PROCTOTRUPIDAE OF JAPAN

(Hymenoptera)

By CHIHISA WATANABE

Entomological Institute, Hokkaido University, Sapporo

Insofar as I am aware, three species belonging to the family Proctotrupidae have been described from Japan. In this publication one more species may be added to the fauna. These species fall in three genera, *Proctotrupes, Phaenoserphus* and *Cryptoserphus,* respectively, which form a group of genera, chiefly characterized by the simple claws, the parapsidal furrows not distinct throughout, and the sculptured propodeum.

Key to the Genera

1. Abdomen black, with a reddish tint. Pronotum at the sides sculptured .... *Proctotrupes* LATREILLE
- Abdomen black throughout. Pronotum at the sides smooth 2
2. Petiole distinct, visible from above ..... *Phaenoserphus* KIEFFER
- Petiole concealed, not visible from above ..... *Cryptoserphus* KIEFFER

Genus **Proctotrupes** LATREILLE*, 1796

(=*Serphus* SCHRANK, 1780)

Only a single species belonging to this genus has been described from Japan.

Proctotrupes gravidator (LINNÉ)

Ichneumon gravidator LINNÉ, Syst. Nat. Ed. 10a, I, p. 564, 1834.

Codrus gravidator NEES, Hymen. Ichneum. affin. Monogr., II, p. 354, 1834.

Proctotrupes gravidator HALIDAY, Hymen. Brit., I, p. 10, 1839; VOLLENHOVEN, Pinacogr., p. 24, Pl. 18, fig. 3, 1876; NIXON, Trans. Ent. Soc. London, 87, p. 451, ♀♂, 1938.

Ptoctotrypes gravidator DALLA TORRE, Cat. Hymen., V, p. 464, 1898; MORLEY, Entomologist, 55, p. 109, 1922.

---

* In the classification of the British Proctotrupinae, published in 1938, NIXON used *Proctotrupes* as the name of this genus, giving the following note : "A suspension of the law of priority in the case of *Proctotrupes* has been applied for (see STILES, 1936, Nature, 138: 35. Genotype fixed *P. brevipennis* LATR., 1802). Accordingly, I use the name *Proctotrupes* instead of *Serphus* SCHRANK, though the latter has priority." In the present paper I follow him.

Serphus gravidator KIEFFER, in ANDRÉ, Spec. Hymen. Europe, X, p. 297, 1908; id., Das Tierreich, 42, p. 11, ♀♂, 1914.

Proctotrupes suzukii MATSUMURA, Thous. Ins. Jap. Suppl. IV, p. 155, ♂ (nec ♀), Pl. 52, fig. 5, 1912; id., Ill. Thous. Ins. Jap., II, p. 144, ♂ (nec ♀), Pl. 15, fig. 5, 1930 (syn. nov.).

This species is widely distributed over Europe. In the course of the present investigations my observations have convinced me that *P. suzukii* from Japan might be suppressed as a synonym of *P. gravidator*. It is easily recognized by the following characters:—

♀♂. Head transverse, with frons flat. Pronotum rugose. Propodeum strongly reticulate-rugose, sometimes with a median longitudinal carina weakly marked. Radius more or less straight. Legs long and slender; hind tibiae as long as their tarsi, the longer spur of the hind tibiae virtually straight, as long as one-fourth the length of the metatarsus. Ovipositor of the female as long as the abdomen and straight except at the apex, where it is sharply decurved. Length 4—7 mm.

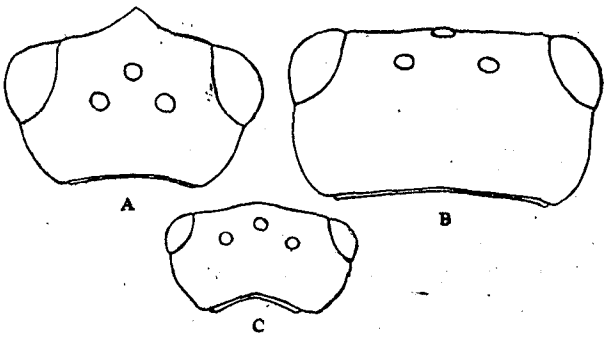

Fig. 1. Head of: **A.** *Proctotrupes gravidator* (LINNÉ); **B.** *Phaenoserphus japonicus* (ASHMEAD); **C.** *Cryptoserphus laricis* (HALIDAY).

This species is very variable in color as pointed out by authors. In the present examined material a male from Europe and two males from Kumamoto have the 2nd abdominal segment and the legs, except for the fuscous coxae, yellowish red throughout. On the other hand the type of *P. suzukii*, which is a male (not a female, as stated by MATSUMURA), two males from Tokyo and one female from Sapporo are blackish examples showing only a reddish tint on the 2nd abdominal segment partly and on the tibiae and tarsi throughout.

According to NIXON (1938) the only authentic record of the breeding of this species is that "2♂♂, 1♀, bred from *Amara apricaria* (PAYK.) (Germany: Riese, Elbe)." No host record has yet been published from Japan.

Examined specimens: 1♂, Europe, no date, S. MATSUMURA leg.; 2♂♂,

Kumamoto, 21, X, 1907, H. KAWAMURA leg.; 2♂♂, Tokyo, no date, S. MATSUMURA leg.; 1♂ (the type of *P. suzukii*); 1♀, Sapporo, 3, VI, 1918, S. MATSUMURA leg.

Distribution: Europe; Japan.

Genus **Phaenoserphus**, KIEFFER, 1908

This genus is represented by two described species in the fauna of Japan.

Phaenoserphus japonicus (ASHMEAD)

Proctotrypes japonicus ASHMEAD, Jour. New York Ent. Soc., XII, p. 68, ♂, 1904.
Phaenoserphus (?) *japonicus* KIEFFER, Das Tierreich, 42, p. 30, ♂, 1914.

♂. Black; antennae at the base and tegulae reddish brown. Legs black, the suture of trochanters, the tips of femora and the tibiae and tarsi flavo-testaceous.

Head transverse, the frons between the antennal insertions raised to form a conspicuous keel. Propodeum reticulate-rugose except a smooth space at the base, with a median longitudinal carina. Radius straight, the length of the radial cell along the edge of the wing less than half the length of the stigma. Hind femora comparatively stout; hind tibiae a little shorter than the tarsi, the longer spur of the hind tibiae straight, as long as half the length of the metatarsus. Length, 5—6 mm.

♀. Unknown.

This species is very distinct by the frons with a conspicuous keel. This character is not noted by ASHMEAD. On account of the character it comes near *P. calcar* (HALIDAY) which is very common in Europe, but it is distinguished from the latter by the length of the radial cell and the structure of the longer spur of the hind tibiae.

Nothing is known concerning the habits or hosts of this species.

Examined specimens: 1♂ (determined by ASHMEAD as *P. japonicus*); 2♂♂, Sapporo, 10, X, 1906, S. MATSUMURA leg.; 2♂♂, Jozankei, 23—24, IX, 1932, T. UCHIDA leg.

Distribution: Japan.

Phaenoserphus (?) **scymni** (ASHMEAD)

Proctotrypes scymni ASHMEAD, Jour. New York Ent. Soc., XII, p. 67, ♀♂, 1904; ISHII, Nippon Konchu Zukan (Iconogr. Insect. Jap.), p. 343. fig. 666, ♀, 1932.
Phaenoserphus (?) *scymni* KIEFFER, Das Tierreich, 42, p. 30, ♀♂, 1914.

This species has not yet been clearly recognized by me, for I have had no opportunity to examine the type or any authentic representatives of this species.

According to the original description, however, this species is characterized as follows:

♀♂. Propodeum rugulose, without carinae. Second joint of the middle trochanters is produced at apex into a little tooth. Antennae and legs brownish yellow, the former faintly dusky toward apex. Ovipositor of the female not longer than the basal joint of the hind tarsi, or hardly so long. Length, 3 mm.

Further, the structures of the frons, the radial cell and the longer spur of the hind tibiae, all of which are very important for classification, are not noted by ASHMEAD.

The host-record of this species is given by ASHMEAD. His note reads as follows:—

"The specimens from Mr. KOEBELE were bred from the woolly larvae of a Coccoinellid, *Scymnus dorcadomordes* WEISE. Mr. NAWA has also bred it from a *Scymnus* larva."

Distribution: Japan.

Genus **Cryptoserphus** KIEFFER, 1908

Up to the present no species of this genus has been known from Japan. In this publication the following species is added to the fauna.

Cryptoserphus laricis (HALIDAY)

Proctotrupes laricis HALIDAY, Hymen. Brit., I, p. 14, ♀♂, 1839.

Proctotrypes laricis DALLA TORRE, Cat. Hymen., V, p. 465, 1898; MORLEY, Entomologist, 55, p. 59 & 82, 1922.

Cryptoserphus laricis KIEFFER, in ANDRÉ, Spec. Hymen. Europe, X, p. 322, ♀♂, 1908; id., Das Tierreich, 42, p. 39, ♀♂, fig. 18. 1914; NIXON, Trans. Ent. Soc. London, 87, p. 464, ♀♂, fig. 71, 1938.

This species is known to me from the representatives collected at Sapporo, which apparently agree with the descriptions of the above listed authors. It is chiefly characterized by the long radial cell and the distinctly areolated propodeum.

♀♂. Black; mandibles, palpi and tegulae reddish brown. Antennae black throughout, except for the yellowish pedicel of the female. Legs reddish brown, the coxae, trochanters and femora at the extreme base fuscous. Wings hyaline; stigma and veins dark brown.

Head tranrverse; frons flat, without a conspicuous keel. Scape very short, stout, and strongly widened towards the apex. Pronotum with the hind angles very prominent. Mesonotum smootn, with the parapsidal furrows deeply impressed only at the apex. Propodeum distinctly areolated, with three longitudinal carinae, one in the middle, the others on the sides; these carinae and a transverse median carina forming two well-defined

post-spiracular areas which are somewhat concave and finely sculptured; there are three excavations just behind the basal margin of the propodeum. Longer spur of the hind tibiae as long as one-third the length of the metatarsus. Radial cell long, its length along the edge of the wing fully half the length of the stigma; radius straight with a short foot-stalk. Ovipositor as long as the 2nd tergite. Length, 3—4 mm.

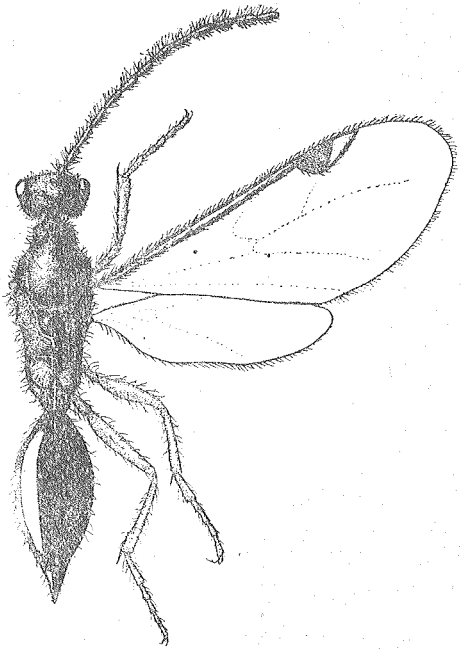

Fig. 2. *Cryptoserphus laricis* (HALIDAY) (♂).

The host of this species is unknown. It should be noted that the present representatives are collected at the corner of a garden, where many adults and larvae of *Silpha auripilosa* PORTEVIN are seen.

Examined specimens : 2 ♀♀, 42 ♂♂, 10, V, 1948, C. WATANABE leg.

Distributien : Europe ; Japan.

References

ASHMEAD, W. H., 1904. Descriptions of new Hymenoptera from Japan.—I. Jour. New York Entom. Soc., **12** : 65—84.

KIEFFER, J. J., 1914, Das Tierreich (Serphidae), **42**.

MATSUMURA. S., 1912, Thousand Insects of Japan, Supplement IV.

NIXON, G. E. J., 1938, A preliminary revision of the British Proctotrupinae (Hym., Proctotrupoidea). Trans. Ent. Soc. London, **87** : 431—465.