

Some Fossorial Wasps from Manchuria (Hymenoptera)

By

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The specimens dealt with here were the properties of Mr. P. M. F. Verhoeff, Den Dolder, the Netherlands, who kindly sent them to me for study. The collection is not large, but it includes one new subspecies belonging to the genus *Bembecinus* and the male of *Crabro* (*Crabro*) *ussuriensis* Gussakovskij which has been left undiscovered up to the present.

Before proceeding further I wish to thank Mr. P. M. F. Verhoeff for his kindness.

1. *Mellinus sabulosus* (Fabricius, 1787)

Mellinus sabulosus: Handlirsch, 1888, p. 68; 1895, p. 846.

Mellinus sabulosus: Gussakovskij, 1938, p. 15 (Mongolia)

Mellinus sabulosus: Yasumatsu, 1942, p. 111 (Inner Mongolia)

Specimens examined: 2 ♂♂, Charbin, 6. VII. 1945, 1950; Alin leg.

Remarks. In my cabinet are preserved 11 male specimens of this species which were collected by myself at Apaka, East Mongolia during the period from 28. VI to 12. VII. 1939. All the Manchurian specimens studied bear well-developed yellowish white maculae on the clypeus and along the inner orbits of the eyes.

2. *Bembecinus hungaricus verhoeffi* subsp. nov.

From the typical *hungaricus* the present subspecies differs (1) in the colour of the abdominal maculae much paler, rather cream yellow, not with the tint of orange, (2) punctures on the mesonotum strikingly sparser, and (3) the propodeum seen from above markedly roundly convergent posteriorly, with the latero-posterior corners rounded and the denticular protuberances on the posterior margin take the appearance of the corners (Fig. 1), in the lateral view the posterior emargination very feeble (Fig. 2). It is somewhat doubtful, however, whether the characters of the propodeum are constant to the Manchurian specimens or not, since the material is but a single and the characters are known to vary to a certain extent within even a geographical race.

♀. Length 8.5 mm. Colour pattern similar to that of typical race, 3rd antennal joint 2.7 times as long as wide at apex, 2nd cubital cell of fore wing rather similar in form to that of *B. tridens*, but this character is quite variable in the East Asiatic *hungaricus* as given in the remarks. But the posterior femur beneath distinctly fringed with short hairs, about 1/4 the wide of it in the middle.

Specimen: 1 ♀ (Holotype), Charbin, 9. VIII. 1944; Alin leg.

Remarks. In *B. hungaricus* that occurs in Japan and Korea the yellow band on the 3rd abdominal segment is lacking as a rule, only very rarely it appears as two small spots. The form of the propodeum, especially at the latero-posterior corners is markedly varied as given by de Beaumont (1954) as to *B. tridens*, but here with no connection whatever with the localities of the specimens. But the state shown by the Manchurian specimen distinctly surpasses that range. Only by some North

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Korean specimens the state is somewhat approximated. As for the 2nd cubital cell of the fore wing, it is sometimes with a short petiole as in the nominate race, but sometimes without such, and occasionally the cell shows even a distinct upper vein made up of an abscissa of the radial vein as in *B. tridens*. It is therefore hardly possible at least in the East-Asiatic forms to separate *B. hungaricus* from *B. tridens* by comparing the character of the fore wing venation. But the ground colour of the clypeus in the specimens of our region is constantly yellow, only occasionally it is stained with a small blackish fleck along the medial line.

On the other hand, the specimen before me seems very close to *B. cyanesces* (Rad., 1887), as far as the descriptions go. This species has been known from Turkmenien and East Mongolia (Yasumatsu, 1942) and is considered nowadays a subspecies of *B. tridens*. Viewed from the above mentioned variation in the characters of *B. hungaricus* it seems somewhat questionable to allocate *cyanesces* within the range of *B. tridens*. The same fact, further, may throw some doubt as to the validity of the two species. But I believe that the ecological evidence presented by de Beaumont that the two species live in sympatric in S. Europe without any intermediate forms is conclusive to the problem, just as in *Ectemnius (Clytochrysus) nigritarsus* and *E. (Cl.) radiatus (=mizuho)* of our region.

3. *Crossocerus (Crossocerus) pseudopalmaris* (Gussakovskij, 1933)

Crabro (Crossocerus) pseudopalmaris Gussakovskij, 1933, p. 26. (The Ussuri region).

Well agrees in characters with the original description. But the form of the anterior margin of the clypeus is slightly different.

Besides the teeth shown by the original author it has an additional small (but distinct) tooth on the lateral margin as given in Figure 3. As it is completely hidden under the clypeal hairs it seems likely to be overlooked. In this specimen the central short tooth is completely absent. Such a state was, however, already mentioned by the original author to occur occasionally.

Specimen examined: 1 ♀, Charbin, 9. VII. 1940; Alin leg.

4. *Crabro (Crabro) ussuriensis* (Gussakovskij, 1933)

Crabro (Thyreopus) ussuriensis Gussakovskij, 1933, p. 18 (♀).

The male of this species has remained unknown. Judging from the characters of the hypostomial teeth, the pronotal form, the punctuation on the 1st abdominal tergite and the close locality to that of the type specimen the male example examined here was referred to this species, though the general feature was quite different from each other due to the secondary sexual characters.

♂. Length 9.3 mm. In the general appearance somewhat resembles *Cr. scutellatus* Scheven ♂, but differs from it in the form of head seen in profile, the detailed form and colour pattern of front leg and general coloration of the legs.

Head seen in front very similar to that of *scutellatus*, but the interantennal space narrower (less than half as wide as antennal socket) and highly elevated, clypeus with anterior margin otherwise outlined (Fig. 4) and with more distinct medial elevation; mandibles adorned at base externally with a tuft of long silvery hairs, not glabrous as in *scutellatus*. Head seen from above slightly thicker (width to length 61:36, in *scutellatus* 60:32 average of 3 specimens of similar size), with anterior border less deeply emarginated and with the elevation at frons and

ocellar area much stronger, hence the broad frontal median furrow much deeper; OOD:POD:OCD = 10:11:9 (in *scutellatus* 11:9:8); punctuation stronger, more distinct and closer, on lateral raised areas of upper frons obliquely rugoso-punctate and along upper inner-orbits of eyes impunctate. Antennae similar in form to that of the compared species (Fig.5), but beneath at base of flagellum adorned with a fringe of a few hairs. Head in profile temple subrectangular, but with latero-posterior corner not angulated, rounded; occipital carina ended in a small tooth at a short distance in front of the corner. Pronotum similar in structure, but somewhat more developed, thicker, with transverse elevation and its median incision more distinct; anterior aspect nearly vertical as in ♀. Pro-, mesonotum and scutellum finely punctured, punctures generally deeper than in *scutellatus* and more distinct, on anterior and lateral portions of mesonotum finer and very close, on disc and posteriorly slightly larger, with intervals on an average as large as punctures, on scutellum larger and sparser. Mesopleuron impunctate and polished except finely sculptured upper area and posterior bordering region, with anterior oblique suture, transverse subpleural suture and meso-metapleural suture distinctly furrowed and crenated. Propodeum very coarsely strongly reticulate, sides of the segment obliquely striate, the striation on the central broad area very feeble and indistinct. Front leg: Figs. 6 (femur), 7 (tibia) and 8 (tarsus seen from beneath); mid and hind tibiae robust and spines stronger than in *scutellatus* (Figs.9 and 10 respectively), mid metatarsus

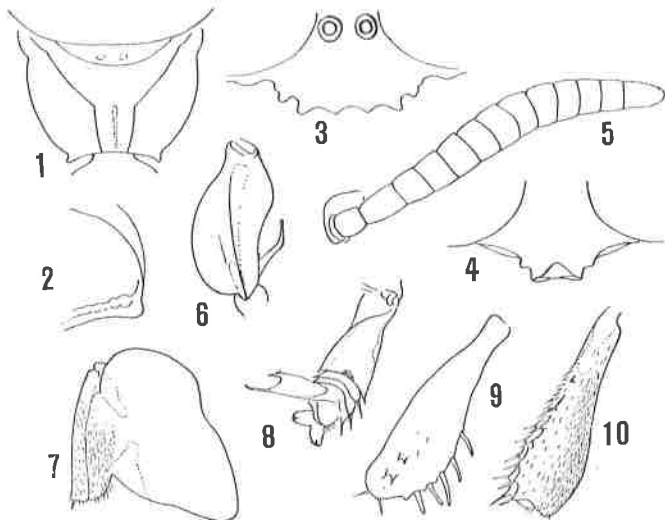


Fig.1. Propodeum of *Bembecinus hungaricus verhoeffi* subsp. nov.

Fig.2. Ibid., in the lateral view.

Fig.3. Clypeus of *Crossocerus (Crossocerus) pseudopalmaris* (Gussak.), ♀.

Fig.4-10. *Crabro (Crabro) ussuriensis* (Gussak.), ♂.

4: clypeus; 5: antenna; 6: front femur; 7: front tibia;

8: front tarsus seen from beneath; 9: mid tibia; 10: hind tibia.

similarly gently bent, but relatively longer, hind tibial spur incrassate as in the compared species. Abdomen similar in form to that of *scutellatus*, 1st the segment finely, distinctly somewhat sparsely punctured, the 2nd more finely and much more closely punctured, subsequent tergites similarly punctured with hair-bearing points, but the punctures progressively weaker; sternites practically impunctate and polished.

Black with the following portions yellow: A fleck on anterior aspect of mandibles near base, ends and posterior face of antennal scapes, a streak on front femora, base of all tibiae, two spots on front tibial shields, front and mid metatarsi, base externally of hind metatarsi, two large maculae on 2nd tergite, irregularly outlined anteapical narrow bands on 3rd-5th tergites (on 3rd broadly and on 4th narrowly interrupted in middle). Antennal flagellum beneath except apical two joints ferruginous, remaining portions of tarsi and wing veins dark brown. Wings pale brownish.

Specimen: 1 ♂, Charbin, 6.VII.1945; Alin leg.

Literature

- Beaumont, J. de. 1954. Les Bembecinus de la région paléarctique (Hym., Sphecid.). Mitt. Schweiz. Ent. Ges., **27** (3): 241-276.
- 1954. Remarques sur la systématique des Nyssoninae paléarctique (Hym., Sphecid.). Rev. suisse. zool., **61** (2): 283-322.
- 1957. Sphecidae du nord de l'Iran. Mitt. Schweiz. Ent. Ges., **30** (2): 127-139.
- 1961. Sphecidae de l'Iraq (Hym.). Opus. zool., **56**: 1-5.
- 1961. Sphecidae de l'île de Crète (Hym.). Mitt. Schweiz. Ent. Ges., **34** (1): 43-52.
- Beaumont, J. de et Bytinski-Salz, H. The Sphecidae (Hymen.) of Erez Israel. I. (Subfam.: Sphecidae, Nyssoninae; Trib.: Bembicini, Stizini). Bull. Res. Counc. Israel, **5** (1): 33-60.
- Handlirsch, A. 1887. Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. II. Sitzb. k. Akad. Wiss. Wien, Abt. I, Bd. **96**: 219-311.
- 1892. Ibid., VI. Ibid., Bd. **101**: 25-205.
- 1895. Nachträge und Schlusswort zur Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. Ibid., Bd. **105**: 801-1079.
- Gussakovskij, V. 1933. Verzeichnis der von Herrn Dr. R. Malaise im Ussuri und Kamtschatka gesammelten Hymenopteren. Ark. zool., 24 A, **10**: 1-66.
- 1938. Dir. Kjell Kolthoff's Spheciden- und Tiphiiden-Ausbeute aus China. Ibid., 30 A, **15**: 1-16.
- Leclereq, J. 1954. Monographie systématique, phylogénétique et zoogéographique des Hyménoptères Crabroniens. Liege, 371 pp.
- Parker, J. B. 1929. A generic revision of the fossorial wasps of the tribes Stizini and Bembicini, with notes and descriptions of new species. Proc. U. S. Nat. Mus., **75** (5): 1-203.
- Yasumatsu, K. 1942. Hymenoptera Aculeata collected by Mr. K. Tsuneki in North China and Inner Mongolia. Mushi, **14** (2): 103-115.