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ON SOME SPECIES OF PSYLLIDAE FROM THE HACHIJÔ ISLANDS (Homoptera)¹

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So far as the psyllid fauna of the Hachijô Islands is concerned, only two unidentified species were recorded by M. Kato (1940).² These species have never been clarified since then, nor any additional one was recorded from this area. In the present short report, seven species of psyllids are recorded from the Hachijô Islands for the first time. These materials were mostly collected by Prof. Yoshihiro Hirashima and Mr. Masakazu Shiga of the Entomological Laboratory, Faculty of Agriculture, Kyushu University in 1964 and one species by Dr. Kintaro Baba in 1965. Most of the species, as shown in Table 1, occur from Japan proper extensively far south to the Yaeyama Group, the Ryukyus. Among them *Psylla satsumensis* Kuwayama has never been known from Honshu. More material should be needed for considering psyllid fauna of the Hachijô Islands from the viewpoint of zoogeography.

The Hachijô Islands, which are located from 33°2' to 33°9' N latitude and from 139°40' to 139°50' E longitude in the midst of the Japan Current, belong to Tokyo Metropolis in jurisdiction, although these are 156 nautical miles far south of Tokyo.

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All specimens treated here are preserved in the collection of the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka.

Subfamily Aphalarinae

1. *Aphalara itadori* (Shinji)

Psylla itadori Shinji, 1938, Kontyû 12 (4) : 149 (Japan : Morioka, Iwate Pref.).

Specimens examined : 2♂♂ 3♀♀, Ôkago - Fuji (大賀郷-富士), Hachijô Is., 26. v. 1964, Y. Hirashima & M. Shiga leg. 3♂♂ 4♀♀, Kamogawa (鴨川), Hachijô Is., 27. v. 1964, Y. Hirashima & M. Shiga leg. 1♂, Kamogawa, Hachijô Is., by Malaise trap, 27. v. 1964, Y. Hirashima & M. Shiga leg. 1♀, Mitsune - Kantoyama (三根-神止山), Hachijô Is., 30. v. 1964, Y. Hirashima & M. Shiga leg. 1♂, Eigo (永郷), Hachijô Is., 2. vi. 1964, Y. Hirashima & M. Shiga leg.

General distribution : Hokkaido, Honshu, Hachijô Is. (hab. nov.), Shikoku, Kyushu ; Amami-oshima, Korea.

1. Contribution Ser. 2, No. 251, Entomological Laboratory, Kyushu University.

2. "A list of collection from Hachijo Island." Ent. World 8 (80) : 695.

Subfamily Psyllinae

2. *Psylla coccinea* Kuwayama

Psylla coccinea Kuwayama, 1908, Trans. Sapporo Nat. Hist. Soc. 2: 171 (Japan: Hakodate, Kamakura, Hagi, Takasago, Kagoshima).

Specimens examined: (summer form); 5♂♂ 4♀♀, Ōkago – Fuji, Hachijō Is., 26. v. 1964, Y. Hirashima & M. Shiga leg. 1♂, Kamogawa, Hachijō Is., collected by Malaise trap, 27. v. 1964, Y. Hirashima & M. Shiga leg. 1♀, Mitsune – Kantoyama, 30. v. 1964, Y. Hirashima & M. Shiga leg. 3♀♀, Hachijō-fuji (八丈富士), Hachijō Is., 31. v. 1964, Y. Hirashima & M. Shiga leg. 2♂♂, Eigo, Hachijō Is., 2. vi. 1964, Y. Hirashima & M. Shiga leg. 1♂, Sokoto-hama (底戸浜), Hachijō Is., 10. v. 1965, K. Baba leg. (overwintered autumnal form); 1♂ 1♀, Ōkago – Fuji, Hachijō Is., 26. v. 1964, Y. Hirashima & M. Shiga leg. 2♂♂ 3♀♀ (1♂ 1♀ on slide), Kamogawa, Hachijō Is., 27. v. 1964, Y. Hirashima & M. Shiga leg. 1♀, Sueyoshi (末吉), Hachijō Is., 28. v. 1964, Y. Hirashima & M. Shiga leg. 1♂ 1♀, Nakanogo – Daigo-yama-Mitsune (中之郷-台子山-三根), Hachijō Is., 1. vi. 1964, Y. Hirashima & M. Shiga leg.

General distribution: Hokkaido, Honshu, Hachijō Is. (hab. nov.), Shikoku, Kyushu; Amami-oshima, Formosa.

There is a considerably distinct seasonal variation within this species. Autumnal form differs from the typical summer form both in coloration and in another morphological character as follows.

Autumnal form: General colour brownish, with obscure brown stripes on thorax dorsally, with vertex and genal cones yellowish brown, with antenna black not only at two apical segments but also at apex of each segment, with forewing more

Table 1. *Distribution of psyllids collected from the Hachijō Islands.*

	Hokkaido	Honshu	Shikoku	Kyushu	Amami-oshima	Okinoerabu	Okinawa	Miyako	Ishigaki	Iriomote	Formosa	Korea
1. <i>Aphalara itadori</i>	+	+	+	+	+							+
2. <i>Psylla coccinea</i>	+	+	+	+	+						+	
3. <i>Psylla fulguralis</i>		+	+	+	+		+		+	+		
4. <i>Psylla satsumensis</i>		+	+	+	+		+	+	+	+		
5. <i>Psylla tobirae</i>		+	+	+	+		+		+	+		
6. <i>Trioza cinnamomi</i>		+	+	+	+		+			+		
7. <i>Trioza nigra</i>	+	+	+	+	+	+	+		+	+		

or less flavescent and with conspicuous black spot near end of clavus at posterior margin.

Genal cones more or less longer and more slender than summer form, although truncate anteriorly as in summer form. Forewing more or less elongate, with both medial and cubital cells comparatively elongate.

There is no difference in genitalia between both forms.

3. *Psylla fulguralis* Kuwayama

Psylla fulguralis Kuwayama, 1908, Trans. Sapporo Nat. Hist. Soc. 2: 177 (Japan: Kamakura, Kyoto).

Specimen examined: 1 ♀, Nakanogo - Daigo-yama - Mitsune, Hachijō Is., 1. vi. 1964, Y. Hirashima & M. Shiga leg.

General distribution: Honshu, Hachijō Is. (hab. nov.), Shikoku, Kyushu, Yakushima; Amami-oshima, Okinawa Is., Ishigaki Is., Iriomote Is.

4. *Psylla satsumensis* Kuwayama

Psylla satsumensis Kuwayama, 1908, Trans. Sapporo Nat. Hist. Soc. 2: 177 (Japan: Kagoshima).

Specimens examined: 1 ♀, Ōkago - Fuji, Hachijō Is., 26. v. 1964, Y. Hirashima & M. Shiga leg. 1 ♂ 1 ♀, Sueyoshi, Hachijō Is., 28. v. 1964, Y. Hirashima & M. Shiga leg.

General distribution: Honshu (Hachijō Is.-hab. nov.), Shikoku, Kyushu; Amami-oshima, Okinawa Is., Miyako Is., Ishigaki Is., Iriomote Is.

5. *Psylla tobirae* Y. Miyatake

Psylla tobirae Y. Miyatake, 1964, J. Fac. Agr. Kyushu Univ. 13 (1): 5 (Japan: Fukuoka).

Specimens examined: 1 ♀, Ōkago - Fuji, Hachijō Is., 26. v. 1964, Y. Hirashima & M. Shiga leg. 2 ♀♀, Sueyoshi, Hachijō Is., 28. v. 1964, Y. Hirashima & M. Shiga leg. 5 ♂♂ 6 ♀♀, Mitsune - Kantoyama, Hachijō Is., 30. v. 1964, Y. Hirashima & M. Shiga leg. (on *Pittosporum Tobira*). 2 ♀♀, Eigo, Hachijō Is., 2. vi. 1964, Y. Hirashima & M. Shiga leg.

General distribution: Honshu, Hachijō Is. (hab. nov.), Shikoku, Kyushu; Amami-oshima, Okinawa Is., Ishigaki Is., Iriomote Is.

Host plant: "Tobera"-*Pittosporum Tobira* (Thunb.) Ait. [Pittosporaceae]; many adults and nymphs were collected on the host plant at Mitsune - Kantoyama, Hachijō Is. on May 30th, 1964.

Subfamily Triozinae

6. *Trioza cinnamomi* (Boselli)

Spanioza cinnamomi Boselli, 1930, Boll. Lab. Zool., Inst. sup. agr., Portici 24: 201 (Japan: Tokyo).

Specimens examined: 1 ♀, Kamogawa, Hachijō Is., 27. v. 1964, Y. Hirashima & M. Shiga leg. 1 ♂, Nakanogo - Daigo-yama - Mitsune, Hachijō Is., 1. vi. 1964, Y. Hirashima & M. Shiga leg.

General distribution: Honshu, Hachijō Is. (hab. nov.), Shikoku (hab. nov.), Kyushu (hab. nov.); Amami-oshima (hab. nov.), Okinawa Is., Iriomote Is.

7. *Trioza nigra* Kuwayama

Trioza nigra Kuwayama, 1910, Trans. Sapporo Nat. Hist. Soc. 3: 57 (Japan: Sapporo, Takao, Tamagawa).

Specimens examined: 2♂♂, Kamogawa, Hachijō Is., 27. v. 1964, Y. Hirashima & M. Shiga leg.

General distribution: Hokkaido, Honshu, Hachijō Is. (hab. nov.), Shikoku, Kyushu; Amami-oshima, Okinoerabu Is., Okinawa Is., Ishigaki Is., Iriomote Is.

新 著 紹 介

Domenichini, G. 1966. Hym. Eulophidae, Palearctic Tetrastichinae. In V. Delucchi and G. Remaudière: The Index of Entomophagous Insects, No. 1. 120 pp. Le François, 91, Boulevard Saint-Germain, 75-Paris (VI^e), France.

害虫の防除には、農薬のみに頼らず、天敵の利用を加味した、いわゆる *integrated control* の一つの方法が重要であると認められてきたのは比較的に新しいことである。そのためにも天敵昆虫類の分類の知識が以前より以上に応用昆虫学者に必要となつてきた。すなわち正確な天敵昆虫類の知識を基にせねば、理想的な害虫防除法の樹立は困難であるところから、O. I. L. B. (International Organization of Biological Control) からの力強い支持のもとに V. Delucchi と G. Remaudière の 2 名が編集者となつて、*The Index of Entomophagous Insects* の出版を立案した。その第 1 号が Dr. G. Domenichini の著になる上記の出版物となつて現われた。次々と刊行の予定であるが、著者は、それぞれの天敵昆虫群における分類の第 1 人者であつて、この *series* の完成を見れば、現代における最も権威のある天敵昆虫世界字典が出来ることになる。第 2 号第 3 号は、それぞれ J. - F. Aubert の旧北洲西部のヒメバチ類の 3 亜科および M. Mackauer と P. Starý の世界のアブラバチ科が当てられている。各号ともその内容は 4 節からなり、第 1 節は天敵昆虫が各属毎に種名のアルファベット順に排列され、それぞれについて既知の分類学的事実、寄主昆虫、生活史および地理的分布が実に要領よく、一見して判明するように記録されている。第 2 節は寄主である昆虫類の学名が分類排列され、それぞれの天敵が記してある。第 3 節は文献目録で、著者名のアルファベット順に列記され、第 4 節は天敵および寄主の学名の索引に当てられている。特にあらゆる検索に便利のために創意がなされている点は、各天敵および寄主学名に順番に番号が付してあり、その番号によつて検索するので、頁数による検索よりもより容易に早く目的を達することにある。われわれの作製した日本産害虫の天敵目録によく似ていてまことに便利である。

広く昆虫学者、昆虫研究機関などに必ず備えねばならない絶好の出版物として推奨したい。ただ、値段が高いことが玉に傷で、No. 1 は \$ 9 であるが、購読者の増加によつてさらに価格の引き下げは容易であるという。

(安松京三)