

New Upper Hypogean *Trechiana* (Coleoptera, Trechinae)  
from the Northeastern Corner of the Island of  
Shikoku, Southwest Japan

Shun-Ichi UÉNO

Department of Zoology, National Museum of Nature and Science,  
3–23–1 Hyakunin-chô, Shinjuku, Tokyo, 169–0073 Japan

**Abstract** Two new upper hypogean species of the trechine genus *Trechiana* are described from the sandstone hill Ôasa-yama isolated at the northeastern corner of the Island of Shikoku, Southwest Japan. One of them belongs to the *reductoculatus* group and is mainly characterised by the multiplication of dorsal setae on the elytra. The other resembles the members of the *imadatei* complex of the *habei* group in general appearance, but is unique in the presence of short hairs on the pronotal disc and of only three dorsal setae of the external series on the elytra. A new species-group of its own is recognised for this species. The new names given are *Trechiana* (s. str.) *sakuragii* S. UÉNO and *T.* (s. str.) *uzushio* S. UÉNO.

At the northeastern corner of the Island of Shikoku facing the Naruto Straits, there is an isolated sandstone hill called Ôasa-yama, from which no blind trechine beetles have previously been known, although most nearby hills are inhabited by certain blind trechines. It was therefore quite unexpected that a peculiar *Trechiana* was dug out by Daisuke SAKURAGI from the upper hypogean zone on the northeastern slope of the hill on February 11, 2008. Further investigations made by himself, Masataka YOSHIDA and Kôji TANAKA revealed that it was not easy to take additional specimens by naked eyes due to paucity of favourable sites for excavation. For this reason, they concentrated their energies on setting baited traps into the upper hypogean zone, and accomplished very satisfactory results.

First of all, they found out the coexistence of two different species of *Trechiana* belonging to two different lineages, both of which were theretofore unknown from the Island of Shikoku. One of them belongs to the *reductoculatus* group, which was represented so far by only a single isolated species known from the western part of the Kii Peninsula. The other species resembles the *imadatei* complex from the eastern part of the Kii Peninsula, but seems to form a new species-group of its own in view of certain peculiarities. This species is more widely distributed on the sandstone hill than the other one, and is unusually variable in size and other details. At the northeastern end of its range, its habitat almost reaches the rocky shore of the Naruto Straits (Figs. 1, 2).

In the present paper, I am going to describe these new species under the names



Figs. 1-2. — 1. Type habitat of *Trechiana* (s. str.) *uzushio* S. UÉNO, sp. nov., at Kitadomari of Seto-chô in Naruto-shi. White things scattered along the seashore are plastic rubbish washed up by the tide of the Naruto Straits. — 2. Close-up of the right lower part of Figure 1, taken from a different viewpoint; trechine beetles were taken from under the roots of the heartleaf lily at the right central part. (Photo Masataka YOSHIDA)

*Trechiana* (s. str.) *sakuragii* and *T.* (s. str.) *uzushio*. The abbreviations employed herein are the same as those explained in previous papers of mine.

Before going into further details, I wish to express my heartfelt thanks to Messrs. Masataka YOSHIDA, Kôji TANAKA and Daisuke SAKURAGI for their painstaking efforts to clarify the trechine fauna of Ôasa-yama Hill and its vicinities.

*Trechiana* (s. str.) *sakuragii* S. UÉNO, sp. nov.

(Figs. 3–5)

Length: 5.10–6.10 mm (from apical margin of clypeus to apices of elytra).

Closely similar in facies including standard ratios to *T. reductoculatus* S. UÉNO (1992, p. 24, figs. 1–3) from Ta in Misato-chô at the western part of the Kii Peninsula, but distinguished at first sight from it by the multiplication of dorsal setae on elytra, particularly those of the external series. Decisively different from *T. reductoculatus* also in the configuration of aedeagus, which is obviously narrower in profile, with the apical lobe subparallel-sided in apical half in dorsal view, and containing differently shaped inner armature.

Colour as in *T. reductoculatus*. Microsculpture identical with that of *T. reductoculatus*.

Head subquadrate, usually a little wider than long, HW/HL 0.95–1.45 (M 1.11); genae slightly convex just before neck constriction, which is shallow though distinct; eyes atrophied, more reduced than in *T. reductoculatus*, hardly faceted, and sometimes not recognisable even as a trace; mandibles fairly slender, feebly arcuate inwards near acute apices; antennae fairly slender, usually reaching apical three-sevenths of elytra.

Pronotum cordate, evidently wider than head, about as wide as or slightly wider than long, widest at about two-thirds from base, and a little more strongly contracted at apex than at base; PW/HW 1.39–1.54 (M 1.45), PW/PL 0.96–1.11 (M 1.04), PW/PA 1.41–1.54 (M 1.47), PW/PB 1.33–1.46 (M 1.39), PB/PA 1.01–1.12 (M 1.06); sides strongly arcuate in apical two-thirds, deeply sinuate at about basal fourth or fifth, and then either subparallel or slightly divergent towards hind angles, which are either rectangular or somewhat sharp; front angles fairly large, rounded, and slightly produced forwards; base almost straight at middle or slightly emarginate; sculptures as in *T. reductoculatus*.

Elytra oval, somewhat larger and slightly more elongate than in *T. reductoculatus*, widest at about or slightly before middle, and equally narrowed towards bases and towards apices; EW/PW 1.65–1.76 (M 1.70), EL/PL 2.69–3.09 (M 2.85), EL/EW 1.54–1.65 (M 1.60); shoulders distinct though rounded, with moderately arcuate prehumeral borders whose innermost portions are not conspicuously oblique; sides narrowly bordered near bases, moderately so posteriad; apices rather narrowly rounded; dorsum longitudinally depressed on the disc, steeply declivous at the sides and in apical area; striae nearly entire though becoming shallower at the side, finely punctate on the disc, and frequently disordered at the sites of setiferous dorsal pores, stria 3 usually forming

apical anastomosis with 4 and then with 2; scutellar striole short; apical striole deep, feebly arcuate, and either joining or almost joining stria 5; chaetotaxy variable on dorsum, stria 3 with two to five setae between 1/9 and 4/5 from base, stria 5 with three to five setae between 1/5 and 3/4 from base; preapical pore located at the apical anastomosis of striae 2 and 3, and closer to suture than to apex; marginal umbilicate pores aggregated.

Ventral surface and legs as in *T. reductoculatus*.

Male genital organ small though moderately sclerotised. Aedeagus two-sevenths as long as elytra, somewhat depressed, highest before the middle, and moderately arcuate from basal end to the tip of apical lobe; basal part fairly small, with large basal orifice whose sides are deeply emarginate; sagittal aileron small though distinct; viewed laterally, apical lobe long and narrow,<sup>1)</sup> gradually tapered towards the tip, which is very slightly upturned; viewed dorsally, apical lobe abruptly narrowed behind apical orifice, then subparallel-sided to narrowly rounded extremity; ventral margin regularly arcuate in profile. Inner sac armed with two patches of sclerotised teeth, left lateral and dorso-apical; left lateral teeth-patch composed of a row of large teeth bent at the apical end; dorso-apical one composed of short small teeth linearly ranged inside apical orifice; no differentiated copulatory piece. Styles short, left style much larger than the right, each usually bearing four apical setae, which are sometimes supplemented with extra seta(e).

*Type series.* Holotype: ♂, Awata 170 m, 2-III-2008, D. SAKURAGI leg. Allotype: ♀, Awata 190 m, 11-V-2008, K. TANAKA leg. (found in a baited trap set by K. TANAKA on 5-V-2008). Paratypes: 1 ♂, Awata 190 m, 22-III-2008, D. SAKURAGI leg.; 1 ♂, Awata 170 m, 11-V-2008, K. TANAKA leg. (found in a baited trap set by K. TANAKA on 5-V-2008); 1 ♂, 3 ♀♀, Awata 170 m, 26-XI-2008, K. TANAKA leg. (found in baited traps set by K. TANAKA on 8-XI-2008); 1 ♂, Awata 190 m, 26-XI-2008, M. YOSHIDA leg. (found in a baited trap set by M. YOSHIDA on 8-XI-2008); 1 ♀, Nakatani, 11-II-2008, D. SAKURAGI leg.; 1 ♂, Nakatani, 16-III-2008, K. TANAKA leg.; 3 ♀♀, Nakatani, 11-V-2008, K. TANAKA & M. YOSHIDA leg. (found in baited traps set by K. TANAKA & M. YOSHIDA on 5-V-2008); 1 ♂, 4 ♀♀, Hidonodani, 29-IV-2008, K. TANAKA leg.

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

*Localities of the type series.* Awata (type locality!), 170 m & 190 m in altitude, of Kitanada-chô; Nakatani, 130 m in altitude, of Bandô-dani in Ôasa-chô; and Hidonodani, 130 m in altitude, in Ôasa-chô; all in Naruto-shi of Tokushima Prefecture, at the northeastern corner of the Island of Shikoku, Southwest Japan.

*Notes.* It was most unexpected that a second representative of the *reductoculatus* group should occur in the northeastern corner of the Island of Shikoku. Its habitats are

---

<sup>1)</sup> The curvature and thickness of the aedeagal apical lobe are subject to individual variation to some extent.

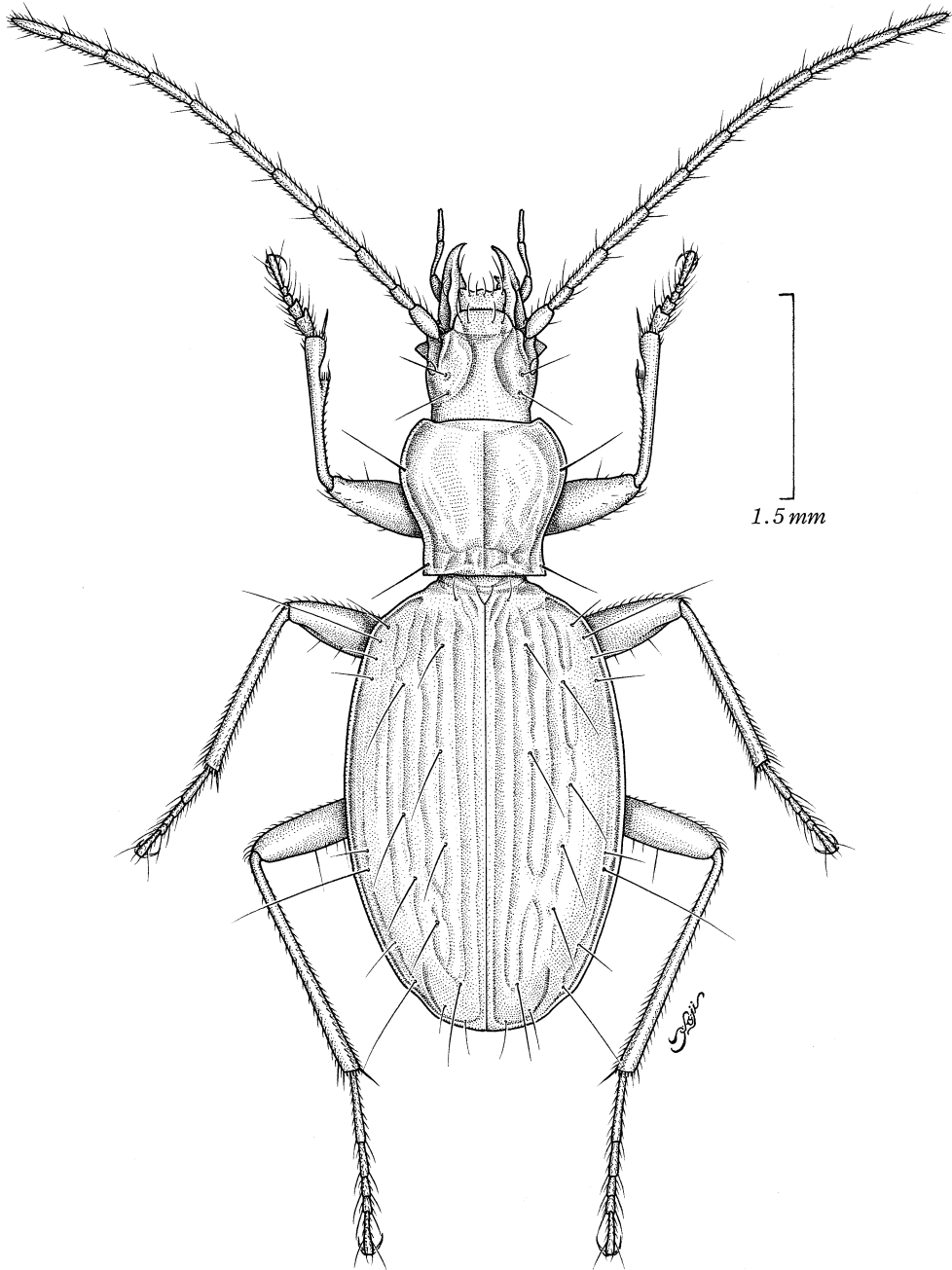
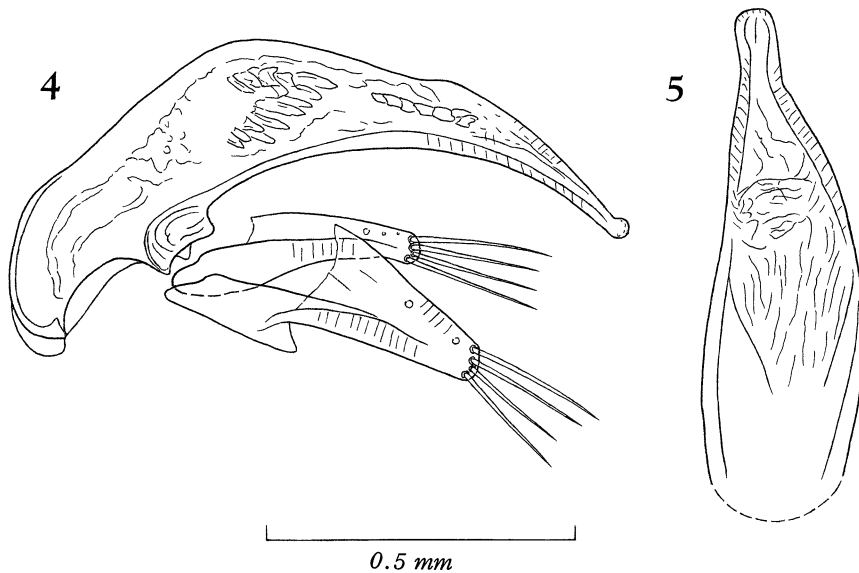


Fig. 3. *Trechiana* (s. str.) *sakuragii* S. UÉNO, sp. nov., ♂, from Awata on the northeastern slope of Ōasa-yama Hill.



Figs. 4-5. Male genitalia of *Trechiamma* (s. str.) *sakuragii* S. UÉNO, sp. nov., from Awata on the northeastern slope of Ôasa-yama Hill; left lateral view (4), and apical part of aedeagus, dorso-apical view (5).

not only distant for more than 60 km west by north in a beeline from the type locality of *T. reductoculatus*, but also separated from the latter by the Kitan and Naruto Straits at either side of the Island of Awaji-shima. It is true that the Naruto Straits separating Awaji-shima from Shikoku are only 1.5 km wide, but the only *Trechiamma* hitherto known from the former island (*T. onocoro* S. UÉNO, 1983, p. 355, figs. 3-4) belongs to a quite different group.

*Trechiamma sakuragii* has so far been known from three localities on the northeastern slope of Ôasa-yama Hill. The type locality Awata lies at the upper part of a small valley shaded by a mixture of deciduous and evergreen trees. Several individuals were dug out from the lower parts of screes at the roadside, but most specimens were caught by baited traps set in the upper hypogean zone at a depth of about 50 cm. Another blind species of the same genus, *Trechiamma uzushio* was usually found in coexistence with *T. sakuragii*.

The second locality of *T. sakuragii*, Nakatani is about 2.5 km distant to the south-southwest from the type locality, though at the other side of the watershed. It is similar to Awata in the environmental condition, and *T. uzushio* was also found in coexistence with *T. sakuragii*. Another locality, Hidonodani is only 700 m or so distant to the south-southeast from Nakatani. Though looking similar to the latter in every respect, *T. uzushio* has not been collected so far at this place.

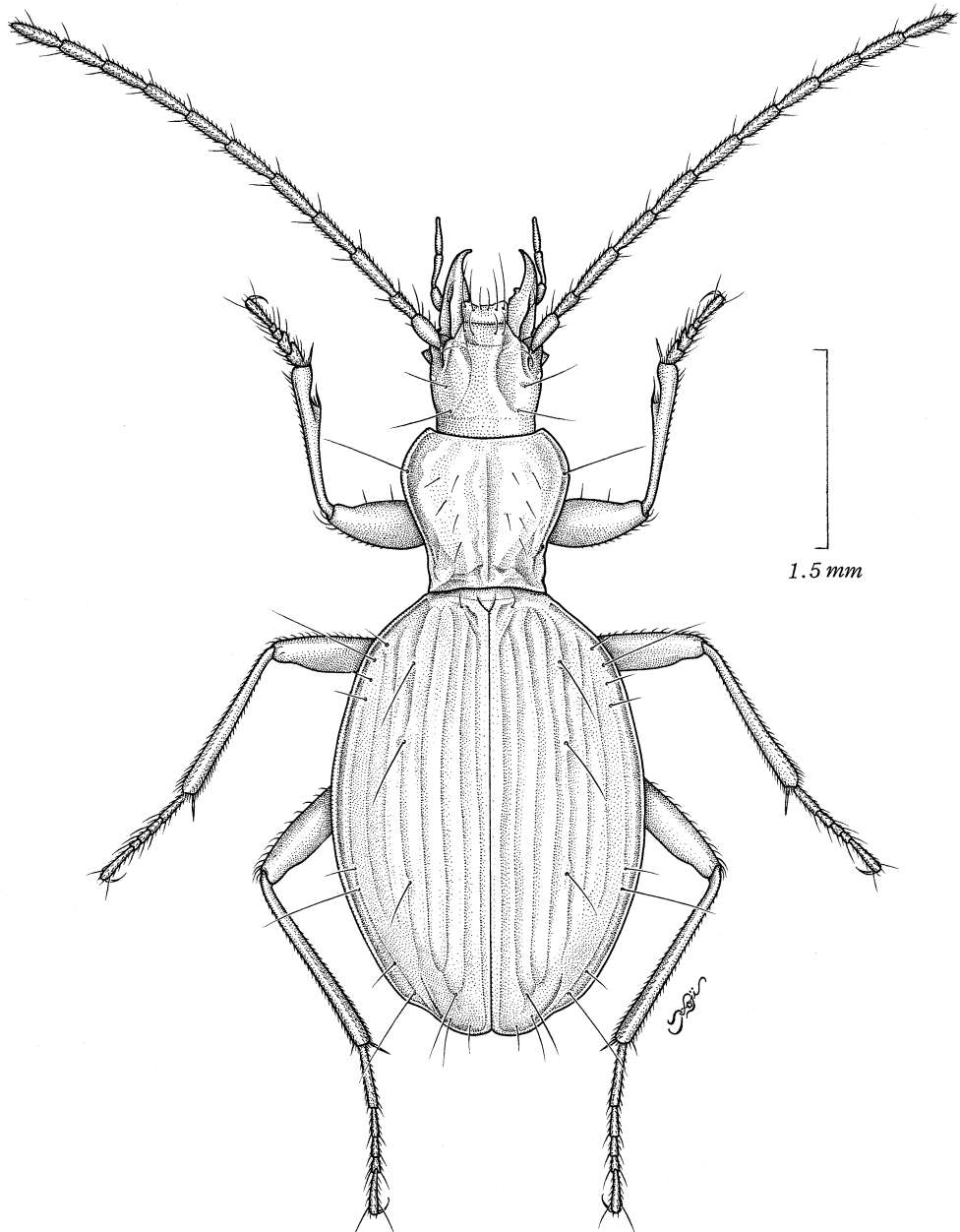


Fig. 6. *Trechiana* (s. str.) *uzushio* S. UÉNO, sp. nov., ♂, from Kitadomari of Seto-chô in Naruto-shi.

*Trechiana* (s. str.) *uzushio* S. UÉNO, sp. nov.

(Figs. 6–8)

Length: 5.10–6.00 mm (from apical margin of clypeus to apices of elytra; mean 5.57 mm).

A variable species similar in general appearance to *T. apicedentatus* S. UÉNO (1979, p. 116, figs. 1–4) from Koya-no-kômoriana Cave at the eastern part of the Kii Peninsula, but definitely different in the presence of short hairs on the pronotal disc, the external dorsal series of elytra consisting of three pores instead of two, and unique conformation of male genitalia.

Facies relatively broad, with ample hind body whose sides are oblique at the prehumeral parts. Colour usually dark reddish brown, more or less infuscated in fore body, shiny, and faintly iridescent on elytra; palpi pale; apical halves of antennae, ventral surface of hind body, and legs dark yellowish brown to brown. Microsculpture mostly consisting of fine transverse lines, partially of fine transverse reticulation, clearly impressed on head, less clearly so on pronotum, and largely degenerated on elytra.

Head subquadrate, depressed above, about as long as or slightly wider than long, widest a little behind middle, HW/HL 0.88–1.13 (M 1.05); genae slightly convex and glabrous, slightly convergent posteriad towards shallow neck constriction; neck wide; frontal furrows feebly curved though deeply impressed in front, widely divergent posteriad; frons and supraorbital areas gently convex, the latter bearing two pair of supraorbital setae on lines convergent posteriorly; labrum transverse, with the apical margin slightly convex at middle, especially in large individuals; mandibles fairly stout, with incurved apical parts acute at apices; mental tooth slightly bifid at the tip; palpi slender; antennae slender, reaching apical three-sevenths of elytra in ♂, apical two-fifths of elytra or a little shorter than that in ♀, antennomere 2 the shortest, about a half as long as antennomere 3 or 4, antennomeres 5–10 gradually decreasing in length, each about four times as long as wide.

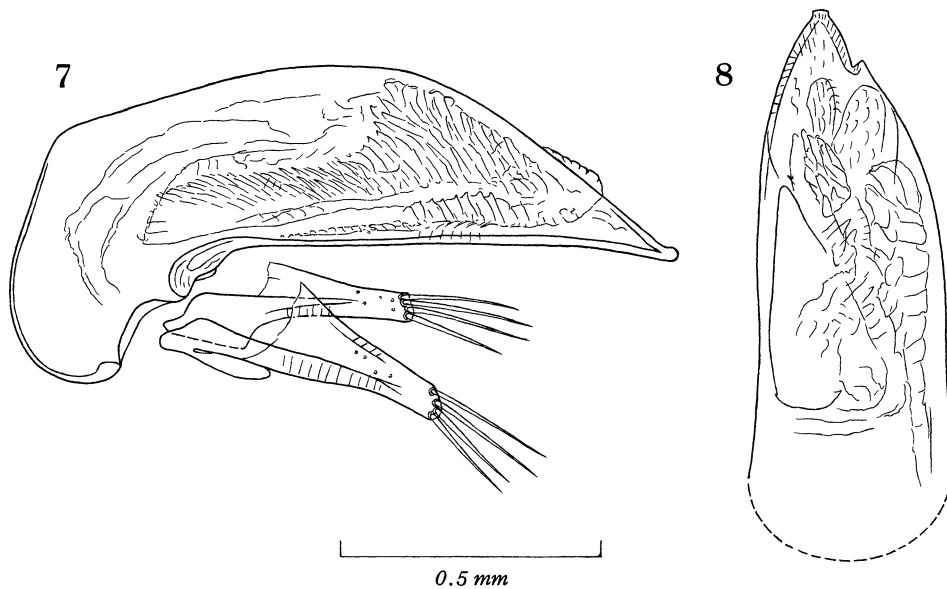
Pronotum cordate, much wider than head, usually a little wider than long, widest at about three-fourths from base, and almost equally contracted at apex and base; PW/HW 1.44–1.52 (M 1.49), PW/PL 1.01–1.10 (M 1.05), PW/PA 1.34–1.49 (M 1.45), PW/PB 1.28–1.49 (M 1.41); sides distinctly bordered throughout, rather strongly arcuate in apical third, nearly straight at middle, distinctly sinuate at about basal fourth or slightly before that level, and then usually subparallel to hind angles, which are either rectangular or somewhat sharp at the corners; apex either straight or slightly emarginate, about as wide as or slightly narrower than base, PB/PA 0.92–1.10 (M 1.03); front angles more or less produced forwards; base either straight or slightly oblique on each side just inside hind angle; dorsum gently convex, sparsely covered with short hairs, whose condition and density are to a considerable extent variable according to individuals, and frequently rubbed off; median line distinct, widened in basal area; apical transverse impression indistinct, basal one deep and arcuate, forming basal fovea on each side and extending anteriad; postangular carina short; basal area uneven.



Elytra oval, widest at about or a little before the middle, and a little less pointed at bases than at apices; EW/PW 1.74–1.89 (M 1.81), EL/PL 2.62–3.06 (M 2.77), EL/EW 1.41–1.51 (M 1.46); shoulders effaced, with prehumeral borders oblique and nearly straight; sides moderately bordered except for narrowly bordered prehumeral parts; apices rather narrowly rounded; dorsum gently convex on the disc, steeply declivous at the sides and in apical area; striae entire, impunctate, deeply impressed on the disc though becoming shallower at the side; scutellar striole short; apical striole lightly arcuate, either joining or almost joining stria 5; stria 3 devoid of setiferous dorsal pores; stria 5 with three setiferous dorsal pores at  $1/10$ – $1/8$ ,  $1/4$ – $1/3$  and  $3/5$ – $2/3$  from base, respectively; preapical pore located at the apical anastomosis of striae 2 and 3, and unusually close to elytral apex, being equally distant from apex and suture.

Ventral surface glabrous and smooth, ventrites 3–5 each bearing a pair of paramedian setae; anal ventrite with ordinary marginal setae. Legs fairly slender; protibiae straight, gradually dilated towards apices, and longitudinally grooved on the external face; metatibiae also straight, about a half as long as elytra; tarsi thin, tarsomere 1 about as long as tarsomeres 2–4 combined in mesotarsus, slightly shorter than that in metatarsus; protarsomeres 1 and 2 more or less dilated and inwardly protrudent at each apex in ♂; dilatation of ♂ protarsomeres is subject to individual variation to some extent.

Male genital organ fairly large and moderately sclerotised. Aedeagus thick, about three-eighths as long as elytra, about as wide as high at middle, hardly arcuate, and



Figs. 7–8. Male genitalia of *Trechiana* (s. str.) *uzushio* S. UENO, sp. nov., from Kitadomari of Seto-chô in Naruto-shi; left lateral view (7), and apical part of aedeagus, dorso-apical view (8).

widely membranous on dorsum, with dorsal margin gently arcuate at middle in profile; basal part small, rather strongly curved ventrad, with small basal orifice whose sides are moderately emarginate; sagittal aileron absent; viewed dorsally, apical part subtriangular, rather rapidly narrowed towards the extremity, which is minutely tuberculate; viewed laterally, apical part rather rapidly attenuate towards the extremity, which is minutely tuberculate dorsad; ventral margin nearly straight at middle in profile. Inner sac armed with two large patches of sclerotised teeth one above the other, both becoming larger at the apical parts; dorsal teeth-patch much larger than the ventral, its large apical part about a half as long as the teeth-patch, consisting of compactly ranged narrow corrugated plates, proximal part much narrower than the apical, dorsally covered with minute aciculate teeth; ventral teeth-patch a little shorter and obviously narrower than the dorsal, with much smaller apical part and much narrower proximal part; no differentiated copulatory piece, though the proximal part of the dorsal teeth-patch looks like a mal-differentiated sclerite. Styles short, left style longer than the right, each bearing four thin setae at the apex.

*Type series.* Holotype: ♂, 29-IV-2008, D. SAKURAGI leg. Allotype: ♀, 29-IV-2008, D. SAKURAGI leg. Paratypes: 5 ♀♀, 29-IV-2008, M. YOSHIDA & K. TANAKA leg. (found in baited traps set by M. YOSHIDA & K. TANAKA on 14-IV-2008); 10 ♂♂, 3 ♀♀, 26-XI-2008, K. TANAKA leg. (found in baited traps set by K. TANAKA on 8-XI-2008).

*Type locality.* Kitadomari, 4 m above sea-level, of Seto-chô in Naruto-shi, Tokushima Prefecture, at the northeastern corner of the Island of Shikoku, Southwest Japan.

*Further specimens examined.* 1 ♀, Awata 190 m, 2-III-2008, D. SAKURAGI leg.; 1 ♂, 1 ♀, Awata 170 m & 190 m, 29-IV-2008, D. SAKURAGI leg.; 1 ♂, Awata 190 m, 11-V-2008, K. TANAKA leg. (found in a baited trap set by K. TANAKA on 5-V-2008); 1 ♀, Awata 190 m, 26-XI-2008, M. YOSHIDA leg. (found in a baited trap set by M. YOSHIDA on 8-XI-2008); 1 ♀, Nakatani, 16-III-2008, M. YOSHIDA leg. (found in a baited trap set by M. YOSHIDA on 11-II-2008); 1 ♂, Kuratani, 11-I-2009, M. YOSHIDA leg. (found in a baited trap set by M. YOSHIDA on 23-XII-2008); 1 ♂, Munakeé-dani, 29-IV-2008, M. YOSHIDA leg. (found in a baited trap set by M. YOSHIDA on 14-IV-2008); 3 ♀♀, Munakeé-dani, 11-V-2008, M. YOSHIDA leg. (found in baited traps set by M. YOSHIDA on 5-V-2008); 1 ♂, Udatsu-goé, 11-V-2008, M. YOSHIDA leg. (found in baited traps set by K. TANAKA on 5-V-2008); 2 ♂♂, Udatsu-goé, 21-XII-2008, M. YOSHIDA leg. (found in a baited trap set by M. YOSHIDA on 26-XI-2008); 3 ♂♂, 1 ♀, Udatsu-goé, 21-XII-2008, K. TANAKA leg. (found in baited traps set by K. TANAKA on 26-XI-2008).

*Localities of the further specimens examined.* Awata 170 m & 190 m in altitude, in Kitanada-chô; Nakatani, 130 m in altitude, of Bandô-dani in Ôasa-chô; Kura-tani, 120 m in altitude, of Ohtani in Ôasa-chô; Munakeé-dani, 40 m in altitude, of Ohtani in Ôasa-chô; and Udatsu-goé, 210 m in altitude, of Orino in Kitanada-chô; all in Naruto-shi of Tokushima Prefecture, at the northeastern corner of the Island of Shikoku, Southwest Japan.

*Notes.* As was already pointed out, *Trechiana uzushio* is an unusually variable species, particularly in size and in the density of pronotal discal hairs. The description given above is based on the type series or 20 topotypical specimens, which mainly consist of relatively large individuals. The type locality Kitadomari lies on the shore of the Naruto Straits or at the northeastern end of the distributional range of the new species. At that point, the skirt of the sandstone hill was semicircularly scooped out by a landslide and formed a theatre-like place scattered with eulalia (*Miscanthus sinensis*) and heartleaf lily (*Cardiocrinum cordatum*) (cf. Figs. 1 and 2). The trechine beetle was caught by baited traps set about 50 cm below the roots of those plants near the lower edge of the “theatre”, which must be exposed to tidal splashes on windy days.

In contrast to the type population, the Awata population of *Trechiana uzushio* mainly consists of relatively small individuals (5.05–5.40 mm in size, mean 5.30 mm). Its location is 5.3 km southwest of the type locality and less than 200 m above sea-level. As was mentioned in the *Notes* following the description of *T. sakuragii*, *T. uzushio* was found at the upper part of a small valley shaded by a mixture of deciduous and evergreen trees. The standard ratios of the Awata specimens are as follows: HW/HL 1.00–1.15 (M 1.05), PW/HW 1.44–1.51 (M 1.47), PW/PL 0.98–1.08 (M 1.03), PW/PA 1.36–1.50 (M 1.44), PW/PB 1.32–1.40 (M 1.36), PB/PA 1.03–1.09 (M 1.06), EW/PW 1.78–1.88 (M 1.82), EL/PL 2.63–2.84 (M 2.73), EL/EW 1.43–1.49 (M 1.46).

Three of the other known localities of *T. uzushio*, Nakatani, Kuratani and Munakeé-dani are not far from Awata and from one another. Nakatani is 2.7 km distant to the south-southwest from Awata, Kuratani is 2.4 km southeast of Awata, and Munakeé-dani is only 1.8 km south by west of Kuratani. They are similar to one another in environmental condition. The single specimen known from Nakatani is one of the smallest individuals (4.85 mm in body length) and has the following standard ratios: HW/HL 1.10, PW/HW 1.46, PW/PL 1.10, PW/PA 1.44, PW/PB 1.37, PB/PA 1.05, EW/PW 1.80, EL/PL 2.98, EL/EW 1.51. The single specimen known from Kuratani (5.60 mm in body length) has the following standard ratios: HW/HL 1.00, PW/HW 1.47, PW/PL 1.05, EW/PA 1.44, PW/PB 1.32, PB/PA 1.09, EW/PW 1.82, EL/PL 2.89, EL/EW 1.51. And, the four specimens known from Munakeé-dani (4.95–5.65 mm in body length, mean 5.40 mm) have the following standard ratios: HW/HL 0.96–1.11 (M 1.04), PW/HW 1.40–1.46 (M 1.43), PW/PL 1.01–1.04 (M 1.03), PW/PA 1.39–1.46 (M 1.43), PW/PB 1.35–1.37 (M 1.36), PB/PA 1.03–1.08 (M 1.05), EW/PW 1.82–1.86 (M 1.83), EL/PL 2.76–2.79 (M 2.78), EL/EW 1.45–1.50 (M 1.48). In smaller specimens from these localities, the pronotal sides are sometimes convergent towards hind angles behind the ante-basal situation.

The last to be dealt with is the Udatsu-goé population of *Trechiana uzushio*, which is isolated to the western side of Ôasa-yama Hill and is different from the others in the peculiar situation of its habitat. It was found in a large quarry of sandstone 4 km distant to the west by south in a beeline from Nakatani. The working face of the quarry is bare, completely devoid of vegetation of any kind, though humid upper hypogean zone can be detected at a depth of 50 cm or more. In spite of such a seemingly deserted outlook, the

quarry harbours a blind trechine beetle, which can be identified with *T. uzushio* beyond all doubt. About half a dozen specimens caught by baited traps are relatively small (4.85–5.45 mm in body length, mean 5.20 mm), and have the following standard ratios: HW/HL 1.03–1.10 (M 1.07), PW/HW 1.42–1.61 (M 1.47), PW/PL 1.00–1.07 (M 1.03), PW/PA 1.43–1.50 (M 1.47), PW/PB 1.36–1.41 (M 1.39), PB/PA 1.03–1.09 (M 1.06), EW/PW 1.74–1.86 (M 1.79), EL/PL 2.62–2.76 (M 2.68), EL/EW 1.41–1.52 (M 1.46).

We can safely conclude now that *T. uzushio* is restricted to Ôasa-yama Hill (538 m in height) even though it seems to have tolerance for salt water, since it has never been caught by baited traps set in the areas outside the territory of the sandstone hill.

*Etymology.* The new specific name *uzushio* is derived from the Japanese word “uzushio” meaning a whirlpool, since the Naruto Straits are famous for the strong whirl currents.

## 要 約

上野俊一：四国鳴門地域に固有の地下浅層性メクラチビゴミムシ類。—— 四国の北東部、鳴門地域に位置する大麻山からは、これまで盲目のチビゴミムシ類が知られていなかった。しかし、2008年の2月に、ナガチビゴミムシ属の特異な1種が発見されたのを契機として、大麻山とその周辺地域の綿密な調査が、吉田正隆を中心とする数人の人たちによって行われ、四国産の既知種とは系統の異なる2種のメクラチビゴミムシ類の存在が明らかになった。しかし、これらの小甲虫類がすむ地下浅層へ直接に掘り込めるような場所が少なく、甲虫の個体数、とくに雄の数も多くはなかったので、トラップに誘引するのが最良の方策だろうと考えられ実施に移された。以後1ヵ年半にわたるトラップ調査が行われた結果、ようやく十分な検討に堪えうる資料を蓄積することができたので、その研究結果をこの論文にまとめた。

鳴門地域の地下浅層にすむ2種のメクラチビゴミムシ類は、いずれもナガチビゴミムシ属の新種で、異なった系統群に属する。そのひとつは、これまで紀伊半島の北西部のみから知られていたカワリメクラチビゴミムシ群に属し、種の類縁関係も近い。この興味深い新種には、発見者の功績を記念して、サクラギメクラチビゴミムシ *Trechiana* (s. str.) *sakuragii* S. UENO という新名を与えた。

もうひとつの新種は、紀伊半島の東側に生息するイマダテメクラチビゴミムシ亜群の種に外見が似ているが、ナガチビゴミムシ属の種としては例外的に、前胸背板に細毛があることや、上翅の剛毛式や雄生殖器官の形態が特異であることから、独自の種群を形成するものと考えられる。この種は、大麻山の地下浅層に広く分布し、個体変異がいちじるしいうえに、波飛沫の直接的な影響を受ける鳴門海峡の海岸まで広がっていることでも注目に値する。それで、ウズシオメクラチビゴミムシ *Trechiana* (s. str.) *uzushio* S. UENO という新名を与えて記載した。

## References

UENO, S.-I., 1954. Studies on the Japanese Trechinae (II) (Coleoptera, Harpalidae). *Mem. Coll. Sci. Univ.*

Kyoto, (B), 21: 29–37.

UÉNO, S.-I., 1979. New cave-dwelling trechine beetles from the eastern part of the Kii Peninsula, Central Japan. *Bull. natn. Sci. Mus., Tokyo*, (A), 5: 115–126.

——— 1983. The faunal affinity of the Island of Awaji-shima as viewed from trechine beetles. *Annotes. zool. japon., Tokyo*, 56: 351–357.

——— 1992. Two new upper hypogean *Trechiana* (Coleoptera, Trechinae) of zoogeographical interest. *J. speleol. Soc. Japan*, 17: 23–32.

---

*Elytra, Tokyo*, 37(1): 19–20, May 29, 2009

## Occurrence of *Trechoblemus postilenatus* (Coleoptera, Trechinae) in the Upper Hypogean Zone of Northeastern Shikoku, Southwest Japan

**Shun-Ichi UÉNO**

Department of Zoology, National Museum of Nature and Science,  
3–23–1 Hyakunin-chô, Shinjuku, Tokyo, 169–0073 Japan

It has been well known that the European species of *Trechoblemus*, *T. micros* (HERBST, 1784), frequently occurs in the subterranean domain. JEANNEL (1922, p. 298; 1926, p. 220; 1928, pp. 104–105) recorded the caves and catacombs in which *T. micros* had been known, and commented that “Ses mœurs sont nettement lucifuges, aussi pénètre-t-elle volontiers dans les cavités souterraines.” On the other hand, the East Asian species, *T. postilenatus* (H. W. BATES, 1873, p. 295), is seldom found under the ground. Until now, it has been recorded from caves only twice, both from lava caves lying in Daikon-jima on the Japan Sea coast of West Japan (UÉNO, 1970, p. 604; 1971, p. 182).

Early in the last winter, a *Trechoblemus* was unexpectedly obtained by Masataka YOSHIDA on Ôasa-yama Hill at the northeastern corner of the Island of Shikoku, Southwest Japan. It was found mingled with *Trechiana uzushio* S. UÉNO in a baited trap set in the upper hypogean zone at a depth of about 50 cm. This is the first record of the species from the upper hypogean zone, and the collecting data are as given below.

*Specimen examined.* 1 ♂, Udatsu-goé, 210 m alt., Orino, Kitanada-chô, Naruto-shi, Tokushima Pref., Southwest Japan, 21–XII–2008, M. YOSHIDA leg. (found in a baited trap set by M. YOSHIDA on 26–XI–2008). (NSMT)

The specimen recorded above is a relatively small and unusually dark-coloured individual, measuring 4.45 mm in the length of body. Colour brown, more or less infuscated in head, pronotum, and lateral parts of elytra; supraorbital areas blackish; each elytron with a large blackish spot extending from basal three-fifths to apical elevenths and from interval 2 to 7; antennae and legs dark yellowish brown to dark brown, obviously darker than in ordinary epigean individuals. Male genital organ perfectly identical with that of epigean individuals.

As was already mentioned in the *Notes* following the description of *Trechiana uzushio* (UÉNO, 2009, pp. 17–18), Udatsu-goé is a large quarry of sandstone on a pass lying at the western side of Ôasa-yama Hill. Its working face is completely bare and dry, utterly differing from humid or wet places usually inhabited by *Trechoblemus*. It seems possible that the colonisation of *Trechoblemus* into the upper hypogean zone of this quarry, which was already inhabited by a completely blind species of *Trechiana*, may have been accomplished by night flight, since the hind wings are fully developed in the specimen examined as in epigean ones.

In closing this brief report, I wish to thank Mr. Masataka YOSHIDA for his kindness in submitting the interesting specimen to me for taxonomic study.

### References

- BATES, H. W., 1873. On the geodephagous Coleoptera of Japan. *Trans. ent. Soc. London*, **1873**: 219–322.
- JEANNEL, R., 1922. Les Trechinae de France (Deuxième partie). *Anns. Soc. ent. France*, **90** [for 1921]: 295–345.
- 1926. Faune Cavernicole de la France avec une étude de conditions d'existence dans le domaine souterrain. *Encycl. ent., Paris*, (A), **7**. 334 pp. Paul Lechevalier, Paris.
- 1928. Monographie des Trechinae. Morphologie comparée et distribution géographique d'un groupe de Coléoptères (3<sup>e</sup> Livraison). *Abeille, Paris*, **35**: i–ii + 1–808.
- UÉNO, S.-I., 1970. The fauna of the insular lava caves in West Japan. III. Trechinae (Coleoptera). *Bull. natn. Sci. Mus., Tokyo*, **13**: 603–622.
- 1971. Ditto. IX. Trechinae (Additional notes). *Ibid.*, **14**: 181–185.
- 2009. New upper hypogean *Trechiana* (Coleoptera, Trechinae) from the northeastern corner of the Island of Shikoku, Southwest Japan. *Elytra, Tokyo*, **37**: 7–19.