

New or Little-Known Tenebrionid Species (Coleoptera) from Japan (13) Three New Tenebrionid Species from Japan, and a Replacement of a Preoccupied Name

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Abstract Three new tenebrionid species are described under the names of *Heterotarsus takahashii* AKITA et MASUMOTO, sp. nov., *Caedius hiraii* AKITA et MASUMOTO, sp. nov. and *Platydema miyakei* AKITA et MASUMOTO, sp. nov. A preoccupied name, *Arthromacra imasakai* AKITA, is replaced by *A. ishizuchiensis* AKITA, nom. nov.

As the thirteen parts of the series, this article deals with new Japanese tenebrionid species. We are going to describe three new tenebrionid species of genera *Heterotarsus*, *Caedius* and *Platydema*. Besides, a preoccupied name, *Arthromacra imasakai*, will be replaced by a new name, *A. ishizuchiensis* AKITA.

Before going further, we would like to express our cordial thanks to Dr. Keiichi TAKAHASHI (Ibaraki Pref.), Dr. Yoshio HIRAI (Shizuoka City), Mr. Takeshi MIYAKE (Ôita Pref.), and Mr. Yûji TSUTSUMIUCHI (Ôita Pref.), for offering invaluable specimens for this study. Thanks are also due to Mr. Shigeaki KONDO (Chiba Pref.) and Mr. Shôichi IMASAKA (Nagasaki Pref.), for offering literature and invaluable advice. We thank Dr. Makoto KIUCHI (Tsukuba City), for taking clear photographs of the specimens inserted in the paper.

Finally, special thanks should be expressed to Emeritus Curator Dr. Shun-Ichi UÉNO, National Museum of Nature and Science, Tsukuba, for his critical reading of our manuscript.

All the holotypes to be designated will be deposited in the National Museum of Nature and Science, Tsukuba (NSMT).

Subfamily Tenebrioninae

Tribe Opatrini

Heterotarsus takahashii AKITA et MASUMOTO, sp. nov.

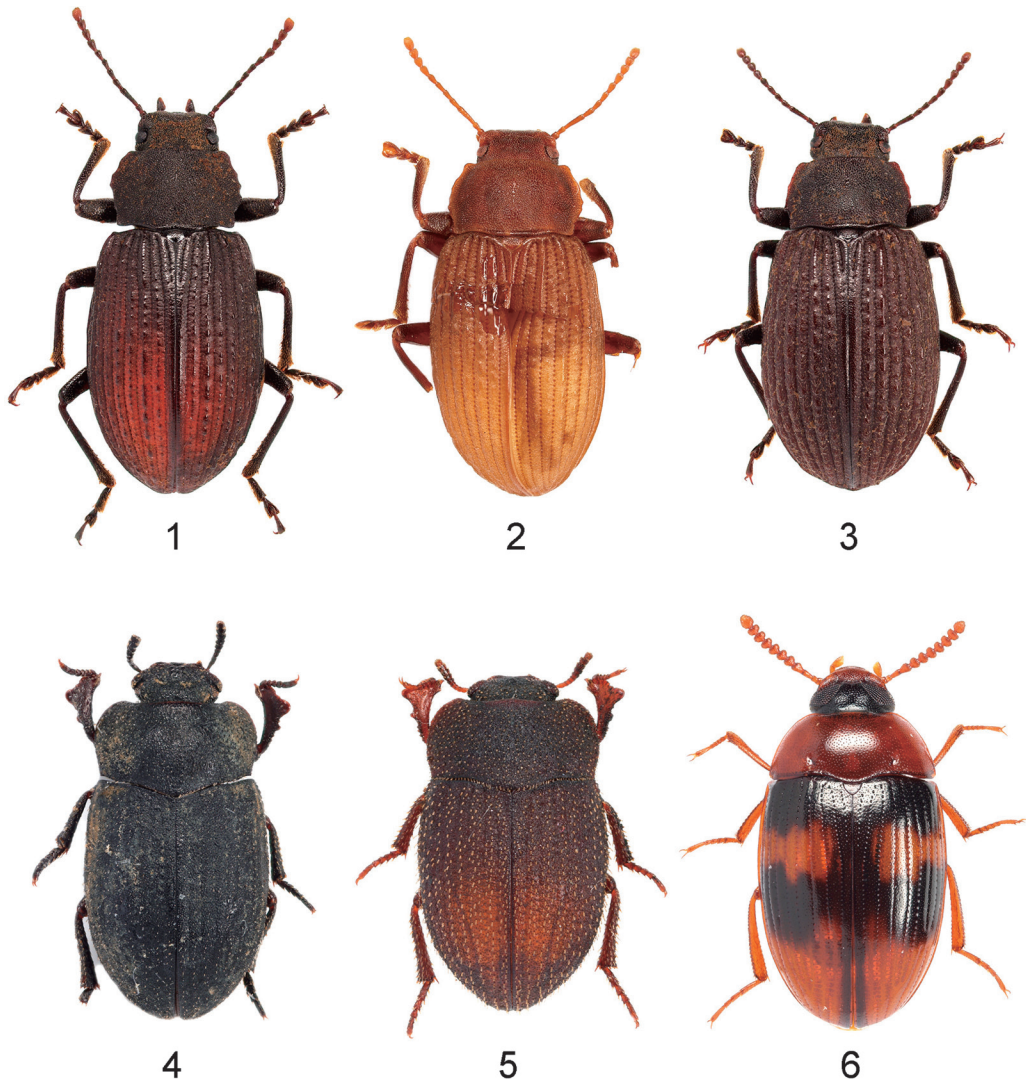
[Japanese name: Ryûkyû-sujikogashira-gomimushidamashi]

(Figs. 2–3, 7–10)

Heterotarsus crenulifer: M. T. CHÛJÔ, 1966. J. Fac. Agric. Kyushu University, 14: 30. [nec KASZAB, 1941].

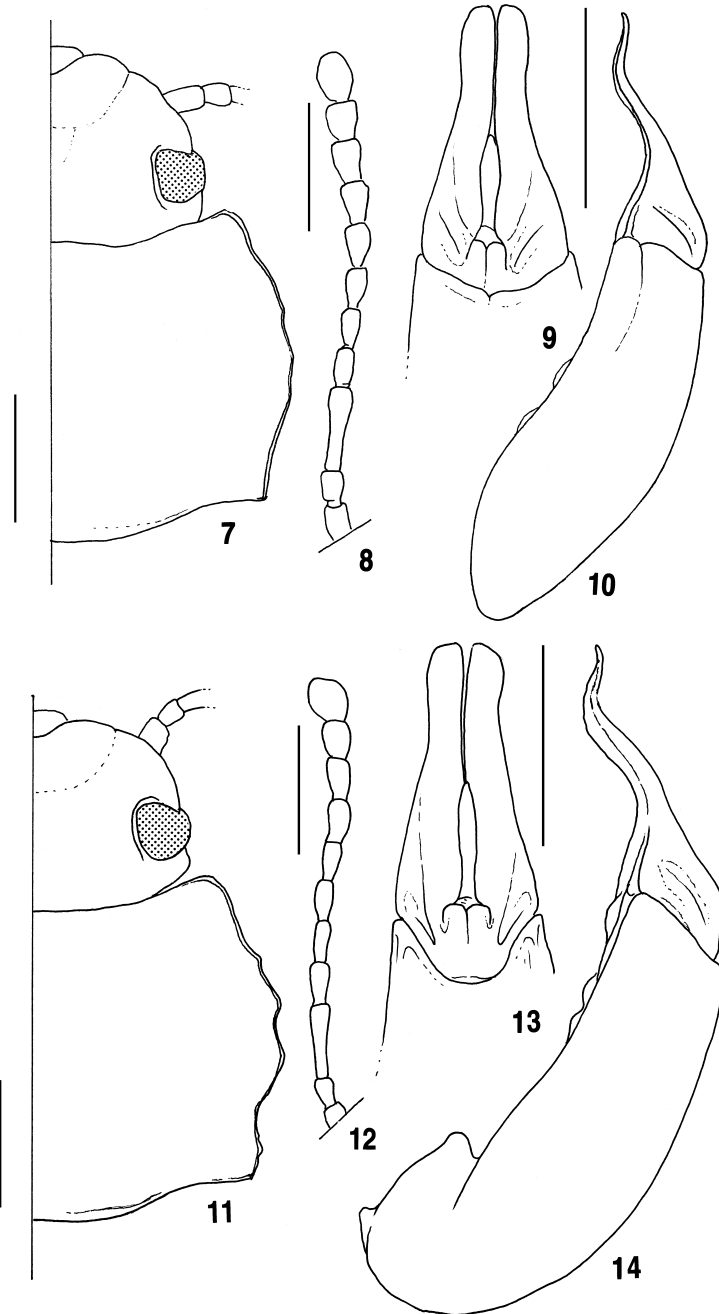
Body suboblong-oval, moderately convex slightly posterad; black and with feeble brownish tinge (yellowish brown in immature state), antennae, mouth parts, and tarsi lighter in colour, hairs brownish yellow; dorsal surface almost mat, ventral surface weakly, rather sericeously shining; head, pronotum and scutellum almost glabrous, elytra, prosternum, abdominal ventrites and legs with fine decumbent hairs, antennae with short microscopic hairs.

M a l e: Head rather flattened and weakly inclined anteriad, closely rugoso-punctate, each



Figs. 1–6. Habitus. — 1, *Heterotarsus crenulifer* KASZAB, 1941, ♂; 2, *H. takahashii* AKITA et MASUMOTO, sp. nov., holotype, ♂; 3, ditto, paratype, ♀; 4, *Caedius hiraii* AKITA et MASUMOTO, sp. nov., holotype, ♂; 5, *C. marinus* MARSEUL, 1876, ♂; 6, *Platydema miyakei* AKITA et MASUMOTO, sp. nov., holotype, ♂.

puncture with a fine decumbent hair; clypeus boldly U-shaped, both sides of apical margins produced anteriorly; fronto-clypeal border roundly grooved, with both ends reaching exterior margins; genae dilated and very weakly raised laterad, weakly depressed in areas before eyes; frons wide and nearly flat, weakly depressed in medial part and on both sides; interior margins of eyes rather deeply grooved; vertex very feebly convex, and weakly depressed at the middle. Eyes gently convex laterad, and somewhat securiformly inlaid into head, with diatone about four times the width of an eye. Antennae subfiliform, with segments becoming shorter and bolder apicad, tip of the terminal segment reaching humeral portions of elytra, ratio of the length of each segment from base to apex: 0.39, 0.21, 0.48, 0.31, 0.27, 0.25, 0.24, 0.22, 0.20, 0.18, 0.36.



Figs. 7–14. *Heterotarsus* spp. ♂♂. — 7–10, *H. takashii* AKITA et MASUMOTO, sp. nov., holotype; 11–14, *H. crenulifer* KASZAB, 1941; 7, 11, head and pronotum; 8, 12, antennae; 9, 13, male genitalia (dorsal view); 10, 14, ditto (lateral view). Scales: 1.0 mm.

Pronotum subquadrate with rounded sides, wider than long (8 : 5), widest slightly at the middle; apex weakly, widely emarginate, almost of the same width as base, neither margined nor rimmed widely in middle, very weakly raised in lateral portions; base weakly produced posteriad and raised in medial portion, truncate opposite to scutellum, gently sinuous in lateral portions, with raised portions tapering laterad; sides gently inclined laterad, with lateral margins explanate, finely rimmed, the rims sparsely crenate; front angles weakly, roundly produced anteriorly, hind angles subrectangular; disc gently convex, weakly impressed at the middle on both sides, the impressions gently growing posteriad, closely punctate, the punctures fused with one another, each with a microscopic scale-like hair, spaces among punctures becoming finely and irregularly rugulose. Scutellum wide-triangular with rounded sides, very weakly covered with microsculpture, closely scattered with shallow, minute punctures, each with a minute, decumbent scale-like hair.

Elytra 1.33 times as long as wide, 3.01 times the length and 1.39 times the width of pronotum, widest at apical 4/9, gently narrowed anteriorly and roundly so posteriorly; dorsum moderately convex dorsad, highest at basal 4/9; disc punctate-grooved, the punctures small, rather closely set, and striate; intervals convex, weakly covered with microsculpture and micro-granules, minutely punctate and finely haired, irregularly with rather smooth, longitudinal tubercles, which are ridge-like in the basal portion of the 3rd interval, and become smaller and shorter in lateral intervals; sides steeply declined to lateral margins, which are strongly bordered by 9th grooves, gently, obliquely explanate, and finely rimmed, the rims invisible from above in posterior portions; humeri only weakly swollen; apices rounded.

Terminal segment of maxillary palpi subsecuriform, with roundly curved exterior side about twice the length of the weakly produced interior, 1.25 times the length of very weakly emarginate apical. Mentum subquadrate with weakly rounded sides, longitudinally convex in middle, depressed in lateral parts, coriaceous and finely haired; gula triangular, slightly convex in postero-medial part, very weakly, transversely wrinkled, with two pairs of impressions on the border.

Prosternum rather wide, with apex weakly, widely emarginate, very weakly rimmed, weakly covered with microsculpture, gradually raised posteriad, closely ruguloso-punctate and clothed with fine pily hairs, intercoxal space rather strongly raised, ruguloso-punctate; prosternal process sublinguiform on upper surface, noticeably produced laterad on lower surface, weakly depressed in lateral parts, microscopically granulate and finely haired. Mesoventrite very short, strongly depressed and closely ruguloso-punctate in anterior portion, strongly raised in V-shape, ruguloso-punctate and finely haired in posterior portion. Metaventrite rather short, noticeably depressed along basal margins, covered with microsculpture and coarse punctures in antero-lateral portions, scattered with punctures in medial portion, which are often connected with one another by transverse aciculations, feebly convex in postero-lateral portions, with the median impression in posterior 3/4. Abdominal ventrites medium in size, weakly covered with microsculpture, closely punctate and clothed with fine, decumbent hairs, the punctures connected with one another and shallowly, obliquely wrinkled in three basal ventrites, those in two apical ventrites becoming smaller and closer; anal ventrite with rounded apex, which is finely bordered, the border interrupted at the middle.

Legs rather stout; femora boldly short-clavate; tibiae haired on interior faces, the hairs becoming longer and denser apically; tarsi dilated to each apex; ratios of the lengths of pro-, meso- and metatarsal segments: 0.32, 0.36, 0.54, —, —; 0.34, 0.31, 0.39, —, —; —, —, —.

Male genitalia elongated ovate in dorsal view, 3.00 mm in length, 0.80 mm in width, rather strongly curved in lateral view; apicale 1.26 mm in length, somewhat elongated triangular in dorsal view, though the apices are flattened, produced and subtruncate.

F e m a l e: Pronotum slightly narrower than in male; terminal segment of maxillary palpi less

strongly dilated; legs shorter.

Body length: 9.6–10.0 mm.

Distributions. The Ryukyus: Ishigaki-jima Is., Miyakojima Is. (?).

Type series. Holotype: ♂ (teneral), "Mt. Banna / Ishigaki Isl. / Okinawa Pref., / 1988. 05. 21 / Leg: K. TAKAHASHI" (NSMT). Paratypes: 3 ♀♀, same data as for the holotype.

Notes. This new species closely resembles *Heterotarsus crenulifer* KASZAB, 1941, originally described from Kosempo, Taiwan, but can be distinguished from the latter by the eyes triangularly in-laid into the head, with the groove along the interior margin of eyes obviously weaker, the pronotum with front angles produced anteriorly, and lateral margins less strongly sinuate, the elytra longer with punctures in the striae clearer and more remotely set, the first abdominal ventrite not depressed at the middle, and the male genitalia shorter and wider.

Heterotarsus crenulifer KASZAB, 1941, is also recorded from Miyako-jima Is. by M. T. CHŪJŌ (1966), but we have not been able to examine a specimen from this island.

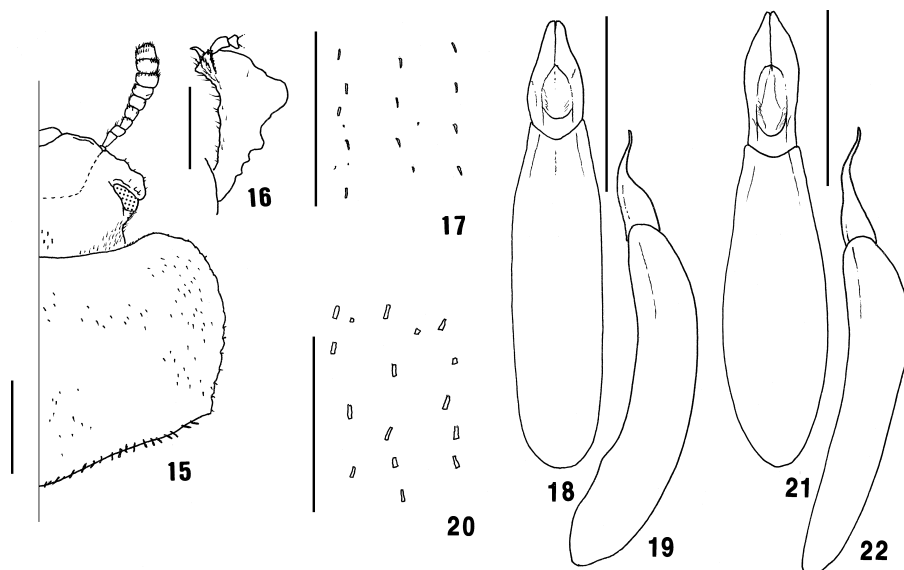
Etymology. The specific name is given in honor of Dr. Keiichi TAKAHASHI, who collected the type series.

Caedius hiraii AKITA et MASUMOTO, sp. nov.

[Japanese name: Iriomote-maruchibi-gomimushidamashi]

(Figs. 4, 15–19)

Body short-oval, moderately convex dorsad; black and with feeble brownish tinge, dorsal surface almost black, apical margin of pronotum, exterior margins of protibiae and mouth parts dark brown, claws brown, hairs mostly pale yellow; each surface almost mat; pronotum, elytra, prosternum, meso- and metaventrites, and abdominal ventrites sparsely clothed with scale-like hairs, legs rather densely



Figs. 15–22. *Caedius* spp. ♂♂. — 15–19, *C. hiraii* AKITA et MASUMOTO, sp. nov., holotype; 20–22, *C. marinus* MARSEUL, 1876. — 15, Head and pronotum; 16, protibia; 17, 20, hairs on elytron; 18, 21, male genitalia (dorsal view); 19, 22, ditto (lateral view). Scales: 0.5 mm.

clothed with seta-like hairs.

Male: Head rather flat and weakly inclined anteriorly; clypeus very weakly raised and shallowly, coarsely punctate in middle, ruguloso-punctulate and granulate in lateral parts, with apical margin bilobed apicad and weakly reflexed; fronto-clypeal border roundly grooved, with the medial part interrupted; genae narrowly, roundly produced laterad, very weakly inclined posteriorly, coarsely punctulate; frons wide and short, vaguely, longitudinally depressed at the middle, and very weakly raised posteriorly, irregularly ruguloso-granulate; vertex feebly convex on both sides; occiput depressed at the middle. Eyes rather sharp-triangular, deeply depressed, obliquely inlaid into head, with diatone about six times the width of an eye. Antennae subclavate, tip of the terminal segment reaching apical 1/5 of pronotum, ratio of the length of each segment from base to apex: 0.22, 0.11, 0.42, 0.16, 0.14, 0.17, 0.23, 0.32, 0.33, 0.34, 0.31.

Pronotum about 1.7 times as wide as long, widest at apical 1/3, roundly narrowed apicad and nearly straightly so posteriorly; apex weakly, widely emarginate, neither margined nor rimmed; base widely, triangularly produced, very weakly sinuous and margined by rows of granules in lateral portions, the margins densely fringed with setae; sides very mildly declined to lateral margins, which are roundly produced, crenulate and very sparsely fringed with setae; front angles very weakly, roundly produced anteriorly, hind angles obtuse with acute corners; disc gently convex, sparsely clothed with scale-like hairs, ruguloso-granulate, the rugulosities rather longitudinal, the granules somewhat ovate in medial portion, and round in lateral portions. Scutellum hardly visible.

Elytra 1.25 times as long as wide, 2.59 times the length and 1.17 times the width of pronotum, widest at basal 1/3, weakly narrowed anteriorly and roundly so posteriorly; dorsum moderately convex, highest at basal 1/3; disc vaguely with rows of punctures, the punctures rather sparsely set, and very weakly grooved; intervals feebly convex, densely covered with micro-granules, sparsely furnished with scale-like hairs, which are mostly provided one row in each interval, finer and denser in interior portions, and bolder and denser in lateral and posterior portions, with an impression just inside of humerus; humeri weakly swollen; apices rounded.

Terminal segment of maxillary palpi somewhat elliptical, with the roundly curved exterior side about twice the length of the weakly emarginate interior, 1.3 times the length of the obliquely truncate apical. Mentum subquadrate, longitudinally convex in middle, with a tubercle at antero-medial part; gula bordered by impression in inverted U-shape, rather noticeably, transversely rugulose.

Prosternum rather short and wide, with apex widely emarginate, weakly depressed and coriaceous in antero-lateral portions, strongly raised and sparsely clothed with scale-like hairs in medial portion; intercoxal space rather flattened, weakly coriaceous; prosternal process triangular and fattened, microscopically granulate. Mesoventrite very short, depressed and coarsely rugose in anterior portion, with areas along antero-interior portions of mesocoxae ridged, coriaceous, and clothed with scale-like hairs. Metaventrite rather short, weakly depressed in postero-medial 3/5, slightly convex in postero-lateral portions, covered with microsculpture and micro-granules, clothed with scale-like hairs. Abdominal ventrites rather short, coriaceous, micro-granulate and clothed with scale-like hairs in four basal ventrites; 4th ventrite rather short; anal ventrite rather large, coriaceous, sparsely clothed with scale-like hairs, which are sparser and finer than those on four basal ones, with apex rounded and fringed with minute setae.

Legs stout, clothed with setae; femora short-clavate; protibia flattened, strongly dilated apicad, with interior face emarginate in basal 3/4, angular in apical 1/4, exterior face noticeably produced laterad at apical 1/3, area before the production with two weak production, and area behind the production with a larger and several smaller crenulations, ventral surface coriaceous and granulate; tarsi rather compressed, ratios of the lengths of pro-, meso- and metatarsal segments: 0.32, 0.20, 0.22, 0.21,

0.59; 0.56, 0.31, 0.24, 0.26, 0.60; 0.67, 0.31, 0.28, 0.63.

Male genitalia somewhat elongated fusiform, 1.30 mm in length, 0.24 mm in width, basale rather strongly curved in lateral view; apicale 0.26 mm in length, somewhat elongated triangular in dorsal view, strongly reflexed in apical 1/3, with an elliptical depression in basal part.

F e m a l e: Eyes smaller than in male; pronotum less strongly widened anteriorly; protibiae less noticeably modified.

Body length: 4.3–5.0 mm.

Distribution. The Ryukyus: Iriomote-jima Is.

Type series. Holotype: ♂, "2003. III. 17 / Toyohara / Iriomotejima / Okinawa Pref. / leg. Y. HIRAI" (NSMT). Paratypes: 3 ♂♂, 1 ♀, same collecting data as for the holotype.

Notes. This new species closely resembles *Caedius marinus* MARSEUL, 1876, originally described from "Hiogo", the Honshu Island, but can be distinguished from the latter by the body more elongate, the head less strongly widened, the pronotum wider and less strongly produced anteriorly, with the surface more minutely sculptured, and the scale-like hairs finer, and the elytra more minutely sculptured, and scale-like hairs on each interval finer and mostly in one row.

This new species somewhat resembles *Caedius maderi nakanei* FERRER, 2003, originally described by NAKANE (1963) from Takara-jima Is., the Tokara Isls., but can be easily distinguished from the latter by the body smaller and slenderer, the sculpture on the dorsal surface obviously finer, and the pronotum narrowed basally.

Etymology. The specific name is given in honor of Dr. Yoshio HIRAI, who collected the type series.

Subfamily Diaperinae

Tribe Diaperini

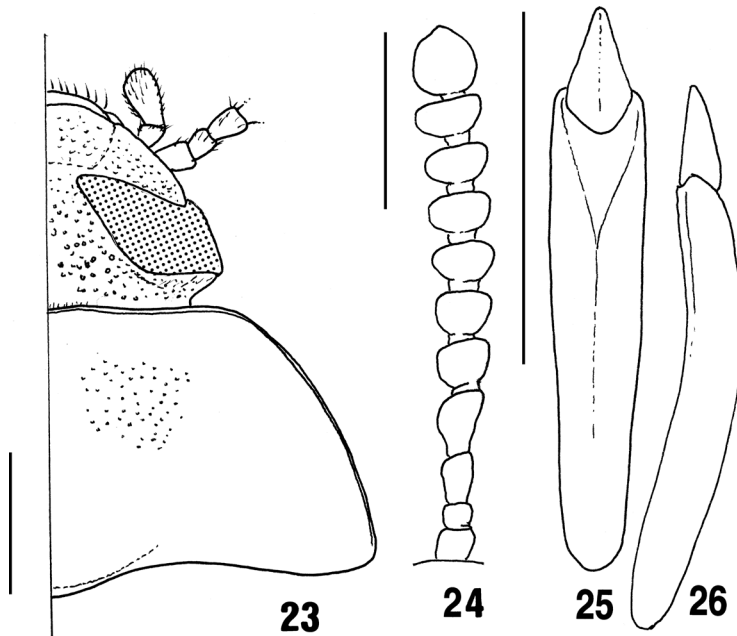
Platydema miyakei AKITA et MASUMOTO, sp. nov.

[Japanese name: Bungo-kinoko-gomimushidamashi]

(Figs. 6, 23–26)

Body subovate, strongly convex dorsally; yellowish brown, posterior portion of head and elytra except bands and patches black, pronotum and scutellum reddish brown; head and legs moderately shining, pronotum, scutellum and elytra rather strongly shining, ventral surface weakly, rather alutaceous shining; dorsal surface, ventral side of head almost glabrous, prosternum, meso- and metaventrites and abdominal ventrites clothed with fine hairs, antennae and legs covered with seta-like microscopic hairs.

M a l e: Head semicircular, weakly convex in postero-medial portion; clypeus rather obtapezoidal in dorsal view, very weakly covered with microsculpture, rather closely scattered with small punctures, apex gently roundly produced; fronto-clypeal border roundly curved and weakly grooved, impressed in lateral parts, bent obliquely anteriorly and reaching external margins; genae obliquely raised, very weakly covered with microsculpture, more closely scattered with smaller punctures than clypeus, with exterior margins rounded; frons weakly inclined anteriorly, longitudinally depressed on the midline, sparsely scattered with larger punctures in medial part, more closely so with smaller punctures in lateral parts; vertex very feebly convex, and weakly depressed at the middle, irregularly punctate. Eyes rather large and oblique, convex laterally, and rather noticeably inlaid into head, with



Figs. 23–26. *Platydema miyakei* AKITA et MASUMOTO, sp. nov., holotype, ♂. — 23, Head and pronotum; 24, antenna; 25, male genitalia (dorsal view); 26, ditto (lateral view). Scales: 0.5 mm

diatone 0.43 times the width of the diameter of an eye. Antennae subclavate and weakly flattened, segments V–XI each with basal part noticeably narrowed, tip of the terminal segment reaching basal portion of pronotum, ratio of the length of each segment from base to apex: 0.23, 0.12, 0.23, 0.26, 0.25, 0.26, 0.25, 0.23, 0.24, 0.24, 0.36.

Pronotum subtrapezoidal with rounded sides, about twice as wide as long, widest at base; apex weakly, rather widely emarginate, very weakly produced in middle, feebly sinuous on each side, finely bordered and rimmed; base widely bisinuous, roundly produced in medial part, weakly bordered by punctated groove only in interior part, not bordered in lateral parts; sides gently declined to lateral margins, which are bordered and rimmed, the rims visible from above; front angles rounded, hind angles obtuse; disc broadly, transversely convex, rather closely, irregularly scattered with small punctures, which are slightly smaller than those on frons, with an oblique impression in each lateral portion close to base. Scutellum triangular with rounded sides, flat and rather smooth, scattered with minute punctures in basal part.

Elytra 1.29 times as long as wide, 3.46 times the length and 1.17 times the width of pronotum, widest at basal 1/3, gently narrowed anteriorly and roundly so posteriorly; dorsum rather strongly convex, highest at basal 1/4; disc with rows of punctures, which are small, rather closely set in interior portion, same and grooved in lateral portions; intervals nearly flat in interior portion, convex in lateral portions, rather closely, irregularly scattered with minute punctures; in anterior fourth, with a yellowish brown transverse band, whose anterior and posterior margins are zigzagged, lying from midst of the second interval to lateral margin, and in posterior 2/5, there occurs a same-colored subtriangular patch, whose anterior margin is weakly produced anteriorly in second and third intervals, lying from the first intervals to lateral margin; sides rather steeply declined to lateral margins, which are strongly bordered by 9th punctated grooves, weakly, obliquely explanate, and finely rimmed, the rims almost

visible from above; humeri only weakly swollen; apices rounded.

Terminal segment of maxillary palpi elongated subsecuriform, with the roundly curved exterior side 1.67 times the length of the weakly curved interior, 1.72 times the length of the obliquely truncate apical. Mentum subcordate with basal part truncate, longitudinally convex in antero-medial part, weakly depressed and coriaceous on both sides, with an acute spine at medio-basal 1/4; gula triangular, slightly convex, weakly covered with microsculpture, with a pair of small impressions near apex on the borders.

Prosternum rather wide with apex widely emarginate and very finely rimmed, longitudinally raised on the midline, ruguloso-punctate, clothed with fine pily hairs, intercoxal space rather strongly raised, sparsely scattered with microscopic punctures in lateral parts, impunctate in medial part, finely rimmed along lateral margins; prosternal process elongated triangle, with acute apex. Mesoventrite very short, strongly triangularly depressed in anterior portion, strongly ridged in narrow V-shape in posterior portion. Metaventrite rather short, very weakly covered with microsculpture, microscopically punctate and weakly transversely wrinkled in anterior and medial portions, clothed with fine pily hairs, with the median impression in posterior 2/3. Abdominal ventrites medium in size, weakly covered with microsculpture, closely punctate and clothed with fine, decumbent hairs in three basal ventrites, two apical ventrites more sparsely and finely punctate, fourth ventrite with basal part depressed; anal ventrite with a transverse depression near the basal border, apex rounded and fringed with microscopic setae.

Femora and tibiae weakly flattened; femora boldly short-clavate; tibiae clothed with seta-like hairs, the hairs on interior faces becoming longer and denser apicad; tarsi with ratios of the lengths of pro-, meso- and metatarsal segments: 0.30, 0.19, 0.20, 0.18, 0.59; 0.48, 0.22, 0.21, 0.19, 0.61; 0.70, 0.29, 0.22, 0.68.

Male genitalia elongate, feebly twisted in basal part, 0.79 mm in length, 0.12 mm in width, weakly curved in lateral view; basale weakly becoming bolder in anterior 3/5, with membranous area widened apicad in dorsal view; apicale small and 0.27 mm in length, triangular and longitudinally ridged on the midline in dorsal view.

F e m a l e: Almost similar to male in body shape, but can be distinguished from the latter by the eyes less strongly convex laterad, with diatone about 0.60 times the width of the transverse diameter of an eye; hairs on abdominal ventrites slightly finer; legs slightly slenderer.

Body length: 4.3–4.8 mm.

Distribution. Kyushu.

Type series. Holotype: ♂, "JAPAN: Ooita-ken / Saiki-shi, Ume / Kitagawa Dam / 22. VII. 2012 / Takeshi MIYAKE leg. // K. AKITA / Collection / KAC 28940" (NSMT). Paratypes: 3 ♂♂, 4 ♀♀, same collecting data as for the holotype; 7 ♂♂, 5 ♀♀, same locality, 13–VIII–2012, Yuji TSUTSUMIUCHI leg.

Notes. This new species somewhat resembles *Platydema palldicollis* (LEWIS, 1894), originally described from Yokohama, but can be distinguished from the latter by the body larger, the head black in the posterior portion with the eyes obviously larger, the pronotum wider and smoother, and the elytra smoother and with rows of punctures weaker, smaller and more weakly grooved.

Etymology. The specific name is given in honor of Mr. Takeshi MIYAKE, who collected the holotype.

Replacement of a Preoccupied Name of an *Arthromacra* Species

Arthromacra ishizuchiensis AKITA, nom. nov.

[Japanese name: Kamegamori-ao-hamushidamashi]

Arthromacra imasakai AKITA, 2011. Spec. Publ. Jpn. Soc. Scarabaeoidology, Tokyo, (1): 271 [nec SAITÔ, 1995].

要 約

秋田勝己・益本仁雄：日本産ゴミムシダマシ科甲虫の新種・稀少種（第13報）. 3新種と1置換名. —— 日本産ゴミムシダマシ科甲虫のうち、ゴミムシダマシ亜科スナゴミムシダマシ族の2新種 *Heterotarsus takahashii* AKITA et MASUMOTO, sp. nov. リュウキュウスジコガシラゴミムシダマシ（石垣島）、*Caedius hiraii* AKITA et MASUMOTO, sp. nov. イリオモテマルチビゴミムシダマシ（西表島）とキノコゴミムシダマシ亜科キノコゴミムシ族の1新種 *Platydema miyakei* AKITA et MASUMOTO, sp. nov. プンゴキノコゴミムシダマシ（大分県）を命名記載した。リュウキュウスジコガシラゴミムシダマシは、従来、台湾に分布する *H. crenulifer* KASZAB, 1941 と同種とされていたものである。また *Arthromacra imasakai* AKITA, 2011 カメガモリアオハムシダマシは台湾産の種のホモニムであったので、置換名 *A. ishizuchiensis* AKITA, nom. nov. を提唱した。

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