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NEW *CACCOBIUS*-SPECIES IN JAPAN WITH A TABULAR KEY

By

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During the past three years the author collected a good deal of Onthophagid insects, and on this occasion he will describe only new species of *Caccobius* THOMS.

The materials used in the following contribution belong mostly to the Entomological Museum of the Hokkaido Imperial University, and some of them were sent to him by Messrs. S. HIRAYAMA, M. SUZUKI, Y. MIWA, C. YOHENA, S. NOMURA, T. MATSUOKA, K. AKIMOTO, K. USHIODA, etc.

The following 12 species of *Caccobius* are found in Japan, 7 of which are new to science:

1. *Caccobius brevis* HAR.
2. *C. hirayamai* MATS. (n. sp.)
3. *C. jessoensis* HAR.
4. *C. jononis* MATS. (n. sp.)
5. *C. kasuganus* MATS. et YOHENA (n. sp.)
6. *C. koichii* MATS.
7. *C. narashinensis* MATS. et YOHENA (n. sp.)
8. *C. nikkoensis* LEW.
9. *C. sapporensis* MATS. (n. sp.)
10. *C. suzukii* MATS. (n. sp.)
11. *C. vacerrosus* LEW.
12. *C. yubariensis* MATS. (n. sp.)

The genus *Caccobius* is distinguished from *Onthophagus* in the following points:

1. Pronotum beneath, anteriorly, on each side, with a deep groove to receive the antenna.

2. Anterior tibia at the apex truncate, so that the apical tooth directed not forewardly but sidely.

3. The first interstice of the elytron just near the suture punctured irregularly or in double rows.

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Tabular key to the *Caccobius*-species in Japan

1. Head at the hind margin with a horn-like projection (♂) ... ... *suzukii* MATS. (n. sp).
– Head at the hind margin with no horn-like projection (♂) 2
2. Interstices of the elytra granulated 3
– Interstices of the elytra punctured 5
3. Thorax near the anterior margin with no gibbosity (♂) ... ... *vacerrosus* LEW.
– Thorax near the anterior margin with gibbosities (♂) 4
4. Thorax near the anterior margin with 4 gibbosities in a transverse row ... ...

being somewhat longer than the following one.

Length 7.5 mm.

Hab.—Hokkaido (Sapporo); Honshu (Fukushima, Tokyo, Kyoto).

Numerous specimens are preserved in the Entomological Museum of the Hokkaido Imperial University at Sapporo.

This species resembles somewhat *C. microcephalus* HAR., but differs from it especially as follows:

1. Head at the anterior margin somewhat emarginated, with the keels distinctly higher.
2. Thorax with no virescent lustre.
3. The interstices of the elytra more strongly punctured.
4. Mesosternum in the middle not keeled.

2. ***Caccobius jononis*** n. sp.

♂. Body black, with a purplish brown lustre, not very shiny; antennae and palpi ferruginous; head between the eyes with a slightly curved transverse keel; clypeus ferruginous, entire at the anterior margin, slightly reflexed, the punctures moderate, somewhat confluent; near the neck with an obsolete transverse keel, scarcely punctured. Thorax strongly punctured towards the lateral and hind margins, the punctures large, in the middle frontly with a large roundish excavature, at the hind margin of which on each side provided with an obscure boss, the anterior angle being acute. Elytra distinctly longer than the thorax, the striae moderately impressed, distinctly punctured, in the intertices with 2 or 3 rows of granulous punctures, with each a short hair; a spot at the shoulder, and the apical margin broadly, ferruginous. Pygidium brownish, not very closely but strongly punctured. Legs pitchy brown; tarsi and femora ferruginous, the anterior tibia with 4 very short rounded teeth. Mesosternum near the anterior margin with a short obsolete keel.

♀. Differs from the male in having the discal boss of the thorax lower, the elytra lacking ferruginous markings, and having the pichty brown femora.

Length 7.5–8 mm. (♀ ♂).

Hab.—Honshu and Kiushu; one male specimen was collected (3. VIII, 1907) at Jono by the author, and one female by T. MATSUOKA at Tokyo (12. I, 1936).

3. ***Caccobius kasuganus*** MATSUMURA et YOHENA (n. sp.)

♀. Body purplish brown, with grayish hairs; palpi, antennae, fore tarsi, and middle and hind legs brownish, the club of the antennae being fuscous. Head strongly ocellate-punctate; the punctures on the clypeus transversely

confluent, at the anterior margin distinctly emarginated, with 2 distinct carinae, the anterior one being short, nearly one half of the posterior one, slightly arched, the posterior one much higher, nearly reaching to the eyes. Thorax ocellate-punctate, near the anterior margin with a transverse row of 4 gibbosities, the middle two much nearer each other than the latteral to the middle one, in the middle with a longitudinal shallow groove. Elytra with striae not punctured; interstices with 2 or 3 rows of fine shiny granules, at the bases and apices with each a transverse row of reddish spots. Pygidium ocellate-punctate, at the lower half being reddish brown. Anterior tibia with 4 teeth, the apical two subequal in length.

Length 6 mm.

Hab.—Honshu; one female specimen was collected at Kasuga (Nara) (14. VII, 1934) by Y. YANO.

4. ***Caccobius narashinensis*** n. sp.

♂. Black with a light purplish tinge; palpi and antennae ferruginous. Head moderately strongly punctured, with 3 transverse carinae, which are placed nearly in equal distance, the anterior one being obsolete and short, the middle one nearly straight, short but longer than the first, the hind one somewhat curved, nearly so long as the middle one; clypeus finely punctured, at the front entire, reflexed, and where the colour is brownish. Thorax strongly punctured, in the middle the punctures smaller, with each a very short pale brownish hair. Elytra at the apices with each a ferruginous spot, somewhat longer than the pronotum, the striae moderately impressed, with very fine punctures, the interstices with 2 or 3 rows of granules, with each a short brownish hair. Pygidium ferruginous, strongly but sparsely punctured. Legs pitchy brown, the tarsi ferruginous, the second anterior tibial tooth longer than the first. Prosternum with an obsolete longitudinal keel.

♀. Differs from the male in having darker colour, the elytra at the apices lacking ferruginous spots, having the anterior tibial teeth longer and sharper.

Length 7 mm. (♂ ♀).

Hab.—Honshu; two (1 ♂, 1 ♀) specimens were collected at Narashino in the Prov. Chiba by C. YOHENA.

5. ***Caccobius sapporensis*** n. sp.

♂ ♀. Body pitchy black, shiny; elytra brownish. Head strongly ocellate-punctate, with 2 carinae; clypeus strongly granulously punctured, at the anterior margin somewhat emarginated, at the reflexed part the colour brownish; punctures between the carinae not confluent, the hind margin strongly punctured,

the posterior carina on both sides strongly attenuated; antennae and palpi ferruginous, the culb of the former being fuscous. Thorax strongly punctured, the punctures on the disk being smaller, with each a very short white hair. Elytra striate-punctate, the interstices with 2 or 3 rows of punctures, with each a very short white hair. Pygidium distinctly punctured, with each a very short hair. Mesosternum with an obsolete central keel. The anterior tibia with 3 sharp teeth, the apical tooth being very large, but it seems variable in form.

Length 6 mm. (♂ ♀).

Hab.—Hokkaido; 2 male and 1 female specimens were collected at Sapporo by the author and C. YOHENA.

6. ***Caccobius suzukii*** n. sp.

♂. Purplish dark brown, not very shiny; palpi and antennae dark brown. Head at the anterior margin scarcely emarginated, at the clypeus not closely punctured, the punctures being not confluent, the suture indicated by an obsolete arched carina, behind the carina the frons densely ocellate-punctate, the punctures being distinctly larger than on the clypeus; near the neck with a long, cone-like, somewhat forwardly curved horn. Thorax densely and clearly ocellate-punctate, the punctures with a short hair; near the anterior margin with 3 gibbose elevations, the central one being divided into 2 by a shallow longitudinal furrow which runs through the middle part of the thorax. Elytra scattered with reddish spots, striate-punctate, the interstices with numerous granules, having each a short white hair. Pygidium ocellate-punctate. Legs pitchy brown.

♀. Differs from the male in having a transverse carina near the neck, lacking a cone-like horn at the posterior margin of the head and at the anterior margin of the thorax, with a short cone-like projection in the middle, which is scarcely divided into 2 by a shallow longitudinal groove, running through the central part of the thorax.

Length 6-6.5 mm. (♂·♀).

Hab.—Honshu; 7 (2♂, 5♀) specimens were collected at Fukushima by M. SUZUKI, S. HIRAYAMA, and 2 females at Mt. Akagi by C. YOHENA.

7. ***Caccobius yubariensis*** n. sp.

♀. Black, shiny; antennae and palpi ferruginous, the antennal club being dark brown. Head strongly punctured, at the clypeus the punctures somewhat confluent, near the middle with a short obscure transverse keel, near the neck with a short transverse keel which is emarginated anteriorly on both sides, distinctly punctured, the punctures on the disk smaller than on the lateral

and posterior margins, with each a very short hair, the anterior angle somewhat obtuse, with an obsolete lateral boss which is punctured as in the other parts. Elytra striate-punctate, the punctures being very strong, the interstices flat, with 2 or 3 rows of small punctures, having each a very short white hair. Pygidium strongly punctured, the punctures with each a very short grayish hair. Legs pitchy brown, the tarsi ferruginous, the anterior tibia with 4 teeth, 2 of the apex subequal in length, being pointed at the apices.

Length 6 mm. (♀)

Hab.—Hokkaido; one female specimen was collected at Yubari (4. VIII, 1935) by S. HIRAYAMA.

APPENDIX

Caccobius yamauchii n. sp.

♂. Black, shiny, with short brownish pubescence. Head with fine punctures, at the anterior margin reflexed, pitchy brown, in the middle distinctly emarginated, on the disk with a horn-like protuberance which is impunctate, at the hind margin somewhat transversely elevated and where is scarcely punctured. Antennae and palpi ferruginous. Thorax highly vaulted, deeply but remotely punctured, on the disk somewhat less punctured, at the anterior angle acute; at the sides with no boss-like protuberance; towards the hind margin in the middle somewhat flattened. Elytra dark brown at the sutural region distinctly excavated, striate-punctate, the interstices somewhat elevated, with one or two irregular rows of punctures, each producing a short hair; at the shoulders and the apices of the elytra somewhat brownish. Pygidium sparsely punctured, the punctures with each a short hair. Legs brown, the anterior tibiae and all the tarsi ferruginous.

♀. Differs from the male in having a transvers, somewhat arched carina at the part of the horn-like protuberance.

Length—3 mm. (♂ ♀).

Hab.—Kiushu; 4 (3♂, 1♀) specimens were collected at Mt. Korasan, Chikugo (19. VIII, 1936) by Mr. K. YAMAUCHI of the Umeno Entomological Laboratory, Kurume, Chikugo. —Formosa; one male specimen was collected at Kagi (20. III, 1928) by the author.

This is the smallest *Caccobius*-species which the author has met with, and it has no resemblance to any known species.