

## Two New *Trichotichnus* (Coleoptera, Carabidae) from Shizuoka Prefecture, Central Japan

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**Abstract** Two new montane harpaline carabid beetles, *Trichotichnus* (*Trichotichnus*) *monticola* sp. nov. and *T. (T.) spinifer* sp. nov., are described from Shizuoka Prefecture, Central Japan. The former belongs to the *congruus* group, while the latter is a member of the *leptopus* group.

There are two unnamed forms of the harpaline carabid genus *Trichotichnus* found on the mountains lying at the southernmost part of the Akaishi Mountain Range in Shizuoka Prefecture, central Honshu, Japan. One of them was collected while searching for trechine carabid beetles on Mt. Ohfuda-yama, which is a small head on the range on the right side of the River Ôi-gawa. It doubtless belongs to the *congruus* group (*sensu* HABU, 1961, pp. 139–143), but is unique in the species-group for its apterism. The other large-sized one, whose occurrence was previously noticed by myself (KASAHARA, 1992, p. 30), has been found on Mt. Ryûtô-zan lying on the left side of the lower part of the River Tenryû-gawa. It is a member of the *leptopus* group (*sensu* HABU, 1961, pp. 149–154). These two species are clearly distinguished from their relatives and must be new to science. In this article, I will describe the former under the name of *Trichotichnus* (*Trichotichnus*) *monticola* sp. nov., and the latter under that of *T. (T.) spinifer* sp. nov. The abbreviations used herein are the same as those explained in other papers of mine. All the holotypes to be designated are preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are deposited in my collection.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for affording me facilities for examining the specimen under his care. Thanks are also due to Messrs. Hitoshi ISHIKAWA, Shinzaburo SONE and Yoshiaki TAHIRA for their kind help in materials and field works.

### *Trichotichnus* (*Trichotichnus*) *monticola* sp. nov.

[Japanese name: Yama-tsuyagomokumushi]

(Figs. 1, 3)

*Description.* Length (measured from apex of labrum to apices of elytra) 8.0–8.6 mm; width 3.2–3.4 mm. Dark reddish brown, shiny though not iridescent; lateral

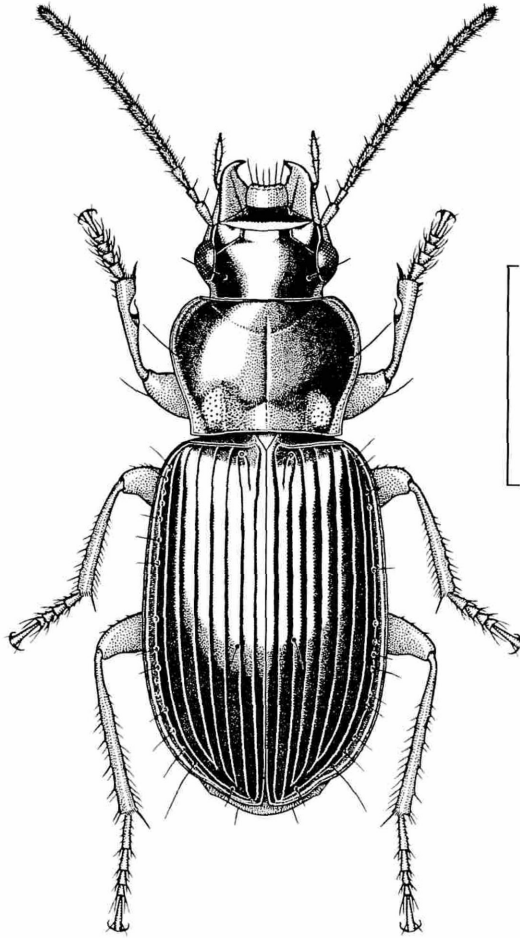


Fig. 1. *Trichotichnus (Trichotichnus) monticola* sp. nov., ♂, from Mt. Ohfuda-yama in Shizuoka Pref. Scale 3 mm.

margins of pronotum, venter and legs reddish brown; palpi and antennae light reddish brown.

Head moderately convex; eyes convex; post-genae short and oblique; mandibles stout; labrum emarginate at apex; clypeal suture distinct; frontal oblique grooves distinct, surface around the grooves somewhat depressed; supraorbital setae inserted at the post-eye level; surface very minutely and sparsely punctate; microsculpture invisible, but clearly impressed on labrum, formed by fine isodiametric meshes; antennae moderately long, extending beyond shoulders.

Pronotum transverse, convex, widest at apical third, ca. 1.4 times as wide as head (PW/HW 1.37–1.38, mean 1.38), ca. 1.3 times as wide as base (PW/PBW 1.24–1.34, mean 1.29), ca. 1.5 times as wide as long (PW/PL 1.44–1.53, mean 1.48); lateral margins evenly arcuate in apical two-thirds, then distinctly convergent posteriad, and

gently sinuate before base; marginal setae inserted at apical two-fifths; apical margin gently emarginate, finely bordered, though generally obsolete at middle; apical angles hardly produced, rounded at the tips; basal margin almost as wide as or a little wider than the apical, slightly emarginate, distinctly bordered throughout, basal angles rectangular, slightly produced laterad; median line fine, though distinct; basal foveae shallow, rather roundly depressed, and strongly punctate; lateral furrows narrow, punctate throughout; both apical and basal transverse impressions weak or obsolete; surface often with irregularly transverse wrinkles; microsculpture almost invisible.

Wings reduced. Elytra elliptical, moderately convex, widest at the middle, ca. 1.26 times as wide as pronotum (EW/PW 1.24–1.31, mean 1.26), ca. 2.8 times as long as pronotum (EL/PL 2.77–2.89, mean 2.82), ca. 1.5 times as long as wide (EL/EW 1.47–1.52, mean 1.52); basal border almost straightly extending to shoulder, and meeting with lateral border at an obtuse but mal-defined angle; shoulders rounded; lateral margins weakly curved from behind shoulders to apical fourth, then distinctly and roundly convergent towards apices, preapical emarginations shallow; apex of each elytron rounded; scutellar striole and stria 2 arising from basal pores; striae fine and smooth; intervals rather flat, though convex at apical parts; interval 3 with a dorsal pore adjoining stria 2 from behind middle to apical two-fifths; marginal series of pores 17–18 in number, 2–3 additional small pores visible on interval 9.

Venter almost smooth; prosternum and abdominal sternite 4 very minutely punctate and pubescent in middle; prosternal process with a pair of setae at apex; terminal sternite with two pair of setae in both sexes. Protibiae not sulcate on each inner side.

Aedeagus stout, arcuate, gently curved ventrad at apical part in lateral view; apical lobe as long as wide, tapering towards apex, which is narrowly rounded, and finely or indistinctly bordered; ventral side bordered on each side, almost flat between the borders; inner sac provided with a curved peg-like copulatory piece near apical orifice.

*Type series.* Holotype: ♂, Mt. Ohfuda-yama (1,100 m alt.), Nakakawane-chô, Shizuoka Pref., 10-V-1992, S. UÉNO leg. Paratypes: 2 ♂♂, 1 ♀, same locality and date as for the holotype, S. KASAHARA leg.

*Notes.* The present new species somewhat resembles *T. (T.) congruus* (MOTSCHULSKY) in general appearance, but is easily discriminated from the latter by wider and less convex body with atrophied wings and different configuration of aedeagus. Judging from the conformation of male genitalia, it may have some relationship with *T. (T.) nishioi* HABU (1961, pp. 141–142, 159, 162) but the latter species has fully developed wings and slenderer aedeagus.

***Trichotichnus (Trichotichnus) spinifer* sp. nov.**

[Japanese name: Tenryû-tsuayagomokumushi]

(Figs. 2, 4)

*Description.* Length (measured as in the preceding species) 12.8–13.6 mm; width

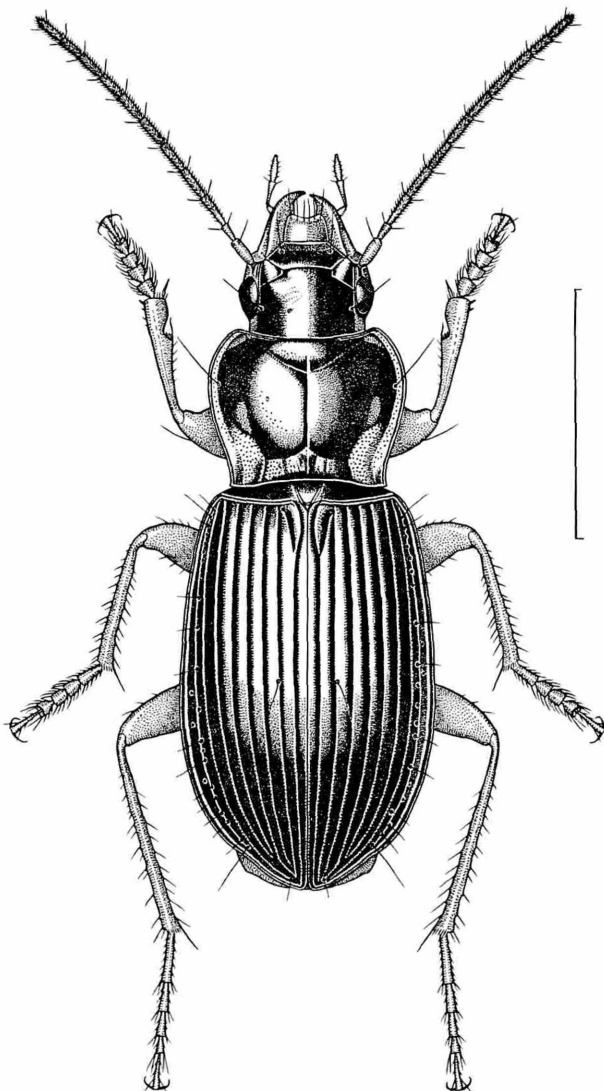
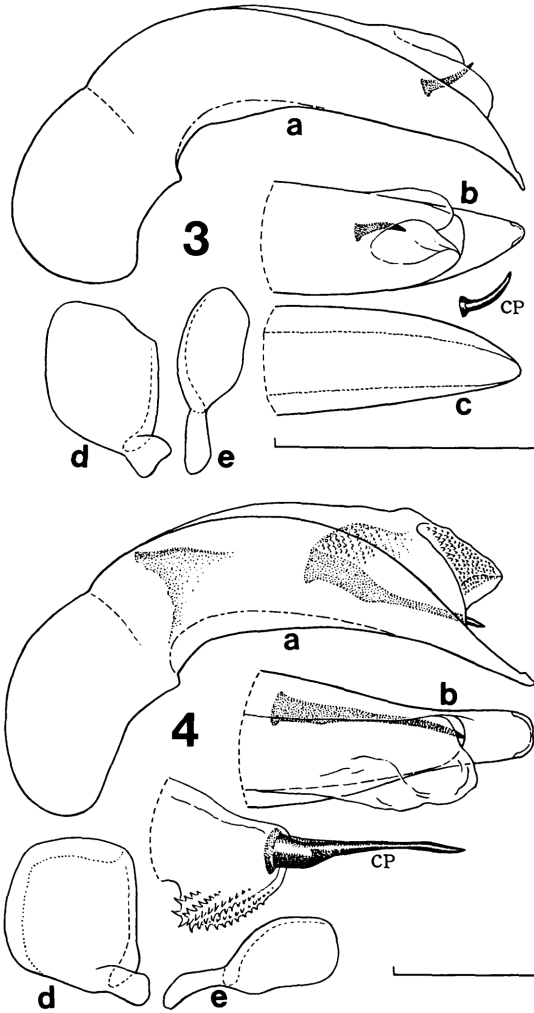


Fig. 2. *Trichotichnus (Trichotichnus) spinifer* sp. nov., ♂, from Mt. Ryûtô-zan in Shizuoka Pref.  
Scale 5 mm.

5.0–5.4 mm. Black, shiny and iridescent; labrum, mandibles and venter dark reddish brown; appendages yellowish brown.

Head convex; eyes moderately convex, though less convex in the female; postgenae short, gently convergent posteriad; labrum subtrapezoidal, distinctly emarginate at apex; clypeus gently emarginate at apex; clypeal suture fine, though distinct; frontal oblique grooves distinct; supraorbital setae inserted at the post-eye level; surface



Figs. 3-4. Male genitalia of *Trichotichnus* (*Trichotichnus*) spp. — 3, *T. (T.) monticola* sp. nov., from Mt. Ohfuda-yama in Shizuoka Pref.; 4, *T. (T.) spinifer* sp. nov., from Mt. Ryûtôzan in Shizuoka Pref.; a-c, aedeagus; a, left lateral view; b, apical half in dorsal view; c, apical half in ventral view; d, left paramere; e, right paramere; cp, copulatory piece. Scale 1 mm.

smooth, though often minutely punctate on frons; microsculpture hardly visible, though well visible on labrum, formed by isodiametric meshes; antennae moderately long, reaching basal fifth of elytra.

Pronotum transverse, convex, widest at apical third, less than 1.5 times as wide as head (PW/HW 1.40–1.50, mean 1.45), as wide as long in almost the same proportion (PW/PL 1.41–1.51, mean 1.45), ca. 1.3 times as wide as base (PW/PBW 1.27–1.32,

mean 1.28); lateral margins evenly arcuate, and convergent posteriad, slightly sinuate before base; apical margin gently emarginate, finely bordered on each side, apical angles hardly produced, rounded at the tips; basal margin wider than the apical, slightly sinuate on each side, finely but distinctly bordered throughout, basal angles rectangular, slightly produced laterad; median line fine, though distinct; basal foveae wide and shallow, sometimes rather deeply impressed, divergent anteriad, strongly and densely punctate; outer side of foveae depressed and punctate, the depressions extending to apical angles along lateral margins, and punctate throughout; both apical and basal transverse impressions generally weak or obsolete, but sometimes rather distinct; surface strongly punctate in apical, basal and lateral areas; microsculpture partially and scarcely visible, formed by very fine transverse meshes.

Wings reduced. Elytra oblong subovate, convex, widest at about middle, ca. 1.3 times as wide as pronotum (EW/PW 1.28–1.35, mean 1.31), about three times as long as pronotum (EL/PL 2.82–3.02, mean 2.93), ca. 1.55 times as long as wide (EL/EW 1.51–1.58, mean 1.55); basal border slightly curved, minutely dentate at shoulder; shoulders narrowly rounded or obtusely angulate especially in the female; lateral margins gently divergent towards middle, then roundly convergent towards apices, preapical emarginations shallow; apex of each elytron rather pointed, though blunt at the tip; scutellar striae moderately long, arising from basal pore; striae finely but deeply impressed, smooth; intervals gently convex, though well convex at apical parts; interval 3 with a dorsal pore adjoining stria 2 at the middle; marginal series of pores 25–28 in number, some small pores of them lying on interval 9.

Venter shiny; pro- and metasterna and abdominal sternite 4 minutely punctate and pubescent at median part; lateral part of metasternum, and pro-, meso- and metepisterna punctate; sternite 3 and lateral sides of sternite 4 irregularly rugose and punctate; prosternal process pubescent and plurisetose at apex. Protibiae sulcate on each inner side.

Aedeagus thick in basal part, arcuate, and tapered towards apex in lateral view; in dorsal view, almost straight, though apical part is slightly curved rightwards; apical lobe longer than wide, rounded and bordered at apex, which is often slightly emarginate at middle; inner sac provided with a very long and heavily sclerotized nail-like piece, which is almost a third as long as aedeagus; left paramere wide, square; right one relatively wide, gently arcuate at apex.

*Type series.* Holotype: ♂, Mt. Ryû-tô-zan (1,260 m alt.), Sakuma-chô, Shizuoka Pref., 7-X-1992, S. KASAHARA leg. Paratypes: 3 ♂♂, 2 ♀♀, same data as for the holotype; 1 ♂, 1 ♀, same locality and date as for the holotype, H. ISHIKAWA leg.; 1 ♀, same locality, 9-VIII-1988, T. KATÔ leg.; 1 ♀, same locality, 26~27-VII-1991, S. KASAHARA leg.

*Notes.* The present new species somewhat resembles *T. (T.) kasaharai* HABU (1983, pp. 1–4) described from Mt. Minobu-san in Yamanashi Prefecture in general appearance. It is, however, clearly distinguished from that species by shorter body with robustly elytra and different configuration of aedeagus, with exceedingly long

copulatory piece. As was already mentioned by myself (KASAHARA, 1992, p. 30), it is often found together with *T. (T.) ishikawai* KASAHARA (1992, pp. 28–30) in the same habitat.

### 要 約

笠原須磨生：静岡県産ツヤゴモクムシ属の2新種。——静岡県の赤石山脈南端部の山地にみられるツヤゴモクムシ属 *Trichotichnus* の2新種を記載した。

1) ヤマツヤゴモクムシ *T. (T.) monticola* は、ヒメツヤゴモクムシ種群 *congruus* group に属する種で、ヒメツヤゴモクムシ *T. (T.) congruus* (MOTSCHULSKY) に似ているが、体がより幅広く扁平で、雄交尾器の形態も明らかに異なる。さらに、後翅が退化していることは、同種群のなかでも異例である。

2) テンリュウツヤゴモクムシ *T. (T.) spinifer* は、ツヤゴモクムシ種群 *leptopus* group の大型種で、外形は山梨県の身延山から記載されたカサハラツヤゴモクムシ *T. (T.) kasaharai* HABU に似ているが、より小型で上翅が短かく、雄交尾器の形態も相違する。とくに、陰茎の1/3に及ぶ長大な骨片は特異である。本種は、すでに予告されていたように (KASAHARA, 1992, p. 30)、基産地の竜頭山では、同種群に属するリュウトウツヤゴモクムシ *T. (T.) ishikawai* KASAHARA と同所的に生息する。

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