

On *Trephionus otuboi* Habu (Coleoptera, Carabidae)

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| 誌名 | 農業技術研究所報告. C, 病理・昆虫 = Bulletin of the National Institute of Agricultural Sciences. Series C, Plant pathology and entomology |
| ISSN | 00774847 |
| 著者名 | Habu, A. |
| 発行元 | 農林省農業技術研究所 |
| 巻/号 | 4号 |
| 掲載ページ | p. 263-280 |
| 発行年月 | 1954年3月 |

農林水産省 農林水産技術会議事務局筑波産学連携支援センター
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On *Trephionus ôtuboi* Habu (Coleoptera, Carabidae)

By AKINOBU HABU

In 1944 I described one new species of the genus *Trephionus*, *T. ôtuboi*, in "Konchu" which was published by the Entomological Society of Japan. Unfortunately this number of the journal was distributed to only a very few members of the Society and even I have been unable to obtain a copy of it up to the present time. In addition all the type specimens of this species were destroyed by war's havoc.

Recently Mr. Katsura Morimoto has kindly offered me several specimens of Carabidae from Shikoku, among which I found some specimens probably determinable to *Trephionus ôtuboi* Habu. However, as a result of careful study of the material and after comparing it with another specimen determined as *Trephionus nikkoensis* Bates, I came to the conclusion that *T. ôtuboi* Habu should be placed in an entirely new genus.

Therefore, in the present paper, I have proposed the new genus, *Morimotoidius*, for this species in addition to the more precise redescription of *M. ôtuboi* Habu, and also described three new species of the genus *Trephionus* together with the redescription of *Trephionus nikkoensis* Bates.

I wish to express my sincere thanks to Mr. S. Katô and Mr. H. Hasegawa for their cordial counsel rendered in this study, to Professor T. Esaki and Professor K. Yasumatsu who kindly gave me various aid in studying the specimens conserved in the Entomological Laboratory of the Kyushu University, Fukuoka, to Mr. Y. Kurosawa, Mr. K. Morimoto and Mr. Y. Takakura for their kind aid in offering their specimens, to Miss C. M. F. von Hayek who responded most kindly and promptly to my frequent queries and to Mr. J. E. Scanlon and Mr. D. C. Blodget who were very kind enough to read the preliminary draft of this paper carefully.

Genus *Morimotoidius* nov.

Genotype: *Trephionus ôtuboi* Habu

Head elongate; temporae fairly longer than eyes; front bisetose on each side; eyes small; clypeus bisetose; labrum sexsetose; antennae slender, pubescent except for first three segments, segment 2 with only one ordinary seta; mandibles elongate, hooked and sharp at apex, right mandibles with submedian tooth; palpi

slender, last segment subacuminate; penultimate segment of labial palpi bisetose on inner side; mentum moderately emarginate, simple tooth in the emargination slightly shorter than lateral lobes; epilobes projecting on each side as a sharp tooth at apex of lateral lobes; ligula wide, bisetose, rounded on each side at apex; paraglossae narrow, membranous, curving inward and extending some little way beyond ligula from which it is separated by a fairly deep notch.

Prothorax slightly longer than wide, lateral setae all absent.

Elytra with basal border; 9-striate; scutellar striole present between scutellum and stria 1; apical margin without internal plica of epipleura; apex without tooth; interval 3 without dorsal pores.

Prosternal process glabrous, unbordered, short and faintly carinate behind; each ventral abdominal segment bisetose.

Tarsi slender, upper surface glabrous; basal three segments of prothoracic tarsi in ♂ slightly dilated and clothed beneath with whitish scales; segment 1 of metathoracic tarsi bisulcate; segment 5 of all tarsi glabrous beneath; claws smooth.

The present new genus is very near *Agonum*, except that the setae on the sides of the prothorax and on the third intervals of the elytra are all absent in this genus, while in *Agonum* prothorax is bisetose (sometimes a pair of hind setae absent) and the elytral interval 3 has some setiferous pores.

Key to Subgenus and Species of the Genus *Morimotoidius*

- 1(4). Tarsal segment 5 glabrous beneathSubgenus **Morimotoidius** Habu
Shiny black; lateral sides of prothorax very narrowly explanate; elytra ovate.
- 2(3). Lateral sides of prothorax straightly contracted behind; hind angles nearly rectangular*M. astictus* Bates
- 3(2). Lateral sides of prothorax sinuate before base; hind angles obtuse and rounded*M. ôtuboi* Habu
- 4(1). Tarsal segment 5 ciliate beneathSubgenus **Sphodroides** nov.
Shiny brown, elytra somewhat aeneous; lateral sides of prothorax widely explanate; elytra elliptically ovate.

M. formosus sp. nov. (subgenotype)

Morimotoidius (s. str.) **ôtuboi** Habu

“Kuro-kenashi-hirata-gomimushi”

1944: ? *Trephionus ôtuboi* Habu, *Konehu*, XVI, 3/4, p. 85.

Length: 11.8 mm. Width: 4.1 mm.

Black, shiny; apical part of clypeus, labrum, mandibles, femora and apical margin of elytra somewhat dark reddish brown, palpi brown, antennae, tibiae and tarsi brown or reddish brown, underside more or less ferruginous.

Head convex; surface smooth, with a few faint transverse striations between eyes; microsculpture almost isodiametric on disk, but forming rather wide meshes at lateral parts; neck-constriction moderately deep at lateral sides and on upper side; temporae slightly tumid, fully one and one-half times as long as eyes; hind supraorbital pores fairly remote from behind eyes; eyes small, somewhat prominent; frontal foveae rather deep and wide, somewhat uneven, diverging backward towards front supraorbital pores; clypeal suture fine; antennae reaching basal one-fifth of elytra, segments 1, 2 and 3 glabrous, distal three-fourth of segment 4, and remaining segments pubescent, segment 3 nearly as long as segment 4, segment 5 shorter than segment 4; penultimate segment of maxillary palpi less than one and one-third times as long as apical segment; penultimate segment of labial palpi almost as long as apical segment.

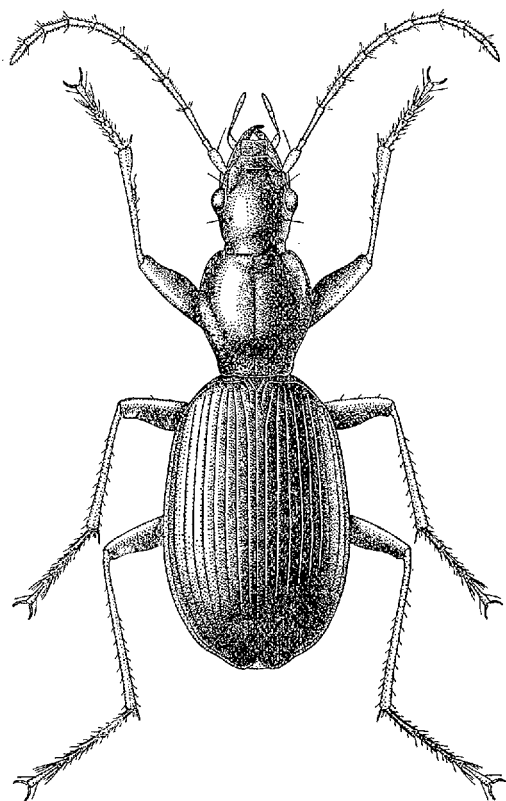


Fig. 1. *Morimotoidius* (s. str.) *ôtuboï* Habu

Prothorax fairly convex, rather diagonaliter-oblongo-hexangular, widest before middle; surface with a few faint striations, disk almost impunctate, front impression with a few short longitudinal wrinkles, basal area rugosely punctate, lateral parts sparsely and rather faintly punctate; microsculpture forming transverse meshes, but isodiametric at front-median portion; one and one-third times as wide as head, a little longer than wide; apex somewhat emarginate, completely bordered; front angles a little protrudent and rounded; base slightly arcuate, depressed near angles, almost as wide as apex, bordered save lateral parts; hind angles obtuse and rounded; lateral sides finely and vaguely bordered, very narrowly re-

flexed, but becoming wider near hind angles, moderately and nearly straightly contracted before and behind, gently sinuate before base; median line clear, somewhat depressed; front and hind transverse impressions shallow; basal foveae deep, extending forward on each side to slightly beyond middle.

Apterous.

Elytra slightly convex, ovate, widest behind middle; surface smooth; microsculpture consisting of very fine transverse lines, which form obscure wide meshes; one and three-fifths times as wide as prothorax, more than two and one-third times as long as prothorax, more than one and one-half times as long as wide, less than two and one-half times as wide as base; basal border gently oblique or almost level, slightly sinuate; shoulder entirely oblique-rounded; lateral side relatively widely explanate, rather strongly rounded to middle, then moderately rounded to apex, apical situation faint; apex clearly rounded obliquely to suture; striae clearly impressed, faintly crenulate, similar throughout; scutellar striole rather short; intervals slightly convex; marginal series of large pores on interval 9 a little spaced at middle, (8~9)+10 in number.

Underside practically smooth; metepisterna small, somewhat longer than wide, sulcate at sides, gently contracted behind; apical ventral abdominal segment with one marginal seta in ♂, and four in ♀ on each side.

Prothoracic tibiae faintly sulcate; basal three segments of prothoracic tarsi in both sexes rather faintly bisulcate; basal three segments of meso and metathoracic tarsi rather clearly bisulcate, the space between sulci weakly carinate; segment 4 more or less faintly bisulcate, moderately emarginate, rather weakly bilobed, outer lobe somewhat longer than inner lobe.

Aedeagus gently curved in profile; apical lamella of aedeagus rather short; left paramere moderately wide.

Habitat: Shikoku, Japan.

Neotype: 1 ♂, Mt. Kuishi, Kōchi Prefecture, Shikoku, IX. 24, 1951, K. Morimoto leg.

Metatypes: 2 ex., same locality, 1 ex., Kajigamori, 1 ex., Mt. Ishizuchi, K. Morimoto leg.

Morimotoidius (s. str.) astictus Bates

“Kenashi-hirata-gomimushi”

1883: *Colpodes astictus* Bates, Trans. Ent. Soc. Lond., p. 260.

I cannot detect any of this species in Japan, but it certainly belongs to the new genus.

The sides of the prothorax are “...recte angustato, angulis fere rectis (apice acutis)”, while the sides of the prothorax in *M. otuboi* Habu are gently sinuate

before the base and the hind angles obtuse and rounded.

Habitat: Oyayama, Yuyama, Kashiwagi (ex Bates), Japan.

Morimotoiulus (Sphodroides subgen. nov.) formosus sp. nov.

Length: 14.5 mm. Width: 4.8 mm.

Dark reddish brown, shiny; elytra with faint blue gloss, labrum, mandibles, lateral sides of prothorax and elytra, femora and underside reddish brown, palpi, antennae, tibiae and tarsi brown.

Head long, convex; surface smooth; microsculpture faint, almost isodiametric; neck moderately constricted; tempora somewhat tumid, one and three-fourths times as long as eyes; hind supraorbital pores somewhat distant from eyes, situated behind level of hind margin of eyes; eyes rather flat; frontal foveae shallow and indistinct; front with a pair of somewhat transverse shallow foveae between frontal foveae; labrum sexsetose, apex faintly undulate; antennae slender and very long, extending fully beyond middle of elytra, with basal three segments glabrous, segment 3 slightly longer than 4, two-thirds longer than 1, one-eighth longer than 5; mandibles sharp and hooked at apex; palpi slender, apical segment somewhat tumid at middle (rather fusiform), short truncate at extreme tip; penultimate segment of labial palpi with two setae on inner side; penultimate segment of maxillary palpi a little longer than apical one; tooth of mentum stout, shorter than lobes; epilobes somewhat projecting on each side as an obtuse tooth; ligula slightly widened at apex, bisetose, apex gently emarginate, front angles rounded; paraglossae narrow, membranous, separated from ligula by somewhat deep notch on each side and fairly extending beyond ligula, curving weakly inward.

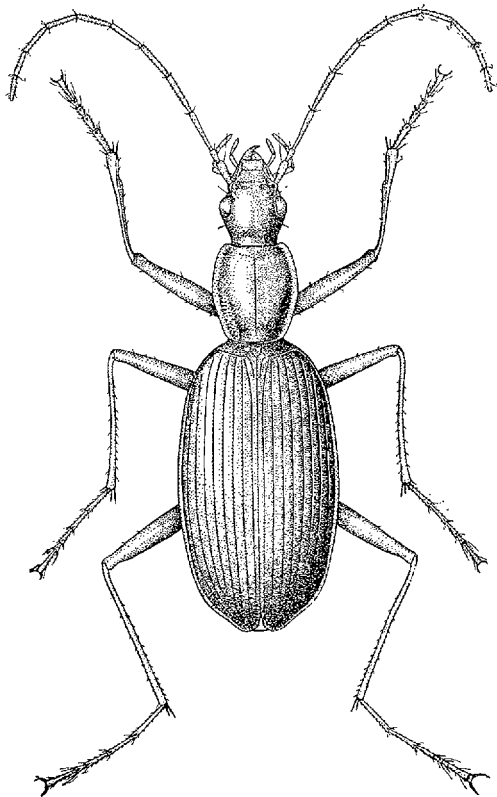


Fig. 2. *Morimotoiulus (Sphodroides) formosus* sp. nov.

Prothorax slightly convex, nearly diagonally oblongly hexangular, widest at about middle; surface of disk impunctate, with a few faint transverse striations,

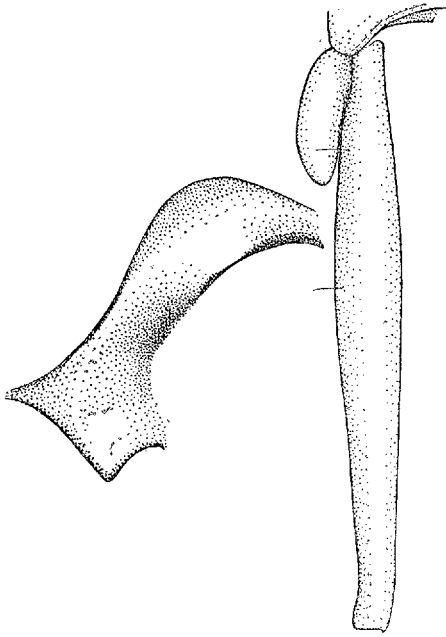


Fig. 3. Hind part of prosternal process (left), and metathoracic femur and trochanter (right).

basal area and lateral channels punctate; less than one and one-third times as wide as head, one and one-tenth times as long as wide; apex slightly emarginate, almost as wide as base, bordered; front angles slightly protrudent though rounded; lateral sides unbordered, widely explanate, and somewhat reflexed, gently contracted in front and nearly straightly contracted behind; base bordered, gently rounded towards hind angles; hind angles rounded; median line fine, reaching neither apex nor base; both front and hind transverse impressions shallow; basal foveae moderately deep, continued forward parallel with sides to middle.

Elytra gently convex, elongately elliptical-ovate, widest a little behind middle; surface smooth; microsculpture

consisting of fine transverse lines, which form wide meshes, clearer than in prothorax; one and four-fifths times as wide as and thrice as long as prothorax, one and four-fifths times as long as wide; basal border oblique, slightly sinuate; shoulder entirely rounded, with no trace of angles; lateral side rather widely explanate, evenly rounded and faintly sinuate near apex, without inner plica of epipleura; apex rather widely rounded, without tooth; striae evident, very finely crenulate, stria 1 arising from a small, basal, umbilicate pore, striae 7 and 8 rather widely abbreviate at base; scutellar striole long, located on interval 1; intervals somewhat convex; marginal series of pores on interval 9 uninterrupted, twenty-one in number.

Underside smooth save mesosternum, mesoepisterna and segment 1 of abdomen, on which there are several punctuations; prosternal process unbordered, glabrous, hind portion precipitous, rather obscurely carinate, carina not reaching hind margin; mesosternum without tooth, right side with one setiferous pore near suture; metepisterna about twice as long as wide, slightly contracted behind, sulcate at sides; last ventral abdominal segment with two setae on each side.

Legs long; metathoracic trochanters in ♀ not pointed but rounded at apex;

metathoracic femora more than four times as long as metathoracic trochanters; prothoracic tibiae grooved; tarsal segment 4 on all legs moderately emarginate; basal three segments of pro and mesothoracic tarsi, and basal four segments of metathoracic tarsi more or less bisulcate, the space between sulci somewhat carinate; claws smooth.

Habitat: Formosa.

Holotype: 1 ♀, Taiheizan Mountains (Taihoku-shu), X. 24, 1932, Keisho Sato leg., preserved in the Entomological Laboratory of the Kyushu University, Fukuoka.

I placed this species with great hesitation in the present new genus, for the form of the hinder portion of the prosternal process betrays the intermediate character between *Agonum*- and *Sphodrus*-groups.

This species almost fits the description of "*Colpodes*" *subsericatus* Fairmaire in Ann. Soc. Ent. France, 6th Ser., Vol. VI, p. 316 (1886) and also Jedlička in Sborník entom. odd. Nár. Musea v Praze, Vol. XII, p. 198 (1934), but it appears to differ from the species here described in the following points: the antennae and the legs are brown (the femora are rather reddish) instead of being "antennis pedibusque piceis, tarsi dilutioribus", the basal foveae of the prothorax are almost straight, but not "arcuate", the elytral striae 7 and 8 are abbreviate only at basal part instead of being "obsolescentibus", the fourth tarsal segments on all legs moderately emarginate than to express "à peine bilobé".

The absence of the lateral setae on the prothorax and of the dorsal pores on the elytra were not mentioned by Fairmaire in his description of *C. subsericatus*. The same characters were also indicated in two Indian species, "*Colpodes*" *impunctatus* Andrewes (Ann. Mag. Nat. Hist., 9th Ser. Vol. XII, p. 685 [1923]) and "*Colpodes*" *shebbearei* Andrewes (Trans. Ent. Soc. Lond., Vol. LXXVIII, p. 34 [1930]) from Sikkim.

Genus *Trephionus* Bates

Genotype: *Trephionus nikkoensis* Bates

1888: *Trephionus* Bates, Trans. Ent. Soc. Lond., p. 255.

Temporae nearly as long as eyes; two pairs of supraorbital pores present; eyes rather flat or fairly flat; clypeus bisetose; labrum sexsetose; antennal segments 1 to 3 glabrous; palpi slender, apical segment subacuminate; mandibles long, hooked and sharp at apex, without tooth on inner side; penultimate segment of labial palpi bisetose on inner side; mentum clearly emarginate, with one stout and bifid tooth at middle of emargination; ligula wide, bisetose, rounded on each side at apex; paraglossae narrow, membranous, curving inward and extend-

ing some little way beyond ligula from which it is separated by a fairly deep notch on each side.

Prothorax slightly wider than long, lateral sides bisetose.

Elytral base bordered; 9-striate; scutellar striole situated between scutellum and interval 1; apical margin without internal plica of epipleura; apex without tooth; interval 3 without dorsal pores.

Prosternal process unbordered, carinate behind; mesosternum without tooth at apical part; metepisterna nearly as long as wide; each ventral abdominal segment bisetose.

Tarsi slender, upper surface glabrous; prothoracic tarsi in ♂ with basal three segments dilated and clothed beneath with whitish scales; segment 1 of metathoracic tarsi with outer sulcus; segment 5 of all tarsi ciliate beneath; claws simple; metathoracic trochanters in ♂ and ♀ normal.

Right paramere of phallic organ narrow and acuminate at apex.

This genus seems to be near *Sphodrus* Clairville or *Sphodropsis* Seidlitz.

Key to Subgenus and Species of the Genus *Trephionus*

1(4). Segment 1 of metathoracic tarsi bisulcate.

Subgenus **Trephionus** Bates

2(3). Surface of tarsal segment 5 without short setae at apical portion; prothorax somewhat narrower, one and one-eighth times (in ♂) to one and one-twelfth times (in ♀) as wide as long.....*T. (s. str.) nikkoensis* Bates

3(2). Surface of tarsal segment 5 with two short setae at apical portion; prothorax somewhat wider, one and one-sixth times (in ♀) as wide as long.....
T. (s. str.) kinoshitai sp. nov.

4(1). Segment 1 of metathoracic tarsi with only external sulcus.

Subgenus **Kirishimanus** nov.

Subgenotype: *Trephionus takakurai* sp. nov.

5(6). Shiny brown, somewhat transparent; eyes fairly flat; microsculpture of elytra clear, isodiametric.....*T. (Kirishimanus) takakurai* sp. nov.

6(5). Shiny black; eyes somewhat flat; microsculpture of elytra forming obscure wide meshes.....*T. (Kirishimanus) sordidatus* sp. nov.

***Trephionus* (s. str.) *nikkoensis* Bates**

“Nikkô-hosonaga-gomimushi”

1883: *Trephionus nikkoensis* Bates, Trans. Ent. Soc. Lond., p. 255.

Length: 8.3 (♂), 9.3 (♀) mm. Width: 3.0 (♂), 3.4 (♀) mm.

♂: Black, shiny, very slightly rufous; labrum, mandibles, segment 1 of an-

tennae, femora, tibiae and underside reddish brown, clypeus dark reddish brown, palpi, antennae and tarsi brown, apical sides of elytra somewhat reddish.

Head convex; surface impunctate; microsculpture distinct, isodiametric; neck rather weakly constricted at lateral parts; temporae almost as long as eyes; hind supraorbital pores remote from eyes, situated behind level of hind margin of eyes; eyes weakly convex; frontal foveae shallow; clypeal suture fine but distinct, not depressed, clypeus gently convex; front of labrum weakly emarginate; antennae reaching basal one-seventh of elytra, segments 1 to 3 and basal one-third of segment 4 glabrous, segment 4 slightly longer than segment 3 or 5; apical segment of palpi faintly tumid at middle, truncate at extreme tip; apical segment of maxillary palpi somewhat longer than penultimate segment; tooth of mentum stout, bifid, shorter than lateral lobes; epilobes projecting on each side beyond lateral lobes as a small tooth.

Prothorax gently convex, subcordate, widest at one-third distance from apex; surface impunctate, with a few faint transverse wrinkles, median basal area somewhat uneven, basal foveae without punctures; microsculpture clear, forming somewhat wide meshes; less than one and one-half times as wide as head, one and one-eighth times (one and one-twelfth times in ♀) as wide as long; apex slightly emarginate, finely bordered; front angles weakly protrudent, rounded; base one and one-eighth times as wide as apex, bordered at lateral parts, nearly straight or very faintly emarginate, rounded at

lateral parts; hind angles very obtuse, clearly rounded; lateral sides obscurely bordered, narrowly explanate (somewhat widely behind), moderately rounded in front and behind, gently sinuate before hind angles; front lateral seta situated at widest point, somewhat remote from lateral margin, hind seta on angle; median line distinct; front transverse impression rather deep, hind impression shallow; basal foveae not deep.

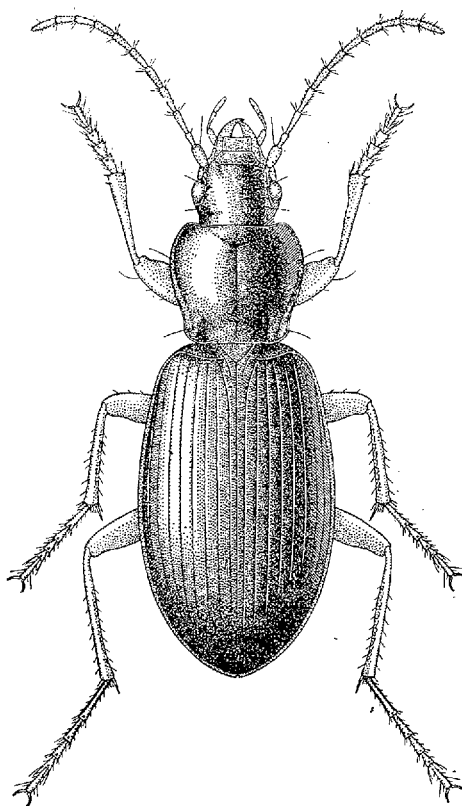


Fig. 4. *Trephionus* (s. str.) *nikkoensis*
Bates

Apterous.

Elytra convex, elongately oblong, widest at middle; surface smooth; microsculpture forming somewhat transverse meshes; one and one-half times as wide as and two and five-sevenths times as long as prothorax, one and three-fifths times as long as wide; basal border slightly oblique, fairly sinuate, adjoining lateral margin forming very obtuse angle; shoulder indistinct, without tooth; lateral side finely and faintly bordered, gently rounded to middle, then moderately rounded to apex, without apical sinuation; apex somewhat pointed but faintly rounded; striae not deep, similar throughout, without crenulation; scutellar striole rather short, situated on interval 1; intervals slightly convex, interval 3 without dorsal pores; basal umbilicate pore moderately remote from basal border and scutellar striole, adjoining stria 1; marginal series of large pores on interval 9 somewhat spaced at middle, about fourteen in number.

Underside smooth; prosternal process unborded, carinate behind; metepisterna slightly longer than wide, weakly contracted behind, sulcate at sides; apical ventral abdominal segment in ♂ and ♀ with one marginal seta on each side.

Prothoracic tibiae ungrooved; prothoracic tarsi in ♂ with basal three segments dilated, underside of segments 1 to 4 with whitish scale-like hairs; basal three segments of meso and metathoracic tarsi bisulcate; upper surface of segment 5 without setae at apical part, ciliate beneath.

Aedeagus clearly curved in profile; apical lamella of aedeagus rather long; left paramere wide; right paramere narrow, nearly as long as left one, somewhat pointed at extreme tip.

Distribution: Japan (Honshu).

I examined one male and one female specimens collected in Fukushima Prefecture by Mr. Y. Kurosawa. These fit well Bates' description.

***Trephionus* (s. str.) *kinoshitai* sp. nov.**

"Hakuba-hosonaga-gomimushi"

Length: 10.0 mm. Width: 3.7 mm.

Dark reddish brown; palpi, antennae, legs and underside reddish brown.

Head convex; surface impunctate, with a few striations between eyes; microsculpture distinct, forming isodiametric meshes; neck somewhat constricted at lateral parts; temporae rather clearly tumid, almost as long as eyes, hind supra-orbital pores remote from hind edge of eyes; eyes small and flat; frontal foveae parallel, rather shallow; clypeal suture fine, not depressed; antennae extending a little beyond base of elytra, segments 1 to 3 glabrous, distal four-fifths of segment 4, and remaining segments pubescent, segment 3 as long as segment 4 or 5; palpi slender, apical segment of maxillary palpi somewhat tumid at middle, a

little longer than penultimate segment; mentum moderately emarginate, with a stout and somewhat bifid tooth.

Prothorax slightly convex, quadrate-subcordate, widest at apical one-third; surface impunctate, with a few transverse wrinkles on disk; microsculpture forming somewhat transverse meshes; less than one and two-thirds times as wide as head, one and one-sixth times as wide as long; apex gently emarginate, bordered save middle; front angles a little protrudent but rounded; base somewhat emarginate at middle, wider than apex, oblique-rounded and bordered at lateral parts; hind angles completely rounded; lateral sides finely bordered, moderately rounded in front and behind, a little sinuate just before hind seta, which is placed at basal one-eighth, front seta before widest point; median line fine, somewhat depressed; front transverse impression faint, hind one shallow; basal foveae rather shallow.

Elytra moderately convex, oblong-elliptical, widest at about middle; surface impunctate; microsculpture forming transverse wide meshes; more than one and two-fifths times as wide as and two and two-thirds times as long as prothorax, one and three-fifths times as long as wide; basal border slightly oblique, moderately sinuate at middle; shoulder rounded; lateral side rather widely

explanate, gently rounded to middle, then moderately rounded to apex, apical sinuation very obscure; apex somewhat obliquely rounded to suture; striae moderately impressed, crenulation very faint; scutellar striole somewhat short; intervals almost flat or slightly convex, interval 3 without pores; marginal series of large pores on interval 9 spaced at middle, $(6\sim7)+2+(8\sim7)$ in number.

Underside smooth; prosternal process unbordered, glabrous, carinate behind; metepisterna nearly as long as wide, sulcate at sides; apical ventral abdominal segment with one seta on each side.

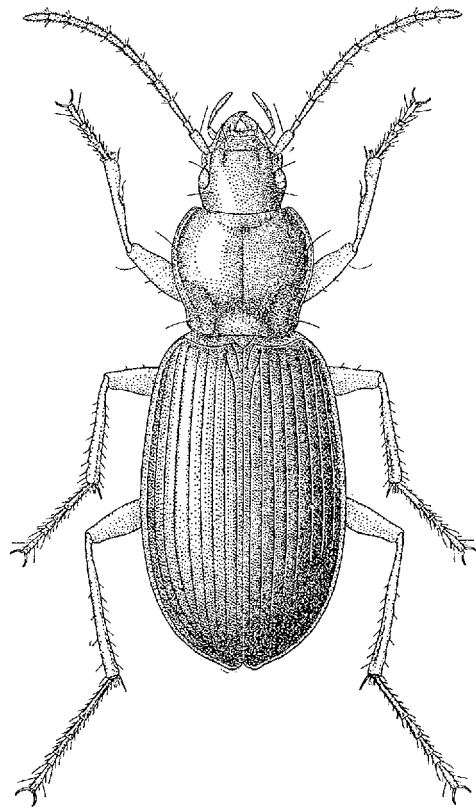


Fig. 5. *Trephionus* (s. str.) *kinoshitai* sp. nov.

Prothoracic tibiae without distinct sulcus ; segment 1 of prothoracic tarsi, segments 1 and 2 of mesothoracic tarsi and basal three segments of metathoracic tarsi bisulcate, the space between sulci weakly carinate ; segment 4 of pro and mesothoracic tarsi somewhat emarginate ; underside of segment 5 with three setae on each side, and dorsal surface usually with two setae in addition to two pairs of lateral setae.

Habitat : Central Honshu, Japan.

Holotype : 1 ♀, Mt. Ôrenge (Hakuba), Nagano Prefecture, VIII. 31, 1915, S. Kinoshita leg., preserved in the collection of the Laboratory of Insect Identification and Taxonomy, National Institute of Agricultural Sciences.

The prothorax of this species is somewhat wider than *T. nikkoensis* Bates, being quadrate-subcordate, instead of being "oblongo-subcordate."

Trephionus (Kirishimanus subgen. nov.) takakurai sp. nov.
"Takakura-hosonaga-gomimushi"

Length : 8.0 mm. Width : 2.6 mm.

Reddish brown, shiny ; apical part of elytra somewhat transparent.

Head elongate, fairly convex ; surface impunctate ; microsculpture distinct, isodiametric ; neck-constriction rather faint at lateral sides, very faint on upper side ; temporae tumid, less than twice as long as eyes ; supraorbital pores small, hind pores fairly remote from eyes ; eyes very flat and small ; buccal fissures extending on behind eyes ; frontal foveae clear though not deep, extending onto clypeus ; clypeal suture clear, not depressed ; front margin of clypeus weakly emarginate ; antennae barely reaching basal fifth of elytra, segment 3 as long as segment 4, slightly longer than segment 1, less than twice as long as segment 2, last segment nearly as long as segment 3 ; palpi slender, apical segment subacuminate, weakly tumid near middle, truncate at extreme tip ; apical segment of maxillary palpi one and one-third times as long as penultimate segment ; apical segment of labial palpi as long as penultimate segment ; mentum with a fairly deep emargination, its tooth stout and short, apparently shorter than lobes, somewhat truncate at extreme tip, with a short longitudinal stria in middle ; ligula somewhat wide at apex, slightly rounded at extreme tip ; paraglossae narrow, free, extending beyond ligula ; lacinia of maxillae very sharp and hooked at apex, rather coarsely fringed with bristles ; galea almost as long as lacinia, apical segment somewhat thick, gently curved, almost as long as penultimate segment.

Prothorax convex, elongately cordate, widest at three-eighths distance from apex ; surface with a few scattered microscopic punctures, and with some transverse faint striations near median line ; microsculpture distinct and isodiametric ;

one and one-half times as wide as head, slightly wider than long, ratio of greatest width to basal width 1.36; apex slightly emarginate, faintly and finely bordered save middle; front angles oblique and not much rounded; base somewhat sinuate, bordered at lateral parts, somewhat wider than apex, lateral parts rather obliquely rounded, weakly depressed; lateral sides finely and faintly bordered, narrowly explanate, a little reflexed near basal angles, gently rounded in front and behind, gently sinuate before hind angles; front lateral seta located at widest point, hind seta on angle; median line moderately impressed, reaching neither apex nor base; front transverse impression shallow, hind transverse impression rather faint; basal foveae clear though not very deep, somewhat wide, faintly and narrowly extending on forward parallel with sides as far as middle.

Apterous.

Elytra fused with each other; fairly convex, very long, elongately elliptic, widest near middle; surface impunctate; microsculpture fairly distinct and forming isodiametric reticulate meshes; one and one-fourth times as wide as prothorax, two and one-half times as long as prothorax, less than twice as long as wide (exactly one and nine-tenths times as long as wide); basal border a little sinuate at middle, then gently obliquely extending to lateral side; shoulder indistinct and rounded; lateral side almost straight to middle, then rather gently rounded to apex, without apical sinuation; apex somewhat rounded; striae not deep, more or less fainting towards apex and lateral parts, disappearing shortly behind basal border; scutellar striole rather long; intervals nearly flat, but interval 1 somewhat convex, interval 3 without dorsal pore (save one pore near apex adjoining stria 7); basal umbilicate pore located near basal border, rather widely apart from scutellar striole, striae 1 and 2 arising from this pore though indistinctly; marginal series of large pores rather widely interrupted at middle, 5+1+8 on left elytron, 5+2+7 on right elytron.

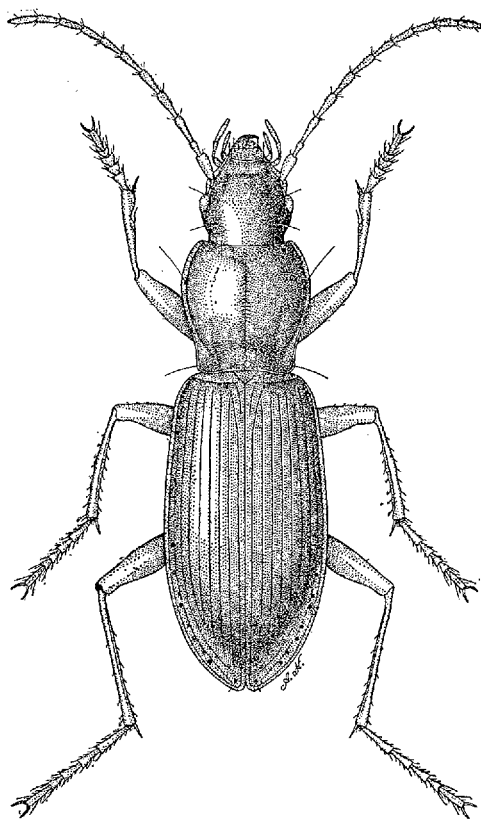


Fig. 6. *Trephionus (Kirishimanus) takakurai* sp. nov.

Underside almost impunctate; prosternal process rather widely and faintly bordered; metepisterna about one and three-fifths times as long as wide, sulcate at front and inner sides, suture between metepisternum and metepimeron fading; apical ventral abdominal segment in ♂ with one marginal pore on each side.

Tibiae weakly curved towards apex; prothoracic tibiae without longitudinal sulcus; metathoracic tibiae about one and one-tenth times as long as five segments of metathoracic tarsi together; basal three segments of prothoracic tarsi in ♂ dilated and cordate; upper surface of apical three segments in meso and metathoracic tarsi (only segment 5 in prothoracic tarsi) somewhat longitudinally depressed; segments 1 and 2 in meso and metathoracic tarsi with faint exterior sulcus (in segment 2 of metathoracic tarsi very faint); segment 4 of all tarsi moderately emarginate; segment 5 rather wide.

Aedeagus relatively small, stout; apex of aedeagus rather wide; left paramere fairly wide; right paramere narrow, not pointed at extreme tip, about two-thirds times as long as left paramere.

Habitat: Kyushu, Japan.

Holotype: 1 ♂, Kirishima Mountains, Kagoshima Prefecture, Kyushu, V. 24, 1946, Y. Takakura leg.

Mr. Y. Takakura kindly wrote me that he found this species under stone, not particularly huge, lying by the pass from Yuôdani to Takachihonome, where there was almost no green.

Judging from the flattened and small eyes and reddish brown coloration it seems to live in hollows or crevices of lava, even though it is not a genuine subterranean or cave-dwelling species, being accidentally found on earth.

Trephionus (Kirishimanus subgen. nov.) sordidatus sp. nov.

“Kuro-hosonaga-gomimushi”

Length: 9.8 (holotype), 9.0 (allotype) mm.

Width: 3.3 (holotype), 3.1 (allotype) mm.

Black, somewhat rufous, shiny; palpi and antennae brown (palpi somewhat pale), labrum, mandibles, legs and underside ferruginous, interval 1 a little reddish in holotype.

Head moderately convex; surface impunctate, with a few faint striations between eyes; microsculpture distinct, forming isodiametric meshes on disk, rather transverse on lateral parts; neck-constriction slight on upper side and somewhat clear on lateral parts; temporae a little tumid, longer than eyes; hind supraorbital pores fairly remote from hind margin of eyes; eyes small and flat; frontal foveae faint; clypeal suture fine, not depressed; labrum transverse-quadrate; antennae extending somewhat beyond shoulders, segments 1 to 3, and

basal one-fifth portion of segment 4 glabrous, segment 3 nearly as long as segment 4 or 5 and twice as long as segment 2; palpi slender, apical segment of maxillary palpi one and one-third times as long as penultimate segment; mentum moderately emarginate, tooth of mentum stout, bifid or clearly sinuate at extreme tip, shorter than lateral lobes; epilobes projecting on each side as a sharp small tooth at apex of lobes; ligula wide, nearly straight at apical margin, bisetose; paraglossae narrow, membranous, separated from ligula on each side by a fairly deep notch, curving gently inward and extending beyond it.

Prothorax convex, widest behind apical one-third; surface smooth, with some faint transverse striations, both front and hind transverse impressions somewhat uneven, but basal foveae impunctate; microsculpture forming transversely wide meshes; more than one and one-half times as wide as head, a little wider than long; apex nearly straight, finely bordered save

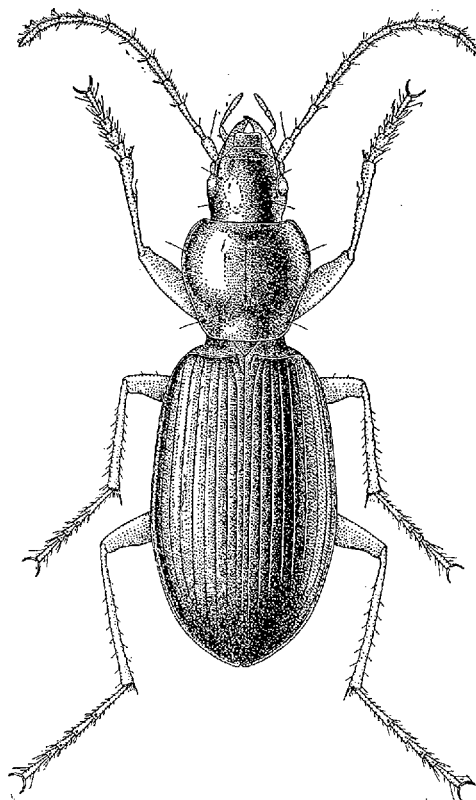


Fig. 7. *Trephionus (Kirishimanus) sordidatus* sp. nov.

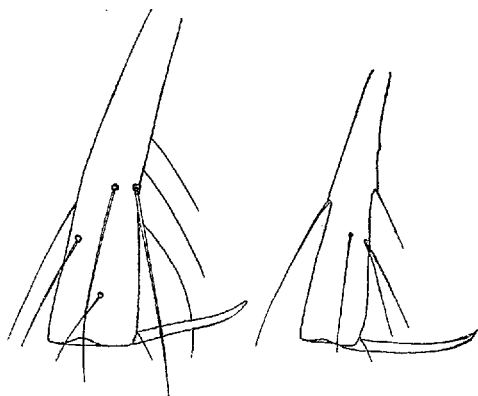


Fig. 8. Segment 5 of mesothoracic tarsi
Left: *Trephionus (s. str.) kinoshitai* sp. nov.; Right: *T. (Kirishimanus) sordidatus* sp. nov.

middle; front angles slightly protrudent and rounded; base almost straight, clearly narrower than apex, unbordered; hind angles obtuse and entirely rounded; lateral sides unbordered or faintly bordered, very narrowly explanate and reflexed behind, strongly rounded in front, moderately rounded behind, basal sinuation very faint; bisetose, front seta located on apical one-fourth, hind seta on basal one-sixth; median line fine but clear; front and hind transverse impressions

somewhat distinct; basal foveae shallow.

Apterous.

Elytra fused with each other; convex, elongately oblong-ovate, widest at about middle; surface smooth; microsculpture faint, consisting of fine transverse lines, which form obscure wide meshes; less than one and one-half times as wide as and two and three-fifths times as long as prothorax, one and two-thirds times as long as wide; basal border almost level, weakly sinuate at middle; shoulder indistinct and rounded; lateral side gently rounded to middle, then moderately rounded to apex, without apical sinuation; apex rather pointed; striae moderately impressed, similar throughout, crenulation very faint, striae 2 to 6 reaching basal border; scutellar striole rather short; intervals somewhat convex, interval 3 without setiferous pores; marginal series of large pores on interval 9 interrupted at middle, (5~6)+(1~2)+(9~10) in number; microsculpture faint, consisting of fine transverse lines, which form obscure wide meshes.

Underside smooth; prosternal process unbordered, glabrous, forming rather indistinctly long carina behind; metepisterna slightly longer than wide, sulcate at

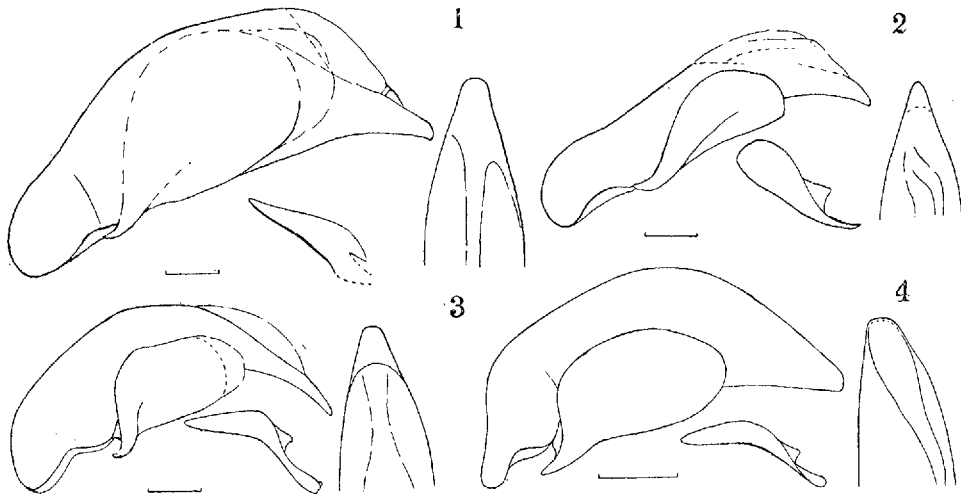


Fig. 9. Phallic organs

1. *Trephionus (Kirishimanus) sordidatus* sp. nov.
2. *Morimotooidius (s. str.) otuboï* Habu
3. *Trephionus (s. str.) nikkoensis* Bates
4. *Trephionus (Kirishimanus) takakurai* sp. nov.

sides; last ventral abdominal segment with one marginal seta in ♂ and ♀ on each side.

Prothoracic tibiae ungrooved; basal three segments of prothoracic tarsi noticeably dilated in ♂; segments 1 and 2 nearly equal in length and width, segment 3 somewhat narrower and shorter than segment 2, segment 4 one-half times as

long as and two-thirds times as wide as segment 3; underside of basal four segments in ♂ with two lines of white scale-like hairs; segment 1 of prothoracic tarsi in ♀ twice as long as segment 2; basal three segments of meso and meta-thoracic tarsi faintly sulcate externally; segment 4 slightly emarginate at apex; segment 5 with one pair of lateral setae in ♂, and two pairs in ♀, underside of segment 5 with two setae on each side.

Aedeagus stout, slightly curved near apex in profile; apical lamella of aedeagus rather short and wide; left paramere fairly wide; right paramere very narrow, pointed at apex.

Habitat: Shikoku and Kyushu, Japan.

Holotype: 1 ♂, Tsuchigoya, Kochi Prefecture, Shikoku, VII. 10, 1952, K. Morimoto leg.

Allotype: 1 ♀, Shiiba, Miyazaki Prefecture, Kyushu, IX. 23, 1950, A. Habu leg.

The present species is easily distinguished from *Trephionus (Kirishimanus) takakurai* m. by the generally more robust form, blackish colour and the micro sculpture of the prothorax and the elytra forming transverse meshes.

Postscript

After the first proof had printed, I could examine one female specimen of *Trephionus nikkoensis* Bates collected by Mr. N. Kumasawa from Chûzenji, near Nikkô, which was the type locality of this species. It is essentially same as the specimens from Fukushima Prefecture described in this paper with the exceptions of brownish coloration and of elytral striae faintly punctate.