

Blind Trechine Beetles (Coleoptera, Trechinae) from the Tsushima Islands, West Japan

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Abstract Blind trechine beetles found in the endogean zone of the Tsushima Islands lying between Kyushu of West Japan and the southern tip of the Korean Peninsula are dealt with. Of the five species hitherto known, three belong to the genus *Coreoblemus* and the other two to the genus *Daiconotrechus*, and each genus contains two new species. They are named *Coreoblemus miyamai*, *C. sejimai*, *Daiconotrechus tsushmanus* and *D. breviculus*. A new subgenus is erected for the two Tsushima species of *Daiconotrechus*, and is named *Tsuiblemus*. It is worth noting that there is a distinct barrier against the dispersal of endogean trechines between Kami-jima (north island) and Shimo-jima (south island), though they are separated only by a narrow intricate bay whose inner (eastern) end was artificially connected with the eastern sea.

Introduction

The trechine fauna of the Tsushima Islands was first enumerated by me about 40 years ago (UÉNO, 1969). Of the five species recorded in that paper, four are fully winged, widespread species, and only the remaining one, *Coreoblemus venustus* S. UÉNO (1969, p. 59, figs. 1–2), is a blind endogean species doubtless endemic to the Tsushima Islands. Since then, however, nothing has been added to our knowledge of the trechine fauna of these zoogeographically important islands.

In the spring of this year, Hiroshi MIYAMA, Shinji NAGAI and Shoma SEJIMA made a collecting trip to the Tsushima Islands, and discovered two habitats of blind endogean trechines, one at the northern part of Kami-jima (north island) and the other at the northern part of Shimo-jima (south island). At each locality, two species evidently different in size were found in coexistence; the smaller one was determined at a glance as *Coreoblemus*, but the larger one was not ascribed to any genus known to the collectors. Then the specimens were promptly submitted to me for taxonomical study, and the larger one was found basically identical with *Daiconotrechus iwatai* (S. UÉNO) (1970, p. 610, figs. 4–6) theretofore known only from a lava cave lying on an islet at the Japan Sea side of western Honshu, West Japan, though considerably different from the latter in general appearance and some other details.

Closer examination has revealed that the newly obtained specimens of both *Coreoblemus* and *Daiconotrechus* are specifically different between the north and south

islands, and besides, neither of the two species of *Coreoblemus* agrees with *C. venustus* previously described from the southwestern part of the north island. This was most unexpected, since the three species of *Coreoblemus* and the two species of *Daiconotrechus* are closely similar to each other in external morphology, respectively, and can be confidently discriminated only by examination of their male genitalia.

The Tsushima Islands are by no means large. They are 709 km² in area and extend for about 72 km from north to south between 34°44' and 34°05' N. They consist of two main islands that are separated by Asô Bay deeply and intricately gouging in from west to east and almost connected with the eastern sea at the Man-zeki Seto, which was artificially cut open in the 17th Century. With the exception of several granitic hills at the southern part of the south island and basaltic hills at the northern part of the north island, the Tsushima Islands are mostly formed by low hills of shale and sandstone 100–300 m in height originating in the Tertiary. It is therefore almost incredible that intensive geographical speciation of trechine beetles could have occurred in the limited environment of the isolated islands.

In the present paper, I am going to describe the four new species of blind endogean trechines and to erect a new subgenus for the two species of *Daiconotrechus*. The new names to be given are: *Coreoblemus miyamai*, *C. sejimai*, *Daiconotrechus (Tsuiblemus) tsushmanus* and *D. (T.) breviculus*. The abbreviations employed herein are the same as those explained in my 1969 paper (p. 58).

Before going into further details, I wish to express my heartfelt thanks to Messrs. Hiroshi MIYAMA, Shinji NAGAI and Shoma SEJIMA for their kindness in giving me the opportunity to study on the very interesting and important specimens seldom met with in my long career as a specialist of blind carabids.

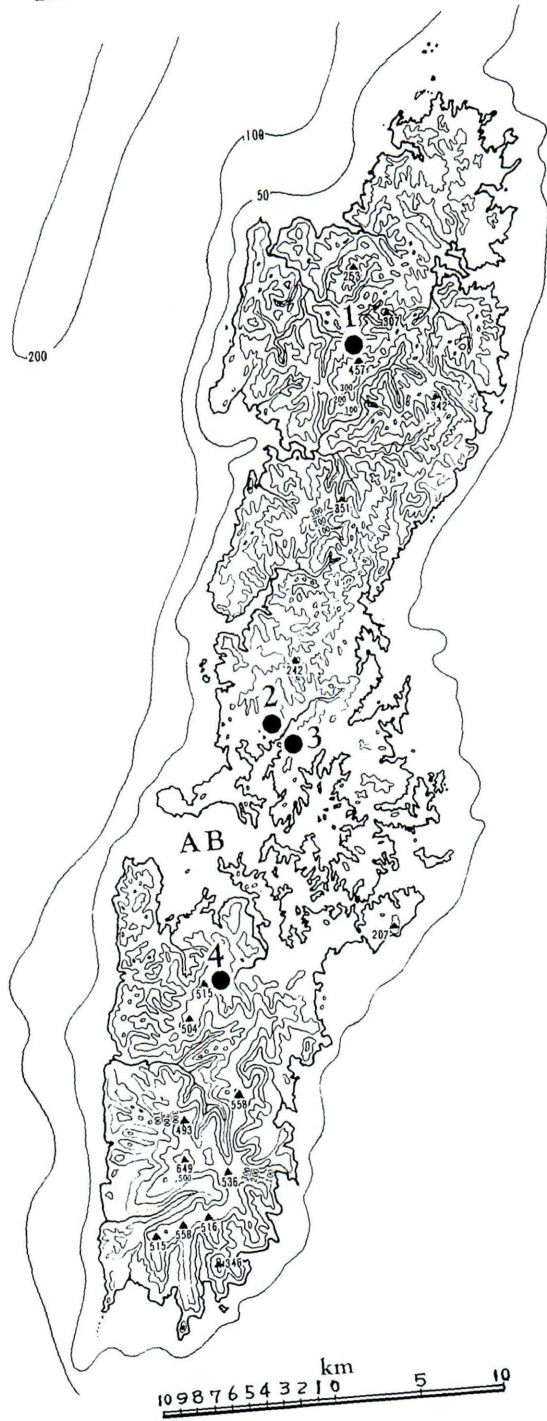
Coreoblemus venustus S. UÉNO, 1969

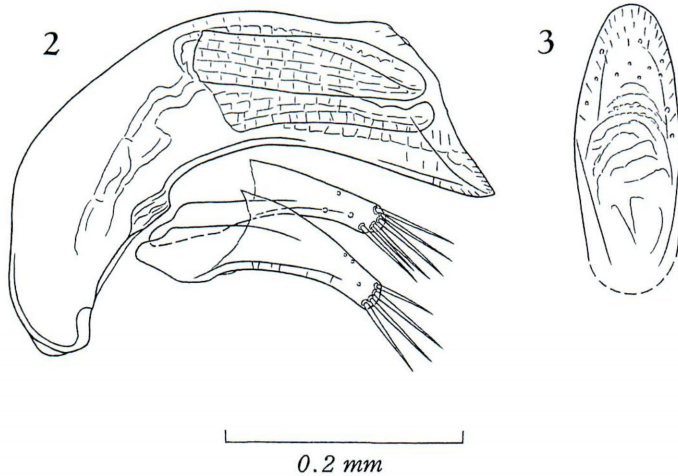
Coreoblemus venustus S. UÉNO, 1969, Mem. natn. Sci. Mus., Tokyo, (2), p. 59, figs. 1–2; type locality: Nuka-daké Hills in Kami-jima of the Tsushima Islands; 1985, Coleopt. Japan Col., Osaka, 2, p. 88, pl. 16, fig. 29.

Notes. No additional records. This species has been known from the low hills, the Nuka-dakés and the Eboshi-dakés, lying on the opposite sides of Niiasô Cove near the southwestern end of Kami-jima (north island). Its type specimens were found from beneath flat stones lying on humid clayey ground near the heads of gullies at about 100 m above the sea. It has not been reobtained since the spring of 1964.

Fig. 1. Topographical map of the Tsushima Islands (adopted from K. YOSHIDA, 1962), showing the known localities of blind trechines; AB – Asô Bay. — 1, Mitaké (*Coreoblemus miyamai* S. UÉNO and *Daiconotrechus (Tsuiblemus) tsushmanus* S. UÉNO); 2, Nuka-daké Hills (*Coreoblemus venustus* S. UÉNO); 3, Eboshi-daké Hills (*Coreoblemus venustus* S. UÉNO); 4, Shira-také (*Coreoblemus sejimai* S. UÉNO and *Daiconotrechus (Tsuiblemus) breviculus* S. UÉNO).

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Figs. 2-3. Male genitalia of *Coreoblemus miyamai* S. UÉNO, sp. nov., from Mitaké in Kami-jima (north island) of the Tsushima Islands; left lateral view (2), and apical part of aedeagus, dorso-apical view (3).

Coreoblemus miyamai S. UÉNO, sp. nov.

(Figs. 2-3)

Length: 2.30-2.45 mm (from apical margin of clypeus to apices of elytra).

Closely similar to *C. venustus* in external morphology, but slightly smaller, barely distinguished from the latter by somewhat narrower pronotum less contracted at the base. Evidently different from *C. venustus* in configuration of aedeagus, above all in that of copulatory piece.

Colour, microsculpture and chaetotaxy as in *C. venustus*. Head identical with that of *C. venustus*; HW/HL 1.11-1.18 (M 1.15); antennae usually reaching basal fourth of elytra in ♂, rarely reaching only basal fifth. Pronotum somewhat narrower on an average than in *C. venustus*, widest at about five-sevenths from base or slightly behind that level, and less strongly contracted posteriad towards basal part; PW/HW 1.16-1.18 (M 1.17), PW/PL 1.16-1.24 (M 1.21), PW/PA 1.28-1.36 (M 1.31), PW/PB 1.57-1.65 (M 1.60); sides a little more widely arcuate in front than in *C. venustus*, distinctly sinuate at about one-seventh to one-sixth from base, and then subparallel towards hind angles, which are either rectangular or somewhat sharp; base evidently narrower than apex but not so narrow as in *C. venustus*, PA/PB 1.21-1.25 (M 1.22); dorsum as in *C. venustus*. Elytra very similar to those of *C. venustus*, though a little more deeply striated on the disc, widest at about middle; EW/PW 1.41-1.48 (M 1.46), EL/PL 2.85-2.95 (M 2.89), EL/EW 1.62-1.67 (M 1.64). Ventral surface and legs as in *C. venustus*.

Male genital organ basically similar to that of *C. venustus*, but markedly different in configuration of aedeagus and of its inner sclerite. Aedeagus similarly very small, only three-tenths as long as elytra, short and robust, gently compressed, and regularly arcuate

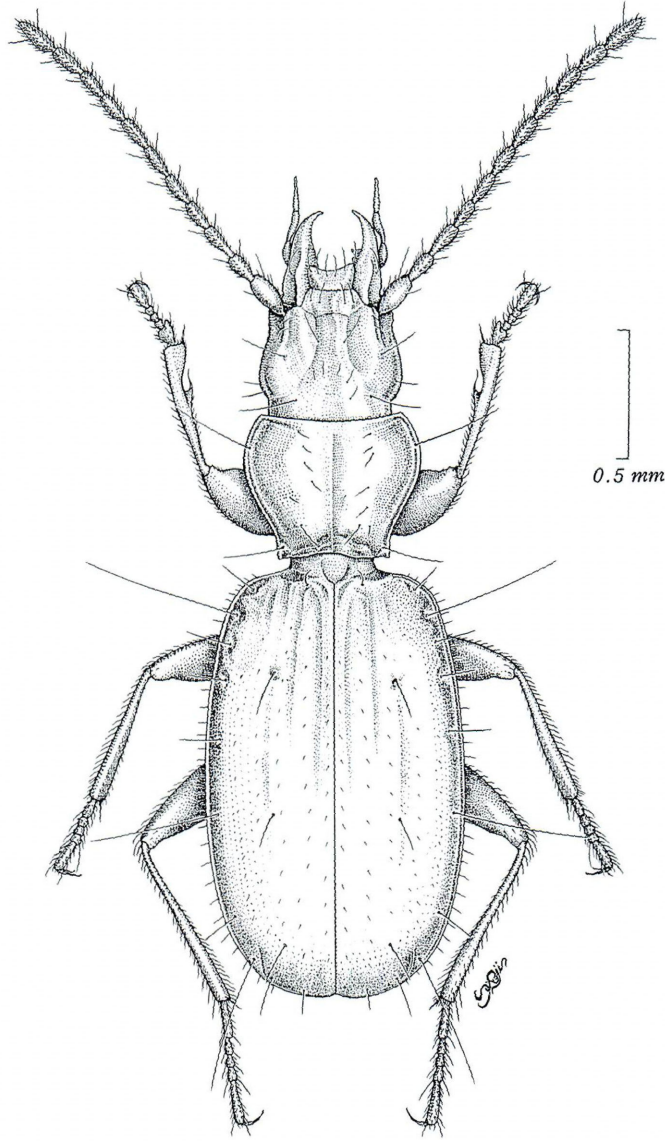


Fig. 4. *Coreoblemus sejimai* S. UENO, sp. nov., ♂, from Shira-také in Shimo-jima (south island) of the Tsushima Islands.

from base to before apical lobe; basal part not abruptly bent ventrad, with rather small basal orifice, whose sides are hardly emarginate; sagittal aileron vestigial; viewed laterally, apical part straight and rapidly tapered towards pointed extremity of apical lobe; viewed dorsally, apical lobe broad, nearly symmetrical, and gradually narrowed towards widely rounded tip; ventral margin almost straight behind middle in profile. Inner sac armed with a large copulatory piece mostly covered with compact scales, which is about a half as long as aedeagus, not saddle-shaped but twofold, with the right ventral lobe narrower in apical part than the left dorsal one. Styles small, left style a little larger than the right and devoid of ventral apophysis, each bearing four to six short setae at the apex.

Type series. Holotype: ♂, allotype: ♀, 30-IV-2007, H. MIYAMA leg. Paratypes: 2 ♂♂, 5-V-2007, H. MIYAMA leg. All deposited in the collection of the Department of Zoology, National Museum of Nature and Science, Tokyo.

Type locality. Mitaké, 90–100 m in altitude on the northwestern slope, in Kamiagata-chô at the northern part of the Tsushima Islands, West Japan.

Notes. The type locality of this new species is isolated to the northern part of Kami-jima (north island) and is most widely distant from any of the other known localities of the Tsushima species of *Coreoblemus*. It is 21.1 km distant to the north-northeast in a beeline from the Nuka-daké Hills, the type locality of *C. venustus* (cf. Fig. 1). The only known habitat of *C. miyamai* was discovered at the upper part of a gully located on the northwestern slope of Mitaké (479 m in height). The trechine beetle was found, in coexistence with *Daiconotrechus tsushmanus*, which is another endogean species to be described on later pages, from beneath scattered shale embedded in the moist clayey ground.

This new species is named after Mr. Hiroshi MIYAMA, who has much contributed to the clarification of the trechine fauna of West Japan.

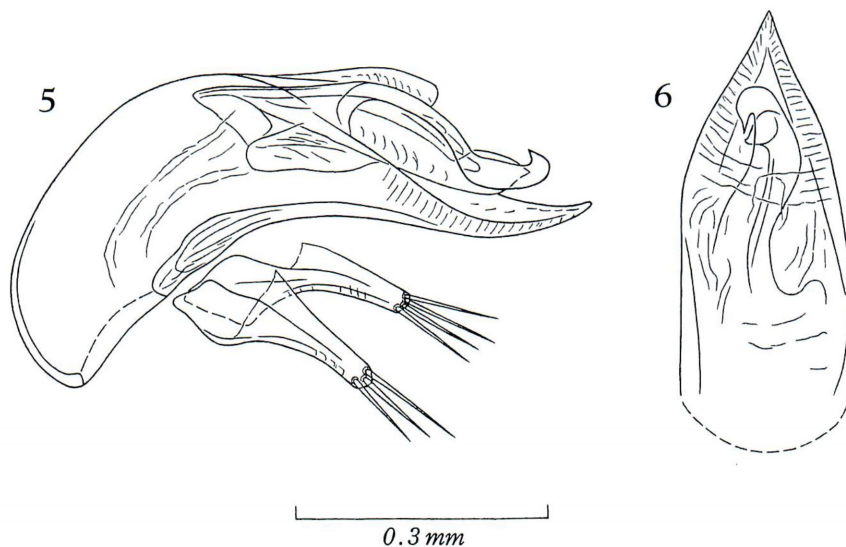
Coreoblemus sejimai S. UÉNO, sp. nov.

(Figs. 4–6)

Length: 2.53–2.73 mm (from apical margin of clypeus to apices of elytra).

Again very closely similar to *C. venustus* in external morphology, but slightly larger on an average and different in configuration of pronotum which is slightly narrower and a little less contracted at both apex and base. Strikingly different from *C. venustus*, and also from *C. miyamai*, in conformation of aedeagus as will be described on later pages.

Colour, microsculpture and chaetotaxy as in *C. venustus*. Head as in *C. venustus*; HW/HL 1.18 in the holotype ♂ (H), 1.25 in the allotype ♀ (A); antennae reaching basal two-ninths of elytra in H, nearly basal fourth in A. Pronotum somewhat narrower than in *C. venustus*, widest at five-sevenths from base, and less contracted at both apex and base; PW/HW 1.26 in H, 1.14 in A, PW/PL 1.20 in H, 1.17 in A, PW/PA 1.26 in H, 1.21 in A, PW/PB 1.65 in H, 1.58 in A; sides more widely arcuate than in *C. venustus* though less strongly in front, a little more deeply sinuate at about basal sixth, and then



Figs. 5–6. Male genitalia of *Coreoblemus sejimai* S. UÉNO, sp. nov., from Shira-také in Shimo-jima (south island) of the Tsushima Islands; left lateral view (5), and apical part of aedeagus, dorsal view (6).

slightly convergent or subparallel towards hind angles, which are either rectangular or minutely denticulate at the tips; base narrower than apex but not so narrow as in *C. venustus*, PA/PB 1.30 in both H and A; dorsum as in *C. venustus*. Elytra almost identical with those of *C. venustus*; EW/PW 1.44 in H, 1.47 in A, EL/PL 2.91 in H, 2.77 in A, EL/EW 1.68 in H, 1.61 in A. Ventral surface and legs as in *C. venustus*.

Male genital organ evidently larger than in the other Tsushima species of *Coreoblemus*, rather heavily sclerotized, and almost incredibly different in conformation from those of the two other congeners. Aedeagus short and robust, nearly three-sevenths as long as elytra, almost as high as wide, lightly arcuate except for apical fourth, and not angulate at the parameral articulation; basal part fairly large, with large basal orifice, whose sides are hardly emarginate; sagittal aileron absent; viewed dorsally, apical part symmetrical, subtriangular, rapidly narrowed towards the tip of apical lobe, which is acutely pointed; viewed laterally, apical lobe recurved, rather rapidly tapered, and acute at the extremity; ventral margin distinctly sinuate in profile except for basal part. Inner sac armed with a large, heavily sclerotized copulatory piece about three-fifths as long as aedeagus, bilobed in apical half, and protrudent from apical orifice; right dorsal lobe narrow, sigmoidally curved, and recurrent at the apex, which is acute; left ventral lobe broader and slightly shorter than the right, dextrally curved and pointed at the apex, though not so acutely pointed as in the right dorsal one. Styles small, of similar size, left style devoid of ventral apophysis; in the holotype, right style quadrisetose, while the left one bears only three apical setae.

Type series. Holotype: ♂, allotype: ♀, 3-V-2007, S. SEJIMA leg. Deposited in the

collection of the Department of Zoology, National Museum of Nature and Science, Tokyo.

Type locality. Shira-také, 100–110 m in altitude near Maé-také, in Mitsushima-chô at the southern part of the Tsushima Islands, West Japan.

Notes. Because of the peculiar modification of the aedeagus and copulatory sclerite, this new species may be considered to form a species-group of its own, but this view should be denied by the fact that it is identical with the other Tsushima species in most external character states. Particularly important is the unique modification of the protarsomeres in the male, which is common in all the three Tsushima species of *Coreoblemus* but is not observed in the Korean members of the same genus (cf. UÉNO, 1969, p. 66; PARK *et al.*, 2002*).

Shira-také, the type locality of *C. sejimai*, is the highest point (518 m in height) in the northern part of Shimo-jima (south island) and is largely covered with evergreen broadleaved forest. It is only 14.9 km distant to the south-southwest in a beeline from the Nuka-daké Hills, the type locality of *C. venustus*, but lies on the opposite side of Asô Bay. The pair of the type specimens of *C. sejimai* were taken in a gully near the eastern foot of the hill from beneath stones embedded in a clayey ground.

This remarkable new species is named in honour of Mr. Shoma SEJIMA who discovered both *Coreoblemus* and *Daiconotrechus* on Shira-také Hill.

Subgenus *Tsiblemus* S. UÉNO, nov.

Type species: *Daiconotrechus tsushmanus* S. UÉNO, sp. nov.

Fundamentally similar to *Daiconotrechus* S. UÉNO, s. str. (1971, p. 182), but evidently different in less parallel-sided body with more convex dorsum and slenderer appendages, hairy dorsal surface of head and prothorax, glabrous maxillary palpi, longer basal part of pronotum, elongated oval elytra without distinct shoulders, each bearing a short oblique concavity at the base for receiving pronotal hind angle, imperfectly aggregated humeral and very widely separated middle sets of marginal umbilicate pores, and imperfectly differentiated copulatory piece inside the aedeagal inner sac.

Notes. The diagnostic account of the new subgenus given above may be regarded as that of an independent genus. However, the two Tsushima species to be described below share so many basic character states with *Daiconotrechus iwatai* (S. UÉNO), the type of the genus, that they can be safely considered to be congeneric with the latter. The most important similarity between them is found in the elongate body form, conformation of buccal appendages with the exception of imperfectly fused labium, simple mental tooth and glabrous maxillary palpi, wholly pubescent elytra without marginal serrulation, diagnostic striation and chaetotaxy, conformation of legs, and unusually long, slender aedeagus.

* Modification of the male protarsi is not shown in the original illustration of *C. namkungi* (p. 182), but is correctly described in the text (p. 184).

Range. Endemic to the Tsushima Islands lying between West Japan and South Korea.

Etymology. The new subgeneric name *Tsuiblemus* is derived from the area of its occurrence, *Tsu-shima*, which means a port island in old Japanese. *Blemus* is a Greek word meaning a coverlet, and is often used for the stem of trechine names, especially for the genera of elongate facies of the *Trechoblemus* complex.

Daiconotrechus (Tsuiblemus) tsushmanus S. UÉNO,
subgen. et sp. nov.

(Figs. 7–9)

Length: 3.70–3.73 mm (from apical margin of clypeus to apices of elytra).

Distinguished at first sight from *Daiconotrechus* (s. str.) *iwatai* (S. UÉNO) (1970, p. 610, figs. 4–6; 1971, p. 183, fig. 1; 1985, p. 88, pl. 16, fig. 28) from Ryûkei-dô Cave in the Island of Daikon-jima by large size, darker coloration and different facies, in addition to the diagnostic characters of the new subgenus.

Body elongate, with large head, broad prothorax and narrow elytra, anophthalmic, apterous and depigmented; microsculpture mostly obliterated on head and pronotum though its vestige is perceptible on frons as irregular meshes, clearly impressed on elytra as irregularly transverse reticulation. Concolorously dark reddish brown, shiny; ventral side of hind body somewhat lighter.

Head large, obviously wider than long, HW/HL 1.14–1.26 (M 1.20), widest at about basal two-sevenths, moderately narrowed anteriorly from there, and more rapidly so towards neck constriction, which is deeply marked at the sides; neck wide; dorsum depressed, sparsely covered with fairly long hairs, with clearly impressed frontal furrows, which are subangulate at middle, feebly and almost straightly divergent anteriorly, and widely divergent posteriorly towards neck constriction; frons weakly convex, frontal and suprafrontal setae not discriminated from long hairs; supraorbital areas moderately convex, with two pairs of supraorbital pores on lines divergent posteriorly, each closely located to the sides; eyes completely absent; genae tumid at the posterior parts, almost flat at the anterior parts, and sparsely covered with fairly long hairs; labrum widely dilated towards widely emarginate apex, forming narrow divergent lobes at the sides; mandibles broad at the bases, narrowly incurved at the apical parts, and acute at the extremities, basal one of retinacular teeth on right mandible small and obtuse; mentum imperfectly fused with submentum, the former bearing simple mental tooth, and the latter bearing a transverse row of seven or eight setae; palpi fairly slender, penultimate palpomere about as long as apical palpomere in labial palpus, obviously shorter than apical palpomere and completely glabrous in maxillary palpus; antennae fairly long and slender, reaching apical third of elytra in ♂, extending slightly beyond the middle of elytra in ♀, pedicel the shortest, about three-fourths as long as scape and about four-sevenths as long as antennomere 3 which is the longest, antennomeres 4–7

nearly equal in length to one another, each about four-fifths as long as antennomere 3, subcylindrical, and fully 3.5 times as long as wide, antennomeres 8–10 slightly decreasing in length towards terminal antennomere, which is slightly longer than antennomere 7 and narrower than scape.

Pronotum subcordate, wider than head, a little wider than long, widest at about five-sevenths from base, and contracted posteriad; PW/HW 1.15–1.20 (M 1.18), PW/PL 1.11–1.12 (M 1.11), PW/PA 1.25–1.29 (M 1.28), PW/PB 1.59–1.63 (M 1.60); sides narrowly bordered and not ciliated, moderately arcuate in front, briefly straight at middle, shallowly but distinctly sinuate at about basal fourth, and then slightly convergent towards hind angles, which are nearly rectangular or somewhat sharp, with two pairs of marginal setae, of which the anterior pair is located at about two-ninths from apex and the posterior one nearly on hind angles; apex much wider than base, either straight or slightly emarginate, PA/PB 1.24–1.27 (M 1.26), with obtuse front angles which are hardly produced forwards; base widely emarginate at middle and briefly straight on each side just inside hind angle; dorsum gently convex, rather steeply declivous at the sides, sparsely covered with fairly long hairs; discal setae indistinguishable being masked by long hairs; median line sharply impressed on the disc, reaching neither apex nor base; apical transverse impression mal-defined; basal transverse impression shallow and uneven, merging on each side into small basal foveae which are deep and smooth at the bottom; basal part relatively long, more or less uneven, and longitudinally notched along basal margin. Scutellum invisible.

Elytra elongated oval, wider than pronotum, much longer than wide, widest at about or slightly before middle, and equally narrowed towards bases and towards apices; EW/PW 1.38–1.40 (M 1.39), EL/PL 2.47–2.64 (M 2.53), EL/EW 1.61–1.67 (M 1.64); each elytron with a narrow oblique concavity at the external side of the base for receiving pronotal hind angle; shoulders effaced; sides smooth, narrowly bordered and ciliated throughout, feebly arcuate from the external corner of basal concavity to the level of the eighth pore of the marginal umbilicate series, apices feebly, widely and almost conjointly rounded; dorsum gently convex though widely depressed on the disc, with a transverse impression in basal areas which is externally delimited on each side by a brief obtuse carina formed by the basal portion of interval 5; striae shallow though entire on the disc, indistinctly crenulate, striae 1–4 deepened in basal impression, 6–7 effaced, 8 deeply impressed behind middle but fragmentary in anterior part; scutellar striole absent; apical striole short but fairly deep, incurved at the anterior part and joining to stria 3; intervals fairly wide on the disc, each with an irregular row (partly rows) of short suberect pubescence, interval 1 raised at the proximal end, 2–5 wide at middle, (6) + (7) narrower than 5, apical carina obtuse; stria 3 with two setiferous dorsal pores at about $3/10$ and $3/5-2/3$ from base, respectively; preapical pore with long stout seta, located at the apical end of stria 2 in the field of apical striole, and more distant from apex than from suture; marginal umbilicate pores imperfectly aggregated, four pores of the humeral set adjoining marginal gutter and the three posterior ones are ranged equidistantly, but the first pore is apart forwards, two pores of the middle set

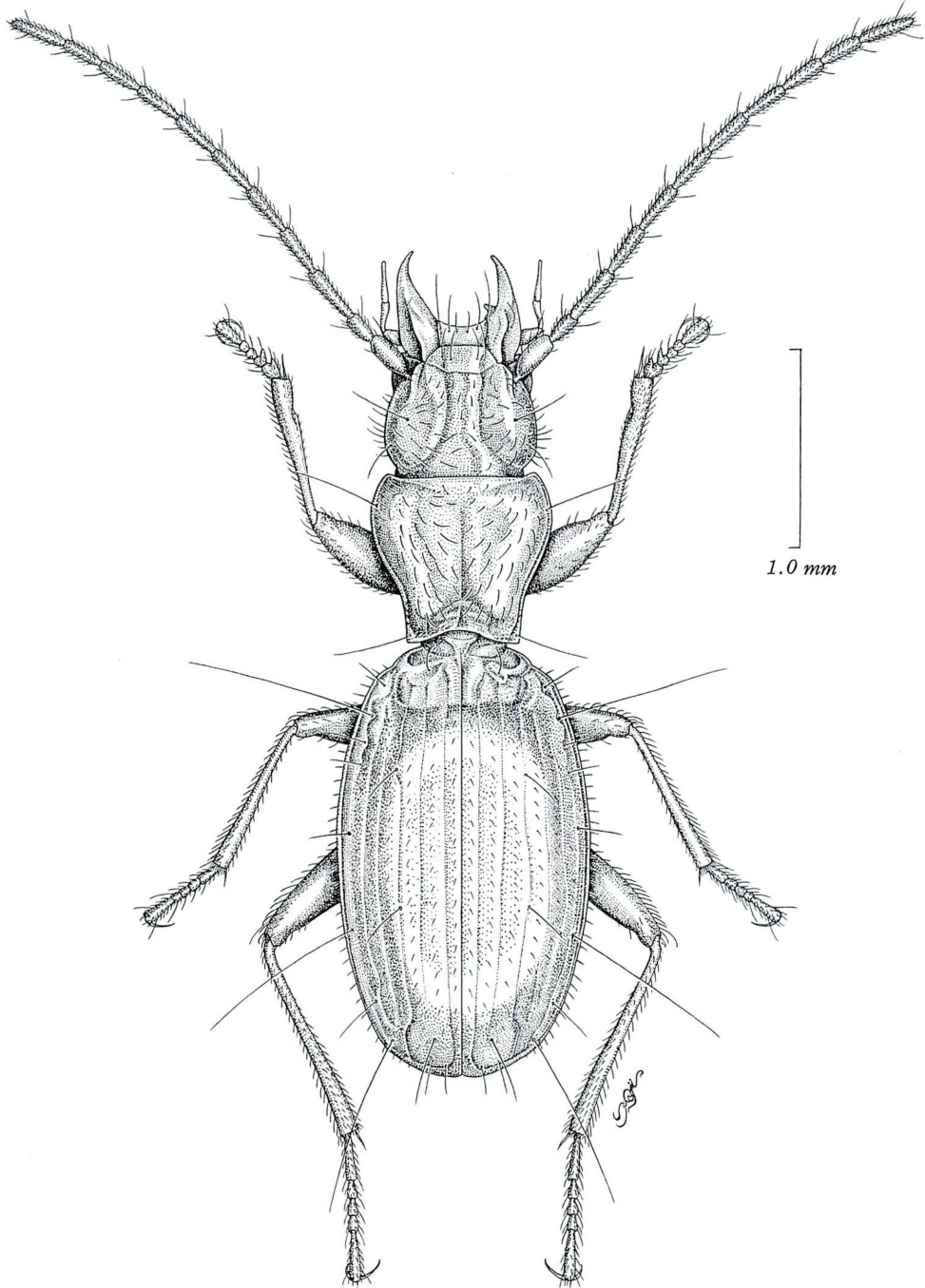


Fig. 7. *Daiconotrechus (Tsuiblemus) tsushmanus* S. UENO, subgen. et sp. nov., ♂, from Mitaké in Kami-jima (north island) of the Tsushima Islands.

widely spaced, pore 5 being located nearer to pore 4 than to pore 6; pore 5 sometimes duplicated.

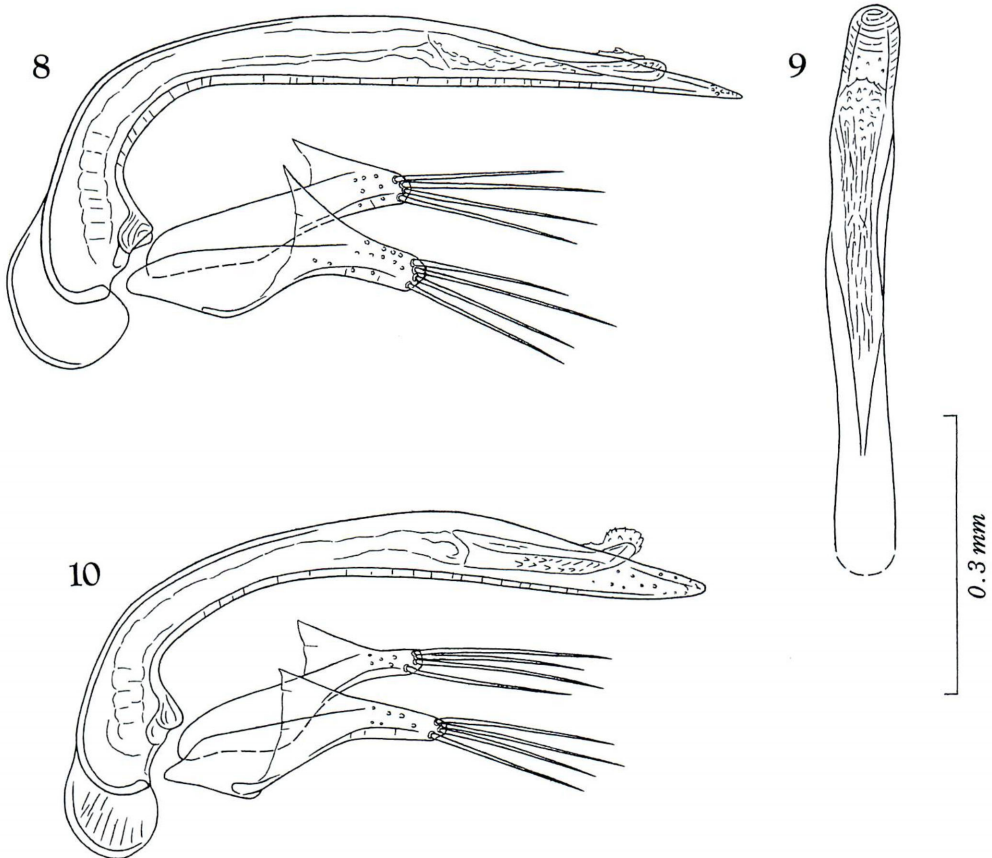
Ventral surface sparsely pubescent except for lateral parts; each ventrite with a pair of paramedian setae; anal ventrite provided with a pair of marginal setae in ♂, with two pair of them in ♀. Legs relatively long and slender; protibiae gently dilated towards apices, slightly arcuate at the apical parts, entirely pubescent and not externally grooved; mesotibia about one-third as long as elytra, metatibia about a half as long as elytra; tarsi fairly stout, mesotarsus about four-sevenths as long as mesotibia, metatarsus about three-fourths as long as metatibia; tarsomere 1 obviously shorter than tarsomeres 2–4 combined in mesotarsus, only very slightly shorter than that in metatarsus; in ♂, protarsomere 1 widely dilated, about as wide as long, protarsomere 2 hardly dilated and similar to protarsomere 3, both bearing remarkably produced apico-internal spurs acute at the apices and furnished beneath with adhesive appendages.

Male genital organ lightly sclerotized. Aedeagus three-eighths as long as elytra, unusually long and slender, tubular, almost rectangularly curved just behind basal part, and entirely straight for the remaining three-fourths; in lateral view, dorsal margin very slightly arcuate at middle and slightly emarginate at about apical fourth, the emargination being indicative of the original level of the aedeagal apex before the exceeding elongation of aedeagus; ventral margin not emarginate in profile; basal part small, with small basal orifice whose sides are not emarginate; sagittal aileron large and broad; viewed dorsally, apical part parallel-sided, and widely rounded at the apex; viewed laterally, apical part narrow, gradually and straightly tapered towards pointed extremity. Inner sac small, containing an imperfectly differentiated copulatory piece, which is small, narrow and hyaline, only a rounded lamella being recognisable as the apical portion of mal-developed copulatory piece. Styles with short apical parts, left style only a little longer than the right and devoid of ventral apophysis, each bearing four long setae at the apex.

Type series. Holotype: ♂, 1-V-2007, H. MIYAMA leg. Allotype: ♀, paratype: 1♀, 2-V-2007, S. SEJIMA leg. All deposited in the collection of the Department of Zoology, National Museum of Nature and Science, Tokyo.

Type locality. Mitaké, 90–100 m in altitude on the north-western slope, in Kamiagata-chô at the northern part of the Tsushima Islands, West Japan.

Notes. This new species is one of the blind trechine most unfamiliar in facies. Since the trechine fauna of Japan is reasonably well known now, occurrence of such a strange species in the Tsushima Islands is most unexpected and surprising. As was noted in a recent paper (UÉNO & NAITÔ, 2007, pp. 11–12), we have long been unable to find out any additional species of *Daiconotrechus*, in spite of repeated searches made in the Japan Sea side areas of western Honshu that were surmised to be included in the hypothetical distributional range of the genus. Further surprise was the apparent speciation of *Daiconotrechus* between the two main islands of the Tsushimas, which had not yet been detected due to the close external similarity of the sibling species when the paper cited above was prepared (p. 12, foot-note).



Figs. 8-10. Male genitalia of *Daiconotrechus (Tsuiblemus)* spp., from the Tsushima Islands; left lateral view (8, 10), and dorsal view of aedeagus (9). — 8-9. *D. (T.) tsushmanus* S. UÉNO, subgen. et sp. nov., from Mitaké in Kami-jima (north island). — 10. *D. (T.) breviculus* S. UÉNO, sp. nov., from Shira-také in Shimo-jima (south island).

As was already mentioned, *Daiconotrechus tsushmanus* was found in coexistence with *Coreoblemus miyamai*. Both of them were not very agile when exposed.

Daiconotrechus (Tsuiblemus) breviculus S. UÉNO, sp. nov.

(Fig. 10)

Length: 3.28-3.43 mm (from apical margin of clypeus to apices of elytra).

Closely similar to *D. tsushmanus* in external morphology, but smaller, with elytra a little shorter on an average, and modification of male protarsi less pronounced. Decisively different from *D. tsushmanus* in configuration of aedeagus, which is evidently shorter, gently arcuate before middle, and not rectangularly curved behind basal part.

Identical with *D. tsushmanus* in general facies, coloration, and details of most other external features. Head as in *D. tsushmanus*, HW/HL 1.23–1.26 (M 1.25); antennae reaching apical two-fifths of elytra in ♂, middle of elytra in ♀, Pronotum identical with that of *D. tsushmanus*, PW/HW 1.19–1.22 (M 1.21), PW/PL 1.08–1.11 (M 1.10), PW/PA 1.26–1.30 (M 1.28), PW/PB 1.62–1.63 (M 1.62), PA/PB 1.25–1.29 (M 1.27). Elytra a little shorter on an average than those of *D. tsushmanus*, widest slightly before middle; EW/PW 1.38–1.43 (M 1.40), EL/PL 2.45–2.50 (M 2.47), EL/EW 1.57–1.64 (M 1.61); sides a little more gently arcuate, and more widely rounded at apices; dorsum as in *D. tsushmanus*, but the striae are more superficial at the side, stria 5 either evanescent or fragmentary; no scutellar stria; apical stria as in *D. tsushmanus*, always incurved and connected with stria 3; chaetotaxy as in *D. tsushmanus*.

Ventral surface and legs as in *D. tsushmanus*, but the apico-internal projections of the male protarsomeres 1 and 2 are shorter and stouter than in the latter.

Male genital organ of the same type as that of *D. tsushmanus*, but the aedeagus is obviously shorter, only slightly more than one-third as long as elytra, gently arcuate before middle, not rectangularly curved behind basal part, highest behind middle, and in lateral view, gradually tapered towards apex which is very slightly recurved and blunt at the extremity; in dorsal view, almost identical with that of *D. tsushmanus*. Inner armature and styles as in *D. tsushmanus*.

Type series. Holotype: ♂, allotype: ♀, paratype: 1 ♂, 3–V–2007, S. SEJIMA leg. Deposited in the collection of the Department of Zoology, National Museum of Nature and Science, Tokyo.

Type locality. Shira-také, 100–110 m in altitude near Maé-take, in Mitsushima-chô at the southern part of the Tsushima Islands, West Japan.

Notes. This new species is isolated on Shira-také Hill lying at the northern part of Shimo-jima (south island). It is about 36 km distant in a beeline from Mitaké, the type locality of *D. tsushmanus*, to the south-southwest beyond Asô Bay. As in the gully on the northwestern slope of Mitaké, where *Daiconotrechus tsushmanus* coexists with *Coreoblemus miyamai*, *D. breviculus* was found in coexistence with *C. sejimai* in a gully near the eastern foot of Shira-také. At first sight, speciation seems more advanced in *Coreoblemus* than in *Daiconotrechus*, but this impression is simply caused from the peculiar modification of the male genitalia in *C. sejimai*. It is most probable that the members of the two genera have become differentiated through the same process of speciation.

要 約

上野俊一：対馬に分布する盲目のチビゴミムシ類。—— 対馬からはこれまで、ツシマメクラチビゴミムシただ 1 種が、盲目地中性のチビゴミムシとして知られていた。ところが今年の春に、上島の御嶽と下島の白嶽で、それぞれ 2 種の地中性メクラチビゴミムシが発見された。いっぽう

はツシマメクラチビゴミムシに近縁のものであることが明らかだったが、大型の他方はかなり特異な種で、類縁関係の即断がためられた。しかし精査の結果、島根県の溶岩洞にすむイワタメクラチビゴミムシと、多くの形質を共有することが明らかになり、同属の別亜属を形成するものと考えるのが妥当だろうという結論になったので、ホソメクラチビゴミムシ亜属 *Tsuiblemus* という新亜属を設けた。また、チョウセンメクラチビゴミムシ属 *Coreoblemus* とダイコンメクラチビゴミムシ属 *Daiconotrechus* のいずれも、対馬の上島と下島とのあいだで種分化を起こし、前者は既知のツシマメクラチビゴミムシとも別の種に分化していることがわかったので、4新種をまとめてこの論文に記載し、ミタケメクラチビゴミムシ *Coreoblemus miyamai* S. UÉNO (御嶽)、セジマメクラチビゴミムシ *C. sejimai* S. UÉNO (白嶽)、ホソメクラチビゴミムシ *Daiconotrechus (Tsuiblemus) tsushmanus* S. UÉNO (御嶽)、シラタケホソメクラチビゴミムシ *D. (T.) breviculus* S. UÉNO (白嶽) という新名を与えた。チョウセンメクラチビゴミムシ属の2種は、それぞれの発見者である見山 博氏と瀬島翔馬氏とに捧げたものである。

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