

Description of a New Species of the Genus *Quedius* from Japan, with Notes on the Generic Characteristics of the Chaetotaxy (Coleoptera, Staphylinidae)

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Abstract A new species, *Quedius hideyoi* is described from Amami-Ôshima, Is., Japan, and some generic characters of the genus *Quedius* STEPHENS are noted.

The genus *Quedius* STEPHENS is very large genus including about 800 species in several subgenera from the world (HERMAN, 2001), and 51 species in 5 subgenera are known from Japan at present (SHIBATA, unpublished document).

Quedius has been closely revised by a few modern authors, e.g. SMETANA (1971, 1988), COIFFAIT (1978). SMETANA (1971) named some characteristic punctures on head and pronotum, while HAYASHI (1993) defined chaetotaxy on head, pronotum and elytra for some characteristic setae (macrosetae) in remarkable punctures (named as sockets). These definitions are, however, not always concordant because of the lack of detailed explanation on their location by the former author, and thus the chaetotaxy of macrosetae in the characteristic punctures are defined again in this paper for *Quedius*.

In this paper, I am going to describe a new species of the subgenus *Distichalius* from Amami-Ôshima Island, *Q. (Distichalius) hideyoi* sp. nov., which belongs *Q. annectens*-group (sensu SMETANA, 1988).

Before going into further details I wish to express my cordial thanks to Mr. Hideyo NOMURA for his kindly giving me many materials, to Dr. Katsura MORIMOTO, Emeritus Professor of Kyushu University, for his critically reading the manuscript of this paper. I am very grateful to Messrs. Hideyo NOMURA, Tateo ITO, Yôichi MAEDA, K. TANIZAWA and to Dr. Jun-ichi AOKI, Emeritus Professor of the Yokohama University for their kindness to give me many important materials.

The holotype and some paratypes of the new species are preserved in the collection of the Osaka Museum of Natural History, Osaka.

The main terminology and abbreviations used herein are same as those explained in HAYASHI, 1993.

Quedius (Distichalius) hideyoi sp. nov.

(Figs. 1–12)

M a l e. Body elongate, strongly shiny. Head black, pronotum dark to blackish brown with margins yellowish brown, elytra pale brownish yellow, rather widely and clearly dark brown medially including scutellum, narrowly pale yellow at apical margin and infuscate in epipleura, abdomen dark reddish brown, reddish brown at apical margin of each segment, bearing an obscure reddish patches in both side of basal three visible tergites and strongly iridescent, paratergites reddish; labrum and mandibles reddish brown, palpi pale yellowish brown; antennae reddish brown in basal 3 or 4 segments, blackish brown in the following segments; legs pale brownish yellow, with tibiae darkened in undersides. Length: 7.0–8.0 mm.

Head (Fig. 2) subhexagonal, gently convex above, much wider than long (32 : 25), much shorter and a little narrower than pronotum (25 : 36 and 32 : 37), faintly emarginate at anterior margin, roundly constricted posteriorly in postgenae, and neck constriction strongly impressed, rather strongly sulcate; surface very sparsely scattered with very minute microscopic punctures, with very fine striate microsculpture, and (including gena and postgenae) almost devoid of setiferous punctures except for characteristic punctures (including sockets), *viz.* usual 7 pairs of macrosetae normally developed: a pair of front additional punctures (fap) lie on imaginarily drawn line between supra-orbital macrosetae (so, sockets), and the distance between front additional punctures somewhat longer than the distance between front additional punctures (7 : 6): additional infra-orbital seta (puncture) well developed, present a little before infra-orbital macroseta (socket): two pairs of coarse punctures just before neck constriction. Eyes very large, strongly convex laterally, much longer than postgenae (4 : 1) in dorsal view. Antennae (Fig. 3) moderately long, reaching near the middle of pronotum; basal 5 and 11th segments distinctly longer than wide, 6th slightly so, 7th nearly as long as wide, 8th to 10th slightly wider than long; 4th segment weakly polished, and each segment with the following relative length from base to terminal: 12.0 : 7.0 : 8.0 : 5.5 : 5.0 : 5.0 : 5.0 : 4.5 : 4.5 : 4.5 : 9.0.

Pronotum (Fig. 2) suboval, straight at anterior margin, gradually narrowed anteriorly, gently arcuate at sides, widely rounded off posteriorly, widest at posterior third, nearly as wide as long, much narrower and shorter than elytra (37 : 46 and 36 : 43); disc strongly convex, with fine microsculpture and microscopic punctures alike on head; antero-lateral macrosetae and latero-basal ones well developed; dorsal row consisting of 3 coarse punctures, sublateral row of 2 ones, about 5 coarse punctures in anterior corner and several ones sparsely scattered along margins.

Scutellum impunctate, with very finely striate microsculpture.

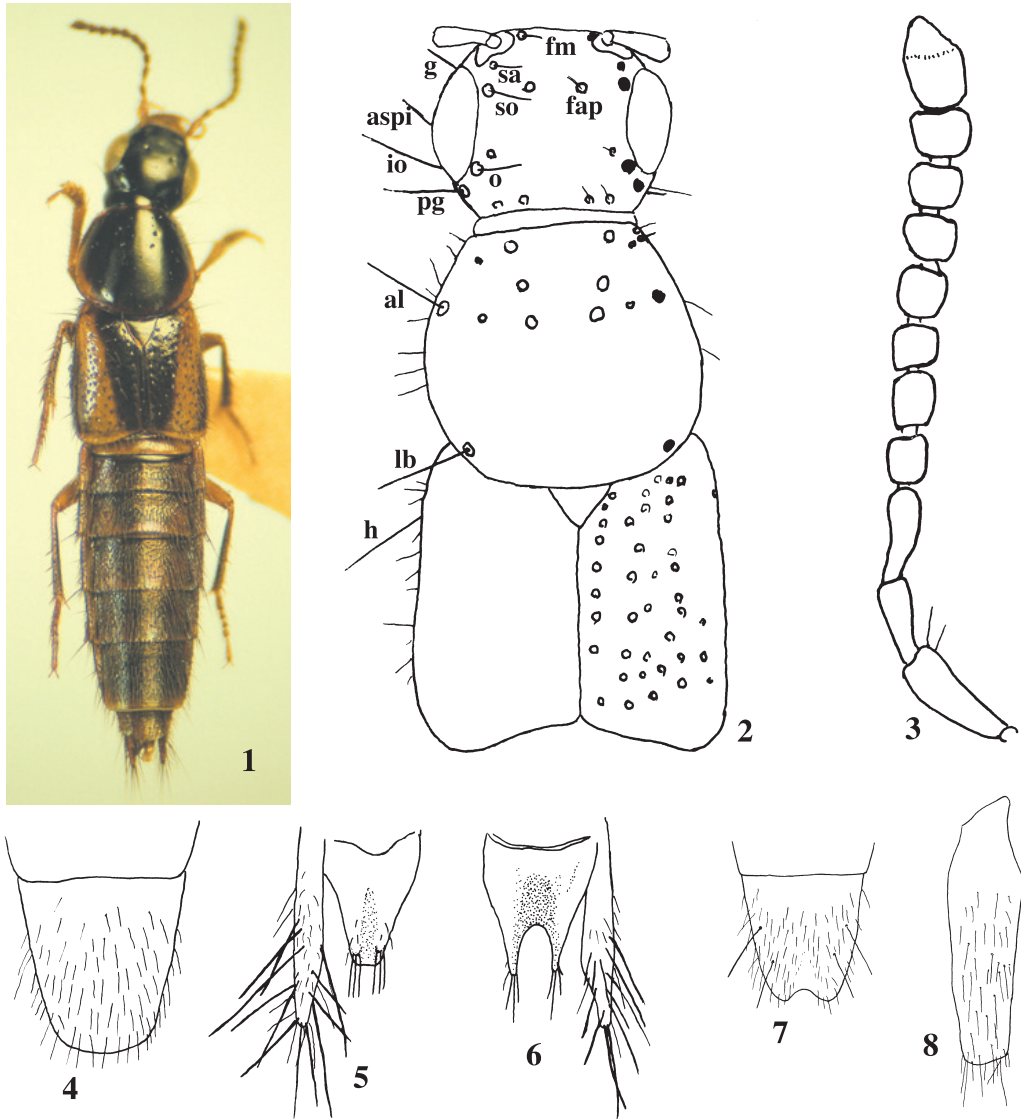
Elytra (Fig. 2) nearly square, slightly wider than long (46 : 43), nearly straight at sides, weakly emarginate at apices, rounded at post-lateral angles; surface somewhat uneven, no microsculpture, bearing sutural row of about 10 coarse punctures, 3 irregular rows of about 10 coarse ones on each half of disc, and several coarse ones at side, and the interstices of punctures very sparsely and minutely punctured; epipleura numerous and coarsely punctured. Wings fully developed, functional.

Abdomen parallel-sided in 3rd to 5th segments, thence gradually convergent posteriorly; tergites sparingly and finely punctured except for narrow space just before each posterior margin being almost impunctate; 7th tergite with apical seam of whitely palisade setae, 8th (Fig. 4) gently arcuate at posterior margin, and 10th (Fig. 5) narrowly and shallowly depressed medially, blunt at apex; sternites much more sparsely punctured than on tergites, the punctures a little larger and wholly scattered; 8th (Fig. 7) sternite rather widely and roundly emarginate at apex and triangularly depressed before the emargination, 9th (Fig. 8) elongate, truncate at apex and sparsely punctured.

Legs moderately long and rather slender; protibiae only with a few spines excepting terminal spurs; protarsi foliaceously dilated in basal 4 segments; meso- and metatibiae numerous spinous; metatarsi with 1st segment slightly shorter than 5th (3 : 4).

Male genitalia (Figs. 9–12) nearly symmetrical, slender and long; penis weakly tumid in base, weakly sclerotized medially on dorsum, nearly straight, slightly narrowed apically, somewhat constricted at sides, obliquely truncate bi-laterally at apex, with elongate-subfusiform apical orifice there; parameres unilobed, elongate, extending beyond penis, slightly emarginate at sides, gently widened in apical fourth, wider than penis there, and subacute at tip with a pair of setae, and the inner face bearing numerous peg-setae in the apical fifth.

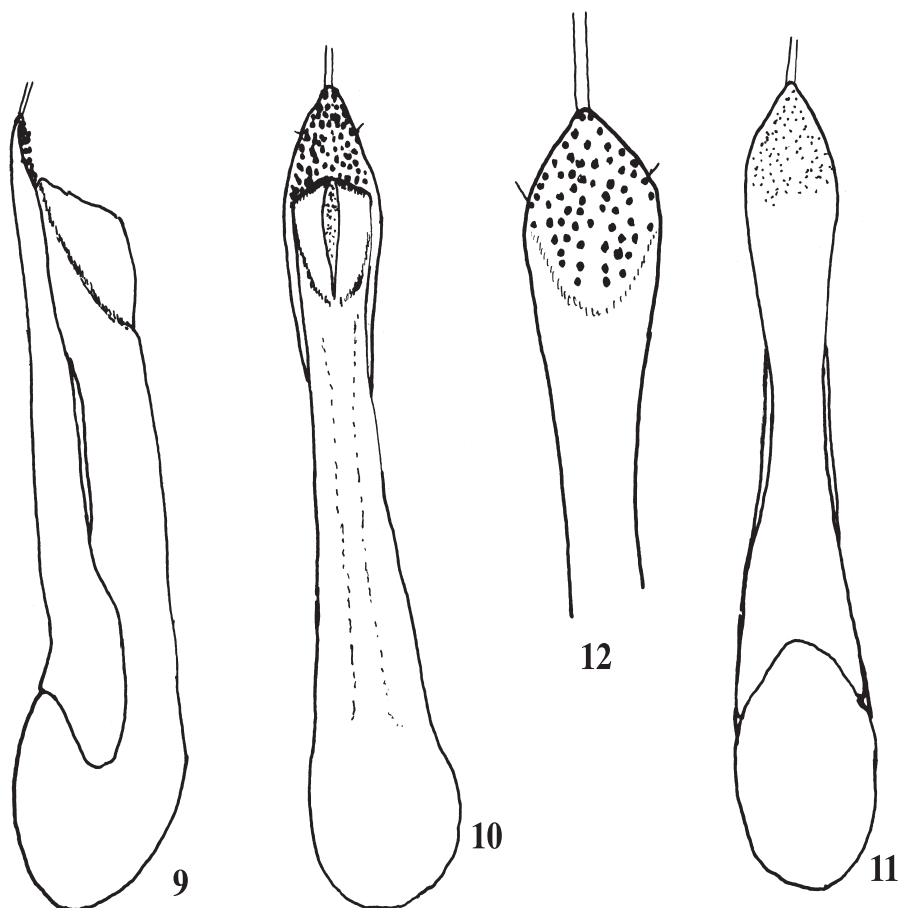
In female, protarsi a little less dilated, 10th tergite (Fig. 6) rather wide, darkened in median area, widely and deeply roundly emarginate medio-apically, each side of the emargination being horn-like and bearing a few setae of various length at the apex; 8th sternite rounded posteriorly and nearly



Figs. 1–12. *Quedius hideyoi* sp. nov. — 1, Habitus; 2, fore body showing chaetotaxy of macrosetae. — Head: fm, front marginal; sa, supra-antennal; so, supra-orbital; g, genal; io, infra-orbital; pg, postgenal; o, occipital; fap, front additional puncture; aspi, additional seta of preinfraorbital macroseta. — Pronotum: al, antero-lateral; lb, latero-basal. — Elytra: h, humeral. — 3, Antenna; 4, 8th tergite of male; 5, 9th and 10th tergites of male; 6, 9th and 10th tergites of female; 7, 8th sternite of male; 8, 9th sternite of male. — 9–12, male genitalia: 9, right lateral view; 10, dorsal view; 11, ventral view; 12, inner apical portion of parameres with peg-setae.

straight in middle. In other respects female all most same as male.

Type series. Holotype: ♂, Hatsuno, Amami-Ōshima Is., Kagoshima Pref., Japan, 1–IV–1966, H. NOMURA leg. Paratypes: 6 ♂♂, 4 ♀♀, same data as the holotype; 2 ♂♂, the same locality of the holotype, 1–IV–1967, H. NOMURA leg.; 2 ♂♂, 7 ♀♀, the same locality of the holotype, 2–IV–1967, H. NOMURA leg.; 2 ♂♂, 1 ♀, the same locality of the holotype, 30–III–1967, H. NOMURA leg.; 2 ♀♀,



Figs. 9–12. *Quedius hideyoi* sp. nov. — Male genitalia: 9, right lateral view; 10, dorsal view; 11, ventral view; 12, inner apical portion of parameres with peg-setae.

the same locality of the holotype, 31-III-1967, H. NOMURA leg.; 1 ♂, 1 ♀, the same locality of the holotype, 3-IV-1967, H. NOMURA leg.; 1 ♂, the same locality of the holotype, 2-IV-1969, Y. MAEDA leg.; 1 ♀, the same locality of the holotype, 30-III-1969, Y. MAEDA leg.; 18 ♂♂, 20 ♀♀, the same locality of the holotype, 1-IV-1966, T. ITO leg.; 2 ♂♂, 2 ♀♀, the same locality of the holotype, 31-III-1966, T. ITO leg.; 4 ♀♀, the same locality of the holotype, 4-IV-1966, T. ITO leg.; 5 ♂♂, 3 ♀♀, Nishinakama, Amami-Ōshima Is., Kagoshima Pref., 5-IV-1969, K. TANIZAWA leg.; 7 ♂♂, 5 ♀♀, Nishinakama, Amami-Ōshima Is., Kagoshima Pref., 5-IV-1969, Y. MAEDA leg.; 1 ♀, Nishinakama, Amami-Ōshima Is., Kagoshima Pref., 6-IV-1969, Y. MAEDA leg.; 1 ♀, Ikari, Amami-Ōshima Is., Kagoshima Pref., 18-V-1960, T. SHIBATA leg.; 1 ♂, Kawauchi, Amami-Ōshima Is., 25-XI-1967, Y. SUSUMU leg.; 1 ♂, 2 ♀♀, Mikyô, Tokunoshima Is., Kagoshima Pref., 29-III-1966, H. NOMURA leg.; 2 ♀♀, Mt. Amagidake, Amagi-chô, Tokunoshima Is., Kagoshima Pref., 20-IV-2008, J. AOKI leg.

Remarks. The present new species is very similar in general appearance to *Quedius* (*Distichalius*) *meng* SMETANA, but it is easily separated from the latter species in the following points: body larger, punctures on abdominal tergites distinctly smaller than those on elytra and evenly sparse, penis truncate at apex and parameres widened in apical portion, while in the latter the body rather smaller

(body length: 5.0–6.5 mm), the punctures on the abdominal tergites nearly as large as those on elytra and becoming finer and sparser posteriorly on each tergites, the penis not truncate at apex and parameres gradually tapered apicad.

Etymology. The specific name is dedicated to Mr. Hideyo NOMURA, who is an eager coleopterist and a staff member of the Japan Coleopterological Society and Osaka Coleopterological Society.

Bionomics. The specimens were collected from forest floor vegetable debris along a mountain path.

Notes on the Chaetotaxy of the Genus Quedius STEPHENS (Fig. 13)

Quedius STEPHENS, 1829, 22 (Type species: *Staphylinus levicollis* BRULLÉ. Type locality: Morée, plaine de Modon).

The genus *Quedius* was closely revised by SMETANA (1971, 1988) and COIFFAIT (1978). SMETANA (1971) designated a chaetotaxy of several characteristic setiferous setae on head and pronotum, but his designation is sometimes difficult to specify because of the insufficient explanation of the location. HAYASHI (1993) proposed some technical terms used for chaetotaxy of macroseta in characteristic large puncture so called as socket on head, pronotum and elytra. The chaetotaxy in the subfamily Staphylininae is radically decided in the number and the location to recognize some alterations or variations by tribes, subtribes or genera. Therefore, in the following lines I describe the chaetotaxy of *Quedius* according to sensu HAYASHI (1993) through an observation of *Quedius levicollis* BRULLÉ, the type species of the genus.

Chaetotaxy on head in dorsal view consists of 7 pairs of fully developed macrosetae: front-marginal macroseta (fm) lies just behind anterior margin of head near inner angle of antennal fossa: supra-antennal one (sa) is located contiguously to upper margin of antennal fossa obliquely behind antennal base: supra-orbital one (so) lies at about supra-anterior corner of eye and contiguous to orbital margin: genal one (g) lies on very narrow space just behind mandible: occipital one (o) is located near supra-posterior corner of eye, not contiguous with eye margin and distinctly before the imaginary line drawn between postgenal macrosetae (in small eye species of *Quedius*, it lies a little more anterior and distant from eye margin): postgenal one (pg) lies just behind posterior corner of eye, contiguous with eye margin in large eye species, (but in small eye species, it does not translocate anteriorly): infra-orbital one is located about median level of eye, nearly contiguous to under eye margin in large eye species (in

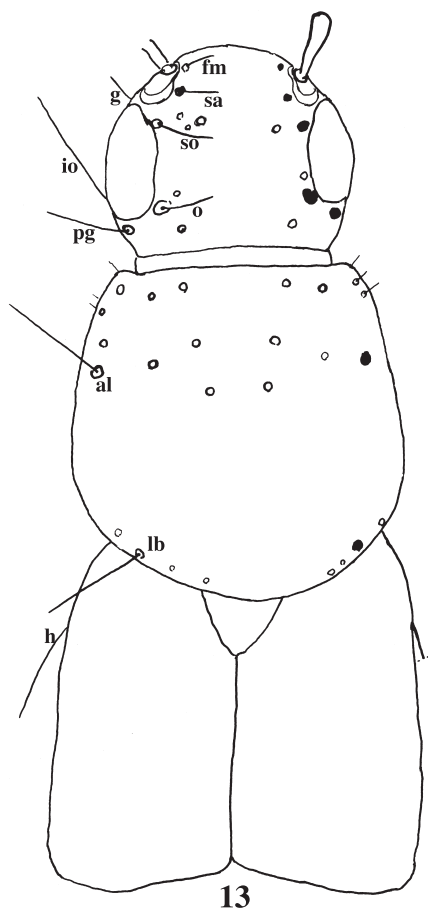


Fig. 13. *Quedius levicollis* BRULLÉ
(Abbreviation see Fig. 2).

small eye species, it distant from eye, but its absolute position is not altered): additional large setae to ordinary ones, one or two ones are present before infraorbital macroseta, and additional ones between supra-orbital macroseta are usual in some species-group but not usual or absent in many cases. Chaetotaxy on pronotum is composed of 2 pairs of well developed macrosetae: antero-lateral macroseta lies inside about anterior third of side rather distant from anterior angle and lateral margin: latero-basal one is located apparently inside of basal angle of pronotum and contiguous with basal margin. Chaetotaxy on elytra consists of only one pair of macrosetae: humeral macroseta is located rather distant from the top of humerus, on about upper margin of epipleuron and accompanied with an additional large seta in most cases, which is located at the top of humerus.

Other punctures are individually specific if anything, various by each species. Macrosetae on head are quite stable in each position, but apparent impression for their locations is rather different by the size of eyes.

要 約

林 靖彦：日本産ツヤムネハネカクシ属の1新種と属に対する覚え書き。——奄美大島及び徳之島からツヤムネハネカクシ属の1新種を *Quedius (Distichalius) hideyoi* sp. nov. (アマミクロスジツヤムネハネカクシ：新称) と命名し記載した。本種はクロスジツヤムネハネカクシ *Quedius (Distichalius) annectens* SHARP グループに属し、台湾産の *Quedius (Distichalius) meng* SMETANA に近縁で、非常によく似ている。後者は体長5.5–6.0 mm と小型で、腹背板の点刻が翅鞘のそれと同大で相対的に大きく、雄交尾器の形態が明らかに異なっていることなどで区別できる。

ツヤムネハネカクシ属は比較的近年 SMETANA (1971, 1988), COIFFAIT (1978) によって詳しく再検討されたが、頭部、前胸背板、上翅の剛毛式の記述が分かりにくいので、HAYASHI (1993) のシステム（用語）を用いて解説した。

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