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DESCRIPTIONS OF NEW OR LITTLE KNOWN SPECIES OF BRACONIDAE, WITH NOTES ON SYNONYMY

(Hymenoptera)

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This paper deals with four Japanese species, among which two are new to science and one new to Japan, belonging to the subfamilies Capitoniinae (= Cenocoeliinae), Doryctinae and Braconinae (= Vipioninae); besides the synonymy of some genera is discussed.

Subfamily *Capitoniinae*

(Subfamily *Cenocoeliinae* auct.)

Capitonius japonicus sp. nov.

♀. Black; antennae and legs dark brown to black; two basal joints of the antennae reddish yellow; coxae at the apex, trochanters, femora at the extreme apex and tibiae on the basal fourth yellowish; four anterior tibiae and tarsi sometimes reddish brown. Wings very faintly clouded; stigma and veins brown.

Head transverse, broader than the thorax, almost smooth and shining except for the face which is closely punctate; clypeus punctate, with a short dentiform projection at the middle of the apical margin; the greatest length of the eyes equal to the malar space; a deep depression occupies the median longitudinal third of the front, extends from the insertion of the antennae to the posterior ocelli, is margined laterally from the antennae to in line with the anterior ocellus and has anteriorly in the middle a short, narrow, high, posteriorly truncate ridge; ocelli arranged in a triangle, of which the base is 2.5 times as long as its sides; anterior ocellus lies just inside the depression; posterior ocelli nearer to each other than to the eye-margin. Antennae 33- or 34-jointed; scape long, about 1.5 times

as long as the 1st flagellate joint, which is about 1.2 times as long as the 2nd. Prothorax reticulate; mesonotum almost smooth, with scattered punctures; parapsidal furrows well

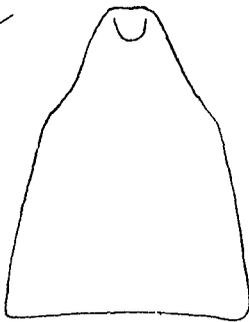
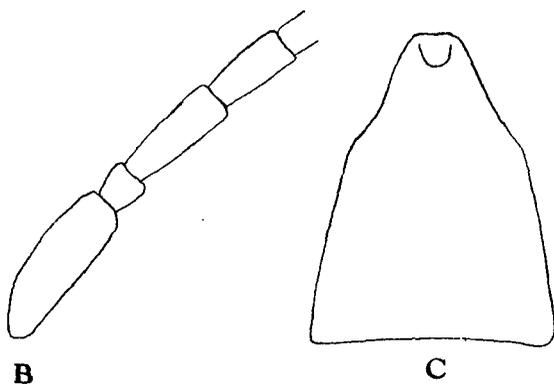
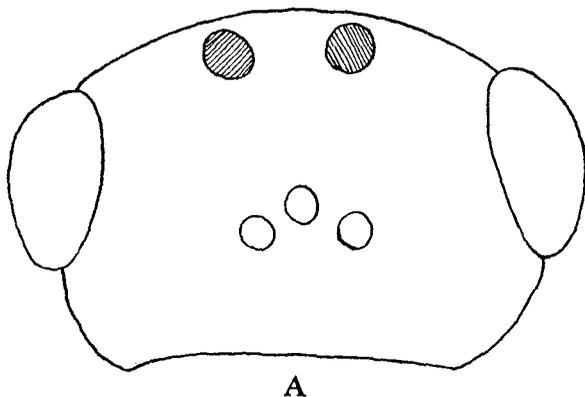


Fig. 1. *Capitonius japonicus* sp. nov.

A. Head (from above); B. Basal joints of antenna; C. First tergite (from above).

as long as the abdomen.

Length, 6-7mm. (without ovipositor).

♂. Like the female, except as follows:—

Antennae 31- or 34-jointed, the scape entirely black. Legs lighter in color, with the coxae, hind femora, four posterior tibiae on the apical two-thirds and tarsi fuscous; all trochanters pale yellow. First tergite more slender than in the female and the striation more weakly marked.

Length, 5.5-6 mm.

Holotype (♀) and Allotype (♂), Sapporo, 29. V, 1949, K. KOSUGI leg.

marked and strongly crenulate; scutellum smooth, the scutellar fovea deeply excavated and divided by three longitudinal carinae; mesopleurae almost smooth, with a rugose area near the tegula; mesopleural furrow crenulate. Propodeum strongly reticulate. First abscissa of the radius a little shorter than the 2nd; recurrent nervure interstitial; nervulus very slightly post-furcal; anal cell with two indications of transverse nervures. First abscissa of the medius of the hind wings as long as the 2nd. Hind tibiae gradually swollen towards the apex. First tergite coarsely longitudinally striate, with the sides strongly diverging from the base and the apical margin nearly straight; apical breadth about 1.5 times as long as that of the basal third; 2nd and following tergites smooth and shining; 2nd suture very fine and straight. Ovipositor

Paratypes : 3 ♀♀, 1♂, Sapporo, 29. V, 1949, K. KOSUGI leg., and 1♀, Uriu, Teshio, VI, 1934, I. OKADA leg.

The types are placed in the Entomological Institute, Hokkaido University, Sapporo.

Host : *Glenea reticata* PASCOE (Col., Cerambycidae).

This species may be parasitic on larvae of *Glenea reticata*. The present representatives collected by KOSUGI were referred by him for identification, with the note that their cocoons were found in pupal cells made by larvae of the Cerambycid beetle in a trunk of the walnut-tree (*Juglans Sieboldiana*).

This species is extremely close to *Capitonius eous* (WILKINSON)¹⁾ from India, but differs therefrom by the shorter scape, the number of joints in the antennae and the structure of the 1st tergite. It may be also distinguishable from *Capitonius agricolator* (LINNÉ)²⁾ from Europe at least by the pale yellowish trochanters and the larger size.

Here the name *Capitonius* is accepted as the valid name of this genus instead of "*Cenocoelius*", which has been used by authors, for the following reason.

(*Cenocoelius* WESTWOOD) = *Capitonius* BRULLÉ

Cenocoelius WESTWOOD, Introd. mod. Classif. Insect., 2: Synops., p. 62, 1840. (With no valid species), nom. nud.

Capitonius BRULLÉ, Hist. nat. Insect. Hymen., 4: 544, 1846. (Genotype: *Capitonius bifasciatus* BRULLÉ, monobasic).

Cenocoelius SMITH, Proc. Linn. Soc. London, 4: suppl., p. 66, 1860. (With a valid species).

Aulacodes CRESSON, Proc. Ent. Soc. Philadelphia, 4: 8, 1865. (Genotype: *Aulacodes nigriventris* CRESSON, monobasic).

Cenocoelius WESTWOOD, Tidschr. v. Entom., 25: 33, 1882. (With nine valid species).

As indicated above, the oldest available name of this genus is certainly *Capitonius* BRULLÉ. It, therefore, should be used for the generic name as was already accepted by ROHWER.³⁾

1) Stylops 1: 86, ♂♀, 1932 (as *Cenocoelius eous*).

2) This species is known to me by MARSHALL's description (Spec. Hymén. Europe, 5: 273, 1894), (as *Cenocoelius agricolator*).

3) Canad. Entom., 46: 316, 1914.

Subfamily **Doryctinae**

(Tribe Doryctini auct.)

Hypodoryctes sibiricus KOKUJEW

Hypodoryctes sibiricus KOKUJEW Hor. Soc. Entom. Ross., **34**: 550, ♀, 1900; SZÉP-LIGETI, Gen. Insect., **22-24**: 70, ♀, 1904; FAHRINGER, Optusc. bracon., **3**: 127, ♀, 1930.

This species is a unique member of the genus *Hypodoryctes* KOKUJEW (1900). I know it only by the original description. The present specimens taken at Sapporo seem to agree very well with the description except for the number of joints in the antennae, and are believed to be identified as this species. It may be briefly described as follows:—

♀. Slender and black species with the legs yellow. Head rather transverse, narrower behind the eyes than across them. Eyes very slightly emarginate inwardly opposite the insertion of the antennae. Antennae rather longer than the body, 44- or 45-jointed; two basal joints yellowish; 1st joint of the flagellum about 1.3 times as long as the 2nd. Mesonotum with a median longitudinal furrow; parapsidal furrows crenulate. Propodeum markedly areolated, reticulate-rugose, except for the two basal areas which are almost smooth. Legs yellow, with fuscous markings; hind coxae with a dentiform projection beneath the base. Wings hyaline; stigma dark brown; 2nd intercubitus decolored; recurrent nervure and nervulus just interstitial; nervus parallelus arising from just above the lower distal corner of the 2nd discoidal cell; 1st abscissa of the hind wings as long as the 2nd. Abdomen claviform, rather longer than the head and thorax united; 1st tergite slender, gradually widened towards the apex, about 2.5 times as long as wide at the apex, strongly striate-reticulate; 2nd tergite finely striate-reticulate, with two shallow furrows originating at the basal corners and converging towards the middle of the tergite, with a broad pale streak along the course of the furrows; the basal triangle area surrounded by the furrows black and reticulate; 3rd tergite shorter than the 2nd, apparently margined laterally, the basal half depressed and striate-reticulate like the 2nd, and the apical half and the following tergites smooth and convex; 4th tergite near the basal margin narrowly reticulate-rugose; suture between the 2nd and 3rd tergites weakly impressed, finely crenulate, and definitely present at the sides; 2nd and 3rd tergites in part and venter yellowish. Ovipositor a little longer than the body.

Length, 6—7 mm. (without ovipositor).

♂. Unknown.

Described from four female specimens collected by C. WATANABE at Sapporo, on July 16th, 1946.

Distribution: East Siberia and Japan (Hokkaido).

The present specimens differ from the original description in the number of antennal joints. However, of the middle part of the antennae each joint is divided into two parts by a light-colored transverse line, so

that it is quite possible that the antenna might be said erroneously to be about 60-jointed instead of 44- or 45-jointed as in the original description.

***Doryctes margaroniae* sp. nov.**

♀. Dark brown to black; antennae yellowish brown, darkened towards the apex; clypeus and mandibles reddish brown; palpi pale yellow; legs yellow; 4th and following tergites ferruginous; venter yellow. Wings subhyaline; stigma and veins yellowish brown.

Head strongly transverse, markedly narrower behind the eyes than across them and smooth; distance between a posterior ocellus to the eyemargin about 2 times as long as that between the posterior ocelli; the greatest length of the eyes about 2 times as long as the malar space. Antennae 22- or 23-jointed; scape short, about two-thirds the length of the 1st joint of the flagellum, the latter being about 1.3 times as long as the 2nd joint of the flagellum. Mesonotum smooth, with scattered punctures; parapsidal furrows definitely impressed and crenulate; scutellum smooth and shining; scutellar fovea deeply excavated and divided by a median longitudinal carina. Mesopleurae almost smooth and shining, with a rugose area near the tegulae; mesopleural furrow distinct and smooth. Propodeum completely areolated, the basal carina forked near the base and the fork as long as the costula; two

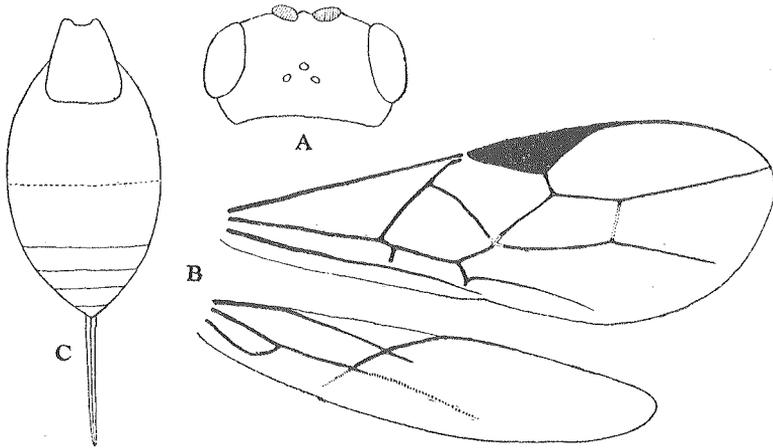


Fig. 2. *Doryctes margaroniae* sp. nov.

A. Head (from above); B. Fore and hind wings; C. Abdomen (from above).

basal areas almost smooth and the remaining areas coarsely reticulate. Hind coxae simple, with no dentiform projection beneath at the base; hairs of the outer side of the hind tibiae short. First abscissa of the radius as long as one-third the length of the 2nd, which is a little shorter than the 1st intercubitus in length; 2nd intercubitus decolorated; recurrent nerve just interstitial; nervulus postfurcal by its own length; nervus parallelus arising from the lower corner of the 2nd discoidal cell; 1st abscissa of the medius of the hind wings as long as the 2nd. Abdomen rather broad oval; 1st tergite gradually widened towards the apex, about 1.5 times as long as the apical breadth, longitudinally striate and strongly margined laterally, with two carinae originating at the basal corners and converging to the

middle of the tergite; 2nd and 3rd tergites longitudinally striate continuously on the middle, smooth on each side and hardly separated by a fine line, which is only visible on the smooth sides; a shallow transverse groove marked along the course of the line on the striate part as if it were a crenulate suture; 4th and following tergites very narrow and almost smooth. Ovipositor as long as half the length of the abdomen.

Length, 3 mm. (without ovipositor).

♂. Closely resembles the female in general structure and color, but differs from the latter in the following respects:—

Second tergite longitudinally striate on the basal third, and smooth on the apical two-thirds; 3rd tergite entirely smooth; both tergites hardly separated by a fine line, which is only visible on each side, without a transverse groove along the course of the line.

Length, 3 mm.

Holotype (♀), Kyoto, M. KUROSAWA leg. Allotype (♂), Tokyo, Z. KUWANA leg. Paratypes: 2♀♀, Kyoto, M. KUROSAWA leg., and 3♀♀. Tokyo, Z. KUWANA leg.

The types are placed in the Entomological Institute, Hokkaido University, Sapporo.

Host: *Margaronia pyloalis* WALKER (Lep., Pyralidae).

The type-specimens were bred from larvae of the Mulberry Pyralid Moth, *Margaronia pyloalis* WALKER. The cocoons are light brown, commonly gregarious, clustered regularly together and attached to the inside of the leaf-nest of the host-larva.

This species does not agree with any published description and is essentially characterized by the strongly transverse head in combination with the completely areolated propodeum and the aberrant structure of the abdomen. The host-relationship of this species shows a striking exception: for most of the species of *Doryctes*, so far as is known, are parasitic on coleopterous wood-borers, while it is a parasite of the lepidopterous leaf-roller, *Margaronia pyloalis* WALKER. Further, the Braconid parasite of *Margaronia pyloalis* stated by WATANABE¹⁾ as "*Bracon* (?) sp." is exactly the same as this species.

Subfamily **Braconinae**

(Tribe Braconini auct.)

Philomacroploea pleuralis (ASHMEAD)

Chelonogastra pleuralis ASHMEAD, Proc. U. S. Nat. Mus., 30: 196, ♀, 1906; WATANABE, Ins. Mats., 8: 184, ♀, 1934.

1) Kontyu, 13: 232, 1939.

Philomacroploea pleuralis WATANABE, Jour. Facul. Agr. Hokkaido Imp. Univ., 42: 17, ♀, 1937.

This species was originally described by ASHMEAD (1906) from many female specimens taken at Atami, Japan, falling in the genus *Chelonogastra* ASHMEAD. In 1934, I gave Formosa as its locality, and then, in 1937, owing to the naked eyes, the strongly emarginated 6th tergite, the short 2nd cubital cell, etc., I transferred it to the genus *Philomacroploea* CAMERON. No male was known, however, until I received of SONAN two males and three females. The male differs from the female, apart from usual sexual differences, apparently in the 6th tergite, which is simple and not emarginated at the middle of the hind margin. It may be briefly described as follows:—

♂. Reddish brown, darker in color than the female; front and occiput fuscous. Thorax black dorsally, with a pale streak along the course of the parapsidal furrows. Propodeum and abdominal tergies broadly black on the middle. Hind coxae and the apical half of the hind tibiae fuscous.

Head strongly transverse; antennae broken, at least more than 19-jointed (24-jointed in the examined females). Parapsidal furrows definitely impressed, smooth, convergent on the middle of the scutellar fovea, which is divided by 6 longitudinal short carinae; mesopleural furrows indistinct and smooth. Propodeum smooth, with a longitudinal median carina. Second cubital cell short. Second abscissa of the radius about 1.5 times as long as the 1st; recurrent nervure received in the 1st cubital cell far from the apex. Abdomen short, broad oval; 1st tergite reticulate-rugose, broad excavated, the excavation smooth; 2nd tergite reticulate-rugose, with an indistinct broad crenulate furrow on each side and with no median longitudinal carina; 3rd tergite also reticulate-rugose, as long as about two-thirds the length of the 2nd, with neither lateral furrows nor longitudinal median carina; 4th and 5th tergites longitudinally striate finely; 6th very short, simple, not emarginate at the middle of the apical margin.

Length, 3 mm.

Described from two males collected by J. SONAN at Kanaya, Shizuoka Pref., Japan, on October 10th, 1948.

Host: *Etiella zinckenella* TREITSCHKE (Lep., Pyralidae).

The present examined specimens (2 ♂♂ and 4 ♀♀) were referred by SONAN for identification, with the note that the host of this species is the larva of *Etiella zinckenella*.

Distribution: Japan and Formosa.

Judging from the descriptions furnished by CAMERON,¹⁾ RAMAKRISHNA

1) Spol. Zeyl., 3: 87, ♀♂, 1905.

1) AYYAR and WATERSTON²⁾, *Philomacroploea bimaculata* CAMERON from Ceylon and South India, haplotype of *Philomacroploea* CAMERON (1905), is closely related to the present species, from which it differs in the mesopleural furrows being distinct, deep and crenulate, and in the 2nd and 3rd tergites possessing a continuous, well defined, longitudinal median carina and in the ovipositor being very short.

(*Shirakia* VIERECK) = *Tropobracon* CAMERON

Tropobracon CAMERON, Spol. Zeyl., 3: 91, 1905. (Genotype: *Tropobracon luteous* CAMERON, monobasic).

Shirakia VIERECK, Proc. U. S. Nus. Mus., 44: 643, 1913. (Genotype: *Shirakia schoenobii* VIERECK, monobasic). **syn. nov.**

After careful examinations through the literature I have come to the conclusion that *Shirakia* VIERECK should be sunken as a synonym of *Tropobracon* CAMERON: because the genotypic species, *Shirakia schoenobii*, is undoubtedly congeneric with the genotype of *Tropobracon* CAMERON (*T. luteous*). This genus is essentially characterized by the following respects: (1) The 2nd abscissa of the radius not, or scarcely, longer than the 1st; (2) the parapsidal furrows clearly defined; and (3) the 2nd tergite with two furrows originating at the basal corners and converging towards the apex, but not meeting apically.

This genus may be placed near *Habrobracon* ASHMEAD of the *Bracon*-group, but is readily differentiated from the latter by the structure of the 2nd tergite. Insofar as I am aware, it has been represented by the following three species.

***Tropobracon luteous* CAMERON**

Tropobracon luteous CAMERON, Spol. Zeyl., 3: 91, ♀, 1905.

This species is known to me only by its original description, in which no host-record was given.

Distribution: Ceylon.

***Tropobracon schoenobii* (VIERECK) comb. nov.**

Bracon dorsalis MATSUMURA, Schäd. u. Nitzl. Insect. Zucker. Pflanz. Formos., pp. 49, & 84, ♀, Pl. XXX, fig. 7, 1910 (nec BRULLÉ, 1846).

1) Mem. Dept. Agr. India, 10: Entom. Ser., 52, Pl. XII, fig. 3, ♀, 1928.

2) Proc. Ent. Soc. Washing., 31: 167, 1929.

Shirakia schoenobii VIERECK, Proc. U. S. Nat. Mus., 44: 643, ♀♂, 1913.

Shirakia schoenobii WATANABE, Trans. Nat. Hist. Soc. Sapporo, 12: 63, 1932; id., Jour. Facul. Agr., Hokkaido Imp. Univ., 42: 30, 1937; id., Trans. Nat. Hist. Soc. Formosa, 33: 459, 1943.

Tropobracon luteous var. *indica* RAMAKRISHNA AYYAR, Mem. Dept. Agr. India, 10 (Ent. Ser.): 39, Pl. III, fig. 2, 1923.

Tropobracon indicus RAMAKRISHNA AYYAR et MARGABANDHU, Madras Agr. Jour., 22: 439, 1934.

This species seems to be closely allied to the preceding species, *T. luteus*. It needs, however, further study before a definite taxonomic conclusion of the relationship between them can be satisfactorily given, for of *T. luteus* no sufficiently detailed description was available.

Host: *Chilo simplex* BUTLER, *Schoenobius incertellus* WALKER (Lep., Pyralidae) and *Sesamia inferens* WALKER (Lep., Noctuidae).

Distribution: Formosa, the Philippines, South India, Java and South China.

***Tropobracon jokohamensis* (CAMERON) comb. nov.**

Bracon jokohamensis CAMERON, Ins. Ent. Zeitsch., Guben, 3: 288, ♂, 1910.

Bracon Seitzii CAMERON, op. cit., 3: 289, ♂, 1910.

Shirakia jokohamensis WATANABE, Ins. Mats., 9: 8, ♀♂, 1934.

This is a very distinctive species, being easily distinguishable from the preceding two by its color and larger size. A detailed information of this species was already stated by me in a previous paper (1934).

Host: *Scirpophaga nivella* FABRICIUS (Lep., Pyralidae)

Distribution: Japan, Okinawa and Formosa.