



Title	A list of Proctotrupidae of Japan with descriptions of two new species (Hymenoptera)
Author(s)	Pschorn-Walcher, H.
Citation	Insecta matsumurana, 27(1), 1-7
Issue Date	1964-08
Doc URL	http://hdl.handle.net/2115/9711
Type	bulletin (article)
File Information	27(1)_p1-7.pdf



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A LIST OF PROCTOTRUPIDAE OF JAPAN WITH DESCRIPTIONS OF TWO NEW SPECIES

(HYMENOPTERA)

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So far as I am aware, seven species of the Proctotrupidae have been recorded from Japan by Ashmead (1904), Matsumura (1912), and Watanabe (1949, 1954 a). When, in connection with research work in biological control, I stayed at Sapporo for several months in 1961, I had the opportunity to examine the collection of the Proctotrupidae at the Entomological Institute of the Hokkaido University. Having examined the material I have discovered eighteen species, of which two are new to science and the rest new to Japan. Besides these species I have found several other forms which cannot be named for the time being. Thus, in total twenty-five named species are now known to occur in Japan. The types of the two new species described herein are deposited in the Entomological Institute, Hokkaido University.

I am most grateful to Prof. C. Watanabe, of the Hokkaido University, and to Dr. K. Kamijo, of the Hokkaido Forest Experiment Station at Koshunai, for their kindness in providing the valuable material.

Family **Proctotrupidae**

In the arrangement of the species I am following my preliminary review of the palae-arctic Proctotrupidae (Pschorn-Walcher, 1958). Species marked with an asterisk (*) are new to Japan.

Genus ***Disogmus*** Förster

1. ****Disogmus nigripennis*** (Thomson, 1857)

This species appears to be rare in Japan, being found only in Hokkaido.

Loc.: Sapporo, Aizankei and Daisetsu-san (Hokkaido).

Date of coll.: May, June and July.

Gen. distr.: Europe, Japan.

Genus ***Cryptoserphus*** Kieffer

2. ***Cryptoserphus laricis*** (Haliday, 1839)

This species has been recorded from Sapporo by Watanabe (1949). It has also been

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found at Bibai, Hokkaido.

Loc.: Sapporo and Bibai (Hokkaido).

Date of coll.: May and October.

Gen. distr.: Europe, Japan. In central Europe it seems to prefer higher elevations.

3. **Cryptoserphus perkinsi* Nixon, 1942

A single specimen has been taken at Daisetsu-san, Hokkaido.

Loc.: Daisetsu-san (Hokkaido).

Date of coll.: July.

Gen. distr.: Europe, Japan.

4. **Cryptoserphus aculeator* (Haliday, 1839)

This species appears to be very common all over Japan. It has also been found in the Kurile Islands.

Loc.: Sounkyo, Aizankei and Apoi (Hokkaido); Nikko and Minoo near Osaka (Honshu); Hiko-san (Kyushu); Etorofu Is. (Kuriles).

Date of coll.: Throughout the season from May to October.

Gen. distr.: Europe, Japan.

5. **Cryptoserphus longitarsis* (Thomson, 1857)

This species is easily recognizable by the conspicuous yellow spots on the neck. It is apparently not common in Japan.

Loc.: Rishiri Island and Daisetsu-san (Hokkaido); Nikko (Honshu).

Date of coll.: July, August and September.

Gen. distr.: Europe, Japan.

6. **Cryptoserphus cumaeus* Nixon, 1938

The specimens examined have been collected at Rishiri Island, a small, mountainous island near the northern border of Hokkaido, being quite boreal-subarctic in character.

Loc.: Rishiri Is. (Hokkaido).

Date of coll.: May and August.

Gen. distr.: Europe, Japan.

7. **Cryptoserphus samurai*, sp. nov.

♀. Head, seen from above, strongly more transverse than in any known European species (Fig. 1 C). Mouth opening almost as narrow as in *C. aculeator*. Face distinctly raised between clypeus and antennal insertions. Body much like *C. cumaeus* in size and shape. Mesosternal suture not deeply impressed anteriorly. Radial cell at least as long as or longer than stigma when measured along costal margin. Longer spur of hind tibia at most half as long as metatarsus, and shorter spur apparently more than half as long as longer one. Legs predominantly yellowish, but tip of hind tibiae and all hind tarsi conspicuously reddish-brown. Antennae dark brown throughout (whereas in *cumaeus* the scape, pedicel and first funicle are yellowish). Piercer very long, sharp and slender, about 1.5 times as long as hind tibia (Fig. 1 D).

♂. Very similar to the female except for sexual differences. Length 3-4 mm.

Type: One female specimen taken at Sapporo on October 21, 1959, by Dr. S. Takagi.

Loc.: Sapporo (Type) and Daisetsu-san (Hokkaido); Nikko (Honshu); Hiko-san (Kyushu).

Gen. distr.: Japan.

This species is clearly characterized by the narrow mouth opening, strongly transverse head, long radial cell, short tibial spurs and dark brown hind tarsi, and, above all, by its long ovipositor.

Genus *Brachyserphus* Hellen

8. **Brachyserphus parvulus* (Nees, 1834)

Although the present records refer only to northern Japan and Sakhalin, this species appears to be not rare in Japan.

Loc.: Sapporo, Daisetsu-san, Sounkyo and Nukabira (Hokkaido); Iwate Prefecture (Honshu); Sakhalin.

Date of coll.: June, July and August.

Gen. distr.: Europe, Japan.

Hosts: *Triplax* sp., *Phalacrus corruscus* Panzer, *Meligethes* sp. and other fungivorous beetles (in Europe).

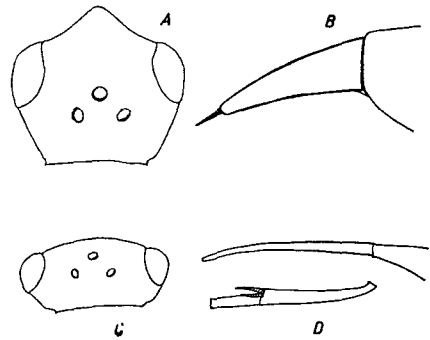


Fig. 1. A) *Codrus nikkoensis*, nov. spec., head; B) ovipositor.

C) *Cryptoserphus samurai*, nov. spec., head; D) ovipositor, compared with hind tibia and metatarsus.

Note: Magnification of A and B twice as large as of C and D.

Genus *Thomsonina* Hellen

9. *Thomsonina scymni* (Ashmead, 1904)

I have already discussed this species in a previous paper (Pschorn-Walcher, 1958 a).

Loc.: Gifu and Kanazawa (Honshu).

Gen. distr.: Japan.

Hosts: *Scymnus dorcadomordes* Weise and another *Scymnus* sp. (after Ashmead, 1904).

Genus *Watanabeia* Masner

10. *Watanabeia afissae* (Watanabe, 1954)

The genus *Watanabeia* seems to be confined to the East-asiatic region, being represented by this species from Japan and *W. epilachnae* Pschorn-Walcher, 1954, from Java and China.

Loc.: Sapporo (Hokkaido); Ongata near Tokyo (Honshu).

Date of coll.: June and July.

Gen. distr.: Japan.

Hosts: *Afissa admirabilis* Crotch and *Epilachna vigintioctomaculata* Motschulsky (after Watanabe, 1954 a & b).

Genus *Proctotrupes* Latreille

11. *Proctotrupes gravidator* (Linné, 1758)
 = *Proctotrupes suzukii* Matsumura, 1912

This species appears to be widely distributed in Japan, since Watanabe (1954 a) already recorded it from Hokkaido, Honshu and Kyushu, and it is now also known from Shikoku.

Loc.: Rishiri Is. and Sapporo (Hokkaido); Tokyo and Sasayama (Honshu); Hikosan and Kumamoto (Kyushu); Shikoku.

Date of coll.: May, June, August, October and November.

Gen. distr.: Europe, Siberia, Manchuria, Japan.

Genus *Codrus* Panzer

(= *Exallonyx* Kieffer)

12. **Codrus brevicornis* (Haliday, 1839)

This species appears to be rare in Japan. I have seen only a single female specimen which agrees exactly with the redescription of *brevicornis* given by Nixon (1938).

Loc.: Ashibetsu (Hokkaido).

Date of coll.: July.

Gen. distr.: Europe, Japan.

Host: *Quedius* sp. (in Europe).

13. **Codrus niger* (Panzer, 1805)

There is a single specimen at hand which should be identified with *C. niger*.

Loc.: Nikko (Honshu).

Date of coll.: September.

Gen. distr.: Europe, Japan.

Host: *Staphylinus ater* Grevenhorst (in Europe, after Weidemann, 1962).

14. **Codrus ligatus* (Nees, 1834)

This species appears to be as common in Japan as in Europe.

Loc.: Rebun Is., Sapporo, Daisetsu-san and Esashi (Hokkaido); Toyama (Honshu).

Date of coll.: June, July and August.

Gen. distr.: Europe, Japan.

Hosts: *Quedius* spp. (in Europe).

15. **Codrus microcerus* (Kieffer, 1908)

This species is closely related to the preceding species, *C. ligatus*, but on account of the smaller size, the head (which is not wider than long), and the short funicular segments, the present specimens should be identified with *C. microcerus*.

Loc.: Aizankei and Jozankei (Hokkaido).

Date of coll.: July and August.

Gen. distr.: Europe, Japan.

16. **Codrus gracilis* (Nixon, 1938)

The single specimen I have seen was taken at Sapporo.

Loc.: Sapporo (Hokkaido).

Date of coll.: July.

Gen. distr.: Europe, Japan.

17. **Codrus confusus* (Nixon, 1938)

This species appears to be as common in Japan as in Europe.

Loc.: Sapporo, Nukabira, Daisetsu-san and Shikaribetsu near Obihiro (Hokkaido); Tokyo (Honshu).

Date of coll.: July, August and September.

Gen. distr.: Europe, Japan.

18. **Codrus wasmanni* (Kieffer, 1904)

This species is distinguished by the second tergite which is entirely smooth at the base. It occurs often in ant nests in Europe.

Loc.: Daisetsu-san (Hokkaido).

Date of coll.: July.

Gen. distr.: Europe, Japan.

19. *Codrus japonicus* (Ashmead, 1904)

Although I have never examined the type of *Proctotrypes japonicus* Ashmead, I am inclined to the opinion that this species should be transferred to the genus *Codrus* on the basis of the specimens identified with *Phaenoserphus japonicus* (Ashmead) by Watanabe (1949) in the collection of the Entomological Institute at Sapporo. The female of this species has not yet been described.

20. **Codrus nikkoensis*, sp. nov.

Female: In size and shape like a large specimen of *C. niger*. Head, seen from above, transverse. Frons strongly prominent, more so than in *niger*, and carina between antennal insertions well developed. Head narrowed posteriorly (Fig. 1 A). Antennal segments nearly as long as in *niger*, dark-brown throughout. Wings somewhat infuscated throughout. Propodeum remarkably smooth and shining above, longitudinal carina well developed. Coxae, trochanters and all femora (except their tips) dark, blackish throughout, tibiae and tarsi reddish-brown, the tarsi with golden hairs. Tibial spurs remarkably long, the longer spur of hind tibiae about half as long as metatarsus. Petiolus, seen from above, very clearly longer than broad and very smooth. The base of large tergite with a long central groove, but otherwise no striae. Piercer strong, almost as long as hind metatarsus, shaped as in *C. ligatus*, but not longitudinally aciculated, its sculpture consisting of oblong punctures (Fig. 1 B). Length 6 mm.

It should be easy to recognize this species on account of the mostly blackish legs, structure of ovipositor, and shape of petiole and head.

Type: A female taken at Nikko (Honshu) on September 13, 1957, by Dr. S. Momoi.

Genus *Phaenoserphus* Kieffer21. *Phaenoserphus viator* (Haliday, 1839)

This species has already been recorded from Japan by Watanabe (1954 a). As in Europe it is one of the commonest species in Japan.

Loc.: Sapporo, Nukabira, Apoi, Tomakomai, Okushiri Is., Rishiri Is., Nopporo, and Sounkyo (Hokkaido); Nikko, Kiso and Izu O-shima (Honshu).

Date of coll.: Numerous specimens from June till October.

Gen. distr.: Europe, Siberia, Mongolia, Japan.

Hosts: Larvae of various kinds of Carabidae (in Europe); *Carabus procerulus* Chaudoir (in Japan, after Watanabe 1954).

22. **Phaenoserphus dubiosus* Nixon, 1938

Loc.: Apoi, Daisetsu-san, Nukabira (Hokkaido); Nikko (Honshu).

Gen. distr.: Europe, Japan.

23. **Phaenoserphus pallipes* (Latreille, 1809)

= *Phaenoserphus nebriæ* Watanabe, 1954, **syn. nov.**

Having examined the type of *P. nebriæ* and numerous specimens taken from Japan, I have come to the conclusion that *nebriæ* should be synonymized with *pallipes*. This species is very common in Japan.

Loc.: Sapporo, Okushiri Is., Rishiri Is., Rebun Is. and Daisetsu-san (Hokkaido); Nikko and Nagano (Honshu); Shikoku; Sakhalin.

Date of coll.: June to October.

Gen. distr.: Europe, Siberia, Mongolia, Japan.

Hosts: *Nebria lewisi* Bates (in Japan, after Watanabe, 1954). Staphylinid larvae (in Europe).

24. **Phaenoserphus vexator* Nixon, 1938

This species is very similar to the preceding species, *P. pallipes*, but is easily distinguishable by the shape of the stigma, and by the colouration of the antennae in the female.

Loc.: Daisetsu-san (Hokkaido); Nikko (Honshu).

Date of coll.: July and September.

Gen. distr.: Europe, Japan.

25. **Phaenoserphus calcar* (Haliday, 1839)

This species is very common in Europe.

Loc.: Daisetsu-san (Hokkaido); Nikko (Honshu).

Date of coll.: July and September.

Gen. distr.: Europe, Japan.

Besides the Japanese specimens I have identified with *C. calcar*, I have seen other specimens taken from Hokkaido, Honshu and Kyushu, which are very similar to *calcar* in general structure, but are immediately distinguished by the frontal carina which is strongly developed and triplicated above the antennal insertions. The structure of the carina is so

remarkable that I have some hesitation in identifying these specimens with *calcar*.

In conclusion, twenty-five species of the Proctotrupidae are now known to occur in Japan, of which twenty exist also in Europe. It is not surprising that such a high proportion of "European" elements is found in the fauna of Japan, because the Proctotrupidae are evidently an ancient group of insects comprising many widely distributed species; *Cryptoserphus parvulus* and *cumaeus*, *Codrus ligatus*, etc. seem even to be holarctic in distribution. It cannot be overlooked, however, that purely East-asiatic elements such as *Watanabeia afissae* are also represented in the fauna.

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