, the fronto-clypeal border not defined; impressed along clypeo-genal borders; genae subrhombic, very weakly depressed in areas before eyes, feebly micro-reticulate, scattered with small haired punctures, with outer margins produced laterad and obtusely angular; frons subtriangular, feebly micro-reticulate, moderately scattered with microscopic punctures, sparsely scattered with larger, haired punctures, raised posteriorly, with a subconical horn at the middle of the border of vertex; vertex steeply inclined, moderately scattered with microscopic punctures. Eyes narrowly crescent-shaped.

Pronotum 1.45 times as wide as long, wholly covered with isodiametric microsculpture; apex gently, widely emarginate wholly, finely rimmed; front angles rectangular with very slightly projected corners, directing antero-laterad, hind angles indistinct; base widely, roundly triangular, not margined; lateral margins roundly produced ventro-lateral in anterior 3/5, obliquely truncate and slightly sinuous in areas of hind angles, wholly, finely rimmed; disc rather strongly convex, steeply declivous in front, swollen at the middle of upper edge of the declivity, rather closely scattered with ocellate, scaled punctures, whose anterior parts are not closed.

Elytra shallowly punctato-striate, the punctures in striae rather closely set and noticeably notching intervals; intervals weakly convex, covered with isodiametric microsculpture, with one or two rows of granulate, small punctures, each with a decumbent scale.

Pygidium moderately convex in middle, weakly micro-reticulate, rather closely scattered with ocellate, feebly elliptical, scaled punctures, each with a fine, upright scale. Aedeagus relatively slender. Phallobase about 0.5 mm in length, about 0.4 mm in apical width. Parameres about 0.5 mm in length, each with a strong lateral tooth, which is situated near apex of ventral face in lateral view.

Legs ordinary in shape in members of the subgenus; protibiae with four strong outer teeth; terminal spur not so distinct, weakly curved exteriorly; ratios of the lengths of spur of metatibia and metatarsal segments: 0.78; 1.00, 0.29, 0.18, 0.14, 0.36.

Female. Lobes of clypeal apex more strongly produced; fronto-clypeal border weakly, arcuately carinate; fronto-vertex border distinctly, arcuately carinate instead of a horn.

Body length: 3.6–4.3 mm.

Holotype: ♂, Mae Sa Vill., Chiang Mai Prov., N. Thailand, 18. VIII. 1995, K. MASUMOTO leg. (NSMT). Paratypes: 1 ex., same data as the holotype; 5 exs., Doi Suthep, Chiang Mai Prov., N. Thailand, 16. VIII. 1995, K. MASUMOTO leg.; 2 exs., Doi Pha Hom Pok, Chiang Mai Prov., 16. XI. 1995, K. MASUMOTO leg.; 3 exs., Doi Phuka, 1,200 m alt., Nan Prov., N. Thailand, 17–18. V. 1997, K. MASUMOTO leg.; 2 exs., Wang Nam Kieo, Nakhon Ratchasima Prov., 29–30. VIII. 2000, Y. UTSUNOMIYA leg.; 2 exs., Ban Angkhai, Chiang Mai Prov., 26–31. X. 1997, K. MASUMOTO leg.; 1 ex., Ban Angkhai, Chiang Mai Prov., 19. V. 1997, K. MASUMOTO leg.

*Notes.* The present new species closely resembles *Onthophagus (Furconthophagus) papulatus* BOUCOMONT, 1914, described from Borneo. The latter was recorded by O. N. KABAKOV and A. NAPOLOV (1999) from Vietnam, Laos and Thailand. According the present authors' study, the species from Thailand are not true *O. (Furconthophagus) papulatus*. The new species can be distinguished from it by the elytra with striae punctures fairly coarsely and transversely notching intervals (not coarsely and transversely so in *O. (F.) papulatus*), elytral intervals covered with setiferous granules (these smaller in *O. (F.) papulatus*), the clypeal margin more

deeply, more widely notched, and more strongly reflexed in the middle (shallowly, narrowly notched and less strongly reflexed in *O. (F.) papulatus*), and the male cephalic horn vertical and located on the border of vertex at the middle of eyes (slightly inclined backwards and located behind the posterior eye margins in *O. (F.) papulatus*).

In Thailand, there occurs one named species belonging to the subgenus *Furconthophagus*, *Onthophagus (F.) khonkaenus* MASUMOTO, OCHI and HANBOONSONG, 2008, from Khon Kaen. The present new species can be distinguished from *O. (F.) khonkaenus* by the male pronotal disc with a blunt swelling at the middle of upper edge of the declivity (a pair of gibbosities at the middle in the latter), and the female head with the fronto-clypeal border weakly, arcuately carinate (strongly, arcuately carinate at the fronto-clypeal border in the latter).

*Etymology.* The specific name is given after a hill tribe who live in the Maesa Area where the type series were collected.

### Records of Species New to the Fauna of Thailand

#### *Onthophagus (Gibbonthophagus) taeniatus* BOUCOMONT, 1914

*Onthophagus taeniatus* BOUCOMONT, 1914, Ann. Soc. ent. France, **83**: 292.

*Distribution:* Borneo, Mentawai, Thailand [New record].

*Specimens examined:* 8 exs., Kanchanaburi, W. Thailand, 7. X. 1975, H. KURAHASHI leg. (NSMT).

#### *Onthophagus (Onthophagus) infucatus* HAROLD, 1877

*Onthophagus infucatus* HAROLD, 1877, Ann. Mus. Civ. Genova, **10**: 56.

*Distribution:* Borneo, Mentawai, Thailand [New record].

*Specimen examined:* 1 ex., "DE / NN 28. 5. 00" (EMKKU).

#### *Onthophagus (Onthophagus) batillifer* HAROLD, 1875

*Onthophagus batillifer* HAROLD, 1875, Col. Hefte, München, **14**: 38.

*Distribution:* Sumatra, Java, Borneo, Malay Peninsula, Thailand [New record].

*Specimen examined:* 1 ex., "WLS. Hala-Bala, Rotten fruit, Waeng Narathivat, 13. VIII. 2000, Y. HANBOONSONG leg." (EMKKU).

#### *Onthophagus (Onthophagus) obscurior* BOUCOMONT, 1914

*Onthophagus obscurior* BOUCOMONT, 1914, Ann. Soc. ent. France, **83**: 294.

*Distribution:* Borneo, Thailand [New record].

*Specimen examined:* 1 ex., "Moist evergreen forest, Khlong Nakha WLS., Ranong, S. Thailand, 8. VIII. 2000, Y. HANBOONSONG leg." (EMKKU).

***Onthophagus (Onthophagus) parenthesis* BOUCOMONT, 1913**

*Onthophagus parenthesis* BOUCOMONT, 1913, Bull. Soc. ent. France :418.

*Distribution:* Java, Thailand [New record].

*Specimen examined:* 1 ex., “Dry evergreen forest, Khao Ang Rue Nai, Chachoengsao WLS., Ranong, S. Thailand, 21. V. 2000, Y. HANBOONSONG leg.” (EMKKU).

***Onthophagus (Pseudophanaeomorphus) mentaveiensis* BOUCOMONT, 1914**

*Onthophagus mentaveiensis* BOUCOMONT, 1914, Ann. Mus. civ. Stor. nat. Genova, Ser. 3, 6 (46): 69.

*Distribution:* Mentawai, Thailand [New record].

*Specimens examined:* 2 exs., Hills above Ranong, Ranong Prov., S. Thailand, 17. VIII. 2007, H. BÄNZIGER leg. (D. 184, 185) (EACU).

## 要 約

益本 仁雄・越智 輝雄・Y. HANBOONSONG：タイのエンマコガネ属 (*Onthophagus*) の新種について。3. タイ各地のエンマコガネ属の5新種および6種の新記録。——タイの食糞性コガネムシのエンマコガネ属 (*Onthophagus*) についての研究シリーズの第3回として、タイ各地のエンマコガネ属の5新種を記載した。すなわち *Onthophagus (Onthophagus) thainuaensis* sp. nov., *O. (Indachorius) ranongensis* sp. nov., *O. (Parascatonomus) thaitai* sp. nov., *O. (Parascatonomus) masahiroi* sp. nov., および *O. (Furconthophagus) karenensis* sp. nov. である。また既知種6種, *Onthophagus (Gibbonthophagus) taeniatus* BOUCOMONT, 1914, *O. (O.) infucatus* HAROLD, 1877, *O. (O.) batillifer* HAROLD, 1875, *O. (O.) obscurior* BOUCOMONT, 1914, *O. (O.) parenthesis* BOUCOMONT, 1913, および *O. (Pseudophanaeomorphus) mentaveiensis* BOUCOMONT, 1914 について、タイを新産地として記録した。

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**New Records of the Genus *Scaphoxium* (Coleoptera: Staphylinidae: Scaphidiinae) from Yaeyama Group, the Ryukyus, Japan, with Description of a New Species**

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**Abstract** The genus *Scaphoxium* Löbl, 1979 is discovered from Yaeyama Group, the Ryukyus, Japan. A new species, *S. hiranoi* sp. nov., is described. *S. taiwanum* LÖBL, 1980 is recorded for the first time from Yaeyama Group. As a result of this study, number of Japanese species of *Scaphoxium* becomes four.

The genus *Scaphoxium* LÖBL (1979) belongs to the tribe Scaphisomatini of the subfamily Scaphidiinae (LÖBL, 1997). LÖBL (1981) recorded the genus from Japan for the first time and described a new species, *S. japonicum* from Honshu and Shikoku. Later, HOSHINA & SUGAYA (2003) added a new species, *S. kunigamiense*, to the Japanese fauna from Okinawa Is., the Ryukyus. Recently, I had an opportunity to examine two species of *Scaphoxium* collected from Yaeyama Group, the Ryukyus. My careful examination revealed that one was a new member of this genus and the other was a known species, *S. taiwanum* LÖBL, 1980, of which the former is described as a new species under the name, *S. hiranoi* sp. nov. and the latter is recorded from Japan for the first time.

The holotype designed in this study is deposited in the collections of the Museum of Nature and Human Activities, Hyôgo (MNHA). A paratype is preserved in my collection. Before going further, I wish to express my sincere gratitude to Mr. Yukihiro HIRANO (Kanagawa Pref.) for his continuous help.

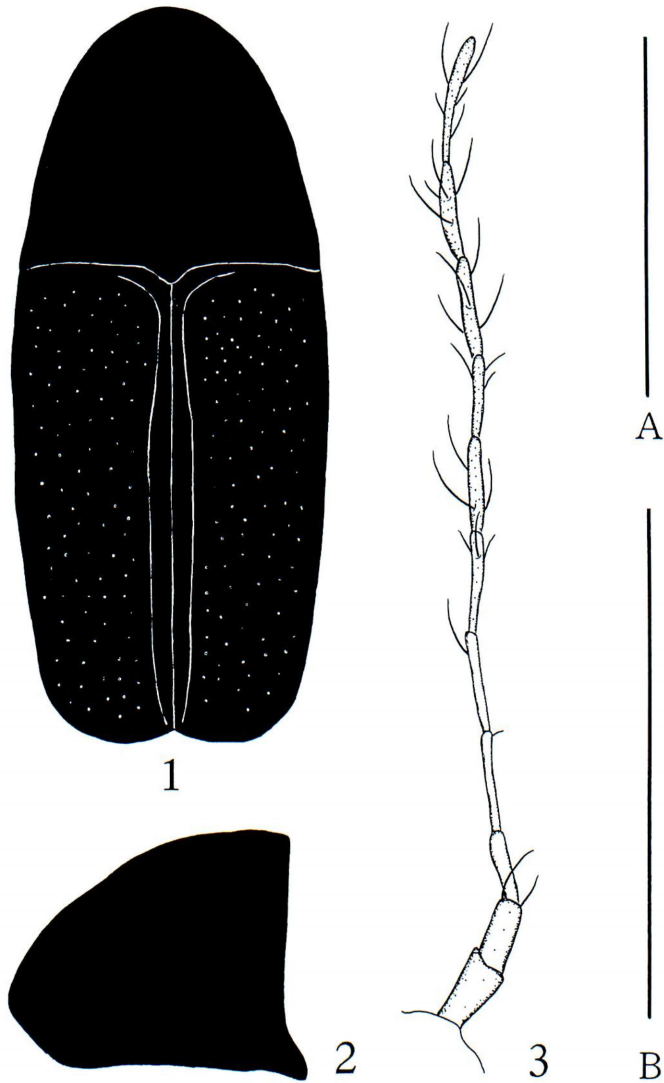
***Scaphoxium hiranoi* HOSHINA, sp. nov.**

(Japanese name: Yaeyama-ô-nagakeshi-deokinokomushi)

(Figs. 1–7)

Male and female. Coloration: Dorsum shining, almost concolorous brown; antennae with 1st–2nd segments light brown, 3rd–5th segments whitish brown, 7th–11th segments grayish brown, 6th segment a little lighter than 7th; tibiae light brown; tarsi a little lighter than tibiae; other parts of legs brown; propygidium and pygidium light brown; undersurface shining, mesosternum and venter light brown, metasternum a little darker than mesosternum.

Measurement of holotype: Body 2.1 mm in length; head 0.52 mm in length (from anterior



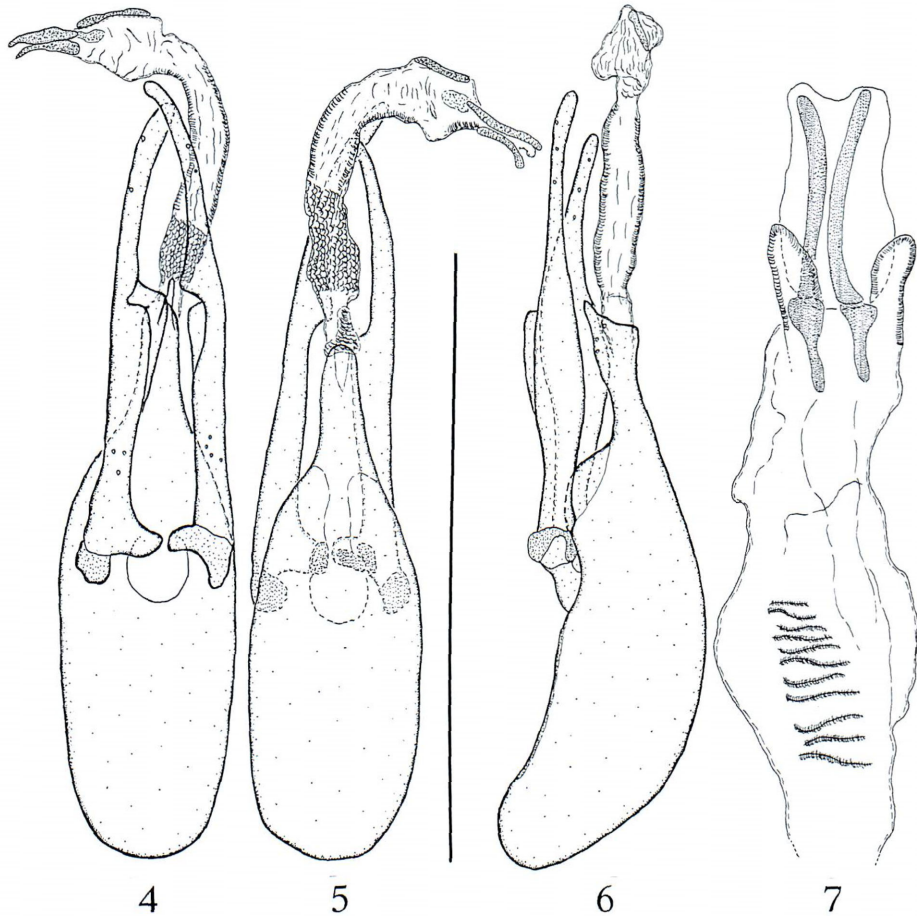
Figs. 1–3. *Scaphoxium hiranoi* sp. nov.—1, body. 2, pronotum, lateral view. 3, antenna. Scale A: 1 mm for Figs. 1 and 2. Scale B: 1 mm for Fig. 3.

margin of labrum to base) and 0.48 mm in width; pronotum 0.80 mm in length and 0.90 mm in width; elytra 1.30 mm in length and 0.94 mm in width.

Body almost glabrous, about 2.2 times as long as wide.

Head about 1.1 times as long as wide, almost impunctate and smooth; frons flat; all segments of antennae longer than wide; relative lengths of antennal segments from 2nd to 11th segments as follows: 2.5 : 2.5 : 3.4 : 3.2 : 3.6 : 3.4 : 3.0 : 3.7 : 3.6 : 4.9; 11th segment stick-like (Fig. 3).

Pronotum about 1.1 times as wide as long, slightly narrower and about 0.60 times as long as elytra, widest at base, simply curved and narrowing towards the apex along lateral margins, strongly sinuate in the middle of posterior margin in dorsal view (Fig. 1), weakly projected basally at latero-ventral margins in lateral view (Fig. 2), almost smooth and impunctate except



Figs. 4–7. *Scaphoxium hiranoi* sp. nov.—4–6, aedeagus. 4, ventral view. 5, dorsal view. 6, lateral view; 7, inner sac of median lobe, dorsal view. Scale: 1 mm for Figs. 4–6 and 0.3 mm for Fig. 7.

for in very small quantity of extremely fine punctures.

Scutellum covered with the prominent portion of pronotum and invisible in dorsal view (Fig. 1).

Elytra widest at about  $1/6$  from base (Fig. 1), about 1.4 times as long as wide, almost smooth; discal punctures dense and fine (Fig. 1); sutural stria fine, almost as long as elytra, feebly sinuate, curved outwards along basal margin and terminate at  $1/3$  from suture (Fig. 1).

Propygidium and pygidium almost impunctate; pygidium with a pair of fine setae at about apical  $1/4$  of lateral margins.

Under surface almost smooth; mesosternum and venter almost impunctate; metasternum sparsely and weakly punctate.

Legs slender; fore tibiae feebly narrowed from basal  $2/5$  to base at inner margins and almost straight at external margins; middle and hind tibiae simply stick-like.

Aedeagus slender (Figs. 4–6), about 1.3 mm in length (from base of the median lobe to apex of parameres) and 0.30 mm in width in ventral view; the median lobe sharply narrowed at apical  $1/4$  and slightly narrowing to apex, round at apex in ventral and dorsal views, and weakly curved in lateral view; parameres slender, asymmetrical, feebly curved inwardly in ventral and

dorsal views, round at apex, and without apical setae; internal sac simple, with a pair of slender sclerites (Fig. 7).

Body length. 2.1–2.3 mm.

*Distribution.* Japan: the Ryukyus: Yaeyama Group (Ishigaki Is.).

*Type series.* Holotype, ♂, Omoto, Ishigaki Is., Yaeyama Group, the Ryukyus, 26. IV. 1981, Y. HIRANO leg. (preserved in MNHA). Paratype, 1 ♀, Mt. Omoto, Ishigaki Is., Yaeyama Group, Ryukyus, 25. X. 1996, Y. HIRANO leg.

*Remarks.* The present new species can be easily distinguished from *Scaphoxium taiwanum* LÖBL, 1980, by having a large body. *S. hiranoi* sp. nov. is similar to *S. kunigamiense* HOSHINA et SUGAYA, 2003, but the median lobe of aedeagus in the former species is relatively robust. Moreover, this species also resembles *S. grande* described by LÖBL (1986a) in appearance, but the parameres are longer.

*Etymology.* Name of this new species is dedicated to Mr. Yukihiro HIRANO who lent me valuable specimens for the present study.

### *Scaphoxium taiwanum* LÖBL, 1980

(Japanese name: Taiwan-nagakeshi-deokinokomushi)

*Scaphoxium taiwanum* LÖBL, 1980, 121 (type locality: Taiwan); LÖBL, 1986b: 351; LÖBL, 1990: 612; LÖBL, 1992: 570; LÖBL, 1997: 151; LÖBL, 1999: 740

*Distribution.* India, Nepal, Thailand, China, Taiwan, Japan: Ryukyus (Yaeyama Group) — new record.

*Specimens examined.* 1 ♂, 1 ♀, Mt. Omoto, Ishigaki Is., Yaeyama Group, Ryukyus, 3. III. 2003, H. HOSHINA leg.; 1 ♀, Mt. Fukai-Omoto, Ishigaki Is., Yaeyama Group, Ryukyus, 4. III. 2003, H. HOSHINA leg.; 1 ♀, Komi, Iriomote Is., Yaeyama Group, Ryukyus, 17. III. 2006, H. HOSHINA leg.

*Notes.* This species is recorded for the first time from Yaeyama Group, the Ryukyus, Japan.

## 要 約

保科 英人：琉球列島八重山諸島からのハネカクシ科 *Scaphoxium* 属（ナガケシデオキノコムシ属）の新記録と1新種の記載——八重山諸島から、ナガケシデオキノコムシ属の2種が初めて採集された。うち1種は未記載種であり、本稿にて、*S. hiranoi* sp. nov.（和名：ヤエヤマオオナガケシデオキノコムシ）命名して記載した。本種は、近隣地域の同属他種に比べ、体サイズが大きいのが特徴である。もう1種は、*S. taiwanum* LÖBL, 1980（和名新称：タイワンナガケシデオキノコムシ）であり、本稿が日本初記録になる。日本産ナガケシデオキノコムシは、本稿で追加した2種を加え、計4種となった。

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## A New Fodiniculous *Trechiana* (Coleoptera: Trechini) from Northeastern Honshu, Japan

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**Abstract** A new fodiniculous species of the trechine genus *Trechiana* is described from the southernmost part of the Asahi Mountains in northeastern Honshu, Japan. It belongs to the *echigonis* subgroup of the *habei* group, and is closely allied to *Trechiana planipennis* S. UÉNO, but is distinguished at first sight from it and all the other known members of the subgroup by the presence of the proximal dorsal pore of the internal series on the elytra. The new name given is *Trechiana nagahatai* S. UÉNO et SONE.

### Introduction

Early in the summer of 2005, two females of an anophthalmic trechine beetle were taken by Yoshiyuki NAGAHATA in a prospecting adit of Nagai Dam under construction and submitted to the first author of this paper for taxonomical examination. The beetle seemed at a glance to be a new member of the *echigonis* subgroup of the genus *Trechiana* (cf. UÉNO, 1995, p. 158), but a closer scrutiny revealed that it bore a setiferous dorsal pore on the third elytral stria, a character state that had never been known in the members of the *echigonis* subgroup. On the other hand, it was evidently different from the *insperatus* subgroup (cf. UÉNO, 1993, 1995, p. 160) in the nature of the seta on the third elytral stria; the seta is the proximal one in NAGAHATA's specimens, whereas it is the middle (or posterior) one in the species of the *insperatus* subgroup, which always lack the proximal seta. These two subgroups are also different in the conformation of the male genitalia, but we were unable to determine the affinity of the fodiniculous beetle from this viewpoint since we had no males at that time.

The prospecting adit under consideration was bored into a granite bed on the left side of the No-gawa Valley, a tributary of the Mogami-gawa River, at the southernmost part of the Asahi Mountains. It was therefore not particularly favourable for harbouring blind beetles. Repeated

investigations including extensive trappings were made in the adit for the past three years and brought forth eleven additional specimens, but only one male in a fairly good condition was included in the lot. However, dissection of this male cleared up all the problems about the systematic position of the new species. As was surmised from the beginning, it was indisputably a member of the *echigonis* subgroup and was closely related to *Trechiamia planipennis* S. UÉNO (1995, p. 148, figs. 1–2) and *T. echigonis* S. UÉNO (1972, p. 43, figs. 1–3), in spite of the unusual peculiarity of the elytral chaetotaxy. It will be described in the present paper under the name of *Trechiamia nagahatai*. The abbreviations employed herein are the same as those explained in previous papers of the first author's.

Before going into further details, we wish to express our deep appreciation to Mr. Yoshiyuki NAGAHATA and Ms. Mitsue IKEDA for their kindness in providing us with invaluable material and in helping SONE's investigation of the prospecting adit.

*Trechiamia* (s. str.) *nagahatai* S. UÉNO et SONE, sp. nov.

(Figs. 1–3)

Length: 4.45–5.05 mm (from apical margin of clypeus to apices of elytra).

Belonging to the subgroup of *Trechiamia echigonis* and closely allied to *T. planipennis* S. UÉNO, but distinguished at first sight from it and all the other members of the subgroup by the presence of proximal setiferous dorsal pore on elytral stria 3. Also different from *T. planipennis* in configuration of elytra, aedeagus and its inner armature.

Colour dark reddish brown, darker than in *T. planipennis*, shiny, with appendages more or less darker than in the latter. Head narrower on an average than in *T. planipennis*, subquadrate, about as long as wide, and nearly parallel-sided; eyes obliterated; genae only slightly convex; frontal furrows deep, moderately curved, and widely divergent posteriad; neck wide, neck constriction shallow and mal-defined; clypeus transverse, very shallowly emarginate at the apex; mandibles fairly slender, briefly incurved at the sharp apices; mental tooth slightly bifid at the tip; palpi fairly slender; antennae reaching the middle of elytra in ♂, basal three-sevenths of elytra in ♀, pedicel the shortest, about three-fifths as long as antennomere 3 which is the longest, antennomeres 4–7 subcylindrical, each more than 2.5 times as long as wide, 8–10 somewhat ovoidal, each slightly shorter than 7, ultimate segment about as long as antennomere 4.

Pronotum a little longer than in *T. planipennis*, cordate, widest at about two-thirds from base, and a little more gradually narrowed posteriad than anteriad; PW/HW 1.40–1.49 (M 1.44), PW/PL 1.00–1.13 (M 1.07), PW/PA 1.41–1.51 (M 1.45), PW/PB 1.38–1.48 (M 1.43); sides widely reflexed and rather strongly arcuate in front, narrowly reflexed and feebly arcuate at middle, shallowly and widely sinuate at basal seventh to fifth (exceptionally at about basal fourth), and then more or less divergent towards sharp hind angles, which are usually produced posterolaterad, with two pair of marginal setae; apex either straight or very slightly emarginate, about as wide as or somewhat narrower than base, PB/PA 0.98–1.07 (M 1.02) [PA/PB 0.93–1.02 (M 0.98)]; front angles hardly produced forwards and narrowly rounded; dorsum gently convex, depressed on the disc, median line distinct, widened in basal area; apical transverse impression vague, basal one uneven, foveolate on each side of median line, and laterally merging into basal foveae; no postangular carinae.



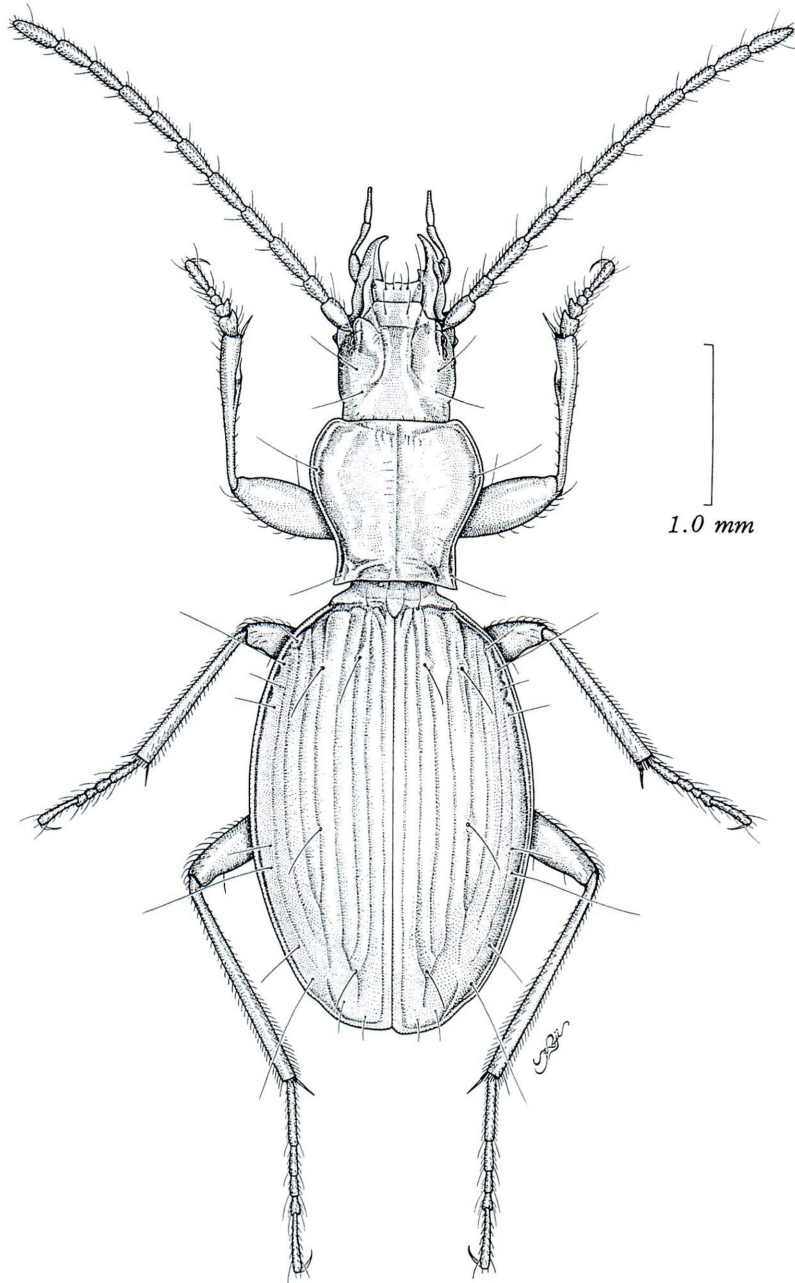
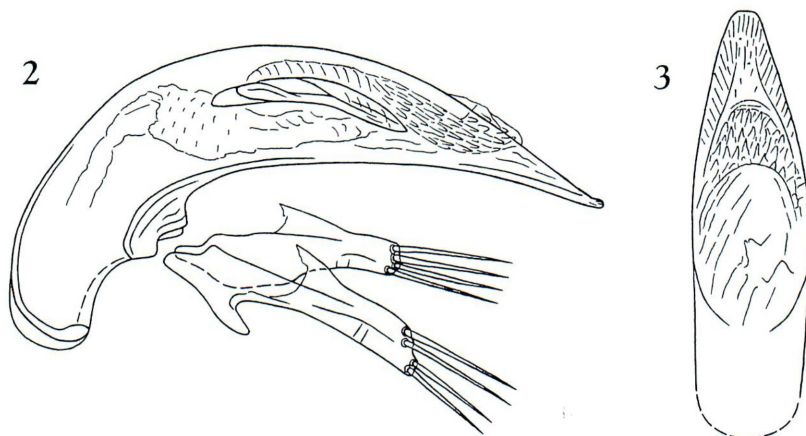


Fig. 1. *Trechiana* (s. str.) *nagahatai* S. UENO et SONE, sp. nov., ♂, from a prospecting adit of Nagai Dam in Nagai-shi, northeastern Honshu, Japan.



Figs. 2–3. Male genitalia of *Trechiana* (s. str.) *nagahatai* S. UÉNO et SONE, sp. nov., from a prospecting adit of Nagai Dam in Nagai-shi, northeastern Honshu, Japan; left lateral view (2), and apical part of aedeagus, dorso-apical view (3).

Elytra oval, widest at about middle, and equally narrowed towards bases and towards apices (not widest before the middle and ovate as in *T. planipennis*); EW/PW 1.66–1.80 (M 1.71), EL/PL 2.54–2.76 (M 2.65), EL/EW 1.42–1.52 (M 1.46); shoulders effaced, prehumeral borders straight, much more oblique than in *T. planipennis*; sides moderately bordered, gently arcuate from shoulders to the level of the apicalmost pore of the marginal series, and rather widely rounded at apices; dorsum gently convex, rather steeply declivous at the sides but widely depressed on the disc; striae entire, clearly impressed and impunctate; apical striole distinct, anteriorly joining or nearly joining stria 5; stria 3 with a single setiferous dorsal pore at 1/10–1/7 from base; stria 5 with two setiferous dorsal pores at 1/8–1/6 from base and about middle; preapical pore located at the apical anastomosis of striae 2 and 3, and more widely distant from apex than from suture.

Legs somewhat longer and slenderer than in *T. planipennis*; metatibia about a half as long as elytra; mesotarsus about three-fifths as long as mesotibia, metatarsus about five-sevenths as long as metatibia; tarsi fairly slender, tarsomere 1 about as long as tarsomeres 2–4 combined in both meso- and metatarsi; in ♂, two proximal protarsomeres rather widely dilated and spurred inwards at the apices.

Male genital organ relatively small and slender, though heavily sclerotised. Aedeagus about three-tenths as long as elytra, about as high as wide, gently arcuate, and in lateral view, gradually attenuate towards apex, with the dorsal margin semicircularly rounded in proximal half; viewed dorsally, aedeagus subparallel-sided at middle, and gradually narrowed in apical part towards apex, which is subtruncated and narrowly rounded at the sides; viewed laterally, apical lobe narrow, slightly reflexed at the extremity as a minute protrusion; basal part relatively narrow, with rather small basal orifice whose sides are shallowly emarginate; sagittal aileron narrow and hyaline; ventral margin slightly and widely arcuate in profile. Inner sac armed with a narrow copulatory piece at the middle and a horizontally arcuate patch of poorly sclerotised

teeth just inside apical orifice; copulatory piece about two-sevenths as long as aedeagus, feebly arcuate, and blunt at the two ends; no heavily sclerotised teeth-patch at the left side. Styles short and stout, left style obviously larger than the right, each bearing four, relatively short setae at the apex.

*Type series.* Holotype: ♂, 30. X. 2006, Y. NAGAHATA leg. (found in a baited trap set by S. SONE on 23. IX. 2006). Allotype: ♀, 8. VI. 2005, Y. NAGAHATA leg. Paratypes: 1 ♀, 8. VI. 2005, Y. NAGAHATA leg.; 1 ♀, 23. IX. 2006, S. SONE leg.; 1 ♀, 30. X. 2006, T. AOKI leg.; 1 ♀, 30. X. 2006, Y. NAGAHATA leg. (found in a baited trap set by S. SONE on 23. IX. 2006); 2 ♀ ♀, 29. XI. 2006, Y. NAGAHATA & T. AOKI leg.; 1 ♂, 4 ♀ ♀, 23. VII. 2007, M. IKEDA leg. (found in baited traps set by M. IKEDA on 26. VI. 2007).

*Type locality.* A prospecting adit of Nagai Dam, 290 m in altitude, at Teraizumi-Kamigô of Nagai-shi in Yamagata Prefecture, Northeast Japan.

*Notes.* Judging from the conformation of the aedeagus, this new species is a close relative of *T. planipennis* beyond all doubt. The latter species has so far been known only from the Gokuraku-tôgê near Kogura of Oguni-machi, about 20.6 km distant to the west-southwest from the type locality of the new species. Geographically nearer than the Gokuraku-tôgê is Ohtakayama Hill in Nan'yô-shi (15.9 km east by north), the type locality of *T. accipitris* S. UÉNO (1983, p. 8, figs. 2-5), which also resembles *T. nagahatai* in external morphology with the exception of the loss of setiferous dorsal pore on the third elytral stria, though the apical part of the aedeagus is obviously broader, the copulatory piece is markedly different in configuration, and the left proximal teeth-patch is well developed and consists of heavily sclerotised teeth. Besides, the type localities of the two species are widely separated by the Mogami-gawa River and the Nagai Basin developed along the main stream and two large tributaries of the river. The prospecting adit of Nagai Dam consists of three straight passages, all horizontal, two of which, 20 and 30 m in their respective lengths, are nearly parallel to each other, bored through the shale layer just under the surface and into the granite bed. The other passage is excavated along the internal side of the shale layer and connects the two subparallel passages. The trechine beetle has been found only near a pile of shale gravel formed under a trickle at the junction of the connecting passage with the shorter one of the main passages. The spot is only 5 m or so removed from one of the two entrances, and the beetle is seldom met with by naked eyes probably due to unusual restriction of its habitat. It is most probable that the original habitat of *T. planipennis* is located somewhere in the upper hypogean zone of the slope at the side of the No-gawa Valley, though we are still unable to pinpoint it.

## 要 約

上野 俊一・曾根 信三郎：東北地方の試掘坑で発見されたナガチビゴミムシ属の1新種。—— 山形県長井市の野川左岸に掘削された長井ダムの試掘坑で、永幡嘉之氏によって発見されたナガチビゴミムシ属の盲目の一種は、上翅第3条に剛毛孔点をもつという特異性にもかかわらず、雄交尾器の特徴からみて、エチゴメクラチビゴミムシ亜群の甲虫で、オグニメクラチビゴミムシに近縁の新種だと判定されたので、ナガイメクラチビゴミムシ *Trechiana* (s. str.) *nagahatai* S. UÉNO et SONE という新名を与えて、この論文に記載した。基準産地の試掘坑は、坑口のすぐ内側で貫通する頁岩層を除くと、メクラチビゴミムシ類の生息に適さない花崗岩の中に掘り込まれているので、この新種の生息場所は極端に制限され、個体数がひじょうに少な

い。おそらく近傍の地下浅層に本来のすみ場所があるものと推測されるが、それを突き止めるのは、かなりむずかしい作業になるように思われる。

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Blackwelder, R. E., 1952. The generic names of the beetle family Staphylinidae with an essay on genotypy. Bulletin of United States National Museum, **200**: i-iv+1-483.  
Müller, J., 1925. Terzo contributo alla conoscenza del genere Staphylinus L. Bollettino Societa entomologica Italiana, **57**: 40-48.
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