

Study of Asian Strongyliini (Coleoptera, Tenebrionidae)

X. Ten New Species of the Genus *Strongylium* from Southeast Asia

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Abstract This is the tenth part of the study of the Asian Strongyliini and deals with 10 new species of the genus *Strongylium* from Southeast Asia, which are described under the following names: *Strongylium bisbicostatum* sp. nov., *S. flavocostatum* sp. nov., *S. clytoides* sp. nov., *S. palliditerminale* sp. nov., *S. baudonianum* sp. nov., *S. niasiinsularum* sp. nov., *S. masatakai* sp. nov., *S. lampros* sp. nov., *S. minicupreum* sp. nov., and *S. pinfaense* sp. nov.

This paper is the tenth part of my study of the Asian Strongyliini and deals with ten new species of the genus *Strongylium* from various areas of Southeast Asia.

The specimens examined are submitted to me for taxonomic study from the collections of the Muséum National d'Histoire Naturelle, Paris, the Natural History Museum, London, and the Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw. Other materials, besides the specimens in my collection, are also personally submitted to me from Prof. Dr. Masataka SATÔ, Nagoya Women's University and Mr. Stanislav BEČVÁŘ, Institute of Entomology, Czech Academy of Sciences.

I wish to express my cordial thanks to Dr. Claude GIRARD and M^{lle} Jeanne CHARBONNEL, Muséum National d'Histoire Naturelle, Paris, Mr. Martin J. D. BRENDILL, the Natural History Museum, London, Prof. Dr. Masataka SATÔ, and Mr. Stanislav BEČVÁŘ, for their invaluable support in the course of the present study. I thank Dr. Dariusz IWAN, the Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw, and Dr. Michel BRANCUCCI, the Natural History Museum, Basel, for permitting me to examine the GEBIEN collection preserved in the museums. Appreciation is due to Mr. Seiji MORITA, Tokyo, for taking photographs inserted in this paper. Finally, my deepest thanks should be expressed to Dr. Shun-Ichi UÉNO, National Science Museum (Nat. Hist.), Tokyo, for his constant guidance in my taxonomic studies.

Depositories of the holotypes to be designated are given in each description.

The abbreviations used herein are as follows: NSMT – National Science Museum (Nat. Hist.), Tokyo; MNHNP – Muséum National d'Histoire Naturelle, Paris; NHML – the Natural History Museum, London; NMNHP – National Museum (Nat. Hist.), Praha; MIZW – Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw; NHMB – Natural History Museum, Basel.

Strongylium bisbicostatum sp. nov.

(Figs. 1, 11–12)

Blackish brown, with dorsal surface dark green, ventral surface bluish green, mouth parts, coxae and basal 1/3 of meso- and metafemora yellow; each surface weakly, sericeously shining. Elongated fusiform, convex longitudinally, though gently flattened in middle.

Head feebly micro-shagreened, closely rugoso-punctate; clypeus transverse, bent ventrad and finely punctate in apical part, fronto-clypeal border arcuate and finely impressed; genae oblique, minutely punctate, strongly raised outwards with rounded outer margins; frons somewhat T-shaped, steeply inclined anteriorly, diatone (nearest part between eyes) about 1/9 the width of transverse diameter of an eye, with a vague impression at the middle of posterior part. Eyes large, strongly convex laterad, obliquely inlaid into head and approximate to each other. Antennae filiform, ratio of the length of each segment from basal to 6th (the remaining segments lost in the holotype): 0.54, 0.2, 0.82, 0.79, 0.64, 0.61, —, —, —, —, —.

Pronotum widely hexagonal, 1.2 times as wide as long; apex sublinear, rimmed, the rim feebly becoming bolder in middle; base slightly sinuous on each side, bordered and ridged; sides steeply inclined, feebly sinuous before base, bordered from prosteronum by impressions, which are vanished in basal halves; front angles rounded and hind angles angulate in dorsal view; disc gently convex, longitudinally depressed in middle, very feebly micro-shagreened, closely and coarsely punctate, the punctures often obliquely fused with one another. Scutellum sublinguiform, elevated, very feebly micro-shagreened, irregularly scattered with microscopic punctures in apical part.

Elytra elongated subcuneiform, 2.9 times as long as wide, 4.4 times the length and 1.33 times the width of pronotum; dorsum convex longitudinally, though flattened in middle; disc with rows of strong and somewhat transverse punctures, 1st and 2nd as well as 3rd and 4th distinctly united; 3rd and 5th intervals ridged, 1st, 2nd and 4th not ridged but flattened and rather zigzagged; humeri gently swollen; apices emarginate, the emargination acutely spined on each side.

Male anal sternite subelliptically depressed in apical 3/5, truncate at apex. Legs noticeably slender; male metatibiae flattened and twisted in middle; ratios of the lengths of pro-, meso- and metatarsomeres: 0.32, 0.2, 0.18, 0.17, 1.2; 3.18, 1.04, 0.73, 0.49, 1.48: 4.17, 1.29, 0.73, 1.64.

Male genitalia elongated fusiform, weakly constricted at the border of basal piece and lateral lobes, 1.6 mm in length and 0.28 mm in width, feebly curved in lateral view; lateral lobes fused, 0.7 mm in length, prolonged in apical part, with acute apex.

Body length: 10–12 mm.

Holotype: ♂, "Philippines/Ch. Semper//Muséum Paris/Coll. R. Oberthür" (MNHN). Paratypes: 3 exs., same data as for the holotype; 1 ex., "Ost Mind.//Philippines/Ch. Semper//Muséum Paris/ex. Coll. R. Oberthür"; 1 ex., "Illigan/Mindanao/Baker//70//*Strongylium bicostatum* GEB. (hand-writing)//Muséum Paris/Coll. M.

Pic"; 1 ex., "Philippin / Semper (hand-writing) // Paratype! // *Strongylium bisbicoatum* (hand-writing) Geb / H. Gebien det. 1939 (hand-writing) // *Strongylium bisbicoatum* Geb // Mus. Zool. Polonicum Warszawa 12/45 // *bisbicoatum* Geb. (hand-writing)" (MIZW); 1 ex., "Baker Is. (hand-writing) // *S. bisbicoatum* GEB. (hand-writing)", (NHMB).

Notes. This new species is characterized by the elongated body with the elytra distinctly punctate, ridged, and spined at apices, the slender legs and the filiform antennae, all of which can be regarded as peculiarities of a species-group.

The specific name is given after GEBIEN's unpublished one. Related species are distributed in East Asia and form the species-group of *S. bisbicoatum*.

Strongylium flavocostatum sp. nov.

(Figs. 2, 13–14)

Brownish black, with head except for eyes, pronotum, 3rd intervals and baso-external parts of elytra, coxae, and basal 1/3 to 1/2 of tibiae brownish yellow, ventral surface bearing dark bluish tinge; dorsal surface weakly shining, ventral surface moderately, somewhat alutaceous so. Elongated fusiform, convex longitudinally, though gently flattened in middle.

Head weakly micro-shagreened, closely, coarsely punctate; clypeus short, gently bent ventrad in front, semicircularly depressed in basal part, fronto-clypeal border finely impressed; genae obliquely rhombical, sparsely scattered with microscopic punctures, strongly raised outwards, with rounded outer margins; frons somewhat T-shaped, steeply inclined anteriorly, areas before and between eyes rather impunctate, area between eyes triangular. Eyes large, closely approximate to each other, convex laterad, rather triangularly inlaid into head. Antennae filiform, ratio of the length of each segment from basal to 8th (the remaining segments lost in the holotype): 0.62, 0.2, 1.05, 1.07, 1.02, 0.98, 0.86, 0.84, —, —, —.

Pronotum somewhat barrel-shaped, 1.13 times as wide as long; apex sublinearly rimmed, the rim rough on the surface and becoming bolder in middle; base weakly sinuous on each side, rimmed, the rim smooth and microscopically punctate, bolder than apex in middle; sides steeply inclined laterad, weakly sinuous near base, bordered from prosternum by low ridges in apical halves, and also by vague impressions in basal halves; front angles rounded and hind angles angulate in dorsal view; disc gently convex, longitudinally depressed somewhat in an I-shape in middle, very weakly micro-shagreened, closely, coarsely punctate, the punctures often fused with one another. Scutellum triangular though the apex is not acute, rather noticeably longitudinally aciculate.

Elytra subfusiform, 2.7 times as long as wide, 4.9 times the length and 1.4 times the width of pronotum; dorsum strongly convex longitudinally, though flattened in middle; disc except for basal parts of 3rd, 5th and 7th intervals feebly micro-shagreened, with rows of strong, somewhat transverse punctures, 1st and 2nd as well as

3rd and 4th rows united with each other, respectively; 3rd interval in almost whole part, 5th in basal half and 7th in basal part ridged, the remaining parts and other intervals not ridged; humeri rather noticeably swollen; apices emarginate, the emargination acutely spined on each side.

Male anal sternite semicircularly depressed and shagreened, with truncate apex. Legs slender; male metatibiae flattened in areas around basal 2/5, with interior faces of the flattened areas setigerous; ratios of the lengths of pro-, meso- and metatarsomeres: 0.3, 0.15, 0.18, 0.17, 1.2; 2.98, 1.2, 0.83, 0.52, 1.39; 3.62, 1.32, 0.64, 1.37.

Male genitalia nearly fusiform, 1.7 mm in length and 0.4 mm in width, gently curved in lateral view, very weakly constricted between basal piece and lateral lobes; lateral lobes fused, nib-shaped, 0.8 mm in length, with rather acute apices.

Body length: 11.5–13 mm.

Holotype: ♂, “Nord Bornéo/Mont Kina Balu/5–8 1903/John Waterstradt//Muséum Paris/ex. Coll./R. Oberthür” (MNHNP). Paratypes: 6 exs., same data as for the holotype; 1 ex., “Bornéo/... (hand-writing)//06? (hand-writing)//Muséum Paris/Coll. M. Pic”; 1 ex., “Telang, Bornéo/10 81 (hand-writing)//Muséum Paris/ex Coll./R. Oberthür”; 1 ex., “Bornéo//*S. flavocostatum* GEB. (hand-writing)” (NHMB).

Notes. This new species closely resembles the preceding one in principal body features, and is a member of the *bisbicostatum* group. The new species can be distinguished from *S. bisbicostatum* sp. nov. by the different coloration which is stable, less shining dorsum, more acute elytral spines, more basally depressed male anal sternite, male metatibiae flattened in areas around basal 2/5, and bolder male genitalia. The specific name is given after GEBIEN'S unpublished one.

Strongylium clytoides sp. nov.

(Figs. 3, 15–16)

Dark brown, with dorsal surface feebly dark greenish, apical half of head and ventral surface bluish green to violet, coxae and basal 1/2 to 2/3 of tibiae brownish yellow, apical 1/3 to 1/2 of tibiae dark bluish to purplish; dorsal surface weakly, sericeously shining, ventral surface metallicly shining. Elongated fusiform, strongly convex longitudinally, though feebly flattened in middle.

Head weakly micro-shagreened, closely rugoso-punctate; clypeus semicircular, inclined apicad, depressed in basal part, fronto-clypeal border somewhat widely U-shaped and unevenly impressed; genae obliquely raised, rather sparsely, minutely punctate, with obtuse outer margins; frons ridged in a T-shape, steeply inclined anteriad, with a vague impression at the middle near vertex. Eyes very large, strongly convex laterad, obliquely inlaid into head, distinctly approximate to each other. Antennae filiform, nearly reaching basal 2/5 of elytra, ratio of the length of each segment from basal to apical: 0.6, 0.2, 1.26, 1.22, 1.15, 1.13, 1.11, 0.96, 0.94, 0.91, 0.89.

Pronotum somewhat barrel-shaped, as wide as long, very weakly micro-shagreened; apex slightly emarginate, finely rimmed, the rim not becoming bolder in mid-

dle; base weakly sinuous on each side, boldly rimmed, the rim polished but rather sparsely scattered with minute punctures; sides steeply inclined laterad, produced in middle, gently sinuous before base, bordered from prosternum with fine impressions only in basal halves; front angles rounded and hind angles acute in dorsal view; disc gently convex, though longitudinally depressed in middle, impressed near base on each side, coarsely rugoso-punctate. Scutellum sublinguiform, elevated, weakly micro-shagreened and micro-aciculate.

Elytra elongated subcuneiform, 3.1 times as long as wide, 4.6 times the length and 1.3 times the width of pronotum; dorsum longitudinally convex though flattened in middle; disc very weakly micro-shagreened, with rows of coarse, rather transverse punctures, 1st and 2nd rows as well as 3rd and 4th united with each other, respectively; 3rd and 5th intervals ridged, and 2nd and 4th indistinct; base ridged; humeri swollen; apices emarginate, the emargination acutely spined on each side.

Male anal sternite subelliptically depressed, truncate at apex. Legs slender; male metatibiae with interior faces gouged in areas around basal 2/5, gently twisted; ratios of the lengths of pro-, meso- and metatarsomeres: 0.22, 0.15, 0.16, 0.14, 1.2; 4.18, 1.28, 0.96, 0.49, 1.3; 5.23, 1.52, 0.62, 1.47.

Male genitalia fusiform, 1.8 mm in length and 0.3 mm in width, weakly curved in lateral view; lateral lobes fused, 0.85 mm in length, with feebly prolonged apices.

Body length: 12.5 mm.

Holotype: ♂, "Sumatra (hand-writing)//Muséum Paris/Coll. L. FAIRMAIRE" (MNHN). Paratype: 1 ex., "Palembang/Sumatra, //MUSÉUM PARIS/Coll. L. FAIRMAIRE".

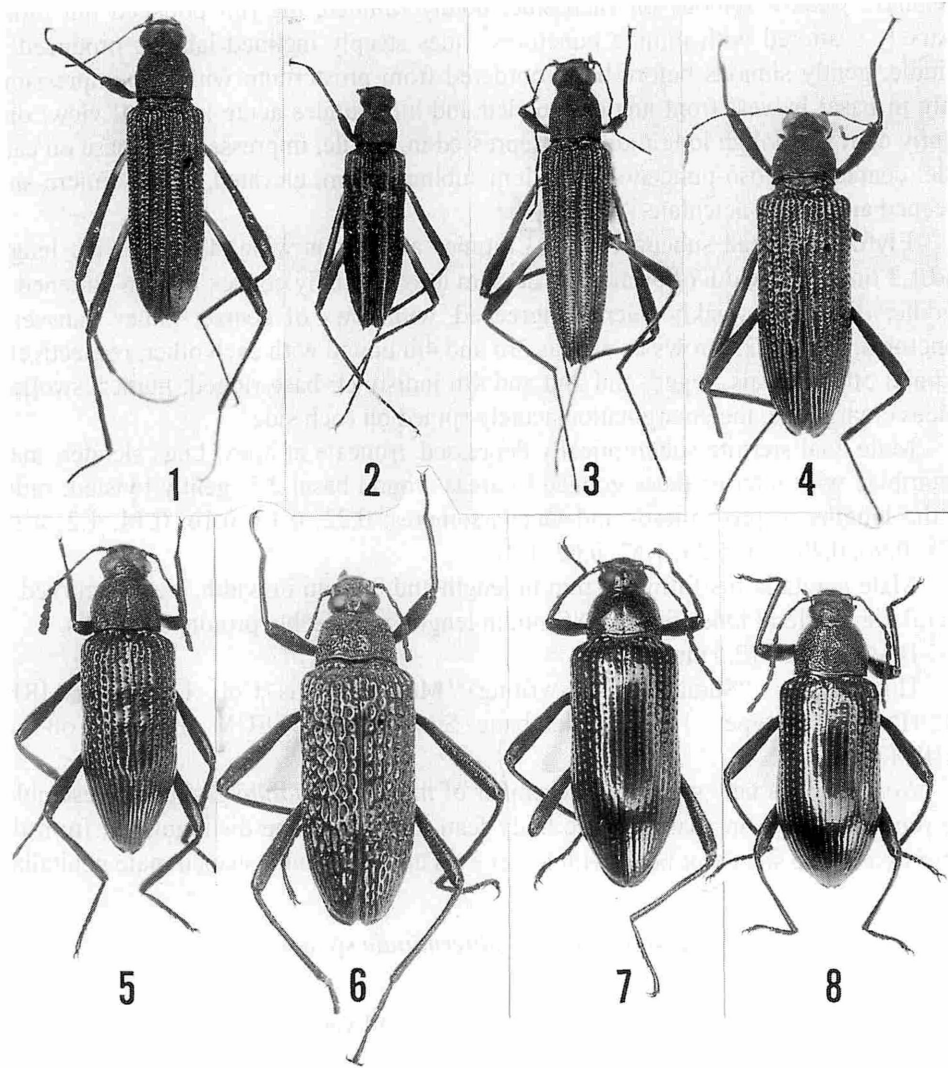
Notes. This new species is a member of the *bisbicostatatum* group and resembles the preceding ones in sharing basic body features, but can be distinguished from the other two by the slenderer body with larger eyes and differently shaped male genitalia.

Strongylium pallideterminale sp. nov.

(Figs. 4, 17–18)

Blackish brown, with head, scutellum, elytra and ventral surface dark greenish to bluish, pronotum dark castaneous, terminal segments of antennae pale yellow; dorsal surface feebly sericeously shining, ventral surface moderately, somewhat alutaceously shining. Elongated fusiform, strongly convex longitudinally, though feebly flattened in middle.

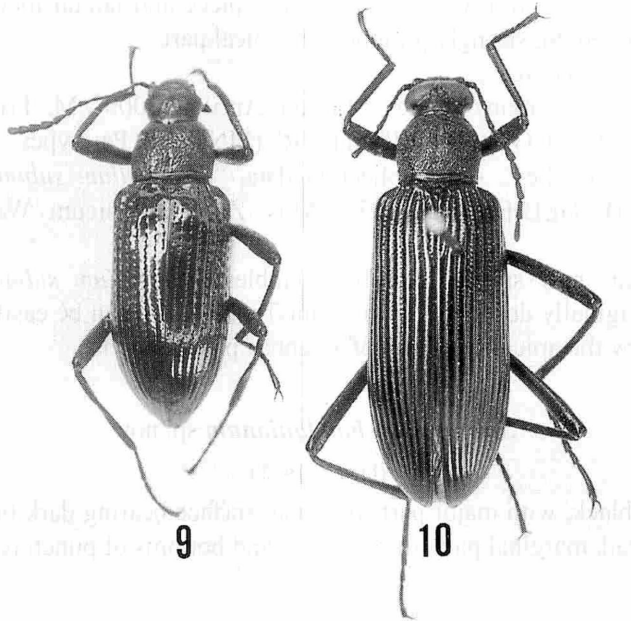
Head weakly micro-shagreened, closely punctate, the punctures often fused with one another, longitudinally impressed between posterior part of eyes; clypeus semicircular, transversely depressed near basal part, rather strongly bent ventrad in front, fronto-clypeal border arcuate and finely impressed; genae obliquely subrhombical, strongly raised outwards, with subrectangular outer margins, though the corners are rounded; frons somewhat elongated T-shaped, steeply inclined anteriorly, diatone about 1/8 times the width of an eye transverse diameter. Eyes medium-sized, convex laterad,



Figs. 1–8. Habitus of *Strongylium* spp. from East Asia. — 1, *S. bisbicostatum* sp. nov., holotype, ♂; 2, *S. flavocostatum* sp. nov., holotype, ♂; 3, *S. clytoides* sp. nov., holotype, ♂; 4, *S. palliditerminale* sp. nov., holotype, ♂; 5, *S. baudonianum* sp. nov., holotype, ♂; 6, *S. niasinsularum* sp. nov., holotype, ♂; 7, *S. masatakai* sp. nov., holotype, ♂; 8, *S. lampros* sp. nov., holotype, ♂.

obliquely inlaid into head. Antennae filiform, reaching basal 1/4 of elytra, ratio of the length of each segment from basal to apical: 0.77, 0.2, 1.36, 1.32, 1.2, 1.17, 1.09, 0.86, 0.81, 0.69, 0.64.

Pronotum somewhat trapezoidal, slightly wider than long, weakly micro-shagreened; apex slightly emarginate, bordered and rimmed, the rim becoming bolder in



Figs. 9–10. Habitus of *Strongylium* spp. — 9, *S. minicupreum* sp. nov., holotype, ♂; 10, *S. pinfaense* sp. nov., holotype, ♂.

middle, scattered with minute punctures; base rather noticeably sinuous on each side, bordered and rimmed, the rim becoming bolder more widely in middle than at apex; sides steeply inclined, produced laterad, feebly sinuous before base, indistinctly bordered from prosternum; front angles rounded and hind angles rather acute and projected obliquely posteriad in dorsal view; disc gently convex, longitudinally depressed in middle, closely punctate, the punctures very often fused with each other. Scutellum subcordate, convex in middle, weakly micro-shagreened, irregularly scattered with microscopic punctures.

Elytra subfusiform, 2.6 times as long as wide, 7.1 times the length and 1.5 times the width of pronotum; dorsum strongly convex, quadrisinuous in middle; disc very feebly micro-shagreened and sparsely scattered with microscopic punctures, with rows of strong punctures, whose bottoms are small and rounded, and whose upper faces are rather quadrate or hexagonal; base raised in areas between 1st to 5th rows of punctures; humeri gently swollen; apices rounded.

Male anal sternite semicircularly depressed, with truncate and feebly emarginate apex, the emargination acute on each side. Legs rather slender; male metatibiae very weakly bent in middle, with interior faces finely haired; ratios of the lengths of pro-, meso- (lost in the holotype) and metatarsomeres: 0.3, 0.2, 0.22, 0.23, 1.2; —, —, —, —, —; 2.57, 1.18, 0.69, 1.48.

Male genitalia strongly elongated fusiform, 5.3 mm in length and 0.7 mm in

width, weakly constricted at the border of basal piece and lateral lobes; lateral lobes fused, 2.3 mm in length, strongly prolonged in apical part.

Body length: 15 mm.

Holotype: ♂, "Tonkin/Montes Mouson/April 2-3000'/M. Fruhstorfer//MUSEUM PARIS/1952/COLL. R. OBERTHÜR" (MNHNP). Paratypes: 1 ex., same data as for the holotype; 1 ex., same collecting data, "*Strongylium subimpressum* FRM. (hand-writing)/H. GEBIEN, det. 1938//Mus. Zool. Polonicum/Warszawa/12/45" (MIZP).

Notes. This new species closely resembles *Strongylium subimpressum* FAIRMAIRE, 1903, originally described from "Haut-Tonkin", but can be easily distinguished from the latter by the apical segments of antennae pale yellowish.

Strongylium baudonianum sp. nov.

(Figs. 5, 19-20)

Brownish black, with major parts of dorsal surface bearing dark bronzy tinge, anterior part of head, marginal parts of pronotum and bottoms of punctures dark blue, antennae, legs except for tarsi, and ventral surface dark blue and partly bearing purplish tinge; dorsal surface feebly sericeous, anterior half of head, bottoms of punctures on pronotum, and ventral surface gently shining, and ventral surface partly alutaceous. Rather fusiform, strongly convex longitudinally, though feebly flattened in middle.

Head irregularly impressed in middle between posterior parts of eyes; clypeus semicircular, scattered with microscopic punctures, flattened in basal part, bent ventrad in apical part, fronto-clypeal border arcuately impressed; genae oblique and subrhombical, scattered with microscopic punctures, strongly raised outwards, with obtusely angulate outer margins; frons T-shaped, weakly micro-shagreened and rather closely, coarsely punctate, diatone about 1/5 times as wide as an eye transverse diameter. Eyes rather large, convex laterad, obliquely, roundly inlaid into head. Antennae subclavate, reaching basal 1/5 of elytra, ratio of the length of each segment from basal to apical: 0.7, 0.2, 1.04, 0.78, 0.59, 0.57, 0.58, 0.55, 0.57, 0.47, 0.53.

Pronotum subquadrate, 1.7 times as wide as long; apex sublinear, bordered and rimmed, the rim becoming bolder in middle, mostly polished but sparsely scattered with minute punctures; base bordered and raised, becoming bolder in middle, sinuous on each side, scattered with minute punctures; sides steeply inclined and produced laterad, sinuous before base, completely bordered from prosternum by fine ridges, with impressions along the borders in basal 2/5; disc moderately convex, longitudinally grooved in middle, impressed at medio-basal part and close to base on each side, weakly micro-shagreened, coarsely, irregularly punctate, sparsely scattered with microscopic punctures among larger ones. Scutellum sublinguiform, elevated, weakly micro-shagreened, irregularly scattered with microscopic punctures.

Elytra subfusiform, 2.1 times as long as wide, about 4 times the length and 1.3 times the width of pronotum, very weakly micro-shagreened, frequently scattered with

microscopic punctures; dorsum strongly convex, gently flattened in middle, tri- or quadrisinuuous, weakly impressed along scutellar striae; disc punctate-grooved, the punctures in antero-lateral parts coarse and foveolate, those in antero-interior and posterior parts small, the grooves becoming clearer in posterior 2/5, 1st and 2nd grooves as well as 3rd and 4th united with each other close to base; intervals convex, widened in baso-internal part, somewhat zigzagged in antero-lateral parts, straight in posterior 2/5; base ridged in areas between 1st to 5th rows of punctures; humeri gently swollen; apices feebly bilobed and weakly angulate at each apex.

Male anal sternite feebly depressed in apico-medial part, truncate at apex. Legs rather stout; male protibiae with ventral faces gently gouged in apical halves, male metatibiae with interior faces very weakly gouged in areas around basal 2/5; ratios of the lengths of pro-, meso- and metatarsomeres: 0.28, 0.16, 0.19, 0.17, 1.2; 2.26, 0.98, 0.67, 0.52, 1.47; 2.46, 0.81, 0.59, 1.4.

Male genitalia extremely elongate, 4.2 mm in length and 0.4 mm in width, almost straight in lateral view, basal piece subelliptical with anterior part strongly narrowed; lateral lobes fused, distinctly prolonged, 1.8 mm in length, with acute apices.

Body length: 10.5 mm.

Holotype: ♂, "VII. 1963 (hand-writing)/Vientiane/LAOS – A. Baudon // ♂ // MUSÉUM PARIS / COLL. P. ARDOIN / 1978" (MNHNP).

Notes. This new species resembles *Strongylium spinitibiale* MASUMOTO, 1999, from Laos, in essential body features, but can be distinguished from the latter by the subclavate antennae, male protibiae without interior spines and differently shaped male genitalia (apical parts of lateral lobes not spatulate).

Strongylium spinitibiale MASUMOTO, 1999, *S. inspinitibiale* MASUMOTO, 1999, and this species, all distributed in Laos, form a species-group, the *spinitibiale* group.

Strongylium niasiinsularum sp. nov.

(Figs. 6, 21–23)

Blackish brown, with dark greenish or bluish tinge; dorsal surface feebly sericeously shining, prosternum weakly shining, meso- and metasterna densely clothed with hairs, abdomen somewhat alutaceous. Elongated ovate, convex medially.

Head very weakly micro-shagreened, closely punctate and partly rugulose; clypeus semicircular, rather strongly bent ventrad in apical part, fronto-clypeal border widely arcuate and impressed; genae subrectangular, gently raised, with rounded outer margins; frons boldly T-shaped, gently inclined anteriorly, depressed in areas before eyes, longitudinally impressed in medio-posterior part, diatone 0.38 times the width of an eye transverse diameter. Eyes medium-sized for a member of the genus, rather strongly convex laterad, obliquely, roundly inlaid into head. Antennae feebly clavate, ratio of the length of each segment from basal to 7th: 0.53, 0.2, 0.79, 0.81, 0.76, 0.69, 0.67, —, —, —, —.

Pronotum trapezoidal, 1.33 times as wide as long, weakly micro-shagreened; apex

feebly emarginate, gently raised in a V-shape, scattered with microscopic punctures, impressed along the border; base sinuous on each side, bordered and ridged, the ridge becoming bolder in middle, scattered with small and minute punctures; sides rather steeply inclined, gently narrowed anteriorly, bordered from prosternum by fine ridges; front angles rounded and hind angles subrectangular in dorsal view; disc gently convex, coarsely, irregularly punctate, the punctures often fused with one another, sparsely scattered with microscopic punctures among larger ones, longitudinally impressed in middle, also impressed at basal 2/5 and close to base on each side. Scutellum triangular, weakly micro-shagreened, punctate and aciculate.

Elytra 2.2 times as long as wide, 4 times the length and 1.4 times the width of pronotum, very weakly micro-shagreened and sparsely scattered with microscopic punctures; dorsum strongly convex, highest at basal 1/3, depressed before and behind the highest area; disc with rows of punctures, which are foveolate in antero-lateral parts, longitudinally fused with one another in antero-interior and posterior parts, 1st and 2nd rows as well as 3rd and 4th united with each other near base, 5th impressed close to base; base rather strongly raised in area between internal margin to 5th row; humeri rather noticeably swollen; apices rounded and feebly expanded apically.

Male anal sternite (Fig. 23) noticeably emarginate and depressed, each side of emargination acutely projected posteriorly. Male protibiae with ventral faces feebly gouged in middle, male metatibiae with interior faces slightly gouged in areas around apical 2/5; ratios of the lengths of pro-, meso- and metatarsomeres: 0.2, 0.15, 0.17, 0.16, 1.2; 1.2, 0.53, 0.49, 0.38, 1.39; 1.23, 0.59, 0.48, 1.49.

Male genitalia 2.7 mm in length and 0.5 mm in width, moderately curved near basal part in lateral view, with ovate basal piece and elongated lateral lobes; lateral lobes fused, about 1.3 mm in length, with acute apices.

Body length: 16 mm.

Holotype: ♂, "Dyma/M. Nias III/V '95/R. MITSCHKE//St. perforatum Mäkl" (hand-writing)//Muséum Paris / Coll. M. PIC" (MNHN). Paratype: 1 ex., "Sumatra/Nias (hand-writing) / German Mission // Fry Coll. / 1905. 100" (NHML).

Notes. This new species closely resembles *Strongylium perforatum* MÄKLIN, 1864, originally described from Java. The present species can be distinguished from the latter by the slightly elongated body with dorsal surface micro-shagreened, head and pronotum more finely and closely punctate, and differently shaped male genitalia. This new species and *Strongylium perforatum* MÄKLIN form a species-group. The members of this group are easily distinguished from other *Strongylium* species by the elongated ovate body outline, which recalls us of some erotyloid species, and the elytra with rows of longitudinal foveae.

***Strongylium masatakai* sp. nov.**

(Figs. 7, 24–25)

Piceous, with dorsal surface brassy in colour, posterior part of head, anterior part

of pronotum, and lateral parts of elytra with purplish lustre, ventral surface dark green, partly dark bluish; dorsal surface rather strongly shining and feebly sericeous, ventral surface moderately shining and feebly alutaceous. Elongated elliptical, rather strongly convex above.

Head weakly micro-shagreened, rather closely punctate, longitudinally impressed in postero-medial part; clypeus semicircular, flattened in basal part, rather strongly bent ventrad in apical part, fronto-clypeal border arcuately impressed; genae oblique and subrhombical, strongly raised outwards, with obtusely angulate outer margins; frons boldly T-shaped, gently inclined anteriorly, depressed and impunctate in areas before eyes, diatone about 1/3 times the width of an eye transverse diameter. Eyes medium-sized, somewhat transversely comma-shaped, convex laterad, obliquely inlaid into head. Antennae feebly widened apicad, reaching basal 1/5 of elytra, ratio of the length of each segment from basal to apical: 0.43, 0.2, 0.81, 0.76, 0.66, 0.64, 0.63, 0.58, 0.59, 0.53, 0.57.

Pronotum subquadrate, 1.33 times as wide as long, very feebly micro-shagreened; apex nearly straight, bordered by a fine impression in a wide V-shape, microscopically punctate; base gently sinuous on each side, bordered from disc by a shallow groove and ridged, the ridge scattered with microscopic punctures; sides gradually inclined and feebly produced, finely bordered and clearly rimmed; front angles rounded and hind angles subrectangular in dorsal view; disc gently convex, rather sparsely scattered with small and minute punctures, vaguely impressed in medio-posterior part and close to base on each side. Scutellum triangular, feebly inclined basad, weakly micro-shagreened and feebly micro-aciculate, rather sparsely scattered with microscopic punctures.

Elytra elongated subelliptical, very feebly micro-shagreened, sparsely scattered with microscopic punctures; dorsum rather strongly convex, highest at basal 1/6; disc with rows of punctures, the punctures in antero-medial part being small and longitudinal, those in antero-lateral parts becoming larger and foveolate, those in posterior part smaller and striate, 1st and 2nd rows as well as 3rd and 4th united with each other, respectively, and deepened near the base, 5th also deepened and barely reaching basal margin; intervals moderately convex; base gently raised between internal margin and humerus; humeri rather noticeably swollen; apices roundly produced, gently expanded apicad.

Male anal sternite noticeably emarginate on both lower and upper faces, with each side of emargination acutely projected postero-interiad. Legs rather slender; male protibiae with intero-ventral faces feebly gouged in middle, male metatibiae with interior faces very feebly gouged and twisted in middle.

Male genitalia 2.5 mm in length and 0.4 mm in width, with ovate basal piece and strongly prolonged lateral lobes; lateral lobes fused, 1.3 mm in length, with sharply pointed apices.

Body length: 16 mm.

Holotype: ♂, Puncak, Palopo env., S. Sulawesi, Indonesia, V-1999, native collec-

tor leg. (NSMT). Paratypes, 5 exs., Puncak, Palopo, Sulawesi, Indonesia, II-2000, native collector leg.

Notes. This new species somewhat resembles *Strongylium viridicolle* MÄKLIN, 1864, originally described from "Pulo Penang", but can be distinguished from the latter by the body larger, wider, and differently colored. This species might be a relative of the *perforatum* group, because the male anal sternite is noticeably modified.

Strongylium lampros sp. nov.

(Figs. 8, 26-27)

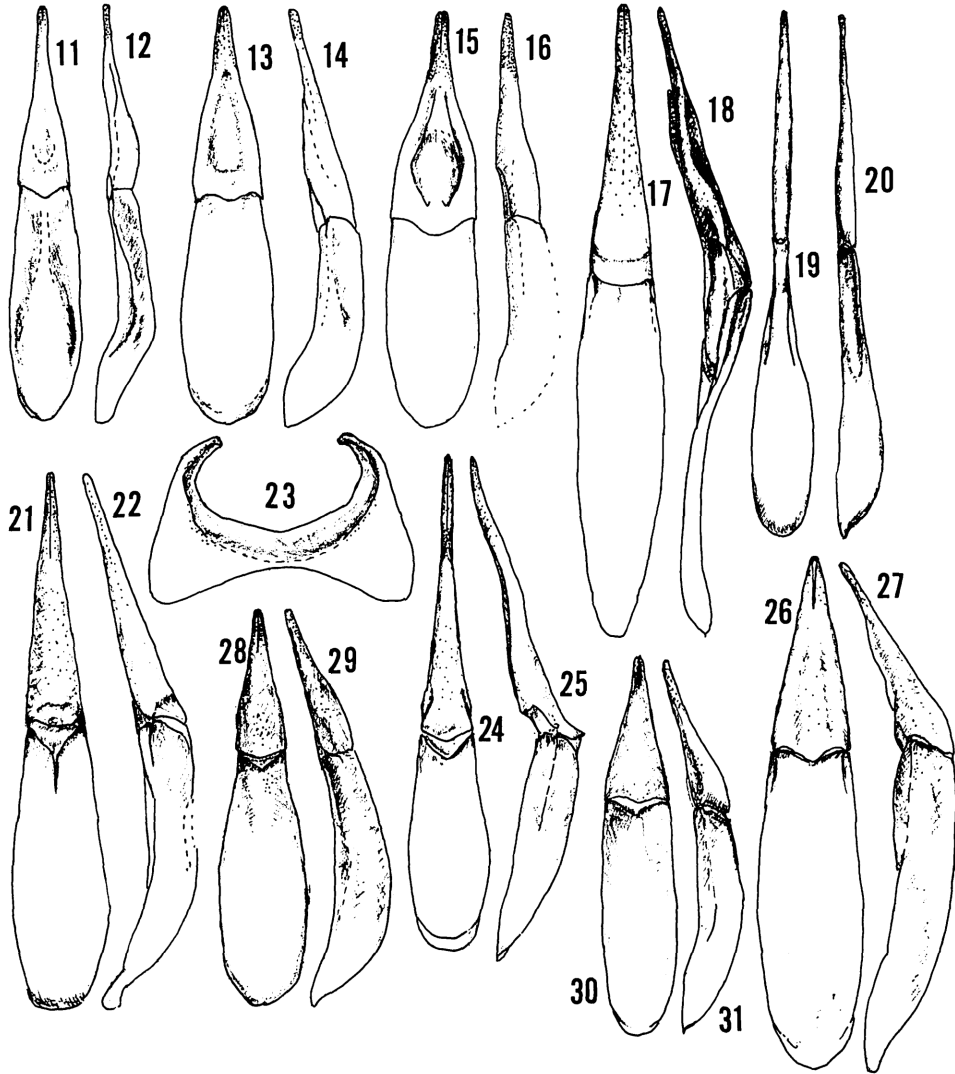
Piceous, with dorsal surface various in colour, elytra dark green, dark blue, dark violet, deep golden green, etc., head and pronotum usually darker in colour than elytra, legs dark blue, ventral surface dark greenish blue; head and pronotum weakly sericeously shining, scutellum vitreous, elytra metallicly shining, ventral surface gently, somewhat alutaceously shining. Elongated elliptical, rather strongly convex longitudinally.

Head rather closely punctate; clypeus semicircular, gently inclined apicad, fronto-clypeal border impressed; genae subrectangular, rather strongly raised outwards, minutely punctate, with rounded outer margins; frons rugoso-punctate, gently inclined anteriad, impressed medially, feebly depressed in areas before eyes, diatone about 0.65 times the width of an eye diameter. Eyes medium-sized, gently convex laterad, obliquely inlaid into head. Antennae slightly becoming bolder apicad, ratio of the length of each segment from basal to apical: 0.53, 0.2, 0.68, 0.79, 0.55, 0.52, 0.49, 0.51, 0.48, 0.47, 0.52.

Pronotum trapezoidal, 1.4 times as wide as long, widest at the middle; apex nearly straight, narrower than base, clearly impressed in wide V-shape and bordered, scattered with microscopic punctures; base gently sinuous on each side, bordered and ridged, sparsely, microscopically punctate; sides steeply inclined laterad, bordered from prosternum by fine impressions and ridges; front angles rounded and hind angles weakly angulate in dorsal view; disc moderately convex, rather closely irregularly punctate, sparsely scattered with microscopic punctures, longitudinally impressed at the middle. Scutellum triangular with feebly sinuous sides, gently convex in middle, polished, sparsely scattered with microscopic punctures.

Elytra subelliptical, 1.67 times as long as wide, slightly less than 3.8 times the length and 1.7 times the width of pronotum, very sparsely scattered with microscopic punctures; dorsum rather strongly convex, highest at basal 1/4, feebly depressed in areas around scutellar striae; disc with rows of punctures, which are grooved in posterior parts, and foveolate in antero-lateral parts, 1st and 2nd rows united with each other in basal part, 3rd and 4th not united, 5th barely reaching base; intervals gently convex except for postero-internal parts where they are almost flattened; base depressed; humeri gently swollen; apices slightly dehiscent.

Male anal sternite weakly, roundly depressed, feebly truncate at apex. Legs



Figs. 11-31. Male genitalia (11-22, 24-31) and anal sternite (23). — 11-12, *Strongylium bisbicostatum* sp. nov., 11, dorsal view, 12, lateral view; 13-14, *S. flavocostatum* sp. nov., 13, dorsal view, 14, lateral view; 15-16, *S. clytoides* sp. nov., 15, dorsal view, 16, lateral view; 17-18, *S. palliditerminale* sp. nov., 17, dorsal view, 18, lateral view; 19-20, *S. baudonianum* sp. nov., 19, dorsal view, 20, lateral view; 21-23, *S. niasiinsularum* sp. nov., 21, dorsal view, 22, lateral view, 23, anal sternite; 24-25, *S. masatakai* sp. nov., 24, dorsal view, 25, lateral view; 26-27, *S. lampros* sp. nov., 26, dorsal view, 27, lateral view; 28-29, *S. minicupreum* sp. nov., 28, dorsal view, 29, lateral view; 30-31, *S. pinfaense* sp. nov., 30, dorsal view, 31, lateral view.

medium-sized; male metatibiae with interior faces weakly gouged in areas around basal 2/5 and feebly twisted; ratios of the lengths of pro-, meso- and metatarsomeres: 0.25, 0.2, 0.22, 0.22, 1.2; 0.83, 0.52, 0.43, 0.39, 1.28; 0.79, 0.49, 0.38, 1.22.

Male genitalia gently elongated fusiform, rather strongly curved in lateral view, 2.6 mm in length and 0.6 mm in width, very weakly constricted between basal piece and lateral lobes; lateral lobes fused and nib-shaped, 1.1 mm in length, with rather sharp apices.

Body length: 14.5 mm.

Holotype: ♂, Coffee Plant, Sulawesi, Indonesia, 12–VI–1982, M. TAO leg. (NSMT). Paratypes: 3 exs., same data as for the holotype; 2 exs., Coffee Plant, Sulawesi, 14–VI–1982, M. TAO leg.; 2 exs., Palopo, Sulawesi, 7–II–1985, M. TAO leg.; 2 exs., Puncak, Palopo, II–2000, native collector leg.; Rante Pao, “C. Celebes”, 2 exs., 14–VI–1985, 2 exs., 15–II–1985, 1 ex., 5–II–1985, 1 ex., 2–VI–1984, M. TAO leg.; Toarco Jaya, Rante-Pao, C. Sulawesi, 3 exs., 2–VI–1984, 1 ex., M. TAO leg.

Notes. This new species resembles the preceding one, but can be discriminated from the latter by the smaller body with the male anal sternite not so highly modified as in *S. masatakai* sp. nov., though the male metatibiae are more noticeably modified.

Strongylium minicupreum sp. nov.

(Figs. 9, 28–29)

Piceous, with anterior part of head, major part of ventral surface, tibiae and femora dark blue, posterior part of head, pronotum, scutellum and major medial parts of elytra dark golden green, lateral parts of elytra dark greenish blue; head, pronotum, scutellum and legs weakly, sericeously shining, elytra metallicly shining, ventral surface rather alutaceously so. Oblong-ovate, strongly convex above, rather hunchbacked.

Head micro-shagreened, closely punctate, microscopically haired; clypeus semi-circular, gently inclined apicad, transversely impressed near fronto-clypeal border, which is arcuately impressed; genae obliquely raised outwards, with rounded outer margins; frons somewhat boldly T-shaped, impunctate in postero-medial part, diatone 1/7 times the width of an eye transverse diameter. Eyes rather large, noticeably convex laterad, obliquely inlaid into head and roundly approximate to each other. Antennae subclavate, reaching basal 1/5 of elytra, ratio of the length of each segment from basal to apical: 0.53, 0.2, 0.96, 0.66, 0.59, 0.57, 0.53, 0.48, 0.38, 0.34, 0.41.

Pronotum subquadrate, about 1.5 times as wide as long, widest at the middle, weakly micro-shagreened; apex very feebly emarginate, clearly bordered and widely triangularly raised, finely scattered with microscopic punctures; base feebly sinuous on each side, clearly bordered and ridged, the ridge scattered with microscopic punctures and feebly becoming bolder in middle; sides steeply inclined laterad, bordered from prosternum by fine ridges; front angles rounded and hind angles subrectangular in dorsal view; disc gently convex, weakly micro-shagreened, rather closely, irregularly punctate, weakly impressed in medial part, with a longitudinal impunctate area in basal

2/5. Scutellum sublinguiform, elevated, weakly micro-shagreened, scattered with microscopic punctures, sparsely micro-aciculate.

Elytra somewhat widely cuneiform, 2.5 times as long as wide, 3.9 times the length and 1.3 times the width of pronotum, very slightly micro-shagreened, sparsely scattered with microscopic punctures; dorsum strongly convex, highest at basal 1/3, with a pair of gibbosities at basal 1/6, with area between them depressed; disc with rows of punctures, which are slightly longitudinal and often striate, those in antero-lateral parts becoming larger and somewhat foveolate, those in posterior parts becoming smaller and rather strongly striate, 1st and 2nd rows as well as 3rd and 4th united with each other near base, 5th row impressed near base and reaching base; intervals convex in major parts, almost flat in antero-internal part; base gently sinuous and weakly raised between interior margin to 5th row; humeri rather distinctly swollen; apices feebly produced and slightly dehiscent.

Male anal sternite subelliptically, strongly depressed, truncate and feebly emarginate at apex. Legs medium-sized; male protibiae with ventral faces weakly gouged in areas around apical 2/5, male metatibiae flattened, twisted in the middle; ratios of the lengths of pro-, meso- and metatarsomeres: 0.27, 0.19, 0.21, 0.2, 1.2; 1.5, 0.68, 0.61, 0.39, 1.38; 1.33, 0.58, 0.37, 1.36.

Male genitalia elongated fusiform, 2.2 mm in length and 0.3 mm in width, moderately curved in lateral view, feebly constricted at the border of basal and apical parts; lateral lobes fused, nib-shaped, 0.72 mm in length, with acute apices.

Body length: 11.5 mm.

Holotype: ♂, Puncak, Palopo env., S. Sulawesi, Indonesia, V-1999, native collector leg. (NSMT). Paratypes: 9 exs., same data as for the holotype; 5 exs., Puncak, Palopo, Sulawesi, II-2000, native collector leg.

Notes. This new species is a member of the *gravidum* group for the reason of basic body characters, but can be distinguished from other members by the peculiar body coloration and shape of male genitalia.

***Strongylium pinfaense* sp. nov.**

(Figs. 10, 30-31)

Piceous, with medial parts of elytra and abdomen often lighter in colour; head, pronotum and major part of scutellum weakly, somewhat sericeously shining, elytra, metasternum, abdomen, femora and tibiae moderately shining, other parts mostly not shining. Elongate and subparallel-sided, convex longitudinally.

Head micro-shagreened and closely punctate in major part; clypeus semicircular, gently inclined apicad, weakly bent ventrad in short apical part, fronto-clypeal border of somewhat wide U-shape, hardly impressed; genae strongly raised outwards, minutely punctate, with rounded and rather smooth outer margins; frons T-shaped, steeply inclined in front, weakly depressed in areas before eyes, interocular space narrow and gently ridged, longitudinally impressed between posterior parts of eyes. Eyes

large, strongly convex laterad, broadly inlaid into head, roundly approximate to each other. Antennae rather filiform, only feebly thickened to the apex of each segment, ratio of the length of each segment from basal to apical: 0.52, 0.2, 0.96, 0.89, 0.78, 0.82, 0.77, 0.79, 0.74, 0.72, 0.82.

Pronotum subquadrate, 1.13 times as wide as long, widest at the middle, very feebly micro-shagreened; apex weakly produced, rimmed, the rim rather frequently, microscopically punctate; base gently sinuous on each side, boldly raised, sparsely punctate in anterior half and frequently so in posterior half; sides steeply inclined and produced laterad, gently sinuous before base, bordered from prosternum by fine ridge and impressions; front angles rounded and hind angles subrectangular in dorsal view; disc moderately convex, closely punctate, the punctures sometimes united with one another, impunctate along midline. Scutellum triangular with rounded sides, slightly concave in middle, micro-shagreened, rather closely scattered with microscopic punctures, which are often striate.

Elytra subcylindrical, 2.3 times as long as wide, 4.4 times the length and 1.6 times the width of pronotum; dorsum strongly convex longitudinally; disc punctato-striate, the punctures round and not so large in antero-interior parts, those in antero-lateral parts becoming larger and transversely impressed on each upper face, and those in posterior parts almost diminished; intervals rather strongly convex, weakly micro-shagreened, rather transversely micro-reticulate, rather frequently scattered with microscopic punctures; base produced on each side, gently elevated between interior margin to 5th stria; humeri gently swollen; apices moderately rounded.

Male anal sternite slightly, semicircularly depressed in apical part, with apex not truncate. Legs slender; male metatibiae with interior faces weakly gouged and finely haired in middle; ratios of the lengths of pro-, meso- and metatarsomeres: 0.33, 0.24, 0.23, 0.26, 1.22; 1.48, 0.72, 0.63, 0.59, 1.57; 1.84, 0.78, 0.68, 1.55.

Male genitalia elongated fusiform, 3 mm in length and 0.6 mm in width, gently curved in lateral view; lateral lobes fused, rather nib-shaped, 1.1 mm in length, with acute apices.

Body length: 16–21 mm.

Holotype: ♂, "MUSÉUM PARIS/KOUY-TCHÉOU/RÉG. DE PIN-FA/PÈRE CAVALERIE 1908" (MNHNP). Paratypes: 1 ex., same data as for the holotype; 1 ex., "China Kwei-tschou//MUSÉUM PARIS 1952 COLL. R. OBERTHÜR".

Notes. This new species resembles *Strongylium atricolor* PIC, 1922, originally described from Tonkin, but can be distinguished from the latter by the dorsal surface more noticeably micro-shagreened and the pronotum more closely punctate. This species also resembles *Strongylium yunnanicum* MASUMOTO, 1999, but can be differentiated from the latter by the head and pronotum with punctures not rugulose.

要 約

益本仁雄：アジア産ナガキマワリ族(*Strongyliini*)の研究. X. 東南アジア産ナガキマワリ属

(*Strongylium*)の10新種。—— アジア産ナガキマワリ族(*Strongyliini*)の研究の第10回として、東南アジア産のナガキマワリ属(*Strongylium*)の新種を10種記載した。それらは、*Strongylium bisbico-statum* sp. nov., *S. flavocostatum* sp. nov., *S. clytoides* sp. nov. (以上3種は *bisbico-statum* 種群), *S. pallideterminale* sp. nov. (*S. subimpressum* FAIRMAIREに近い種だが種群未定), *S. baudonianum* sp. nov. (*spinitibiale* 種群), *S. niasinsularum* sp. nov., *S. masatakai* sp. nov. (以上2種は *perforatum* 種群), *S. lampros* sp. nov. (前種にやや似るが種群は異なる。種群未定), *S. minicupreum* sp. nov. (*gravidum* 種群), *S. pinfaense* sp. nov. (*S. atricolor* PICに近い種だが *carbonarium* 種群)である。

Reference (Additional)

MASUMOTO, K., 1999. Study of Asian Strongyliini (Coleoptera, Tenebrionidae). VIII. Ten new species of the genus *Strongylium* from East Asia. *Elytra, Tokyo*, **27**: 335–352.

Elytra, Tokyo, **28** (2): 407–408, November 15, 2000

A New *Ponerotrogus* (Coleoptera, Scarabaeidae, Alloscelini) from Sri Lanka

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On the occasion of visiting Prague in March 1998, the authors received a scarabaeid specimen from Dr. David KRÁL of Charles University for taxonomic study. After a careful examination, they have concluded that this is a new species of the genus *Ponerotrogus*, which will be described below.

Ponerotrogus krali sp. nov.

(Fig. 1)

Body hemispherical; brownish black, with dorsal surface except for apical margin of head almost black, apical margin of head, mouth parts, antennae and legs lighter in colour; dorsal surface moderately shining, ventral surface feebly alutaceous.

Head feebly convex in medio-posterior part, scattered with small punctures near apex; apical margin noticeably emarginate at the middle, sinuous near the borders of genae and clypeus, each side of the emargination strongly projected apicad; genae before eyes subangulate laterad. Pronotum rather wide; apex gently produced anteriad; base widely rounded though very slightly