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SPHECIDAE FROM NORTH KOREA (II) WITH THE LIST OF THE SPECIES OF THE FAMILY KNOWN FROM THE KOREAN PENINSULA (HYMENOPTERA)

By K. TSUNEKI

MISHIMA

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By K. TSUNEKI

This is the report on the fossorial wasps of North Korea that were collected by the Second Scientific Expedition of the Hungarian National Museum of Natural History in 1975.

The material consists of 29 species including one new (Nitela koreana) to science. All the specimens were collected by Dr. J. Papp and A. Vojnitz of the Museum and are preserved at the Museum.

I. SPHECINAE

1. Sphex (Sphex) subtruncatus Dahlbom, 1843

Sphex haemorrhoidalis: Yasumatsu, Tenthredo (Kyoto), 2(1): 64, 1938 (S. Manchuria, N. and C. Korea, Japan, Formosa etc.)
Sphex haemorrhoidalis: Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., II, 13(2): 41, 1963 (biol. of Korean form).
Sphex haemorrhoidalis: Tsuneki, Etizenia (Fukui), 26: 3, 1967.
(Sphex subtruncatus: van der Vecht, Verh. Naturf. Ges. Basel, 68(2): 364, 1947).

Specimen examined: 1 ♀, Prov. Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, (No. 304), 1. VIII. 1975.

Remarks. Yasumatsu in his "Revision of the genus Sphex Linné (s. l.) of the Japanese Empire" (1938, l. c.) listed Sphex inusitatus Yasumatsu (1935) as a synonym of the present species and recorded Kyushu in the list of the distribution localities of his haemorrhoidalis (nec Fabricius). But this is incorrect. S. inusitatus is a species that is distinctly different from the present species and first known from S. Manchuria and later from Japan (ssp. fukuiensis Tsuneki). Sphex subtruncatus has not as yet been discovered in Japan, though it is rather common in Central Korean Peninsula and in Formosa. Bohart and Menke in their "World Sphecid Wasps" adopt the record of Yasumatsu in regard to the occurrence of the two species concerned here, and their list of distribution of inusitatus and subtruncatus is partly incorrect accordingly.

2. Ammophila infesta Smith, 1873

Ammophila infesta Smith, Trans. Ent. Soc. London, 1873: 190, 1873 (Japan - Hiogo).
Ammophila infesta: Kohl, Ann. k. k. Nat.-Hist. Hofmus. Wien, 21: 340, 1906 (Japan, N. China - Kiautschau, Tsingtau).
Ammophila sabulosa infesta: Tsuneki, Etizenia (Fukui), 26: 10, 12, 20, 1968.
Ammophila sabulosa infesta: Tsuneki, Life Study (Fukui), 12(1-2): 1-14, 1968 (ecological distribution).
Ammophila infesta: Tsuneki, Ann. Nat.-Hist. Mus. Natn. Hung., 66: 360, 1974 (N. Korea)

Specimens examined: 9 ♀ 4 ♂, Prov. Gang-von district, On-dzong, Kum-gang san,

Mandzang-tae, (No. 321), 6. VIII. 1975.

Remarks. Of the specimens above listed 6 ♀ 4 ♂ are collected at the height of 600-650 m and 3 ♀ at the height of 800 m above the level of the sea. Notice the re-remarks given to the following species.

3. Ammophila sabulosa nipponica Tsuneki, 1967

Ammophila sabulosa nipponica Tsuneki, Etizenia (Fukui), 26: 10, 12, 20-23, 1967.
Ammophila sabulosa nipponica: Tsuneki, Life Study (Fukui), 12(1-2): 1-14, 1968 (ecological distribution in Japan and Korea).
Ammophila sabulosa nipponica: Tsuneki, Ibid., 12(3-4): 50, 1968 (Quelpart Is. S. Korea).
Ammophila sabulosa nipponica: Tsuneki, Etizenia, 58: 2, 1971 (4 ♀, Peking, N. China).
Ammophila sabulosa nipponica: Tsuneki, Ann. Hist.-Nat. Mus. Natn. Hung., 66: 360, 1974 (N. Korea).

Specimens examined:

3 ♀ 6 ♂, Prov. Gang-von district, On-dzong, Kum-gang san, Mandzang-tae, (No. 321) 6. VIII. 1975. Height of locality: 2 ♀ 1 ♂, 250 m; 1 ♀ 5 ♂, 600-650 m.
1 ♀ 1 ♂, Prov. Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, (No. 304), 1. VIII. 1975. (Height unknown).
2 ♂, Prov. Ryang-gang, River Karim, 10 km NEE of Bachombo, 1100 m. (No. 295), 27. VII. 1975.

Remarks. Of the specimens examined 3 ♀ 6 ♂ are collected with A. infesta on the same mount and of which 1 ♀ 5 ♂ at the same height (600-650). While, two other males are collected at higher place (1100 m) of another mount. The facts well agree with the data upon which in the main I separated infesta from sabulosa nipponica at the species rank.

Ammophila infesta was first considered by me as a subspecies of A. sabulosa (L.) and it is separated from the other subspecies, A. sabulosa nipponica m., by the different height of their habitats, namely by the difference in the so-called vertical distribution, infesta living in the comparatively high montane area, while nipponica in lowland or low montane area. The date (about 500 instances) first collected by me fairly well supported this consideration (Tsuneki, 1967 and 68, l. c.). However, the succeeding investigation by the members of the Japan Hymenopterists Association as well as by myself have discovered one by one the distribution states of both the forms that do not always agree with the data tabulated in my first study, especially on the part of nipponica. Certainly, in some mounts nipponica lives in the same height or even higher place than infesta, just as in the present North Korean instance. That is to say, the habitats of both the forms are not strictly segregated by height, but that the vertical range of habitat of infesta is narrower than that of nipponica, although as a rule infesta lives at a considerable height and nipponica in the lowland area. Thus the ecological basis for treating them as different subspecies of the same species becomes weak.

On the other hand, morphologically they can be separated by some slightly differences from each other, namely, by the difference in the surface sculpture of mesothorax, in the state of glittering tomentosa on mesopleuron and in the relative width at apical part of paramere of the genitalia (♂).

Based upon the above mentioned facts A. infesta is separated from A. sabulosa and returned to its original status.

However, as to their taxonomic relationships there remains still some doubt, because the morphological basis for their separation at the species rank is not always sufficient and further ecological and biological study of the two forms seems to be necessary. The following fact observed in the present specimens from North Korea seems to present a suggestion about it:

The 3 ♀ 3 ♂ collected at 250-650 in height of Mt. Kum-gang together with A. infesta are somewhat intermediate in the sculpture of mesoscutum between infesta and sabulosa nipponica, namely, the rugosed striae somewhat sparser and partly disappeared and replaced with punctures, though much closer in general to normal form of s. nipponica (this is more distinct in the sculpture of the mesopleuron). The colour of the first gastral tergite (= apparent second segment of the petiole) is much the same as in infesta, namely, wholly black and only at apical sides and apical underside,

both narrowly, reddish. In the typical s. nipponica the segment is wholly red and at basal part and on narrow dorsal line alone black. This colorific deviation is also the case in other ♀ ♂ specimens examined.

2. P E M P H R E D O N I N A E

4. Pemphredon (Cemonus) inornatus Say, 1824

Cemonus shuckardi A. Morawitz, Bull. Acad. Sci. St. Petersb., 7: 460, 1864.
Pemphredon (Dineurus) shuckardi: Tsuneki, J. Fac. Sci. Hokkaido Univ., Ser. VI, Zool. 10(2): 190, 1951 (Japan, Korea and Saghalien).
Pemphredon (Dineurus) shuckardi: Tsuneki, Ibid., 11(2): 71, 1952 (biol.).
Pemphredon (Cemonus) shuckardi: Tsuneki, Life Study (Fukui), 8(2): 28, 29. 1964.
Pemphredon inornatus: Bohart and Menke, World Sphecid., p. 181, 1976 (listed).

Specimens examined: 3 ♀, Prov. South Pyongan, Pyongyan, Garden of Hungarian Embassy, 16-18, 18-20. VII. 1975; 1 ♀, Prov. Pyong-sung, Bek-sung-li, Za-mo san, 60 km. NE of Pyongyan.

Remarks. The specimens are usual form of the species, showing no special characters.

5. Passaloecus monilicornis Dahlbom, 1842

Passaloecus monilicornis: Gussakovskij, Ark. Zool., 24 A (10): 9, 1932 (♀ ♂, Ussuri and Kamtschatka).
Passaloecus shuckardi: Yasumatsu, Mushi, 7(1): 36, 1934 (Korea and Japan).
Passaloecus monilicornis: Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., Ser. II, Nat. Sci., 5(1): 6, 1955 (Korea, Japan, with biol.).
Passaloecus insignis: Bohart and Menke, World Sphecid., p. 184, 1976 (partim)
Passaloecus monilicornis: Vincent, Wash. J. Biol., 36(1-2): 154, 1979 (rev. stat.).

Specimens examined: 1 ♂, Prov. South Pyongan, Nan-po, (No. 273), 19. VII. 1975.

Remarks. Bohart and Menke (1976) followed Vincent and synonymized monilicornis with insignis Van der Linden (= roettgeni C. Verhoeff). Recently, however, Vincent (l. c.) altered his concept in his revised study and separated the former from the latter. This is certainly correct. According to my observations the two species concerned are not only morphologically (though slight in degrees), but also ecologically different from each other and there is little doubt about their separate status.

6. Psen (Psen) ater (Fabricius, 1794)

Psen (in sp.) ater: Gussakovskij, Mushi, 7(2): 80. 1934 (Japan: Honshu and Kyushu).
Psen (Psen) ater: Gussakovskij, Trav. Inst. Zool. Akad. Sci. URSS, 4(3-4): 649, 1937 (Europe, E. Siberia: Ussuri).
Psen (Psen) ater: Yasumatsu, Mushi, 14(2): 93, 1942 (Japan: Hokkaido).
Psen (Psen) ater: Yasumatsu et Narisada, Mushi, 8(2): 73 (S. Manchuria).
Psen (Psen) ater: Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., II, Nat. Sci., 9: 62, 1959 (7 ♀ 11 ♂, Central Korea; 13 ♀ 12 ♂, Japan).

Specimen examined: 1 ♂, Prov. Pyong gang, Hyesan, Mt. Ze-dong, 1150 m, (No. 275), 22. VII. 1975.

7. Psen (Psen) takanensis Tsuneki, 1978

Psen (Psen) affinis: Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., Ser. II, Nat. Sci., 9: 65 (♀ ♂, partim).
Psen (Psen) alticola Tsuneki, Kontyu (Tokyo), 45(3): 370, 1977 (♀ ♂, Janan)(nec Psen (Mimesa) alticola Viereck, 1903)
Psen (Psen) takanensis Tsuneki, Trans. Shikoku Ent. Soc., 14(1-2): 81, 1978 (nom. nov.)

Specimens examined: 2 ♀, Prov. Pyong gang, Chann-Pay-Plateau, (No. 277), 23. VII. 1975.

3. L A R R I N A E

8. Tachytes modestus Smith, 1856

Tachytes modestus Smith, Cat. Hym. Brit. Mus., IV: 299, 1856 (India).
Tachytes modestus: Tsuneki, Etizenia (Fukui), 5: 5, 1964 (♀ ♂, redescr. figs., Japan, and Korea).

Specimens examined: 1 ♀ 1 ♂, Prov. Pyong sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, (No. 304), 1. VIII. 1975.

Remarks. This species is common in Japan and not rare in Korea also.

9. Tachytes nipponicus Tsuneki, 1968

Tachytes nipponicus Tsuneki, Etizenia, 5: 6, 1968 (67 ♀ 184 ♂, Japan; 11 ♀ 24 ♂, from Central Korean Peninsula).

Specimen examined: 1 ♂, Prov. Pyong Sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, 1. VIII. 1975. (No. 304)

10. Nitela koreana sp. nov.

According to the original description of Nitela fallax Kohl, 1884, the present species is considered to be very close to or even identical with this species.

In his redescription of N. spinolae and description of N. fallax Kohl says as to both in his Latin diagnosis that abdominis segmenta nitida, but as to spinolae he adds in the German explanation that die übrigen Hinterleibsringe sind glänzend, mit ungemein feinen Pünktchen, denen Harchen entwachsen, sehr dünn besetzt, while he gives no explanation on this character about fallax.

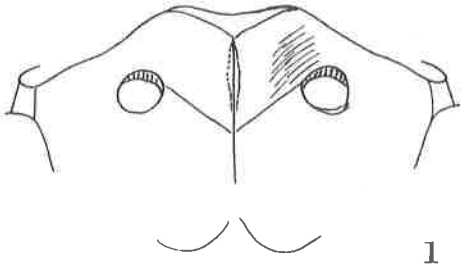
In the present specimen the surface sculpture of the head and thorax well agrees with the Kohl's description of N. fallax, but here, different from spinolae in that the gaster is completely without puncture as is the case with the Japanese two species, N. yasumatsui m. and N. ohgushii m. Certainly, according to my observation the gasteral tergites of N. spinolae (♀ ♂ specimens determined either by H. Ribaut or by J. Leclercq) have sparse fine (but somewhat large) distinct punctures. If the same is true in fallax also the present species is distinctly different from this species. I have no specimen of fallax and can not directly confirm about this character.

Besides the above, the present species differs from spinolae in the form of the apical margin of the clypeus (Fig. 1, cf. Fig. 2 in spinolae, both ♀) and in that the mesoscutum is coarsely and divergently striate at posterior margin and that the gasteral segments are not constricted between them. If fallax is similar in these characters to spinolae the Korean specimen here treated differs no doubt from fallax.

Such being the case the present specimen is dealt with rather provisionally as a distinct species. For the future comparison full description of the specimen is given below:

♀. Length 4.0 mm. Black; without aeneous shine, mandible pale castaneous, at base black, articulations of legs also brown, spurs pale yellow, wings hyaline, veins brown.

Head from above generally similar in form to that of spinolae, with W:L(in middle)=100:64 (in spinolae also 100:64), but with occipital margin much more weakly emarginate, MW:IODv=100:36, A3 relatively 13, A3,4,5=10,12,10, thus IODv >A2+3, but < A2+3+4 as in spinolae and fallax. OOD,Od,POD=1,1,2 (in spinolae similar), ocellar area raised, median furrow of frons feeble, surface without sculpture and shining, fronto-clypeal median carina with its curvature seen in profile similar to that of spinolae, but apical margin seen vertically (Fig. 1) distinctly different in form from that of spinolae (Fig. 2). Pronotum, mesopleuron, propodeum also similar in structure to spinolae. Fore wing venation (Fig. 3) similar in pattern to that of the of the compared species, but cubital cell 1 slightly higher.



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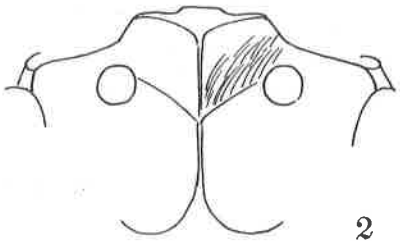

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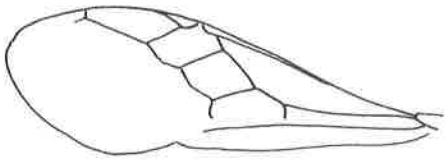

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Figs. 1 and 3. Nitela koreana sp. nov., ♀.

Fig. 2. Nitela spinolae Latr., ♀.

Frons finely rugoso-reticulate, the reticulation finer on central area above verge to anterior inclination, mesoscutum transversely, finely rugoso-striolate, the striae finer and closer anteriorly and at ante-apical area in front of apical carinated area obsolete and surface microcoriaceous, lateral and posterior margins very coarsely and strongly foveolate, much more coarsely and strongly so than in spinolae and at posterior* carina between foveae extended anteriorly and on lateral portions carinae longer and divergently curving outwards. A pair of comparatively large foveae present at mid-lateral area in front of carinated zone, but whether it is constant or not is uncertain; scutellum medianly sparsely punctured and laterally broadly and longitudinally, somewhat arcuately punctate-striate, postscutellum very finely punctulate; mesopleuron with mesopleural and hyposternal sulci coarsely foveate and below the latter surface coarsely rugoso-punctate and above it more weakly and sparsely punctate or striate, the sculpture weaker upwards and on epimeral area surface smooth and shining, metapleuron almost smooth, only partly covered with very fine striae; dorsum of propodeum longitudinally, regularly striate, with interspaces quadrately sectioned with short transverse strioles, the sculpture distinctly coarser than in spinolae, but finer and more regular than in ohgushii, posterior margin transversely strongly carinate, medio-apical rounded impression larger, deeper and more distinct than in spinolae, posterior inclination subrectangular, lateral margins roundly curved and distinctly carinated, surface nearly flat, only the area above middle slightly concave and thence posteriorly the medial line and ante-apical part slightly raised, from the latter a pair of long carinae run obliquely upwards divergently, on both sides of each of the pair several weak carinae or rugosed carinae running up radiately over the surface, irregularly connected with each other to fome weak irregular network there, sides of the segment longitudinally, coarsely rugoso-striate; gastral tergite 1 smooth and polished, completely without puncture, tergite 2 and the following tergites with transverse, very delicate and close microstriae.

♂, unknown.

Holotype: ♀, Prov. Gang-von district, On-dzong, Kum-gang san, near Hotel Gosong, 250 m, (No. 320), 4-6. VIII. 1975.

* posterior margin

11. Trypoxylon figulus koma Tsuneki, 1956

Trypoxylon figulus koma Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., Ser. II, Nat. Sci. 11(1): 28, 1956 (♀ ♂, Korea).
Trypoxylon figulus koma: Tsuneki, SPJHA, 17: 20, 1981 (revision).

Specimens examined: 1 ♀, Prov. Ryang-gang, River Karim, 10 km NEE of Bochonbo, 1100 m, (No. 295), 27. VII. 1975; 1 ♂, Prov. Ryang-gang, Chann-Pay Plateau, 24 km NW of Sam-zi-yan, road to Mt. Bek-tu, 2000 m, (No. 281), 24. VII. 1975.

Remarks. Measurements were made: HW,HL,IODv,A3,A13,P=100,54,32,19,-,86 (♀), = 100,55,32,15,16,84 (♂). IODs=10:10 (♀), =10:9 (♂). A3=AW 3 (♀), =AWx2.2 (♂). A13= BWx1.6 (♂). OOD,Od,POD=3,4,5 (♀), =3,3,5 (♂). P,Ma,Mi,2(Ma),3(Ma)=100,43,22,54(43), 58(60) (♀), =100,36,24,58(52),52(68). RC=B (♀ ♂). R1 short (♀ ♂). CV1=CV2x3.2 (♀), =CV2x5 (♂). TCV:CV2=1:1 (♀), =3:2 (♂). TCV gently sinuate, CV2 strongly curved on apical half,(♀ ♂), angle at base about 110° (♀), 100°(♂) and at apex about 90° (♀ ♂).
Apical margin of clypeus as given in SPJHA, 17, p. 21, Fig. 46, 1981.

4. C R A B R O N I N A E

12. Ectemnius (Metacrabro) spinipes (A.Morawitz, 1866)

Crabro (Crabro) spinipes: Kohl, Ann. k. k. Nat.-Hist. Hofmus. Wien, 29: 47, 1915.
Crabro (Crabro) spinipes: Tsuneki, Tôkô (Rep. 1st Sci. Exped. to Mt. Hakuto by Gov. Gen. Chosen), p. 156, 1943 (2 ♀ 13 ♂, Mt. Hakuto leg. K. Tsuneki).
Crabro (Crabro) spinipes: Tsuneki, J. Fac. Sci. Hokkaido Univ.,,Ser. 6, 9(3): 282, 1947 (N. Korea: Nansetsurei; C. Korea: Shoyozan-valley).
Ectemnius (Metacrabro) spinipes: Leclercq, Monogr. Hym. Crabron., p. 288, 1954 (Eur. Siberia, Japan).
Ectemnius (Metacrabro) spinipes: Tsuneki, Akitu (Kyoto), 6: 59, 1957 (N. Korea).
Ectemnius (Metacrabro) spinipes: Tsuneki, Kontyu (Tokyo), 25(2): 77, 1957 (N. Korea).

Specimen examined: 1 ♀, Prov. Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan.

Remarks. This species is widely spread over Europe, Siberia including Amur, Korea and Japan and is rather common in the montanic regions of Korea and Japan.

13. Ectemnius (Yanonius) martjanowii (F. Morawitz, 1892)

Crabro Martjanowii F. Morawitz, Horae Soc. Ent. Ross., 26: 177, 1892 (♂, E. Siberia).
Crabro (Crabro) Martjanowii: Kohl, Ann. k. k. Nat.-Hist. Hofmus. Wien, 29: 53, 1915 (♂, Siberia: Minusinsk).
Crabro (Crabro) martjanowii: Tsuneki, J. Fac. Sci. Hokkaido Imp. Univ., Ser. 6, 9(3): 1947 (17 ♀ 29 ♂, N. Korea: Mt. Hakuto; 4 ♀ 29 ♂, N. Korea: Mt. Nansetsu-rei; 2 ♀, N. Korea: Daitaku, all leg. K. Tsuneki).
Ectemnius (Clytochrysus) martjanowii: Leclercq, Monogr. Hym. Crabroni., p. 287, 1954.
Ectemnius (Metacrabro?) martjanowii: Tsuneki, Bull. Biogeogr. Soc. Japan, 16-19: 213, 1955 (♀ ♂, Kurile Is.).
Ectemnius (Yanonius) martjanowii: Tsuneki, Kontyu (Tokyo), 24(3): 128, 1956 (variation and synonymy).
Ectemnius (Yanonius) martjanowii: Tsuneki, Ibid., 25(2): 77, 1957 (1 ♀, N. Korea).
Ectemnius (Yanonius) martjanowii: Tsuneki, Akitu (N.S.), 6: 59, 1957 (1 ♀ 2 ♂, N. Korea).
Ectemnius (Yanonius) martjanowii: Tsuneki, Life Study, 7 (= 2(3)): 14, 1958 (keyed).

Specimens examined: 2 ♂, Prov. Pyong-gang, Chann-Pay Plateau, 15 km SSW of Sam-zi-yan, 1600 m, (No. 277), 23. VII. 1975.

Remarks. One of the specimens examined is a large one, measuring about 14 mm and bears the well developed genal processes and mandibles. This species is widely

distributed over East Siberia, North Korea, North Japan, Kuriles, China, Formosa, Tibet, Sikkim and the southern representatives have been recorded under the name of arreptus Kohl, 1915. Crabro dubiosus Ashmead, 1904, is also a synonym of this species.

14. Ectemnius (Hypocrabro) continuus (Fabricius, 1804)

Crabro (Crabro-Solenius) vagus: Kohl, Ann. k. k. Nat.-Hist. Hofmus. Wien, 29: 85, 1915 (Europe and Japan)
Crabro (Solenius) vagus: Gussakovskij, Ark. Zool., 24 A, 10: 15, 1932 (♀ ♂, Ussuri).
Solenius vagus: Iwata, Trans. Kansai Ent. Soc., 4: 11, 1933 (Chosen).
Crabro vagus: Tsuneki, Toko, p. 156, 1943 (N. Korea, 1 ♀ 4 ♂, Mt. Hakuto).
Crabro (Solenius) continuus: Tsuneki, J. Sci. Hokkaido Imp. Univ., Ser. 6, Zool., 9(3): 283, 1947 (N. Korea: Mt. Hakuto, Daitaku, Mt. Nansetsu-rei).
Ectemnius (Hypocrabro) continuus: Tsuneki, Ann. H.-N. Mus. Natn. Hung., 66: 372, 1974.

Specimen examined: 1 ♂, Prov. Ryang gang: Chann-Pay Plateau, 24 km NW of Samzi-yan, road to Mr. Pektusan, 2000 m, (No. 280), 24. VII. 1975.

15. Ectemnius (Ectemnius) borealis (Zetterstedt, 1838)

Crabro (Crabro Ectemnius) nigrinus: Kohl, Ann. k. k. Naturh. Hofmus. Wien, 29: 96, 1915 (Europe and Siberia).
Crabro (Solenius) nigrinus: Gussakovskij, Ark. Zool., 24 A, 10: 16, 1932 (Ussuri).
Crabro (Ectemnius) nigrinus: Tsuneki, J. Fac. Sci. Hokkaido Imp. Univ., Ser. 6, 9(3): 284, 1947 (2 ♀ 6 ♂, North Korea: Mt. Nansetsu-rei; 1 ♂, Daitaku, leg. Tsuneki).
Ectemnius (Ectemnius) nigrinus: Leclercq, Monogr. Hym. Crabroni., p. 278, 1954.
Ectemnius (Ectemnius) nigrinus: Tsuneki, Akitu (N.S. Kyoto), 6: 60, 1957 (1 ♂, N. Korea: Sanyo-dai, leg. K. Takeuchi).
Ectemnius (Ectemnius) borealis: Leclercq, Bull. Soc. Ent. Mulhouse, 1975, p. 3, 1975.

Specimens examined: 1 ♀ 2 ♂, Prov. Ryang-gang, Chann-Pay Plateau, 24 km NW of Sam-zi-yan, road to Mt. Pektu, 2000 m, (No. 281), 24. VII. 1975.

Remarks. In both the male and female specimens the thorax is wholly black except pale yellow humeral tubercles and the gastral tergites 2, 3 and 4 each is adorned with a pair of lateral spots; in ♀ Al and fore tibia both in front pale yellow, mid and hind tibiae carrying a large pale yellow mark on fore-outer side, fore tarsus from apex of T1 to T4 ferruginous brown; in ♂ fore femur beneath, fore tibia in front, a small mark on Al and on hind tibia yellow, fore T1-2 white and fore femur and tibia partly ferruginous.

16. Ectemnius (Ectemnius) dives (Lepeletier et Brullé, 1834)

Crabro (Crabro Ectemnius) dives: Kohl, Ann. k. k. Naturh. Hofmus. Wien, 29: 94, 1915 (Europe, Amur Gebiet).
Crabro (Solenius) dives: Gussakovskij, Ark. Zool., 24 A, 10: 16, 1932 (Ussuri).
Crabro (Ectemnius) dives: Tsuneki, J. Fac. Sci. Hokkaido Imp. Univ., Ser. 6, 9(3): 285, 1947 (1 ♀ 2 ♂, N. Korea, Mt. Nansetsu-rei).
Ectemnius (Ectemnius) dives: Leclercq, Monogr. Hym. Crabroni., p. 278, 1954.

Specimens examined: 1 ♂, Prov. Pyong-gang, River Karim, 10 km NEE of Bochonbo, 1100 m, (No. 295), 27. VII. 1975; 1 ♂, Prov. Gang-von district, On-dsong, Kum-gang san, Mandzang-tae, 600-650 m, (No. 321), 6. VIII. 1975.

17. Crossocerus (Crossocerus) denticornis (Gussakovskij, 1932)

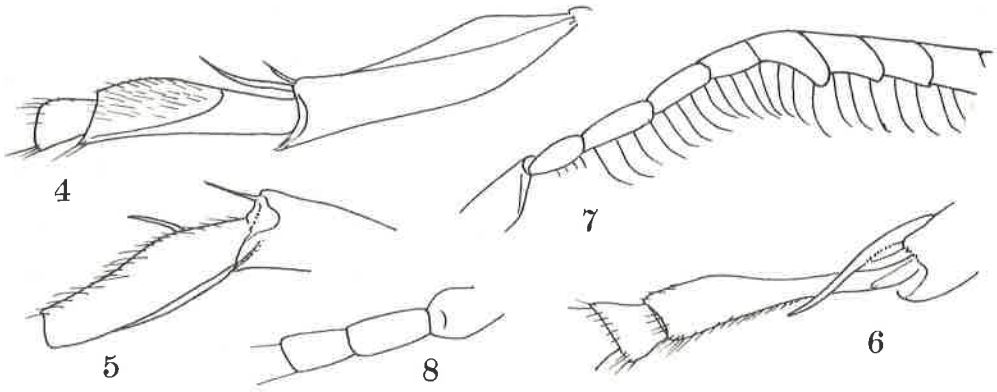
Crabro (Crossocerus) denticornis Gussakovskij, Ark. Zool., 24 A, 10: 24, 1932 (♂, Ussuri region).
Crossocerus (Crossocerus) denticornis: Tsuneki, Ann. Hist.-Nat. Mus. Natn. Hung., 66: 380, 1974 (♂ ♀, N. Korea).

Specimens examined: 1 ♀ 3 ♂, Prov. South Pyongan, Nampo, (No. 273), 19. VII. 1975.

Supplemental description.

♂. 4.5-5.5 mm. Black; ivory white (sometimes slightly yellowish) are Al with basal condyle completely, A2 beneath, clypeus except narrow apical margin of median area, mandible except narrow apical reddish brown, mouth parts, medianly hused two marks on pronotal collar (sometimes separated into 2 spots and sometimes completely lacking), humeral tubercle completely, tegula (transparent) and basal plate of wing, epicnemial area of mesopleuron completely, sometimes expanded into antero-ventral part of prepectus and lower part of episternum, mesosternum nearly wholly, fore leg except a somewhat lengthened brown mark on posterior part of femur, ferruginous flat surface of the femur beneath and dorsal brown mark and arolia of T5 (sometimes base of coxa dark brown and mark of femur more lengthened and enlarged and tibia also with a brown line on postero-ventral verge), mid leg except ferruginous brown femur (postero-ventral and antero-dorsal verges darker), dark brown folded side of tibia and brown T5 and hind leg on coxa beneath and apex, trochanter except above (brown), base and dorsal and ventral margin of tibia and on T1-4 (femur black, rest of tibia brown to dark brown and T5 rather pale brown).

OOD,Od,POD=6,3.5,5. Fore ocellus in a hollow, hind ones inclined outwards, with a depression at outer side which is sharply furrowed along outer margin of the ocellus; frontal mark lies at ocello-ocular area in front of the depression, not impressed, but raised. Fore tibia and T1: Fig. 4 (left one, in outer frontal view), Fig. 5 (do., outer posterior view) and Fig. 6 (do., inner ventral view). Mid T1=AWx6. Antenna deformed and fringed with long hair: Fig. 7 (lateral view), Al-4 in dorsal view: Fig. 8.



Figs. 4-8. Crossocerus denticornis Gussakovskij, ♂

♀. 6 mm. Black; ivory white are Al except dorso-inner brown stripe, clypeus except basal half and brownish apical margin, mandible except narrow apex (inner margin and before apex brownish), mouth parts except basal area, a transverse mark on collar (not reaching sides), humeral tubercle, fore leg at apex of coxa, trochanter (somewhat brownish), apical part of femur, tibia except inner side and tarsus except brownish T5 above and blackish arolia; mid leg at apex of coxa, trochanter (somewhat brownish yellow), narrow apex of femur, tibia except inner side, T1-3 (4,5 pale brown and arolia black); hind leg at apices of coxa (rest black), trochanter (rest dark brown) and femur (very narrow), tibia except a large mark spreading over anterior and inner sides, and T1-2 (rest as in mid tarsus), tibia at outsides of whitish mark pale ferruginous; tegula and basal plate of wing pale brown, A2 brown and paler beneath.

18. Crossocerus (Blepharipus) heydeni (Kohl, 1880)

Crossocerus (Coelocrabro) heydeni: Tsuneki et Tanaka, Kontyu (Tokyo), 23(1): 22 (Saghalien and Japan: Honshu).
Crossocerus (Coelocrabro) heydeni nipponis Tsuneki, Life Study (Fukui), 10:35,1966.

Crossocerus (Blepharipus) heydeni nipponius: Bohart et Menke, World Sphecid., p. 401, 1976 (lapsus calami).
Crossocerus (Blepharipus) heydeni nipponis: Tsuneki, SPJHA (Mishima), 5: 4, 1977 (colour variant).

Specimen examined: 1 ♀, Prov. Pyong gang, Chann-Pay Plateau, 24 km NW of Samzi-yan, road to Mt. Pektu, 2600 m, (No. 281), 24. VII. 1975.

Remarks. The specimen examined belongs in the relative length of antennal joint 3 to ssp. nipponis, but the median lobe of the clypeus is much broader at the apical margin and gently rounded out and general forward prominence of the area is not so strong. Moreover, the colour of the legs is much darker: tibiae and Tl are only at base yellowish brown, with the rest dark brown and black.

As the variation of the Korean population is uncertain its subspecific status can not be determined.

This species is new to the Korean Peninsula.

19. Lestica (Lestica) alata (Panzer, 1797)

Crabro alatus var. basalis: Sickmann, Zool. Jahrb. System., 8(2): 201, 1894 (N. China).
Crabro (Ceratocolus) alatus: Kohl, Ann. k. k. Naturh. Hofmus. Wien, 29: 125, 1915 (Europe, W. Asia, Mongolia, Siberia, N. China, Japan).
Ceratocolus alatus: Iwata, Trans. Kansai Ent. Soc., 4: 12, 1933 (incl. Korea: Kainan).
Crabro alatus: Tsuneki, Toko (Keijo), p. 156, 1943 (1 ♀, N. Korea: Mt. Hakuto).
Crabro (Ceratocolus) alatus: Tsuneki, J. Fac. Sci. Hokkaido Imp. Univ., Ser. 6, 9(3): 285, 1947 (1 ♀, N. Korea, 15 ♀ 17 ♂, Central Korea).
Lestica (Ceratocolus) alata: Leclercq, Monogr. Hym. Crabroni., p. 292, 1954.
Lestica (Lestica) alata: Bohart and Menke (suggested), World Sphecid., p. 430, 1976.

Specimen examined: 1 ♀, Prov. South Pyongyan, Nam-po, (No. 273), 19. VII. 1975.

Remarks. The specimen belongs to f. basalis Smith.

20. Lestica (Solenius) reiteri (Kohl, 1915)

Crabro (Ceratocolus) Reiteri Kohl, Ann. k. k. Naturh. Hofmus. Wien, 29: 119, 1915 (Japan).
Crabro (Clypeocrabro) reiteri: Tsuneki, J. Fac. Sci. Hokkaido Imp. Univ., 6, 9(3): 286, 1947 (N. Korea, 1 ♀, Mt. Hakuto: Jimmujo, leg. K. Tsuneki).
Lestica (Clypeocrabro) reiteri: Tsuneki, Trans. Shikoku Ent. Soc., 3(3-4): 66, 1952.
Lestica (Clypeocrabro) reiteri: Leclercq, Monogr. Hym. Crabroni., p. 295, 1954.
Lestica (Solenius) reiteri: Suggested by Bohart et Menke, World Sphecid., p. 430, 1976.

Specimens examined: 2 ♀, Prov. Pyong-Sung, Bek-sung-li, Za-mo san, 60 km NE of Pyingyan, (No. 213), 19. VII. 1975.

21. Crabro (Crabro) ussuriensis (Gussakovskij, 1932)

Crabro (Thyreopus) ussuriensis Gussakovskij, Ark. Zool., 24 A, 10: 18, 1932 (1 ♀, Ussuri).
Crabro (Crabro) ussuriensis: Tsuneki, SPJHA, 5: 4, 1977 (1 ♀ 1 ♂, S. Korea).

Specimens examined: 2 ♀, Prov. Pyong-gang, Hyesan, Mt. Ze-dang, 1150 m, (No. 275), 22. VII. 1975.

Remarks. Besides the yellow marks described in the original paper the scutellum carries a transverse mark at anterior area in both specimens which has numerous incisions at the posterior margin. Further, in one of the specimens tergite 1 is adorned with a pair of small lateral yellow spots, but the band on tergite 3 is always broadly interrupted in the middle into two lateral marks. Otherwise, the specimens well agree in structure, punctuation and colouration with the described Ussuri specimen.

The so-called postero-lateral tooth of the temple is in reality a tooth-like prominece at the lower end of the occipital carina.

Bohart and Menke (1976) ascribed the present species to the group of cribrarius, instead of subgenus Crabro.

22. Rhopalum (Rhopalum) clavipes (Linnaeus, 1758)

Crabro (Rhopalum) clavipes: Kohl, Ann. k. k. Naturh. Hofmus. Wien, 29: 336, 1915 (Europe).
Crabro (Rhopalum) yessonicus Bischoff, Arch. Naturg., A, 87(10): 7, 1921 (Japan: Hokkaido).
Crabro (Rhopalum) clavipes: Iwata, Ins. Mats. (Sapporo), 12(2): 88, 1938 (Japan: Hokkaido).
Crabro (Rhopalum) clavipes: Tsuneki, J. Fac. Sci. Hokkaido Imp. Univ., Ser. 6, Zool. 9(4): 429, 1947 (♀, Hokkaido).
Rhopalum (Rhopalum sect. Rhopalum) jessocicum: Tsuneki, Ibid., 11(1): 119, 1952 (Japan: Honshu, Hokkaido and Kurile Is.).
Rhopalum (Rhopalum) clavipes yessonicum: Tsuneki, Life Study (Fukui), 4(4): 60, 61, 1968 (Japan: + Kyushu).

Specimen examined: 1 ♀, Prov. Ryang-gang, Chann-Pay Plateau, Sam-Zi-yan, 1700 m, (No. 283), 24. VII. 1975.

Remarks. From the specimen the gaster is from segment 2 apically completely lost and its subspecific assignment is impossible.

Addendum to C r a b r o n i n i:

23. Ectemnius (Clytochrysus) ruficornis (Zetterstedt, 1838)

Crabro (Clytochrysus) planifrons: Tsuneki, J. Fac. Sci. Hokkaido Imp. Univ., Ser. 6, Zool., 9(3): 283, 1947 (N. Korea: 1 ♂, Mt. Hakuto; 2 ♂, Daitaku; 3 ♂, Daihri; 1 ♀ 20 ♂, Mt. Nansetsu-rei).
Ectemnius (Clytochrysus) nigrifrons: Tsuneki, Akitu (N.S.), 6: 59, 1957 (1 ♂, N. Korea, Tonai, leg. Dr. K. Takeuchi).
Ectemnius (Clytochrysus) ruficornis: Leclercq, Bull. Soc. Ent. Mulhouse, 1975, p. 3, 1975.

Specimen examined: 1 ♂, Prov. Ryang-gang, Chann-Pay Plateau, 15 km SSW of Sam-Zi-yan, 1600 m, (No. 277), 23. VII. 1975.

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24. Oxybelus bipunctatus Olivier, 1811

Oxybelus bipunctatus: Gussakovskij, Ark. Zool., 24 A, 10: 28, 1932 (2 ♀ 2 ♂, Ussuri).
Oxybelus bipunctatus: Tsuneki, Ins. Ecol. (Tokyo), 3(9): 63-74, 1951 (biol.).
Oxybelus bipunctatus: Tsuneki, Etizenia (Fukui), 38: 11-20, 1969 (Hokkaido, biol.).

Specimen examined: 1 ♀, Prov. Ryang-gang, River Karim, 10 km NEE of Bochonbo, 1100 m, (No. 295), 27. VII. 1975.

Remarks. This is the first official record of the species from the Korean Peninsula. At my hand, however, there is a male specimen of this species which was captured by myself about 40 years ago in North Korea and has been preserved without being recorded:

1 ♂, Kusshô (瓶松), along Haku-Mo Railway (白岩 Bek-an – 茂山 Musan), 22. VII. 1943.

In this specimen punctures on the gaster are much stronger and closer than in the usual male specimens, while the newly collected specimen by the members of the Hungarian Expedition has the gaster much less strongly and sparsely punctured. According to my observations of the European, North American and the Japanese male specimens of this species the gastral punctures are considerably variable in density and strength between the specimens from the same locality in this sex and there is no

need of special treatment about the difference. Measured values of head seen in front are fairly constant between specimens from the different localities:

Table 1. measurements on face.

Loco.	HW	HL	IODv	IODm	IODc
Poland	100	82	50	39	53
Poland	100	80	51	38	52
U.S.A.	100	81	51	39	53
Japan	100	80	48	38	52
N.Korea	100	83	49	38	52
Average	100	81.2	49.8	38.4	52.4

Abbreviations:

HW Head width
HL Head length
IODv Interocular distance across middle of fore ocellus
IODc Interocular distance at basal line of clypeus
IODm Interocular distance at mid point of face

25. Oxybelus strandi Yasumatsu, 1935

Oxybelus strandi Yasumatsu, Trans. Sapporo Nat. Hist. Soc., 14(1): 39, 1935 (♀ ♂, Japan).
Oxybelus strandi: Tsuneki, Matsumushi, 1(2): 81-85, 1941 (biol.).
Oxybelus strandi: Tsuneki, Etizenia (Fukui), 38: 5, 1969 (Japan, biol.).

Specimen examined: 1 ♀, Prov. Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, (No. 304), 1. VIII. 1975.

Remarks. This is the first record of the species from the Korean Peninsula. But in my collection there are 3 ♀ 5 ♂ specimens collected by myself in the central district of the Korean Peninsula:
1 ♀, Seoul, 20. VIII. 1941; 1 ♂, Mt. Shoyo, 27. VIII. 1942; 3 ♀ 3 ♂, Mt. Shoyo and valley, 20, 27. VIII, 10. IX. 1943.

5. N Y S S O N I N A E

26. Bembix niponica picticollis F. Morawitz, 1889

Bembex picticollis F. Morawitz, Horae Soc. Ent. Ross., 23: 144, 1889 (♀ ♂, Mongolia and China: Chetschuen).
Bembex picticollis: Handlirsch, Sitz. Akad. Wiss. Wien, Math.-Naturw., 102(1): 767, 1893 (China: Tientsin, Tschifu and Chetsuen).
Bembix niphonica: Tomari, Ins. Kwantong Prov., p. 55, 1930 (S. Manchuria)
Bembix picticollis: Yasumatsu, Mushi, 8: 72, 1935 (Dairen).
Bembix picticollis: Yasumatsu, Mushi, 14: 109, 1942 (N. China and Inner Mongolia).
Bembix niponica picticollis: Tsuneki, Life Study, 9 (1-2): 27, 1965 (Korea, N. China and Inner Mongolia).
Bembix niponica picticollis: Tsuneki, Acta Zool. Acad. Sci. Hung., 17(1-2): 207, 1971 (Outer Mongolia).
Bembix niponica picticollis: Tsuneki, Etizenia, 58: 8, 1971 (Inner Mongolia).
Bembix niponica picticollis: Tsuneki, Ann. Hist.-Nat. Mus. Natn. Hung., 66: 361, 1974 (1 ♂, N. Korea).

Specimens examined: 2 ♀, Prov. Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, (No. 304), 1. VIII. 1975.

Remarks. (1) In both the specimens above listed two longitudinal yellow lines are on anterior half of the mesoscutum present, in one of them, further, two yellow spots are on the apical margin of the scutum. Al broadly yellow beneath, A2-12 narrowly yellowish beneath. (2) According to the description by Handlirsch (1893) the species, picticollis well agrees in the structural characters (♀ ♂) with niponica,

but, according to the original description by F. Morawit , strictly the following differences are observed:

♀. Der verdickte Fühlerschaft ist ... etwas doppelt so lang als mitten breit, ... Das 2te Geisselglied is länger als der Schaft und kürzer als die beiden folgenden zusammen genommen.

In the Korean specimens of niponica picticollis above mentioned and below listed as well as many others from N. China and Inner Mongolia in my cabinet Al in the female is always longer than twice the width of it in middle (though in the male as long as twice the width of it) and A3 is appr. as long as Al and slightly longer than A4 and 5 taken together (this is of course also the case in niponica). (3) In my collection there are 13 ♀ 5 ♂ of picticollis captured in Central Korean Peninsula (1 ♀, Seoul and all others Mt. Shoyo) in 1942-43. Of these specimens 12 ♀ 2 ♂ bear fine yellow streaks on mesoscutum and most of the females (9 out of 12) two yellow spots posteriorly also. The female specimen collected in Seoul (at the air port in those days) is markedly melanic: mesoscutum, except lateral margins, and propodeum, except narrow marginal line of area dorsata and lateral margins of posterior inclination, nearly completely black (in usual specimens propodeum broadly yellow, though more or less varied in proportion), gastral yellow bands are also much narrower. But in the structure of antenna and legs, especially of fore leg, there is no difference from other specimens.

The continental race, picticollis, of niponica is in the yellow tone of body and legs much more strongly orange, while in the typical race occurring in Japan the colour is much more pale-greenish and mesoscutal yellow streaks appear only very rarely.

27. Bembecinus quadratus Tsuneki, 1976

Bembecinus pacificus Tsuneki, Etizenia (Fukui), 31: 17, 1968 (♀ ♂, Formosa).
Bembecinus pacificus: Tsuneki, Ibid., 31: 25, 1968 (3 ♂, Central Korea).
Bembecinus quadratus Tsuneki, Kontyu (Tokyo), 44(4): 434, 1976 (nom. nov.)

This species is also collected and listed from Formosa by Y. Haneda (1971: 3 ♂; 1972: 5 ♀ 10 ♂) and T. Murota (1973: 7 ♀ 15 ♂) in Life Study (Fukui).

Specimen examined: 1 ♀, Prov. South Pyongan, Pyongyan, Botanical garden, (No. 310), 3. VIII. 1975.

Remarks. In the specimen right antenna from A9 apically, both fore tarsi from T2 apically, T5 of both mid tarsi and left hind tarsus and right hind leg from tibia apically lacking and, moreover, outer spines of both fore metatarsi are also dropped off. Main characters of the specimen:

Black; yellow are clypeus, labrum and supraclypeal area completely, lower half of inner orbits, greater part of mouth parts, antenna beneath completely, median narrow band on posterior margin of pronotum, humeral tubercles, axillae, a spot on tegula and basal plate of wing, two large marks on scutellum, comparatively large postero-lateral marks of propodeum, a pair of large marks on gastral tergite 1, laterally enlarged band on posterior margin of tergite 2, three small equilateral spots on tergite 3, a band on 4 and a pair of lateral marks on 5, a pair of small lateral marks on sternite 2, of smaller ones on 3, a line on fore and mid femora beneath, fore and mid tibiae, except posterior black mark, a large mark on hind tibia, fore and mid Tl except black posterior margin and following tarsal joints, hind tarsus yellow, but each joint maculated with black and brown.

Cubital cell 2 quadrangle in form, with dorsal abscissa very short and nearly triangular, ocular index 2.3 and clypeal index 1.3, WAS:ACD=6:5, fore Tl appr. twice as long as wide in middle, with ultimate outer spine longer than median with of Tl, but penultimate spine slightly shorter than the width; impunctate area at base of area dorsalis narrow, caudal tergite without impunctate smooth area in middle, postero-lateral emargination of propodeum only gentle, with apical corner broadly rounded in vertical view. Almost without interocellar impressed line on vertex.

6. PHILANTHINAE

28. Cerceris adelpha Kohl, 1889

Cerceris adelpha Kohl, in Schletterer's Palaearctic Cerceris, 1887, p. 447 (Korea).
Cerceris adelpha: Kohl, Arch. Naturg. Abt. A, 81(7): 107, 1915 (Korea).
Cerceris adelpha: Yasumatsu, Mushi, 14(2): 108, 1942 (Inner Mongolia).
Cerceris adelpha: Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., Ser. 2, Nat. Sci., 11 (1): 12, 18, 42, 57, 69, 1961 (Korea, Manchuria, Inner Mongolia).
Cerceris hokkanzana Tsuneki (♂, nec ♀), Ibid., p. 43, 1961 (Korea).
Cerceris adelpha: Tsuneki, Act. Zool. Akad. Sci. Hung., 17(3-4): 442, 1971 (Outer Mongolia).
Cerceris adelpha: Tsuneki, Etizenia (Fukui), 58: 18, 1971 (1 ♀, Inner Mongolia).

Specimen examined: 1 ♂, Prov. Pyong sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, (No. 304), 1. VIII. 1975.

Remarks. In the specimen observed Al yellow beneath, from apex of A3 to A8 ferruginous beneath, two lateral marks on pronotum, tegula of wing largely, postscutellum wholly, two lateral marks on Tergite 1, medianly narrowed band on tergites 2-6, lateral marks on sternites 2-5 yellow, on thorax slightly whitish; facial mark normal. Legs yellow; slightly more broadly darkened than in the specimens from Central Korea, black in fore leg are coxa wholly, trochanter largely and a large mark spreading over basal half of dorsal and posterior sides of femur, in mid leg are extreme base of coxa, a small mark at base of dorsal side of femur and in hind leg are base of coxa, apical half of femur except extreme apical ring and tibia above broadly from base to apex. Fore and mid tarsi apically ferruginous, hind tarsus from apex of T1 apically brownish black.

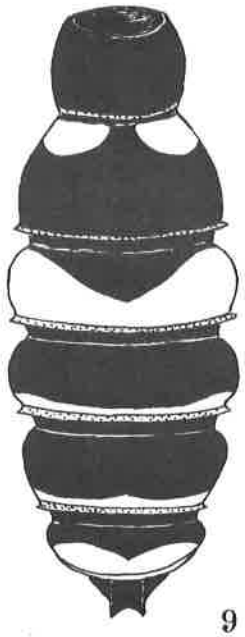
29. Cerceris sabulosa subgibbosa Yasumatsu, 1935

Cerceris subgibbosa Yasumatsu, Rep. 1st Sci. Exped. to Manchukuo, Sec. 5, Pt. 12, Art. 66: 15, 25. 1935 (SW Manchuria, ♀).
Cerceris sabulosa subgibbosa: Tsuneki, Mem. Fac. Lib. Arts, Fukui Univ., Ser. 2, Nat. Sci., 11(1): 36, 1961 (♀ ♂, Central Korea).

Specimen examined: 1 ♂, Prov. Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE of Pyongyan, (No. 305), 1. VIII. 1975.

Remarks. The specimen is generally similar in coloration to that of the Central Korea which was recorded by me previously except that pronotum is not adorned with two yellow marks and interantennal carina is also without yellow touch, while gastral tergite 5 is yellow bandes at posterior margin.

Gastral coloration: Fig. 9. Yellow on head and thorax: clypeus except brownish apical margin of median lobe, supraclypeal area till level of anterior end of interantennal carina, inner orbits broadly till shortly above upper margins of antennal sockets, tegula except marginal black and brownish central window and whole of postscutellum. Coloration of legs well agrees with that of the Central Korean specimen. Ground colour of legs lemon yellow, each articulation and T2-5 of fore and mid legs and T1 of hind leg ferruginous; black are: fore leg from base till about middle of femora, mid leg similar except broadly yellow trochanter and hind leg partly: coxa except apex, a spot on trochanter and on tibia, femur on posterior side and beneath; further hind tarsus from T2 apically dark brown to black. Antennal flagellum distinctly ferruginous beneath as in the Central Korean specimen.



9

General structure is also very similar. For instance facial measurements a:b:c=41:38:44 in the Central Korean male, while in the present specimen a:b:c=41:38.5:45. a is length between lower edge of antennal socket and apex of clypeus. b is interocular distance across lower edge of antennal sockets. c is interocular distance at the ends of dorsal oblique margins of lateral lobes of the clypeus.

LIST OF THE SPECIES OF THE SPHECIDAE

KNOWN FROM THE KOREAN PENINSULA

I. AMPULICINAE

1. Ampulex dissector (Thunberg, 1822)
   (= A. amoena Stål, 1857)
2. Ampulex satoi Yasumatsu, 1936

II. SPHECINAE

1. Sphex (Sphex) argentatus fumosus Kohl, 1890
2. Sphex (Sphex) subtruncatus Dahlbom, 1843
   (= S. haemorrhoidalis Fabricius of the Japanese authors)
3. Palmodes occitanicus (Lepeletier et Serville, 1828)
4. Prionyx subfuscatus (Dahlbom, 1845)
5. Isodontia harmandi (Pérez, 1905)
6. Isodontia nigella (Smith, 1856)
7. Ammophila infesta Smith, 1873
8. Ammophila sabulosa nipponica Tsuneki, 1967
9. Ammophila atripes japonica Kohl, 1906
   (=A. clavus japonica Auct.)
10. Ammophila sickmanni Kohl, 1901
11. Hoplammophila aemulans (Kohl, 1901)
12. Podalonia affinis (W. Kirby, 1798)

III. PEMPHREDONINAE

1. Pemphredon (Pemphredon) flavistigma Thomson, 1874
2. Pemphredon (Pemphredon) koreanus Tsuneki, 1951
3. Pemphredon (Pemphredon) montanus Dahlbom, 1845
4. Pemphredon (Pemphredon) lugubris pacificus Gussakovskij, 1932
5. Pemphredon (Cemonus) lethifer (Shuckard, 1837)
6. Pemphredon (Cemonus) inornatus Say, 1824
   (= P. (C.) shuckardi A. Morawitz, 1864)
7. Pemphredon (Cemonus) rugifer wesmaeli (A. Morawitz, 1864)
   (= P. (C.) unicolor (Panzer, 1798)
8. Diodontus minutus orientalis Tsuneki, 1974
9. Diodontus (Corenius) chosenensis Tsuneki, 1974
10. Polemistus abnormis (Kohl, 1888)
11. Passaloecus monilicornis Dahlbom, 1842
    From the microdistribution in Japan this species is ecologically also (not only morphologically - though slight) distinctly separated from P. insignis Vander Linden (= roettgeni C. Verhoeff).
12. Passaloecus clypealis Faester, 1947

(= tenuis A. Morawitz, = gracilis Curtis, = insignis Van der Linden, all sensu Tsuneki, 1971)

13. Passaloecus koreanus Tsuneki, 1974

14. (= P. iwatai Merisuo, 1976. SYN. NOV.)

14. No species of Stigmus has been recorded from the Korean Peninsula, although several species are presumed to occur there.

14. Psen (Psen) ater (Fabricius, 1794)

15. Psen (Psen) takanensis Tsuneki, 1978

16. Psen (Psen) exaratus (Eversmann, 1849)

17. Psen (Psen) koreanus Tsuneki, 1959

18. Psen (Psen) caocinnus Tsuneki, 1973
(= P. (P.) aurifrons Tsuneki, 1959, nec P. (Mimesa) aurifrons Taschenberg, 1873)

19. Psen (Mimumesa) atratinus longulus Gussakovskij, 1932

20. Psen (Mimumesa) littoralis Bondroit, 1933

21. Psen (Mimumesa) dahlbomi (Wesmaeli, 1852)

22. Psenulus nipponensis Yasumatsu, 1942

23. Psenulus fuscipennis japonicus Tsuneki, 1957

24. Psenulus fuscipes Tsuneki, 1959

25. Psenulus pallipes gussakovskiji Lith, 1973.

IV. A S T A T I N A E

1. Astata boops (Schrank, 1781)

V. L A R R I N A E

1.* Larra carbonaria erebus (Smith, 1873) (See addenda)
1 ♀, Central Korea, Mt. Shoyo, 17. IX. 1943, K. Tsuneki)

2. Liris festinans japonica (Kohl, 1884)

3. Tachytes sinensis Smith, 1856

4. Tachytes modestus Smith, 1856

5. Tachytes nipponicus Tsuneki, 1964

6. Tachytes fruticus Tsuneki, 1964

7. Tachysphex nigricolor (Dalla Torre, 1897)

8.* Tachysphex pompiliformis (Panzer, 1804)
1 ♀, N. Korea, Hakugan (Baek-am), 27. VII. 1943, K. Tsuneki.

9. Palarus variegatus varius Sickmann, 1894
(=P. saishuensis Okamoto, 1924)

10.* Lyroda japonica Iwata, 1933
1 ♀, Central Korea, Mt. Shoyo, 10. IX. 1943, K. Tsuneki.

11. Miscophus tsunekii Andrade, 1960
(= M. bicolor: Yasumatsu, 1939)

12.* Nitela koreana Tsuneki, sp. nov.

13. Pison (Krombeiniellum) koreense Radoszkovsky, 1887

14. Pison (Pison) strandi Yasumatsu, 1935
(= P. iwatai Yasumatsu, 1935)

15. Pison (Pison) punctifrons Shuckard, 1837
(= P. suspiciosum Smith, = P. fabricator Smith, 1869)

16. Pison (Pison) insigne Sickmann, 1894

17. Trypoxylon sapporoense Tsuneki, 1960
(= P. pappi Tsuneki, 1974)

18. Trypoxylon varipes nasutum Tsuneki, 1974

19. Trypoxylon clavicerum gussakovskiji Tsuneki, 1974

20. Trypoxylon figulus koma Tsuneki, 1956

21. Trypoxylon frigidum cornutum Gussakovskij, 1932
(= T. frigidum chongar Tsuneki, 1956)

22. Trypoxylon fronticorne seulense Tsuneki, 1981

23. Trypoxylon koreanum Tsuneki, 1956

24. Trypoxylon pacificum Gussakovskij, 1932

25. Trypoxylon petiolatum Smith, 1857

26. Trypoxylon malaisei Gussakovskij, 1932

VI. C R A B R O N I N A E

1. Oxybelus bipunctatus Olivier, 1811

2. Oxybelus strandi Yasumatsu, 1935 (See addenda)

3. Oxybelus koreanus Tsuneki, 1974

4. Ectemnius (Metacrabro) fossorius konowii (Kohl, 1915)

5. Ectemnius (Metacrabro) spinipes (A. Morawitz, 1866)

6. Ectemnius (Metacrabro) iridifrons (Pérez, 1905)

7. Ectemnius (Metacrabro) chrysites chosenensis Tsuneki, 1974

8. Ectemnius (Yanonius) martjanowii (F. Morawitz, 1892)

9. Ectemnius (Clytochrysus) cavifrons (Thomson, 1870)

10. Ectemnius (Clytochrysus) ruficornis (Zetterstedt, 1838)
(= E. (C.) nigrifrons (Cresson, 1865) = E. (C.) planifrons (Thomson, 1870)).

11. Ectemnius (Clytochrysus) lapidarius (Panzer, 1804)

12. Ectemnius (Iwataia) furuichii (Iwata, 1934)

13. Ectemnius (Hypocrabro) continuus (Fabricius, 1805)

14. Ectemnius (Hypocrabro) schlettereri (Kohl, 1888)

15. Ectemnius (Hypocrabro) nielseni (Kohl, 1915)

16. Ectemnius (Hypocrabro) confinus (Walker, 1871)
(= E. (H.) laevigatus (De Stefani, 1884)

17. Ectemnius (Hypocrabro) horvatovichi Tsuneki, 1974

18. Ectemnius (Cameronitus) radiatus (Pérez, 1905)

19. Ectemnius (Ectemnius) borealis (Zetterstedt, 1838)
(= E. (E.) nigrinus (Herrich-Schaeffer, 1841))

20. Ectemnius (Ectemnius) dives (Lepeletier et Brullé, 1834)

21. Lestica (Lestica) alata (Panzer, 1838)
22. Lestica (Lestica) heros (Kohl, 1915)
23. Lestica (Solenius) camelus (Eversmann, 1849)
24. Lestica (Solenius) collaris (Matsumura, 1912)
25. Lestica (Solenius) reiteri (Kohl, 1915)
26. Crabro (Crabro) cribrarius (Linnaeus, 1758)
27. Crabro Crabro) peltarius (Schreber, 1784)
28. Crabro (Crabro) ussuriensis Gussakovskij, 1932
29. Crabro (Crabro) koreanus Tsuneki, 1947
30. Crossocerus (Cuphopterus) dimidiatus (Fabricius, 1781)
31. Crossocerus (Cuphopterus) yanoi (Tsuneki, 1947)
32. Crossocerus (Acanthocrabro) vagabundus koreanus Tsuneki, 1957
(= Corenocrabro ectemiformis Tsuneki, 1974)
33. Crossocerus (Ainocrabro) aino (Tsuneki, 1947)
34. Crossocerus (Ablepharipus) assimilis collaris Tsuneki, 1974
35. Crossocerus (Ablepharipus) podagricus hokusenensis Tsuneki, 1974
36. Crossocerus (Blepharipus) cinxius (Dahlbom, 1838)
37. Crossocerus (Blepjaripus) cetratus (Shuckard, 1837)
38. Crossocerus (Blepharipus) annulipes hokkaidoensis Tsuneki, 1954
(= C. (B.) ambiguus hokkaidoensis Tsuneki, 1954)
39. Crossocerus (Blepharipus) heydeni (Kohl, 1880)
40. Crossocerus (Blepharipus) takeuchii Tsuneki, 1957
41. Crossocerus (Neoblepharipus) amulensis (Kohl, 1892)
42. Crossocerus (Hoplocrabro) pseudopalmarius (Gussakovskij, 1932)
43. Crossocerus (Crossocerus) denticrus (Herrich-Schaeffer, 1841)
44. Crossocerus (Crossocerus) emarginatus (Kohl, 1898)
(= C. (C.) pacificus (Gussakovskij, 1932))
45. Crossocerus (Crossocerus) tarsatus (Shuckard, 1837)
46. Crossocerus (Crossocerus) denticornis (Gussakovskij, 1932)
47. Crossocerus (Crossocerus) palmipes chosenensis Tsuneki, 1957
48. Crossocerus (Crossocerus) exiguus (Van der Linden, 1829)
49. Crossocerus (Crossocerus) varius Lepeletier et Brullé, 1834
(=C. (C.) varus or pusillus Lepeletier et Brillé, 1834)
50. Crossocerus (Crossocerus) wesmaeli parvicorpus Tsuneki, 1974
51. Lindenius (Lindenius) albilabris (Fabricius, 1793)
52. Rhopalum (Latrorhopalum) laticorne (Tsuneki, 1947)
53. Rhopalum (Calceorhopalum) calceatum (Tsuneki, 1947)
54. Rhopalum (Rhopalum) clavipes (Linnaeus, 1758)
55. Rhopalum (Corynopus) coarctatum koreense Tsuneki, 1974
56. Rhopalum (Corynopus) nipponicum chosenense Tsuneki, 1974
57. Rhopalum (Corynopus) gracile Wesmael, 1852
(= R. (C.) kiesenwetteri (A. Morawitz, 1866))

VII. N Y S S O N I N A E

1. Bembix niponica picticollis F. Morawitz, 1889
2. Stizus pulcherrimus (Smith, 1856)
3. Bembecinus quadratus Tsuneki, 1976
   (= B. pacificus Tsuneki, 1968, nec Turner, 1917)
4. Bembecinus hungaricus formosanus (Sonan, 1928)
5. Argogorytes mystaceus grandis (Gussakovskij, 1932)
6. Hoplisoides gazagnairei distinguendus (Yasumatsu, 1939)
7. Lestiphorus bilunulatus yamatonis Tsuneki, 1963
8. Gorytes koreanus Handlirsch, 1888
9. Gorytes quadrifasciatus (Fabricius, 1804)
10. Gorytes radoszkovskyi Handlirsch, 1888
11. Gorytes eous Gussakovskij, 1932
12. Gorytes hakutozanus Tsuneki, 1963
13. Gorytes takeuchii Tsuneki, 1963
? Ammatomus sinensis (Yasumatsu, 1943)
? Eogorytes fulvohirtus (Tsuneki, 1963)
14. Mellinus obscrus Handlirsch, 1887
15. Mellinus crabroneus (Thunberg, 1791)
    (= M. sabulosus (Fabricius, 1787))
16. Alysson pertheesi Gorski, 1852
17. Alysson ratzeburgi Dahlbom, 1845
18. Nysson maculosus (Gmelin, 1790)
    (N. maculatus (Fabricius, 1787))

VIII. P H I L A N T H I N A E

1. Philanthus coronatus (Thunberg, 1784)
   (= P. coronatus (Fabricius, 1790))
2. Cerceris hortivaga Kohl, 1880
3. Cerceris rybyensis (Linnaeus, 1758)
4. Cerceris supraconica Tsuneki, 1961
5. Cerceris sabulosa subgibbosa Yasumatsu, 1935
6. Cerceris sobo Yasumatsu et Okabe, 1936
7. Cerceris koma Tsuneki, 1961
8. Cerceris bicincta (Klug, 1835)
9. Cerceris albofasciata (Rossi, 1790)
10. Cerceris arenaria (Linnaeus, 1758)
11. Cerceris adelpha Kohl, 1887
12. Cerceris pedetes Kohl, 1887
13. Cerceris hokkanzana Tsuneki, 1961
14. Cerceris koryo Tsuneki, 1961
15. Cerceris ruficornis (Fabricius, 1793)
16. Cerceris cinquefasciata seoulensis Tsuneki, 1961
17. Cerceris quadrifasciata (Panzer, 1799)

18. Cerceris coreensis Tsuneki, 1961

A D D E N D A

Pemphredoninae:

26. Psen (Mimesa) equestris (Fabricius, 1804)
    (= P. (M.) bicolor auctt.)

Crabroninae:

58. Oxybelus victor Lepeletier, 1845
    (= O. melancholicus Chevrier, 1868)

59. Oxybelus eximius Sickmann, 1894

Larrinae

27. Larra amplipennis (Smith, 1873)

N U M B E R S O F T H E S P E C I E S

1.	Ampulicinae	2
2.	Sphecinae	12
3.	Pemphredoninae	26
4.	Astatinae	1
5.	Larrinae	27
6.	Crabroninae	59
7.	Nyssoninae	18
8.	Philanthinae	18
	Total	163

On Gorytes (Ammatomus) sinensis Yasumatsu and Eogorytes fulvohirtus Tsuneki in Korea

In Iconographia Insectorum Japonicorum Colore Naturali Edita (1965) R. Ishikawa illustrates a wasp which is apparently very similar to Eogorytes fulvohirtus Tsuneki with a natural colour photograph under the name, Gorytes sinensis Yasumatsu and explains that the species occurs in East China, Korea and Japan.

But this name is incorrect, because, according to the original description of sinensis it is ascribed to Ammatomus and its female is explained to have the gaster maculated on sides of tergite 1 and narrowly banded at each apical margin of tergites 3-5 and tergite 2 completely black. Moreover, the species is different rom fulvohirtus in structure (e.g. fore tibia and T1) and sculpture (e.g. area dorsalis) alalso. Bohart and Menke (1976) admit the occurrence of fulvohirtus in Korea. But as the original date of the occurrence of this species in Korea is uncertain I listed two species concerned above with a question mark respectively.

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Addendum to literature directly relating to Korea:

Radoszkovsku, O. 1890. Hyménoptères de Korée (II). Horae Soc. Ent. Ross., 24: 229-232 (including record of Cerceris hortivaga)

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Dr. K. Tsuneki
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