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Okutani, Teiichi

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SOME RECORDS ON THE FOOD-PLANTS FOR JAPANESE SAWFLIES WITH A NOTE ON AN EGG-LAYING HABIT OF *MACROPHYA APICALIS*

(Studies on Symphyta IV)

Teiichi OKUTANI

There are no extensive work concerning to the food-plants of Japanese sawflies since TAKEUCHI's report (1949) and OKUTANI's (1953). In this paper the food-palnts which have been found since these reports are listed, adding with an interesting egg-laying habit of *Macrophya apicalis*.

Before going further I wish to express my heartiest thanks to those who gave me some valuable data. The present study has been supported in part by a grant in aid of Science Research from the Ministry of Education.

Xiphydriidae

1. *Xiphydria camelus* (LINNÉ, 1758)
   Food-plant: *Quercus mongolica* var. *grosserrata* (BLUME) REHD. et WILS.
   Though *Alnus* and *Betula* are reported as the food-plants, the females ovipositing on the bark of this tree were collected at Kumatugumura in Tazima on May 28, 1953.

Pamphiliidae

1. *Pamphilius pallipes* (ZETTERSTEDT, 1838)
   Food-plant: *Alnus Maximowiczii* CALLIER
   Though *Betula* is reported as the food-plants in Europe, in May, 1956, the adults emerged from the larvae collected on the leaves of this tree at Mt. Hakusan in Kaga on August 9~11, 1955.
2. *Neurotoma iridescens* (ANDRÉ, 1882)
   Food-plant: *Sorbus commixta* HEDL.
   On June 6, 1956, the larvae were collected from the leaves at Kumatugumura in Tazima. This may be the first report from *Sorbus*, while this species is one of the pests of Cherry tree in Japan.

Diprionidae

1. *Neodiprion sertifer*, (GEOFFROY 1785)
   Food-palnt: *Pinus pumila* (PALLAS) REGEL
   The adults emerged on October 15, 1955, from the larvae collected at Mt. Hakusan in Kaga on August 9~11, 1955. Mr. T. ITO of Kiso Branch of Government Forestry Experiment Station collected the larvae at Mt. Ontake in Kiso on August 25, 1955, whose cocoons were sent to me and the adults emerged on September 30~October 1, 1955.

Tenthredinidae

1. *Dorelus ephipiatus* SMITH, 1874
   Food-plant: *Hordeum sativum* JESSEN
   Mr. H. ITO of Miyagi Agricultural Experiment Station wrote to me this species had been a serious pest to Barly in Sendai district for several years since 1953.
2. *Neocolochelyna itoi* TAKEUCHI, 1952
   Food-plant: *Actinidia arguta* (SIEB. et ZUCC.) PLANCH
   Dr. K. YASUMATSU of Kyushu University told me his observations at Mt. Hikosan in Kyushu.
3. *Aglaostigma occipitosa* (MALAISE, 1931)
   Food-plant: *Angelica polymorpha* MAXIM. and *Petasites japonicus* (SIEB. et ZUCC.) MAXIM.
   These observation were made at Takao near Tokyo by Mr. Y. ANDO of Tokyo University of Education. According to him the former may be better than the latter for the food-plant.
4. *Aglaostigma amoorensis* (CAMERON, 1876)
   Food-plant: *Veratrum stamineum* MAXIM.
   The adults emerged on May, 1956, from the larvae collected on August 9~11, 1955, at Mt. Hakusan in Kaga.
5. *Aglaostigma neblosa* (ANDRÉ, 1881)
   Food-plant: *Impatiens Textori* MIQ.
   Oviposition was observed by Mr. E. FUJITA of my university on May 20, 1956, at Sasayama.
6. *Pachyprotasis pallidiventris* MARLATT, 1898
   Food-plant: *Stellaria aquatica* (LINN.) SCOP.
   In previous paper I reported *Duchesnea indica* FOCKE as the food-plant, but I have some doubtful point of the identification of the sawfly. Recently Dr. K. YASUMATSU examined the type specimen at U. S. National Museum through the

courtesy of Dr. B. D. BURKS and it becomes clear that the sawfly fed on *Duchesnea indica* may be another species of the genus.

7. *Propodea fentonii* (KIRBY, 1882)
   Food-plant: *Euptelea polyandra* SIEB. et ZUCC.
   Through the courtesy of Mr. E. FUJITA, the larvae collected at Sigura in Hikami district on October 9, 1955, were reared, and the adult emerged on May 20, 1956.
8. *Tenthredo fukaii* (ROHWER, 1910)
   Food-plant: *Kerria japonica* (THUNB.) DC.
   The first observation was made by Mr. E. FUJITA at Sasayama on May 13, 1956.
9. *Tenthredo matsumurai* (TAKEUCHI, 1933)
   Food-plant: *Smilax China* LINN.
   The adults emerged from the larvae fed on this plant in 1953.
10. *Tenthredo analis* (ANDRÉ, 1881)
    Food-plant: *Abelia serrata* SIEB. et ZUCC., and *A. spathulata* SIEB. et ZUCC.
    The female was found laying her eggs on the leaves of the latter, and reared the larvae during May~July, 1956, on these plants though the larvae rather prefer the former.
11. *Tenthredo nigerrima* (FORSIUS, 1918)
    Food-plant: *Petasites japonicus* (SIEB. et ZUCC.) MAXIM.
    Through the courtesy of Mr. Y. YAMAMOTO of Kaibara High School, the larvae collected at Sigura in Hikami district were reared on this plant in 1953~1954.
12. *Tenthredo fugi facigera* (KONOW, 1899)
    Food-plant: *Angelica pubescens* MAXIM.
    The female emerged on May 27, 1956, from the larvae collected at Mt. Hakusan in Kaga on August 11, 1955.
13. *Rhadinoceraea opacicollis* MALAISE, 1931
    Food-plant: *Sambucus Sieboldiana* BLUME
    The femal emerged on May 25, 1956, from the larva collected at Mt. Hakusan in Kaga on August 11, 1955, and she oviposited on the plant. The key reported by me in 1953 must be revised as follows.

KEY TO THE SPECIES BY LARVAE FED ON *SAMBUCUS SIEBOLDIANA*.
(in mature stage)

A. Third abdominal segment with 6 annulets; not coiling their body in rest.....B
— Third abdominal segment with 7 annulets; coiling their body in rest.....C
B. Body with 12 black spots on spiracular line; head black .....*Phymatoceropsis japonica* MALAISE
— Body without black spots, greenish; head yellow .....*Rhadinoceraea opacicollis* MALAISE
C. Head yellowish; body with 12 black spots on spiracular line....*Macrophya carbonaria* SMITH
— Head almost blackish; body with many black spots on spiracular and subdorsal line .....*Macrophya apicalis* SMITH

14. *Pareophora glacilis* TAKEUCHI, 1952
    Food-plant: *Prunus Buergerina* MIQ., *P. Grayana* MAXIM., *P. Jamasakura* SIEB. and *P. Avium* LINN.
    Dr. K. Takeuchi wrote only *Prunus yedoensis* MATSUM. as the food-plant of this species in his original description. The above mentioned species must be added to it by my observation at Tokyo and Sasayama.
15. *Ardis brunniventris* (HARTIG, 1837)
    Food-plant: *Rosa* spp.
    The larvae bore into the young shoot, as in Europe. Sometimes the bored stems are mistaken for the boring of the *Cephid*-larvae, but it will be separated by the habit that the full-grown larvae get out of the stem and pupate in the ground, while *Cephid*-larvae spin their cocoon in the stem.

Egg-laying habit of *Macrophya apicalis*

Generally the sawflies lay their eggs on their food-plants, but this species has a curious habit of the female laying her eggs on the other plants near the food-plant.

The food-plant was shown by the emergence of the adult from the larvae fed on *Sambucus Sieboldiana* in 1952–1953. Then the females were set free in the cage with the plant for the purpose of getting the larvae, but the question about the egg-laying habit had been raised, as they had never laid their eggs on it. In 1956, the habit was found on May 25 at about 3 p. m. A female was observed flying near the stub of *Sambucus Sieboldiana*, and she alighted sometimes on the leaves of it vibrating her antennae as if she were seeking for the suitable portion for the oviposition. But suddenly she flew a little distance without laying her eggs on the leaves and alighted on the lower plant, *Galium Kikumugura* OHWI, 70 cm apart from the stub, on which she laid two eggs in a few moments and flew away. Afterwards many eggs were able to be found on the leaves of *Galium* and some of them were brought to the laboratory where they were reared carefully. When the eggs hatched, the young larvae did not eat the leaves and yet loitering in the cage, but they attached to the young leaves of *Sambucus* and began to grow on it when it was given. In the field the observation was tried near the stub, where the leaves of *Galium* were free from the larvae and they were found only on the stub of *Sambucus Siebldiana*.

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