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CHRYSIDIDAE FROM NORTH CHINA
AND INNER MONGOLIA

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Being at the front in the Chino-Japanese Conflict, I had a chance to stay on the Continent from 1937 to 1940. During that time I was used to spend my leisure hours in collecting insects and observing their habits. After my return, the collection, which consists mainly of Hymenopterous insects, was sent to several entomologists for identification and a part of them was already studied and published.* In the present paper I have treated the Gold wasps of that collection.

In North China, specimens were mainly gathered at Tendan, in the city of Peiching (Peking), and in Mongolia at Apaka (Chinese Bézumyao, Mongolian Gegen-sum) in the vast Steppe of East Mongolia. In the former places the Gold wasps were found on the road, among the wayside glasses, on the poles of summer houses or more rarely on the

* Uchida, T., *Ichneumoniden aus der Inneren Mongolei* (Ins. Mats., Vol. XV, nos. 1 & 2, pp. 21-30, 1940).

Watanabe, C., *On the Species of Braconidae from Inner Mongolia* (ibid., pp. 31-33).

Yasumatsu, K., *Hymenoptera Aculeata collected by Mr. K. Tsuneki in North China and Inner Mongolia. I. Sphecoidea. 1. List of the species* (Mushi, Vol. XIV, no. 2, pp. 103-115, 1942).

Yasumatsu, K., *Hymenoptera Aculeata collected by Mr. K. Tsuneki in North China and Inner Mongolia. II. Vespoidea. 1* (Mushi, Vol. XVII, pars 4, pp. 13-18, 1946).

Yasumatsu, K., *Hymenoptera Aculeata collected by Mr. K. Tsuneki in North China and Inner Mongolia. III. Apoidea. 1* (Mushi, Vol. XVII, pars 5, pp. 19-26, 1946).

wild flowers of *Chrysanthemum*. In Mongolian Steppe, they frequented on the yellow floweres of *Potentilla*, or on the purple tufts of common thistles. Generally speaking, they were not so rare that I had never made special effort to obtain them in the course of the collection.

It is a very delightful duty for me to express my hearty thanks to Assistant Professor Keizô Yasumatsu of the Kyushu Imperial University, who gave me not only the first motive towards the present study but also kind helps and incessant encouragements. My warmest thanks are also due to Mr. Munemoto Yano in Tokyo and Mr. Kichizo Takeuchi in Kyoto for the loan of many valuable literature. I am also indebted very much to the kindness of Dr. Toichi Uchida for the allowance to examine the European specimens in charge of him.

As regard to the references of each species, they were confined to those of main works of the group and to those concerning the eastern Palaearctic Region. All the specimens here described are preserved, at present, in the writer's private collection.

1. *Ellampus sinensis* sp. nov.

♀. Body sparsely covered with greyish white pubescence, which is shorter than the 3rd joint of antennae. Greenish blue. Cavitas facialis and front more bluish; clypeus, sides of thorax and of abdomen more greenish. Antennal flagella, and mesothorax medio-anteriorly, scutellum medially and a large macula on the abdomen black. The scape with coppery reflection in certain light. Mandibles rufous. Middle of them, apex of tibiae and tarsi of all legs testaceous brown. Wings almost hyaline, apically very slightly fuscous.

Head, seen from above, much larger than prothorax; broader than anterior margin, as broad as posterior margin of pronotum. Ocelli in an isosceles triangle; oculocellar space (s. the distance between the compound eye and the outer margin of one of the paired ocelli, the diameter of the ocellus being not taken into account): postocellar space (s. the distance between the inner margin of paired ocelli)=2:3. Cavitas facialis broad and deep, roundly bordered above. Clypeus short, medianly longitudinally swollen. Oculo-mandibular space at its shortest part slightly shorter than the 4th joint of antenna. Antennae slender with the 3rd joint twice as long as the 2nd and 1.5 times as long as the 4th. Joints 4-10 subequal to one another, 11-12 somewhat longer. Pronotum without medio-anterior depression. Mesonotum with parapsidal furrows distinct. Mesopleuron very convex, with the apex beneath obtuse. Postscutellum conically gibbous. Latero-posterior processes of the median segment robust, broad, subrectangle in form seen from above. Abdomen oval, very convex, with a small rounded depression basally in the middle. The 2nd tergite with feeble median carina. Lateral margin of the 3rd segment gently unisinate, with a narrow scarious fringe that becoming

broader apically. Apex of the segment incised in the middle, the incision triangular but not deep. Claws of the tarsi quadridentate s. tripectinate.

Front clothed with moderately large rounded shallow punctures fairly closely, but with the intervals between them well-defined, not reticulate. Vertex, middle of pronotum almost smooth, but the latter with very faint punctures rather sparsely scattered. Occiput and temples punctured—subrugose. Cavitas facialis smooth and shining. Base and apex of pronotum and lateral margins of mesonotum with a narrow line of closely disposed punctures. Mesonotum sparsely sculptured with shallow, feeble and middle-sized punctures which becoming larger and more distinct posteriorly, without transverse fine wrinkles on the lateral lobes as seen in *E. pusillus* F. or *E. punctatus* (Uchida). Pro- and mesopleuron and postscutellum rather coarsely reticulated. Scutellum disposed with large rounded shallow punctures closely, with the base and apex medially impunctate and polished. Median segment irregularly reticulate. The 1st segment of abdomen impunctate, only on the lateral portions very sparsely punctured. The 2nd tergite medianly minutely and rather sparsely, laterally gradually largely and more closely punctured; on the median line almost impunctate. The 3rd tergite more largely and more closely punctured, the punctuation laterally becoming much larger and sub-rugose.

This species is closely related to *E. pusillus* F., but easily distinguishable from it by the following characters:

1. Punctuation on the front smaller and somewhat sparser; on the thorax much feebler, fainter, and generally smaller, on the lateral lobes of mesonotum without transverse striae. Punctures on the scutellum not angled and always separated with more or less intervals between. The 1st tergite of abdomen impunctate and polished; the 3rd more finely and more closely punctured.
2. Apical incision of the 3rd tergite much shallower.
3. Oculo-mandibular space shorter than the 4th joint of antenna.
4. Wings almost hyaline.

The new species seems also to be similar to *E. deauratus* Mocsáry from North China (Tien-tsing), but differs from it in the general punctuation and colour of the body. Length 3.5 mm.

Holotype 1 ♀, v. 1938, Peking.

2. *Holopyga gloriosa* (Fabricius, 1793)

A) f. *chrysonota* (Förster, 1853)

Ellampus chrysonotus Förster, Verh. Nat. Ver. Preuss. Rheinl., X, p. 347, 1853.

Holopyga ovata var. *h. (ignicolis)* Dahlbom, Hymen. Europ., II, p. 53, 1854.

Holopyga ovata var. *g.* Radoszkowsky, Fedt. Reise in Turkest., Hymen., Chrysid., p. 4, 1877.

Holopyga chrysonota Mocsáry, Monogr. Chrysid., p. 129, 1889; Zichy's Exped.,

n. 296, 1901;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 23, 1892;—Schmiedeknecht, Hymen. M.-Europ., p. 310, 1907.

Holopyga gloriosa var. *ignicellis* Buysson, André, Spec. Hymén., VI, Chrysid., p. 177, 1892.

Holopyga gloriosa var. *chrysonota* Bischoff, Gen. Ins., Fasc. 151, Hymen., Chrysid., p. 12, 1913;—Trautmann, Goldwespen Europ., p. 51, 1927;—Schmiedeknecht, Hymen. N.-M.-Europ., p. 493, 1930.

1 ♀, 14. V., 2 ♀ ♀, 20. V. 1938; 10 ♂ ♂, 30. V. 1938, 1 ♂, 3. VI. 1938, Peking. 1 ♂, 1-10. VI. 1939, Inner Mongolia (Apaka).

(Hab.) South and Central Europe, Caucasus, Siberia (Krasnojarsk) and Turkestan. Peking and Apaka is the first record from North China and Inner Mongolia respectively.

(Note) Examining these examples it was found that in females the 3rd joint of antennae is about 4 times, in males 3 times as long as broad at the apex. It is unknown for me whether the relation is an usual character in European specimens or not, although I could not find these relations in examples of typical forma and of f. *amoenula* from Europe.

B) f. **viridis** (Guérin, 1842)

Hedychrum viride Guérin, Rev. Zool., p. 150, 1842.

Holopyga amoenula var. *viridis* Mocsáry, Monogr. Chrysid., p. 128, 1889;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 21, 1892.

Holopyga gloriosa var. *viridis* Buysson, André, Spec. Hymén., VI, Chrysid., p. 178, 1892;—Morice, Trans. Ent. Soc. London, p. 469, 1909;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 13, 1913;—Trautmann, Goldwespen Europ., p. 50, 1927.

1 ♂, 22. VI. 1938, Peking.

(Hab.) Europe, Algeria and West Asia (Oran etc., after Trautmann). Peking is the easternmost record of the species.

(Note) The colour of the example is as follows:

Bright bluish green. Vertex, pronotum medio-anteriorly, scutellum and post-scutellum blue. Occiput dark purple; flagella of antennae black. Abdominal tergites greenish golden, sternites pitchy black. Tarsi testaceous.

3. **Hedychridium coriaceum** (Dahlbom, 1854)

Hedychrum coriaceum Dahlbom, Hymen. Europ., II, p. 88, 1854.

Holopyga (Hedychridium) coriacea Mocsáry, Monogr. Chrysid., p. 150, 1889; Zichy's Exped., n. 297, 1901.

Holopyga coriacea Dalla Torre, Cat. Hymen., VI, Chrysid., p. 23, 1892;—Ducke, Zeitschr. syst. Hymen. Dipt., I, 6, p. 353, 1901.

Hedychridium coriaceum Buysson, André, Spec. Hymén., VI, Chrysid., p. 195,

1892; Ann. Soc. ent. Fr., LXVI, p. 575, 1897;—Schmiedeknecht, Hymen. M.-Europ., p. 311, 1907;—Bischoff, Mitt. Zool. Mus. Berlin, IV, 3, p. 440, 1910; Gen. Ins., 151, Hymen., Chrysid., p. 15, 1913;—Trautmann, Goldwespen Europ., p. 66, 1927;—Schmiedeknecht, Hymen. N.-M.-Europ., p. 495, 1930;—Molitor, Konowia, XIV, 1, p. 3, 1935.

2 ♀ ♀, 16. VI, 1 ♀, 22. VI, 1 ♀, 28. VI, 1 ex., 28. VI. 1938, Peking.
(Hab.) Europe. Peking is the first record of the species from Asia.

4. *Hedychridium ardens mongolicum* subsp. nov.

This subspecies is similar in characters to f. *infans* Ab. (1878), but differs from it in the abdomen more sparsely punctured and consequently more glittering, in the long white hairs on the margins as in subsp. *jakolewi* Sem. (1892) or in species belonging to *H. integrum* group and in the colour of the body. The coloration is as follows: bright cupreous, in the oblique light green. Postscutellum golden. Sternites of abdomen pitchy black.

1 ♀, 6. VI. 1939, Apaka.

5. *Hedychrum nobile* (Scopoli, 1763)

Sphex nobilis Scopoli, Ent. Carn., p. 297, 1763.

Chrysis lucidula Fabricius, Syst. Ent., p. 358, 1775.

Hedychrum lucidulum Latreille, Hist. nat., XIII, p. 239, 1805;—(var. b) Dahlbom, Hymen. Europ., II, p. 78, 1854;—Thomson, Opusc. Entom., II, p. 104, 1869;—Radoszkowsky, Fedt. Reise in Turkest., Hymen., Chrysid., p. 6, n. 12, 1877;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 221, 1893.

Hedychrum nobile Mocsáry, Monogr. Chrysid., p. 172, 1889;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 33, 1892;—Sickmann, Zool. Jahrb., Syst., VIII, p. 226, 1894;—Mocsáry, Zichy's Exped., II, p. 131, 1901;—Schmiedeknecht, Hymen. M.-Europ., p. 312, 313, 1907; Hymen. N.-M.-Europ., p. 496, 1930;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 19, 1913;—Trautmann, Goldwespen Europ., p. 73, 1927;—Hammer, Arkiv Zool., 27 A, n. 23, p. 3, 1934.

5 ♀ ♀, 5. VI.—12. VII. 1939, Inner Mongolia (Apaka).

(Hab.) Europe, Algeria, Caucasus, Turkestan, Siberia (Tojanovgorodok, Krasnojarsk), W. Mongolia (S. Kansu), North China (Tientsing).

(Note) In the Asiatic examples examined the ground colour of head, thorax and legs (except tarsi) slightly differs from that of the European, viz. not greenish blue but violaceous blue or violet, always with irregular-shaped coppery macula on the area around the median ocellus.

f. *szaboi* Mocsáry

Hedychrum lucidulum var. *c* Dañlbom, Hymen. Europ., II, Chrysid., p. 78, 1854.

Hedychrum lucidulum var. β Eversmann, Bull. Soc. Nat. Moscou, XXX, p. 550, 1857.

Hedychrum szaboi Mocsáry, Monogr. Chrysid., p. 167, 1889;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 35, 1892;—Schmiedeknecht, Hymen. M.-Europ., p. 312, 1907;—Bischoff, Mitt. Zool. Mus. Berlin, VI, 3, p. 445, 1910.

Hedychrum lucidulum var. *szaboi* Buysson, André, Spec. Hymén., VI, Chrysid., p. 221, 1893.

Hedychrum nobile var. *szaboi* Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 19, 1913.

Hedychrum chalybaeum (φ) Trautmann, Goldwespen Europ., p. 77, 1927;—Schmiedeknecht, Hymen. N.-M.-Europ., p. 496, 1930.

1 φ , 22. VI, 1 φ , 10. VII. 1938, Peking.

(Hab.) Europe, Siberia (Ural and eastern part). Peking is the first record from China.

(Note) As shown in the synonymy list above, W. Trautmann admitted that *szaboi* Mocsáry is nothing but a female of *coerulescens* Shuckard (= *chalybaeum* Dahlbom), the female of which has been long remained unknown. It may be probably true, but the bases of the Trautmann's consideration viz. (1) there has been no male known in the former and no female in the latter, (2) both forms appear simultaneously and often are found abundantly on the same plant, seem to me somewhat inadequate for that conclusion. Because *szaboi* agrees very well in external characters with *nobile* φ , and even the slight difference of the colour on the head and thorax is not of quality but merely of quantity, that is to say, a matter of more or less extension of the cupreous colour on the area. So that *szaboi* has hitherto been admitted as a form of *nobile*. According to this view, therefore, the male of *szaboi* would be the same as that of *nobile* and there is no wonder as to the absence of the male in *szaboi*-type. To prove the truth of the Trautmann's theory, though it seems quite probable, it must be ascertained at least that there appears no male of *nobile* accompanying *szaboi* Mocsáry. To give a definite conclusion for the problem, of course, it is most desirable to get *coerulescens* from the egg of *szaboi* by keeping. If these problems are remained undecided, it may be said that there are some probabilities of occurrence of *coerulescens* φ in the same form or another.

6. *Hedychrum longicolle* Abeille, 1877.

Hedychrum longicolle Abeille, Feuille, Jeunes Nat., VI, p. 65, 1877;—Mocsáry, Monogr. Chrysid., p. 169, 1889; Termés. Füzetek, XII, p. 61, 1889;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 227, 1893; Rev. Entom. Fr., XIX, p. 130, 1900;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 32, 1892;—Schmiedeknecht, Hymen. M.-Europ., p. 313, 1907; Hymen. N.-M.-Europ., p. 496, 1930;—Semenov, Rev. Russ. Ent., XII, 2, p. 178, 1912;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 19, 1913;—Trautmann, Goldwespen Europ., p. 71, 1927.

Hedychrum collare Semenov, Bull. Acad. Imp. Soc. St. Petersb., N. S., III (XXXV), p. 73, 1892;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 713, 1896.

1 ♀, 22. VI, 1 ♀, 10, 1 ♀, 18. VII. 1938; 1 ♂, 30. V, 1 ♂, 16. VI. 1938, Peking. 2 ♂ ♂, 1-10. VI. 1939, Inner Mongolia (Apaka).

(Hab.) S. Europe, Asia Minor, W. Turkestan. Peking is the easternmost record of the species.

(Note) The examples examined are rather small in form and the piles on the head and thorax in female are greyish (slightly brownish) white in colour.

This species may be, as Trautmann pointed out, merely a subspecies of *gerstaeckeri* Chevrier.

7. *Hedychrum japonicum* Cameron, 1887

Hedychrum japonicum Cameron, Proc. Manchester Lit. Phil. Soc., XXVI, p. 7, 1887.

Hedychrum nobile (♂) Mocsáry, Monogr. Chrysid., p. 173 & 174, 1889.

Hedychrum nobile var. *japonicum* Dalla Torre, Cat. Hym., VI, Chrysid., p. 34, 1892;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 19, 1913;—Uchida, Ins. Mats., I, 3, p. 151, 1927; Cat. Jap. Ins., II, p. 1, 1933.

Hedychrum Marianum Mocsáry, Ann. Mus. Nat. Hung., IX, p. 450, 1911;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 19, 1913;—Wu, Cat. Ins. Sinens., VI, p. 118, 1941.

3 ♀ ♀, 4, 2 ♀ ♀, 18, 1 ♀, 26. VII. 1938, Peking.

(Hab.) E. Siberia (Ussuri region), N. China, Korea and Japan.

(Note) The specimens collected at Peking agree well with the description of *H. marianum* Mocsáry, 1911. On the other hand, the specimens seem to belong to the same species as at *Hedychrum* which occurs in Japan and Korea and resembles the European *gerstaeckeri* Chev. very closely, the difference between Chinese and Japanese examples being very slight in the colour of head and thorax, viz. in the former bluish violet and in the latter golden green. The latter species,

8. **Hedychrum coerulescens** Shuckard, 1837 (nec Lepeletier, nec Chevrier)

Hedychrum coerulescens Shuckard, Ent. Mag., IV, p. 172, 1837;—Radzskowsky, Horae Soc. ent. Ross., XXIII, p. 11, 1888;—Mocsáry, Monogr. Chrysid., p. 156, 1889;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 31, 1892;—Schmiedeknecht, Hymen. M.-Europ., p. 312, 1907;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 18, 1913.

Hedychrum chalybaeum Dahlbom, Hymen. Europ., II, p. 64, 1854;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 214, 1893;—Trautmann, Goldwespen Europ., p. 77, 1927;—Schmiedeknecht, Hymen. N.-M.-Europ., p. 495, 1930;—Molitor, Konowia, XIV, 1, p. 4, 1935.

1♂, 28. VI. 1939, Inner Mongolia (Apaka).

(Hab.) Europe and N. Africa. This is the first record from Asia.

9. **Hedychrum simile** Mocsáry, 1889

Hedychrum simile Mocsáry, Monogr. Chrysid., p. 157, 1889;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 215, 1893;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 35, 1892;—Bischoff, Gen. Ins., 151, Hymen. Chrysid., p. 20, 1913;—Uchida, Ins. Mats., I, 3, p. 151, 1927; Cat. Jap. Ins., II, p. 2, 1933;—Wu, Cat. Ins. Sinens., VI, p. 118, 1941.

Hedychrum Marianum Uchida (nec Mocsáry), Ins. World (Gifu, Japan), XXIV, 10, p. 9, 1925.

1♂, VIII. 1942, Inner Mongolia (Apaka).

(Hab.) Turkestan, E. Siberia, Manchuria, Korea, Japan.

(Note) This species was described from Turkestan and admitted to be very similar to the preceding species. The differences between the two species were described first by Mocsáry and later by Buysson.

According to the former investigator *simile*, compared with *coerulescens*, is (1) much greater and more robust, (2a) with the thorax more strongly and the abdominal tergites more finely and sparsely punctured. Following Buysson *simile* can be distinguished from *coerulescens* (his *chalybaeum*) (1) by much greater size of the body, (3) more sparse pubescence on the anterior body, (4) by the head at least as large as the pronotum, (5) by the pronotum with the sides parallel, (2b) by the punctuation more regular and (6) veins of wing brownish in colour, (7) by the postero-lateral teeth of the median segment pointing obliquely backwards, and (8) by the 3rd segment of abdomen with a small sinus at the apex in the middle and (9) with the lateral angles very much stronger.

Upon the careful examination of 35 examples containing both species from the Far East, I have arrived at the conclusion that the characters representing (2a), (3), (6), (7) and (9) of *simile* cited above are mostly

inapplicable and sometimes even of a reverse nature; (2b) is only applicable to female; (1), (4) and (8) are shown as a general tendency in most specimens, but these are also of a variable nature and unable to distinguish one from the other in the extreme case; only (5) seems to be of a constant character in *simile*. From these facts the differences seem to be too light to divide them into two species. I found a fact, however, which seemed to indicate that they might be separated from each other. The fact is the occurrence of the female in *simile* which is similar in form and colour to male. This is quite different from the relation in *coerulescens* to which I have already alluded.

The female of this species exhibits the following characters:

- (1) hairs on the head and thorax are short and setaceous,
- (2) the 3rd sternite of abdomen is provided with a pair of closely laid dentate process at the apex in the middle, as in the case of *nobile* Scopoli.

10. A. *Stilbum cyanurum cyanurum* (Förster, 1771)

Chrysis cyanura Förster, *Novae Spec. Ins.*, p. 89, 1771.

Stilbum cyanurum cyanurum Zimmermann, *Arch. Naturg., Zool. B, VI, 4, p. 652, 1937.*

1 ♀, 10. VI, 1 ♂, 20. V. 1939, Peking.

(Hab.) Palaearctic region, excepting the coast region of Central China and Japan Archipelago.

(Note) Examples occurring in Japan are referred to *Stilbum cyanurum splendidum* (Fabricius). As regards the detailed explanation of the modern classification of *Stilbum* Spinola references should be made to S. Zimmermann (1937).

B. *Stilbum cyanurum cyanurum* f. *calens* (Fabricius, 1781)

? *Chrysis nobilis* Sulzer, *Abgek. Gesch. Ins.*, p. 193, 1776.

Chrysis calens Fabricius, *Spec. Ins.*, I, p. 455, 1781.

Stilbum calens Dahlbom, *Hymen. Europ.*, II, p. 360, 1854.

Stilbum cyanurum Förster var. *nobile* Mecsáry, *Monogr. Chrysid.*, p. 191, 1889;—Dalla Torre, *Cat. Hymen.*, VI, *Chrysid.*, p. 39, 1892;—Radoszkowsky, *Horae Soc. ent. Ross.*, XXVII, p. 43, 1893.

Stilbum splendidum Fabricius var. *calens* Buysson, André, *Spec. Hymén.*, VI, *Chrysid.*, p. 680, 1896; *Ann. Soc. ent. Fr.*, LXVI, p. 554, 1887 (Mongolia: Ta-wan).

Stilbum cyanurum Förster var. *calens* Bischoff, *Gen., Ins.*, 151, *Hymen., Chrysid.*, p. 26, T. I, F. 18, 1913;—Schmiedeknecht, *Hymen. M.-Europ.*, p. 313, 1907; *Hymen. N.-M.-Europ.*, p. 497, 1930;—Hammer, *Arkiv Zool.*,

27 A, 23, p. 3, 1934 (South Mongolia: Hatjertu-Gol).

Stilbum cyanurum cyanurum Förster f. *calens* Zimmermann, Archiv Naturg., Zool. B, VI, 4, p. 655, 1937.

2♂♂, 19. VII. 1939, Inner Mongolia (Apaka).

(Hab.) Algeria, Europe, Asia Minor, Caucasus, Persia, Siberia, Turkestan, Mongolia and Manchuria (Manchuria is unrecorded).

(Note) In this forma two basal tergites of abdomen are igneous golden in colour.

11. *Spinolia unicolor* (Dahlbom, 1831)

Chrysis unicolor Dahlbom, Exercit. Hymen., p. 32, 1831; Hymen. Europ., II, p. 177, 1854;—Thomson, Opusc. Entom., II, p. 105, 1869;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 104, 1892;—Schmiedeknecht, Hymen. M.-Europ., p. 320, 1907.

Chrysis (Gonochrysis) unicolor Mocsáry, Monogr. Chrysid., p. 287, 1889.

Spinolia unicolor Buysson, André, Spec. Hymén., VI, Chrysid., p. 244, 1893;—Trautmann, Goldwespen Europ., p. 87, 1927;—Schmiedeknecht, Hymen. N.-M.-Europ., p. 498, 1930;—Molitor Konowia, XIV, 1, p. 7, 1935.

Pseudochrysis (Achrysis) unicolor Semenov, Horae Soc. ent. Ross., XXVI, p. 486, 1892.

Achrysis unicolor Bischoff, Mitt. Zool. Mus. Berlin, IV, 3, p. 445, 1910; Gen. Ins., 151, Hymen., Chrysid., p. 22, 1913.

1♀, 10, 11♂♂, 2-10. VI. 1939, Inner Mongolia (Apaka).

(Hab.) C. & N. Europe. This is the first record of the species from Asia.

(Note) This species frequents on the flowers of *Potentilla* at Apaka in June and one of the commonest gold wasps there.

12. *Parnopes popovii* Eversmann, 1857

Parnopes popovii Eversmann, Bull. Soc. Nat. Moscou, XXX, 4, p. 567, 1857;—Mocsáry, Monogr. Chrysid., p. 613, 1889; Zichy's Exped., n. 304, p. 131, 1901;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 689, 1896;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 112, 1892;—Bischoff, Mitt. Zool. Mus. Berlin, VI, 3, p. 450, 1910; Gen. Ins., 151, Hymen., Chrysid., p. 33, 1913.

Parnopes sinensis Smith, Trans. Ent. Soc. London, 1874, p. 454, 1874.

1♀, 26, VII, 1♂, 1. VII. 1938, Peking.

13. *Euchroeus purpuratus* (Fabricius, 1787).

Chrysis purpuratus Fabricius, Mant. Ins., I, p. 283, 1787;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 87, 1892.

Chrysis (Euchroeus) purpuratus Mocsáry, Monogr. Chrysid., p. 596, 1889.
Euchroeus purpuratus Latreille, Gen. Crust. & Ins., IV, p. 49, 1809;—Dahlbom, Hymen. Europ., II, p. 369, 1854, —Buysson, André, Spec. Hymén., VI, Chrysid., p. 258, 1893;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 29, 1913;—Trautmann, Goldwespen Europ., p. 83, 1927.

This species comprises many varieties:—var. *consularis* Buysson, 1896, var. *rugulosus* Mocsáry, 1909 (=var. *irradians* Semenov, 1910), var. *robustus* Mocsáry, 1909, var. *herculeanus* Semenov, 1910, var. *hellenicus* Mocsáry, 1913, var. *pulchellus* Trautmann, 1926, var. *smaragdinus* Trautmann, 1926.

f. **mongolicus** f. nov.

Characters of the new forma are as follows:

1. Oculo-mandibular space longer than the 3rd joint of antennae, but distinctly shorter than the 4th and 5th combined. (According to Buysson, the oculo-mandibular space in the typical form is subequal in length to the 4th and 5th antennal joints united).
2. Semicircular carina on the front rather indistinct.
3. Coloration: ♀. Head and thorax igneo-cupreous golden, with the anterior face of pronotum and medio-basal area of mesonotum purple. Abdomen purplish violet, with a large lateral marking on the 1st and 2nd tergites and whole sternites igneo-cupreous golden. ♂. Head and thorax as in ♀, abdomen igneo-cupreous golden. Basal truncated area of the first, basal transverse band and whole 3rd tergite purplish violet. In some examples apical transverse area of the 1st and 2nd tergites narrowly purplish.

9 ♀ ♀, 20 ♂ ♂, 4-13. VI. 1939, Apaka.

(Hab.) (including all the varieties ever known) Europe, Algeria, Turkestan, Siberia.

(Note) I brought a number of examples keeping in alcohol from Inner Mongolia. While they were kept in the liquid no change of colour was given rise to, but once when they were taken out and dried up the brilliant igneo-cupreous colour entirely disappeared and changed into lusterless green. The change was so great that any one who did not know the course of the fact would admit them as a different variety. Since that time their original colour is gradually recovering, but even now, after 6 years, as yet the green coloration is the predominant.

I observed the parasitic habits of the species on the Mongolian steppe. Four of them were following about an *Ammophila (Podalonia caucasica)* A. Morawitz) transporting her caterpillar to her burrow. It was very interesting to observe their method of pursuit. They were

arranging in a line, keeping a subequal interval between them and always directing their head toward the *Ammophila* and also toward the breeze, according to the rules of attacking the prey among the carnivorous animals. The *Ammophila* seemed to feel the danger and often stopped her step, dropped her prey on the ground and searched for the enemy. The pursuers are bold enough and when the hunter halted they also halted on the leaves of the grass near by, keeping their row on the lee and looking on the hunter who were running about in excitement.

Similar habit was observed on the typical form by A. Molitor (1935), and it is interesting that the sufferer in the case was, too, a *Podalonia*.

This species is quite abundant at Apaka in June on the flowers of *Potentilla*.

14. *Chrysis* (*Trichrysis*) *cyanea* Linné, 1761

Chrysis cyanea Linné, Faun. Suec., Ed. II, p. 412, 1761;—Dahlbom, Hymen. Europ., II, p. 188, 1854;—Thomson, Opusc. Entom., II, p. 107, 1869;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 53, 1892;—Schmiedeknecht, Hymen. M.-Europ., p. 320, 1907.

Chrysis (*Trichrysis*) *cyanea* Mocsáry, Monogr. Chrysid., p. 319, 1889;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 436, 1895;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 45, 1913;—Trautmann, Goldwespen Europ., p. 136, 1927;—Uchida, Ins. Mâts., I, 3, p. 151, 1927; Cat. Jap. Ins., II, p. 3, 1933;—Schmiedeknecht, Hymen. N.-M.-Europ., p. 503, 1939.

1♀, 12. IX. 1938, Peking.

(Hab.) Europe, Asia Minor, Caucasus, Turkestan, Siberia, Korea, Japan (Hokkaido).

15. *Chrysis* (*Tetrachrysis*) *ignita* Linné, 1761

Chrysis ignita Linné, Fauna Suec., Ed. II, p. 414, 1761.

1♀, 22, V. 1938, Peking.

(Hab.) Palaearctic region.

(Note) An example captured at Peking belongs to a common form.

16. *Chrysis* (*Tetrachrysis*) *fuscipennis* Brullé, 1846

Chrysis fuscipennis Brullé, Hymen., IV, p. 38, 1846;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 63, 1892;—Sickmann, Zool. Jahrb., Syst., VIII, p. 227, 1894;—Bingham, Fauna Brit. India, Hymen., II, p. 467, 1903.

Chrysis (*Tetrachrysis*) *fuscipennis* Mocsáry, Monogr. Chrysid., p. 370, 1889; Philip. Journ. Sci., VIII, 4, p. 291, 1912; Ann. Mus. Hung., XI, p. 614,

1913;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 443, 1895;—Uchida, Ins. Mats., I, 3, p. 151, 1927; Cat. Jap. Ins., II, p. 5, 1933;—Tosawa, Trans. Kansai Ent. Soc., II, p. 48, 1931;—Hoffmann, Lingn. Sci. Journ., XVIII (1), p. 449, 1938;—Wu, Cat. Ins. Sinens., VI, p. 120, 1941.

1 ♀, 7. VII, 1 ♀, 1. VIII. 1938, Peking.

(Hab.) Egypt, Asia Minor, India, Cochin-China, Sumatra, Java, Borneo, Celebes, Australia, Philippines, China, Formosa, Japan, Korea and Siberia (Amur).

17. *Chrysis (Tetrachrysis) inaequalis* Dahlbom, 1845

Chrysis inaequalis Dahlbom, Dispos. Spec. Hymen., II, p. 8, 1845; Hymen. Europ., II, p. 278, 1854;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 71, 1892;—Semenov, Rev. Russ. Ent., XII, 2, p. 193, 1912;—Molitor, Konowia, XIV, p. 5, 1935.

Chrysis (Tetrachrysis) placida Mocsáry, Termes. Füzetek, III, p. 122, 1879; Monogr. Chrysid., p. 433, 1889;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 85, 1892;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 503, 1895.

Chrysis (Tetrachrysis) inaequalis Mocsáry, Monogr. Chrysid., p. 483, 1889; (var. *caucasica*) *ibid.*, p. 484;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 570, 1895;—Schmiedeknecht, Hymen. M.-Europ., p. 325, 1907; Hymen. N.-M.-Europ., p. 507, 1930;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 53, 1913;—Trautmann, Goldwespen Europ., p. 153, 1927.

1 ♀, 18. VII. 1938, Peking.

(Hab.) S.-C.-Europe, Algeria, Asia Minor, Caucasus, Persia, Turkestan. Peking comes the easternmost record of the distribution of the species.

18. *Chrysis (Tetrachrysis) sybarita* Förster, 1853

Chrysis sybarita Förster, Verh. nat. Ver. Rheinl., X, p. 309, 1853.

Chrysis analis Chevrier, Chrysid. Leman, p. 62, 1862.

Chrysis chevrieri Abeille, Feuille Jeunes Nat., VII, p. 67, 1877.

Chrysis (Tetrachrysis) chevrieri Buysson, André, Spec. Hymén., VI, Chrysid., p. 550, 1895.

Chrysis (Tetrachrysis) sybarita Mocsáry, Monogr. Chrysid., p. 455, 1889;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 60, 1913;—Trautmann, Goldwespen Europ., p. 173, 1927;—(subsp. *jazartisi*) Semenov, Rev. Russ. Ent., IX, 3, p. 202, 1909.

1 ♀, 2 ♂, 20, 1 ♂, 30. V, 1 ♂, 3. VI, 1938, -Peking.

(Hab.) Europe, Asia Minor, Caucasus, Turkestan, Siberia.

(Note) *Chrysis sybarita* is a large species and comprises many subspecies. So that the description concerning this species is more or less different according to the investigators. The examples collected at

Peking best agrees with the description made by Buysson (1885).

Notable characters of Chinese examples :

1. Cavitas facialis transversely striate with the sides punctured-rugose or punctured-coriaceous.
2. Vertex, pro- and mesonotum rather sparsely sculptured by the large, rounded but concave punctures. The intervals between them irregularly and very minutely repunctured. Only the median lobe of mesonotum punctured-reticulate.

By the characters here described the Chinese examples may merit to be treated as a new forma *pekinensis* nov.

19. *Chrysis* (*Hexachrysis*) *zetterstedti* Dahlbom, 1845

Chrysis Zetterstedti Dahlbom, Dispos. Method. Hymen., II, p. 11, 1845 (♀ ♂); Hymen. Europ., II, p. 305, 1854 (♂);—Eversmann, Bull. Soc. Nat. Mosc., II, p. 563, 1857;—Radoszkowsky, Horae Soc. ent. Ross., III, p. 308, 1866; ibid., XXIII, p. 32, 1889;—Thomson, Opusc. Entom., II, p. 107, 1870;—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 59, 1892;—Semenov, Rev. Russ. Ent., XII, 2, p. 195, 1912;—Kato, Illustr. Ins. Jap., X, Pl. 42, 1934.

Chrysis (Hexachrysis) zetterstedti Lichtenstein, Pet. nouv. Entom., II, p. 27, 1876;—Mocsáry, Monogr. Chrysid., p. 541, 1889;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 744, 1896;—Bischoff, Gen. Ins., 151, Hymen., Chrysid., p. 63, 1913;—Uchida, Ins. Mats., I, 3, p. 152, 1927; Cat. Jap. Ins., II, p. 6, 1933;—Tosawa, Trans. Kansai Ent. Soc., II, p. 50, 1931.

Chrysis equestris Dahlbom, Hymen. Europ., II, p. 307, 1845 (♀);—Dalla Torre, Cat. Hymen., VI, Chrysid., p. 59, 1892.

Chrysis (Hexachrysis) equestris Lichtenstein, Pet. nouv. Entom., II, p. 27, 1876;—Mocsáry, Monogr. Chrysid., p. 542, 1889;—Buysson, André, Spec. Hymén., VI, Chrysid., p. 660, 744, 1896.

Chrysis (Hexachrysis) fasciata Olivier var. *zetterstedti* Trautmann, Goldwespen Europ., p. 182, 1927;—Schmiedeknecht, Hymen. N.-M.-Europ., p. 508, 1930.

1 ♀, 20. V. 1939, Peking.

(Hab.) C. & N. Europe, Siberia (Kazan, Sarepta, Ural, Irkutsk), Turk-
 estan, Korea and Japan. This is the first record of the species from
 China.

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