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Taxonomical Notes on some Species of Pemphredoninae
and Crabroninae (Hym., Sphecidae) in Japan*
By Katsuji Tsuneki¹⁾

The present paper comprises descriptions of the female of one species and the males of three species hitherto unrecorded of the genera *Psenulus* and *Crossocerus*. On this occasion the writer wishes to express his sincere thanks to Messrs. E. Tanaka, Mashiko, K. Shirahata, Sakata and T. Kifune, Fukuoka, for their kind aid concerning the material. The types designated in this report are in the writer's collection except one particularly mentioned.

1. *Psenulus (Eopsenulus) iwatai* Gussakovskij, 1934

A single female specimen (Holotype) has been recorded and the male remains undiscovered. The specimens examined in this study: 1 ♀, Sakata, 29. VIII. 1955 (K. Shirahata leg.); 1 ♂ (Allotype), Sakata, 29. VIII. 1955; 1 ♂ (Paratype), Fukuoka, 21. VI. 1955 (T. Kifune leg. and in his collection).

♂. Very similar to female in both structure and coloration, differing from it in the following points (excepting general sexual distinctions):

1) Antenna (Fig. 1) slenderer and longer, 1st joint markedly shorter, relative lengths of the joints: 6, 3.5, 10, 9.5, 9.5, 9.5, 9, 9, 9, 9, 9, 12, joints 3-12 approximately twice as long as wide at apex and roundly swollen in middle, without carina or tubercle. Flagellum beneath blackish, only towards base testaceous. 2) Legs slenderer, front and mid legs with blackish maculae more broadly extended. (Length 6.5 — 7.0 mm)

Remarks. The female specimen listed above differs from the original description in that the colour designated as white is bright yellow, antennae beneath throughout testaceous, apical margin of each abdominal segment not decolorated and the second cubital cell slightly narrower and somewhat more distinctly narrowed upwards.

2. *Crossocerus (Coelocrabro) tanakai* Tsuneki, 1954

♂ (hitherto unrecorded). Very closely resembles the female, but front and mid femora largely testaceous, above brownish, apical portion of clypeus except the extreme margin transparent white; eyes somewhat larger, antennal joints (Fig. 2) basally comparatively shorter, their relative lengths 16, 4, 6, 5, 4.5, 4, 4, 4, 4, 4, 7, joints 3 — 9 beneath roundly swollen, terminal joint normal, somewhat spatulate, joints 3 and 4 slightly longer than wide at apex, 5 — 12 nearly as long as wide; clypeus (Fig. 3) similarly tridentate at apex, but median tooth somewhat larger, mandible bifid at apex, with upper tooth longer, without a small tooth on inner margin towards middle; frontal impressions similar in form but rather indistinct. A character worthy of special mention is the presence of the pygidial area (Fig. 4) which occupies the whole dorsal surface of the

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segment and more distinctly marginated by carinae than in *Cr. (Cr.) varus* Lep. et Br., with surface finely sparsely, rather indistinctly punctured. Length 4 mm.

Allotype: ♂, bred from an egg which was obtained from a nest at Shobugahama, Nikko and emerged on 28. V. 1955.

Remarks. Since this species was described, two female- and one male specimens could be obtained from the type locality. All the specimens were broadly testaceous on the ventral side of the abdomen. The colour extends upwards at the intersegmental regions of segments 2-4 (sometimes even 5) and can be seen as distinct reddish yellow maculae from above, just as in some species of *Rhopalum*.

3. *Crossocerus (Coelocrabro) tyuzendzianus* Tsuneki, 1954

♂ (undiscovered up to now). Closely resembles the female, but slenderer, with 1st abdominal segment distinctly longer than wide at apex, comparatively much longer than in female. Antenna simple, joints 3 and 4 subequal in length, both only slightly longer than wide at apex, apical joint normal, flagellum beneath without erect hairs; clypeus similar in form to that of female, but apical teeth much smaller and shorter (Fig. 5); area cordata on propodeum either completely or incompletely enclosed by fine groove; legs simple, only hind metatarsi thicker than usual and as long as subsequent four joints combined (Fig. 6). Clypeus apically narrowly yellowish, but antero-lateral corners light brown; front and mid legs cream yellow except a small brown macula on outer aspect of front femur and brownish terminal tarsal joints. Other coloration as in female. Mesosternum, coxae and basal half of femora beneath of front legs covered with comparatively long silvery pubescence.

Allotype: ♂. Akaiwa, Nikko, 2. VIII. 1955 (E. Tanaka leg.). Paratypes: 4 ♂♂. Shobugahama, Nikko, 2, 10. VIII. 1954.

Remarks. In the male this species somewhat resembles *Crossocerus (Coelocrabro) heydenii* Kohl, but is much smaller, with the antennal apical joints normal, with the head thicker and with the legs broadly coloured yellowish. Two female specimens were newly collected at Shobugahama, Nikko, one of which carries well-developed maculae: a broad band on pronotum and a large spot on scutellum yellow, abdomen beneath largely and apical margins of tergites 1, 2, 3 and 6 reddish yellow. Enclosure of area cordata is sometimes complete.

4. *Crossocerus (Coelocrabro) nikkoensis* Tsuneki et Tanaka, 1955

♀. Similar to male, but entirely black, with clypeus slightly differing in form (Fig. 7), with hind tibiae generally more strongly spinose.

The female of this species also very closely allied to that of *Crossocerus (Coelocrabro) heydenii* Kohl, but is distinguishable therefrom by having the clypeus differing in form, frontal impressions much larger and the tibiae of all legs wholly black.

Allotype: ♀. Senjugahama, Nikko, 3. VIII. 1954 (E. Tanaka leg.). Paratypes: 1 ♀, Chuzendzi, Nikko, VII. 1953; 4 ♀♀, Senjugahama, Nikko, 23. VII. 1954 (E. Tanaka leg.).

Remarks. The following characters are fairly variable in developmental degree from one individual to another: 1) Spinosity on hind tibiae, 2) Enclosure of area cordata by groove. It is sometimes nearly completely enclosed by

fine groove, but sometimes not, just as in male. 3) Granulate puncturings on basal sudden swelling of area pygidialis.

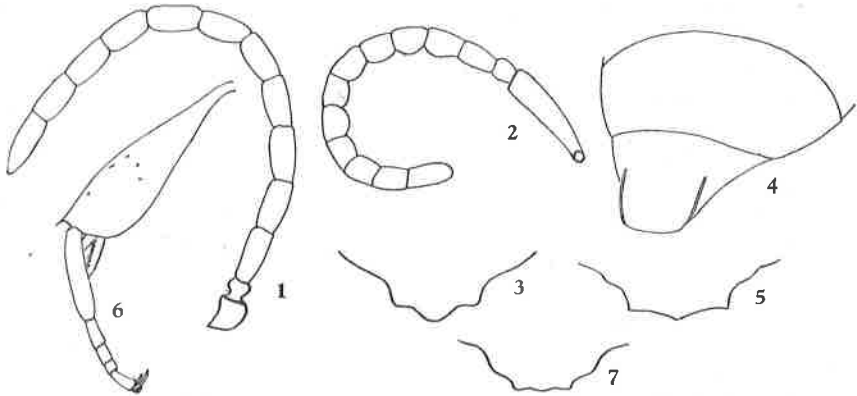


Fig. 1 and 2, antenna 3, 5 and 7, clypeus; 4, apical two segments of abdomen, showing the pygidial area; 6, hind tibia and tarsus.

Fig. 1. *Psenulus (Eopsenulus) iwatai* Gussakovskij, ♂

Figs. 2—4, *Crossocerus (Coelocrabro) tanakai* Tsuneki, ♂

Figs. 5, 6, *Crossocerus (Coelocrabro) tyuzendzianus* Tsuneki, ♂

Fig. 7, *Crossocerus (Coelocrabro) nikkoensis* Tsuneki et Tanaka, ♀

5. Supplements to the writer's keys of *Crossocerus* in Eastern Asia (1954)

(Male)

- 12 Subgenus *Coelocrabro*12'
- 12' Apical abdominal segment provided with well-defined pygidial area.....
..... *tanakai* Tsuneki, 1954
- (18) The 7th sternite simple 18'
- 18' Face with yellow streaks along inner margins of eyes, clypeus triangular
..... *walkeri* (Shuckard, 1837)
- Face without yellow streaks along inner margins of eyes
..... *tyuzendzianus* Tsuneki, 1954
- (19) Hind tibiae not strongly clavate, etc.22'
- 22' Mandibles yellow.....*tyuzendzianus* Tsuneki, 1954
- Mandibles blackish..... 23

(Female)

- 17 Legs broadly yellowish.....17'
- Legs nearly entirely black or blackish17''
- 17' Mesopleural tooth present, pygidial area triangular, apically excavated,
with distinct basal elevation..... *tyuzendzianus* Tsuneki, 1954
- Mesopleural tooth absent, pygidial area apically comparatively broad, not
distinctly excavated, without basal elevation.....*tanakai* Tsuneki, 1954
- 17'' The groove enclosing area cordata very fine, partly represented by a
row of short striae..... *nikkoensis* Tsuneki et Tanaka, 1955

- The groove enclosing area cordata very strong and distinct..... 18
 18 Pronotum from above: Fig. 15, clypeus bluntly tridentate at apex
 (instead of Fig. 26, which shows the clypeus of *C. flavitarsus* Ts. ♀) etc.
 19 Area cordata partly enclosed by crenate groove..... 19'
 19' Legs broadly yellow..... *tyuzendzianus* Tsuneki, 1954
 — Legs black, or black with brownish portions..... 20
 20 Entirely black..... 20'
 20' Mesopleural tooth absent..... *barbipes* (Dahlbom, 1845)
 — Mesopleural tooth present..... *nikkoensis* Tsuneki et Tanaka, 1955
 (21) Clypeus apically in the middle not truncate..... 22'
 22' Entirely black..... *nikkoensis* Tsuneki et Tanaka, 1955
 — Legs at least partly yellowish..... 22

隠岐島の甲虫

隠岐島の昆虫相に関しては2,3の報告があるのみで不確実なものも少ない。筆者は1955年5月31日, 6月1日の2日間島後にヤサイゾウムシの調査に赴いた際に若干の甲虫を採集し得たので確実に筆者の採集したもののみについて種名を掲げて参考に供したい。

ヤコンオサムシ 西郷町下西。

マイマイカブリ 西郷町八田 中国地方のものと同型と思われる。

ジヨウカイボン 西郷町岬, 今津。

ナナホシテントウ, 28ホシテントウ, オオ28ホシテントウ 西郷町岬。

モンキゴミムシダマシ 西郷町今津。

ウバタマコメツキ 西郷町岬。

イネゾウムシ, トホシオサゾウムシ 西郷町岬。

ウリバエ 西郷町岬, ドロオイムシ 西郷町下西。

ヤツボシハナカミキリ 西郷町岬, f. *infernalis* Pic に含まれるもので全体黒色, 触角末端3節, 翅鞘の肩部, 小楯板両側, 中央縫合線両側, 側縁2ヶ, 翅端1帯に夫々黄斑を有する。本州中部山岳地帯に多い本型が海岸丘陵である岬開拓地に於いて採集されたのは興味あることである。

ホタルカミキリ 西郷町今津 極めて多い。

ミドリカミキリ, オジロサビカミキリ, ワモンサビカミキリ 西郷町今津。

レンツエンマコガネ 西郷町今津。

クロコガネ, ヒメピロウドコガネ, チヤイロコガネ, コアオハナムグリ 西郷町岬。

この他に種名不詳のゴミムシ科, ハネカクシ科の數種が採集された。尚他の昆虫ではアカスジカメムシ, ルリクチブトカメムシ, ウラギンスジヒヨウモン等が採集された。

(藤村俊彦)