

SOME ACULEATE HYMENOPTERA FROM MALAYA

By KATSUJI TSUNEKI

Biological Laboratory, Fukui University, Fukui

The material used in the present study was collected by Mr. E. Kawase in Parit Buntar mainly during the period 7-19, August, 1960, and was sent through Mr. I. Togashi to the author for identification. It included a new species belonging to the genus *Chrysis* (Chrysididae) and a new subspecies of *Cerceris formosicola* Str. (Sphecidae), the descriptions of both the forms were also involved in this paper.

In the following the references to each species were restricted to some recent one or ones where such were given in detail.

1. Chrysididae

1. *Stilbum cyanurum cyanurum* Förster, 1771

Stilbum cyanurum cyanurum: Tsuneki, 1961, Nature & Life S. E. Asia 1: 380.

Specimens examined: 2♀, 7, 10. VIII.

Remarks. One of the specimens is very rich in bright golden lustre, while the other rather bluish.

2. *Chrysis (Chrysis) fuscipennis* Brullé, 1846

Chrysis (Chrysis) fuscipennis: Tsuneki, 1961, loc. cit. p. 376.

Specimen examined: 1♂, 18. I. 1961.

3. *Chrysis (Chrysis) malayana*, sp. nov.

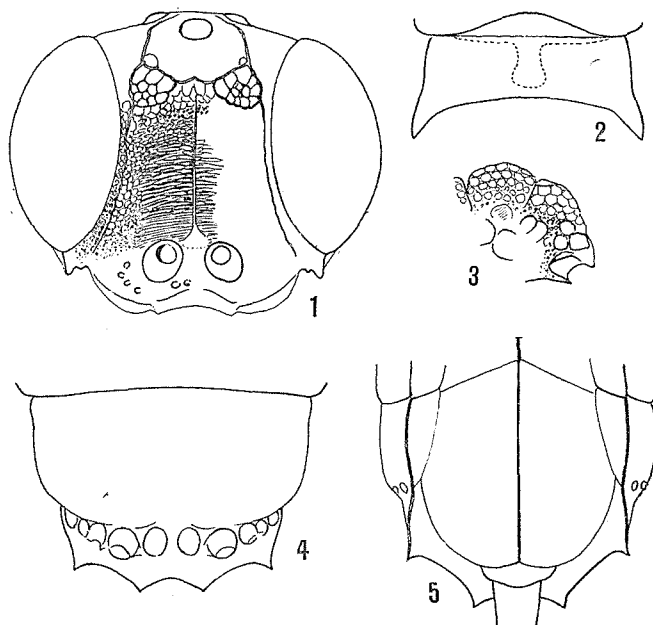
♀. Very closely allied to *Chrysis (Chrysis) schenklingi* Mocs., known from Formosa and Thailand, differing from it in the relative length of genae and antennal joint 3, in the form of frontal transverse carina and somewhat of the 3rd abdominal segment and slightly also in coloration.

Length 6.5 mm. Metallic green with metallic golden effulgence on frontal basin, temples, sides of thorax, lateral areas of dorsal surface of thorax and propodeum, apical margin of pronotum, scutellum and postscutellum, 1st abdominal tergite weakly but broadly, sides posteriorly (somewhat apart from the extreme margins) and apical margin of 2nd tergite, medio-posterior area of the 3rd, median and lateral areas of sternites, and femora and tarsi of legs. Golden lustre turns into cupreous on mesopleuron below; on abdomen golden effulgence on the lateral areas of the 1st and 2nd tergites very striking as in *Chrysis lusca* Fabr. Antennae black, with 1st joint wholly and 2nd and 3rd above green. Wings hyaline, slightly fuscous, anterior margin of radial cell especially darkened.

Head seen in front (Fig. 1): Genae subparallel, only very gently convergent below, with lower margin feebly roundly emarginate, its length in middle approximately as long as 4th

[Insecta Matsumurana, Vol. 26, No. 2, December, 1963]

antennal joint (longer than in *schenklingi*); curvature of inner orbits comparatively strong (Fig. 1). Frontal transverse carina characteristic in having a broad subtriangular punctured area on each side, from upper corner of which a branch is given off, indistinctly enclosing anterior ocellus upwards. Cavitas facialis deeply excavated, especially markedly so below the frontal carina. Head from above approximately twice as wide as long in middle, ocelli in a low isosceles triangle, relative length of OOD and POD 7 and 8, while that of ocellar diameter (all equal) 4.5 and the space between anterior and posterior ocelli 4.0; each ocellus inclined outwards and the area outside each impressed, the impression in front of anterior ocellus marked, forming a median furrow down to the frontal carina, the sides of the



Figs. 1-5. *Chrysis (Chrysis) malayana*, sp. nov., ♀.
1, head seen in front. 2, pronotum. 3, postscutellum and propodeum in the lateral view. 4, 3rd tergite of abdomen.
5, 3rd sternite of abdomen.

furrow within the frontal shield flatly inclined towards the furrow. Relative length of antennal joints 2-5=7, 9, 5, 5 and 5; joint 3 slightly less than twice as long as wide at apex. Pronotum seen from above: Fig. 2; medianly gently impressed and lateral margin not carinated; scutellum about half as long as mesonotum; postscutellum medianly at base with a small deep semicircular impression, in the lateral view: Fig. 3. First abdominal tergite at base normally trisulcate, 2nd tergite wider than long in middle (greenish area only, relative value 4:3), with medial carina distinct and anteriorly more acute, posterolateral angle about 120°; 3rd tergite: Fig. 4, relatively shorter than in *schenklingi*, medianly distinctly carinated, ante-apical foveae distinct, rounded (in *schenklingi* longitudinally markedly elongate), 12 in number, partly confluent with adjacent ones towards the sides; apical teeth short, obtuse at apex, with inner emargination narrower than the outer; 3rd sternite: Fig.

5. Wings and legs normal.

Cavitas facialis transversely punctate-rugoso-striate, frons and vertex fairly closely punctate-subreticulate, punctures rounded, about 3 or 4 in number on OOL, each appearing to have a minute pit inside owing to the reflection of the rounded bottom. Pro- and mesonotum slightly more coarsely punctured-reticulate, punctures partly irregular in size and angulate; scutellum somewhat more coarsely, postscutellum much more coarsely punctured-reticulate. Abdomen uniformly fairly closely punctured with medium-sized rounded shallow punctures, with more or less intervals between, on which scattered a few minute points. Median carinate areas on 2nd and 3rd tergites impunctate, but with minute points which are sparse on 2nd and rather close on 3rd. Punctures on 2nd 15-16 in number on the longitudinal line near median carina, on 3rd slightly larger and on the medio-apical region each puncture posteriorly shallower; apical margin minutely punctured-coriaceous.

♂, unknown.

Holotype: ♀, Parit Buntar, Malaya, 19. VIII. 1960, E. Kawase leg. and in the author's collection.

4. *Chrysis* (*Pentachrysis*) *lusca* Fabricius, 1804

Chrysis (*Pentachrysis*) *lusca*: Tsuneki, 1961, loc. cit. p. 376.

Specimen examined: 1♀, 19. VIII.

Remarks. Besides the lateral maculae on the 2nd tergite the sides of the 1st tergite are also maculated. The maculae are golden red instead of pure golden and much more striking than in the Japanese representative.

2. **Tiphiidae**1. *Myzine tricolor* Smith, 1858

Myzine tricolor Smith, 1858, J. Linn. Soc. Lond., Zool. 2: 91; ———: Cameron, 1892, Mem. Manchester Lit. Phil. Soc. (4) V: 115; ———: Bingham, 1897, Faun. Brit. Ind., Hym. I: 66.

Specimen examined: 1♀, Parit Buntar, 30. VIII.

3. **Sphecidae**1. *Ammophila atripes* Smith, 1852

Ammophila atripes Smith, 1852, Ann. Mag. Nat. Hist. (2) 9: 46; ———: Bingham, 1897, Faun. Brit. Ind. 1: 229; ———: Vecht, 1861, Zool. Verhandl. 48: 39.

Specimen examined: 1♀, 7. VIII.

Remarks. Since Maidl published his opinion (1925, p. 381) on the identity between *A. clavus* Fabr. (Australia) and *A. atripes* Sm. (India) we have followed his view (Tsuneki, 1962, pp. 26-27). According to the opinion of Van der Vecht recently published (1961, p. 39), however, both the species are not identical. He pointed out that the fringe of long erect hairs on the temples is much more distinct in *A. clavus* than in *A. atripes*. Careful comparison of the Malayan specimen with those of Japan and Korea revealed that in the former the character agrees with that of *atripes* and in the latter with that of *clavus*, while in other structural, sculptural as well as colorific characters there could be admitted no note-worthy differences between the two forms excepting the size. According to the charac-

ter, therefore, the specimens in our region are to be identified with *A. clavus*, although there may remain some doubt whether the difference in such a character sufficiently merits the specific distinction. As to the size the specimens in Japan and Korea are usually more than 30 mm in length, while the specimen from Malaya is only 23 mm and according to Bingham (1897) *A. atripes* varies from 18 to 30 (exceptionally 40) mm in length. The tendency in variation in this character, therefore, seems to differ obviously between both the forms. However, informations relating to the Australian form do not specially touch upon the character and we can not make comparison with the form in our region.

2. *Sceliphron (Chalybion) bengalense* (Dahlbom, 1845)

Sceliphron violaceum: Bingham, 1897, et auct. (*Sphex violacea* F. is an invalid homonym, see Vecht, 1961).

Sceliphron bengalense: Vecht, 1961, Zool. Verhandl. 48: 41.

Specimen examined: 1♂, 19. VIII.

3. *Liris aurulenta* (Fabricius, 1787)

Sphex aurulenta Fabricius, 1787, Mant. Ins. 274 (nec *Sphex aurulentus* F., 1793).

Liris aurata: Williams, 1928, Bull. Hawaii. Sugar Pl. Ass. Ent. Ser. 19: 82.

Liris aurulenta: Vecht, 1961, Zool. Verhandl. 48: 19.

Specimen examined: 1♂, 6. I. 1960.

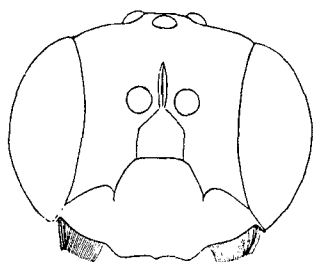


Fig. 6. *Cerceris formosicola kawasei*, subsp. nov., ♂, head seen in front.

4. *Cerceris formosicola kawasei*, subsp. nov.

As far as the descriptions of the nominate species go (Strand, 1913, p. 161 and Giner Mari, 1943, p. 170) the specimens from Malaya well agree in characters with *C. formosicola* Strand, except the maculation chiefly on the propodeum: Propodeum on each side with a large rounded yellow marking; postscutellum always yellow, scutellum carrying sometimes one and sometimes two spots varied in size and rarely completely immaculated; in all the specimens a yellow spot present behind eye; in most specimens a yellow patch on mesopleuron above distinct;

in one specimen 3rd abdominal tergite scattered with small yellow patches; ventral plates 2-5 yellow on each side.

Some supplementary description. ♂. Head seen in front: Fig. 6. Antenno-ocular distance 1.5 times as great as the diameter of antennal socket; OOD slightly greater than POD (6:5). The form of the basal platform of 2nd sternite more or less varied, sometimes nearly semicircular and sometimes subpentagonal, with the apex sometimes reaching the middle of the incrassate area of the segment, but sometimes ending before the middle. Punctures on abdomen coarse, on tergite 4 largest in the middle and somewhat smaller on anterior and posterior regions, with intervals partly as large as, partly smaller than punctures, the number on the median line about 4. On sternite 2 basal platform impunctate, on the rest lateral areas coarsely punctate, medio-anterior area close to platform with scattered elongate shallow punctures and posterior area smooth and polished.

Holotype: ♂, Parit Buntar, 5. VIII. 1960, E. Kawase leg. and in the author's collection.

Paratypes: 3♂♂, *ibid.*, 15, 15, 19. VIII. 1961, *ibid.*, *ibid.*

Remarks. Lack of the female specimen in the material made it difficult to identify the species and the above determination was made with a query. The nominate species which was known from Formosa was published originally as a subspecies of *C. novaræ* Saussure and later it was raised to a distinct species by Giner Mari. Indeed, even as far as the male is concerned, it differs distinctly from *novaræ* in the form of the anterior margin of the clypeus.

5. ***Vechtia rugosa*** (Smith, 1857)

Crabro spinifrons Bingham, 1897, et auct.

Vechtia rugosa: Leclercq, 1957, Ent. Berich. 17: 106-107; ———: Tsuneki, 1963, Etizenia 4.

Specimen examined: 1♂, Parit Buntar, 19. VIII. 1960.

References

- Bingham, C. T. (1897). Fauna of British India, including Ceylon and Burma. Hymenoptera I (London).
- Leclercq, J. (1957). Sur le genre *Vechtia* (Pate, 1944), lignée orientale de Crabroniens évolués (Hym. Sphecidae, Crabroninae). Ent. Bericht. 17: 106-107.
- Maidl, F. (1925). Fauna Sumatrensis. II Sphecidae. Ent. Mitt. 14: 376-390.
- Smith, F. (1856). Catalogue of Hymenopterous Insects in the collection of the British Museum IV (London).
- (1858). Catalogue of Hymenopterous Insects collected at Sarawak, Borneo; Mount Ophir, Malacca and at Singapore, by A. R. Wallace. Jour. Linn. Soc. Lond., Zool. 2: 43-130.
- Strand, E. (1913). H. Sauter's Formosa Ausbeute. Crabronidae und Scoliidae II. Arch. Naturg. A 7: 152-165.
- Tsuneki, K. (1961). Chrysididae (Hymenoptera) collected by the Osaka City University Biological Expedition to Southeast Asia 1957-58. Nature and Life in Southeast Asia I: 367-382.
- (1962). Taxonomic notes on *Anmophila* Kirby (s. latr.) of Japan and Korea. Life Study 6: 24-29.
- (1963). Chrysididae and Sphecidae from Thailand. Etizenia 4: 1-50.
- Vecht, J. van der. (1961). Hymenoptera Sphecoidea Fabriciana. Zool. Verh. 48: 1-85.
- Williams, F. X. (1928). Studies in tropical wasps, their hosts and associates (with descriptions of new species). Bull. Hawaii. Sugar Pl. Ass., Ent. Ser. 19: 1-179.

CROSSOCERUS LECLERCQI IS A SPECIES OF PIYUMOIDES (Hym., Sphec., Crabroninae). Recently a new genus of Crabroninae, *Piyumoides* was erected by J. Leclercq basing on the specimens of S. E. Asia (Bull. Ann. Soc. R. Ent. Belg. 99: 60, 1963). The genus is just the one which I have in view of publication (vide Etizenia 4: 40, 1963) to receive the Japanese Crabronid, *Crossocerus* (*Crossocerus*?) *leclercqi* Tsun. From the basis of this species the genus should slightly be altered in two points: (1) Pygidial area broad triangular, very minutely granulate, mat, without medial carina, sometimes bordered on both sides by carinae; (2) character of antennal scape seems better to be removed. The above species comes to be termed *Piyumoides leclercqi* (Tsuneki, 1959).

KATSUJI TSUNEKI