

UNRECORDED SEXES OF THREE SPECIES OF PEMPHREDONINAE (Hymenoptera, Sphecidae)

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1. The female of *Passaloecus annulatus nipponicola* Tsuneki, 1955

Passaloecus annulatus nipponicola Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., Ser. II, Nat. Sci., No. 5, Pt. 1, p. 4 et 13, 1955, (♂).

The newly discovered female of the present subspecies is most closely related to that of *Passaloecus roettgeni* Verhoeff (1890) amongst the members of the genus occurring in the Palaearctic region, just as was predicted in the original description of the subspecies. It can, however, be distinguished from it by the following points:

(1) Inner margin of mandible not black, but pale brownish, (2) legs much brighter in colour, (3) apical truncated margin of clypeus relatively narrower (smaller in length than its medial length, in *roettgeni* larger), (4) impressions outside post-ocelli well outlined (just as in *P. monilicornis*).

The specimen differs from the female of the nominate race in North America in the following points:

(1) Scutellum relatively longer (as compared with width measured between lateral impressions), (2) space between insertions of antennae relatively narrower (in this subspecies as wide as diameter of socket, in nominate race wider), (3) basal several joints of antennal flagellum relatively shorter (as compared with each width). Besides the above, the form of the clypeus and the sculpture of the propodeum are slightly different.

♀. Length 5.0 mm. Black. Mandibles (apically pale brown), scapes of antennae in front broadly, tubercles and bases of hind tibiae ivory white. Tegulae and bases of wings pale brown. Labrum, palpi and trochanters amber yellow, rather whitish. Front and mid femora fairly broadly, apices of hind femora, all tibiae excepting brownish distal portions of mid and hind ones, and all tarsi excepting brownish terminal joints bright ferruginous. A touch on underside of antennal joints 8, 9, 10 and 11 and wingveins dark brown, stigma black. Apical margin of each abdominal segment discoloured, membranous and pale brownish. Head from above with ratio of width to length 38 : 23, ocelli located in an isosceles triangle much widest at base, oculocellar distance: postocellar distance: ocelloccipital distance \doteq 3 : 2 : 4, postocellar impressions deep, distinctly outlined; frontal spine between antennae short, simple and bluntly pointed. Head seen in front: Fig. 1, silvery piles on sides of lower front and clypeus sparse and short. Scape of antenna subequal in length to 4 following joints united, relative lengths and widths (within parentheses) between joints 3, 4 and 5 = 7(4) : 6.5 (5) : 7 (5.3) (seen from above). Pronotum short, with anterior margin gently emarginate, its median portion broadly concealed beneath anteriorly incrassate mesonotum, antero-lateral corners simply angulate. Mesonotum anteriorly provided with two short longitudinal furrows separated by a distance as large as that between outer margins

of postocelli, with posterior margin sparsely and less strongly crenate. Structure of mesopleuron as in *monilicornis* or in *roettgeni*. Scutellum with ratio of width to length about 6:5. Underside of thorax-complex covered with short, silvery and somewhat velvety pubescence. The 2nd abdominal segment gently constricted at base; end tergite provided with a median short carina apically. Head and thorax fairly closely punctured, abdomen practically impunctate, dorsal surface of propodeum coarsely, rather irregularly reticulate.

Allotype: ♀, Koike, Fukui Pref., 2. VIII. 1957, K. Tsuneki leg.

Remarks. In the key to the species (♀ ♀) in the writer's monographic work of this genus in Japan (*loc. cit.*), this species can be allocated as follows:

- | | | |
|----|--|--------------------------------------|
| 5 | Labrum dark brown or black..... | <i>monilicornis</i> Dahlbom |
| — | Labrum white or pale yellowish..... | 5' |
| 5' | Trochanters black, tarsi black or dark brown..... | <i>roettgeni</i> Verhoeff |
| — | Trochanters whitish yellow, tarsi largely light ferruginous..... | |
| | | <i>annulatus nipponicola</i> Tsuneki |

2. The male of *Passaloecus dubius* Tsuneki, 1955

Passaloecus dubius Tsuneki, *loc. cit.*, p. 5 et 17, (♀).

The female of this species is so similar in characters to *Passaloecus corniger* Shuckard that the writer separated both forms with some query at the specific rank. But by the present discovery of the male which is very distinct from that of *P. corniger* in the structure of the antennae and the face, the validity of this species has been ascertained.

♂. Length 5.8 mm. Black. Basal half of anterior aspect of mandibles, palpi, scapes of antennae in front, tubercles, a patch on wingtegulae, fore tibiae in front and bases of hind tibiae broadly white, somewhat yellowish. Antennal flagella and legs excepting coxae largely ferruginous. Flagella of antennae excepting middle portion, bases and veins of wings, fore and middle femora posteriorly, hind femora and tibiae apically, claws of all legs and terminal tarsal joints of hind legs brown or dark brown. General structure, sculpture and punctuation are similar to the female, only differing in the secondary sexual characters:

Head from above more roundly and more markedly convergent backwards, oculo-cellar distance:postocellar distance:ocelloccipital distance $\doteq 2:2.8:3$, postocellar impressions not well outlined. Head seen in front (Fig. 2) with inner orbits of eyes slightly convergent below; sides of lower front and clypeus densely covered with appressed silvery hairs, clypeus with anterior margin somewhat produced and feebly tridentate, its width less than as large as in female; mandibles shorter and less powerful than in female. Antennae very characteristic (Fig. 3). Scape markedly incrassate, flagellum thick, with joints 6-12 beneath gently excavated at base and slightly produced at apex, the excavation and protuberance fairly strong on joints 9-11, joint 9-13 provided with a smooth and polished plate at the excavation which appears like a glittering keel in the lateral view; frontal spine between antennae short but acutely pointed at apex just as in female. Two horizontal crenate furrows on mesopleuron very distinct; sculpture on propodeum irregularly reticulate, fairly fine but partly rugose. Punctuation as in female.

Allotype: ♂, Koike, Fukui Pref., 14. VII. 1956, K. Tsuneki leg.

Paratypes: 5 ♂♂, captured with the allotype.

Remarks. In order to receive this species the key to the species (♂♂, *loc. cit.*, p. 3) must be emended and supplemented as follows:

- 6 Mesopleuron with one horizontal furrow, antennal flagellum medianly widened, joints 3-12 with a whitish ring at each apex.....
*annulatus nipponicola* Tsuneki
 — Mesopleuron with two horizontal furrows..... 6'
 6' Antennal flagellum thick, joints 6-12 beneath feebly dentate, mandible largely black, hind femur and tibia apically dark brown.....*dubius* Tsuneki
 — Antennal flagellum rather filiform, joints 7-12 beneath prolonged at apex, covering the base of each subsequent joint..... 7

3. The male of *Pemphredon* (*Pemphredon*) *mandibularis* Tsuneki, 1951

Pemphredon (*Pemphredon*) *mandibularis* Tsuneki, J. Fac. Sci., Hokkaido Univ., Ser. VI, Zool., Vol. 10, No. 2, p. 170 et 180, 1951 (♀).

♂. Length 8.5 mm. Body sparsely covered with long hoary white pubescence, pubescences on tibiae and tarsi of legs and on abdomen not long, those on lower front and clypeus dense and with brassy effulgence. Black. Tibial spurs and apical margins of abdominal sternites, excepting the 1st, ferruginous brown; tegulae and veins of wings and tarsi of legs apically dark brown. Head from above: Fig. 4, only slightly more strongly convergent backwards than in female. Head seen in front: Fig. 5, frontal spine absent, labrum thick, tongue-shaped, with apex minutely and gently emarginate, with periphery excepting the extreme margin markedly incrassate. Mandibles strongly tridentate at apex. The 1st joint of antennae less than as long as three following joints combined, relative lengths and widths at apex (within parenthesis) between joints 3, 4 and 5 subequal to 8(4.3):7(4.7):7(4.7), joints 3-10 provided with a longitudinal carina on posterior margin, the carina on joint 3 not complete and feeble, those on joints 4-8 fairly markedly roundly produced. Head seen in profile with temple somewhat wider than eye. Legs normal. Venation of wings as in female. Other characters including the sculpture on propodeum and the structure of petiole very similar to those of female, but generally with the punctuation and sculpture much stronger and coarser.

Variation: The only other specimen is 7.7 mm in length, having the smoothed limb on the propodeum much wider, hence the area cordata much narrower than in the allotype. The sculpture on other parts of the propodeum is also considerably varied.

Allotype: ♂, Utsunomiya, 15. VI. 1933, K. Tsuneki leg.

Paratype: 1 ♂, Sasayama, Hyogo Pref., 24. IV. 1956, T. Akamatsu leg. (Examined through the courtesy of Prof. K. Iwata)

Remarks. This species can be received in the keys to the species (♂♂) of *Pemphredon* occurring in Eastern Asia (*loc. cit.*, p. 171) by supplementing the following lines:

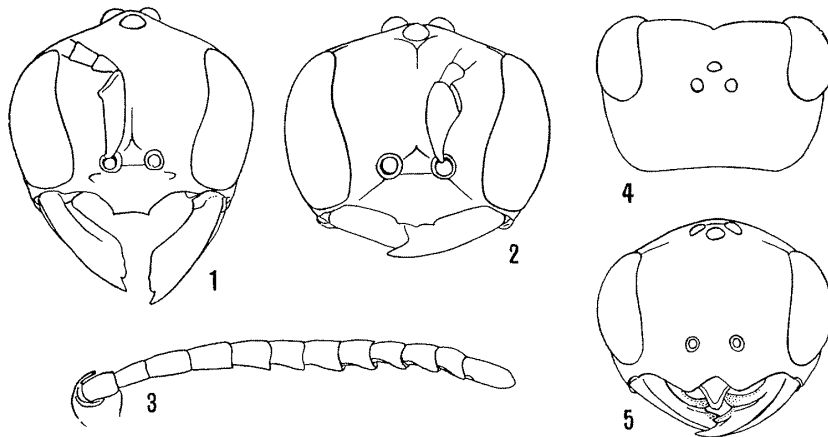
- 4 Posterior limb of area cordata smooth and polished, hairs on clypeus brass white.....*mandibularis* Tsuneki

- Posterior limb on area cordata finely striate, hairs on clypeus silvery white 5
 5 The rounded protuberance.....

Notes on distribution. At the time of the original description the localities of this species were confined to Sapporo and its neighbourhoods, Hokkaido. Since then, however, the following records of collection have been accumulated:

1 ♀, Nikko (Chuzenji), VI. 1952, E. Tanaka leg., 1 ♀, Hakodate-yama, Hokkaido, 17. IX. 1952, M. Munakata leg.; 2 ♀♀, Ohnuma, Hokkaido, 15. VI. 1952, M. Munakata leg.; 1 ♀, Towada, Aomori Pref., 26. IX. 1955, K. Shimoyama leg.; 1 ♀, Sabae (Ossaka), Fukui Pref., 14. V. 1956, K. Tsuneki leg.; 1 ♀, Sabae (Yoshitani), Fukui Pref., 19. V. 1956, K. Tsuneki leg. and Sasayama, Hyogo Pref. and Utsunomiya, Tochigi Pref. as above described.

Finally the writer expresses his sincerely thanks to those gentlemen who have kindly collected for him the variable specimens.



Figs. 1-5. 1, Head of *Passaloecus annulatus nipponicola* Tsuneki, ♀. 2, Head of *Passaloecus dubius* Tsuneki, ♂. 3, Antenna of *P. dubius* seen from above. 4 and 5, Head of *Pempredon* (s. str.) *mandibularis* Tsuneki, ♂.

キンケミノウスバ九州に産す

矢野宏二

Pseudopsyche endoxantha Püngeler キンケミノウスバが日本にも分布する事は、最近中村正直氏により報じられた(蝶と蛾 10 (1): 2-3, 1959). 同氏は本州, 四国産の 4 頭の雌により報告されたものであるが, 筆者は日高輝展氏が 1959 年 4 月 19 日に福岡県古処山の中腹にて採集された 1 雌を見る事が出来たのでここに記録しておきたい. 標本は九州大学農学部昆虫学教室に所蔵される. 終りに調査の機会を与えられた日高輝展氏に御礼申上げる.