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CRABRONINAE OF THE KURILE ISLANDS (HYMENOPTERA,
SPHECIDAE), WITH REMARKS ON NEW SPECIFIC SYNONYMY

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Reprinted from

Bulletin of the Biogeographical Society of Japan

Vols. 16-19

(Recent Conceptions of Japanese Fauna)

1955 d

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Katsuji TSUNEKI*

常木勝次：千島産銀口蜂亜科について

The Kuriles or the Chishimas are the archipelago which lies between Hokkaido and Kamchatka. The insect fauna of the Islands is especially of interest from the

* Biological Laboratory, Fukui University, Fukui, Japan. 福井大学生物学教室.
Bulletin of the Biogeographical Society of Japan. Vols. 16-19 (Recent Conceptions of Japanese Fauna),
pp. 212-219, 1955.
日本生物地理学会会報, 16-19 卷 (日本動物相の研究), 212-219 頁 (1955年).

biogeographical point of view. With regard to Crabronid wasps, nine species have hitherto been recorded from the archipelago. This record was made by K. IWATA in 1938, being based upon the material in the collection of the Entomological Institute of the Hokkaido University. Recently, through the courtesy of Dr. Satoru KUWAYAMA of the Hokkaido Agricultural Experiment Station, the writer had an opportunity of examining a good series of Crabronid examples which he, together with Mr. Yuzo SUGIHARA, collected in the southern Kuriles during the period July 20—September 3, 1940. The collection consists of eighty-three specimens and comprises fourteen species. Of the latter, two belong to undescribed species; they have been separately published in another paper¹⁾. Amongst the remainder, seven species are new to the known fauna of the Islands; each of them is marked with an asterisk in the list of the present paper.

Moreover, taking advantage of this opportunity, the writer revised the specimens which were previously investigated by K. IWATA, with some additional material that escaped his study. The present paper is a report of the summed-up results of the writer's investigations on these two collections of specimens.

Before proceeding further the writer wishes to express his cordial thanks to Dr. Satoru KUWAYAMA and to Professor Toichi UCHIDA, for their kindness in placing the valuable specimens at his disposal.

To each species listed below, references were mainly restricted to those relating to the Kuriles, Hokkaido, Saghalien and the Ussuri region. Several new synonyms of the specific or the specific trivial names that have hitherto been employed by some Japanese authors were included in the references. As to the material records, those other than the collection of Dr. S. KUWAYAMA were all omitted, except for some that were in need of special description, since such have already been given in detail by IWATA.

* 1. *Ectemnius* (*Metacrabro* ?) *martjanowii* (F. MORAWITZ, 1892)

Crabro (*Crabro*) *martjanowii* IWATA, 1938, p. 82 (incl. Saghalien)

Specimens: 1 ♀, Etorofu (Rubetsu-Syana), 31. VIII; 2 ♂♂, Etorofu (Toshimoe), 29-30. VIII.

Remarks. The specimens investigated are remarkable in maculation. They represent a form which is more brightly coloured than usual. The female carries a broad yellow band behind the middle of the first abdominal tergite, which is deeply and roundly excavated in front; the band on the second is exceedingly broad, nearly twice as broad as that in the examples from other localities. This band is obscurely spotted on each side. Two maculae on the third are much more elongated than usual and more approached to each other. In the male, the yellow maculae on the abdominal tergites 3, 4 and 5 are much larger and more conspicuous than usual. The males are small examples. They lack the monstrous process on each temple below, one of the assigned characters of this species. However, presence of the remarkable processes is not always characteristic of this species. They are usually well developed in large specimens but not so in the small ones. In the extreme case they are entirely lacking as

1) Jour. Fac. Sci. Hokkaido Univ., Ser. VI, Zool., Vol. 11, No. 1, 1952.

in the female. The male examples from the Kuriles belong to such a form. However, in order to determine whether or not the examples represent the usual form of the species occurring in the Islands an ample series of specimens from various localities of the archipelago is required.

The distributional data of the present species afford a quite strange and inexplicable problem to the biogeographers. It has hitherto been known from eastern Siberia, Korea, Japan proper and Saghalien, everywhere in the mountain region. Its occurrence in the Kurile Islands has just been affirmed. Despite the fact, not a single specimen has ever been collected in Hokkaido. This is not due to insufficiency of exploration. At least this is true of such districts as Hakodate, Jōzankei, Sapporo, Mt. Taisetsu and its surroundings and Akkeshi. On the other hand, there is no reason to suppose that some unfavourable factors in the ecological conditions prevent the distribution of this species to Hokkaido. At least, in the present state of our knowledge, satisfactory explanation of the phenomenon seems to be hardly possible.

* 2. *Ectemius (Metacrabro) konowii* (KOHL, 1905)

Crabro (Thyreus) sapporensis MATSUMURA, 1911, p. 114 (Sapporo).

Crabro rubropictus MATSUMURA, 1911-12, p. 101 (Saghalien). (*Syn. nov.*).

Crabro (Crabro) konowii KOHL, 1915, p. 41 (Sapporo); — IWATA, 1933, p. 7 (incl. Hokkaido and Saghalien); 1938, p. 82 (incl. Hokkaido and Saghalien); — GUSSAKOVSKIJ, 1933, p. 15 (the Ussuri and the Transbaikal regions); — TSUNEKI, 1947, p. 398 (Hokkaido).

Specimen: 1 ♀, Kunashiri (Nakano-Kotero), 16-17. VIII.

Remarks. This species is widely spread over north-eastern parts of Asia. It ranges from the Transbaikal region, through the Ussuri region, Saghalien, Manchuria, Korea, Japan proper, to Hokkaido. The Kuriles come to be the easternmost locality of the distribution of the species.

3. *Ectemnius (Clytochrysus) cavifrons* (THOMSON, 1870)

Crabro (Anothyreus) aurarius MATSUMURA, 1912, p. 171.

Crabro (Clytochrysus) cavifrons GUSSAKOVSKIJ, 1933, p. 15 (the Ussuri region); — IWATA, 1938, p. 82 (Hokkaido, Saghalien and the Kuriles); — TSUNEKI, 1947, p. 399 (Hokkaido).

Specimens: 1 ♂, Kunashiri (Kotankeshi), 18-19. VIII; 20 ♂♂ 9 ♀♀, Etorofu (Rubetsu-Toshimoe, Rubetsu-Syana), 29-30. VIII.

Remarks. This species is widely distributed over the northern parts of the Palae-arctic region. The specimens are similar in maculation to those occurring in Hokkaido.

* 4. *Ectemnius (Clytochrysus) nigrifrons* (CRESSON, 1865)

Crabro chipsanii MATSUMURA, 1911-12, p. 102 (♀) (Saghalien) (*Syn. nov.*)

Crabro lineatotarsis MATSUMURA, 1911-12, p. 103 (♂) (Saghalien) (*Syn. nov.*)

Crabro (Clytochrysus) planifrons GUSSAKOVSKIJ, 1933, p. 15 (the Ussuri region); — IWATA, 1933, p. 9 (incl. Hokkaido); 1938, p. 82 (incl. Hokkaido and Saghalien); — TSUNEKI, 1947, p. 400 (Hokkaido).

Specimen: 1 ♀, Kunashiri (Kotankeshi), 18-19. VIII.

Remarks. The specific trivial name, *planifrons* (THOMSON, 1870) which has long been familiar to us has recently been suppressed as a synonym of *nigrifrons* (CRESSON).

This species is holarctic, occurring everywhere in northern region or high-altitude.

5. *Ectemnius (Ectemnius) nigrinus* (HERRICH-SCHAEFFER, 1841)

Crabro (Solenius) nigrinus GUSSAKOVSKIJ, 1933, p. 17 (the Ussuri and the Kamchatka region);
— IWATA, 1938, p. 83 (Saghalien and the Kuriles)

Specimens: 3 ♂♂, Etorofu, 21. VII. 1936 (Y. SUGIHARA leg.).

Remarks. The present species occurs in northern parts of Europe and Asia. In our regions it has been known from the Baikal and the Ussuri regions, North Korea, Saghalien and the Kuriles. It remains uncertain, however, whether or not it occurs in Hokkaido, although it was previously (1933) recorded from Jozankei. Because, according to the result of the writer's reexamination, the specimen which was referred to the present species is nothing but a female of *Ectemnius dives* (LEPELETIER et BRULLÉ). Moreover, this species could not be discovered up to the present at least from such districts as Hakodate, Sapporo, Jozankei, Mt. Taisetsu and its surroundings, Kushiro and Akkesi, despite the fact that it has particularly been looked for by several Hymenopterists.

6. *Ectemnius (Hypocrabro) continuus* (FABRICIUS, 1805)

Crabro (Solenius) vagus GUSSAKOVSKIJ, 1933, p. 15 (the Ussuri region); — IWATA, 1933, p. 11 (incl. Hokkaido and Saghalien).

Crabro (Solenius) continuus IWATA, 1938, p. 83 (incl. Hokkaido, Saghalien and the Kuriles);
— TSUNEKI, 1947, p. 402 (Hokkaido).

Specimens: 1 ♂ 1 ♀, Shikotan (Kiritoshi-Notoro), 20. VII; 1 ♂ 1 ♀, Kunashiri (Uennai, Furukamappu), 11-15. VIII; 1 ♂ 1 ♀, Etorofu (Rubetsu-Toshimoe), 29-30. VIII; 1 ♂ 1 ♀, Etorofu, 9. VII. 1927; 1 ♀, Uruppu, 30. VIII. 1927 (K. Doi leg.).

Remarks. Two of the male specimens examined carry no macula on the thorax. This species is holarctic. In the northern parts of our regions it is very common.

* 7. *Crossocerus (Blepharipus) monstrosus suzukii* (MATSUMURA, 1912)

Crabro suzukii MATSUMURA, 1912, p. 169 (Japan proper).

Crabro (Cuphopterus) serripes IWATA, (nec PANZER) 1933, p. 12 (Japan proper).

Crabro (Cuphopterus) monstrosus GUSSAKOVSKIJ, (*suzukii*?), 1933, p. 21 (the Ussuri region).

Crabro (Cuphopterus) monstrosus suzukii IWATA, 1938, p. 85; (incl. Hokkaido and Saghalien);
— TSUNEKI, 1947, p. 408 (Hokkaido).

Specimens: 1 ♂ 1 ♀, Shikotan (Kiritoshi-Notoro, Chitai-Aimisaki), 29-30. VII; 1 ♂ 2 ♀♀, Kunashiri (Hurukamappu), 13-14. VIII; 1 ♀, Etorofu (Syana), 22-25. VII. 1936 (Y. SUGIHARA leg.).

Remarks. White, instead of yellow, maculation of the body is characteristic of the present subspecies. Such maculation is usually well-developed on the pygidial area of the female examples. Whereas, in the examples examined, the portion was entirely black or brownish black. Only in one specimen could a small fuscous macula be observed.

The nominate race is known to occur in the north-eastern parts of Europe, but is said to be quite rare. In the northern regions of East Asia it is replaced by *suzukii* which is fairly common.

8. *Crossocerus (Blepharipus) dimidiatus sapporoensis* (Kohl, 1915)

Crabro (Cuphocterus) serripes subsp. *sapporoensis* KOHL, 1915, p. 213.

Crabro (Cuphocterus) serripes IWATA, 1938 (nec 1933), p. 85 (incl. Hokkaido and the Kuriles).

Crabro (Cuphocterus) dimidiatus TSUNEKI, 1947, p. 408 (Hokkaido).

Specimens: 2 ♂♂ 1 ♀, Kunashiri (Chinomiji), 5-6. VIII; 1 ♂, Etorofu (Syana), 22-25. VII. 1936 (Y. SUGIHARA leg.).

Remarks. The present subspecies differs from the typical form somewhat in maculation. The distribution of the species ranges from Middle and North Europe, Siberia, Korea, Saghalien, to as far east as the Japan Archipelago, whilst the Kuriles represent the easternmost locality of the distribution of the species.

* 9. *Crossocerus (Ablepharipus) assimilis* (SMITH, 1856)

Crabro (Crossocerus) affinis WESMAELI, 1852 (nec. LEP. et BR., 1834, p. 790).

Crabro assimilis SMITH, 1856, p. 413 (nom. nov. for *affinis* WESMAEL).

Crabro (Crossocerus Coelocrabro) tirolensis KOHL, 1915, p. 242.

Crossocerus (Ablepharipus) assimilis LECLERCQ, 1951, p. 7.

Specimen: 1 ♂, Etorofu (Rubetsu-Toshimoe), 29-30. VIII.

Remarks. This species is known from Middle and North Europe. In our regions it occurs in Hokkaido (*loc. nov.*) and Saghalien (*loc. nov.*). Here the Kuriles have become the easternmost locality of the occurrence of the species.

* 10. *Crossocerus (Ablepharipus) shibuyai* (IWATA, 1934)

Crabro (Coelocrabro) shibuyai IWATA, 1934, p. 20 (Japan proper); — TSUNEKI, 1947, p. 418 (Hokkaido).

Specimens: 1 ♂, Shikotan (Chibei), 27. VII; 2 ♀♀, Kunashiri (Uennai), 11-12. VIII; 11 ♂♂ 5 ♀♀, Etorofu (Rubetsu-Toshimoe, Rubetsu-Syana), 29. VIII. 3. IX.

Remarks. This species bears a close resemblance in the characters of the area cordata on the propodeum to *Ablepharipus congener* (DAHLBOM, 1845) of which, according to the recent study of J. LECLERCQ, the occurrence is definitely confirmed, although it has been regarded as a doubtful species. The present species is, however, distinguishable from *congener* in the structure of the sides of the propodeum and in the crenation of the mesonoto-scutellar furrow.

The wasps of this species are not rarely found on the flowers of Umbelliferae in Hokkaido. Judging from the number of specimens, this seems to be also the case with the Kuriles. This species has hitherto been collected in Japan proper, Hokkaido and Saghalien (Saghalien is *loc. nov.*). The present report is the first record of the species from the region forming the subject of this paper.

* 11. *Crossocerus (Coelocrabro) barbipes* (DAHLBOM, 1845)

Crabro (Coelocrabro) barbipes TSUNEKI, 1947, p. 417 (Hokkaido).

Specimen: 2 ♂♂, Etorofu (Rubetsu-Toshimoe, Rubetsu-Syana), 29-31. VIII; 1 ♀, Kunashiri (Chinomiji-Pondomar), 9. VIII.

Habitat: North Europe, Saghalien (*loc. nov.*), Hokkaido, Japan proper (Nasu and

Chichibu — *loc. nov.*) and the Loochoos (Yakushima). This is also the first record of the species from the Kuriles.

* 12. *Crossocerus (Coelocrabro) pubescens* (SHUCKARD, 1837)

Crabro (Coelocrabro) pubescens IWATA, 1938, p. 86 (Hokkaido, Saghalien and the Kuriles); — TSUNEKI, 1947, p. 417 (Hokkaido).

Specimens: 1 ♂, Etorofu (Syana), 11-20. VII. 1936 (Y. SUGIHARA leg.).

Habitat: Europe, Japan proper, Hokkaido, Saghalien and the Kurile Islands.

13. *Crossocerus (Coelocrabro) amurensis* (KOHLE, 1892)

Crabro (Coelocrabro) amurensis KOHL, Ann. naturh. Hofmus. Wien, VII, p. 199, 1892 (the Amur region); — GUSSAKOVSKIJ, 1933, p. 22 (the Ussuri region); — IWATA, 1938, p. 87 (incl. Hokkaido, the Kuriles); — TSUNEKI, 1947, p. 418 (Hokkaido).

Specimens: 6 ♂♂, Etorofu (Seseki) 16, 18. VIII. 1936 (Y. SUGIHARA leg.).

Habitat: The Amur and the Ussuri regions, Hokkaido and the Kuriles.

* 14 *Crossocerus (Coelocrabro) cetratus* (SHUCKARD, 1837)

Crabro inornatus MATSUMURA, 1911-12, p. 103 (Saghalien) (*Syn. nov.*)

Crabro (Coelocrabro) cetratus GUSSAKOVSKIJ, 1933, p. 22; — IWATA, 1938, p. 86 (Saghalien); — TSUNEKI, 1947, p. 416 (Hokkaido).

Specimen: 1 ♀, Kunashiri (Uennai), 11-12. VIII.

Remarks. According to the writer's examination of the type specimen of *Crabro inornatus* MATSUMURA, it is nothing else than the female of the present species. This species is widely spread over the palaeartic region. In Japan and the nearest territories it has been known from the Ussuri region, Saghalien, Hokkaido and Japan proper (Nikko and Nasu — *loc. nov.*). This is the first record of the distribution of the species from the Kuriles.

15. *Crossocerus (Coelocrabro) pauxillus* (GUSSAKOVSKIJ, 1933)

Crabro (Coelocrabro) pauxillus GUSSAKOVSKIJ, 1933, p. 22 (♀) (the Ussuri region).

Crabro (Coelocrabro) sugiharai IWATA, 1938, p. 86 (♂ ♀) (Saghalien and the Kuriles) (*Syn. nov.*).

Specimens: 1 ♂ 1 ♀, Kunashiri (Seseki), 15. VIII.

Remarks. As listed above, *C. sugiharai* must be sunk as a synonym of *C. pauxillus* GUSSAK. Allotype of *sugiharai*, therefore, is transferred to that of *pauxillus*. This species is known to occur in the Ussuri region, Saghalien and the Kuriles, but it appears to be rare.

16. *Crossocerus (Crossocerus) varius* (LEPELETIER et BRULLÉ, 1834)

Crabro (Crossocerus) varius IWATA, 1938, p. 27 (incl. Saghalien and the Kuriles); — TSUNEKI, 1947, p. 421 (Hokkaido).

Specimens: 10 ♂♂ 24 ♀♀, Etorofu, 11-20. VII. 1935 & 16-18. VII. 1936 (Y. SUGIHARA leg.).

Habitat: Europe, Algeria, Saghalien, Hokkaido, the Kuriles and Shikoku.

17. *Rhopalum (Rhopalum) jessonicum* (BISCHOFF, 1922)

Crabro (Rhopalum) jessonicus BISCHOFF, 1922, p. 7.

Crabro (Rhopalum) clavipes IWATA (nec LINNÉ), 1938, p. 88 (the Kuriles); — TSUNEKI (nec LINNÉ), 1947, p. 429. (Hokkaido).

Rhopalum (Rhopalum) jessonicum TSUNEKI, 1952, pp. 112, 115, 119 (incl. Hokkaido, the Kuriles).

Specimens: 3 ♂♂, Etorofu, 16-18. VII. 1936 (Y. SUGIHARA leg.).

Habitat: Hokkaido, the Kuriles and Japan proper (Iwate pref.).

Remarks. Taxonomical accounts concerning *R. jessonicum* and *R. clavipes* have been given in the writer's recent paper concerning the genus *Rhopalum* of Japan.

18. *Rhopalum (Rhopalum) kuwayamai* TSUNEKI (1952)

Rhopalum (Rhopalum) kuwayamai TSUNEKI, 1952, pp. 115, 121.

Specimens: 2 ♀♀, Etorofu, (Rubetsu-Toshimoe), 29-30. VIII.

Remarks. This species has been known from the Kuriles alone.

19. *Rhopalum (Rhopalum) nigrinum* KIESENWETTER (1849)

Crabro (Rhopalum) kiesenwetteri, TSUNEKI, 1947, p. 428 (Hokkaido).

Rhopalum (Rhopalum) nigrinum TSUNEKI, 1952, pp. 112, 114, 122 (incl. Hokkaido and the Kuriles).

Specimen: 1 ♀, the Kurile Island (Kunashiri?), 27. VII. 1949 (T. UCHIDA and T. SAWADA leg.).

20. *Rhopalum (Calceorhopalum) watanabei* TSUNEKI, (1952)

Rhopalum (Calceorhopalum) watanabei TSUNEKI, 1952, pp. 113, 114, 124 (Hokkaido, the Kuriles, Saghalien).

Specimens: 2 ♀♀, Etorofu (Rubetsu-Toshimoe), 29-30. VIII; 1 ♀, Etorofu (Syana), 1-3. IX.

Habitat: Hokkaido, the Kuriles and Saghalien.

* * *

The material dealt with here is not sufficient to justify any attempt to give a definite comparative faunistic account. However, taking a general view of the above-listed species, it seems that one may conclude that the fauna of the Crabroninae of the southern Kuriles is similar in general to that of Hokkaido, although the number of species is much less in comparison with that of the latter region. The last mentioned fact is, however, one of the general characters of the island fauna. A single fact that seems to merit special notice is the occurrence in the Islands of *Ectemnius martjanowii*, which has not been found from Hokkaido. But, to settle this point, further investigations of the fauna of the Crabronids in Hokkaido, especially in the eastern parts are required.

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