

## Two New Anophthalmic *Trechiamma* (Coleoptera, Trechini) from Kyoto Prefecture, Central Japan

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**Abstract** Two new anophthalmic *Trechiamma* are described from Kyoto Prefecture, Central Japan, under the names *Trechiamma yoro* and *Trechiamma ruri*. The former belongs to the *ohshimai* complex and the latter to the *nagahinis* complex, both belonging to the group of *Trechiamma ohshimai*. They are distinguished from the other members of the species-group mainly by the peculiarities of their male genital organs.

The anophthalmic *Trechiamma* belonging to the group of *Trechiamma ohshimai* whose members are distributed from around Lake Biwa-ko to Hokuriku District was reviewed by UÉNO (1980). Since then, he added six new species from eastern Shikoku (UÉNO, 1982, 1983, 1990, 1995) and seven from Hokuriku District (UÉNO, 1988, 1989). However, no additional species has been described from Kinki District including Kyoto Prefecture. In the present paper, I am going to describe two new anophthalmic species of the group of *Trechiamma ohshimai* recently discovered in Kyoto Prefecture, Central Japan. One belongs to the *ohshimai* complex and the other to the *nagahinis* complex.

The abbreviations used herein are as follows: HW—greatest width of head; PW—greatest width of pronotum; PL—length of pronotum, measured along the midline; PA—width of pronotal apex; PB—width of pronotal base; EW—greatest width of elytra; EL—greatest length of elytra; M—arithmetic mean.

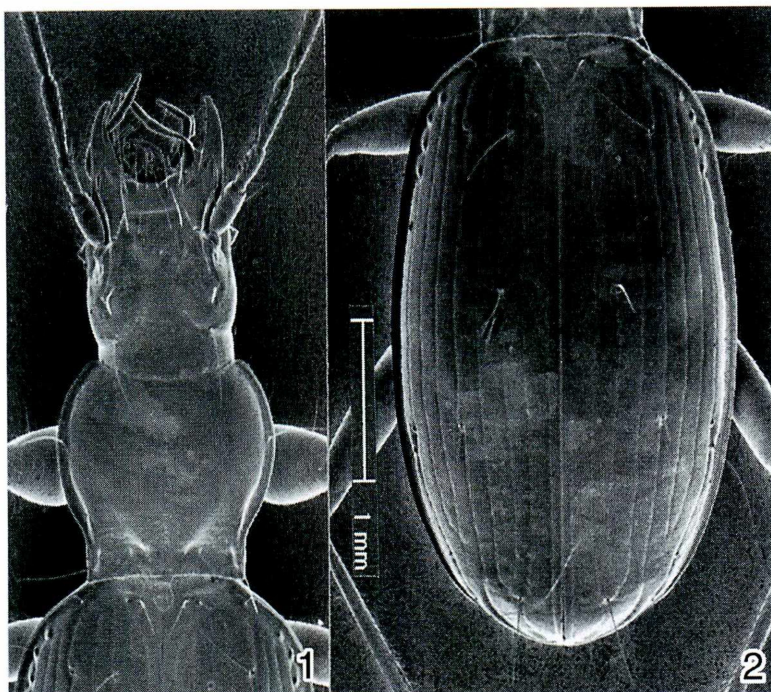
Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his kind guidance and revising the manuscript. Hearty thanks are also due to Dr. Masahiro KON of the University of Shiga Prefecture for taking photographs of scanning electron microscope, and Messrs. Kenji KITAYAMA and Hiroshi ÔHIRA for their warm companionship during the field works.

*Trechiamma* (s. str.) *yoro* ASHIDA, sp. nov.

[Japanese name: Yôrô-mekura-chibigomimushi]

(Figs. 1–6)

*Trechiamma* sp.: H. ASHIDA, 1996, Kita-Kyûshû no Konchû, Kokura, **43**, p. 111, pl. 11, fig. 6.



Figs. 1–2. *Trechiana* (s. str.) *yoro* ASHIDA, sp. nov., ♂, from the Yohoro-dani Valley; head and pronotum (1), and elytra (2).

Length: 5.50–6.05 mm in ♂♂, 5.20–5.60 mm in ♀♀ (from apical margin of clypeus to apices of elytra).

Similar to *T. ohshimai* (S. UÉNO, 1951) (p. 84, pl. 4, fig. A; 1980, pp. 202, 246, figs. 52–54, 57) from Shizushi-dô Cave, but the color is usually darker, the fore-body is larger, the pronotum is more transverse, the elytra are ampler in basal area, and have less arcuate sides. Readily distinguished from *T. ohshimai* and the other related species by certain details of male genitalia, particularly by the shape of copulatory piece which is spatulate with simply rounded apex.

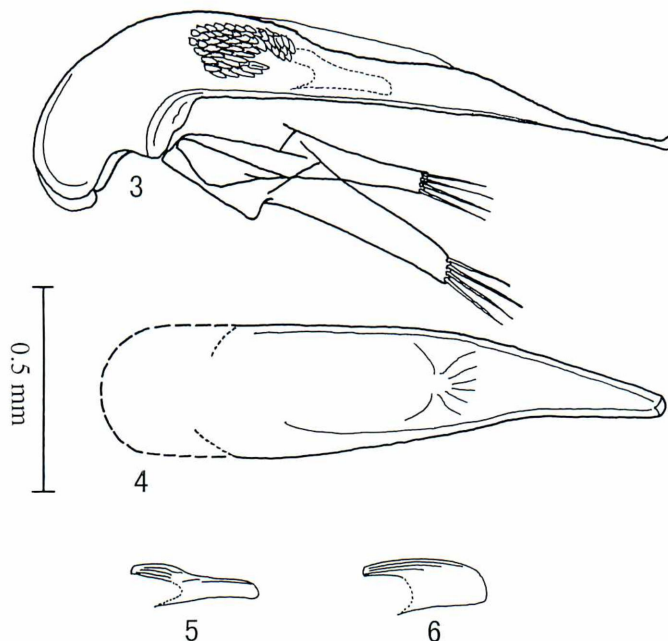
Color usually dark reddish brown, darker than in *T. ohshimai*, with yellowish brown appendages.

Head as in *T. ohshimai* though somewhat wider; antennae as in *T. ohshimai*.

Pronotum subcordate, more transverse and more strongly contracted basad than in *T. ohshimai*, widest at two-thirds from base; sides strongly arcuate in front, deeply sinuate at about one-fifth from base, and then feebly divergent again towards hind angles, hind angles usually less sharp than in *T. ohshimai*; postangular setae present. PW/HW 1.40–1.50 (M 1.45), PW/PL 1.12–1.20 (M 1.17), PW/PA 1.36–1.50 (M 1.45), PW/PB 1.28–1.40 (M 1.34), PB/PA 1.02–1.13 (M 1.08).

Elytra oblong-oval and moderately convex, larger in ♂ than in ♀, widest at about





Figs. 3–6. *Trechiana* (s. str.) *yoro* ASHIDA, sp. nov., from the Yohoro-dani Valley; male genitalia, left lateral view (3), apical part of aedeagus, dorsal view (4), separated copulatory piece, left lateral view (5), and the same, dorsal view (6).

middle, and equally narrowed towards bases and towards apices; EW/PW 1.53–1.65 (M 1.59) [1.62–1.65, M 1.63, in ♂; 1.53–1.58, M 1.56 in ♀], EL/EW 1.55–1.65 (M 1.59); basal area wider than in *T. ohshimai*, prehumeral borders straight and less oblique, shoulders more salient than in *T. ohshimai*; sides feebly arcuate from behind shoulders to near apices; striation as in *T. ohshimai*; two setiferous dorsal pores on stria 3 situated at about 1/9–1/7 and 1/3–2/5 from base, respectively, those on stria 5 at about 1/10–1/8 and 5/9–2/3 from base, respectively.

Legs as in *T. ohshimai* though rather stout.

Male genital organ similar in many details to that of *T. ohshimai*. Aedeagus very large though a little shorter than in *T. ohshimai*, about four-ninths as long as elytra; lateral walls less reduced; sagittal aileron smaller and narrower; copulatory piece somewhat larger and almost symmetrically spatulate in shape, with rounded apex; proximal teeth-patch, consisting of large, heavily sclerotized teeth, and sigmoidally curved, extending from left lateral to dorsal; apical teeth-patch smaller than the proximal one, almost straight, lying at the right dorsal side just inside apical orifice and consisting of small scales; styles as in *T. ohshimai*.

*Type series.* Holotype: ♂, allotype: ♀, 1–X–1994, H. ASHIDA leg. Paratypes: 6 ♂♂, 7 ♀♀, 1–X–1994, H. ASHIDA, H. ÔHIRA & K. KITAYAMA leg.; 3 ♂♂, 2 ♀♀, 8–X–1994, H. ASHIDA & K. KITAYAMA leg.; 2 ♂♂, 1 ♀, 22–X–1995, H. ASHIDA leg.; 1 ♀, 29–

IX-1998, H. ASHIDA leg. The holotype and allotype are preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo.

*Type locality.* Yohoro-dani Valley, 200 m alt., at the northeastern foot of Mt. Yôrô, in Maizuru-shi, Kyoto Prefecture, Central Japan.

*Notes.* There remains little doubt that the present new species belongs to the *ohshimai* complex and closely allied to *T. ohshimai*, *T. sigma* and *T. insularis*. The Yohoro-dani Valley, the type locality of the present species, is about 25 km north-northeast of Shizushi-dô Cave, the type locality of *T. ohshimai*, 22 km north-northwest of Shima Mine, that of *T. sigma*, and 26 km south of Kanmuri-jima Is., that of *T. insularis*. This valley is one of the westernmost localities of the group of *T. ohshimai*, since Magura, just 14 km southwest from there, is the type locality of *T. kosugei* belonging to the group of *T. oni*. There is no apparent geographical barrier between these two localities.

The type material of this new species was obtained from under stones on the dried bed of a stream or from the upper hypogean zone at the streamside at a depth of 10–30 cm.

***Trechiamma* (s. str.) *ruri* ASHIDA, sp. nov.**

[Japanese name: Rurikei-mekura-chibigomimushi]

(Figs. 7–12)

Length: 5.35–6.10 mm (from apical margin of clypeus to apices of elytra).

Belonging to the *nagahinis* complex and related to *T. parvus* S. UENO, 1980 (pp. 201, 213, figs. 8, 11–13), but the body is much larger in size, the hind-body in particular is larger and ampler, the pronotum is wider with the hind angles slightly divergent. Obviously distinguished from *T. parvus* by the differently shaped aedeagus and copulatory piece.

Color dark reddish brown with yellowish brown appendages.

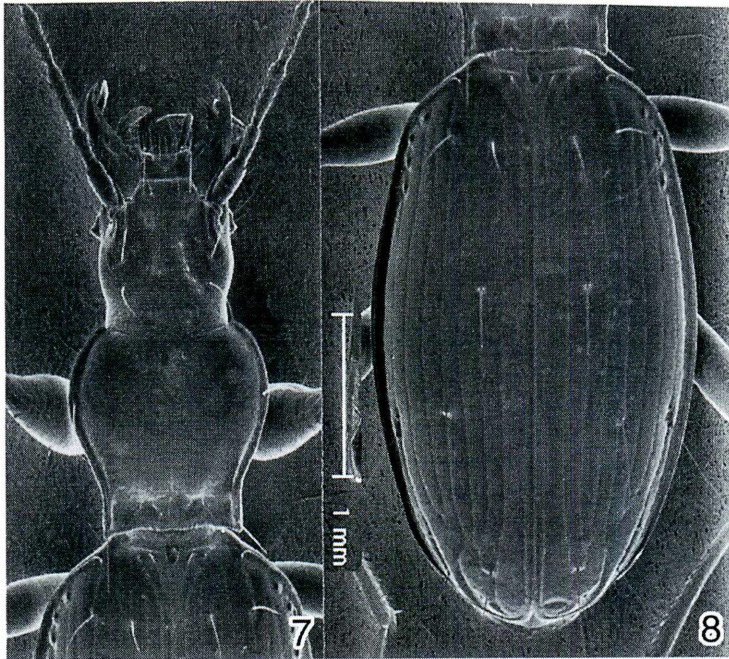
Head somewhat wider than in *T. parvus*; antennae as in *T. parvus*.

Pronotum subcordate, wider than length, widest at five-ninths from base, sides strongly arcuate in front, deeply sinuate at about one-fourth from base, and then slightly divergent towards hind angles. PW/HW 1.44–1.49 (M 1.47), PW/PL 1.16–1.22 (M 1.19), PW/PA 1.39–1.51 (M 1.44), PW/PB 1.39–1.42 (M 1.41), PB/PA 1.00–1.07 (M 1.02).

Elytra oval and convex, widest at about middle, and a little more regularly narrowed towards apices than towards bases; EW/PW 1.50–1.66 (M 1.60), EL/EW 1.51–1.58 (M 1.55); prehumeral borders less oblique, shoulders more salient than in *T. parvus*; sides almost straight behind shoulders, then gently arcuate, and widely rounded at apices; striae shallower than in *T. parvus*; two setiferous dorsal pores on stria 3 situated at about 1/10–1/7 and 1/3–2/5 from base, respectively, those on stria 5 at about 1/10–1/8 and 1/2–2/3 from base, respectively.

Leg as in *T. parvus*.





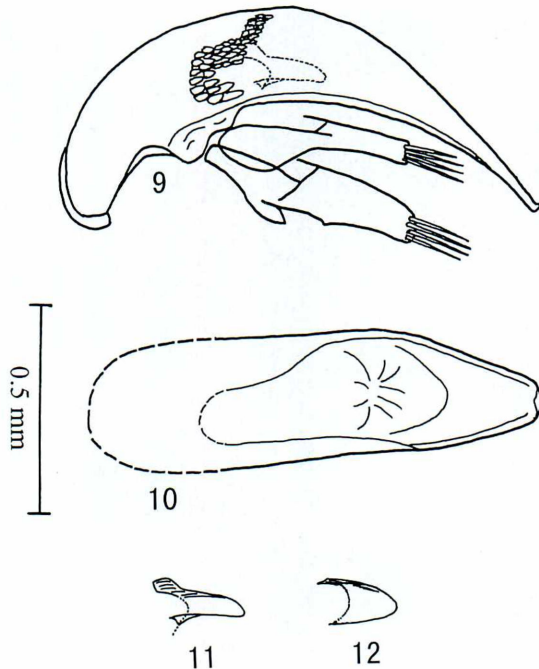
Figs. 7–8. *Trechiana* (s. str.) *ruri* ASHIDA, sp. nov., ♂, from Mt. Miyama; head and pronotum (7), and elytra (8).

Male genital organ small, aedeagus one-third as long as elytra, and moderately sclerotized. Generally similar to that of *T. parvus*, but the apical lobe is longer, more strongly and regularly curved ventrad, and in dorsal view, more widely rounded at the tip. Markedly different in configuration of inner armature; copulatory piece simply spatulate, not twisted; left proximal teeth-patch much more elongate, consisting of large, heavily sclerotized teeth, and deeply curved at both proximal and distal parts, forming a remarkable sigmoid; a patch of thinner, less sclerotized teeth present behind the sigmoidal one at the left side; right apical teeth-patch fairly large, consisting of small but moderately sclerotized scales. Styles large and broad, each bearing four or five short apical setae.

*Type series.* Holotype: ♂, allotype: ♀, 2–VIII–1998, H. ASHIDA leg. Paratypes: 4 ♂♂, 1 ♀, 2–VIII–1998, H. ASHIDA leg.; 3 ♂♂, 2 ♀♀, 15–VIII–1998, K. KITAYAMA leg.; 1 ♂, 2 ♀♀, 29–IX–1998, H. ASHIDA leg. The holotype and allotype are preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo.

*Type locality.* Eastern slope of Mt. Miyama, 500 m alt., near the Ruri-kei Valley, Sonobe-chô, Kyoto Prefecture, Central Japan.

*Notes.* Mt. Miyama (790 m in height) is located on the boundary between Kyoto and Osaka Prefectures, and is one of the westernmost localities of the group of *T. ohshimai* like the Yohoro-dani Valley cited above. Mt. Miyama is about 20 km north-



Figs. 9–12. *Trechiamia* (s. str.) *ruri* ASHIDA, sp. nov., from Mt. Miyama; male genitalia, left lateral view (9), apical part of aedeagus, dorsal view (10), separated copulatory piece, left lateral view (11), and the same, dorsal view (12).

west of the westernmost known locality of *T. parvus* and 22 km north-northwest of Mino, the type locality of *T. nagahinis*. On the other hand, the type locality of this new species is 7 km north of Toyono Mine, that of *T. notoi*, and 11 km southeast of Tengan Mine, that of *T. yoshiakii*, both belonging to the group of *T. oni*.

The type population of the present species occurs along a narrow stream flowing down the eastern slope of Mt. Miyama. The specimens were found from a small talus of rock debris, at about 10–20 cm depth from the surface.

#### 要 約

芦田 久：京都府から発見された *Trechiamia* 属メクラチビゴミムシの2新種。—— 京都府より、*Trechiamia yoro* sp. nov. ヨウロウメクラチビゴミムシおよび *Trechiamia ruri* sp. nov. ルリケイメクラチビゴミムシを記載した。これらはどちらもヨシイメクラチビゴミムシ群 (group of *Trechiamia ohshimai*) に含まれるが、前者はそのうちのヨシイメクラチビゴミムシ系 (*ohshimai* complex) に、後者はミノオメクラチビゴミムシ系 (*nagahinis* complex) に属する。近似種とはおもに雄交尾器の構造により識別される。

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