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Pamphiliid Sawflies (Insecta, Hymenoptera) from Yamanashi Prefecture, Central Honshu, Japan

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Abstract Collection data are given for 36 species of pamphiliid sawflies of the genera *Acantholyda*, *Cephalcia*, *Onycholyda* and *Pamphilius* from Yamanashi Prefecture, central Honshu. Of these, one species of *Cephalcia* has not been determined and two species of *Onycholyda* and four species of *Pamphilius* are newly recorded from Yamanashi Prefecture. Compared with the other well-investigated areas in Honshu, the pamphiliid fauna of Yamanashi Prefecture is very rich, having the largest number of species in total (the same number as that of Tochigi Prefecture) and in the "northern group" of species.

Key words : Hymenoptera, Pamphiliidae, fauna, Yamanashi Prefecture, Honshu, Japan.

Introduction

Yamanashi Prefecture, situated in the middle of Honshu, is not a large prefecture, occupying an area of 4,465.37 km^2, but its natural environments are diversified and fairly well preserved. About 78% of the area, ranging from 70 to 3,776 m in altitude, is covered with various kinds of forests, which provide excellent habitats for phytophagous insects. The sawfly fauna of Yamanashi Prefecture should be very rich, but our knowledge on this subject is rather poor and only scattered collection records published in various taxonomic works are available for the moment.

The first record of the sawfly family Pamphiliidae from Yamanashi Prefecture dates back to Yano's (1919, 1920) reports on the infestation of larch by "*Cephaleia kaebelei* [sic] Rohwer". Since then, 28 species of the family were added to the Yamanashi fauna by Takeuchi (1938) and Shinohara (1985a, etc.; see under respective species).

The present work is an attempt to get together all the information on the family Pamphiliidae in Yamanashi Prefecture. All the published records are summarized and new collection records are given mainly based on the study of the collection of the National Museum of Nature and Science, Tokyo (NSMT), and the private collection of H. Suda (HSC). Other depositories of the material examined are H. Kumamoto collection (HKC), H. Nagase collection (HNC), and Kobe University collection (KU).

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Results and Discussion

We have recognized 36 species of four genera of Pamphiliidae occurring in Yamanashi Prefecture. They are seven species of *Acantholyda*, three species of *Cephalcia*, seven species of *Onycholyda*, and 19 species of *Pamphilius* (see Table 1 and the enumeration below). Of these, 29 species are already known to occur in Yamanashi Prefecture, while six species are newly recorded in this work. One remaining species, a *Cephalcia*, has not been identified.

Table 1. Pamphiliidae recorded in six areas in Honshu (undetermined species not included).

		Hyogo Pref. [0–1510 m alt.]	Ishikawa Pref. [0–2702 m alt.]	Yamanashi Pref. [70–3776 m alt.]	Kamiange [ca. 400 m alt.]	Tochigi Pref. [0–2578 m alt.]	Aomori Pref. [0–1625 m alt.]
Subfamily CEPHALCIINAE							
Genus *ACANTHOLYDA*							
Subgenus *Acantholyda*	*A. nipponica*		x	x		x	x
Subgenus *Itycorsia*	*A. albomaculata*	x		x			
	A. alpina		x				
	A. iwatai			x		x	x
	A. kojimai					x	x
	A. mizunoi			x		x	
	A. posticalis posticalis	x				x	
	A. sasakii		x	x		x	x
	A. tsuyukii			x		x	
	A. laricis			x			
Genus *CEPHALCIA*							
	C. lariciphila japonica			x		x	
	C. koebelei			x			
	C. variegata		x				x
Subfamily PAMPHILIINAE							
Genus *NEUROTOMA*							
Subgenus *Neurotoma*	*N. iridescens*	x	x		x	x	x
Subgenus *Gongylocorsia*	*N. atrata*		x				
	N. harai		x			x	
Genus *CHRYSOLYDA*							
	C. leucocephala		x				
Genus *ONYCHOLYDA*							
O. amplecta group	*O. decorata*	x	x	x	x	x	
	O. esakii	x		x	x	x	x
	O. lucida	x	x	x	x	x	x
	O. minomalis	x	x	x	x	x	x
	O. moriutii	x			x		
	O. similis	x	x	x	x	x	
	O. tenuis	x	x	x		x	
	O. viriditibialis	x	x	x	x	x	x
O. luteicornis group	*O. kumamotonis*		x			x	x

Table 1. (Continued).

		Hyogo Pref. [0–1510 m alt.]	Ishikawa Pref. [0–2702 m alt.]	Yamanashi Pref. [70–3776 m alt.]	Kamiange [ca. 400 m alt.]	Tochigi Pref. [0–2578 m alt.]	Aomori Pref. [0–1625 m alt.]
Genus *PAMPHILIUS*							
P. basilaris group	*P. basilaris*	x					
P. alternans group	*P. komonensis*	x	x	x	x	x	x
	P. takeuchii	x	x	x	x	x	x
P. sulphureipes group	*P. ishikawai*	x	x	x	x	x	x
	P. zhelochovtsevi nipponicus	x	x		x		x
P. histrio group	*P. brevicornis ibukii*		x	x			
	P. tricolor			x			
P. vafer group	*P. confusus*		x	x		x	x
	P. flavipectus			x		x	x
	P. nakagawai		x	x		x	x
	P. lobatus	x	x	x		x	x
	P. venustus		x	x		x	x
	P. kamikochensis			x		x	x
	P. archiducalis		x	x			
	P. naokoae			x			
	P. opacus		x				
	P. hortorum					x	
	P. itoi	x	x	x	x	x	x
	P. varius	x	x			x	
	P. togashii	x	x		x	x	
P. sylvaticus group	*P. alnicola*			x	x		
	P. benesi	x	x	x	x	x	x
	P. daisenus	x				x	x
	P. gracilis			x			
	P. japonicus	x	x		x		x
	P. volatilis	x	x	x	x	x	x
P. inanitus group	*P. hilaris*			x	x	x	
Total number of species		24	32	35	19	35	26
B/T ratio (see text for explanation)		0.75	0.59	0.46	0.84	0.51	0.62
N/B ratio (see text for explanation)		0.17	0.53	1	0	0.78	0.56
Main references		Naito *et al.* (2004)	Togashi (1998) Shinohara and Yamada (2005)	present work	Shinohara (2002)	Nakamura (2003) Shinohara and Yamada (2005)	Shinohara and Yamada (2005)
Heavily shadowed: Species of the “basic group”		Lightly shadowed: Species of the “northern group”					

Noteworthy species and probable additions in the future

The occurrence of three rare species of *Pamphilius* in Yamanashi Prefecture is noteworthy. *Pamphilius naokoae* Shinohara, 1999, which is endemic to Yamanashi Prefecture, is known only from the type series collected at Masutomi-kosen in the northern part of the prefecture (for more information, see comments under the species). *Pamphilius brevicornis ibukii* Shinohara, 1995, and *P. tricolor* Beneš, 1974, are also very rare species. In Honshu, the former is known only by one specimen each from Ishikawa and Yamanashi Prefectures and the latter by one specimen each from Niigata and Yamanashi Prefectures.

On the other hand, some relatively common or widespread pamphiliid species have not been found in Yamanashi Prefecture. Among these are *Cephalcia variegata* Takeuchi, 1930, *Neurotoma iridescens* (André, 1882), *Onycholyda kumamotonis* (Matsumura, 1912), *Pamphilius zhelochovtsevi nipponicus* Shinohara, 1993, *P. japonicus* Shinohara, 1985, *P. togashii* Beneš, 1977, and *P. varius* (Audinet-Serville, 1823). Of these, *C. variegata* will certainly be found on *Pinus pumila* stands in the subalpine zones of Yatsugatake or Akaishi Mountains, and *P. varius* on *Betula* trees on the same mountain ranges. *Onycholyda kumamotonis* will be found on *Filipendula* in the areas where *P. venustus*, a species also associated with this plant, has been collected. *Neurotoma iridescens* is rather common and widespread in central Honshu. Other three species of *Pamphilius* are not common but widely distributed in Honshu, including prefectures around Yamanashi. Further collectings will certainly reveal the occurrence of these species in Yamanashi Prefecture. A very rare species, *Chrysolyda leucocephala* (Takeuchi, 1938), has been collected at Shiratsuka-rindo on the southwestern slope of Mt Fujisan in Shizuoka Prefecture (1♀, 21. V. 1978, S. Tsuyuki, NSMT); this species is also likely to be found in Yamanashi Prefecture.

Comparison with other prefectures and nature of local pamphiliid faunae in Honshu

Table 1 shows the pamphiliid species known to occur in five prefectures and one area in Honshu. Besides the entry of Yamanashi Prefecture, the table was already published by Shinohara and Yamada (2005). These are the best-investigated areas in Honshu in terms of pamphiliid fauna. The pamphiliid fauna of Yamanashi Prefecture is very rich, comparable only to that of Tochigi Prefecture, according to the present study. In Honshu, a little more species of the Pamphiliidae may have been recorded or collected in Nagano Prefecture, but the collection data from the prefecture have not been worked out.

Shinohara and Yamada (2005), based on distribution patterns, roughly classified the pamphiliid species in Honshu into three categories, the "basic group", the "northern group", and the "others", and proposed to use two different ratios, the B/T ratio and the N/B ratio, for comparing the species compositions of the local pamphiliid faunae in Honshu. The species of the "basic group" occur widely in Honshu (ideally in all prefectures), whereas the species of the "northern group" occur mainly on mountains of central to northern Honshu. The "others" include rare species without sufficient information on distribution; possibly, they may eventually be allocated into "basic" or "northern" groups. The B/T ratio is the ratio of the species number of the "basic group" to the total number of species occurring in the area, whereas the N/B ratio is the ratio of the number of species of the "northern group" to that of the "basic group" found in the area. The use of these ratios may help to understand the characteristics of the pamphiliid faunae at the prefecture or lower levels (see Shinohara and Yamada, 2005, for more details).

The number of the species included in the "basic group" is expected to increase as our knowledge on the pamphiliid fauna of Honshu grows (Shinohara and Yamada, 2005). After the data of the Yamanashi Prefecture are added, we propose to treat 20 species (heavily shadowed in Table 1) as belonging to the "basic group". The representatives of the "basic group" in this work are widespread species recorded in four or more

areas out of the six areas treated and are expected to be found eventually in all prefectures in Honshu. *Pamphilius confusus* Shinohara, 2005, *P. nakagawai* Takeuchi, 1930, and *P. venustus* (Smith, 1874) were recorded from four areas, but they are not likely to be found in western Honshu because their known host plants are not distributed or rarely found there (Shinohara and Morita, 2003; Shinohara, 2005); therefore, these species are not included in the "basic group". The "northern group" (lightly shadowed in Table 1) is also redefined here to include the species of the Cephalciinae, the *Pamphilius vafer* group, and the *Pamphilius histrio* group, excluding the species included in the "basic group", and *Onycholyda kumamotonis* (Matsumura, 1912), which is very similar to *Pamphilius venustus*, a member of the *P. vafer* group, in biology and distribution.

Figure 1 shows the number of species, allocated into three categories, for each prefecture and area, and the B/T and N/B ratios calculated for each prefecture and area are given in Table 1. Among the six areas, Kamiange is exceptional. It is not a prefecture but a small area about 400 m high in the west of Tokyo (Shinohara, 2002). It shows the highest B/T ratio of 0.84 and the lowest N/B ratio of 0, meaning that its pamphiliid fauna is mostly composed of the species of the "basic group" and no species of the "northern group" have been found there (see also Fig. 1). This is probably a typical species composition of the Pamphiliidae in the lowlands of central Honshu. On the other hand, Yamanashi Prefecture shows the lowest B/T ratio (0.46) and the highest N/B ratio (1) among the six areas considered. The low value of the B/T ratio, shared by Tochigi Prefecture (0.51), simply shows the relatively small share of the "basic group" and consequently high species diversity of the pamphiliid sawflies in the prefecture. The very high value of the N/B ratio, also shared by Tochigi Prefecture (0.78), indicates a very rich representation of the species of the "northern group" in Yamanashi Prefecture.

As shown in Fig. 1, the species of the "basic group" may occur in all prefectures in Honshu (thus "basic") and additional occurrence of the "northern group" species in each prefecture will determine the total species diversity of the Pamphiliidae in the prefecture. Yamanashi Prefecture, having the largest number of the species of the "northern group" (16), apparently has the most diverse pamphiliid fauna in Honshu.

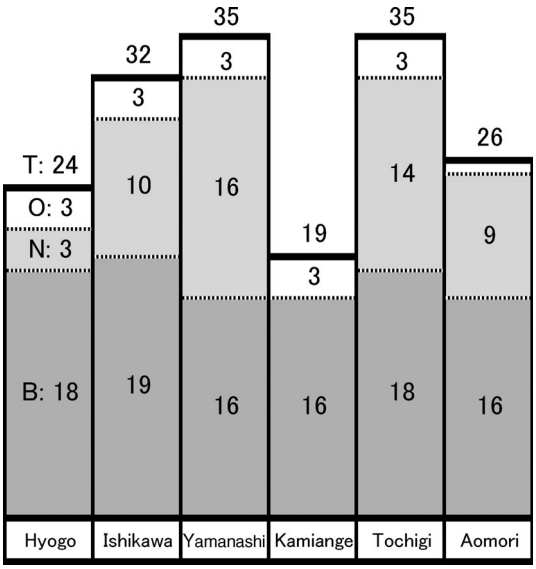

Fig. 1. Diagram showing the number of species of pamphiliid sawflies, classified into three categories, for each of Hyogo, Ishikawa, Yamanashi, Tochigi, and Aomori Prefectures and Kamiange area. B (heavily shadowed): The "basic group". N (lightly shadowed): The "northern group". O (not shadowed): Others. T: Total number of species known to occur in the area. See text for more explanation.

List of Pamphiliidae from Yamanashi Prefecture

(The numerals in brackets after the locality names in the collection data refer to the numerals in the map, Fig. 2)

Acantholyda albomaculata Shinohara, 1985

[Japanese name: Shiromon-matsu-hiratahabachi]

Distribution. Japan (central to western Honshu, Shikoku).

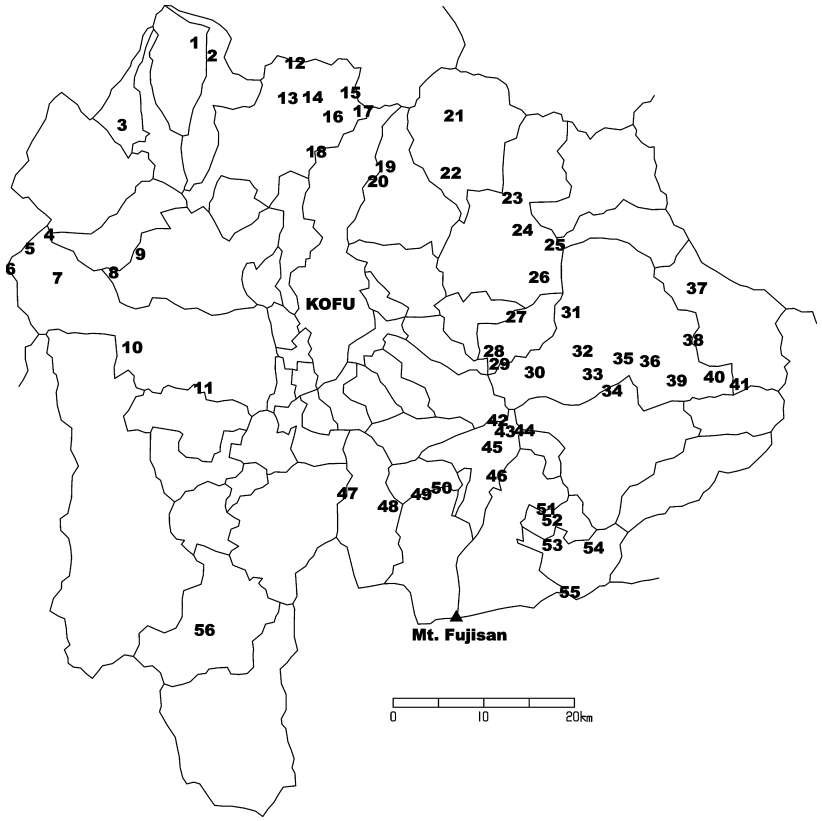

Fig. 2. Map of Yamanashi Prefecture. Numerals refer to those given in brackets in each collection data and show approximate locations of the sites.

Material examined. 1♂ from Hatchodaira [15], Mt. Kimpu-zan, 1♀ (paratype) from Aoki-gahara [48], 1♀ from Fuji-rindo recorded by Shinohara (1985b, 2001a)

Host plant. Unknown.

Remarks. This species has been recorded from Honshu (Yamanashi, Nagano, Mie, Nara and Hyogo Prefectures) and Shikoku (Kochi Prefecture) (Shinohara, 2001a). In Yamanashi Prefecture, three collection records were published by Shinohara (1985b, 2001a).

Acantholyda iwatai Takeuchi, 1938

[Japanese name: Iwata-hiratahabachi]

Distribution. Japan (Honshu, Shikoku, Kyushu).

Material examined. 1♀ and 2♂ from Fuji-rindo, 1♂ from Masutomi-kosen [13], and 1♀ from Mt. Kimpu-zan [17], all recorded by Shinohara (2001a).

Host plant. Unknown.

Remarks. This species is known to occur in Honshu (Aomori, Tochigi, Yamanashi, Nagano, Aichi Prefectures), Shikoku (Tokushima Prefecture), and Kyushu (Kagoshima Prefecture). It was first recorded from Yamanashi Prefecture by Shinohara (2001a).

Acantholyda laricis (Giraud, 1861)

[Japanese name: Kiberi-hiratahabachi]

Distribution. Europe to Siberia and China. Japan (central Honshu).

Material examined. 1♀ from Hoo-goya [8], Mt. Hoo-zan, recorded by Shinohara (1997).

Host plants. *Larix* spp. (Shinohara, 1997).

Remarks. This larch-feeding species is rare

in Japan, known so far only from five specimens (3♀, 2♂) from Nagano Prefecture and one female from Yamanashi Prefecture, central Honshu.

Acantholyda mizunoi Shinohara, 2001
[New Japanese name: O-tsuga-hiratahabachi]

Distribution. Japan (central Honshu).

Material examined. 1♂ from Masutomi-kosen [13] and 1♀ from Mt. Misaka-yama [42], both paratypes.

Host plant. Tsuga diversifolia (Maxim.) Masters (see Shinohara, 2001a).

Remarks. This species was described on the basis of seven specimens from central Honshu (Tochigi, Yamanashi and Nagano Prefectures), including two paratypes from Yamanashi Prefecture (Shinohara, 2001a).

Acantholyda nipponica Yano and Sato, 1928
[Japanese name: Nihon-akazu-hiratahabachi]

Distribution. Japan (Hokkaido, northern to central Honshu).

Material examined. 1♀ from Tokusa-toge [18] recorded by Shinohara (1997).

Host plants. Larix leptolepis (Sieb. et Zucc.) Gord., *Pinus strobus* L., *Pinus pumila* (Pallas) Regel (see Shinohara, 2001a).

Remarks. This species is known to occur in Hokkaido and Aomori, Miyagi, Tochigi, Saitama, Tokyo, Yamanashi, Nagano, and Ishikawa Prefectures (Shinohara, 2001a; Nakamura, 2003). From Yamanashi Prefecture, this species was first recorded by Shinohara (1997). This is usually an uncommon species but it occurred in larch plantations of Hokkaido in outbreak proportions in the last decade.

Acantholyda sasakii (Yano, 1916)
[New Japanese name: Haraaka-matsu-hiratahabachi]

Distribution. Japan (Honshu).

Material examined. 1♀ from Sasago-toge [29], 1♀ from Saruhashi [36], and 1♀ from Aokigahara [48] recorded by Takeuchi (1938) and Shinohara (1995 b). *Additional material.* 1♀, Mt. Tenjo-yama [46], Kawaguchi-ko, 22. V. 1979, H. Suda (HSC); 1♂, Koyodai [49], 3. V. 2002, H. Takahashi (NSMT).

Host plants. Pinus densiflora Sieb. et Zucc., *Pinus parviflora* var. *pentaphylla* (Mayr) Henry, *Pinus koraiensis* Sieb. et Zucc. (see Shinohara, 2001 a).

Remarks. This species is known from Aomori, Yamagata, Miyagi, Fukushima, Tochigi, Gunma, Ibaraki, Saitama, Tokyo, Kanagawa, Yamanashi, Nagano, Ishikawa, and Tottori Prefectures (Shinohara, 1995b, 2001a). Takeuchi (1938) and Shinohara (1995b) recorded this species from Yamanashi Prefecture.

Acantholyda tsuyukii Shinohara, 2001
[New Japanese name: Tsuga-hiratahabachi]

Distribution. Japan (central Honshu, Shikoku).

Material examined. 1♀ and 1♂ from Kitazawa [5], Mt. Kitadake and 1♀ and 1♂ from Mt. Senjodake [6], South Alps, 1♀ from Okanbazawa [7], 1♀ from Gozaishi [9]/Hoo-goya [8], 1♀ from Gozaishi-kosen [9], and 2♀ from Hatchodaira [15], Mt. Kimpu-zan, all paratypes.

Host plant. Tsuga diversifolia (Maxim.) Masters (see Shinohara, 2001a).

Remarks. This species was described on the basis of the material from central Honshu (Tochigi, Yamanashi, Nagano and Gifu Prefectures) and Shikoku (Ehime Prefecture) (Shinohara, 2001a).

Cephalcia koebelei (Rohwer, 1910)
[Japanese name: Karamatsu-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu), Russia (Baikal region).

Material examined. 1♀, 14♂ from Mt. Hoozan recorded by Shinohara (1997). *Additional material.* 1♂, Mitsutoge-guchi [43], Kawaguchi-ko Town, 27. VIII. 1986, Y., T. and H. Suda (HSC).

Host plant. Larix leptolepis (Sieb. et Zucc.)

Gord. (see Shinohara, 1997).

Remarks. Yano (1919, 1920) reported on the mass occurrence of "*Cephaleia kaebelei* [sic] Rohwer" in larch forests in Yamanashi Prefecture. This old record may actually refer to the foregoing species, *C. lariciphila japonica* (see Shinohara, 1997). In Honshu, this species has been recorded from Niigata, Yamanashi, and Nagano Prefectures (Shinohara, 1997).

Cephalcia lariciphila japonica Shinohara, 1997
[Japanese name: Nihon-karamatsu-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu).

Material examined. 2♀ and 1♂ from Mt. Hoo-zan [8] recorded by Shinohara (1997). *Additional material*. 1♀, Mt. Mitsutoge-yama [44], Kawaguchi-ko Town, 22. V. 1990, H. Suda (HSC); 1♂, Mt. Tenjo-yama [46], Kawaguchi-ko Town, 10. VI. 1986, H. Suda (HSC); 1♀2♂, Shibokusa–Toriiji Pass [51], 31. V. 1988, H. Suda (HSC).

Host plant. Larix leptolepis (Sieb. et Zucc.) Gord. (see Shinohara, 1997).

Remarks. In Honshu, this species is known to occur in Tochigi, Yamanashi, and Nagano Prefectures (Shinohara, 1997). In artificial larch forests, *C. lariciphila japonica* and *C. koebelei* sometimes occur in great numbers and are regarded as pests.

Cephalcia sp.

Material examined. 1♀, Kagosaka Pass [55], Yamanaka-ko Village, 25. V. 1972, T. and H. Suda (HSC).

Remarks. Japanese species of the genus *Cephalcia* are badly in need of revision, and this female specimen has not been identified with certainty.

Onycholyda decorata Shinohara, 1985
[Japanese name: Wamon-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu).

Specimens examined. 1♀, Tokusa Spa, Sutama Town, 18. VII. 1968, H. Suda (HSC); 1♀, Oshino [39], Saruhashi Town, Otsuki City, 10. V. 1977, H. Suda (HSC); 2♀, Tateno [40], Yanagawa Town, Otsuki City, 23. V. 1975, H. Suda (HSC); 1♀, Koyodai [49], 11. VIII. 1993, H. Takahashi (NSMT); 1♀, Minobu [56], Minobu Town, 18. V. 1964, H. Suda (HSC).

Host plant. Agrimonia pilosa Ledeb. var. *japonica* (Miq.) Nakai (see Shinohara, 2006).

Remarks. In Honshu, *O. decorata* has been recorded from Miyagi, Fukushima, Tochigi, Saitama, Chiba, Tokyo, Kanagawa, Ishikawa, Nagano, Osaka, and Hyogo Prefectures (Shinohara, 1985c), and this is the first record from Yamanashi Prefecture.

Onycholyda esakii (Takeuchi, 1937)
[Japanese name: Esaki-hiratahabachi]

Distribution. Japan (Honshu, Shikoku, Kyushu).

Material examined. 1♀ from Yanagisawatoge [23] and 1♀ from Fuji-rindo recorded by Shinohara (1986a). *Additional material*. 1♀, Koyodai [49]–Sankodai, 3. IX. 1992, H. Takahashi (NSMT).

Host plant. Unknown.

Remarks. In Honshu, this species is known to occur in Aomori, Iwate, Yamagata, Fukushima, Tochigi, Tokyo, Kanagawa, Fukui, Yamanashi, Nagano, Gifu, Aichi, Nara, Hyogo, and Hiroshima Prefectures (Shinohara, 1986a; Enoki and Nakamura, 1993; Nagase, 2004). From Yamanashi Prefecture, it was first recorded by Shinohara (1986a).

Onycholyda lucida (Rohwer, 1910)
[Japanese name: Tsuya-hiratahabachi]

Distribution. Japan (Honshu, Shikoku, Kyushu).

Material examined. 1♂ from Masutomikosen [13] recorded by Shinohara (1986b). *Additional material*. 6♀4♂, Utsukushinomori [1], 1500–1700 m, Yatsugatake Mts., 5–8, VI. 2000, A. Shinohara (NSMT); 1♂, Kiyosato [2], Takane,

Kitakoma, 20. V. 1980, H. Suda (HSC); 1♀, Masutomi [13], 8. V. 1994, H. Hamaji (NSMT); 1♀, Kanayama-kogen [14], Sutama Town, 28. V. 1979, H. Suda (HSC); 2♀, Tokusa-toge [18], Kurohira, 19–20. V. 1987, H. Yamazaki (NSMT); 3♀, Kitahara [19], Makioka Town, 24. V. 1976, H. Suda (HSC); 1♀, Nishizawa-keikoku [21], Mitomi Village, 28. V. 1980, H. Suda (HSC); 1♀, Sakeishi [24], Enzan, 23–24. V. 1987, H. Yamazaki (NSMT); 1♀, Daibosatsu-toge [25], 19–22. V. 1961, H. Takenaka (NSMT); 1♀, same locality, 27–28. VII. 1981, T. Niisato (NSMT); 1♀, Daibosatsu road, Enzan City, 18. V. 1966, T. and H. Suda (HSC); 1♀, Hikawa-rindo [26], Daibosatsu, 9. VI. 1986, Y. Kurosawa (NSMT); 1♀, Hikawa Path [26], Daibosatsu, 14. VI. 1992, S. Tsuyuki (NSMT); 2♀, Hikage [28], Yamato Village, 16. V. 1978, H. Suda (HSC); 1♀, Yoshikubo [30], Sasago Town, Otsuki City, 17. V. 1988, H. Suda (HSC); 1♀, Yunosawa-guchi [31], Otsuki City, 21. V. 1998, H. Suda (HSC); 4♀, Magi [33], Otsuki Town–Okuyama [35], Nigioka Town, Otsuki City, 11. V. 1976, H. S Suda (HSC); 2♀, same locality, 2. V. 1980, H. Suda (HSC); 3♀, Ogatayama [34], Tsuru City, 26. IV. 1988, H. Suda (HSC); 3♂, Ogisan [38], 9. IV. 1990, H. Takahashi (NSMT); 3♀, Torisawa [39], Otsuki City, 7. V. 1974, H. Suda (HSC); 2♀1♂, same locality, 23. IV. 1979, H. Suda (HSC); 2♀, Oshino [39], Saruhashi Town, Otsuki City, 10. V. 1977, H. Suda (HSC); 4♀, Kawai [41], Uenohara, Kitatsuru District, 24. IV. 1990, H. Suda (HSC); 5♀, same locality, 16. IV. 1991, H. Suda (HSC); 1♀2♂, Mt. Mitsutoge [44], Kawaguchi-ko Town, 22. V. 1990, H. Suda (HSC); 1♂, Tenjo-san [46], Kawaguchi-ko, 4. V. 1993, H. Takahashi (NSMT); 1♀, same locality, 28. IV. 1987, T. and H. Suda (HSC); 1♀, Misaka road, Kawaguchiko Town, 22. V. 1990, H. Suda (HSC); 1♀, Panoramadai [47], Kamikuishiki, 22. V. 1978, H. Suda (HSC); 1♀, Koyo-dai [49], Narusawa-mura, 6. V. 1991, H. Takahashi (NSMT); 4♀5♂, Oshino-mura [52], 1. V. 1990, H. Nagase (HNC).

Host plants. *Rubus* spp. (Okutani and Fujita, 1955).

Remarks. *Onycholyda lucida* is widespread in Honshu from Aomori to Hiroshima Prefectures (Shinohara, 1986b; Nakamura and Enoki, 1997). Shinohara (1986b) was the first to record the species from Yamanashi Prefecture.

Onycholyda minomalis (Takeuchi, 1930)

[Japanese name: Komon-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Specimens examined. 1♀1♂ from Kawaguchi-ko [45] recorded by Shinohara (1987). *Additional material*. 2♂, Kamisasao [3], Kobuchizawa, 19. V. 1980, H. Suda (HSC); 2♂, Kitahara [19], Makioka Town, 24. V. 1976, H. Suda (HSC); 2♀, Nishizawa-keikoku [21], Mitomi Village, 28. V. 1980, H. Suda (HSC); 1♂, Kuwasai [32], Otsuki City, 21. V. 1998, H. Suda (HSC); 1♂, Koyodai [49]–Ashiwada-yama [50], 21. V. 1978, H. Suda (HSC); 1♀, Oshino-mura [52], 6. VI. 1996, H. Nagase (HNC); 1♀, Kagosaka Pass [55], Yamanaka-ko Village, 25. V. 1972, T. and H. Suda (HSC).

Host plant. *Rubus parvifolius* L. (see Okutani, 1967).

Remarks. In Honshu, this species has been recorded from Miyagi, Saitama, Tokyo, Kanagawa, Niigata, Fukui, Ishikawa, Yamanashi, Nagano, Gifu, Mie, Kyoto, Osaka, Hyogo, Tottori and Hiroshima Prefectures (Shinohara, 1987; Taguchi, 1988). It was first recorded from Yamanashi Prefecture by Shinohara (1987).

Onycholyda similis Shinohara, 1987

[Japanese name: O-komon- hiratahabachi]

Distribution. Japan (Honshu, Kyushu).

Specimens examined. 1♀ from Kawaguchi-ko [45] and 1♀ from Yanagawa [40] (both paratypes) recorded by Shinohara (1987). *Additional material*. 1♂, Yoshikubo [30], Sasago, Otsuki, 17. V. 1988, H. Suda (HSC); 2♀, Yunosawa-guchi [31], Otsuki City, 21. V. 1988, H. Suda (HSC); 1♂, Kuwasai [32], Otsuki City, 21. V. 1998, H. Suda (HSC); 1♂, Tateno [40], Yanagawa Town, Otsuki City, 23. V. 1975, H. Suda

(HSC); 2♀3♂, Kawai [41], Uenohara Town, 14. V. 1991, H. Suda (HSC); 1♀, Toriiji Pass [51]–Ohasumi, Fujiyoshida City, 31. V. 1988, H. Suda (HSC); 1♀, Kagosaka Pass [55], Yamanaka-ko Village, 25. V. 1972, T. and H. Suda (HSC).

Host plant. Unknown.

Remarks. This species was described on the basis of the specimens from Akita, Gunma, Tokyo, Kanagawa, Niigata, Fukui, Ishikawa, Yamanashi, Nagano, Gifu, Shizuoka, Shiga, Kyoto, and Hyogo Prefectures (Shinohara, 1987), and was later recorded from Tochigi Prefecture (Nakamura, 2003).

Onycholyda tenuis (Takeuchi, 1937)

[Japanese name: Hoso-haraaka-hiratahabachi]

Distribution. Japan (Honshu).

Specimens examined. 1♂, Sensui-toge [4], South Alps, 9. VIII. 1985, A. Shinohara (NSMT); 1♀, Masutomi-kosen [13], Sutama, 6. VIII. 1986, A. Shinohara (NSMT); 1♀, Tokusa Pass [18], Sutama Town, 18. VII. 1968, H. Suda (HSC); 1♀, Marukawa Pass–Sakeishi [24], Enzan, 18. VII. 1978, H. Suda (HSC); 1♀, Yunosawa-guchi [31], Otsuki City, 21. V. 1998, H. Suda (HSC); 1♀, Kuwasai [32], Otsuki City, 21. V. 1998, H. Suda (HSC).

Host plant. Rubus microphyllus L. f. var. *subcrataegifolius* (H. Lev. et Vaniot) Ohwi (see Shinohara, 1987).

Remarks. This species is known to occur on higher mountains in Tochigi, Gunma, Saitama, Niigata, Toyama, Ishikawa, Nagano, Gifu, and Hyogo Prefectures (Shinohara, 1985e). The specimens listed above represents the first distribution record from Yamanashi Prefecture. The record from Hiroshima Prefecture (Taguchi, 1988) may need confirmation.

Onycholyda viriditibialis (Takeuchi, 1930)

[Japanese name: Aosune-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, Russia (Primorskij kraj).

Material examined. 1♀ from Yashajin-toge [10] recorded by Shinohara (1986a). *Additional material*. 1♀, Utsukushinomori [1], 1500–1700 m, Yatsugatake Mts., 5–8. VI. 2000, A. Shinohara (NSMT); 1♂1♀, Tokuwa-keikoku [22], Mitomi Village, 12. VIII. 1993, H. Suda (HSC); 1♀, Hikawa-rindo [26], Daibosatsu, 19. VI. 1982, S. Tsuyuki (NSMT); 1♀1♂, Yunosawa-guchi [31], Otsuki City, 21. V. 1998, H. Suda (HSC); 1♂, Saihara [37], Uenohara Town, 11. VI. 1991, H. Suda (HSC); 1♀, Kawai [41], Uenohara Town, 9. V. 1979, H. Suda (HSC); 1♀, Kawai [41], Uenohara Town, 14. V. 1991, H. Suda (HSC); 1♂, Panoramadai [47], Kamikuishiki Village, 22. VII. 1975, Y., T. and H. Suda (HSC); 1♂, Koyodai [49]–Ashiwada-yama [50], 29. VII. 1986, H. Suda (HSC); 1♂, Sankodai–Mt. Ashiwada-yama [50], 3. VIII. 1995, H. Takahashi (NSMT); 1♀, Mt. Hirao-yama–Hirano [54], 12. VII. 2002, H. Takahashi (NSMT); 1♀, Kagosaka Pass [55]–Azamidaira, 20. V. 1998, H. Takahashi (NSMT)

Host plant. Rubus crataegifolius Bunge (see Okutani and Fujita, 1956).

Remarks. This species occurs widely in Honshu from Aomori to Hiroshima Prefectures (Shinohara, 1986a; Nagase, 2004). It was first recorded from Yamanashi Prefecture by Shinohara (1986a).

Pamphilius alnicola Ermolenko, 1973

[Japanese name: Hannoki-shima-hiratahabachi]

Distribution. Japan (Hokkaido, southern Kuriles, Honshu), Russia (Primorskij kraj).

Material examined. 1♀ from Masutomi-kosen [13] and 1♂ from Fuji-rindo recorded by Shinohara (1985a, 2002).

Host plant. Alnus hirsuta Turcz. (see Shinohara and Hara, 1993).

Remarks. This is an uncommon species recorded in Honshu only from Tokyo, Nagano, and Yamanashi Prefectures (Beneš, 1977; Shinohara, 1985a, 2002).

Pamphilius archiducalis Konow, 1897
[Japanese name: Yumimon-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu), Shikotan Is., Sakhalin.

Material examined. 1♀, Ochiai–Ichinose [11], 16. VII. 1977, H. Suzuki (NSMT); 1♀, Masutomi Spa [13], 22. VII. 1978, A. Shinohara (NSMT).

Host plants. Alnus hirsuta Turcz., *A. matsumurae* Call. (see Shinohara and Hara, 1999; Shinohara, 2005).

Remarks. This species was described on the basis of a female specimen from "Japan" (Konow, 1897) and later recorded in Honshu from Ishikawa Prefecture only (Shinohara and Okutani, 1983). We have examined specimens of this species from Gunma Prefecture (1♀, Marunuma, 1,400 m, 8–9. VI. 2001, A. Shinohara, NSMT), Kanagawa Prefecture (1♀, Mikuni-toge, Yamakita, 1,100 m, 1. VI. 2005, H. Nagase, HNC), Nagano Prefecture (1♂, Shichimi-onsen, 3. VI. 1985, A. Shinohara, NSMT; 2♀, same data except 4–5. 1988, NSMT; 2♀, Yarisawa, Kamikochi, 1,600–1,900 m, 18–22. VII. 1989, A. Shinohara, NSMT; 1♀, same data except 30. VII. 1990, NSMT; 1♀, Makuiwa, Shigakogen, 1,550 m, 7–9. VIII. 1996, A. and T. Shinohara, NSMT; 1♀, Nakanoyu, Mt. Ontake, 1,600 m, 21. VII. 1981, H. Hara, NSMT; 2♂, Shimashima-dani, 1,700–1,800 m, 28. VI. 1976, A. Shinohara, NSMT; 1♂, Kamikochi, 24–25. VII. 1957, R. Ishikawa, NSMT; 1♀, Karuizawa, 12. VII. 1959, R. Ishikawa, NSMT; 1♀, Akadake-kosen, Yatsugatake Mts., 2. VII. 1972, A. Shinohara, NSMT; 1♀, Minoto, 1,800–2,000 m, Yatsugatake Mts., 26. VII. 1980, A. Shinohara, NSMT; 1♀, same data except 7. VII. 1982, NSMT; 1♀, same data except 6. VIII. 1982, NSMT; 1♀, same data except 3. VIII. 1984, NSMT; 7♀, same data except 29. VII.–3. VIII. 1986, NSMT; 1♀1♂, same data except 4–8. VIII. 1987, NSMT; 4♀, same data except 4–8. VIII. 1988, NSMT; 6♀2♂, same data except 23–26. VII. 1996, NSMT; 2♀, same data except 31. VII.–1. VIII. 1997, NSMT; 3♀, same data except 27–31. VII. 1999, NSMT; 1♀, Niiyama-toge, 1,200 m, 35°46′N 138°02′E, Ina, 23–24. V. 2003, A. Shinohara, NSMT), and Gifu Prefecture (1♂, Takayama, 20. V. 1979, A. Shinohara, NSMT; 1♀, Oshirakawa, 6. VII. 1979, A. Shimizu, NSMT).

Pamphilius benesi Shinohara, 1985
[Japanese name: Hashibami-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu); Korea.

Material examined. 1♂ from Utsukushinomori [1] and 1♀ from Hikawa-rindo [26] listed by Shinohara (1988, 2001 b). *Additional material.* 1♀, Shibokusa [52]–Toriiji Pass [51], 31. V. 1988, H. Suda (HSC).

Host plant. Corylus sieboldiana Blume (see Shinohara and Hara, 1997).

Remarks. In Honshu, this species has been recorded from Aomori, Iwate, Tochigi, Tokyo, Niigata, Ishikawa, Yamanashi, Nagano, Shizuoka, Kyoto, Hyogo, Okayama, Nara, and Tottori Prefectures (Shinohara, 2001b; Nakamura, 2003; Shinohara and Yamada, 2005). We have examined two females of this species collected in Hiroshima Prefecture (Yokogo, Togouchi Town, 14–16. VI. 2002, S. Tsuyuki, NSMT).

Pamphilius brevicornis ibukii Shinohara, 1995
[Japanese name: O-tsuyazu-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu).

Material examined. 1♀, a paratype, from Utsukushinomori [1] (Shinohara, 1995 a).

Host plant. Unknown.

Remarks. Only two females, the holotype from Mt. Hakusan, Ishikawa Prefecture, and a paratype from Utsukushinomori, Yamanashi Prefecture, are known from Honshu (Shinohara, 1995a).

Pamphilius confusus Shinohara, 2005
[Japanese name: Hannoki-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu,

Shikoku).

Material examined. 1♀ (paratype) from Hoo-goya [8] (Shinohara, 2005).

Host plant. Alnus maximowiczii Call. (see Shinohara, 2005).

Remarks. This species is usually found on higher mountains where the host plant grows. In Honshu, it has been recorded from Aomori, Miyagi, Fukushima, Tochigi, Gunma, Niigata, Tokyo, Yamanashi, Nagano, and Ishikawa Prefectures (Shinohara, 2005).

Pamphilius flavipectus Shinohara, 2005

[Japanese name: Kimune-hiratahabachi]

Distribution. Japan (Honshu, Shikoku, Kyushu).

Material examined. 17 paratypes listed by Shinohara (2005): 1♀8♂ from Utsukushinomori [1], 2♀ from Kiyosato [2], 1♀ from Hoo-goya [8], 1♀1♂ from Shinshu-toge [12], and 1♀2♂ from Masutomi-kosen [13].

Host plants Alnus hirsuta Turcz., *A. matsumurae* Call. (see Shinohara and Kojima, 2006).

Remarks. Shinohara (2005) described this species on the basis of the material from Aomori, Iwate, Yamagata, Fukushima, Tochigi, Gunma, Niigata, Yamanashi, Nagano, and Yamaguchi Prefectures in Honshu, besides the material from Shikoku and Kyushu. Yoshida (2006) recorded it also from Osaka Prefecture.

Pamphilius gracilis Shinohara, 1985

[Japanese name: Nanakamado-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu), Korea.

Material examined. 1♂ from Utsukushinomori [1] recorded by Shinohara (2001b).

Host plant. Sorbus commixta Hedl. (see Shinohara and Hara, 1992).

Remarks. This species is known to occur only in Nagano, Niigata, Yamanashi, and Tottori Prefectures in Honshu (Shinohara, 2001b).

Pamphilius hilaris (Eversmann, 1847)

[Japanese name: Bara-hiratahabachi]

Distribution. Russia (Urals to Kamchatka and to Primorskij kraj), Japan (Honshu), China (Shaanxi).

Material examined. 38♀, 25♂ from Kawaguchi-ko [45] and 1♂ from Aokigahara [48] recorded by Shinohara (2002). *Additional material.* 1♀, Hirano–Mt. Hirao [54], 18. V. 2001, H. Takahashi (NSMT).

Host plant. Rosa multiflora Thunb. (see Shinohara and Okutani, 1983).

Remarks. This species is uncommon in Japan, recorded only from Tochigi, Gunma, Saitama, Tokyo, Yamanashi, and Nagano Prefectures (Shinohara, 2002; Nakamura, 2004). Besides Saitama and Yamanashi Prefectures, only one or a few specimens were collected in each prefecture. Close to the northeastern coast of Kawaguchi-ko Lake, there was a large open field covered with bushes of *Rosa multiflora*, where *P. hilaris* was abundant, when Shinohara visited there during the end of the 1970s.

Pamphilius ishikawai Shinohara, 1979

[Japanese name: Tsuyakuro-hiratahabachi]

Distribution. Japan (Honshu).

Material examined. 1♀1♂ (paratypes) from Mitsutoge [44] cited by Shinohara (1979). *Additional material.* 1♂, Kanayama-kogen [14], Sutama Town, 28. V. 1979, H. Suda (HSC); 1♀, Tateno [40], Yanagawa Town, Otsuki City, 23. V. 1975, H. Suda (HSC); 1♀, Oshino-mura [52], 6. VI. 1996, H. Nagase (HNC).

Host plant. Unknown.

Remarks. This is not a common species but is fairly wide spread in Honshu. It is known to occur in Aomori, Akita, Fukushima, Tochigi, Gunma, Saitama, Tokyo, Kanagawa, Niigata, Toyama, Ishikawa, Fukui, Yamanashi, Nagano, Aichi, Hyogo, and Tottori Prefectures (Shinohara, 2002; Shinohara and Yamada, 2005).

Pamphilius itoi Shinohara, 1985
[Japanese name: Hanno-haraaka-hiratahabachi]

Distribution. Japan (Hokkaido, southern Kuriles, Honshu).

Material examined. 1♀ from Masutomi-kosen [13] and 1♀ from Yanagisawa-toge [23], both paratypes, treated by Shinohara (1985 d). *Additional material.* 2♀2♂, Utsukushinomori [1], Yatsugatake Mts., 1,500–1,700, 5–8. VI. 2000, A. Shinohara (NSMT); 1♀, Masutomi-kosen [13], 6. VIII. 1986, A. Shinohara (NSMT); 2♂, Kanayama-kogen [14], Sutama Town, 28. V. 1979, H. Suda (HSC); 1♀, Yunosawa-guchi [31], Otsuki City, 21. V. 1998, H. Suda (HSC); 1♀, Mt. Tenjo-yama [46], Kawaguchi-ko Town, 10. VI. 1986, H. Suda (HSC).

Host plant. *Alnus hirsuta* Turcz. (see Shinohara and Hara, 1995).

Remarks. This species has been recorded from Aomori, Iwate, Tochigi, Tokyo, Kanagawa, Niigata, Ishikawa, Fukui, Yamanashi, Nagano, Gifu, and Hyogo Prefectures (Shinohara, 1985d; Naito *et al.*, 2004; Shinohara and Yamada, 2005).

Pamphilius kamikochensis Takeuchi, 1930
[Japanese name: Ko-haraaka-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu).

Material examined. 1♂ from Masutomi [13] recorded by Shinohara (1998).

Host plant. *Prunus ssiori* Fr. Schm. (see Shinohara and Okutani, 1983).

Remarks. In Honshu, this species has been recorded from Aomori, Tochigi, Nagano, and Yamanashi Prefectures (Shinohara, 1998).

Pamphilius komonensis Takeuchi, 1930
[Japanese name: Kaede-hiratahabachi]

Distribution. Japan (Honshu, Shikoku, Kyushu).

Material examined. A series of specimens from Kanayama-kogen [14], Nishizawa-keikoku [21], Yoshikubo [30], Torisawa [39], Yanagawa [40], Kawai [41], and Koyodai [49], all listed by Shinohara and Zhou (2006).

Host plant. *Acer mono* Maxim. (see Shinohara and Okutani, 1983).

Remarks. Shinohara and Zhou (2006) fully discussed this and allied species. *Pamphilius komonensis* is rather common in lower mountains in Honshu.

Pamphilius lobatus Maa, 1950
[Japanese name: O-haraaka-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu), Korea, China (Jilin), Russia (Primorskij kraj).

Material examined. 1♂, Kanayama-kogen [14], Sutama Town, 28. V. 1979, H. Suda (HSC); 1♀, Mt. Kimpu-zan [17], 1. VII. 1963, T. Naito (KU); 1♂, Mitsutoge [44], 30. IV. 1974, K. Kimura (NSMT); 1♀, Azamidaira [55], 17. VI. 1990, H. Takahashi (NSMT).

Host plant. Unknown.

Remarks. In Honshu, this species has been recorded from Aomori, Akita, Miyagi, Tochigi, Kanagawa, and Hyogo Prefectures, besides the type locality, Kirizumi, Gunma Prefecture (Maa, 1950; Nakamura, 2003; Nagase, 2004; Naito et al., 2004; Shinohara and Yamada, 2005). This is the first distribution record from Yamanashi Prefecture. We have also examined a female specimen from Fukushima Prefecture (Fudosawa-bashi–Takayu-onsen, 27. VI. 1993, H. Takahashi, NSMT).

Pamphilius nakagawai Takeuchi, 1930
[Japanese name: Nakagawa-hiratahabachi]

Distribution. Japan (Honshu, Shikoku, Kyushu).

Material examined. Long series of specimens from Utsukushinomori [1], Shinshu-toge [12], Masutomi-kosen [13], Biwakubozawa [16], Otome-onsen [20], Tenmoku [27], Saruhashi [36], Tenjo-yama [46], Koyodai [49], all listed by Shinohara (2005). *Additional material.* 2♀1♂, Kanayama-kogen [14], Sutama Town, 28. V. 1979, H. Suda (HSC); 1♀, Yunosawa-guchi [31],

Otsuki City, 21. V. 1998, H. Suda (HSC); 1♂, Mt. Mitsutoge [44], Kawaguchi-ko Town, 22. V. 1990, H. Suda (HSC); 1♀3♂, Tenjo-yama [46], Kawaguchi-ko, 4. V. 1992, H. Takahashi (NSMT); 16♂, Koyodai [49]–Ashiwada-yama [50], 21. V. 1978, H. Suda (HSC); 3♂, same locality, 7. V. 1980, H. Suda (HSC); 1♂, Ode-yama [53], Yamanaka-ko Village, 23. V. 1980, H. Suda (HSC); 1♀, Kagosaka Pass [55], Yamanaka-ko Village, 25. V. 1972, T. and H. Suda (HSC).

Host plant. *Alnus hirsuta* Turcz., *A. matsumurae* Call. (see Ishii, 1952; Shinohara, 2005).

Remarks. In Honshu, this species is known to occur in Aomori, Yamagata, Miyagi, Fukushima, Tochigi, Gunma, Tokyo, Kanagawa, Yamanashi, Nagano, Shizuoka, Gifu, Toyama, Ishikawa, and Fukui Prefectures (Shinohara, 2005). This species is sometimes found commonly on or around the young leaves of the host plants.

Pamphilius naokoae Shinohara, 1999

[New Japanese name: Hime-kurozu-hiratahabachi]

Distribution. Japan (Honshu).

Material examined. Holotype (♀) and paratypes (2♀, 21♂), all from the type locality, Masutomi-kosen [13].

Host plant. Unknown.

Remarks. This species was described on the basis of a series of specimens collected at Masutomi-kosen, Yamanashi Prefecture, in 1978–1979 (Shinohara, 1999). So far as we know, these are the only specimens ever collected. The type series was swept from the foliage of *Alnus hirsuta* stands along the stream at the type locality. The vegetation of this site was completely destroyed by a flood caused by a typhoon a few years later.

Pamphilius takeuchii Beneš, 1972

[Japanese name: Usumon-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Material examined. 4♀1♂ from Yashajin [10], Saihara [37], Narusawa, Koyodai [49], and Sankodai–Mt. Ashiwada-yama [50], listed by Shinohara and Zhou (2006).

Host plant. *Acer mono* Maxim. (see Shinohara and Okutani, 1983).

Remarks. This species is widely distributed in Japan from lowlands to high mountains. See Shinohara and Zhou (2006) for more discussion.

Pamphilius tricolor Beneš, 1974

[Japanese name: Miiro-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu), Ural to the Russian Far East, Korea.

Material examined. 1♀, Kitahara [19], Makioka Town, 24. V. 1976, H. Suda (NSMT).

Host plant. Unknown.

Remarks. In Honshu, this species is very rare, so far known only from one male specimen from Niigata Prefecture (Shinohara, 1995a). The first female specimen from Honshu is not distinguishable from the females collected in Hokkaido, Korea and Primorskij kraj.

Pamphilius venustus (Smith, 1874)

[Japanese name: Haraaka-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu, Shikoku).

Material examined. 1♀, Okanbazawa [7], Mt. Kitadake, 12. VII. 1979, N. Takeuchi (NSMT); 1♀, Okanbazawa [7], 15. VII. 1978, H. Kumamoto (HKC); 1♂, Shinshu-toge [12], 4. VI. 1984, A. Shinohara (NSMT).

Host plant. *Filipendula camtschatica* (Pall.) Maxim. (see Shinohara and Okutani, 1983)

Remarks. Shinohara and Morita (2003) already recorded this species from Yamanashi Prefecture but did not give any collection data. In Honshu, this species is known to occur in Aomori, Iwate, Tochigi, Niigata, Yamanashi, Nagano, Gifu, Ishikawa, and Shiga Prefectures (Shinohara and Yamada, 2005).

Pamphilius volatilis (Smith, 1874)
[Japanese name: Shima-hiratahabachi]

Distribution. Japan (Hokkaido, Honshu, Kyushu), Korea, Russia (Primorskij Kraj).

Material examined. 1♀, Utsukushinomori [1], Yatsugatake Mts., 1,500–1,700 m, 19. VI. 1999, A. Shinohara (NSMT); 2♂, same locality, 5–8. VI. 2000, A. Shinohara (NSMT); 9♂, Shinshu-toge [12], 4. VI. 1984, A. Shinohara (NSMT); 2♂, Kanayama-kogen [14], Sutama Town, 28. V. 1979, H. Suda (HSC); 2♀1♂, Tokusa-toge [18], Kurohira, 19–20. V. 1987, H. Yamazaki (NSMT); 2♀, Ogatayama [34], Tsuru City, 26. IV. 1988, H. Suda (HSC); 1♀, Tateno [40], Yanagawa Town, Otsuki City, 23. V. 1975, H. Suda (HSC); 1♀, Oshino [39], Saruhashi Town, Otsuki City, 10. V. 1977, H. Suda (HSC); 1♀, Kawai [41], Uenohara Town, 9. V. 1979, H. Suda (HSC); 1♂, same locality, 16. IV. 1991, H. Suda (HSC); 1♀, Mt. Tenjo-yama [46], Kawaguchi-ko Town, 22. V. 1979 H. Suda (HSC); 1♂, Koyodai [49], Narusawa-mura, 3. V. 1992, H. Takahashi (NSMT).

Host plants. Prunus spp., *Crataegus chlorosarca* Maxim. (see Shinohara and Hara, 1999).

Remarks. This widely distributed species is often commonly found in central Honshu but it has not been recorded from Yamanashi Prefecture. It has been recorded from Aomori, Miyagi, Tochigi, Gunma, Saitama, Tokyo, Kanagawa, Toyama, Nagano, Ishikawa, Fukui, Gifu, Mie, Nara, Osaka, Hyogo, Okayama, Hiroshima, Yamaguchi Prefectures in Honshu (Tanaka, 1979; Shinohara, 1985a, 2002; Miyoshi, 1988; Nakamura and Enoki, 1997).

We have examined specimens of this species also from Fukushima Prefecture (1♂, Tsuchiyu-onsen, Fukushima-shi, 29. V. 1993, H. Takahashi, NSMT), Chiba Prefecture (1♂, Matsudo, NSMT; 2♀, Mabashi, 24. IV. 1938, J. Yoshioka, NSMT; 1♀, Naritasan Park, Narita City, 18. IV. 1979, H. Suda, HSC; 1♂, Shibayama, Sanbu District, 18. IV. 1973, H. Suda, HSC; 2♂, Koichibe, Kimitsu City, 24. IV. 1996, H. Suda, HSC), Niigata Prefecture (1♂, Mantaro-dani, Tsuchitaru, 6. VI. 1984, A. Shinohara, NSMT), Shiga Prefecture (3♀7♂, Azai-cho, 8. V. 1984, A. Shinohara, NSMT), Kyoto Prefecture (2♂, Kyoto, 15. V. 1916, NSMT), and Tottori Prefecture (7♂, Yokotemichi, W. slope of Mt. Daisen, 1,000 m, 20–25. V. 2000, A. Shinohara, NSMT).

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