

**Insect-flower Relationship in the Temperate Deciduous Forest
of Kibune, Kyoto: An Overview of the Flowering Phenology
and the Seasonal Pattern of Insect Visits¹**

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**Insect-flower Relationship in the Temperate Deciduous Forest
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ABSTRACT In 1984-1987, insect visitors to flowers were bimonthly or weekly surveyed on a total of 115 plant species or 49 families in the temperate deciduous forest of Kibune, Kyoto, Japan. Flowering was observed from early April to early November. The number of plant species that concurrently bloomed was nine to 17 from May to September. The monthly total number of flowering plant species peaked twice in May (34 spp.) and September (33 spp.). From April to August, flowering periods were staggered among congeneric woody species, e.g., *Lindera*, *Rubus*, *Hydrangea* and *Deutzia*.

A total of 4603 individuals of 889 species in 12 orders of Insecta and 2 orders of Arachnoidea were collected. The most abundant order was Hymenoptera (46 % of the total number of individuals), and it was followed by Diptera (30 %) and Coleoptera (14%). The number of species was highest in Diptera (37 %), followed by Hymenoptera (32 %) and Coleoptera (17 %). The numbers of both species and individuals of all the insect groups peaked in June and September. There were six families, 14 genera and 73 species in Apoidea. Abundant families were Halictidae (36 % of individuals), and followed by Bombinae (24 %), Xylocopinae (18 %), Andrenidae (8 %), Hylaeinae (5 %) and Nomadinae (5 %). Andrenidae and Nomadinae appeared only before August, whereas Halictidae, Xylocopinae, Bombinae and Apinae were active throughout the flowering season.

Cluster analysis separated 49 plant families into five groups: 13 families were mainly visited by Hymenoptera, 17 by Diptera, five by Coleoptera and two by Hemiptera. The other 12 families were visited by various insect groups. Flowers visited by hymenopterans were further separated into plant families mainly visited by Bombinae, Xylocopinae, Halictidae, Apinae, Xylocopinae, Megachilidae, Vespoidea, Ichneumonoidea and others.

Flower preference was compared among insect orders and among families. The most preferred plant family was Saxifragaceae in Lepidoptera, Coleoptera and Hymenoptera, Labiatae in Hemiptera and Umbelliferae in Diptera. Flower preference greatly varied among families in Apoidea. The most preferred plant family was Umbelliferae in Colletidae, Saxifragaceae in Halictidae and Andrenidae, Compositae in Megachilidae, Balsaminaceae in Bombinae, and Rosaceae in Apinae.

KEY WORDS flowering phenology / anthophilous fauna / floral host / Kyoto / temperate deciduous forest

Introduction

We studied flowering phenology and community structure of flower visiting insects in 1984-87 at three locations in Kyoto Prefecture, Japan. This paper is a preliminary report of the study at Kibune. The other two locations were Ashu (Kato *et al.*, 1990)

¹ Contribution to the ecological and biolconomical studies of the pollinator community in Kyoto III.

and Kyoto City (Kakutani *et al.*, 1990). The study area in Kibune is a mosaic of natural temperate deciduous forests and planted evergreen coniferous forests. Kibune is intermediate between the primary cool-temperate beech forests in Ashu and the disturbed urban area in the evergreen oak forest zone in Kyoto city.

This paper describes the relationship between flowers and flower visiting insects mainly at family or subfamily level. The community structure of flower visiting bees has been studied at seven localities with different latitudes in Japan: Sapporo (43° 02'N, Sakagami and Fukuda, 1973), Hakodate (41° 46'N, Matsumura and Munakata, 1969), Nikko (36° 45'N, Nakamura and Matsumura, 1985), Gifu (35° 39'N, Yamauchi *et al.*, 1974), Sasayama (35° 04'N, Miyamoto, 1962), Wakayama (34° 03'N, Matsuura *et al.*, 1978) and Kochi (33° 33'N, Ikudome, 1978). We will compare the bee community in Kibune with these data. Detailed analysis of insect-flower relationship at species level will be done in other papers.

Study Site

Kibune (35° 10'N, 135° 52'E) is located at about 10 km north to the urban area of Kyoto City (Fig. 1). Its elevations range from 300 to 740 m above sea level. This area contains primary forests that are well conserved due to the religious regulation (Fig. 2). There are also planted forests of *Chryptomeria japonica*. The climax stage on mountain ridges in this area is the evergreen coniferous forest that is predominated by *Abies firma* and *Tsuga sieboldii* or the deciduous oak forest predominated by *Quercus crispula* and *Acer* spp. Gravely slopes along streams are covered with the secondary walnut (*Juglans mandshurica*) forests that are accompanied by *Acer carpinifolium*, *Carpinus laxiflora*, *C. tschonoskii* and *Euptelea polyandra*. Floors of the walnut forest are covered with shrubs such as *Cephalotaxus harringtonia*, *Deutzia maximowicziana*, *Hydrangea hirta*, *H. macrophylla* and *Lonicera gracilipes* and a shrubby herb *Leucosceptrum stellipilum*. Open areas along streams are occupied by shrubs such as *Deutzia crenata*, *Rubus* spp., *Weigela hortensis* and riparian herbs, *Persicaria thunbergii*, *Reynoutria japonica*, *Impatiens* spp., *Angelica polymorpha*, *A. pubescens* and *Ligularia fischerii*.

Kibune has been famous in rich flora for botanists. From Mt. Kurama, near the study site, a total of 1422 native species of vascular plants (Pteridophyllum 140 spp., Gymnospermum 15 spp. and Angiospermum 1267 spp.) have been recorded (Hiroe, 1973).

Climate of this area is warm temperate. Only incomplete meteorological data are available at Hanase pass which is located at just 1 km north of the study site (35° 9'N, 135° 47'E, 710 m above sea level, Fig. 3). There was much rainfall in June and July but very little in August in 1984 to 1987. From December to March, north wind brought frequent snowfalls and the depth of snow was usually 10 to 60 cm in this period. Although we have no detailed data on air temperature of our study site,

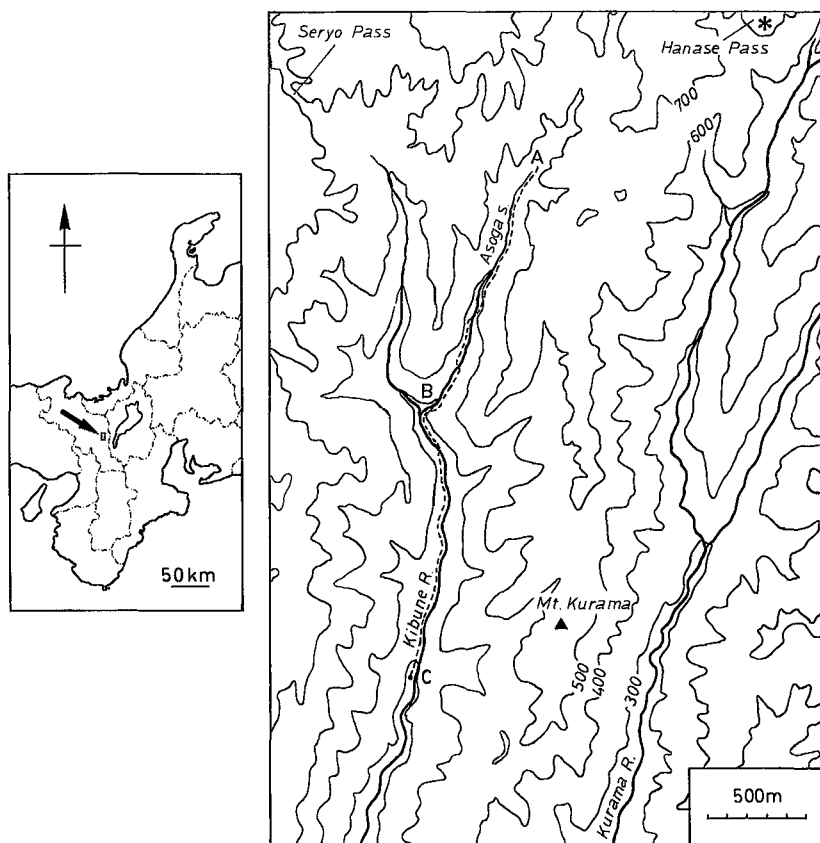


Fig. 1. The study area in Kibune, Kyoto and its location in the Kinki District, Japan (inset). The streamside along A and B is in Asoga stream and that along B and C is in the Kibune river. Flower visitors were collected on flowering plants along C - B - A. An asterisk shows the location of the meteorological observatory at the Hanase Pass.

it was in general 5 °C lower than that at the campus of Kyoto University (Elevation= 60 m, Kakutani *et al.*, 1990) and 1 °C higher than that at Ashu (Elevation = 400m, Kato *et al.*, 1990).

Methods

We chose, for samplings, fine days during the flowering season from April to early November in four years from 1984. Census intervals were about two weeks in 1984 - 1986, and one week in 1987. In each census day, one or two of us walked on the fixed route (3 km) along the Asoga stream and the Kibune river (Fig. 1). We made quantitative samplings of insect visitors on flowers (detailed methods in Kato *et al.* 1990). Samples included real nectar/pollen users (pollinators and rubbers), ambush

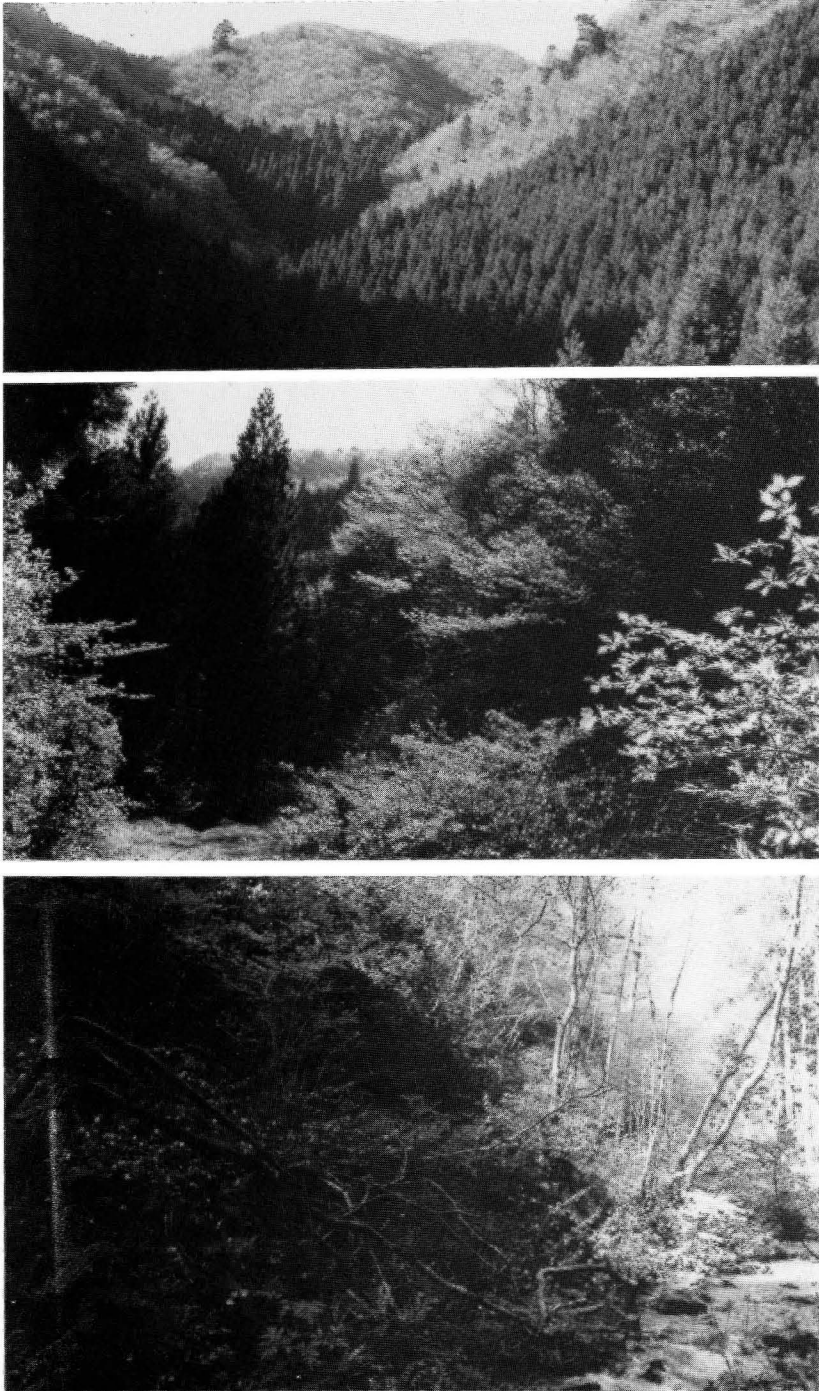


Fig. 2. Landscape of the study area along the Asoga stream. (a) a view of the study area, (b) a natural deciduous forest right and a planted *Chryptomera* forest left near site B, (c) riparian vegetation along a stream near site A.

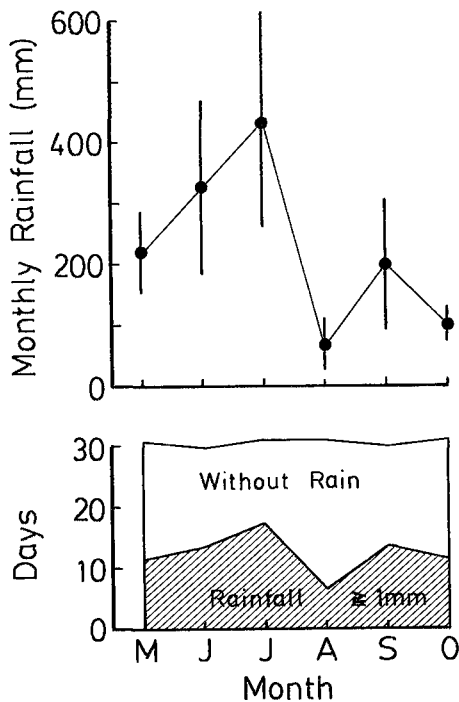


Fig. 3. Changes in monthly rainfall (mean in 1984-87, bar = s.d.) and the weather conditions (the mean number of days per month in 1984-87). These meteorological data were recorded at Hanase Pass meteorological observatory (710 m above sea level, Fig. 1, Kyoto Prefectural Meteorological reports, 1984-1987).

predators for flower visitors, feeders of flower petals and plant leaves and insects that are just resting near flowers. These categories were distinguished in Results and Discussion.

From 1984 to 1986, sampling started between 9:00 and 10:00 h. It took up to six hours to finish the census, depending on the amount of flowering plants. In 1987, samplings were made twice both in morning and afternoon (start between 12:00 - 13:00 h) in the same day. Sampling dates are as follows:

1984: May 22, June 28, July 10, 23, August 11, 23, September 7, 15, October 1, 12

1985: April 4, 21, May 15, June 6, 20, July 8, August 11, September 7, 8, October 8

1986: April 30, May 22, June 4, 12, July 24, August 5, September 26, October 8

1987: April 23, May 9, 18, 30, June 18, 27, July 9, 22, 31, August 1, 8, 26, 27, September 10, 19, 27, October, 3, 10, 20

The flowering period of each plant species was estimated as the mean of the flowering period directly observed and the interval from the latest date at which flowering

had not yet started to the earliest date at which flowering had finished.

All arthropod specimens were labeled with complete census data (date, locality and flower species). They were classified and identified at species level by specialists who are shown in Acknowledgments. Statistical analyses were done by the SAS package in the Data Processing Center, Kyoto University.

Results and Discussion

1. Studied plants

We collected insect visitors on a total of 115 plant species (91 genera and 49 families, Table 1). These included 14 trees, 22 shrubs, eight annuals, eight biennials, 46 perennials, five climbing perennials and two woody lianas. Breeding systems were hermaphrodite in 103 plant species (89.6 %), monoecious in four (3.5 %), and dioecious

Table 1. A total of 115 plant species grouped at family level (based on Stebbins, 1974) with Japanese names, species codes, life forms, breeding systems and categories of regional origins. The numbers of insect species and individuals collected on respective plant species and diversity indexes (H, H_{max}) are also shown.

FAMILY (Abbreviation) Code# Species	Japanese Names	Species Code	Life Forms ¹	Breed- ing Syst- ems ²	Regio- nal Orig- ins ³	No. of Insects		H	H _{max}
						Species	Indivi- duals		
LAURACEAE (LAU)									
1 <i>Lindera obtusiloba</i>	Dankoubai	Lin1	T	D	N	19	69	1.70	2.94
2 <i>Lindera umbellata</i>	Kuromoji	Lin2	S	D	N	9	14	2.07	2.20
SAURURACEAE (SAU)									
3 <i>Houttuynia cordata</i>	Dokudami	Hou	P	H	W	1	1	0.00	0.00
RANUNCULACEAE (RAN)									
4 <i>Clematis apiifolia</i>	Botanzuru	Clem	L	H	N	1	1	0.00	0.00
5 <i>Ranunculus silerifolius</i>	Kitsunenobotan	Ran	P	H	N	24	49	2.89	3.18
LARDIZABALACEAE (LAR)									
6 <i>Akebia quinata</i>	Akebi	Ake	V	M	N	2	2	0.69	0.69
PAPAVERACEAE (PAP)									
7 <i>Chelidonium majus</i>	Kusanouou	Che	B	H	N	2	3	0.64	0.69
8 <i>Macleaya cordata</i>	Takenigusa	Mac	P	H	N	18	71	2.12	2.89
FUMARIACEAE (FUM)									
9 <i>Corydalis incisa</i>	Murasakikeman	Cor3	B	H	N	53	104	3.57	3.97
10 <i>Corydalis pallida</i>	Miyamakikeman	Cor2	B	H	N	13	20	2.32	2.56
EUPTELEACEAE (EUP)									
11 <i>Euptelea polyandra</i>	Fusazakura	Eupt	T	H	N	3	4	1.04	1.10
CARYOPHYLLACEAE (CAR)									
12 <i>Stellaria alsine</i>	Nominofusuma	Ste1	B	H	N	5	5	1.61	1.61
13 <i>Stellaria uchiyamana</i>	Aohakobe	Ste2	P	H	W	5	6	1.56	1.61
14 <i>Stellaria media</i>	Hakobe	Ste3	P	H	W	7	8	1.91	1.95
POLYGONACEAE (POL)									
15 <i>Achyranthes japonica</i>	Hikageinokozuchi	Ach1	P	H	N	3	3	1.10	1.10
16 <i>Achyranthes fauriei</i>	Hinatainokozuchi	Ach2	P	H	N	1	1	0.00	0.00
17 <i>Bistorta tenuicaulis</i>	Harutoranoou	Bis	P	H	N	1	1	0.00	0.00
18 <i>Persicaria aestiva</i>	Unagitsukami	Per1	A	H	N	1	2	0.00	0.00
19 <i>Persicaria conspicua</i>	Sakuratade	Per6	A	H	N	3	3	1.10	1.10
20 <i>Persicaria pubescens</i>	Bontokutade	Per2	A	H	N	1	1	0.00	0.00
21 <i>Persicaria thunbergii</i>	Mizosoba	Per4	A	H	N	109	303	3.82	4.69
22 <i>Persicaria yokusaiana</i>	Hanatade	Per5	A	H	N	2	3	0.64	0.69
23 <i>Reynoutria japonica</i>	Itadori	Rey	P	D	N	80	164	3.94	4.38
PAEONIACEAE (PAE)									
24 <i>Paeonia japonica</i>	Yamashakuyaku	Pae	P	H	N	2	4	0.56	0.69
GUTTIFERAE (GUT)									
25 <i>Hypericum pseudopetiolum</i>	Sawaotogiri	Hyp1	P	H	N	1	1	0.00	0.00
STACHYURACEAE (STA)									
26 <i>Stachyurus praecox</i>	Kibushi	Stac	T	D	N	5	11	1.37	1.61
SYMPLOCACEAE (SYM)									
27 <i>Symplocos chinensis</i>	Sawafutagi	Sym	S	H	N	35	60	3.29	3.56
ACTINDIACEAE (ACT)									
28 <i>Actimidia arguta</i>	Sarunashi	Act	V	H	N	3	3	1.10	1.10
VIOLACEAE (VIO)									
29 <i>Viola verecunda</i>	Tsubosumire	Vio	P	H	N	28	68	2.77	3.33
CRUCIFERAE (CRU)									
30 <i>Cardamine regeliana</i>	Oobatanetsukebana	Car1	P	H	N	6	6	1.79	1.79

Table 1 (continued)

FAMILY (Abbreviation) Code# Species	Japanese Names	Species Code	Life Forms ¹	Breed- ing Syst- ems ²	Region- al Orig- ins ³	No. of Insects		H	H _{max}	
						Species	Indivi- duals			
31 <i>Cardamine tanakae</i>	Marubakonronsou	Car2	B	H	N	9	13	2.03	2.20	
32 <i>Rorippa indica</i>	Inugarashi	Ror	P	H	N	8	38	1.61	2.08	
CLETHRACEAE (CLE)										
33 <i>Clethra barbinervis</i>	Ryoubu	Clet	T	H	N	8	13	1.88	2.08	
ERICACEAE (ERI)										
34 <i>Rhododendron kaempferi</i>	Yamatsutsuji	Rho1	S	H	N	3	5	0.95	1.10	
ROSACEAE (ROS)										
35 <i>Agrimonia pilosa</i>	Kinmizuhiki	Agr	P	H	W	12	26	2.20	2.48	
36 <i>Duchesnea chrysantha</i>	Hebiichigo	Duc	P	H	N	13	26	2.21	2.56	
37 <i>Eriobotrya japonica</i>	Biwa	Eri	T	H	C	1	1	0.00	0.00	
38 <i>Geum japonicum</i>	Daikonsou	Geu	P	H	N	8	12	1.98	2.08	
39 <i>Kerria japonica</i>	Yamabuki	Ker	S	H	N	51	145	2.77	3.93	
40 <i>Potentilla sundaica</i>	Ohebiichigo	Pot	P	H	N	2	2	0.69	0.69	
41 <i>Prunus jamasakura</i>	Yamazakura	Pru	T	H	N	3	6	0.87	1.10	
42 <i>Rubus crataegifolius</i>	Kumaichigo	Rub2	S	H	N	87	207	3.77	4.47	
43 <i>Rubus palmatus</i>	Nagabamomijiichigo	Rub3	S	H	N	51	138	3.54	3.93	
44 <i>Rubus Buergeri</i>	Fuyuichigo	Rub5	S	H	N	2	6	0.64	0.69	
45 <i>Stephanandra incisa</i>	Kogomeutsugi	Step	S	H	N	17	26	2.51	2.83	
SAXIFRAGACEAE (SAX)										
46 <i>Astilbe thunbergii</i>	Akashouma	Asti	P	H	N	26	57	2.81	3.26	
47 <i>Cardiandra alternifolia</i>	Kusaajisai	Card	P	H	N	11	29	1.73	2.40	
48 <i>Deutzia crenata</i>	Utsugi	Deu1	S	H	N	105	327	3.90	4.65	
49 <i>Deutzia Maximowicziana</i>	Urajiroutsugi	Deu2	S	H	N	44	80	3.51	3.78	
50 <i>Hydrangea hirta</i>	Koajisai	Hyd1	S	H	N	26	49	2.79	3.26	
51 <i>Hydrangea macrophylla</i>	Yamaajisai	Hyd2	S	H	N	36	135	2.76	3.58	
52 <i>Hydrangea paniculata</i>	Noriutsugi	Hyd3	S	H	N	34	96	3.00	3.53	
LEGUMINOSAE (LEG)										
53 <i>Albizia julibrissin</i>	Nemunoki	Alb	T	H	N	1	3	0.00	0.00	
54 <i>Amphicarpaea bracteata</i>	Yabumame	Amp	L	H	N	1	1	0.00	0.00	
55 <i>Desmodium podocarpum</i>	Nusubitohagi	Des	P	H	W	15	21	2.65	2.71	
56 <i>Trifolium repens</i>	Shirotsumekusa	Trif	P	H	W	6	9	1.58	1.79	
57 <i>Vicia venosa</i>	Ebirafuji	Vic	P	H	N	2	7	0.68	0.69	
58 <i>Wisteria floribunda</i>	Fuji	Wis	V	H	N	11	12	2.37	2.40	
ALANGIACEAE (ALA)										
59 <i>Alangium platanifolium</i>	Urinoki	Ala	S	H	N	2	2	0.69	0.69	
CORNACEAE (COR)										
60 <i>Swida macrophylla</i>	Kumanomizuki	Swi2	T	H	N	3	3	1.10	1.10	
CELASTRACEAE (CEL)										
61 <i>Euonymus alatus</i>	Komayumi	Euol	S	H	N	10	10	2.30	2.30	
VITACEAE (VIT)										
62 <i>Ampelopsis brevipedunculata</i>	Nobudou	Ampe	L	H	N	3	9	1.06	1.10	
STAPHYLEACEAE (STP)										
63 <i>Staphylea Bumalda</i>	Mitsubautsugi	Stap	T	H	N	47	74	3.57	3.85	
SABIACEAE (SAB)										
64 <i>Meliosma tenuis</i>	Miyamahahasou	Mel	T	M	N	10	28	1.68	2.30	
ACERACEAE (ACE)										
65 <i>Acer carpinifolium</i>	Chidorinoki	Ace2	T	D	N	9	9	2.20	2.20	
ANACARDIACEAE (ANA)										
66 <i>Rhus javanica</i>	Nurude	Rhu1	T	D	N	14	20	2.48	2.64	

Table 1 (continued)

FAMILY (Abbreviation) Code# Species	Japanese Names	Species Code	Life Forms ¹	Breed- ing Syst- ems ²	Regional Orig- ins ³	No. of Insects		<i>H</i>	<i>H</i> _{max}
						Species	Indivi- duals		
RUTACEAE (RUT)									
67 <i>Oriza japonica</i>	Kokusagi	Ori	S	M	N	42	51	3.64	3.74
GERANIACEAE (GER)									
68 <i>Geranium nepalense</i>	Gennoshouko	Ger	P	H	N	8	19	1.91	2.08
BALSAMINACEAE (BAL)									
69 <i>Impatiens noli-tangere</i>	Kitsurifune	Imp1	A	H	N	3	20	0.39	1.10
70 <i>Impatiens textori</i>	Tsurifunesou	Imp2	A	H	N	2	87	0.06	0.69
ARALIACEAE (ARA)									
71 <i>Aralia cordata</i>	Udo	Ara1	P	H	N	69	130	3.80	4.23
72 <i>Aralia elata</i>	Tara	Ara2	T	H	N	17	27	2.67	2.83
UMBELLIFERAE (UMB)									
73 <i>Angelica polymorpha</i>	Shiranesenkyu	Ang1	P	H	N	58	103	3.72	4.06
74 <i>Angelica pubescens</i>	Shishiudo	Ang2	P	H	N	121	303	4.22	4.80
75 <i>Cryptotaenia japonica</i>	Mitsuba	Cry	P	H	N	3	3	1.10	1.10
76 <i>Osterium sieboldii</i>	Yamazeri	Ost	P	H	N	5	15	1.42	1.61
77 <i>Torilis japonica</i>	Yabujirami	Tor	P	H	N	3	3	1.10	1.10
GENTIANACEAE (GEN)									
88 <i>Swertia bimaculata</i>	Akebonosou	Swe	P	H	N	4	7	1.28	1.39
OLEACEAE (OLE)									
79 <i>Ligustrum obtusifolium</i>	Ibota	Lig1	S	H	N	1	1	0.00	0.00
BORAGINACEAE (BOR)									
80 <i>Omphalodes japonica</i>	Yamarurisou	Omp	P	H	N	23	75	2.41	3.14
81 <i>Trigonotis brevipes</i>	Mizutabirako	Trig	P	H	N	3	3	1.10	1.10
VERBENACEAE (VER)									
82 <i>Callicarpa japonica</i>	Murasakishikibu	Call	S	H	N	5	12	1.23	1.61
LABIATAE (LAB)									
83 <i>Glechoma hederacea</i>	Kakidoushi	Gle	P	H	N	9	11	1.89	1.95
84 <i>Leucosceptrum stellipilum</i>	Mikaerisou	Leu	P	H	N	32	108	2.62	3.47
85 <i>Meehania urticifolia</i>	Rashoumonkazura	Mee	P	H	N	1	3	0.00	0.00
86 <i>Rabdosia longituba</i>	Akichouji	Rab1	P	H	N	4	8	1.07	1.39
87 <i>Rabdosia trichocarpa</i>	Kurobanahikiokoshi	Rab2	P	H	N	7	16	1.53	1.95
PLANTAGINACEAE (PLA)									
88 <i>Plantago asiatica</i>	Oobako	Pla	P	H	W	1	1	0.00	0.00
CAMPANULACEAE (CAP)									
89 <i>Codonopsis lanceolata</i>	Tsuruninjin	Cod	L	H	N	2	2	0.69	0.69
RUBIACEAE (RUB)									
90 <i>Paederia scandens</i>	Hekusokazura	Paed	L	H	W	6	9	1.58	1.79
CAPRIFOLIACEAE (CAP)									
91 <i>Lonicera gracilipes</i>	Uguisukagura	Lon1	S	H	N	8	16	1.54	2.08
92 <i>Sambucus racemosa</i>	Niwatoko	Sam	S	H	N	5	5	1.61	1.61
93 <i>Viburnum phlebotricum</i>	Otokoyouzome	Vib2	S	H	N	11	16	2.31	2.40
94 <i>Viburnum plicatum</i>	Yabudemari	Vib1	T	H	N	75	170	3.65	4.32
95 <i>Weigela hortensis</i>	Taniutsugi	Wei	S	H	N	42	100	3.19	3.74
VALERIANACEAE (VAL)									
96 <i>Patrinia villosa</i>	Otokoeshi	Pat	P	H	N	2	2	0.69	0.69
97 <i>Valeriana flaccidissima</i>	Tsurukanokosou	Val	P	H	N	1	1	0.00	0.00
DIPSACACEAE (DIP)									
98 <i>Dipsacus japonicus</i>	Nabena	Dip	P	H	N	2	2	0.69	0.69

Table 1 (continued)

FAMILY (Abbreviation) Code# Species	Japanese Names	Species Code	Life Forms ¹	Breed- ing	Regio- nal Syst- Orig- ins ³	No. of Insects		H	H _{max}	
						Species	Indivi- duals			
COMPOSITAE (COM)										
99	<i>Aster ageratoides ovatus</i>	Nokongiku	Ast3	P	H	N	23	37	2.98	3.14
100	<i>Aster a. amplexifolius</i>	Inakagiku	Ast2	P	H	N	1	1	0.00	0.00
101	<i>Aster glehni</i>	Gomana	Ast1	P	H	N	19	28	2.76	2.94
102	<i>Aster subulatus</i>	Houkigiku	Ast4	B	H	E	1	1	0.00	0.00
103	<i>Cirsium microspicatum</i>	Oharameazami	Cir3	P	H	N	13	86	1.09	2.56
104	<i>Eupatorium chinense</i>	Hiyodoribana	Eupa	P	H	N	1	1	0.00	0.00
105	<i>Ixeris dentata</i>	Nigana	Ixe1	P	H	N	4	4	1.39	1.39
106	<i>Kalimeris pinnatifida</i>	Yuugagiku	Kal2	P	H	N	1	1	0.00	0.00
107	<i>Kalimeris yomena</i>	Yomena	Kal1	P	H	N	46	132	3.28	3.83
108	<i>Ligularia fischerii</i>	Otakarakou	Lig1	P	H	N	23	66	2.32	3.14
109	<i>Senecio nikoensis</i>	Sawagiku	Sen	B	H	N	1	1	0.00	0.00
110	<i>Stenactis annuus</i>	Himejion	Sten	B	H	E	67	195	3.53	4.20
111	<i>Youngia denticulata</i>	Yakushisou	You	B	H	N	2	2	0.69	0.69
COMMELINACEAE (CMM)										
112	<i>Pollia japonica</i>	Yabumyonga	Poll	P	H	N	4	4	1.39	1.39
GRAMINAE (GRA)										
113	<i>Calamagrostis arundinacea</i>	Nogariyasu	Cala	P	H	N	1	1	0.00	0.00
114	<i>Digitaria ciliaris</i>	Mehishiba	Dig	A	H	W	1	3	0.00	0.00
CYPERACEAE (CYP)										
115	<i>Carex curvicolis</i>	Narukosuge	Care	P	M	N	28	44	3.07	3.33

¹ T, tree; S, shrub; A, annual; B, biennial; P, perennial; L, liana.

² H, hermaphrodite; D, dioecious; M, monoecious; A, andromonoecious.

³ N, native; W, weed native in Japan; C, cultivated exotic; E, exotic weed.

in eight (7.0 %). Ninety-seven % of the total number of plant species were natives, while three species were species exotic; *Stenactis annuus* and *Aster subulatus* were naturalized weeds that came from North America, and *Eriobotrya japonica* was cultivated.

The sampled 115 plant species included most conspicuous, common entomophilous and some anemophilous plant species. Sampling on high trees was not enough due to technical difficulties. We missed sampling on following entomophilous species: *Illicium religiosum*, *Pterostyrax hispida*, *Meliosma myriantha*, *Acer mono*, *A. palmatum*, *Rhus trichocarpa* and *R. sylvestris*, although their distribution was confirmed. We sampled 94 % of the common entomophilous plant species that have been recorded in the study site.

2. Flowering phenology

Flowering was observed from April 4 to November 5 in 1984-1987 (Fig. 4). The earliest bloomers were tree species, *Lindera obtusiloba*, *Euptelea polyandra*, *Eriobotrya japonica*, *Stachyurus praecox* and *Prunus jamasakura* (Fig. 5). From April to May, herbs, e.g., *Corydalis* spp. *Stellaria* spp. *Viola varecunda*, *Cardamine* spp. and

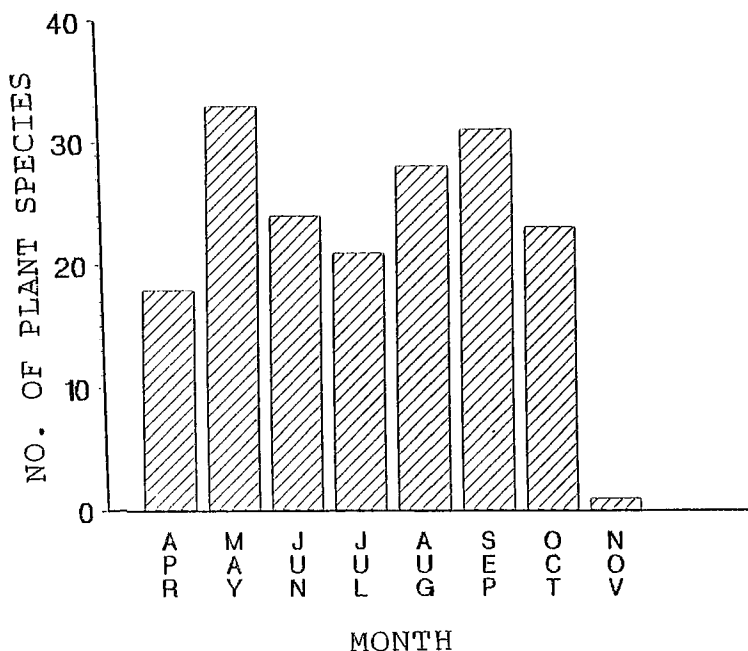


Fig. 4. Seasonal changes in the number of plant species at flowering.

Omphalodes japonica, concurrently bloomed at streamsides or on forest floors which were still uncovered by tree leaves. In early May canopy trees began to open leaves and then forest floors were covered. From mid May to June, shrubs bloomed sequentially on dark forest floors. Flowering of most tree and shrub species terminated before late August. Henceforth, many autumn herbs of Polygonaceae, Balsaminaceae, Labiatae and Compositae almost simultaneously started to bloom and flowering peaked in September.

The mean flowering period of a single plant species was 21.0 days (s.d. = 18.4, $n = 115$). The longest flowering period was 95 days in an exotic weed *Stenactis annuus*, followed by *Kalimeris yomena* (70 days), *Angelica pubescens* (66 days) and *Pollia japonica* (66 days). There were not significant differences in flowering period between any pairs of trees (mean \pm s.d.: 18.2 ± 10.0), shrubs (14.6 ± 13.9) and herbs (23.8 ± 21.1 ; t -test, $p > 0.05$). From April to mid August, the seasonal replacement of flowering (defined by Waser and Real, 1979) was observed among tree species (Fig. 5). Seasonal replacement of flowering was also observed among species in the same genus, *Lindera*, *Rubus*, *Deutzia*, and *Hydrangea*, but not in *Persicaria*, *Angelica*, *Rabdosia* and *Aster*. The former were shrubs, and the latter were herbaceous autumn bloomers.

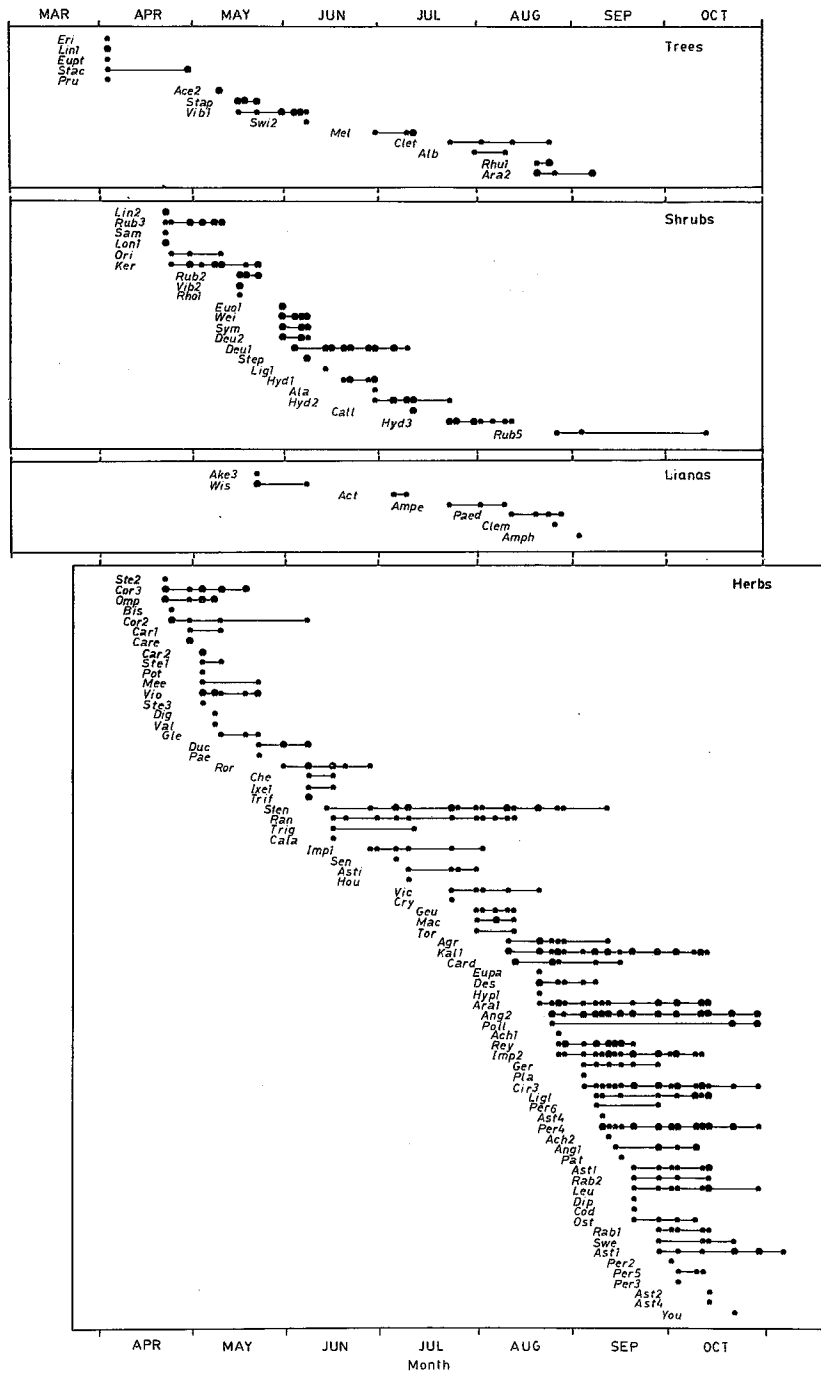


Fig. 5. Flowering phenology of 91 plant species, shown separately in trees, shrubs, lianas and herbs. Species codes are shown in Table 1. Small and large circles respectively distinguish < 10 and ≥ 10 individuals of insect visitors collected on flowers.

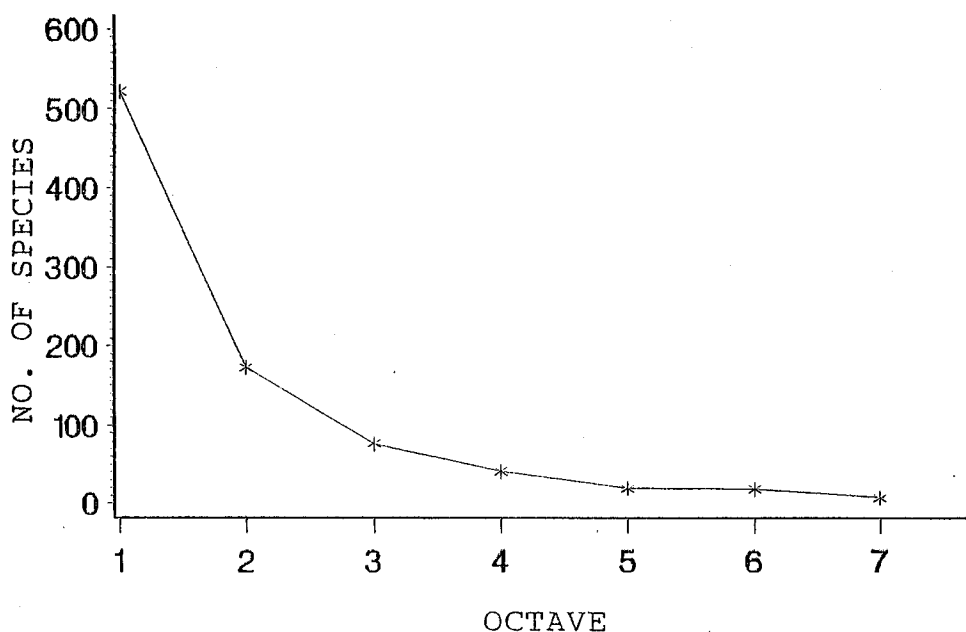


Fig. 6. The number of insect species plotted in the Preston's octave.

3 *Anthophilous fauna*

3.1 Faunal make-up: A total of 4603 individuals were collected of 889 species in 12 orders of Insecta and two orders of Arachnoidea. In Fig. 6, the number of species are plotted in octave, which is the logarithm of the number of individuals to base 2 (Preston, 1962; May, 1975). The total number of flower-visitor species in this study area is estimated to be 2137 from the species abundance curve, which is hypothesized as log normal distribution (Preston, 1962).

The relative number of species was highest in Diptera (36.6 %), followed by Hymenoptera (31.6 %), Coleoptera (16.9 %), Hemiptera (6.1 %) and Lepidoptera (3.9 %, Fig. 7). On the other hand, the relative abundance of individuals was highest in Hymenoptera (46.2 %), and followed by Diptera (30.2 %), Coleoptera (13.9 %), Hemiptera (6.7 %) Lepidoptera (1.9 %). As a result, the mean number of individuals per species was highest in Hymenoptera (7.6), and it was 5.7 in Hemiptera, 4.3 in Coleoptera, 4.1 in Diptera and 2.4 in Lepidoptera.

3.2 Hemiptera and Lepidoptera. Nineteen families of Hemiptera were recorded, of which dominant families were Miridae (54.1 % of the total number of individuals), Pentatomidae (15.0 %), Lygaeidae (11.1 %) and Ricaniidae (4.6 %, Table 2). Most hemipterans were plant tissue suckers (99 %) and only Anthocoridae was predators for flower visitors.

Lepidopteran insects with long proboscis were typical nectar feeders but their

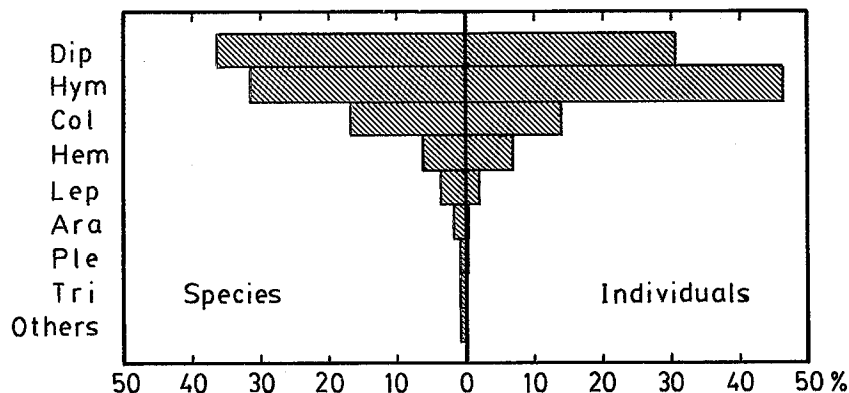


Fig. 7. The percentages of numbers of arthropod species (left) and the numbers of arthropod individuals (right) in orders; Dip = Diptera, Hym = Hymenoptera, Col = Coleoptera, Hem = Hemiptera, Lep = Lepidoptera, Ara = Araneida, Ple = Plecoptera, Tri = Trichoptera.

relative abundance was not high in this study. Abundant families were Hesperidae (23.5 %), Pieridae (18.8 %), Callidulidae (10.6 %), Sphingidae (9.4 %), Nymphalidae (9.4 %) and Heliozelidae (7.1 %). Our samples only included diurnal lepidopterans.

3.3 Diptera. Dipterous insects as flower visitors were basically nectar/pollen feeders (96.6 %), although some were predator (2.3 %, e.g., Empididae) or plant tissue feeders (1.1 %, e.g., Cecidomyiidae, Tephritidae and some of Anthomyiidae). Syrphid flies are known to feed both pollen and nectar as complementary nutrient source (Haslet, 1989). The most dominant family was Syrphidae (55.7 %, Table 2). Out of 33 sampled syrphid genera, larval feeding types of 38 genera were reported by Owen and Gilbert (1989): 12 genera were predators, one was a phytophage, five were aquatic saprophages and one was a parasite for social insect nests. Out of 65 sampled syrphid species (771 individuals), 18 species (297) were predators, 13 spp. (122) were phytophages, five spp. (115) were aquatic saprophages and three spp. (7) were parasites in larval stages (Table 4). The percentages of individuals in the three larval feeding types were 42, 18 and 40 %, respectively. These proportions of Syrphidae in our samples are roughly similar to those of Malaise trap samples in England (Owen and Gilbert, 1989), although species composition is different. The next dominant dipterous families were Tachinidae (12.3 %), Anthomyiidae (8.4 %), Phasiidae (3.0 %), Empididae (2.3 %), Calliphoridae (1.7 %), Chloropidae (1.7 %), Conopidae (1.5 %) and Bombyliidae (1.2 %).

The most abundant species in Diptera was *Melanostoma scalare* (Syrphidae, the number of individuals = 129), followed by *Episyrphus balteatus* (Syr., 102), *Eristalis cerealis* (Syr., 77), and *Sphaerophoria macrogaster* (Syr., 67), unidentified anthomyiid (49), *Sphagina clunipes* (Syr., 43), *Cheilosia omogensis* (Syr., 38), *Helophilus virgatus* (Syr., 34), *Cheilosia* sp. 6 (Syr., 31) and *Ectophasia sinensis* (Phasiidae, 24).

Table 2. The number of arthropod species and individuals, the mean number of individuals per species (Ind/Spp) and that of plant species visited by each arthropod order and family (only for Hemiptera, Lepidoptera, Diptera, Coleoptera and Hymenoptera). Superfamilies of Hymenoptera and subfamilies of Apoidea are also distinguished.

ORDER (abbrev.) Family (abbrev.)	No. of Arthropods			No. of Plant Species Visited
	Species	Indivi- duals	Ind/Spp	
ARACHNOIDEA				
PHALANGIDA (Pha)	1	1	1.0	1
ARANEIDA (Ara)	17	18	1.1	12
INSECTA				
EPHEMENOPTERA (Eph)	1	1	1.0	1
PLECOPTERA (Ple)	8	9	1.1	6
ORTHOPTERA (Ort)	6	12	2.0	9
DERMAPTERA (Der)	1	9	9.0	3
HEMIPTERA (Hem)	54	307	5.7	40
Pentatomidae (Pen)	7	46	6.6	17
Coreidae (Cor)	3	5	1.7	4
Lygaeidae (Lyg)	6	34	5.7	11
Aradidae (Ara)	1	1	1.0	1
Nabidae (Nab)	1	6	6.0	4
Reduviidae (Red)	1	1	1.0	1
Tingidae (Tin)	1	1	1.0	1
Miridae (Mir)	20	166	8.3	29
Membracidae (Mem)	1	3	3.0	3
Pleidae (Ple)	1	3	3.0	1
Cercopidae (Cer)	1	2	2.0	2
Tettigellidae (Tet)	2	9	4.5	6
Nirvanidae (Nir)	1	1	1.0	1
Deltocephalidae (Del)	1	2	2.0	2
Delphacidae (Delp)	1	1	1.0	1
Achilidae (Ach)	2	9	4.5	2
Issidae (Iss)	1	2	2.0	2
Ricanidae (Ric)	2	14	7.0	4
Aphididae (Aph)	1	1	1.0	1
NEUROPTERA (Neu)	1	1	1.0	1
MECOPTERA (Mec)	1	1	1.0	1
TRICHOPTERA (Tri)	8	8	1.0	7
LEPIDOPTERA (Lep)	35	85	2.4	30
Heliozelidae (Hel)	4	6	1.5	6
Tortricidae (Tor)	1	1	1.0	1
Gracillariidae (Gra)	1	1	1.0	1
Gelechiidae (Gel)	3	4	1.3	3
Pyrilidae (Pyr)	4	5	1.2	5
Hesperiidae (Hes)	8	20	2.5	9
Papilionidae (Pap)	1	1	1.0	1

Table 2 (continued)

ORDER (abbrev.) Family (abbrev.)	No. of Arthropods			No. of Plant Species Visited
	Species	Indivi- duals	Ind/Spp	
Pieridae (Pie)	3	16	5.3	6
Lycaenidae (Lyc)	2	2	1.0	2
Nymphalidae (Nym)	1	8	8.0	5
Satyridae (Sat)	2	2	1.0	2
Geometridae (Geo)	1	2	2.0	1
Callidulidae (Cal)	1	9	9.0	7
Sphingidae (Sph)	3	8	2.7	5
<hr/>				
DIPTERA (Dip)	325	1388	4.3	92
Mycetophilidae (Myc)	4	7	1.8	5
Cecidomyiidae (Cec)	1	1	1.0	1
Sciaridae (Sci)	7	11	1.6	7
Bibionidae (Bib)	6	7	1.1	6
Ptychopteridae (Pty)	1	1	1.0	1
Tipulidae (Tip)	11	13	1.1	11
Chironomidae (Chi)	4	5	1.2	4
Ceratopogonidae (Cer)	1	1	1.0	1
Blepharoceridae (Ble)	1	1	1.0	1
Stratiomyiidae (Str)	1	1	1.0	1
Scenopinidae (Sce)	1	1	1.0	1
Asilidae (Asi)	2	2	1.0	2
Xylophagidae (Xyl)	1	1	1.0	1
Bombyliidae (Bom)	2	17	8.5	9
Acroceridae (Acr)	1	9	9.0	4
Empididae (Emp)	20	32	1.6	20
Dolichopodidae (Dol)	2	13	6.5	5
Lonchopteridae (Lon)	1	13	13.0	7
Pipunculidae (Pip)	2	4	2.0	4
Syrphidae (Syr)	66	773	11.7	82
Conopidae (Con)	14	21	1.5	12
Tephritidae (Tep)	3	3	1.0	3
Lauxaniidae (Lau)	4	9	2.3	5
Lonchaeidae (Lon)	4	5	1.2	5
Agromyzidae (Agr)	1	1	1.0	1
Cryptochaetidae (Cry)	1	1	1.0	1
Drosophilidae (Dro)	8	12	1.5	4
Diastatidae (Dia)	1	1	1.0	1
Helomyzidae (Hel)	1	1	1.0	1
Ephydriidae (Eph)	12	14	1.1	10
Canaceidae (Can)	1	1	1.0	1
Chloropidae (Chl)	14	23	1.6	9
Clusiidae (Clu)	3	11	3.7	7
Scatophagidae (Sca)	1	2	2.0	2
Anthomyiidae (Ant)	29	116	4.0	30
Muscidae (Mus)	6	6	1.0	2
Tachinidae (Tac)	67	171	2.6	34
Phasiidae (Pha)	2	42	21.0	12
Calliphoridae (Cal)	8	24	4.0	10
Sarcophagidae (Sar)	10	11	1.1	8

Table 2 (continued)

ORDER (abbrev.) Family (abbrev.)	No. of Arthropods			No. of Plant Species Visited
	Species	Indivi- duals	Ind/Spp	
COLEOPTERA (Col)	150	638	4.3	49
Carabidae (Car)	5	6	1.2	5
Silphidae (Sil)	1	2	2.0	1
Scaphidiidae (Scap)	2	2	1.0	2
Staphylinidae (Sta)	5	43	8.6	5
Scarabaeidae (Sca)	12	36	3.0	13
Elateridae (Ela)	13	20	1.5	10
Buprestidae (Bup)	5	9	1.8	5
Lampyridae (Lam)	1	1	1.0	1
Cantharidae (Can)	4	16	4.0	9
Helodidae (Hel)	1	4	4.0	3
Ptilodactylidae (Pti)	1	1	1.0	1
Byturidae (Byt)	1	68	68.0	5
Melyridae (Mel)	1	12	12.0	2
Nitidulidae (Nit)	12	96	8.0	21
Cryptophagidae (Cry)	1	1	1.0	1
Languriidae (Lan)	2	2	1.0	2
Coccinellidae (Coc)	4	5	1.2	3
Phalacridae (Pha)	1	1	1.0	1
Endomychidae (End)	1	1	1.0	1
Pyrochroidae (Pyr)	2	2	1.0	2
Aderidae (Ade)	2	2	1.0	2
Anthicidae (Ant)	1	1	1.0	1
Mordellidae (Mor)	10	80	8.0	13
Oedemeridae (Oed)	5	21	4.2	13
Cerambycidae (Cer)	18	68	3.8	15
Bruchidae (Bru)	2	3	1.5	2
Chrysomelidae (Chr)	21	96	4.6	29
Anthribidae (Ant)	1	1	1.1	1
Attelabidae (Att)	2	10	5.0	7
Apionidae (Api)	2	4	2.0	2
Curculionidae (Cur)	11	24	2.2	11
.....				
HYMENOPTERA (Hym)	281	2125	7.6	96
Tenthredinoidea	34	58	1.7	23
Cephalidae (Cep)	1	1	1.0	1
Pamphiliidae (Pam)	1	1	1.0	1
Tenthredinidae (Ten)	27	51	1.9	20
Argidae (Arg)	2	2	1.0	1
Cimibicidae (Cim)	3	3	1.0	3
Ichneumonoidae	107	120	1.1	40
Braconidae (Bra)	22	28	1.3	11
Ichneumonidae (Ich)	85	92	1.1	34
Proctotrupoidea	4	5	1.2	5
Gasteruptionidae (Gas)	2	3	1.5	3
Proctotrupidae (Pro)	2	2	1.0	2
Chalcidoidea	10	13	1.3	5
Encyrtidae (Enc)	2	2	1.0	1
Pteromalidae (Pte)	5	5	1.0	1
Eurytomidae (Eur)	1	1	1.0	1

Table 2 (continued)

ORDER (abbrev.) Family (abbrev.)	No. of Arthropods			No. of Plant Species Visited
	Species	Indivi- duals	Ind/Spp	
Perilampidae (Per)	2	5	2.5	2
Cynipoidea	3	3	1.0	3
Figitidae (Fig)	1	1	1.0	1
Cynipidae (Cym)	2	2	1.0	2
Bethyloidea	2	4	2.0	4
Bethylidae (Bet)	2	4	2.0	4
Formicoidea	10	40	4.0	14
Formicidae (For)	10	40	4.0	14
Vespoidea	13	61	4.7	19
Euminidae	3	5	1.7	5
Vespidae	10	56	5.6	16
Pompiloidea	1	1	1.0	1
Pompilidae (Pom)	1	1	1.0	1
Tiphioidea	1	2	2.0	2
Tiphidae (Tip)	1	2	2.0	2
Scolioidea	1	1	1.0	1
Scoliidae (Sco)	1	1	1.0	1
Sphecoidea	17	72	4.2	28
Sphecidae (Sph)	17	72	4.2	28
Apoidea	73	1745	23.9	92
Colletidae (Col)	5	85	1.7	12
Colletinae	1	5	5.0	2
Hylaeinae	4	80	20.0	12
Halictidae (Hal)	20	622	31.1	59
Andrenidae (And)	21	142	67.6	23
Megachilidae (Meg)	3	16	5.3	9
Anthophoridae (Ant)	18	408	22.7	53
Anthophorinae	2	4	2.0	1
Xylocpoinae	5	317	63.4	48
Nomadinae	11	87	7.9	19
Apidae (Api)	6	472	78.7	61
Bombinae	5	416	83.2	54
Apinae	1	56	56.0	17
Total	889	4603	5.2	115

3.4 *Coleoptera*. Most coleopterous insects were pollen feeders rather than nectar feeders (91.4 % of the total number of species), and others were predators (4.2 %, e.g., Carabidae, Cantharidae and Coccinellidae) or plant tissue feeders (4.4 %, e.g., Apionidae and Curculionidae). Dominant families were Chrysomelidae (15.0 %), Nitidulidae (15.0 %), Mordellidae (12.5 %), Cerambycidae (10.7 %), Byturidae (10.7 %), Staphylinidae (6.7 %), Scarabaeidae (5.6 %), Curculionidae (3.8 %), Oedemeridae (3.3 %), Elateridae (3.1 %) and Cantharidae (2.5 %, Table 2). Abundant species were *Epuraea* sp. (Nitidulidae, 75), *Byturus affinis* (Byturidae, 68), *Eusphalerum parallelum* (Staphylinidae, 38), *Mordellina* sp. (Mordellidae, 38), *Nonatha cyaneum* (Chrysomelidae,

37), *Stenoluperus nipponensis* (Chr., 22), *Dasithes vulgaris* (Melyridae, 12), *Nippon-ovalgus angusticollis* (Scarabaeidae, 12), *Oedemeronia manicata* (Oedemeridae, 12), *Leptura chraceobasciata* (Cerambycidae, 12), *Pidonia puziloi* (Cerambycidae, 12), *Tremus cyanipennis* (Cantharidae, 11) and *Mordellistena* sp. (Mor., 10).

3.5 *Hymenoptera*. Hymenopterous insects were composed of 13 superfamilies and 29 families. The most dominant superfamily was Apoidea (82.1 % of the total number of individuals), followed by Ichneumonoidea (5.6 %), Sphecoidea (3.4 %), Vespoidea (2.9 %), Tenthredinoidea (2.7 %) and Formicoidea (1.9 %). Most bees of Apoidea, except for cleptoparasitic bees, collected nectar and pollen for nutrition of their larva. The other hymenopterous superfamilies are facultative nectar feeders. Cleptoparasitic bees feed nectar and pollen for metabolic energy and reproduction.

The sampled 1745 individuals of Apoidea were classified into six families, ten subfamilies, 13 genera and 73 species (Table 4). The number of bee species collected in Kibune (73 spp.) is less than Sapporo (122 spp., Sakagami and Fukuda, 1973), but more than Sasayama (69 spp., Miyamoto, 1962), Kochi (68 spp., Ikudome, 1978), the campus of Kyoto University (62 spp., Kakutani *et al.*, 1990), Nikko (55 spp., Nakamura and Muramatsu, 1985), Gifu (51 spp., Yamauchi *et al.*, 1974) and Wakayama (48 spp., Matsuura *et al.*, 1974). The number of species was highest in Andrenidae (27.8 % of the total number of species), and followed by Halictidae (26.4 %), Nomadinae (16.7 %), Xylocopinae (8.3 %), Bombinae (6.9 %), Hylaeinae (5.6 %), Megachilidae (4.1 %), Colletinae (1.4 %), Anthophorinae (1.4 %) and Apinae (1.4 %). There were

Table 3. Relative abundance of bee genera.

Family	Subfamily	Genus	Abbreviation	No. of Species	No. of Individuals		
					Female	Male	Total
Colletidae	Colletinae	<i>Colletis</i>	Co	1	1	4	5
	Hylaeinae	<i>Hylaeus</i>	Hy	4	45	35	80
Halictidae	Halictinae	<i>Lassioglossum</i>	Lg	19	504	108	622
Andrenidae	Andreninae	<i>Andrena</i>	Ad	20	104	36	142
Megachilidae	Megachilinae	<i>Megachile</i>	Mg	2	11	4	15
		<i>Osmia</i>	Os	1	0	1	1
Anthophoridae	Anthophorinae	<i>Aniophora</i>	At	1	1	1	2
		<i>Tetralonia</i>	Tt	1	0	2	2
	Xylocopinae	<i>Xylocopa</i>	Xy	1	2	0	2
		<i>Ceratina</i>	Ct	5	211	104	315
	Nomadinae	<i>Nomada</i>	Nm	11	26	57	83
Apidae	Bombinae	<i>Epeolus</i>	Ep	1	1	3	4
		<i>Bombus</i>	Bo	5	390 ¹	26	416
	Apinae	<i>Apis</i>	Ap	1	56	56	0
Total				73	1355	390	1745

¹Fourty-eight were queens and the others were workers.

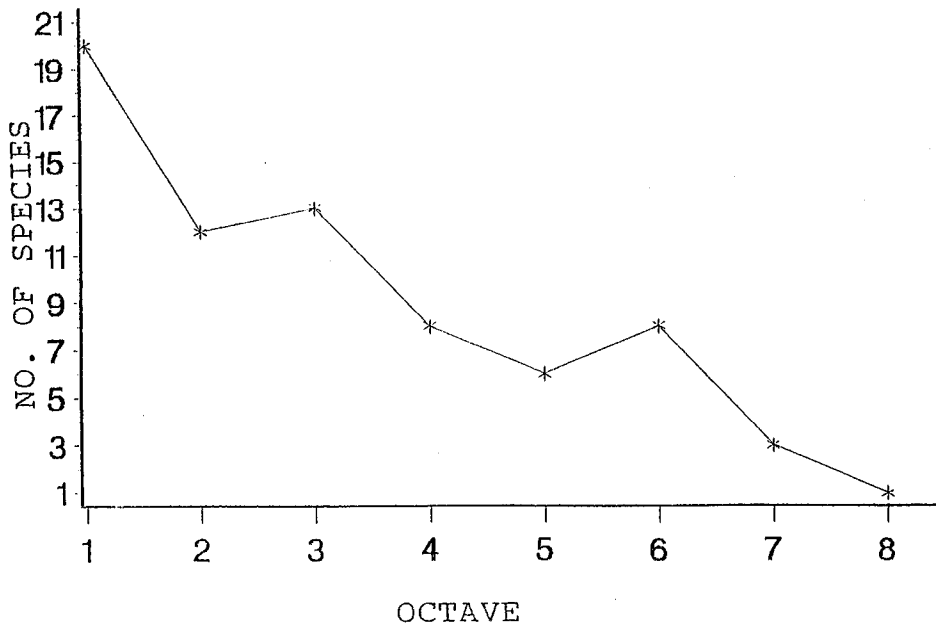


Fig. 8. The number of bee species plotted in the Preston's octave.

20 andrenid species in a genus, *Andrena*, and nine subgenera. Halictid bees were consisted of one genus, *Lasioglossum*, which was divided into five subgenera, *Lasioglossum* (4 species), *Dialictus* (1 sp.), *Ctenonomia* (1 sp.), carinate *Evylaeus* (*Et.* 4 spp.) and carinaless *Evylaeus* (*El.* 9 spp.). The number of species in Halictidae was less than only that of Sapporo (43 spp.) and was similar to these in the other localities. The number of species in Andrenidae was similar among various localities cited above. The number of species in Megachilidae (3 spp.) was less than the southern localities such as Kochi (15 spp.) and Wakayama (12 spp.), although that of Apidae was more than the two southern localities. The total number of bee species in Kibune is estimated to be 81 from the species abundance curve plotted in preson's octave (Fig. 8, Preston, 1962)

In Kibune, six bee species (8.3 %) were thought to be eusocial, i.e., five *Bombus* and one *Apis*. Thirteen species (18.1 %) were cleptoparasitic (12 *Nomada* and one *Epeolus*). This frequency of cleptoparasitic bee species are larger than those of the seven wild bee studies in the world (7.1-13.0 %, Heithaus, 1979).

All bee species were native. Among the bee faunas studied in various parts in Japan, the number of bee species common to Kibune was highest in Ashu (38 species, 52.8 %), followed by the campus of Kyoto University (27 spp., 31.9 %), Sapporo (23 spp., 31.9 %), Gifu (18 spp., 25.0 %), Sasayama (15 spp., 20.5 %), Nikko (15 spp., 20.5 %), Wakayama (14 spp., 19.4 %) and Kochi (13 spp. 18.9 %). The number of eusocial bee species common to Kibune was also highest in Ashu (7 spp., 100 %), followed by the campus of Kyoto University (5 spp., 71 %), Gifu (5 spp., 71 %), Sapporo (4 spp., 57 %), Wakayama (3 spp., 43 %) and Kochi (1 spp., 14 %).

Halictidae was most abundant (35.6 % of the total number of individuals), and followed by Bombinae (23.8 %), Xylocopinae (18.2 %), Andrenidae (8.1 %), Nomadinae (5.0 %), Hylaeinae (4.6 %), Apinae (3.2 %), Megachilidae (0.9 %), Colletinae (0.3 %) and Anthophorinae (0.3 %). The bee community structure in Kibune was well characterized by the predominance of Halictidae. Fig. 9 shows the relative abundance of 20 predominant species in terms of the percentage ratio, with the 5 % and 95 % points, arranged in the descending order of abundance. In predominant top 14 species, the lower 5 % point exceeded the reciprocal of $100 \times$ the number of species, and the cumulative percentage ratio reached 79.2 %.

4. Phenology of flower visitors

4.1 Overview. The number of species collected per month peaked in May and September (Fig. 10). The number of species only in Diptera peaked in April and October.

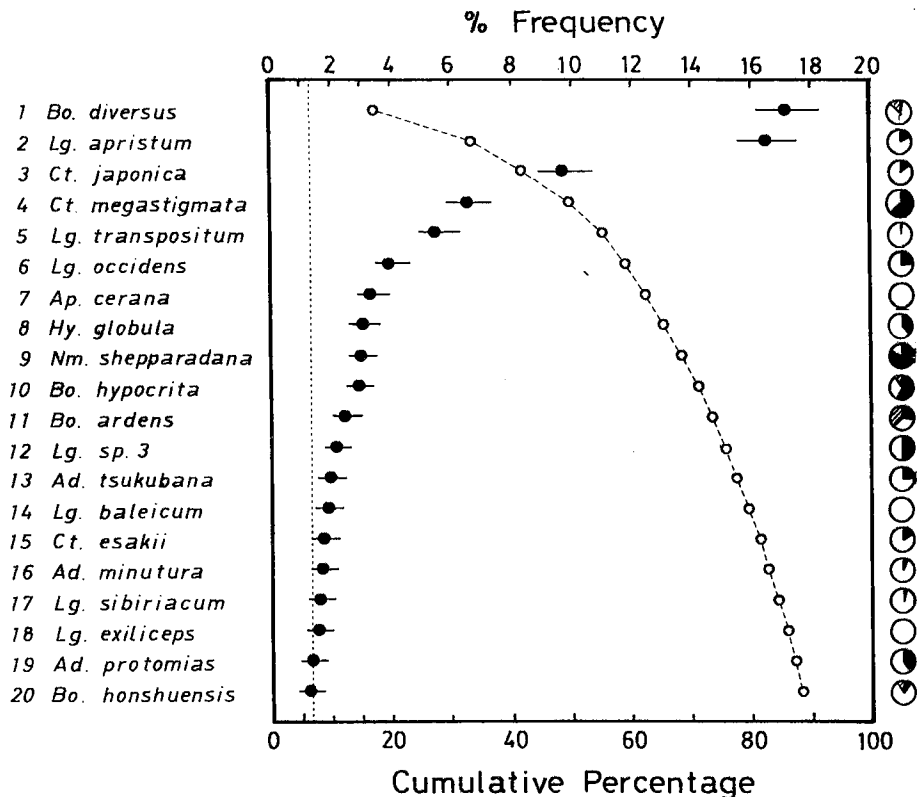


Fig. 9. Relative abundance of 20 predominant bee species shown by the occurrence probability method. Percentage ratio (the top scale) of each species is given by a solid circle with the fiducial limits (bar). Cumulative percentage curve (the bottom scale) is given by open circle. The vertical broken line is the reciprocal of the $100 \times$ number of the sampled species. Sex and caste ratios in each species are shown in a pie graph on the right side; white sector = female, black = male and shaded = queen. Abbreviations of the genera are shown in Table 3.

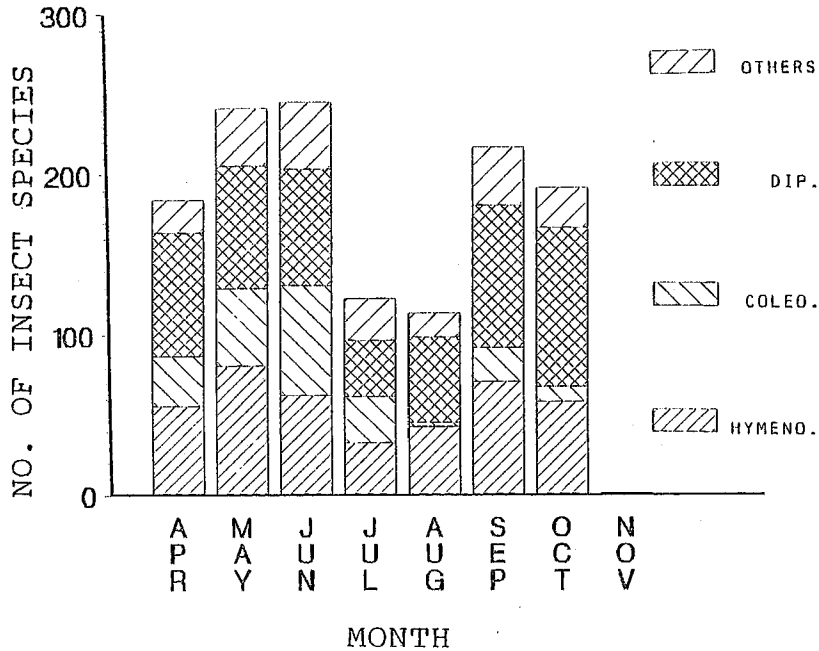


Fig. 10. Seasonal changes in numbers of arthropod species.

The percentage ratio of dipterous species was also high in spring and autumn: 42.2 % in April, 28.6 % in July and 51.9 % in October. The number of species in Coleoptera peaked in June. The percentage ratio of coleopterous species increased from May (17.1 %) to June (27.3 %) but rapidly decreased in August (2.5 %). The number of hymenopteran species peaked in May and September. The percentage ratio of hymenopterous species was lowest in July (25.1 %) and highest in August (37.3 %, Fig. 9).

Seasonal changes of the number of individuals were similar to the number of species (Fig. 11). Bimodal patterns were observed in the number of individuals in Hymenoptera and Diptera but not in Coleoptera. The phenological pattern at Kibune is distinguished from that of Ashu (Kato, *et al.*, 1990) by the bimodality that may be due to summer dearth of flowering and the autumnal fauna that was dominated by not only hymenopterans but also dipterans in Kibune.

4.2 Diptera. Seasonal activity patterns of the eight predominant families of Diptera are shown in Fig. 12. Most families were active throughout the flowering season from April to October but their activities were reduced in summer. The autumn peak in Diptera was not observed in Ashu (Kato *et al.*, 1990).

4.3 Coleoptera. Fig. 13 shows seasonal activity patterns of six predominant coleopteran families. Anthophilous staphylinids and nitidulids were abundant on flowers of *Lindera obtusiloba* in April, and the latter became abundant again in October. Byturidae appeared only in April and May. Pollen-feeding Cerambycidae and Mordellidae

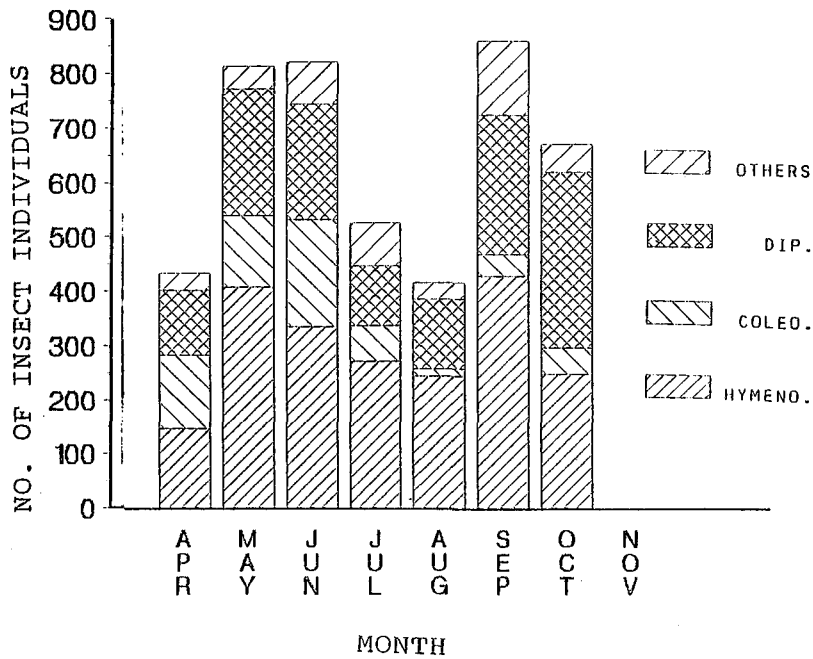


Fig. 11. Seasonal changes in numbers of arthropod individuals.

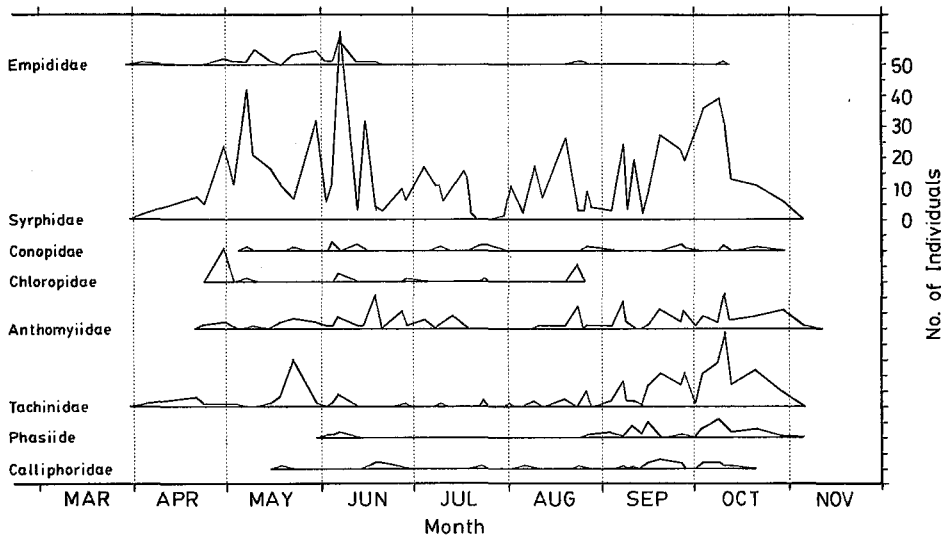


Fig. 12. Seasonal changes in numbers of individuals of the top eight dipterous families.

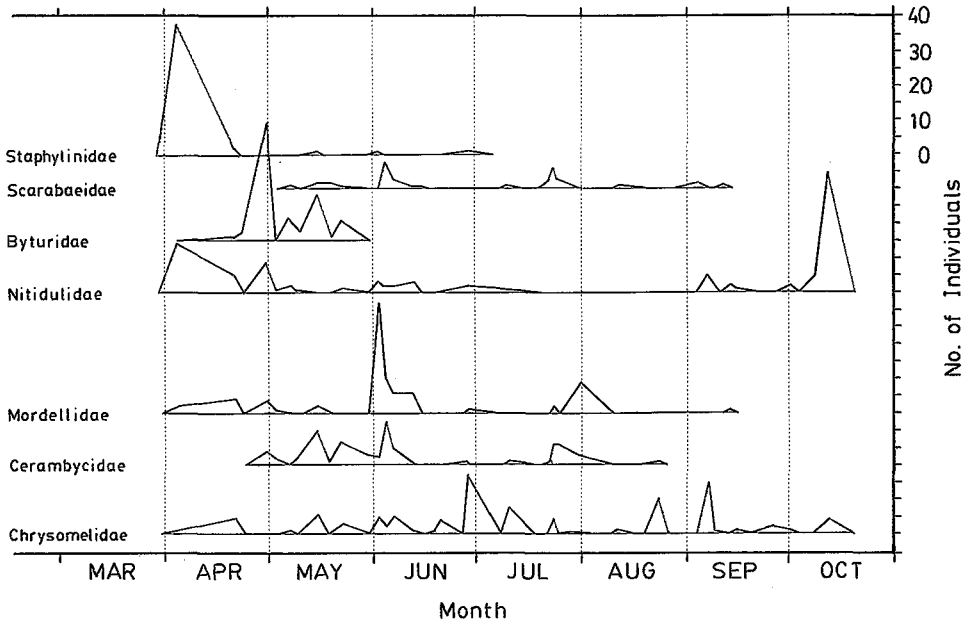


Fig. 13. Seasonal changes in numbers of individuals of the top seven coleopterous families.

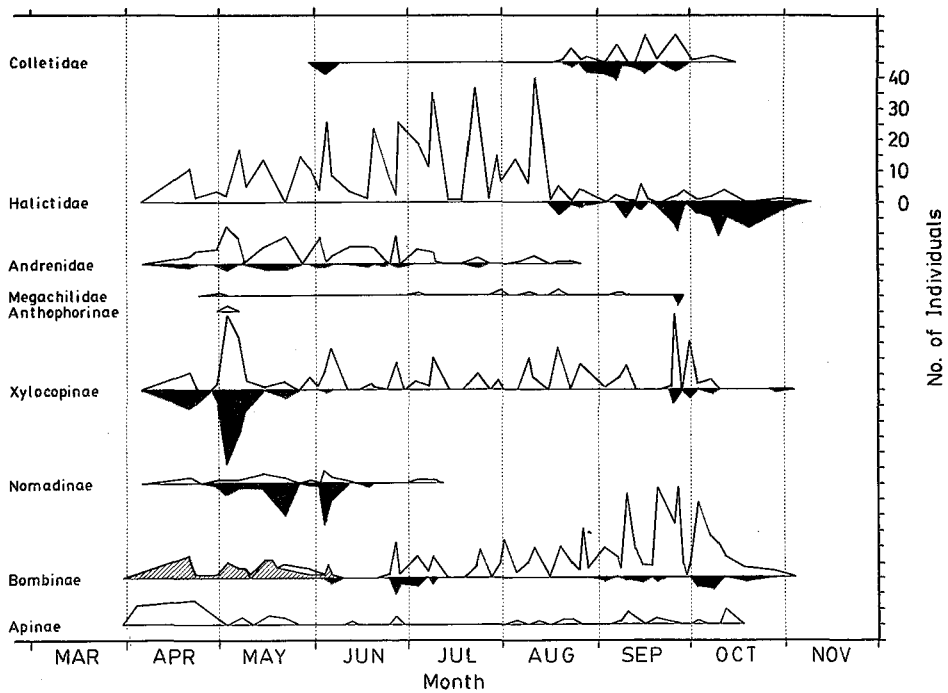


Fig. 14. Seasonal changes in numbers of individuals of bee families and subfamilies. Sex and caste is shown separately. Solid, shaded and open divisions respectively show males, queens, and females (including workers).

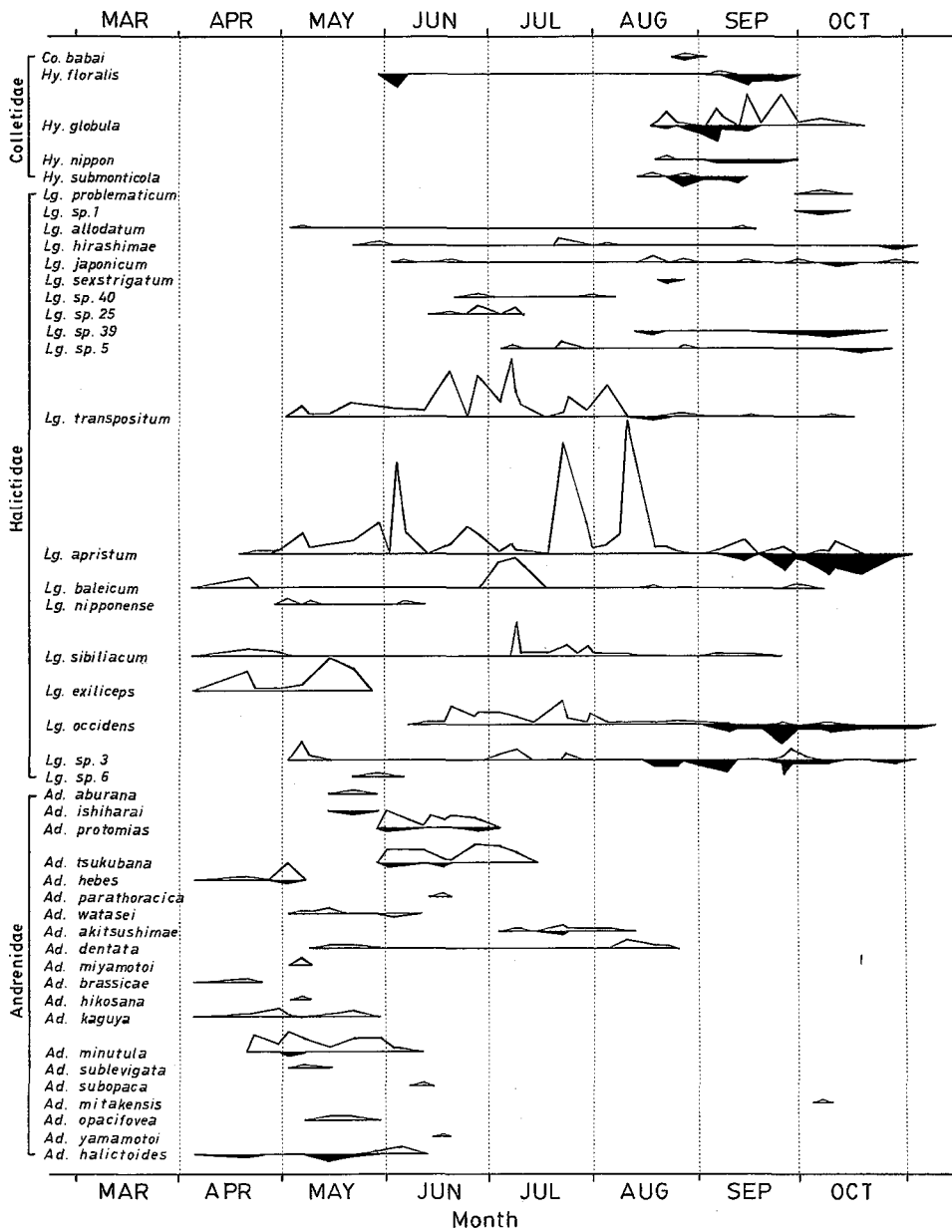


Fig. 15. Seasonal changes in numbers of individuals of the 73 bee species. Solid, shaded and open divisions respectively show males, queens, and females (including workers).

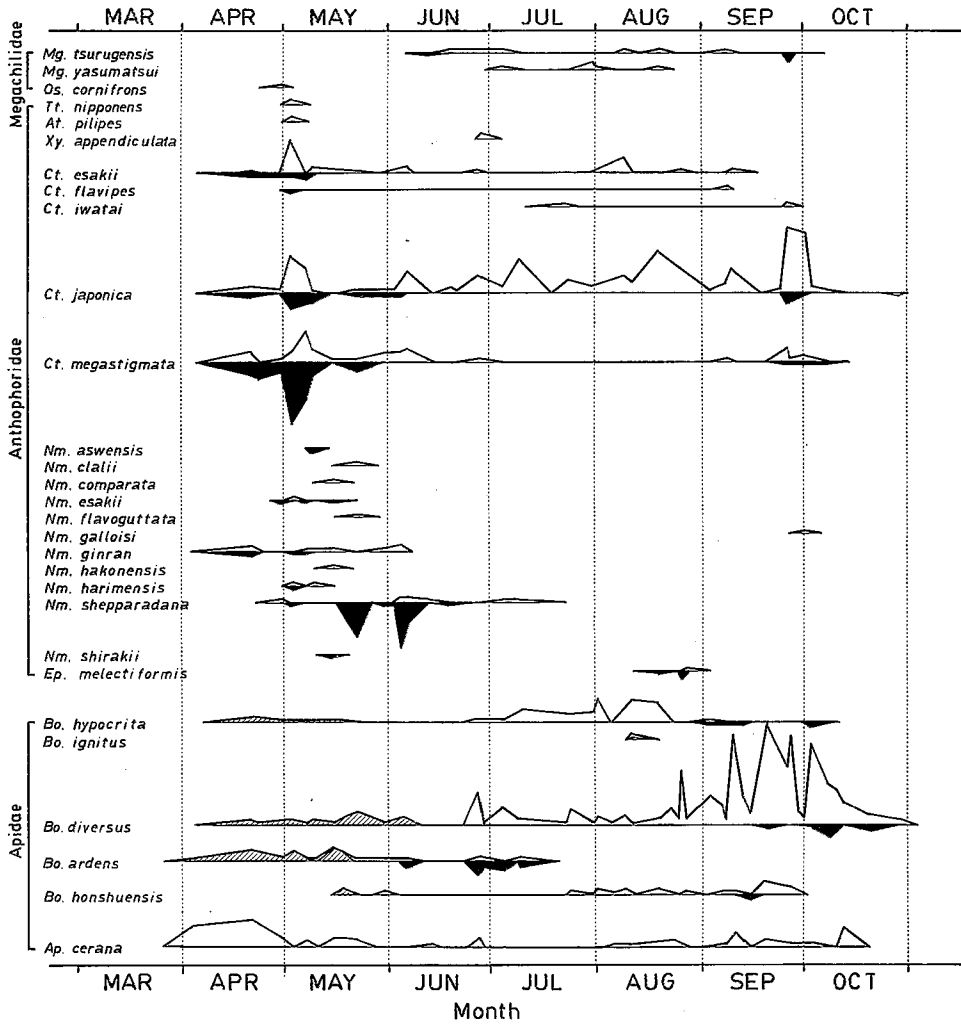


Fig. 15. (continued)

appeared only at the flowering time of the floral host species such as *Rubus* spp. (May), *Viburnum plicatum* (May to June), *Weigela hortensis* (May to June), *Symplocos chinensis* (June), *Hydrangea macrophylla* (July) and *H. paniculata* (July). Only Chrysomelidae were collected on various flowers throughout the season.

4.4 Hymenoptera. Fig. 14 shows phenology of four bee families and five sub-families. Andrenidae, Anthophorinae and Nomadinae appeared during the period from April to August. On the other hand, Colletidae mainly appeared in and after August. Other families were active throughout the flowering season. From May to mid August, halictid females were first predominant and they were replaced by workers of Bombinae and halictid and colletid males afterward.

Fig. 15 shows seasonal changes in the numbers of individuals in 73 bee species.

1) Colletidae: Males of *Hy. globula* were abundant in late August on *Angelica* (Umbelliferae) flowers, probably for copulation. *Hylaeus* spp. were abundant after mid August especially on *Angelica* spp. flowers.

2) Halictidae: *Lg. (Et.) apristum* were active throughout the flowering season. Females of most other halictid species appeared from April to July. Males generally appeared after mid August.

3) Andrenidae: All andrenid bees except *Ad. dentata* were active for < 2 months. Activity peaks of 17 species (86 %) were within the period from April to June. *Ad. watasei* appeared in July, *Ad. dentata* in August and *Ad. mitakensis* in September. Males generally appeared concurrently with females.

4) Megachilidae: *Mg. tsurgensis* females were active from June to September and its males appeared twice in June and September. *Osmia cornifrons* appeared only in late April.

5) Anthophoridae: *Anthophora pilipes* and *Tetralonia nipponensis* appeared only in early May. *Ceratina* spp. had two reproductive periods in April to early May and in September to October. *Ct. japonica* females were active throughout the flowering season, but *Ct. megastigmata* and *Ct. flavipes* were inactive in July and August. *Nomada* spp. except *Nm. galloisi* were active only before July, especially in May. *Epeolus melectiformis* appeared only in August.

6) Bombinae: Five *Bombus* species of four subgenera (*Bombus*, *Pyrobombus*, *Agrobombus* and *Diversobombus*) were sampled. *Bo. ignitus*, however, is thought to be fugitive because only one new queen and one worker were collected on *Macleaya cordata* flowers on August 11. Active periods of the other four species started in early May. *Bo. ardens* appeared only before summer. Its males appeared from late June to middle July. Although there are no new queens in our samples but copulation must occur in this period. *Bo. hypocrita* was active until early September, *Bo. honshuensis* until late September and *Bo. diversus* until late October. The relative abundance of *Bo. hypocrita* was higher than *Bo. diversus* and *Bo. honshuensis* in July and August, although the latter two displaced the former after late August.

7) Apinae: The native *Apis cerana* was active from early April to mid October. Scarcity of collection in June and July may be due to insufficiency of sampling on high canopy flowers.

5. Anthophilous fauna on individual plant families

5.1 Analysis at insect order level. There was a great variation in anthophilous faunas among plant families (Fig. 16). Patterns of insect visits to plant families were examined by cluster analysis, based on the percentage of each insect order collected on respective plant families (Fig. 17). At prediction ratio of 0.83, 49 plant families were divided into two clusters, indicating that 83 % of the total sum of squared

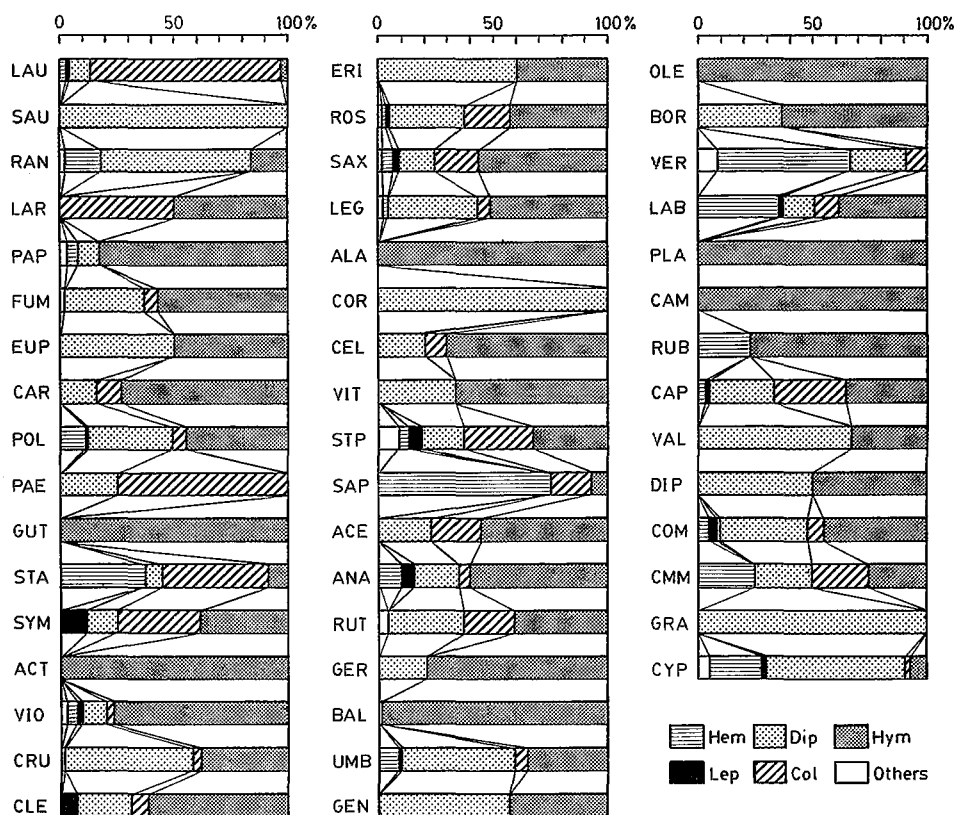


Fig. 16. Flower-visitor spectra (sorted by order) in 49 plant families. Plant family codes are shown in Table 1.

distances among all the families can be explained by separation of these clusters (Fig. 17). Cluster 1 was characterized by predominance of Hymenoptera. The others were sub-divided into four clusters (Cluster 2-5) at a prediction ratio of 0.6. Cluster 2 was consisted of 17 families that were predominantly visited by Diptera. Cluster 3 was consisted of five families that were predominantly visited by Coleoptera: Lauraceae, Paeoniaceae, Lardizabalaceae, Stachyuraceae and Symplocaceae. The first three belong to a primitive subclass Polycarpiidae (Magnoliidae) which reflects archaic insect-flower relationship (Richards, 1986). Cluster 4 (Sapindaceae and Verbenaceae) was mainly visited by Hemiptera. Cluster 5 did not have specific predominant insect orders.

5.2 Analysis at bee family level. Patterns of hymenopteran visits to plant families (Fig. 18) were also examined by cluster analysis (Fig. 19). At a prediction ratio of 0.55, 45 plant families were divided into nine clusters. Cluster 1 was mainly visited by Bombinae: Sabiaceae, Sapindaceae, Balsaminaceae, Plantaginaceae and Dipsacaceae. Cluster 2 was mainly visited by Halictidae: Oleaceae, Valerianaceae,

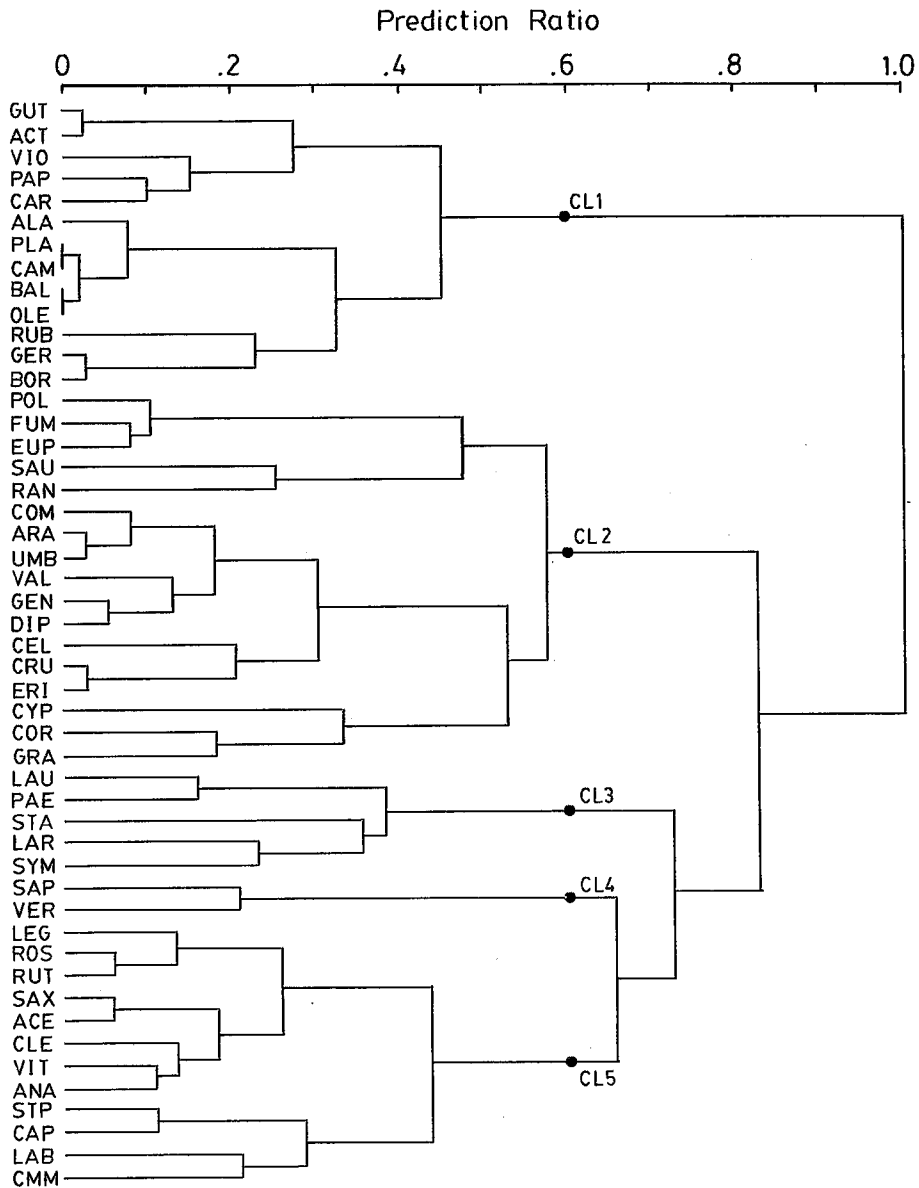


Fig. 17. A dendrogram of plant families, based on the flower visitor spectra shown in Fig. 16. Ward's method is used in this cluster analysis. Plant family codes are shown in Table 1.

Gentianaceae and Commelinaceae. Cluster 3 (Eupteleaceae and Stachyuraceae) was characterized by Apinae visits. Cluster 4 was mainly visited by Vespoidea: Vitaceae, Araliaceae and Campanulaceae. Cluster 5, consisting of eight families (Actinidiaceae, Ericaceae, Leguminosae, Alangiaceae, Geraniaceae, Labiatae, Rubiaceae and Compositae), was characterized by the high-frequency visits of Bombinae but not so complete

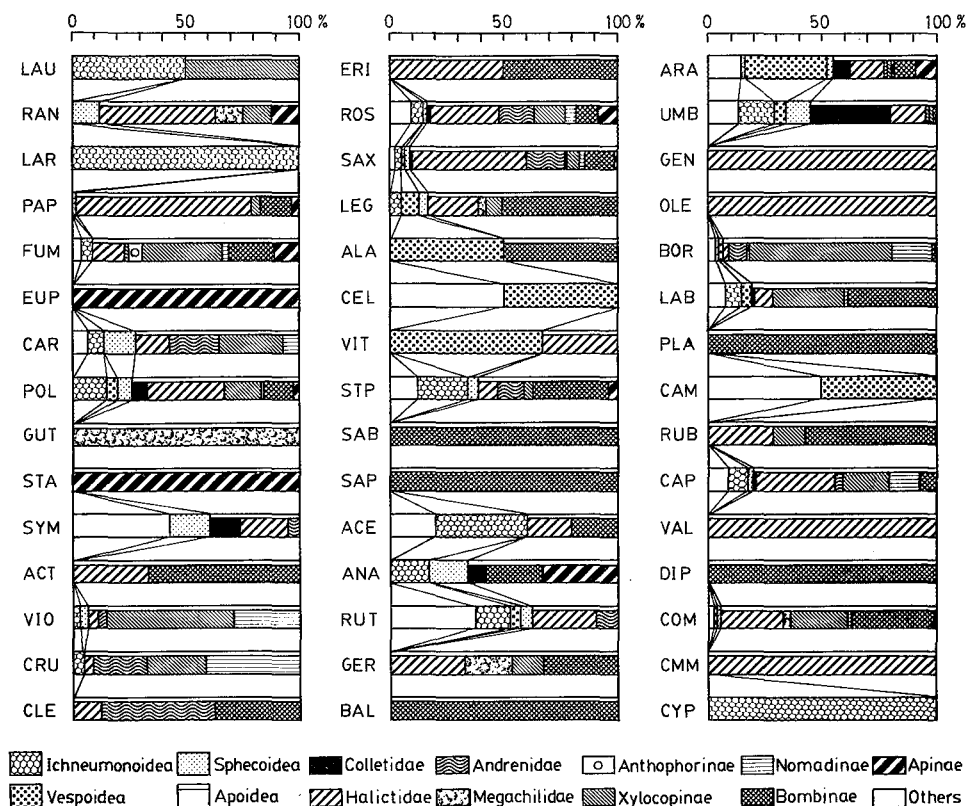


Fig. 18. Hymenopterous spectra (sorted by superfamilies, families and subfamilies as shown in Table 3) in 45 plant families.

compared with Cluster 1. Cluster 6 was visited by miscellaneous bee subfamilies. Cluster 7 was characterized by predominance of Ichneumonoidea: Lardizabalaceae and Cyperaceae. Cluster 8 (Guttiferae) was predominantly visited by Megachilidae. Cluster 9 was Xylocopinae-dominated and it was consisted of spring bloomers such as Lauraceae, Fumariaceae, Caryophyllaceae, Cruciferae, Violaceae and Boraginaceae.

6. Floral hosts of anthophilous insects

6.1 General patterns. Floral hosts were compared among five dominant orders of anthophilous insects (Fig. 20). Plant families that were frequently utilized by all five orders were Saxifragaceae, Rosaceae, Compositae and Polygonaceae. Most important floral hosts were Saxifragaceae for Lepidoptera, Coleoptera and Hymenoptera, and Labiatae for Hemiptera and Umbelliferae for Diptera. Special preferences were observed to Lauraceae in Coleoptera. Detailed floral host species of individual species of Lepidoptera, Diptera, Coleoptera and Hymenoptera are listed in Appendix 2.

6.2 Floral hosts of Diptera. Floral host families most preferred by Diptera were Umbelliferae, Compositae, Rosaceae and Polygonaceae. Floral hosts of 38 syrphid

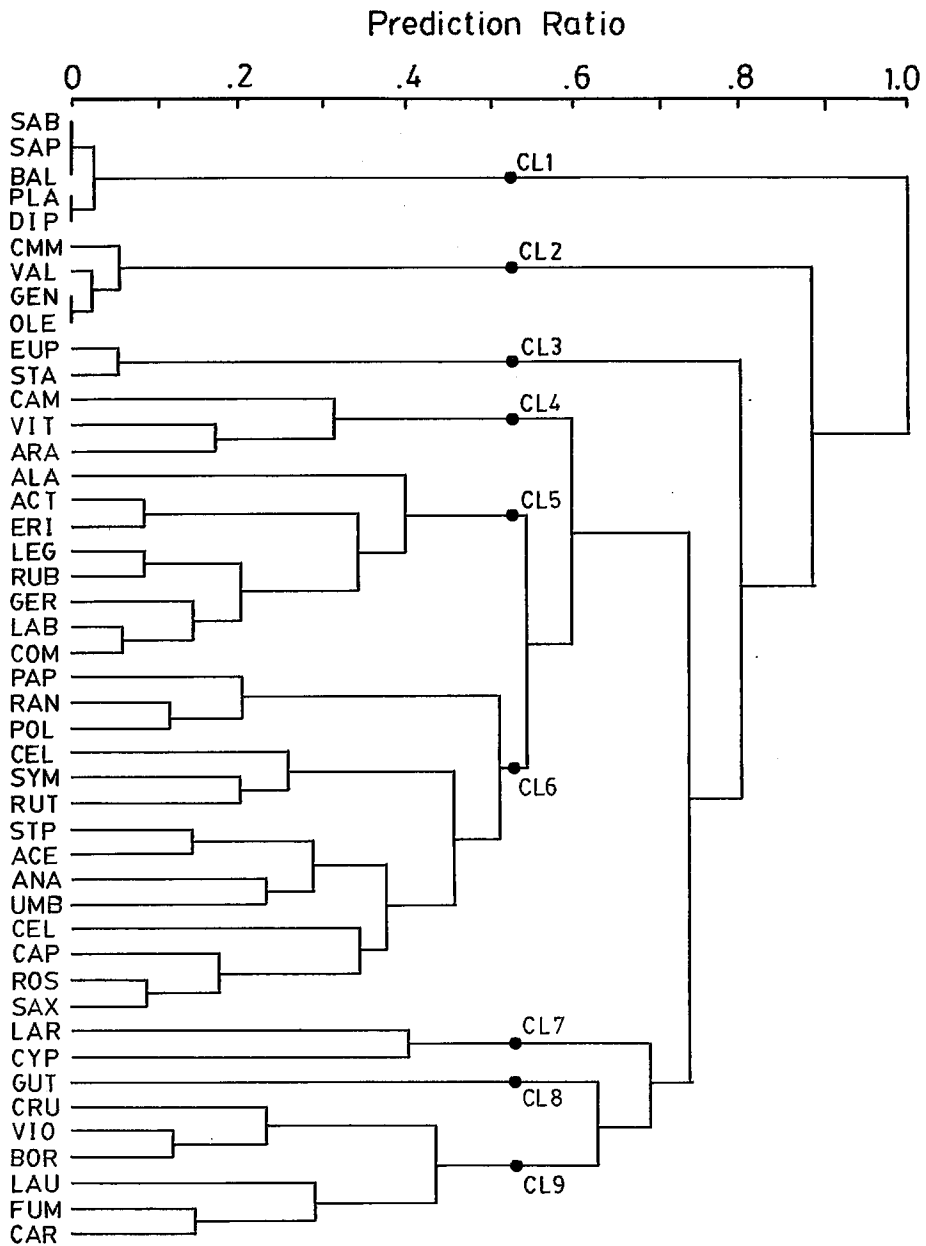


Fig. 19. A dendrogram of plant families, based on the hymenopterous spectra in Fig. 18. Ward's method is used in this cluster analysis. Plant family codes are shown in Table 1.

genera are shown in Table 4. Floral host families preferred by Syrphidae was Compositae, Rosaceae, Polygonaceae, Umbelliferae, Saxifragaceae, Caprifoliaceae, Ranunculaceae and Cruciferae. Abundant genera, *Cheilosia*, *Episyrphus*, *Eristalis*, *Melanostoma*,

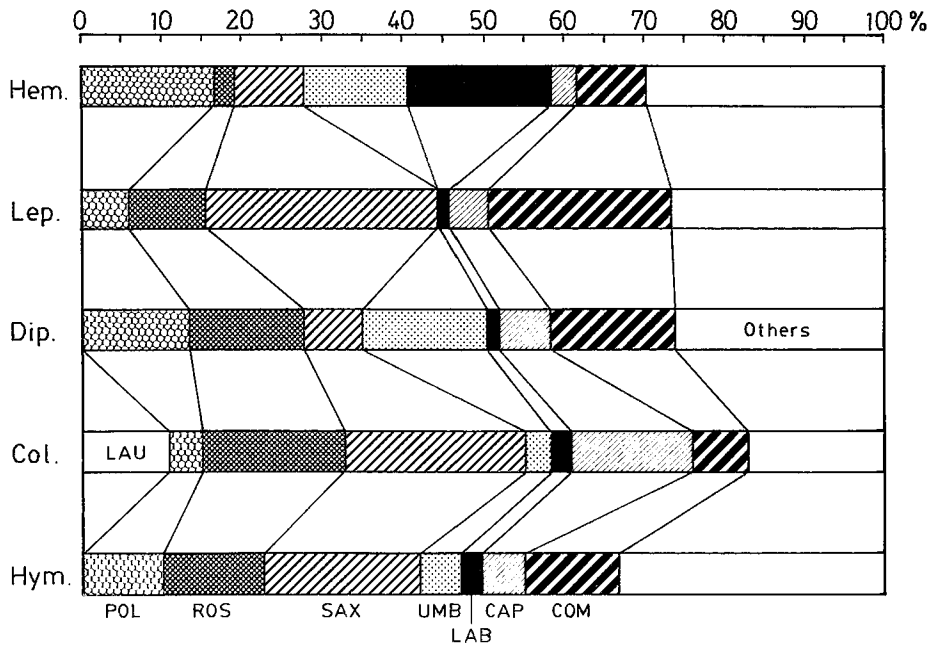


Fig. 20. Flower spectra (sorted by families) visited by the top five insect orders (in terms of individuals). Plant family codes are shown in Table 1.

Sphaerophoria, and *Sphegina*, visited a wide variety of plant families. Floral hosts of Bombyliidae that had long proboscis were very different from other dipterous families and were similar to bees. A spring species, *Bombylius major*, visited Fumariaceae, Stachyuraceae, Violaceae, Rosaceae and Boraginaceae. An autumn species, *Cephenius nitobei*, visited Saxifragaceae, Polygonaceae and Compositae.

6.3 Floral hosts of Coleoptera. Plant families most preferred by Coleoptera were Saxifragaceae, Rosaceae, Caprifoliaceae, Lauraceae and Compositae. Pollen was main reward of these plant families. Table 5 shows floral host families of seven predominant coleopterous families. Floral hosts most frequently visited by anthophilous staphylinid beetles were Lauraceae. Obvious flower preference to Saxifragaceae was found in Scarabaeidae, Mordellidae and Chrysomelidae. Byturidae and Cerambycidae preferred Rosaceae and Caprifoliaceae respectively.

6.4 Floral hosts of Hymenoptera. Frequency distributions of the number of floral host species for individual bee species were compared among bee families (Fig. 21). Due to the insufficiency of collection, species that are specified to be 'oligolectic' may include some polylectic species of which the density is low. Here we call bees with > 4 floral host species as polylectic. According to this standard, polylectic species were two colletid, ten halictid, two andrenid, six anthophorid and five apid bee species. Twenty-nine bee species (43 %), consisting of five Halictidae, 14 Andrenidae, one Megachilidae, eight Anthophoridae and one Apidae, visited only one plant species.

Table 4. The numbers of species and individuals of syrphid flies and the numbers of their visits to plant families (plant family codes are shown in Table 1). Larval feeding types are shown by following codes: PR - predator, PH - phytophage, SA - saprophage, PA - parasite of social insect nests (Owen & Gilbert, 1989).

Genera	Larval Feeding Types	Active Months ¹	No. of Species	No. of Individuals	Floral Host Families														
					RAN	FUM	POL	CRU	ROS	SAX	STP	ARA	UMB	LAB	CAP	COM	Others		
<i>Asarcuna</i>	?	9-10	1	7	-	-	4	-	-	-	-	-	-	-	-	-	-	-	3
<i>Baccha</i>	PR	6-8	2	17	5	2	-	-	2	3	-	-	1	-	-	1	-	3	
<i>Betrasyrphus</i>	?	6-10	1	6	-	-	-	-	-	1	-	-	-	-	-	1	3	1	
<i>Brachyopa</i>	?	4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
<i>Cheilosia</i>	PH	4-10	13	122	-	-	5	1	13	19	-	16	45	-	5	12	6	6	
<i>Chrystogaster</i>	SA	5	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
<i>Chrysotoxum</i>	PR	9	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
<i>Criorhina</i>	?	5	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
<i>Dasysyrphus</i>	PR	10	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
<i>Didea</i>	?	8-10	1	2	-	-	-	-	-	-	-	-	1	-	1	-	-	-	
<i>Epistotophe</i>	?	4-10	3	19	-	-	1	-	-	-	-	1	6	8	1	2	-	-	
<i>Episyrphus</i>	PR	5-10	1	102	5	-	42	-	3	6	3	1	2	1	8	20	11	11	
<i>Eristalis</i>	SA	4-10	1	77	-	-	16	-	2	8	-	-	10	-	4	33	4	4	
<i>Eriostalomya</i>	?	4-10	1	4	-	-	1	-	3	-	-	-	-	-	-	-	-	-	
<i>Eumerus</i>	?	6-10	2	9	1	-	-	-	4	1	-	1	-	-	-	2	-	-	
<i>Graptomyza</i>	?	6-10	1	4	-	-	-	-	1	1	-	1	-	-	-	1	-	-	
<i>Helophilus</i>	SA	4-10	1	33	-	-	16	-	3	1	-	-	-	-	1	11	1	1	
<i>Imatisma</i>	?	6	1	2	-	-	-	-	1	-	-	-	-	-	1	-	-	-	
<i>Lathrophthalmus</i>	?	6	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
<i>Megasbis</i>	?	5-10	1	13	-	-	4	-	1	3	-	-	2	-	-	2	1	1	
<i>Melangyna</i>	PR	4-10	2	5	-	-	1	-	-	-	-	-	1	1	2	-	-	-	
<i>Melanostoma</i>	PR	4-9	1	129	2	7	1	11	55	1	5	-	1	1	27	1	16	16	
<i>Metasyrphus</i>	PR	5	1	2	-	-	-	-	1	-	-	-	-	1	-	-	-	-	
<i>Microdon</i>	?	6	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	
<i>Narumya</i>	?	5	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
<i>Neoascia</i>	SA	9	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	
<i>Paragus</i>	PR	5-10	2	22	9	-	1	2	1	-	-	-	1	-	-	4	4	4	
<i>Penthesilea</i>	?	5-6	1	7	-	-	-	-	3	-	2	-	-	-	1	-	1	1	
<i>Phalacrodira</i>	?	4	1	4	-	1	-	-	2	-	-	-	-	-	-	-	-	1	
<i>Pipiza</i>	PR	9-10	1	2	-	-	-	-	-	-	-	-	1	1	-	-	-	-	
<i>Platycheirus</i>	PR	4-6	1	4	-	2	-	-	-	-	-	-	-	-	1	-	1	1	
<i>Pseudomerdon</i>	?	8	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	
<i>Rhingia</i>	SA	9-10	1	3	-	-	2	-	-	-	-	-	-	-	-	-	-	1	
<i>Sphaerophoria</i>	PR	5-9	3	85	7	1	2	14	3	10	-	-	1	-	3	41	3	3	
<i>Sphegina</i>	?	4-9	5	61	2	-	1	-	28	6	-	1	13	-	1	-	2	2	
<i>Syrphus</i>	PR	4-10	2	12	-	-	2	-	1	-	-	1	-	1	4	1	2	2	
<i>Temnostoma</i>	?	5	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
<i>Vollucella</i>	PA	5-8	3	7	-	-	-	-	1	5	-	-	-	-	-	-	-	1	
Total			65	771	31	13	100	28	131	68	10	23	85	15	60	137	69	69	

¹Month is denoted in numericals 1-12 for January - December.

Table 5. The number of individuals of ten coleopterous families collected on flowers of respective plant families.

Families	Adult Feeding types ¹	Plant Families									Total
		LAU	POL	ROS	SAX	UMB	LAB	CAP	COM	Others	
Staphylinidae	PO,PR	38	-	1	1	-	-	1	-	2	43
Scarabaeidae	PO	-	1	1	15	1	-	3	4	11	36
Byturidae	PO	-	-	66	-	-	-	-	-	2	68
Nitidulidae	PO	18	6	2	7	4	9	6	31	13	96
Mordellidae	PO	6	1	2	41	-	-	21	-	9	80
Cerambycidae	PO	-	-	15	18	1	-	25	-	9	68
Chrysomelidae	PO	4	11	5	30	12	2	11	5	16	96
Total		66	19	92	112	18	11	67	40	62	487

¹PO, pollen feeder; PR, predator of flower visitors.

The mean number of floral host species for individual bee species was highest in Bombinae (19.3, excluding *Bo. ignitus*), followed by Apinae (17.0), Xylocopinae (11.7), Halictidae (7.2), Hylaeinae (5.3), Megachilidae (3.3), Nomadinae (2.7),

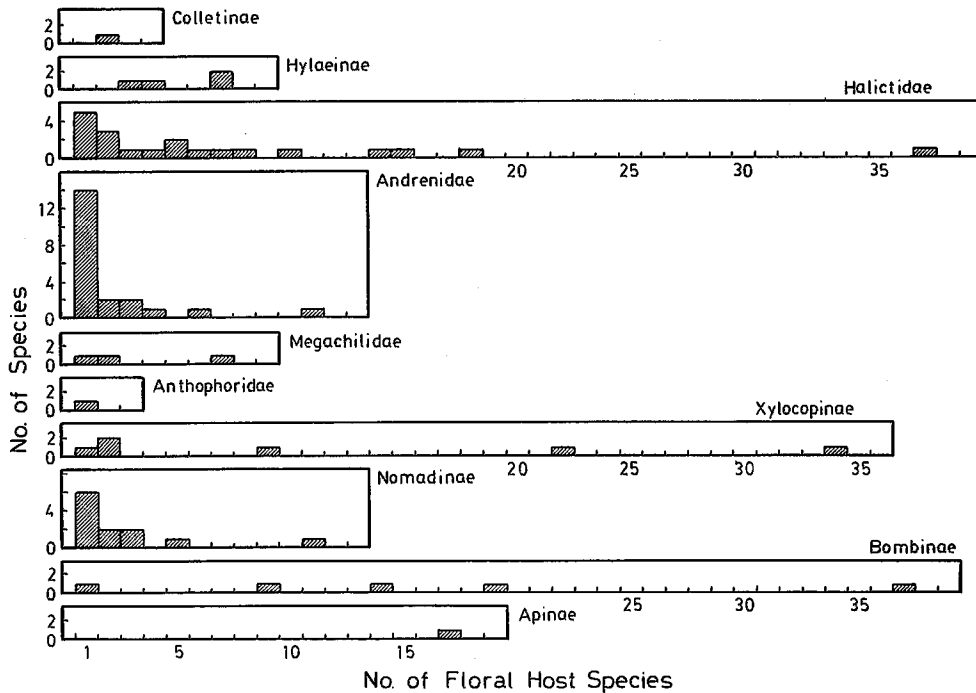


Fig. 21. Frequency distribution of the number of floral host species in each bee species, grouped by family and subfamily.

Andrenidae (2.1), Colletinae (2.0) and Anthophorinae (1.0).

Plant families most frequently visited by Hymenoptera was Saxifragaceae, Compositae, Rosaceae, Polygonaceae Umbelliferae, Balsaminaceae, Caprifoliaceae and Fumariaceae. There were great variations in flower preference among bee subfamilies (Fig. 22).

1) Colletidae: Most preferred plant families were Umbelliferae (62.4 % of the total visits), Polygonaceae (17.6 %), Araliaceae (5.7 %), Rosaceae (4.7 %) and Symplocaceae (3.5 %).

2) Halictidae: The most preferred plant families were Saxifragaceae (32.2 %), Rosaceae (12.7 %), Polygonaceae (12.1 %), Compositae (11.0 %), Papaveraceae (7.4 %), Caprifoliaceae (5.9 %) and Umbelliferae (4.0 %). Preference to Saxifragaceae in Halictidae was also observed in Ashu (Kato *et al.*, 1990), and it was quite different from the preference to Compositae at Sapporo (Sakagami and Fukuda, 1973) and to that Cruciferae at Kochi (Ikudome, 1978).

3) Andrenidae: Flower preference of Andrenidae was largely similar to that of Halictidae. Most preferred plant families were Saxifragaceae (49.3 %), Rosaceae (28.2 %), Boraginaceae (3.5 %) and Cruciferae (3.5 %). Among oligolectic andrenid

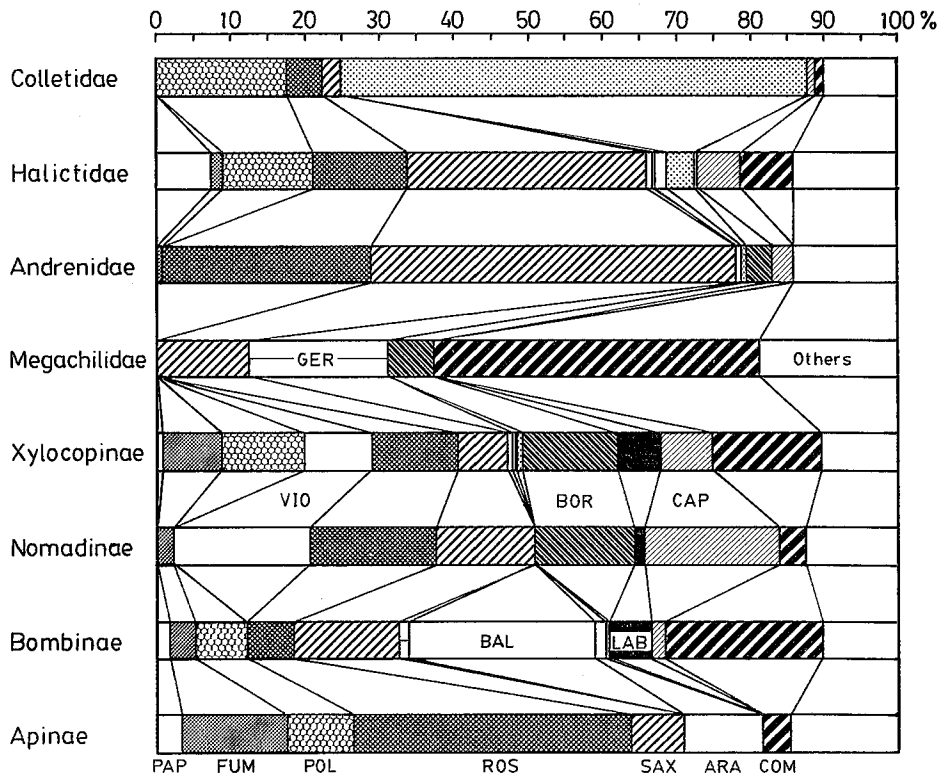


Fig. 22. Flower visiting spectra of bee families and subfamilies. Floral host are sorted by families. Plant family codes are shown in Table 1.

species, however, flower preference was variable. Floral hosts of 14 monolectic species (Fig. 20) were Rosaceae (7 spp.), Saxifragaceae (5) and Umbelliferae (1). *Ad. halictoides* was monolectic to *Weigela hortensis* in Ashu, but it had other three floral host species (*Rubus crataegifolius*, *Staphylea bumalda* and *Lonicera gracilipes*) at Kibune.

4) Megachilidae: *Osmia cornifrons* visited Boraginaceae. Plant families most preferred by *Megachile* spp. were Compositae, Geraniaceae and Saxifragaceae. Although an intimate relationship between *Megachile* and Leguminosae was reported at Ashu (Kato *et al.*, 1990), Sapporo (Sakagami and Fukuda, 1973) and Wakayama (Matsuura *et al.*, 1974), it was not a case here.

5) Anthophoridae: *Tetralonia nipponensis* visited Fumariaceae and *Anthophora pilipes* visited Saxifragaceae. Preference of Xylocopinae and Nomadinae was largely similar to each other. Plant families most preferred by Xylocopinae were Compositae (19.7 %), Boraginaceae (12.7 %), Rosaceae (11.4), Polygonaceae (11.1 %), Violaceae (9.2 %), Fumariaceae (7.9 %), Caprifoliaceae (7.0 %) and Saxifragaceae (6.7 %). On the other hand, plant families most preferred by Nomadinae was Caprifoliaceae (18.3 %), Violaceae (18.3 %), Rosaceae (17.1 %), Saxifragaceae (13.4 %), Boraginaceae (13.4 %), Cruciferae (11.0 %).

6) Bombinae: Preference of Bombinae was quite different from other bee families. Most preferred plant families were Balsaminaceae (25.1 %), Compositae (21.3 %), Saxifragaceae (14.3 %), Polygonaceae (7.0 %), Rosaceae (6.3 %), Labiatae (5.3 %), Fumariaceae (3.4 %) and Leguminosae (3.4 %).

7) Apinae: Most preferred plant families by *Apis cerana* were Rosaceae (37.5 %), Fumariaceae (14.3 %), Araliaceae (10.7 %), Polygonaceae (8.9 %), Saxifragaceae (7.1 %), Anacardiaceae (7.1 %), Papaveraceae (3.6 %), Eupteleaceae (3.6 %) and Compositae (3.6 %). Visits to fumariaceous flowers was for nectar robbing. Eupteleaceae, which was thought to be anemophilous, was visited by *Ap. cerana* for pollen collection.

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References

- Heithaus, E.R. 1979. Community structure of Neotropical flower visiting bees and wasps: diversity and phenology. *Ecology* 60: 190-202.
- Hiroe, M. 1973. *The plants of Mt. Kurama*. Kurama Temple Press, Kyoto. 281 pp.
- Ikudome, S. 1978. A wild bee survey in Kochi Plain (Kochi Pref.), Shikoku, Japan (Hymenoptera, Apoidea). *Kontyu, Tokyo*, 46: 512-536.
- Kakutani, T., T. Inoue, M. Kato and H. Ichihashi. 1990. Insect-flower relationship in the campus of Kyoto University, Kyoto: An overview of flowering phenology and seasonal pattern of insect visits. *Contr. Biol. Lab. Kyoto Univ.* 27: 465-521.
- Kato, M., T. Kakutani, T. Inoue and T. Itino. 1990. Insect-flower relationship in the primary beech forest of Ashu, Kyoto: An overview of flowering phenology and seasonal pattern of insect visits. *Contr. Biol. Lab. Kyoto Univ.* 27: 309-375.
- Kyoto Prefectural Meteorological Observatory. 1984-87. Annual Meteorological report, 1984-87.
- Matsumura, T. and M. Munakata. 1969. Relative abundance, phenology and flower preference of andrenid bees at Hakodateyama, Northern Japan (Hymenoptera, Apoidea). *J. Fac. Sci. Hokkaido Univ. Ser. VI, Zool.* 17: 106-126.
- Matsuura, M., S.F. Sakagami and H. Fukuda. 1974. A wild bee survey in Kibi (Wakayama Pref.), Southern Japan. *J. Fac. Sci. Hokkaido Univ. Ser. VI, Zool.* 19: 422-437.
- Matsuura, M. and Sk. Yamane. 1984. *Comparative ethology of vespid wasps*. Hokkaido Univ. Press. Sapporo. 428 pp. (in Japanese)
- May, R.M. 1975. Patterns of species abundance and diversity. in: *Ecology and Evolution of communities* (M.L. Cody and J.M. Diamond eds.) pp. 81-120. Belknap. Cambridge, Massachusetts.
- Miyamoto, S. 1962. Outline of flower relationships of Japanese bees. *Acta Hymenopterologica* 1: 393-455.
- Nakamura, K. and T. Matsumura. 1985. Biofaunistic survey of wild bees at highlands of Nikko, Kanto District, Japan. *Bull. Fac. General Education, Utsunomiya Univ., sec. 2*, 18: 19-39. (in Japanese)
- Owen, J. and F.S. Gilbert 1989. On the abundance of hoverflies (Syrphidae). *Oikos* 55: 183-193.
- Preston, F.W. 1960. The canonical distribution of commonness and rarity. *Ecology* 43: 185-215, 410-432.
- Richards, A.J. 1986. *Plant breeding system*. George Allen & Unwin Ltd. London. 529 p.
- Sakagami, S.F. and H. Fukuda 1973. Wild bee survey at the campus of Hokkaido University. *J. Fac. Sci. Hokkaido Univ. Ser. VI, Zool.* 19: 190-250.
- Sakagami, S. F. and T. Matsumura. 1967. Relative abundance, phenology and flower preference of andrenid bees in Sapporo, North Japan (Hymenoptera, Apoidea). *Jap. J. Ecol.* 17: 237-250.
- Seeley, T.D. 1985. *Honeybee Ecology*. Princeton Univ. Press. Princeton, New Jersey. 201 pp.
- Stebbins, G.L. 1974. *Flowering plants. Evolution above the species level*. London. 397pp.
- Waser, N.M. and L.A. Real. 1979. Effective mutualism between sequentially flowering plant species. *Nature* 281: 670-672.
- Yamauchi, K., Y. Murakumo, M. Ogura and S.F. Sakagami. 1974. Biofaunistic survey of wild bees in Minami (Gifu Prefecture), Central Japan. *Bull. Fac. Educ. Gifu Univ.* 5: 220-232.

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Appendix 1

Insect visitors collected on 115 plant species in Kibune which are arranged, following the system of Stebbins (1974): species (family, order), sex and caste (F - female, M - male, W - worker, Q - queen, if indistinguishable, no code is added), date in the form of year + month + day, (number of individuals). Insects are arranged in the order of Table 2. Families and orders of insects are shown by abbreviation codes in Table 2. If species are not identified, only codes (family name + species code number) are shown.

Lauraceae

Lindera obtusiloba

ARANEIDA39 (Ara, Ara) 850404 (1); ARANEIDA45 (Ara, Ara) 850404 (1); ARANEIDA46 (Ara, Ara) 850404 (1); *Geocoris varius* (Lyg, Hem) 850404 (1); SCIARIDAE1 (Sci, Dip) 850404 (1); TIPULIDAE1 (Tip, Dip) 850404 (1); EMPIDIDAE36 (Emp, Dip) 850404 (1); EPHYDRIDAE16 (Eph, Dip) 850404 (1); SCATOPHAGIDAE1 (Sca, Dip) 850404 (1); TACHINIDAE37 (Tac, Dip) M, 850404 (1); *Eusphalerum parallelum* (Sta, Col) 850404 (38); *Epuraea* sp. (Nit, Col) 850404 (14); *Cryptophagus cellaris* (Cry, Col) 850404 (1); *Rodolia imbata* (Coc, Col) 850404 (1); ADERIDAE1 (Ade, Col) 850404 (1); *Mordellina* sp. (Mor, Col) 850404 (1); *Mordellistena* sp. (Mor, Col) 850404 (1); CHRY-SOMELIDAE32 (Chr, Col) 850404 (1); ICHNEUMONIDAE84 (Ich, Hym) F, 850404 (1)

Lindera umbellata

BIBIONIDAE1 (Bib, Dip) 850421 (1); *Epuraea* sp. (Nit, Col) 850421 (4); *Mordellina* sp. (Mor, Col) 850421 (2); *Mordellistena* sp. (Mor, Col) 850421 (2); *Nonartha cyaneum* (Chr, Col) 850421 (3); *Apoderus rubidus* (Att, Col) 850421 (1); *Ceratina japonica* (Ant, Hym) M, 850421 (1)

Saururaceae

Houttuynia cordata

Episyrphus balteatus (Syr, Dip) F, 870709 (1)

Ranunculaceae

Clematis apiifolia

Episyrphus balteatus (Syr, Dip) F, 860825 (1)

Ranunculus silerifolius

Carbula humerigera (Pen, Hem) 840723 (4); *Eyzarcoris guttiger* (Pen, Hem) 840723 (1); *Nysius* sp. (Lyg, Hem) 840723 (3); *Onomaus lautus* (Mir, Hem) 840723 (1); *Baccha maculata* (Syr, Dip) F, 860708 (1), 870709 (1), 870801 (1), 870809 (1), M, 860805 (1); *Episyrphus balteatus* (Syr, Dip) 870809 (1), F, 870704 (1), 870731 (2); *Eumerus iidai* (Syr, Dip) F, 870731 (1); *Melanostoma scalare* (Syr, Dip) F, 870614 (1), 870704 (1); *Paragus jozanus* (Syr, Dip) M, 870731 (1); *Paragus tibialis* (Syr, Dip) 870722 (1), F, 850708 (2), 870704 (2), M, 850708 (1), 870704 (1), 870731 (1); *Sphegina clunipes* (Syr, Dip) M, 870809 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 870731 (1), 870809 (1), M, 870704 (1), 870722 (1); *Sphaerophoria menihastri* (Syr, Dip) F, 850708 (1), 860708 (1), M, 840723 (1); *Sphegina* sp.1 (Syr, Dip) F, 850811 (1); ANTHOMYIIDAE 38 (Ant, Dip) F, 870618 (1); TACHINIDAE38 (Tac, Dip) F, 840723 (1); *Ectemnuis dives* (Sph, Hym) M, 850708 (1); *Lasioglossum (Evylaeus)* sp.10 (Hal, Hym) F, 870731 (1); *Lasioglossum (Evylaeus)* sp.5 (Hal, Hym) F, 840723 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840723 (1); *Lasioglossum (Evylaeus) sibiriacum* (Hal, Hym) F, 870801 (1); *Megachile isurugensis* (Meg, Hym) F, 840628 (1); *Ceratina iwatai* (Ant, Hym) F, 870722 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870809 (1)

Lardizabelaceae*Akebia quinata*

CHRYSOMELIDAE27 (Chr, Col) 840522 (1); ICHNEUMONIDAE59 (Ich, Hym) F, 840522 (1)

Papaveraceae*Chelidonium majus*

Episyrphus balteatus (Syr, Dip) F, 870606 (1); *Melanostoma scalare* (Syr, Dip) F, 870614 (2)

Macleaya cordata

ARANEIDA3 (Ara, Ara) 860805 (2); *Eurystylus coelestialium* (Mir, Hem) 860805 (2); *Onomaus lautus* (Mir, Hem) 860805 (1); *Episyrphus balteatus* (Syr, Dip) M, 860805 (1); *Sphagina clunipes* (Syr, Dip) M, 850811 (2); *Vollucella tabanoides* (Syr, Dip) F, 850811 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) M, 840811 (1); *Lasioglossum (Evylaeus) hirashimae* (Hal, Hym) F, 860805 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 850730 (2), 860805 (9); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840811 (23), 850730 (2), 850811 (1), 860805 (3); *Lasioglossum (Evylaeus) sibiriacum* (Hal, Hym) F, 840811 (1), 850730 (2); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) F, 850730 (1), 860805 (1); *Ceratina japonica* (Ant, Hym) F, 840811 (1), 850730 (1), 850811 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) W, 840811 (3), 850811 (1); *Bombus (Bombus) ignitus* (Api, Hym) Q, 840811 (1), W, 840811 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 840811 (1), 860805 (1); *Apis cerana japonica* (Api, Hym) W, 850811 (1), 860805 (1)

Fumariaceae*Corydalis incisa*

PLECOPTERA6 (Ple, Ple) 870509 (1); *Bothrogonia japonica* (Tet, Hem) 870518 (1); MYCETOPHILIDAE3 (Myc, Dip) 860430 (1); SCIARIDAE4 (Sci, Dip) 860430 (1); SCIARIDAE8 (Sci, Dip) 870509 (1); BIBIONIDAE10 (Bib, Dip) 870509 (1); TIPULIDAE15 (Tip, Dip) 870518 (1); XYLOPHAGIDAE1 (Xyl, Dip) 850421 (1); *Bombylius major* (Bom, Dip) F, 870509 (1); EMPIDIDAE32 (Emp, Dip) 870509 (2); EMPIDIDAE40 (Emp, Dip) 870509 (1); DOLICHOPODIDAE1 (Dol, Dip) 870518 (1); *Baccha maculata* (Syr, Dip) F, 870509 (2); *Melanostoma scalare* (Syr, Dip) 870518 (2), F, 870509 (1), M, 870430 (1), 870509 (3); *Phalacrodira aeneostoma* (Syr, Dip) M, 850421 (1); *Platycheirus urakawensis* (Syr, Dip) F, 850421 (1); TEPHRITIDAE5 (Tep, Dip) 850421 (1); DROSOPHILIDAE14 (Dro, Dip) 860430 (5); EPHYDRIDAE10 (Eph, Dip) 860430 (1); EPHYDRIDAE6 (Eph, Dip) 860430 (1); EPHYDRIDAE7 (Eph, Dip) 860430 (1); CHLOROPIDAE14 (Chl, Dip) 860430 (1); CHLOROPIDAE18 (Chl, Dip) 860430 (1); CHLOROPIDAE27 (Chl, Dip) 860430 (1); ANTHOMYIIDAE12 (Ant, Dip) F, 870430 (1); ANTHOMYIIDAE42 (Ant, Dip) 870509 (1); TACHINIDAE23 (Tac, Dip) F, 870518 (1); TACHINIDAE39 (Tac, Dip) M, 850421 (1); TACHINIDAE81 (Tac, Dip) 850421 (1); *Dromius prolixus* (Car, Col) 850421 (1); SCAPHIDIDAE2 (Sca, Col) 850421 (1); *Oxyporus basiventris* (Sta, Col) 850421 (1); *Priochirus japonicus* (Sta, Col) 850421 (1); *Prothemus ciusianus* (Can, Col) 870518 (1); ANTHICIDAE1 (Ant, Col) 850421 (1); *Athalia japonica* (Ten, Hym) M, 870518 (1); *Zaraea akebii* (Cim, Hym) 850421 (1); ICHNEUMONIDAE104 (Ich, Hym) F, 870518 (1); ICHNEUMONIDAE6 (Ich, Hym) F, 850503 (1); ICHNEUMONIDAE66 (Ich, Hym) F, 850421 (1); *Lasioglossum (Evylaeus) baleicum* (Hal, Hym) F, 850421 (2); *Lasioglossum (Evylaeus) sibiriacum* (Hal, Hym) F, 850421 (2); *Lasioglossum (Lasioglossum) exiliceps* (Hal, Hym) F, 850421 (5); *Anthophora pilipes villosula* (Ant, Hym) F, 850503 (1), M, 850503 (1); *Tetralonia nipponens*

(Ant, Hym) M, 850503 (2); *Ceratina esakii* (Ant, Hym) M, 850421 (1); *Ceratina japonica* (Ant, Hym) F, 850503 (4), M, 850503 (3); *Ceratina megastigmata* (Ant, Hym) F, 850421 (1), M, 850421 (10), 870509 (1); *Nomada ginran* (Ant, Hym) F, 850421 (1), M, 850421 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) Q, 850421 (2); *Bombus (Diversobombus) diversus diversus* (Api, Hym) Q, 850421 (1), 850503 (1), 870509 (3), 870518 (1); *Bombus (Pyrobombus) ardens* (Api, Hym) Q, 850503 (1); *Apis cerana japonica* (Api, Hym) W, 850421 (8)

Corydalis pallida

TIPULIDAE14 (Tip, Dip) 870430 (1); *Platycheirus urakawensis* (Syr, Dip) F, 870423 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 870606 (1); ANTHOMYIIDAE 23 (Ant, Dip) F, 870423 (1); TACHINIDAE83 (Tac, Dip) F, 870423 (1); *Byturus affinis* (Byt, Col) 870423 (1); *Athalia japonica* (Ten, Hym) M, 870423 (1); ICHNEUMONIDAE95 (Ich, Hym) F, 870430 (1); *Lasioglossum (Lasioglossum) exiliceps* (Hal, Hym) F, 870423 (1); *Andrena (Micrandrena) minutula* (And, Hym) F, 870423 (1); *Ceratina megastigmata* (Ant, Hym) M, 870423 (4), 870430 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) Q, 870430 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) Q, 870423 (2), 870509 (2)

Eupteleaceae

Euptelea polyandra

BIBIONIDAE2 (Bib, Dip) 850404 (1); *Syrphus vitripennis* (Syr, Dip) M, 850404 (1); *Apis cerana japonica* (Api, Hym) W, 850404 (2)

Caryophyllaceae

Stellaria alsine

EMPIDIDAE32 (Emp, Dip) 870509 (1); SCATOPHAGIDAE1 (Sca, Dip) 870509 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 870509 (1); *Andrena (Micrandrena) minutula* (And, Hym) F, 850503 (1); *Ceratina esakii* (Ant, Hym) F, 850503 (1)

Stellaria uchiyamana

Paragus tibialis (Syr, Dip) F, 850503 (1); PYROCHROIDAE1 (Pyr, Col) 850503 (1); *Oedemeronia lucidicollis* (Oed, Col) 850503 (1)

Stellaria uchiyamana

Strombocerina koebelei (Ten, Hym) 850421 (1); ICHNEUMONIDAE11 (Ich, Hym) F, 850421 (1); *Sphecoid wasp* (Sph, Hym) F, 850421 (2); *Lasioglossum (Evylaeus) baleicum* (Hal, Hym) F, 850421 (1); *Andrena (Micrandrena) kaguya* (And, Hym) F, 850421 (1)

Stellaria uchiyamana

Andrena (Micrandrena) minutula (And, Hym) F, 850503 (1); *Ceratina flavipes* (Ant, Hym) M, 850503 (1); *Ceratina japonica* (Ant, Hym) M, 850503 (2); *Nomada shepparadana okubira* (Ant, Hym) M, 850503 (1)

Polygonaceae

Achyranthes bidentata

Vespa schrenckii (Ves, Hym) Q, 870826 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) 870826 (1)

Achyranthes bidentata

Lasioglossum (Lasioglossum) sp.3 (Hal, Hym) M, 870910 (1)

Achyranthes bidentata

Ceratina japonica (Ant, Hym) F, 870826 (1)

Bistoria tenuicaulis

- Melanostoma scalare* (Syr, Dip) F, 870423 (1)
- Persicaria aestiva*
TACHINIDAE58 (Tac, Dip) F, 871003 (1), M, 871003 (1)
- Persicaria conspicua*
TACHINIDAE46 (Tac, Dip) 840907 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) M, 860926 (1); *Ceratina japonica* (Ant, Hym) F, 860926 (1)
- Persicaria pubescens*
Episyrphus balteatus (Syr, Dip) M, 841001 (1)
- Persicaria thunbergii*
ORTHOPTERA7 (Ort, Ort) 841001 (1); *Carbula humerigera* (Pen, Hem) 851008 (1); *Geocoris varius* (Lyg, Hem) 841001 (2); LYGAEIDAE5 (Lyg, Hem) 841001 (1); *Gorpis* sp. (Nab, Hem) 841001 (2); TINGIDAE1 (Tin, Hem) 861008 (1); *Adelphocoris triannulatus* (Mir, Hem) 841001 (5); *Onomaus lautus* (Mir, Hem) 841001 (2); MIRIDAE14 (Mir, Hem) 841001 (1), 860926 (1); MIRIDAE17 (Mir, Hem) 861008 (1); MEMBRACIDAE1 (Mem, Hem) 861008 (1); PLEIDAE1 (Ple, Hem) 841001 (2), 861008 (1); CERCOPIDAE1 (Cer, Hem) 860926 (1); *Euricania fascialis* (Ric, Hem) 841001 (1), 860926 (1); PYRALIDAE8 (Pyr, Lep) 850908 (1); *Pieris melete* (Pie, Lep) F, 860913 (1); SCIARIDAE1 (Sci, Dip) 841012 (1); TIPULIDAE16 (Tip, Dip) 871020 (1); TIPULIDAE6 (Tip, Dip) 861008 (1); *Cephenius nitobei* (Bom, Dip) M, 861008 (3); EMPIDIDAE37 (Emp, Dip) 871010 (1); LONCHOPTERIDAE1 (Lon, Dip) 861008 (1); *Asarcuna porcina* (Syr, Dip) F, 861008 (1), 871010 (2); *Cheilosia* sp.6 (Syr, Dip) F, 850908 (1), M, 850908 (1); *Cheilosia* sp.7 (Syr, Dip) M, 870910 (1), 870919 (1); *Cheilosia* sp.13 (Syr, Dip) M, 841001 (1); *Chrysotoxum grande* (Syr, Dip) M, 840915 (1); *Epistotophe shibakawae* (Syr, Dip) M, 870927 (1), 871003 (1); *Episyrphus balteatus* (Syr, Dip) F, 841001 (2), 851008 (2), 860926 (1), 861008 (5), 870919 (2), 871003 (2), 871020 (2), M, 841001 (2), 841012 (1), 851008 (1), 861008 (5), 870910 (1), 870919 (3), 870927 (1), 871003 (2), 871020 (4), 871029 (2); *Eristalis cerealis* (Syr, Dip) F, 841001 (2), 841012 (1), 871003 (2), 871010 (1), M, 841001 (6), 871003 (2); *Eristalomya tenax* (Syr, Dip) M, 841012 (1); *Helophilus virgatus* (Syr, Dip) F, 841001 (1), 841012 (1), 861008 (1), 871003 (1), 871010 (1), M, 841001 (1); *Megaspis zonata* (Syr, Dip) M, 861008 (1), 871003 (1); *Melangyna ezoensis* (Syr, Dip) M, 841001 (1); *Paragus jozanus* (Syr, Dip) M, 841001 (1); *Rhingia laevigata* (Syr, Dip) F, 861008 (1), 871003 (1); *Sphaerophoria menthastri* (Syr, Dip) M, 861008 (1); *Syrphus vitripennis* (Syr, Dip) M, 871010 (2); CONOPIDAE6 (Con, Dip) F, 860926 (1); CONOPIDAE7 (Con, Dip) 871020 (1); CONOPIDAE8 (Con, Dip) 860926 (1); LAUXANIDAE9 (Lau, Dip) 841001 (1), 870919 (1); EPHYDRIDAE23 (Eph, Dip) 861008 (1); ANTHOMYIIDAE13 (Ant, Dip) F, 870927 (1); ANTHOMYIIDAE18 (Ant, Dip) F, 841001 (1); ANTHOMYIIDAE32 (Ant, Dip) 871010 (1), 871020 (1); ANTHOMYIIDAE39 (Ant, Dip) 871020 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 871010 (1); TACHINIDAE14 (Tac, Dip) F, 850908 (1); TACHINIDAE16 (Tac, Dip) F, 841012 (1); TACHINIDAE31 (Tac, Dip) F, 861008 (1); TACHINIDAE36 (Tac, Dip) F, 851008 (1); TACHINIDAE46 (Tac, Dip) 841001 (1), 841012 (1), 870927 (1); TACHINIDAE58 (Tac, Dip) M, 871010 (1); TACHINIDAE60 (Tac, Dip) 871010 (2), 871020 (1); TACHINIDAE74 (Tac, Dip) F, 871020 (1); TACHINIDAE78 (Tac, Dip) F, 860926 (1); *Ectophasia sinensis* (Pha, Dip) 850908 (1); *Gymnosoma rotundatum* (Pha, Dip) 841012 (1); CALLIPHORIDAE1 (Cal, Dip) F, 841012 (1); CALLIPHORIDAE12 (Cal, Dip) F, 861008 (1); CALLIPHORIDAE5 (Cal, Dip) F, 871003 (1); SARCOPHAGIDAE25 (Sar, Dip) F, 870927 (1); HELODIDAE1 (Hel, Col) 860926 (1); *Carpophilus chalybeus* (Nit, Col) 841001 (1); *Epuraea* sp. (Nit, Col) 861008 (1); *Galerucella vittaticollis* (Chr, Col) 841012 (1); *Nonartha cyanenum* (Chr, Col) 841001 (1); CURCULIONIDAE9 (Cur, Col) 860926 (2); BRACONIDAE1 (Bra, Hym) F, 841001 (1); BRACONIDAE12 (Bra, Hym) F, 841001 (2); BRACONIDAE42 (Bra, Hym) F, 861008 (1); ICHNEUMONIDAE1 (Ich, Hym) F, 841001 (1); ICHNEUMONIDAE10 (Ich, Hym) M, 841001 (1); ICHNEUMONIDAE

- 112 (Ich, Hym) F, 870919 (1); ICHNEUMONIDAE117 (Ich, Hym) M, 860926 (1); ICHNEUMONIDAE119 (Ich, Hym) M, 861008 (1); ICHNEUMONIDAE12 (Ich, Hym) M, 851008 (1); ICHNEUMONIDAE121 (Ich, Hym) F, 861008 (1); ICHNEUMONIDAE20 (Ich, Hym) F, 841012 (1); ICHNEUMONIDAE21 (Ich, Hym) F, 841001 (1); ICHNEUMONIDAE22 (Ich, Hym) F, 861008 (1); ICHNEUMONIDAE24 (Ich, Hym) F, 850908 (1); ICHNEUMONIDAE34 (Ich, Hym) F, 861008 (1); ICHNEUMONIDAE35 (Ich, Hym) M, 841001 (1); ICHNEUMONIDAE 47 (Ich, Hym) F, 861008 (2); ICHNEUMONIDAE50 (Ich, Hym) M, 840915 (1); ICHNEUMONIDAE69 (Ich, Hym) F, 841001 (1); ICHNEUMONIDAE71 (Ich, Hym) F, 841012 (1); *Tiphia* sp. (Tip, Hym) F, 841001 (1); *Vespa xanthoptera* (Ves, Hym) 841001 (1), W, 871010 (1), 871029 (1); *Alysson cameroni* (Sph, Hym) F, 860926 (1); *Crossocerus walkeri* (Sph, Hym) M, 841001 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) M, 841001 (1); *Hylaeus globula* (Col, Hym) F, 841001 (1), 850908 (2), M, 850908 (3); *Lasioglossum ("Dialictus") problematicum* (Hal, Hym) F, 851008 (1); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) F, 841001 (1); *Lasioglossum (Evylaeus) sp.39* (Hal, Hym) M, 871010 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 870927 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 841012 (1), M, 841001 (1), 841012 (2), 851008 (1), 861008 (5), 871003 (2), 871010 (5), 871020 (6); *Lasioglossum (Evylaeus) baleicum* (Hal, Hym) F, 841001 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) F, 871010 (1), M, 841001 (1), 850908 (1), 860926 (5), 861008 (1), 871010 (1); *Lasioglossum (Lasioglossum) sp.3* (Hal, Hym) F, 871003 (1), M, 841001 (1), 860926 (1), 870910 (2); *Ceratina japonica* (Ant, Hym) F, 841001 (18), 851008 (1), 860926 (7), 871003 (1), M, 841001 (1), 860926 (1); *Ceratina megastigma* (Ant, Hym) F, 841001 (2), M, 841001 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) M, 871003 (2); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 841001 (4), 860926 (1), 861008 (6), 870919 (4), 870927 (8), 871003 (2); *Apis cerana japonica* (Api, Hym) W, 871003 (2)
- Persicaria yokusaiana*
Episyrphus balteatus (Syr, Dip) M, 871003 (1), 871010 (1); TACHINIDAE33 (Tac, Dip) F, 851008 (1)
- Reynoutria japonica*
 ARANEIDA42 (Ara, Ara) 840915 (1); ARANEIDA43 (Ara, Ara) 840915 (1); ARANEIDA48 (Ara, Ara) 840915 (1); *Menida violacea* (Pen, Hem) 840915 (4); *Geocoris varius* (Lyg, Hem) 840915 (4); *Eurystylus coelestialium* (Mir, Hem) 840907 (5), 840915 (2), 860913 (1), 870910 (1); MIRIDAE12 (Mir, Hem) 840915 (2), 860913 (1); MIRIDAE18 (Mir, Hem) 840915 (1); *Bothrogonia japonica* (Tet, Hem) 840907 (1); *Euricania fascialis* (Ric, Hem) 840915 (1), 870910 (1); GELECHIIDAE2 (Gel, Lep) 860913 (2); *Mauglossum pynhosticta* (Sph, Lep) M, 840907 (1); *Asarcuna porcina* (Syr, Dip) M, 870910 (1); *Episyrphus balteatus* (Syr, Dip) F, 870919 (1), M, 870910 (1); *Eristalis cerealis* (Syr, Dip) F, 840907 (2); *Megaspis zonata* (Syr, Dip) M, 860913 (1), 870910 (1); *Sphegina* sp.6 (Syr, Dip) F, 860913 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 840915 (1); LAUXANIIDAE5 (Lau, Dip) 840907 (1); LAUXANIIDAE7 (Lau, Dip) 840907 (1), 840915 (1); CLUSIIDAE6 (Clu, Dip) 870827 (1); ANTHOMYIIDAE19 (Ant, Dip) F, 870919 (1); ANTHOMYIIDAE25 (Ant, Dip) F, 840907 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 840907 (2), M, 840907 (4), 870826 (1), 870827 (1); *Servillia luteola* (Tac, Dip) F, 860913 (1); TACHINIDAE39 (Tac, Dip) M, 840907 (1); TACHINIDAE40 (Tac, Dip) M, 840907 (1); TACHINIDAE41 (Tac, Dip) F, 840907 (1); TACHINIDAE42 (Tac, Dip) F, 840915 (1); TACHINIDAE47 (Tac, Dip) M, 840915 (3); TACHINIDAE48 (Tac, Dip) M, 840915 (1); TACHINIDAE49 (Tac, Dip) F, 840915 (1); TACHINIDAE75 (Tac, Dip) M, 870826 (1); TACHINIDAE8 (Tac, Dip) F, 840915 (1); TACHINIDAE90 (Tac, Dip) 840907 (2), 870910 (1); *Ectophasia sinensis* (Pha, Dip) 840915 (1); *Gymnosoma rotundatum* (Pha, Dip) 860913 (1); CALLIPHORIDAE11 (Cal, Dip) F, 860913 (1); CALLIPHORIDAE5 (Cal, Dip) F, 840907 (1);

SARCOPHAGIDAE14 (Sar, Dip) M, 860913 (1); SARCOPHAGIDAE24 (Sar, Dip) M, 840907 (1); *Mimela costata* (Sca, Col) 870903 (1); *Hotaria parvula* (Lam, Col) 840907 (1); HELODIDAE1 (Hel, Col) 840915 (1); *Carpophilus chalybeus* (Nit, Col) 840915 (1); *Eपुरaea* sp. (Nit, Col) 840907 (3); *Mordellistena* sp. (Mor, Col) 860913 (1); *Agelastica coerulea* (Chr, Col) 840907 (1); *Monolepta pallidula* (Chr, Col) 840907 (2); *Nonartha cyaneum* (Chr, Col) 840907 (5), 840915 (1); CURCULIONIDAE14 (Cur, Col) 840907 (1); BRACONIDAE32 (Bra, Hym) F, 840915 (1); BRACONIDAE6 (Bra, Hym) F, 840915 (1); ICHNEUMONIDAE 36 (Ich, Hym) F, 840907 (1); ICHNEUMONIDAE39 (Ich, Hym) M, 840907 (1); ICHNEUMONIDAE58 (Ich, Hym) F, 840907 (1); ICHNEUMONIDAE62 (Ich, Hym) F, 840907 (1); ICHNEUMONIDAE92 (Ich, Hym) M, 840907 (1); *Formica* sp. (For, Hym) 840907 (2); *Vespa xanthoptera* (Ves, Hym) 840907 (3), W, 860913 (3); *Cerceris carinalis* (Sph, Hym) M, 870827 (1); *Cerceris hortivaga* (Sph, Hym) F, 870910 (1); *Crabro* sp. (Sph, Hym) F, 870903 (1); *Lestica (Solenius) collaris* (Sph, Hym) M, 870827 (1), 870903 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 840915 (3), 870903 (1); *Trpocylon* sp. (Sph, Hym) F, 870910 (1); *Colletes babai* (Col, Hym) M, 870827 (4); *Hylaeus floralis* (Col, Hym) M, 840915 (2); *Hylaeus globula* (Col, Hym) M, 840907 (1), 860913 (1); *Hylaeus nippon* (Col, Hym) M, 840907 (1); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) F, 840915 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) 870827 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840915 (4), M, 840915 (18); *Lasioglossum (Evylaeus) sibiriacum* (Hal, Hym) F, 840907 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) M, 860913 (1), 870910 (2), 870919 (1); *Ceratina japonica* (Ant, Hym) F, 870826 (1); *Epeolus melectiformis* (,) M, 870826 (2); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870910 (1), 870919 (1); *Apis cerana japonica* (Api, Hym) W, 860913 (2), 870910 (1)

Paeoniaceae

Paeonia japonica

CLUSIIDAE1 (Clu, Dip) 860522 (1); *Pidonia puziloi* (Cer, Col) 860522 (3)

Guttiferae

Hypericum pseudopetiolatum

Megachile yasumatsui (Meg, Hym) F, 870819 (1)

Stachyuraceae

Stachyurus praecox

MIRIDAE14 (Mir, Hem) 860430 (3); MEMBRACIDAE1 (Mem, Hem) 860430 (1); TRICHOPTERA13 (Tri, Tri) 860430 (1); *Eपुरaea* sp. (Nit, Col) 860430 (5); *Apis cerana japonica* (Api, Hym) W, 850404 (1)

Symplocaceae

Symplocos chinensis

HELIOZELIDAE1 (Hel, Lep) 840606 (1); *Pelopides jansonis* (Hes, Lep) F, 840606 (1); *Thoressa varia* (Hes, Lep) F, 840606 (1), M, 840606 (2); *Pteroelecta felderi* (Cal, Lep) 840606 (2); TIPULIDAE8 (Tip, Dip) 860604 (1); EMPIDIDAE 34 (Emp, Dip) 840606 (1); *Cheilisia* sp.1 (Syr, Dip) F, 870530 (1); *Eristalis cerealis* (Syr, Dip) M, 860604 (1); *Syrphus vitripennis* (Syr, Dip) M, 870530 (1); CONOPIDAE5 (Con, Dip) 860604 (1); TACHINIDAE1 (Tac, Dip) F, 860604 (1); TACHINIDAE47 (Tac, Dip) M, 840606 (1); *Phyllopertha irregularis* (Sca, Col) 860604 (1); *Ectinus sericeus* (Ela, Col) 870530 (1); ELATERIDAE2

0 (Ela, Col) 860604 (1); *Tremus cyanipennis* (Can, Col) 860604 (1), 870530 (5); *Epilachna niponica* (Coc, Col) 840606 (1); *Mordellistena* sp. (Mor, Col) 860604 (4); *Oedemeronia manicata* (Oed, Col) 860604 (2); *Demonax transilis* (Cer, Col) 860604 (1); *Pidonia aegrota* (Cer, Col) 840606 (1), 860604 (1); *Bruchidius urbanus* (Bru, Col) 860604 (1); *Zeugophora annulata* (Chr, Col) 860604 (1); *Byctiscus puberulus* (Att, Col) 840606 (1); *Corymbas nipponica* (Ten, Hym) F, 860604 (1), 870530 (7); *Tenthredo finchi seguro* (Ten, Hym) F, 870530 (1); *Tenthredo flavipectus* (Ten, Hym) M, 870530 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 840606 (1), M, 840606 (2), 860604 (1); *Hylaeus floralis* (Col, Hym) M, 860604 (2); *Hylaeus globula* (Col, Hym) M, 860604 (1); *Lasioglossum (Evylaeus) hirashimae* (Hal, Hym) F, 870530 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 860604 (1), 870530 (2); *Lasioglossum (Lasioglossum) sp.6* (Hal, Hym) F, 870530 (1); *Andrena (Micrandrena) minutula* (And, Hym) F, 860604 (1)

Actinidiaceae

Actinidia arguta

Lasioglossum (Lasioglossum) sp.3 (Hal, Hym) F, 870709 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) W, 870704 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870704 (1)

Violaceae

Viola verecunda

ORTHOPTERA2 (Ort, Ort) 840522 (1); *Colpura lativentristi* (Cor, Hem) 860507 (1); *Gorpsis* sp. (Nab, Hem) 860522 (1); MEMBRACIDAE1 (Mem, Hem) 860507 (1); TRICHOPTERA16 (Tri, Tri) 870518 (1); HELIOZELIDAE5 (Hel, Lep) 860522 (1); *Bombylius major* (Bom, Dip) F, 860522 (1); DOLICHOPODIDAE1 (Dol, Dip) 860507 (1), 870518 (2); DOLICHOPODIDAE2 (Dol, Dip) 870518 (1); LONCHOPTERIDAE1 (Lon, Dip) 870518 (1); ANTHOMYIIDAE26 (Ant, Dip) A, 870518 (1); *Oedemeronia lucidicollis* (Oed, Col) 840522 (1), 850503 (1); *Loderus eversmanini obscurus* (Ten, Hym) F, 860507 (1); *Pachyprotasis* sp. (Ten, Hym) 850503 (1); ICHNEUMONIDAE13 (Ich, Hym) M, 860522 (1); ICHNEUMONIDAE63 (Ich, Hym) F, 850503 (1); *Lasioglossum (Lasioglossum) sp.3* (Hal, Hym) F, 860507 (2); *Andrena (Micrandrena) minutula* (And, Hym) F, 860507 (1), M, 860507 (1); *Ceratina esakii* (Ant, Hym) F, 850503 (8), 870509 (2), M, 850503 (2), 860507 (2); *Ceratina japonica* (Ant, Hym) F, 850503 (2), 860507 (3), M, 850503 (4); *Ceratina megastigmata* (Ant, Hym) F, 860507 (1), M, 850503 (1), 860507 (4); *Nomada aswensis* (Ant, Hym) M, 870509 (1); *Nomada clalii okubira* (Ant, Hym) F, 860522 (1); *Nomada flavoguttata japonensis* (Ant, Hym) F, 840522 (1); *Nomada ginran* (Ant, Hym) F, 870509 (1); *Nomada sheppardana okubira* (Ant, Hym) M, 860522 (9); *Nomada* sp. (Ant, Hym) M, 860522 (2)

Cruciferae

Cardamine regeliana

EMPIDIDAE25 (Emp, Dip) 870509 (1); *Cheilisia* sp.7 (Syr, Dip) F, 870430 (1); *Paragus tibialis* (Syr, Dip) 870509 (1); *Lasioglossum (Lasioglossum) sp.3* (Hal, Hym) F, 870509 (1); *Ceratina megastigmata* (Ant, Hym) M, 870509 (1); *Nomada aswensis* (Ant, Hym) M, 870509 (1)

Cardamine tanakae

LONCHOPTERIDAE1 (Lon, Dip) 850503 (2); *Melanostoma scalare* (Syr, Dip) F, 850503 (1); TACHINIDAE16 (Tac, Dip) F, 850503 (1); *Mordellistena* sp. (Mor, Col) 850503 (1); *Dinoptera minuta* (Cer, Col) 850503 (1); *Andrena*

(*Micrandrena*) *kaguya* (And, Hym) F, 850503 (1); *Andrena* (*Micrandrena*) *minutula* (And, Hym) F, 850503 (4); *Ceratina megastigmata* (Ant, Hym) M, 850503 (1); *Nomada harimensis* (Ant, Hym) M, 850503 (1)

Rorippa indica

Carbula humerigera (Pen, Hem) 870614 (1); *Melanostoma scalare* (Syr, Dip) F, 870614 (10); *Paragus tibialis* (Syr, Dip) M, 870614 (1); *Sphaerophoria macrogaster* (Syr, Dip) 870530 (1), F, 870614 (3), M, 870606 (2), 870614 (6), 870618 (2); ICHNEUMONIDAE107 (Ich, Hym) F, 870606 (1); *Ceratina esakii* (Ant, Hym) F, 870606 (1); *Ceratina japonica* (Ant, Hym) F, 870530 (1), 870606 (1), 870627 (1); *Nomada shepparadana okubira* (Ant, Hym) F, 870606 (1), M, 870606 (5), 870618 (1)

Clethraceae

Clethra barbinervis

Pieris rapae (Pie, Lep) F, 840811 (1); *Astochia virgatipes* (Asi, Dip) 840723 (1); *Megaspis zonata* (Syr, Dip) F, 840723 (1); ANTHOMYIIDAE25 (Ant, Dip) F, 840811 (1); *Trichius japonicus* (Sca, Col) 840811 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840811 (1); *Andrena (Hoplendera) dentata* (And, Hym) F, 840811 (3), 840823 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) W, 840811 (1), 870801 (2)

Ericaceae

Rhododendron kaempferi

Philopota nigraoenea (Acr, Dip) M, 850515 (3); *Lasioglossum (Lasioglossum) exiliceps* (Hal, Hym) F, 850515 (1); *Bombus (Pyrobombus) ardens* (Api, Hym) Q, 850515 (1)

Rosaceae

Agrimonia pilosa

Molipteryx fuliginosa (Cor, Hem) 840823 (1), 870809 (1); *Baccha maculata* (Syr, Dip) M, 870827 (1); *Episyrphus balteatus* (Syr, Dip) F, 870819 (1); *Eristalis cerealis* (Syr, Dip) F, 870826 (1); *Eumerus iidai* (Syr, Dip) F, 870809 (1), 870819 (1); *Sphegina clunipes* (Syr, Dip) M, 840823 (1), 870809 (2), 870819 (4); ANTHOMYIIDAE24 (Ant, Dip) F, 870819 (1); ICHNEUMONIDAE83 (Ich, Hym) F, 840823 (1); *Hylaeus submonticola* (Col, Hym) F, 870819 (1), 870826 (1), M, 870826 (2); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) F, 870819 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840823 (1), 870809 (2), 870826 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870910 (1)

Duchesnea chrysantha

PLECOPTERA7 (Ple, Ple) 870606 (1); *Chrysogaster okazakii* (Syr, Dip) F, 870530 (1); *Melanostoma scalare* (Syr, Dip) F, 870530 (3); *Sphaerophoria macrogaster* (Syr, Dip) M, 870606 (2); EPHYDRIDAE27 (Eph, Dip) 870606 (1); CHLOROPIDAE27 (Chl, Dip) 870606 (1); ANTHOMYIIDAE37 (Ant, Dip) F, 870530 (1); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) F, 870606 (1); *Andrena (Micrandrena) minutula* (And, Hym) F, 870530 (3), 870606 (1); *Ceratina esakii* (Ant, Hym) F, 870606 (2); *Ceratina japonica* (Ant, Hym) F, 870606 (1); *Nomada shepparadana okubira* (Ant, Hym) F, 870606 (1), M, 860522 (1), 870530 (1), 870606 (4)

Eriobotrya japonica

Bombus (Pyrobombus) ardens (Api, Hym) Q, 850404 (1)

Geum japonicum

Onomaus lautus (Mir, Hem) 870809 (1); *Baccha maculata* (Syr, Dip) F, 8708

01 (1); *Episyrrhus balteatus* (Syr, Dip) F, 870809 (1); *Eumerus iidai* (Syr, Dip) F, 850811 (1); *Sphagina clunipes* (Syr, Dip) M, 850811 (1), 870809 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 850730 (2); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870809 (1); *Bombus (Thoracobombus) honshuensis* (Api, Hym) W, 860805 (1), 870801 (1), 870809 (1)

Kerria japonica

ARANEIDA40 (Ara, Ara) 840522 (1); PLECOPTERA1 (Ple, Ple) 840522 (1); PLECOPTERA5 (Ple, Ple) 860430 (1); PLECOPTERA9 (Ple, Ple) 860430 (1); *Carbula humerigera* (Pen, Hem) 840522 (1); *Geocoris varius* (Lyg, Hem) 860507 (1); MIRIDAE14 (Mir, Hem) 840522 (1); ACHILIDAE2 (Ach, Hem) 860507 (1); TRICHOPTERA10 (Tri, Tri) 870509 (1); TRICHOPTERA12 (Tri, Tri) 860507 (1); *Pteroelecta felderi* (Cal, Lep) 870430 (1); MYCETOPHILIDAE5 (Myc, Dip) 860430 (1); TIPULIDAE19 (Tip, Dip) 870509 (2); CHIRONOMIDAE7 (Chi, Dip) 860430 (1); BLEPHAROCERIDAE1 (Ble, Dip) 860430 (1); EMPIDIDAE31 (Emp, Dip) 840522 (1); EMPIDIDAE43 (Emp, Dip) 840522 (1); DOLICHOPODIDAE1 (Dol, Dip) 870430 (3); LONCHOPTERIDAE1 (Lon, Dip) 860507 (2); *Cheilosia* sp.7 (Syr, Dip) M, 860507 (1); *Megaspis zonata* (Syr, Dip) 870509 (1); *Melanostoma scalare* (Syr, Dip) 870430 (6), 870509 (9), F, 840522 (1), 850503 (1), 860507 (9), M, 850503 (3), 860507 (9); *Phalacrodira aeneostoma* (Syr, Dip) M, 870430 (2); *Sphagina clunipes* (Syr, Dip) 870509 (1); *Syrphus vitripennis* (Syr, Dip) M, 870430 (1); CHLOROPIDAE15 (Chl, Dip) 860507 (1); CHLOROPIDAE16 (Chl, Dip) 860430 (1); ANTHOMYIIDAE47 (Ant, Dip) 860430 (1); TACHINIDAE4 (Tac, Dip) F, 860430 (1); *Onthophagus lenzii* (Sca, Col) 860507 (1); *Prothemus ciusianus* (Can, Col) 870430 (1); *Byturus affinis* (Byt, Col) 860430 (30), 860507 (6), 870423 (1), 870430 (4); *Epuraea* sp. (Nit, Col) 860507 (1); NITIDULIDAE9 (Nit, Col) 860507 (1); *Pidonia aegrota* (Cer, Col) 860430 (1); *Pidonia amentata* (Cer, Col) 870509 (1); *Pidonia puziloi* (Cer, Col) 840522 (3), 870509 (1), 870518 (1); *Athalia japonica* (Ten, Hym) M, 870430 (1); *Strombocerina koebelei* (Ten, Hym) M, 870430 (1); ICHNEUMONIDAE103 (Ich, Hym) F, 870430 (1); ICHNEUMONIDAE23 (Ich, Hym) F, 840522 (1); ICHNEUMONIDAE27 (Ich, Hym) F, 840522 (1); ICHNEUMONIDAE77 (Ich, Hym) M, 860430 (1); PROCTOTRUPIDAE3 (Pro, Hym) F, 860507 (1); *Lasius* sp. (For, Hym) 840522 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 840522 (3), 870509 (1); *Andrena (Micrandrena) hikosana* (And, Hym) F, 860507 (1); *Andrena (Micrandrena) kaguya* (And, Hym) F, 870430 (1); *Andrena (Micrandrena) minutula* (And, Hym) F, 840522 (1), 870430 (1); *Ceratina japonica* (Ant, Hym) M, 840522 (1), 870509 (1); *Ceratina megastigmata* (Ant, Hym) F, 870509 (1), M, 850503 (1), 860507 (2)

Potentilla sundaica

Paragus tibialis (Syr, Dip) F, 850503 (1); *Ceratina megastigmata* (Ant, Hym) M, 850503 (1)

Prunus jamasakura

Eristalomya tenax (Syr, Dip) F, 850404 (1); SARCOPHAGIDAE10 (Sar, Dip) M, 850404 (1); *Apis cerana japonica* (Api, Hym) W, 850404 (4)

Rubus crataegifolius

NEUROPTERA1 (Neu, Neu) 850515 (1); *Choaspes benjaminii* (Hes, Lep) F, 850515 (1); *Erynnis montanus* (Hes, Lep) F, 850515 (1); *Arasehmia burejana* (Nym, Lep) F, 870518 (1), M, 870518 (1); *Mycalesis francisca* (Sat, Lep) F, 870518 (1); BIBIONIDAE3 (Bib, Dip) 850515 (1); BIBIONIDAE9 (Bib, Dip) 860522 (1); TIPULIDAE13 (Tip, Dip) 870518 (1); *Actina jezoensis* (Str, Dip) M, 850515 (1); EMPIDIDAE25 (Emp, Dip) 850515 (1); *Cheilosia* sp.1 (Syr, Dip) F, 860522 (1); *Cheilosia* sp.12 (Syr, Dip) F, 850515 (1); *Cheilosia* sp.14 (Syr, Dip) M, 850515 (1); *Eristalis cerealis* (Syr, Dip) F, 850515 (1); *Eristalomya tenax* (Syr, Dip) M, 850515 (2); *Helophilus virgatus* (Syr, Dip) M, 850515 (2); *Melanostoma scalare* (Syr, Dip) M, 870518 (1); *Metasyrphus nintens* (Syr, Dip) M, 840522 (1); *Narumya narumya* (Syr, Dip) M, 850515 (1); *Penthesilea apicalis* (Syr, Dip) F, 850515 (1), M, 850515 (1), 870518 (1); *Sphagina clunipes*

(Syr, Dip) M, 850515 (1); *Sphegina* sp.2 (Syr, Dip) M, 850515 (1); *Temnostoma nitobei* (Syr, Dip) M, 860522 (1); *Vollucella jeddona* (Syr, Dip) M, 850515 (1); *Leopoldius japonicus* (Con, Dip) 860522 (1); AGROMYZIDAE2 (Agr, Dip) 860522 (1); CLUSIIDAE1 (Clu, Dip) 860522 (1), 870518 (1); ANTHOMYIIDAE 12 (Ant, Dip) F, 860522 (2); ANTHOMYIIDAE28 (Ant, Dip) F, 870518 (1); TACHINIDAE1 (Tac, Dip) F, 850515 (1), 860522 (1), M, 860522 (13); TACHINIDAE51 (Tac, Dip) M, 870518 (1); TACHINIDAE73 (Tac, Dip) M, 870518 (1); CALLIPHORIDAE1 (Cal, Dip) M, 870518 (1); *Dicranoncus femoralis* (Car, Col) 850515 (1); *Pristosia aeneola* (Car, Col) 860522 (1); *Tachinus* sp. (Sta, Col) 850515 (1); *Coraebus rusticanus* (Bup, Col) 850515 (4); *Prothemus ciusianus* (Can, Col) 850515 (1); HELODIDAE1 (Hel, Col) 840522 (1), 850515 (1); *Byturus affinis* (Byt, Col) 840522 (1), 850515 (14), 860522 (5), 870518 (1); PYROCHROIDAE2 (Pyr, Col) 860522 (1); *Mordellina* sp. (Mor, Col) 850515 (2); *Oedemeronia lucidicollis* (Oed, Col) 850515 (1); *Pidonia amentata* (Cer, Col) 850515 (1); *Pidonia signifera* (Cer, Col) 850515 (2), 860522 (1); *Agelasa nigriceps* (Chr, Col) 850515 (2); *Galerucella vittaticollis* (Chr, Col) 850515 (1); *Nonartha cyaneum* (Chr, Col) 850515 (1); *Metialina* sp. (Cur, Col) 860522 (1); CURCULIONIDAE10 (Cur, Col) 860522 (2); *Onycholyda lucida* (Pam, Hym) F, 860522 (1); *Macrophya apicalis* (Ten, Hym) 850515 (1); *Pachyprotasis* sp. (Ten, Hym) 850515 (2); *Siobla felox* (Ten, Hym) 850515 (2); *Tenthredinidae* sp. (Ten, Hym) M, 870518 (1); *Tenthredo hokkaidonis* (Ten, Hym) 850515 (1); *Tenthredopsis* sp. (Ten, Hym) 850515 (1); BRACONIDAE11 (Bra, Hym) M, 850515 (1); BRACONIDAE9 (Bra, Hym) F, 860522 (1); ICHNEUMONIDAE26 (Ich, Hym) F, 840522 (1); ICHNEUMONIDAE32 (Ich, Hym) F, 850515 (1); ICHNEUMONIDAE52 (Ich, Hym) F, 850515 (1); ICHNEUMONIDAE70 (Ich, Hym) F, 850515 (1); *Lasius niger* (For, Hym) 860522 (5); *Vespiniae* sp. (Ves, Hym) 870518 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 850515 (1), 860522 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) 860522 (1), F, 850515 (17), 860522 (12); *Lasioglossum (Lasioglossum) exiliceps* (Hal, Hym) F, 850515 (9), 860522 (7); *Andrena (Andrena) aburana* (And, Hym) F, 860522 (1); *Andrena (Andrena) ishiharai* (And, Hym) M, 860522 (1); *Andrena (Gymnandrena) watasei* (And, Hym) M, 850515 (2); *Andrena (Hoplendera) dentata* (And, Hym) F, 850515 (1), 860522 (1); *Andrena (Micrandrena) kaguya* (And, Hym) F, 850515 (1); *Andrena (Micrandrena) minutula* (And, Hym) F, 850515 (1), 860522 (3); *Andrena (Simandrena) opacifovea opacifovea* (And, Hym) F, 860522 (1), M, 850515 (1); *Andrena (Stenomelissa) halictoides* (And, Hym) M, 850515 (2); *Ceratina megastigmata* (Ant, Hym) F, 850515 (1), 860522 (1); *Nomada comparata* (Ant, Hym) M, 850515 (1); *Nomada esakii* (Ant, Hym) M, 850515 (1); *Nomada ginran* (Ant, Hym) F, 850515 (1); *Nomada hakonensis* (Ant, Hym) F, 850515 (1); *Nomada shirakii* (Ant, Hym) M, 850515 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) Q, 850515 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) Q, 850515 (1), 860522 (1); *Bombus (Pyrobombus) ardens* (Api, Hym) Q, 850515 (3), W, 860522 (1), 870518 (1); *Apis cerana japonica* (Api, Hym) W, 850515 (3), 860522 (2), 870518 (3)

Rubus palmatus

EPHEMEROPTERA2 (Eph, Eph) 870430 (1); MIRIDAE23 (Mir, Hem) 860507 (1); TRICHOPTERA14 (Tri, Tri) 860507 (1); *Ahlber ferra* (Lyc, Lep) F, 860430 (1); *Pteroelecta felderi* (Cal, Lep) 870430 (1); SCENOPINIDAE1 (Sce, Dip) 860507 (1); *Bombylius major* (Bom, Dip) F, 860507 (4); EMPIDIDAE22 (Emp, Dip) 860507 (1); LONCHOPTERIDAE1 (Lon, Dip) 860430 (2); *Cheilisia* sp.11 (Syr, Dip) F, 870430 (1); *Cheilisia* sp.12 (Syr, Dip) M, 860507 (3); *Cheilisia* sp.14 (Syr, Dip) F, 850421 (1), 860430 (1), 870430 (1), M, 860430 (1); *Criorhina japonica* (Syr, Dip) M, 860507 (1); *Helophilus virgatus* (Syr, Dip) M, 870430 (1); *Melanostoma scalare* (Syr, Dip) F, 850503 (1), 870430 (1), M, 860507 (9); *Sphegina clunipes* (Syr, Dip) M, 860507 (4); *Sphaerophoria macrogaster* (Syr, Dip) F, 870509 (1); *Sphegina* sp.2 (Syr, Dip) M, 860507 (2);

CONOPIDAE10 (Con, Dip) 860507 (1); EPHYDRIDAE6 (Eph, Dip) 860430 (2); *Byturus affinis* (Byt, Col) 850421 (1), 860507 (1), 870509 (2); *Epuraea* sp. (Nit, Col) 850503 (1), 870509 (1); *Dinoptera minuta ticollis* (Cer, Col) 870430 (3); *Pidonia puziloi* (Cer, Col) 850503 (1); CHRYSOMELIDAE17 (Chr, Col) 860507 (1); *Perineura okutanii* (Ten, Hym) F, 870423 (1); *Tenthredo convagennata* (Ten, Hym) M, 860507 (1); *Camponotus kiusiuensis* (For, Hym) W, 860430 (1); *Lasius niger* (For, Hym) 860507 (2); *Ectemnius (Cameronitus) radiatus* (Sph, Hym) F, 860507 (1); SPHECIDAE22 (Sph, Hym) F, 850421 (1); *Lasioglossum (Evylaeus) allodalum* (Hal, Hym) F, 860507 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 860507 (3); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 860507 (6); *Lasioglossum (Evylaeus) nipponense* (Hal, Hym) F, 850503 (2), 870509 (1); *Lasioglossum (Lasioglossum) exiliceps* (Hal, Hym) F, 860430 (1), 860507 (2); *Lasioglossum (Lasioglossum) sp.3* (Hal, Hym) F, 860507 (3); *Andrena (Andrena) nawai* (And, Hym) F, 860507 (1); *Andrena (Euanrena) hebes* (And, Hym) F, 850503 (2); *Andrena (Gymnandrena) watasei* (And, Hym) F, 860507 (1), 870509 (1); *Andrena (Hoplendrena) miyamotoi* (And, Hym) F, 860507 (2); *Andrena (Micrandrena) brassicae* (And, Hym) F, 850421 (1); *Andrena (Micrandrena) minutula* (And, Hym) F, 850503 (3), 860507 (4), 870430 (1); *Andrena (Micrandrena) sublevigata* (And, Hym) M, 860507 (1); *Ceratina japonica* (Ant, Hym) F, 850503 (1), 860507 (3), M, 850421 (1), 870509 (2); *Ceratina megastigmata* (Ant, Hym) F, 850503 (1), 860507 (3), 870430 (1), 870509 (3), M, 850421 (1), 850503 (2), 860507 (2), 870423 (1), 870430 (1), 870509 (2); *Nomada sheppardana okubira* (Ant, Hym) F, 860430 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) Q, 850421 (1), 860507 (1), W, 860430 (2); *Bombus (Pyrobombus) ardens* (Api, Hym) Q, 850421 (1), 850503 (2), 860507 (1), 870430 (1), W, 870509 (1); *Apis cerana japonica* (Api, Hym) W, 860507 (2), 870430 (3)

Rubus buergeri

Bombus (Diversobombus) diversus diversus (Api, Hym) W, 870826 (1), 870903 (1); *Apis cerana japonica* (Api, Hym) W, 841012 (4)

Stephanandra incisa

TIPULIDAE11 (Tip, Dip) 870606 (1); EMPIDIDAE42 (Emp, Dip) 870606 (1); *Cheilisia* sp.6 (Syr, Dip) F, 870606 (1); *Episyrphus balteatus* (Syr, Dip) F, 870606 (1); *Graptomyza ishikawai* (Syr, Dip) F, 870606 (1); *Melanostoma scalare* (Syr, Dip) F, 870606 (2); *Sphegina clunipes* (Syr, Dip) 870606 (3), M, 870606 (5); *Sphegina* sp.1 (Syr, Dip) F, 870606 (1); *Sphegina* sp.5 (Syr, Dip) M, 870606 (1); ANTHOMYIIDAE25 (Ant, Dip) M, 870606 (1); TACHINIDAE44 (Tac, Dip) 870606 (1); *Tremus cyanipennis* (Can, Col) 870606 (1); *Oedemeronia manicata* (Oed, Col) 870606 (2); *Corymbas nipponica* (Ten, Hym) F, 870606 (1); CYNIPIDAE2 (Cyn, Hym) F, 870606 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) M, 870606 (1); *Nomada sheppardana okubira* (Ant, Hym) M, 870606 (1)

Saxifragaceae

Astilbe thunbergii (RANUNCULACEAE).Akashouma

ORTHOPTERA8 (Ort, Ort) 840723 (1); *Onomaus lautus* (Mir, Hem) 840723 (3); MIRIDAE13 (Mir, Hem) 840723 (1); PYRALIDAE7 (Pyr, Lep) 840723 (1); *Cephenius nitobei* (Bom, Dip) M, 840723 (1); *Cheilisia* sp.1 (Syr, Dip) F, 870722 (1), M, 840723 (1), 870722 (1); *Cheilisia* sp.6 (Syr, Dip) F, 840723 (3), 860724 (1), 870722 (2), M, 840723 (3), 870722 (1); *Eristalis cerealis* (Syr, Dip) F, 870722 (1); *Sphegina clunipes* (Syr, Dip) M, 860724 (1); *Sphegina* sp.1 (Syr, Dip) F, 840723 (1); EPHYDRIDAE22 (Eph, Dip) 840723 (1); CHLOROPIDAE20 (Chl, Dip) 840723 (1); TACHINIDAE36 (Tac, Dip) F, 840723 (1); ELATERIDAE10 (Ela, Col) 840723 (3); *Xanthochroa* sp. (Oed, Col) 840723 (1); *Stenoluperus nipponensis* (Chr, Col) 840723 (1); CHRYSOMELIDAE14 (Chr, Col) 840723

(1); *Orientabia maguna* (Cim, Hym) F, 870722 (1); BRACONIDAE30 (Bra, Hym) F, 840723 (1); *Formica* sp. (For, Hym) 870731 (4); *Ectemunis* or *Cranocernus* sp. (Sph, Hym) 840723 (1); *Rhopalum* (*Latrorhopalum*) *latronum* (Sph, Hym) M, 840723 (1); *Lasioglossum* (*Evylaeus*) *transpositum* (Hal, Hym) F, 850708 (1), 860724 (3); *Lasioglossum* (*Evylaeus*) *apristum* (Hal, Hym) F, 840723 (11); *Lasioglossum* (*Evylaeus*) *sibiriacum* (Hal, Hym) F, 840723 (1); *Lasioglossum* (*Lasioglossum*) *occidens* (Hal, Hym) 860724 (1)

Cardiandra alternifolia

Onomaus lautus (Mir, Hem) 840823 (1); *Cheilosia* sp.7 (Syr, Dip) M, 840907 (1); *Sphagina* sp.1 (Syr, Dip) F, 860825 (1); ICHNEUMONIDAE5 (Ich, Hym) F, 840907 (1); *Vespa analis insularis* (Ves, Hym) Q, 840915 (1); *Passaloecus clypealis yamato* (Sph, Hym) M, 840823 (1); *Hylaeus globula* (Col, Hym) M, 840823 (1); *Lasioglossum* (*Evylaeus*) *apristum* (Hal, Hym) F, 840823 (1), 850811 (10), 860825 (1); *Bombus* (*Diversobombus*) *diversus diversus* (Api, Hym) W, 840823 (4), 840907 (1), 860825 (1), 870826 (1); *Bombus* (*Thoracobombus*) *honshuensis* (Api, Hym) W, 840907 (1), 870826 (1)

Deutzia crenata

DERMAPTERA1 (Der, Der) 840628 (5), 850620 (2); *Geocoris varius* (Lyg, Hem) 840628 (2), 850602 (1); *Nysius* sp. (Lyg, Hem) 850620 (1); LYGAEIDAE2 (Lyg, Hem) 840628 (1); LYGAEIDAE6 (Lyg, Hem) 860612 (1); MIRIDAE15 (Mir, Hem) 840628 (1); MIRIDAE6 (Mir, Hem) 840628 (1); CERCOPIDAE1 (Cer, Hem) 840628 (1); NIRVANIDAE1 (Nir, Hem) 840628 (1); DELTOCEPHALIDAE1 (Del, Hem) 860612 (1); TRICHOPTERA8 (Tri, Tri) 870627 (1); GELECHIIDAE (Gel, Lep) 860612 (1); *Ocholodes ochracea* (Hes, Lep) M, 840628 (1), 870618 (1), 870627 (1), 870709 (2); *Pieris melete* (Pie, Lep) F, 840628 (1), 870614 (1), 870627 (1), M, 870614 (1), 870704 (1); *Arasehmiya burejana* (Nym, Lep) F, 870614 (1), M, 840628 (1); *Hemaris affinis* (Sph, Lep) F, 870627 (1); *Mauoglossum* sp. (Sph, Lep) F, 870627 (1); SCIARIDAE12 (Sci, Dip) 850620 (1); EMPIDIDAE12 (Emp, Dip) 870618 (1); *Baccha apicalis* (Syr, Dip) F, 850602 (1); *Betasyrphus seraius* (Syr, Dip) M, 870704 (1); *Cheilosia* sp.1 (Syr, Dip) F, 840628 (1), 850602 (1); *Cheilosia* sp.6 (Syr, Dip) 870627 (1); *Episyrphus balteatus* (Syr, Dip) F, 850602 (1), 860612 (1), M, 870614 (2); *Eristalis cerealis* (Syr, Dip) F, 870627 (2), M, 840628 (1), 850602 (1), 870614 (2); *Lathrophthalmus viridis* (Syr, Dip) M, 870627 (1); *Megaspis zonata* (Syr, Dip) F, 870618 (1); *Melanostoma scalare* (Syr, Dip) F, 870614 (1); *Sphagina clunipes* (Syr, Dip) M, 870618 (1), 870704 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 870614 (1), M, 870614 (1), 870704 (1); *Sphaerophoria menthastri* (Syr, Dip) F, 840628 (1), 850620 (1), 860612 (1), M, 840628 (2), 860612 (1); *Vollucella jeddona* (Syr, Dip) F, 850602 (1), M, 850602 (1); *Vollucella nigricans* (Syr, Dip) F, 870627 (1); *Vollucella tabanoides* (Syr, Dip) F, 850620 (1), 870627 (1); CONOPIDAE14 (Con, Dip) 860612 (1); CONOPIDAE4 (Con, Dip) 860612 (1); CHLOROPIDAE2 (Chl, Dip) 840628 (1); CLUSIIDAE6 (Clu, Dip) 840628 (1); ANTHOMYIIDAE31 (Ant, Dip) F, 840628 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 870618 (2), M, 870618 (9), 870627 (6); TACHINIDAE20 (Tac, Dip) M, 840628 (1); *Gymnosoma rotundatum* (Pha, Dip) 850602 (1); CALLIPHORIDAE8 (Cal, Dip) F, 870618 (1), M, 850620 (2); *Tachinus* sp. (Sta, Col) 840628 (1); *Eucetonia pilifera* (Sca, Col) 870614 (1); *Oxycetonia jucunda* (Sca, Col) 860612 (1); *Ganoxanthus pallidus* (Ela, Col) 860612 (1); ELATERIDAE9 (Ela, Col) 850620 (1); *Trachys retteri* (Bup, Col) 840628 (1); *Trachys* sp. (Bup, Col) 850620 (1); *dasytes vulgaris* (Mel, Col) 850602 (1); *Eपुरaea* sp. (Nit, Col) 840628 (1), 850602 (1), 860612 (3); *Harmonia axyridis* (Coc, Col) 850620 (1), 870627 (1); *Illeis koebelei* (Coc, Col) 840628 (1); ENDOMYCHIDAE1 (End, Col) 860612 (1); *Mordellina* sp. (Mor, Col) 850602 (16), 860612 (2); *Mordellistena* sp. (Mor, Col) 840628 (1), 850602 (4), 860612 (4); *Parastrangalis nymphula* (Cer, Col) 870627 (1); *Basilepta ruficollis* (Chr, Col) 840628 (1); *Lypesthes ater* (Chr, Col) 840628 (1); *Nonartha cyaneum* (Chr, Col) 840628 (2), 850620 (1); *Paridea angulicollis* (Chr, Col) 860612 (1); *Stenoluperus nipponensis*

(Chr, Col) 840628 (1); *Byctiscus puberulus* (Att, Col) 840628 (3); APIONIDAE1 (Api, Col) 840628 (1), 860612 (1); *Metialina* sp. (Cur, Col) 840628 (1); CURCULIONIDAE2 (Cur, Col) 840628 (1); CURCULIONIDAE4 (Cur, Col) 860612 (2); *Siobla felox* (Ten, Hym) 850602 (1); *Taxonus fulvicornis* (Ten, Hym) 850602 (1); ICHNEUMONIDAE108 (Ich, Hym) F, 870618 (1); ICHNEUMONIDAE2 (Ich, Hym) F, 850620 (1); ICHNEUMONIDAE28 (Ich, Hym) F, 850620 (1); ICHNEUMONIDAE99 (Ich, Hym) M, 870627 (1); GASTERUPTIIDAE2 (Gas, Hym) F, 840628 (1); BETHYLIDAE2 (Bet, Hym) F, 860612 (1); *Camponotus obscripes* (For, Hym) 840628 (1), 850620 (1), 870704 (1); *Eumenes rubronotatus* (Ves, Hym) M, 870618 (1); *Parapolybia varia* (Ves, Hym) 850620 (1); *Polistes mandarinus* (Ves, Hym) F, 860612 (1); *Vespa xanthoptera* (Ves, Hym) Q, 850602 (1); *Crossocerus walkeri* (Sph, Hym) F, 850602 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 840628 (2); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) F, 850620 (1); *Lasioglossum (Evylaeus) sp.10* (Hal, Hym) F, 840628 (1); *Lasioglossum (Evylaeus) sp.25* (Hal, Hym) F, 840628 (2), 850620 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 840628 (7), 850602 (3), 850620 (13), 860612 (2), 870627 (4), 870704 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840628 (2), 850602 (5), 850620 (8); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) 870627 (1), F, 840628 (4), 850620 (6), 870618 (1), 870627 (1); *Andrena (Calomelissa) protomias* (And, Hym) F, 850602 (5), 850620 (4), 870618 (2), 870627 (2), M, 840628 (1), 850602 (1), 860612 (1), 870614 (4), 870618 (1), 870627 (1); *Andrena (Calomelissa) tsukubana* (And, Hym) F, 850602 (4), 850620 (3), 860612 (4), 870618 (1), 870627 (6), 870704 (5), 870709 (3), M, 850602 (7), 870618 (1); *Andrena (Gymnandrena) parathoracica* (And, Hym) F, 870618 (1); *Andrena (Micrandrena) subopaca* (And, Hym) F, 860612 (1); *Andrena (Simandrena) yamamotoi* (And, Hym) F, 870618 (1); *Megachile tsurugensis* (Meg, Hym) M, 860612 (1); *Xylocopa (Alloxycopa) appendiculata circumvolan* (Ant, Hym) 870627 (2); *Ceratina japonica* (Ant, Hym) F, 850602 (1), 850620 (1), 870627 (1); *Ceratina megastigmata* (Ant, Hym) F, 840628 (1); *Nomada shepparadana okubira* (Ant, Hym) F, 870704 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) W, 870627 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 840628 (1), 870627 (4); *Bombus (Pyrobombus) ardens* (Api, Hym) M, 840628 (1), 870627 (2), 870704 (3), Q, 870627 (1), W, 870627 (3), 870709 (1); *Apis cerana japonica* (Api, Hym) W, 860612 (1), 870627 (3)

Deutzia Maximowicziana

ARANEIDA8 (Ara, Ara) 860604 (1); *Menida violacea* (Pen, Hem) 860604 (1); *Daimio teihys* (Hes, Lep) F, 840606 (1); *Thoressa varia* (Hes, Lep) M, 840606 (1), 860604 (1); *Arasehmiya burejana* (Nym, Lep) F, 840606 (1), M, 860604 (1); CHIRONOMIDAE1 (Chi, Dip) 840606 (1); CHIRONOMIDAE3 (Chi, Dip) 840606 (1); *Philopota nigroaenea* (Acr, Dip) M, 870530 (2); *Cheilosia* sp.1 (Syr, Dip) F, 870530 (1); *Cheilosia* sp.12 (Syr, Dip) F, 870530 (1); *Episyrphus balteatus* (Syr, Dip) F, 870606 (1); *Helophilus virgatus* (Syr, Dip) F, 860604 (1); *Imatisma abdominalis* (Syr, Dip) M, 840606 (1); *Megaspis zonata* (Syr, Dip) 870530 (1); *Sphagina clunipes* (Syr, Dip) M, 870606 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 870530 (1); EPHYDRIDAE21 (Eph, Dip) 840606 (1); ANTHOMYIIDAE28 (Ant, Dip) F, 840606 (1); TACHINIDAE47 (Tac, Dip) M, 840606 (1); *Harpalus* sp. (Car, Col) 860604 (1); *Eucetonia roelofsi* (Sca, Col) 860604 (2); *Nipponovalgus angusticollis* (Sca, Col) 840606 (3), 860604 (4); *Ganaxanthus pallidus* (Ela, Col) 860604 (1); *Trachys saundersi* (Bup, Col) 860604 (1); *Mordellina* sp. (Mor, Col) 840606 (3); *Oedemeronia manicata* (Oed, Col) 870530 (1); *Stenoluperus nipponensis* (Chr, Col) 840606 (1); *Tenthredo convagennata* (Ten, Hym) 840606 (1); *Tenthredo hokkaidonis* (Ten, Hym) M, 860604 (1); ICHNEUMONIDAE8 (Ich, Hym) F, 840606 (1); *Camponotus nipponensis* (For, Hym) 860604 (1); *Lasius niger* (For, Hym) 870606 (2); *Psenulus* sp. (Sph, Hym) M, 860604 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 840606 (1), M, 860604 (3); *Hylaeus floralis* (Col, Hym) M, 860604 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840606 (1), 87053

0 (1); *Andrena* (*Gymnandrena*) *watasei* (And, Hym) M, 860604 (1); *Andrena* (*Micrandrena*) *minuiula* (And, Hym) F, 870530 (1); *Ceratina japonica* (Ant, Hym) F, 860604 (2), M, 860604 (5); *Ceratina megastigmata* (Ant, Hym) F, 860604 (1), 870530 (2); *Nomada ginran* (Ant, Hym) F, 860604 (2), 870530 (1); *Nomada sheppardana okubira* (Ant, Hym) F, 860604 (1), M, 860604 (6); *Bombus* (*Pyrobombus*) *ardens* (Api, Hym) Q, 860604 (1), W, 870530 (3); *Bombus* (*Thoracobombus*) *honshuensis* (Api, Hym) W, 870530 (1)

Hydrangea hirta

ORTHOPTERA4 (Ort, Ort) 870618 (2); DERMAPTERA1 (Der, Der) 840628 (1); MIRIDAE5 (Mir, Hem) 840628 (1); MIRIDAE9 (Mir, Hem) 840628 (1); HELIOZELIDAE4 (Hel, Lep) 870618 (1); ASILIDAE2 (Asi, Dip) 850620 (1); EMPIDIDAE36 (Emp, Dip) 840628 (1); *Baccha maculata* (Syr, Dip) M, 840628 (1); *Microdon japonicus* (Syr, Dip) F, 850620 (1); TEPHRITIDAE2 (Tep, Dip) 840628 (1); LAUXANIIDAE4 (Lau, Dip) 840628 (1); *Jujiroa* sp. (Car, Col) 840628 (1); *Melanotus annosus* (Ela, Col) 840628 (1); *Nonartha cyaneum* (Chr, Col) 870618 (1); *Stenoluperus nipponensis* (Chr, Col) 840628 (9), 850620 (3); *Zeugophora annulata* (Chr, Col) 840628 (1); CHRYSOMELIDAE27 (Chr, Col) 840628 (2); *Allantus nigrocaeleus* (Ten, Hym) 850620 (1); ICHNEUMONIDAE19 (Ich, Hym) M, 850620 (1); ICHNEUMONIDAE81 (Ich, Hym) F, 840628 (1); *Rhopalum* (*Latrorhopalum*) *latronum* (Sph, Hym) F, 840628 (1); *Lasioglossum* (*Evylaeus*) *transpositum* (Hal, Hym) F, 870627 (1); *Lasioglossum* (*Evylaeus*) *apristum* (Hal, Hym) F, 840628 (4), 850620 (3), 870618 (1); *Lasioglossum* (*Lasioglossum*) *occidens* (Hal, Hym) F, 840628 (2); *Megachile tsurugensis* (Meg, Hym) F, 870618 (1); *Ceratina japonica* (Ant, Hym) F, 870618 (2), 870627 (1)

Hydrangea macrophylla

ORTHOPTERA8 (Ort, Ort) 840628 (1); *Geocoris varius* (Lyg, Hem) 840723 (1); REDUVIIDAE1 (Red, Hem) 840723 (1); *Eurystylus coelestialium* (Mir, Hem) 840723 (1); MIRIDAE14 (Mir, Hem) 840723 (1); MIRIDAE19 (Mir, Hem) 840710 (1); MIRIDAE4 (Mir, Hem) 840628 (1), 850708 (2); ISSIDAE1 (Iss, Hem) 840628 (1); PYRALIDAE1 (Pyr, Lep) 840723 (1); *Baccha maculata* (Syr, Dip) M, 850708 (1); *Graptomyza ishikawai* (Syr, Dip) F, 840710 (1); CONOPIDAE12 (Con, Dip) 840723 (1); LONCHAEIDAE3 (Lon, Dip) 840710 (1); ANTHOMYIIDAE28 (Ant, Dip) F, 870709 (1); *Epitichas flabellatus* (Pti, Col) 840710 (1); *Epuraea* sp. (Nit, Col) 840628 (1), 850708 (1); *Mordellistena* sp. (Mor, Col) 840723 (2); *Oedemeronia lucidicollis* (Oed, Col) 840710 (1); *Idiostrangalia contracta* (Cer, Col) 840710 (1); *Stenoluperus nipponensis* (Chr, Col) 840710 (3); *Zeugophora annulata* (Chr, Col) 840710 (1); *Byctiscus puberulus* (Att, Col) 840723 (1), 850708 (1); CURCULIONIDAE2 (Cur, Col) 840628 (1); BETHYLIDAE1 (Bet, Hym) F, 840710 (1); *Lasioglossum* (*Evylaeus*) *hirashimae* (Hal, Hym) F, 870722 (1); *Lasioglossum* (*Evylaeus*) sp.25 (Hal, Hym) F, 840628 (1), 870709 (1); *Lasioglossum* (*Evylaeus*) *transpositum* (Hal, Hym) F, 840710 (4), 850708 (16), 870704 (3), 870709 (7); *Lasioglossum* (*Evylaeus*) *apristum* (Hal, Hym) F, 840723 (13), 850708 (3), 870709 (1); *Lasioglossum* (*Evylaeus*) *baleicum* (Hal, Hym) F, 840710 (8), 850708 (1), 870704 (6), 870709 (8); *Lasioglossum* (*Evylaeus*) *sibiricum* (Hal, Hym) F, 840710 (1), 870709 (10); *Lasioglossum* (*Lasioglossum*) *occidens* (Hal, Hym) 870704 (1), 870709 (1), F, 870709 (3); *Lasioglossum* (*Lasioglossum*) sp.3 (Hal, Hym) F, 870704 (1), 870709 (2); *Andrena* (*Hoplendera*) *akitsushimae* (And, Hym) F, 840710 (1), 870709 (1); *Ceratina japonica* (Ant, Hym) F, 850708 (1), 870709 (2); *Bombus* (*Bombus*) *hypocrita hypocrita* (Api, Hym) W, 840710 (4), 870709 (3)

Hydrangea paniculata

MIRIDAE14 (Mir, Hem) 840723 (1); MECOPTERA1 (Mec, Mec) 840723 (1); *Arasehnia burejana* (Nym, Lep) F, 860724 (1); *Pteroelecta felderi* (Cal, Lep) 860805 (1); *Episyrphus balteatus* (Syr, Dip) M, 870801 (1); *Eristalis cerealis* (Syr, Dip) F, 840723 (1); *Megaspis zonata* (Syr, Dip) F, 870722 (1); CONOPIDAE1 (Con, Dip) 860724 (2); ANTHOMYIIDAE38 (Ant, Dip) F, 860805 (1);

ANTHOMYIIDAE50 (Ant, Dip) M, 840723 (2); CALLIPHORIDAE1 (Cal, Dip) M, 870722 (1); SARCOPHAGIDAE17 (Sar, Dip) M, 840723 (1); *Blitopertha orientalis* (Sca, Col) M, 870722 (1); *Ectinohoplia obducta* (Sca, Col) 840723 (1); *Eucetonia roelofsi* (Sca, Col) 860724 (1); *Trichius japonicus* (Sca, Col) 860724 (1); *Ampedus vestitus* (Ela, Col) 860724 (1); ELATERIDAE15 (Ela, Col) 840723 (1); *Mordellistena* sp. (Mor, Col) 870731 (9); *Idiostrangalia contracta* (Cer, Col) 840723 (1), 860724 (2); *Leptura ochraceofasciata* (Cer, Col) 840723 (4), 860724 (4), 870722 (1), 870731 (2); *Pachytodes cometes* (Cer, Col) 840723 (1), 870731 (1); *Formica japonica* (For, Hym) 860724 (1); *Batozenellus*(?) sp. (Pom, Hym) M, 860724 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 840723 (1), 860724 (3), 860805 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 870731 (1), 870801 (2), 870809 (1); *Lasioglossum (Evylaeus) sibiriacum* (Hal, Hym) 860724 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) 870722 (1), F, 860724 (2), 870722 (2), 870731 (3); *Lasioglossum (Lasioglossum)* sp.3 (Hal, Hym) F, 860724 (2); *Andrena (Hoplendera) akitsushimae* (And, Hym) F, 840723 (2), 860724 (1), 860805 (1), M, 840723 (3); *Ceratina japonica* (Ant, Hym) F, 840811 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) W, 840723 (3), 840811 (2), 870722 (3), 870731 (4), 870801 (5); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 840723 (1), 870722 (1), 870731 (1); *Bombus (Thoracobombus) honshuensis* (Api, Hym) W, 840723 (1)

Leguminosae

Albizzia Julibrissin

Bombus (Diversobombus) diversus diversus (Api, Hym) W, 870731 (2), 870809 (1)

Amphicarpaea bracteata

Bombus (Diversobombus) diversus diversus (Api, Hym) W, 870903 (1)

Desmodium podocarpum

Baccha maculata (Syr, Dip) M, 870819 (2); *Betasyrphus seraius* (Syr, Dip) F, 870826 (1); *Episyrphus balteatus* (Syr, Dip) F, 870819 (1), 870826 (1); *Melanostoma scalare* (Syr, Dip) F, 870827 (1); *Paragus jozanus* (Syr, Dip) M, 870819 (2); *Paragus tibialis* (Syr, Dip) F, 870819 (1); *Ectophasia sinensis* (Pha, Dip) 870903 (1); *Stenodynerus tokyanus tokyanus* (Ves, Hym) F, 870826 (1); *Vespula schrenckii* (Ves, Hym) Q, 870819 (1); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) F, 870819 (1), 870826 (1); *Lasioglossum (Evylaeus)* sp. (Hal, Hym) F, 870826 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) M, 870819 (2); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) M, 870819 (1); *Megachile tsurugensis* (Meg, Hym) F, 870819 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 840907 (2)

Trifolium repens

DERMAPTERA1 (Der, Der) 840606 (1); DOLICHOPODIDAE1 (Dol, Dip) 840606 (4); *Melanostoma scalare* (Syr, Dip) F, 840606 (1); CHLOROPIDAE20 (Chl, Dip) 840606 (1); CLUSIIDAE1 (Clu, Dip) 840606 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 840606 (1)

Vicia venosa

Bombus (Diversobombus) diversus diversus (Api, Hym) W, 870722 (2), 870731 (1); *Bombus (Thoracobombus) honshuensis* (Api, Hym) W, 870801 (1), 870809 (1), 870819 (2)

Wisteria floribunda

ARADIDAE1 (Ara, Hem) 840522 (1); TIPULIDAE4 (Tip, Dip) 840522 (1); EMPIDIDAE30 (Emp, Dip) 840522 (1); CLUSIIDAE1 (Clu, Dip) 840522 (1); ANTHOMYIIDAE11 (Ant, Dip) F, 840522 (1); NITIDULIDAE15 (Nit, Col) 840606 (1); *Lemula decipiens* (Cer, Col) 840606 (1); *Byctiscus puberulus* (Att, Col) 840522 (1); ICHNEUMONIDAE61 (Ich, Hym) F, 840606 (1); *Ceratina*

megastigmata (Ant, Hym) M, 840522 (2); *Bombus* (*Diversobombus*) *diversus diversus* (Api, Hym) Q, 840522 (1)

Alangiaceae

Alangium platanifolium

Rhopalum (*Latrorhopalum*) *latronum* (Sph, Hym) M, 840628 (1); *Bombus* (*Pyrobombus*) *ardens* (Api, Hym) M, 840628 (1)

Cornaceae

Swida macrophylla

PIPUNCULIDAE2 (Pip, Dip) 840606 (1); *Eristalis cerealis* (Syr, Dip) F, 840606 (1); *Penthesilea apicalis* (Syr, Dip) F, 840606 (1)

Celastraceae

Euonymus alatus

EMPIDIDAE12 (Emp, Dip) 870530 (1); EMPIDIDAE17 (Emp, Dip) 870530 (1); *Cheilosia* sp.8 (Syr, Dip) F, 870530 (1); *Cheilosia* sp.1 (Syr, Dip) F, 870530 (1); *Episyrphus balteatus* (Syr, Dip) F, 870530 (1); ANTHOMYIIDAE25 (Ant, Dip) M, 870530 (1); TACHINIDAE59 (Tac, Dip) M, 870530 (1); *Tremus cyanipennis* (Can, Col) 870530 (1); *Tenthredo flavipectus* (Ten, Hym) M, 870530 (1); *Rhopalum* (*Latrorhopalum*) *latronum* (Sph, Hym) M, 870530 (1)

Vitaceae

Ampelopsis brevipedunculata

Asarcuna porcina (Syr, Dip) F, 870801 (2), M, 870809 (1); *Vespa xanthoptera* (Ves, Hym) 870722 (2), W, 870722 (1), 870809 (1); *Lasioglossum* (*Evylaeus*) *apristum* (Hal, Hym) F, 870809 (2)

Staphyleaceae

Staphylea Bumalda

ARANEIDA35 (Ara, Ara) 860522 (1); PLECOPTERA1 (Ple, Ple) 840522 (1); PLECOPTERA8 (Ple, Ple) 870518 (1); ORTHOPTERA4 (Ort, Ort) 870518 (1); ORTHOPTERA7 (Ort, Ort) 860522 (1); MIRIDAE14 (Mir, Hem) 850515 (1); MIRIDAE22 (Mir, Hem) 870518 (1); APHIDIDAE1 (Aph, Hem) 850515 (1); TRICHOPTERA9 (Tri, Tri) 870518 (1); GELECHIIDAE1 (Gel, Lep) 870518 (1); *Choaspes benjaminii* (Hes, Lep) F, 870518 (1); *Pieris rapae* (Pie, Lep) F, 870518 (1); *Arasehnia burejana* (Nym, Lep) F, 850515 (1); *Pteroelecta felderi* (Cal, Lep) 870518 (1); *Bombylius major* (Bom, Dip) F, 860522 (1); *Episyrphus balteatus* (Syr, Dip) F, 840522 (1), 850515 (1), M, 850515 (1); *Melanostoma scalare* (Syr, Dip) F, 840522 (1), 870518 (2), M, 870518 (2); *Penthesilea apicalis* (Syr, Dip) F, 850515 (1), M, 870518 (1); EPHYDRIDAE24 (Eph, Dip) 850515 (1); TACHINIDAE15 (Tac, Dip) F, 860522 (1); *Nipponovalgus angusticollis* (Sca, Col) 860522 (1), 870518 (2); *Podabrus malthinoides* (Can, Col) 870518 (1); *Prothemus ciusianus* (Can, Col) 850515 (1); *dasytes vulgaris* (Mel, Col) 840522 (2), 850515 (7), 860522 (1), 870518 (1); *Epuraea* sp. (Nit, Col) 840522 (1); *Oedemeronia manicata* (Oed, Col) 840522 (1); *Nonartha cyaneum* (Chr, Col) 850515 (1); *Thlaspidia cribrosaoidalis* (Chr, Col) 860522 (1); *Phyllobius armatus* (Cur, Col) 840522 (3); *Asiemphtytus deutziae* (Ten, Hym) 850515 (1); *Tenthredo finchi seguro* (Ten, Hym) M, 860522 (1); BRACONIDAE21 (Bra, Hym) M, 850515 (1); ICHNEUMONIDAE13 (Ich, Hym) M, 860522 (2); ICHNEUMONIDAE15 (Ich, Hym) M, 860522 (1); ICHNEUMONIDAE93 (Ich, Hym)

F, 840522 (1); BETHYLIDAE1 (Bet, Hym) F, 850515 (1); *Rhopalum* (*Latrorhopalum*) *latronum* (Sph, Hym) M, 840522 (1); *Lasioglossum* (*Evylaeus*) *apristum* (Hal, Hym) F, 860522 (2); *Andrena* (*Micrandrena*) *kaguya* (And, Hym) F, 860522 (2); *Andrena* (*Stenomelissa*) *halictoides* (And, Hym) M, 840522 (1); *Ceratina megastigmata* (Ant, Hym) M, 840522 (1); *Bombus* (*Bombus*) *hypocrita hypocrita* (Api, Hym) Q, 870518 (1); *Bombus* (*Diversobombus*) *diversus diversus* (Api, Hym) Q, 870518 (2); *Bombus* (*Pyrobombus*) *ardens* (Api, Hym) Q, 870518 (2); *Bombus* (*Thoracobombus*) *honshuensis* (Api, Hym) Q, 870518 (2); *Bombus* sp. (Api, Hym) Q, 870518 (1); *Apis cerana japonica* (Api, Hym) W, 860522 (1)

Sabia ceae

Meliosma tenuis

Eurystylus coelestialium (Mir, Hem) 840628 (1); *Onomaus lautus* (Mir, Hem) 840710 (14); MIRIDAE13 (Mir, Hem) 840710 (1); MIRIDAE14 (Mir, Hem) 840628 (2), 840710 (3); *Pristosia aeneola* (Car, Col) 840628 (1); ADERIDAE2 (Ade, Col) 840710 (1); *Stenoluperus nipponensis* (Chr, Col) 840710 (1); CHRYSOMELIDAE27 (Chr, Col) 840710 (1); ANTHRIBIDAE1 (Ant, Col) 840710 (1); *Bombus* (*Pyrobombus*) *ardens* (Api, Hym) M, 870709 (2)

Acera ceae

Acer carpinifolium

Cheilisia sp.12 (Syr, Dip) F, 870509 (1); *Sphegina clunipes* (Syr, Dip) 870509 (1); ELATERIDAE17 (Ela, Col) 870509 (1); *Byturus affinis* (Byt, Col) 870509 (1); *Tenthredo finchi seguro* (Ten, Hym) M, 870509 (1); ICHNEUMONIDAE110 (Ich, Hym) F, 870509 (1); ICHNEUMONIDAE113 (Ich, Hym) M, 870509 (1); *Lasioglossum* (*Evylaeus*) *apristum* (Hal, Hym) F, 870509 (1); *Bombus* (*Pyrobombus*) *ardens* (Api, Hym) W, 870509 (1)

Anacardiaceae

Rhus javanica

Eurystylus coelestialium (Mir, Hem) 840823 (1); MIRIDAE6 (Mir, Hem) 840823 (1); GRACILLARIDAE1 (Gra, Lep) 870819 (1); EMPIDIDAE19 (Emp, Dip) 840823 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 870819 (1); TACHINIDAE34 (Tac, Dip) M, 870819 (1); CALLIPHORIDAE5 (Cal, Dip) M, 840823 (1); *Nonartha cyaneum* (Chr, Col) 840823 (1); BRACONIDAE14 (Bra, Hym) F, 840823 (1); BRACONIDAE22 (Bra, Hym) F, 840823 (1); *Rhopalum* (*Latrorhopalum*) *latronum* (Sph, Hym) F, 840823 (1), M, 840823 (1); *Hylaeus nippon* (Col, Hym) F, 840823 (1); *Bombus* (*Bombus*) *hypocrita hypocrita* (Api, Hym) W, 870819 (3); *Apis cerana japonica* (Api, Hym) W, 840823 (2), 870819 (2)

Ruta ceae

Orixa japonica

ARANEIDA7 (Ara, Ara) 860430 (1); PLECOPTERA3 (Ple, Ple) 860430 (1); SCIARIDAE12 (Sci, Dip) 860430 (1); SCIARIDAE5 (Sci, Dip) 860430 (1); SCIARIDAE6 (Sci, Dip) 860430 (1); TIPULIDAE5 (Tip, Dip) 860430 (1); EMPIDIDAE32 (Emp, Dip) 860430 (1), 870430 (1); LONCHOPTERIDAE1 (Lon, Dip) 860430 (2); *Brachyopa bicolor* (Syr, Dip) M, 870423 (1); *Cheilisia* sp.2 (Syr, Dip) M, 870423 (1); *Cheilisia* sp.4 (Syr, Dip) F, 860430 (1); *Eristalis cerealis* (Syr, Dip) M, 860430 (1); *Melanostoma scalare* (Syr, Dip) M, 870423 (1); *Sphegina* sp.2 (Syr, Dip) M, 860430 (1); CRYPTOCHAETIDAE1 (Cry,

Dip) 860430 (1); DROSOPHILIDAE17 (Dro, Dip) 860430 (1); DIASTATIDAE1 (Dia, Dip) 860430 (1); *Epuraea* sp. (Nit, Col) 860430 (1); NITIDULIDAE6 (Nit, Col) 860430 (1); NITIDULIDAE9 (Nit, Col) 860430 (2); *Mordellistena* sp. (Mor, Col) 860430 (4); *Byctiscus puberulus* (Att, Col) 860430 (1); *Phyllobius armatus* (Cur, Col) 860430 (1); CURCULIONIDAE13 (Cur, Col) 860430 (1); CEPHIDAE1 (Cep, Hym) F, 870509 (1); *Macrophya* sp. (Ten, Hym) M, 860430 (1); *Pachyprotasis* sp.1 (Ten, Hym) M, 860430 (1); *Pachyprotasis* sp.2 (Ten, Hym) M, 860430 (1); *Priophorus nigricans* (Ten, Hym) M, 870423 (1); *Stroglyogaster onocleae* (Ten, Hym) F, 860430 (1); BRACONIDAE43 (Bra, Hym) F, 860430 (1); ICHNEUMONIDAE42 (Ich, Hym) F, 860430 (1); ICHNEUMONIDAE89 (Ich, Hym) F, 860430 (1); PERILAMPIDAE1 (Per, Hym) F, 860430 (1); FIGITIDAE2 (Fig, Hym) F, 860430 (1); *Parapolybia indica* (Ves, Hym) F, 870423 (1); SPHECIDAE22 (Sph, Hym) F, 860430 (1); *Lasioglossum (Evylaesus) apristum* (Hal, Hym) F, 860430 (2), 870423 (3); *Lasioglossum (Evylaesus) sibiriacum* (Hal, Hym) F, 860430 (1); *Andrena (Micrandrena) kaguya* (And, Hym) F, 860430 (2)

Geraniaceae

Geranium nepalense

Episyrphus balteatus (Syr, Dip) F, 870903 (1); *Helophilus virgatus* (Syr, Dip) F, 870910 (1); TACHINIDAE46 (Tac, Dip) 840907 (1), 870927 (1); *Lasioglossum (Lasioglossum)* sp.3 (Hal, Hym) F, 870927 (1), M, 870910 (2), 870927 (2); *Megachile tsurugensis* (Meg, Hym) M, 870927 (3); *Ceratina japonica* (Ant, Hym) F, 870903 (1), 870910 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) M, 870910 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 840907 (1), 840915 (1), 870910 (1), 870919 (1)

Balsaminaceae

Impatiens noli-tangere

Lasioglossum (Lasioglossum) occidens (Hal, Hym) F, 870627 (1); *Ceratina japonica* (Ant, Hym) F, 870627 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 840628 (3), 840723 (2), 850708 (1), 860708 (1), 870627 (3), 870704 (5), 870709 (2), 870801 (1)

Impatiens textori

Episyrphus balteatus (Syr, Dip) M, 871010 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) M, 851008 (2), W, 840907 (2), 840915 (2), 841001 (2), 850908 (2), 851008 (1), 860913 (7), 860926 (3), 870826 (7), 870827 (2), 870903 (5), 870910 (14), 870919 (15), 870927 (10), 871003 (9), 871010 (3)

Araliaceae

Aralia cordata

Menida violacea (Pen, Hem) 840823 (1), 841012 (1); *Eurystylus coelestialium* (Mir, Hem) 841012 (2); *Bothrogonia japonica* (Tet, Hem) 841012 (3); HELIOZELIDAE2 (Hel, Lep) 870826 (1); *Harima callipteris* (Sat, Lep) F, 870927 (1); CHIRONOMIDAE1 (Chi, Dip) 840823 (1); *Cephenius nitobei* (Bom, Dip) M, 870827 (1); *Cheilostia omogensis* (Syr, Dip) F, 871003 (1), 871010 (9); *Cheilostia* sp.1 (Syr, Dip) M, 871010 (1); *Cheilostia* sp.10 (Syr, Dip) F, 870826 (1), M, 871010 (1); *Epistotophe shibakawae* (Syr, Dip) M, 840907 (1); *Episyrphus balteatus* (Syr, Dip) F, 870919 (1); *Eristalis cerealis* (Syr, Dip) M, 871003 (2); *Graptomyza ishikawai* (Syr, Dip) F, 871010 (1); *Syrphus vitripennis* (Syr, Dip) M, 871010 (1); CONOPIDAE15 (Con, Dip) 870827 (1); CONOPIDAE6 (Con, Dip) M, 871010 (1); DROSOPHILIDAE18 (Dro, Dip) 870826 (1); ANTHOMYIIDAE2 (Ant, Dip) F, 871010 (1); ANTHOMYIIDAE3

(Ant, Dip) F, 871003 (1), 871010 (1); ANTHOMYIIDAE32 (Ant, Dip) 871010 (3); ANTHOMYIIDAE38 (Ant, Dip) M, 871003 (1); ANTHOMYIIDAE44 (Ant, Dip) 871003 (1); ANTHOMYIIDAE7 (Ant, Dip) M, 870927 (1); MUSCIDAE1 (Mus, Dip) F, 870826 (1); TACHINIDAE1 (Tac, Dip) F, 870927 (1), 871010 (1); TACHINIDAE43 (Tac, Dip) 871010 (1); TACHINIDAE49 (Tac, Dip) F, 840907 (1); TACHINIDAE52 (Tac, Dip) 870927 (1); TACHINIDAE54 (Tac, Dip) M, 871010 (4); TACHINIDAE58 (Tac, Dip) M, 870927 (1); TACHINIDAE59 (Tac, Dip) F, 871010 (1); TACHINIDAE60 (Tac, Dip) 871003 (1); TACHINIDAE67 (Tac, Dip) 850908 (1); TACHINIDAE69 (Tac, Dip) 871010 (1); TACHINIDAE72 (Tac, Dip) F, 871010 (1); TACHINIDAE77 (Tac, Dip) F, 871010 (1); TACHINIDAE84 (Tac, Dip) F, 871010 (1); TACHINIDAE87 (Tac, Dip) 871010 (1); TACHINIDAE89 (Tac, Dip) 871003 (1); TACHINIDAE90 (Tac, Dip) 870826 (1), 871010 (2); *Ectophasia sinensis* (Pha, Dip) 871003 (1), 871010 (1); *Gymnosoma rotundatum* (Pha, Dip) 841012 (1); CALLIPHORIDAE5 (Cal, Dip) M, 871010 (1); SARCOPHAGIDAE18 (Sar, Dip) 871003 (1); SARCOPHAGIDAE24 (Sar, Dip) M, 871010 (1); *Eucetonia roelofsi* (Sca, Col) 870903 (1); ICHNEUMONIDAE100 (Ich, Hym) M, 871003 (1); PERILAMPIDAE2 (Per, Hym) F, 871003 (1), 871010 (3); GASTERUPTIIDAE2 (Gas, Hym) F, 841012 (1); *Camponotus obscripes* (For, Hym) 850908 (2); *Formica* sp. (For, Hym) 850908 (1); *Dolichovespula media sugare* (Ves, Hym) Q, 870826 (1); *Polistes mandarinus* (Ves, Hym) F, 871003 (1); *Vespa tropica pulchra* (Ves, Hym) M, 871010 (1); *Vespa xanthoptera* (Ves, Hym) 840907 (1), W, 870826 (2), 870919 (5), 870927 (5), 871003 (4), 871010 (3); *Vespula shidai* (Ves, Hym) Q, 871003 (1); *Ectemnius (Cameronitus) radiatus* (Sph, Hym) M, 870827 (1); *Trpocylon* sp. (Sph, Hym) F, 871010 (1); *Hylaeus globula* (Col, Hym) F, 850908 (1), 870819 (1), 870826 (1); *Hylaeus submonticola* (Col, Hym) M, 870826 (2); *Lasioglossum (Evylaeus)* sp.39 (Hal, Hym) M, 870819 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 871010 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 841012 (1), 870819 (1), M, 871003 (1), 871010 (2); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) 870826 (1); *Ceratina japonica* (Ant, Hym) F, 870826 (1); *Epeolus melectiformis* (,) F, 870827 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870826 (3); *Apis cerana japonica* (Api, Hym) W, 850908 (1), 870910 (3), 870919 (1)

Aralia elata

Acanthosoma denticauda (Pen, Hem) 840907 (1); *Elasmostethus humeralis* (Pen, Hem) 840907 (3); *Eurystylus coelestialium* (Mir, Hem) 840907 (4); HELIOZELIDAE2 (Hel, Lep) 870819 (1); MYCETOPHILIDAE8 (Myc, Dip) 840907 (1); *Cheilisia* sp.1 (Syr, Dip) F, 840907 (1), M, 870819 (1); *Cheilisia* sp.6 (Syr, Dip) F, 870819 (1); *Pseudomerdon takasaquensis* (Syr, Dip) M, 870819 (1); *Sphegina* sp.1 (Syr, Dip) M, 840907 (1); *Nonartha cyaneum* (Chr, Col) 840907 (1); CHRYSOMELIDAE17 (Chr, Col) 840907 (3); CHRYSOMELIDAE30 (Chr, Col) 840907 (1); *Lasioglossum (Evylaeus) transpositum* (Hal, Hym) F, 870826 (1); *Lasioglossum (Evylaeus) baleicum* (Hal, Hym) F, 870819 (1); *Andrena (Hoplendera) dentata* (And, Hym) F, 870819 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) W, 870819 (3); *Apis cerana japonica* (Api, Hym) W, 870819 (1)

Umbelliferae

Angelica polymorpha

Elasmostethus humeralis (Pen, Hem) 861008 (1); *Eurystylus coelestialium* (Mir, Hem) 860913 (1), 860926 (1); MIRIDAE12 (Mir, Hem) 860926 (4); MIRIDAE14 (Mir, Hem) 860926 (1), 861008 (1); MIRIDAE26 (Mir, Hem) 860926 (1); *Euricania fascialis* (Ric, Hem) 860926 (1); TORTRICIDAE1 (Tor, Lep) 861008 (1); *Cheilisia omogensis* (Syr, Dip) F, 851008 (5); *Cheilisia* sp.6 (Syr, Dip) M, 851008 (1); *Epistotophe shibakawae* (Syr, Dip) F, 851008 (1).

- M, 851008 (1); *Megaspis zonata* (Syr, Dip) M, 851008 (1); *Sphagina clunipes* (Syr, Dip) M, 851008 (2); LAUXANIIDAE4 (Lau, Dip) 860926 (1); LONCHAEIDAE1 (Lon, Dip) 851008 (1); ANTHOMYIIDAE3 (Ant, Dip) F, 861008 (1); *Servillia luteola* (Tac, Dip) F, 851008 (1); TACHINIDAE1 (Tac, Dip) F, 851008 (1); TACHINIDAE12 (Tac, Dip) F, 860926 (1), M, 851008 (1); TACHINIDAE26 (Tac, Dip) M, 851008 (1); TACHINIDAE27 (Tac, Dip) F, 851008 (1); TACHINIDAE31 (Tac, Dip) F, 851008 (1); TACHINIDAE47 (Tac, Dip) F, 851008 (1); TACHINIDAE48 (Tac, Dip) M, 860926 (1); TACHINIDAE56 (Tac, Dip) F, 871003 (1); TACHINIDAE60 (Tac, Dip) 851008 (1), 860926 (1), 871003 (1); TACHINIDAE66 (Tac, Dip) F, 860926 (1); TACHINIDAE71 (Tac, Dip) 851008 (1); TACHINIDAE9 (Tac, Dip) M, 861008 (1); *Ectophasia sinensis* (Pha, Dip) 851008 (4); CALLIPHORIDAE1 (Cal, Dip) F, 861008 (1); CALLIPHORIDAE6 (Cal, Dip) F, 860926 (1); CALLIPHORIDAE9 (Cal, Dip) F, 860926 (1); SARCOPHAGIDAE3 (Sar, Dip) 851008 (1); SARCOPHAGIDAE9 (Sar, Dip) M, 851008 (1); *Epuraea* sp. (Nit, Col) 861008 (4); PHALACRIDAE2 (Pha, Col) 861008 (1); *Nonartha cyaneum* (Chr, Col) 860926 (1); BRACONIDAE19 (Bra, Hym) M, 851008 (1); BRACONIDAE34 (Bra, Hym) F, 861008 (1); ICHNEUMONIDAE75 (Ich, Hym) M, 860926 (1); ICHNEUMONIDAE80 (Ich, Hym) F, 851008 (1); GASTERUPTIIDAE1 (Gas, Hym) F, 860926 (1); *Lasius niger* (For, Hym) 861008 (2); *Vespa xanthoptera* (Ves, Hym) W, 871003 (1); *Lestica collaris* (Sph, Hym) M, 851008 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 860926 (6), M, 860926 (1); *Hylaeus floralis* (Col, Hym) M, 860926 (2); *Hylaeus globula* (Col, Hym) F, 851008 (1), 860926 (9), 861008 (1), M, 860926 (3); *Hylaeus nippon* (Col, Hym) M, 860926 (1); *Hylaeus submonticola* (Col, Hym) M, 860913 (2); *Lasioglossum (Ctenonomia)* sp.1 (Hal, Hym) M, 861008 (1); *Lasioglossum (Evylaeus)* sp.39 (Hal, Hym) M, 860926 (2), 871003 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) M, 860926 (3); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) M, 860926 (1); *Andrena (Oreomelissa) mitakensis* (And, Hym) F, 861008 (1); *Ceratina japonica* (Ant, Hym) M, 860926 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) M, 860913 (1)
- Angelica pubescens*
Menida violacea (Pen, Hem) 840823 (5), 840915 (3), 870910 (1); *Geocoris varius* (Lyg, Hem) 840915 (2), 850908 (2), 860926 (1); *Eurystylus coelestialium* (Mir, Hem) 850908 (2), 860926 (2); MIRIDAE14 (Mir, Hem) 841012 (1), 850908 (2); MIRIDAE6 (Mir, Hem) 840915 (1); *Bothrogonia japonica* (Tet, Hem) 871003 (1); ISSIDAE1 (Iss, Hem) 840915 (1); *Euricania fascialis* (Ric, Hem) 850908 (1), 870919 (1); PYRALIDAE6 (Pyr, Lep) 840915 (1); MYCETOPHILIDAE8 (Myc, Dip) 871020 (2); BIBIONIDAE7 (Bib, Dip) 860926 (1); PTYCHOPTERIDAE1 (Pty, Dip) 860926 (1); CERATOPOGONIDAE3 (Cer, Dip) 860926 (1); *Cheilisia omogensis* (Syr, Dip) F, 840915 (1), 860926 (5), 870919 (1), 871003 (1), 871010 (6), M, 840907 (5), 840915 (3); *Cheilisia* sp.6 (Syr, Dip) F, 840907 (2), M, 840907 (5), 870910 (1), 870927 (1), 871003 (1); *Epistotophe shibakawae* (Syr, Dip) M, 870910 (1), 870919 (2), 871003 (1); *Episyrrphus balteatus* (Syr, Dip) M, 871020 (2); *Eristalis cerealis* (Syr, Dip) F, 840823 (1), 870927 (1), M, 870919 (1); *Megaspis zonata* (Syr, Dip) F, 850908 (1); *Melangyna ezoensis* (Syr, Dip) F, 841012 (1); *Melanostoma scalare* (Syr, Dip) M, 870919 (1); *Neoascia* sp. (Syr, Dip) M, 840907 (1); *Pipiza inornata* (Syr, Dip) M, 870910 (1); *Sphagina clunipes* (Syr, Dip) M, 840823 (1), 840907 (1), 860926 (2), 870927 (1), 871003 (1); *Sphagina* sp.1 (Syr, Dip) F, 840907 (1), 860926 (2), M, 860926 (1), 870919 (1); LAUXANIIDAE7 (Lau, Dip) 840915 (1); LAUXANIIDAE9 (Lau, Dip) 870919 (1); LONCHAEIDAE10 (Lon, Dip) 870919 (1); HELOMYZIDAE1 (Hel, Dip) 871020 (1); EPHYDRIDAE17 (Eph, Dip) 840823 (1); EPHYDRIDAE25 (Eph, Dip) 840823 (1); CHLOROPIDAE20 (Chl, Dip) 840823 (5); CHLOROPIDAE27 (Chl, Dip) 840823 (1); ANTHOMYIIDAE12 (Ant, Dip) M, 870927 (1); ANTHOMYIIDAE15 (Ant, Dip) M, 871003 (1); ANTHOMYIIDAE2 (Ant, Dip) F, 870927 (1); ANTHOMYIIDAE22 (Ant, Dip) M, 840907 (1); ANTHOMYIIDAE25 (Ant, Dip) M, 870919 (1); ANTHOMYIIDAE28 (Ant, Dip) 840823 (2), F, 840823

(1); ANTHOMYIIDAE3 (Ant, Dip) F, 870919 (2), 870927 (1); ANTHOMYIIDAE31 (Ant, Dip) M, 870919 (1); ANTHOMYIIDAE32 (Ant, Dip) 871003 (1); ANTHOMYIIDAE40 (Ant, Dip) 840915 (1); ANTHOMYIIDAE49 (Ant, Dip) 871020 (1); ANTHOMYIIDAE5 (Ant, Dip) F, 870927 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 840823 (2), 850908 (2), 870903 (1), 871029 (4), M, 840823 (1), 871029 (1); *Graphomyia maculata* (Mus, Dip) 870827 (1); MUSCIDAE2 (Mus, Dip) F, 871029 (1); MUSCIDAE4 (Mus, Dip) F, 870827 (1); MUSCIDAE5 (Mus, Dip) M, 870927 (1); MUSCIDAE6 (Mus, Dip) M, 870927 (1); *Servillia luteola* (Tac, Dip) F, 870903 (1), 870919 (1); TACHINIDAE10 (Tac, Dip) F, 870903 (1); TACHINIDAE48 (Tac, Dip) M, 841012 (1); TACHINIDAE50 (Tac, Dip) F, 870927 (1), M, 871020 (1); TACHINIDAE55 (Tac, Dip) F, 870919 (1), 870927 (1), M, 870919 (3); TACHINIDAE56 (Tac, Dip) F, 871020 (2); TACHINIDAE60 (Tac, Dip) 841012 (2), 871003 (2), 871010 (2), 871020 (2), 871029 (2); TACHINIDAE65 (Tac, Dip) M, 870919 (1); TACHINIDAE70 (Tac, Dip) F, 871003 (1); TACHINIDAE77 (Tac, Dip) F, 870919 (1), M, 871020 (2); TACHINIDAE86 (Tac, Dip) M, 870919 (1); TACHINIDAE9 (Tac, Dip) M, 871010 (1); TACHINIDAE90 (Tac, Dip) 870927 (1); *Ectophasia sinensis* (Pha, Dip) 840907 (1), 840915 (1), 850908 (1), 870827 (1), 870910 (4), 870927 (1), 871020 (2); *Gymnosoma rotundatum* (Pha, Dip) 840915 (2), 870903 (1), 871020 (1), 871029 (1); CALLIPHORIDAE1 (Cal, Dip) F, 840915 (1); CALLIPHORIDAE2 (Cal, Dip) M, 870919 (1); CALLIPHORIDAE5 (Cal, Dip) F, 870910 (1), M, 840915 (1); SARCOPHAGIDAE20 (Sar, Dip) 870919 (1); *Oxyceonia jucunda* (Sca, Col) 870910 (1); *Trachys reteri* (Bup, Col) 860926 (1); *Leptura ochraceofasciata* (Cer, Col) 840823 (1); *Cassida rubiginosaidalis* (Chr, Col) 850908 (1); *Nonartha cyaneum* (Chr, Col) 840823 (8), 840907 (2); *Metalina* sp. (Cur, Col) 840907 (1); *Arge similis* (Ari, Hym) M, 870910 (1); *Arge* sp. (Ari, Hym) 850908 (1); BRACONIDAE10 (Bra, Hym) F, 840915 (2); BRACONIDAE23 (Bra, Hym) F, 840915 (1); BRACONIDAE24 (Bra, Hym) F, 840915 (3); BRACONIDAE37 (Bra, Hym) F, 871010 (1); BRACONIDAE4 (Bra, Hym) F, 841012 (3); BRACONIDAE46 (Bra, Hym) F, 860926 (1); ICHNEUMONIDAE101 (Ich, Hym) M, 870919 (1); ICHNEUMONIDAE102 (Ich, Hym) F, 870910 (1); ICHNEUMONIDAE106 (Ich, Hym) F, 871020 (1); ICHNEUMONIDAE45 (Ich, Hym) F, 840823 (2); ICHNEUMONIDAE97 (Ich, Hym) M, 870919 (1); ICHNEUMONIDAE98 (Ich, Hym) F, 871003 (1); ENCYRTIDAE1 (Enc, Hym) F, 860926 (1); ENCYRTIDAE2 (Enc, Hym) F, 860926 (1); PTEROMALIDAE1 (Pte, Hym) F, 840823 (1); PTEROMALIDAE4 (Pte, Hym) F, 860926 (1); PTEROMALIDAE5 (Pte, Hym) F, 860926 (1); PTEROMALIDAE7 (Pte, Hym) F, 860926 (1); PTEROMALIDAE8 (Pte, Hym) M, 860926 (1); EURYTOMIDAE2 (Eur, Hym) F, 850908 (1); CYNIPIDAE3 (Cyn, Hym) F, 860926 (1); PROCTOTRUPIDAE2 (Pro, Hym) F, 840907 (1); *Tiphia* sp. (Tip, Hym) F, 850908 (1); *Lasius niger* (For, Hym) 860926 (5); *Eumenes rubronotatus* (Ves, Hym) 850908 (1); *Dolichovespula media sugare* (Ves, Hym) Q, 870827 (1), 870903 (1); *Vespa xanthoptera* (Ves, Hym) W, 870910 (2), 870919 (1); *Cerceris carinalis* (Sph, Hym) F, 870927 (1); *Ectemnius (Cameronitus) nigritarsus* (Sph, Hym) M, 870919 (1); *Lestica (Solenius) collaris* (Sph, Hym) M, 870903 (1); *Lestica collaris* (Sph, Hym) F, 840823 (1), M, 840823 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 871020 (1), M, 850908 (1), 870919 (1); *Trpocylon* sp. (Sph, Hym) F, 871003 (1); *Colletes babai* (Col, Hym) F, 870827 (1); *Hylaeus floralis* (Col, Hym) F, 850908 (1), M, 840915 (3); *Hylaeus globula* (Col, Hym) F, 840823 (3), 840907 (5), 840915 (9), M, 840823 (1), 840907 (1), 840915 (2), 850908 (1), 870903 (3), 870910 (1), 870919 (1); *Hylaeus submonticola* (Col, Hym) M, 870903 (1), 870910 (1); *Lasioglossum (Evylaeus) allodalum* (Hal, Hym) M, 840915 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 841012 (1), M, 840915 (7), 841012 (1), 860926 (2), 871003 (1), 871010 (1); *Lasioglossum (Lasioglossum)* sp.3 (Hal, Hym) F, 871029 (1); *Ceratina japonica* (Ant, Hym) F, 850908 (1), M, 871029 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870903 (1)

Cryptotaenia japonica

Baccha maculata (Syr, Dip) F, 840723 (1); *Paragus tibialis* (Syr, Dip) F, 840723 (1); *Lasioglossum (Evylaeus)* sp.5 (Hal, Hym) F, 840723 (1)

Osterium sieboldii

Cheilosia omogensis (Syr, Dip) M, 860926 (1); *Cheilosia* sp.6 (Syr, Dip) F, 871003 (1), M, 860926 (2), 861008 (2); *Epistorophe orientaris* (Syr, Dip) F, 861008 (3); *Eristalis cerealis* (Syr, Dip) M, 860926 (5); ANTHOMYIIDAE28 (Ant, Dip) F, 870919 (1)

Torilis japonica

Carbula humerigera (Pen, Hem) 850811 (1); *Sphaerophoria menthastris* (Syr, Dip) F, 850730 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 850730 (1)

Gentianaceae*Swertia bimaculata*

Eristalis cerealis (Syr, Dip) F, 841012 (1); *Sphegina clunipes* (Syr, Dip) M, 870927 (1), 871010 (1); TACHINIDAE90 (Tac, Dip) 841012 (1); *Lasioglossum (Evylaeus)* sp.39 (Hal, Hym) M, 871010 (2), 871020 (1)

Olea ceae*Ligustrum obtusifolium*

Lasioglossum (Lasioglossum) occidens (Hal, Hym) F, 860612 (1)

Boraginaceae*Omphalodes japonica*

Bombylius major (Bom, Dip) F, 850421 (3), 850503 (1); EMPIDIDAE22 (Emp, Dip) 850503 (1); *Melanostoma scalare* (Syr, Dip) M, 850503 (2); *Phalacrodira aeneostoma* (Syr, Dip) F, 850421 (1); *Platycheirus urakawensis* (Syr, Dip) M, 850421 (1); *Sphaerophia viridaenea* (Syr, Dip) F, 850503 (1); TEPHRITIDAE 11 (Tep, Dip) 850421 (1); TACHINIDAE2 (Tac, Dip) F, 850421 (1); *Asiemphtus deutziae* (Ten, Hym) 850421 (1); *Pachyprotasis hiensis* (Ten, Hym) F, 860430 (1); ICHNEUMONIDAE9 (Ich, Hym) F, 850421 (1); SPHECIDAE22 (Sph, Hym) F, 850421 (1); *Lasioglossum (Lasioglossum) exiliceps* (Hal, Hym) F, 850421 (1); *Andrena (Euanrena) hebes* (And, Hym) F, 850421 (1), 850503 (3), M, 850503 (1); *Osmia cornifrons* (Meg, Hym) M, 860430 (1); *Ceratina esakii* (Ant, Hym) F, 850503 (1), M, 850421 (1); *Ceratina japonica* (Ant, Hym) F, 850421 (1), 850503 (4), 860430 (1), 860507 (2), M, 850503 (3); *Ceratina megastigmata* (Ant, Hym) F, 850421 (2), 850503 (2), 860507 (4), M, 850421 (2), 850503 (12), 860430 (1), 860507 (3); *Ceratina* sp. (Ant, Hym) 850421 (1); *Nomada esakii* (Ant, Hym) F, 850503 (1), M, 860430 (1), 860507 (1); *Nomada ginran* (Ant, Hym) F, 860507 (1), M, 850421 (2), 850503 (1), 860430 (1), 860507 (1); *Nomada harimensis* (Ant, Hym) F, 850503 (1), M, 850503 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) Q, 860507 (1)

Trigonotis brevipēs

Baccha maculata (Syr, Dip) M, 840710 (1); *Sphegina clunipes* (Syr, Dip) M, 870614 (1); *Sphegina* sp.5 (Syr, Dip) M, 840710 (1)

Verbenaceae*Callicarpa japonica*

PHALANGIDA2 (Pha, Pha) 840710 (1); *Onomaus lautus* (Mir, Hem) 840710 (7); *Episyrrphus balteatus* (Syr, Dip) F, 840710 (1), M, 840710 (1); *Sphaerophoria menthastris* (Syr, Dip) F, 840710 (1); *Thlaspidia cribrosaoidalis* (Chr, Col)

840710 (1)

Labiatae*Glechoma hederacea*

DOLICHOPODIDAE1 (Dol, Dip) 870518 (1); *Melanostoma scalare* (Syr, Dip) 870518 (1); *Metasyrphus corollae* (Syr, Dip) F, 870518 (1); *Oedemeronia lucidicollis* (Oed, Col) 870509 (2); *Lasius niger* (For, Hym) 870509 (2) *Ceratina esakii* (Ant, Hym) F, 860522 (1); *Ceratina japonica* (Ant, Hym) F, 860522 (1) *Ceratina japonica* (Ant, Hym) F, 870509 (1); *Nomada harimensis* (Ant, Hym) F, 870509 (1)

Leucosceptrum stellipilum

ARANEIDA44 (Ara, Ara) 841012 (1); *Geocoris varius* (Lyg, Hem) 860926 (1); *Gorpis* sp. (Nab, Hem) 841001 (1); *Eurystylus coelestialium* (Mir, Hem) 860926 (1); *Onomaus lautus* (Mir, Hem) 860926 (4); MIRIDAE12 (Mir, Hem) 860926 (2); MIRIDAE13 (Mir, Hem) 860926 (2); MIRIDAE14 (Mir, Hem) 841012 (4), 860926 (33); MIRIDAE22 (Mir, Hem) 860926 (2); MIRIDAE23 (Mir, Hem) 860926 (1); MIRIDAE24 (Mir, Hem) 860926 (1); CECIDOMYIIDAE2 (Cec, Dip) 841012 (1); SCIARIDAE1 (Sci, Dip) 841012 (1); *Didea fasciata* (Syr, Dip) F, 841001 (1); *Melangyna ezoensis* (Syr, Dip) F, 841012 (1); *Syrphus japonica* (Syr, Dip) F, 841012 (1); TACHINIDAE78 (Tac, Dip) F, 860926 (1), K, 860926 (1); SCAPHIDIIDAE1 (Sca, Col) 841012 (1); *Epuraea* sp. (Nit, Col) 841012 (9); CHRYSOMELIDAE32 (Chr, Col) 841012 (2); CURCULIONIDAE10 (Cur, Col) 860926 (1); BRACONIDAE8 (Bra, Hym) F, 841012 (1); ICHNEUMONIDAE 124 (Ich, Hym) F, 860926 (1); ICHNEUMONIDAE53 (Ich, Hym) F, 841012 (1); BETHYLIDAE1 (Bet, Hym) F, 841012 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 860926 (1); *Lasioglossum (Lasioglossum) sp.3* (Hal, Hym) F, 860926 (1), 871029 (2), M, 871029 (1); *Ceratina iwatai* (Ant, Hym) F, 860926 (1); *Ceratina japonica* (Ant, Hym) F, 860926 (8), M, 860926 (1); *Ceratina megastigmata* (Ant, Hym) F, 860926 (2), M, 860926 (3); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 841012 (1), 860926 (4), 870919 (1), 870927 (1), 871003 (1), 871010 (2); *Bombus (Thoracobombus) honshuensis* (Api, Hym) W, 870919 (1)

Meehania urticifolia

Bombus (Diversobombus) diversus diversus (Api, Hym) Q, 840522 (1), 850503 (1), 860522 (1)

Rabdosia longituba

Mauoglossum pynhosticta (Sph, Lep) F, 871010 (1); *Episyrphus balteatus* (Syr, Dip) F, 860926 (1); ICHNEUMONIDAE14 (Ich, Hym) F, 860926 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) M, 841012 (1), W, 841001 (2), 870927 (1), 871003 (1)

Rabdosia trichocarpa

Epistotophe shibakawae (Syr, Dip) M, 870919 (5), 870927 (2), 871003 (1); *Pipiza inornata* (Syr, Dip) F, 871003 (1); CALLIPHORIDAE5 (Cal, Dip) M, 870919 (1); *Eumenes rubronotatus* (Ves, Hym) F, 870919 (1); *Vespa xanthoptera* (Ves, Hym) W, 870919 (1); *Ceratina japonica* (Ant, Hym) F, 871003 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) 841012 (1), W, 870927 (1), 871003 (1)

Plantaginaceae*Plantago asiatica*

Bombus (Bombus) hypocrita hypocrita (Api, Hym) W, 870903 (1)

Campanulaceae*Codonopsis lanceolata*

Campanotus kiusiensis (For, Hym) 870919 (1); *Vespa xanthoptera* (Ves, Hym) W, 870919 (1)

Rubiaceae*Paederia scandens*

Molipteryx fuliginosa (Cor, Hem) 840823 (1); MIRIDAE4 (Mir, Hem) 850811 (1); *Lasioglossum (Evylaeus) sexstrigatum* (Hal, Hym) M, 840823 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 850811 (1); *Ceratina japonica* (Ant, Hym) F, 870819 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 840823 (1), 870819 (2), 870827 (1)

Caprifoliaceae*Lonicera gracilipes*

BIBIONIDAE1 (Bib, Dip) 850421 (1); *Melangyna ezoensis* (Syr, Dip) F, 850421 (1); ICHNEUMONIDAE56 (Ich, Hym) F, 850421 (1); ICHNEUMONIDAE57 (Ich, Hym) F, 850421 (1); ICHNEUMONIDAE72 (Ich, Hym) F, 850421 (1); *Andrena (Stenomelissa) halictoides* (And, Hym) M, 850421 (1); *Ceratina megastigmata* (Ant, Hym) M, 850421 (9); *Bombus (Pyrobombus) ardens* (Api, Hym) Q, 850421 (1)

Sambucus racemosa

Epistorophe aino (Syr, Dip) M, 850421 (1); NITIDULIDAE14 (Nit, Col) 850421 (1); ICHNEUMONIDAE67 (Ich, Hym) F, 850421 (1); ICHNEUMONIDAE68 (Ich, Hym) F, 850421 (1); *Ceratina megastigmata* (Ant, Hym) M, 850421 (1)

Viburnum phlebotricum

Philopota nigraeana (Acr, Dip) M, 850515 (2); LONCHAEIDAE2 (Lon, Dip) 850515 (1); *Nipponovalgus angusticollis* (Sca, Col) 850515 (1); *Denticollis nipponensis* (Ela, Col) 850515 (1); *Languriomorpha lewisi* (Lan, Col) 850515 (1); *Pidonia aegrotata* (Cer, Col) 850515 (2); *Pidonia amentata* (Cer, Col) 850515 (1); *Pidonia miwai* (Cer, Col) 850515 (1); *Pidonia puziloi* (Cer, Col) 850515 (3); ICHNEUMONIDAE17 (Ich, Hym) M, 850515 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 850515 (2)

Viburnum plicatum

ARANEIDA22 (Ara, Ara) 860604 (1); *Menida violacea* (Pen, Hem) 860604 (1); LYGAEIDAE5 (Lyg, Hem) 860604 (1); MIRIDAE8 (Mir, Hem) 840606 (1), 860604 (1); HELIOZELIDAE1 (Hel, Lep) 870606 (1); *Thoressa varia* (Hes, Lep) M, 840606 (1); EMPIDIDAE26 (Emp, Dip) 840606 (1); EMPIDIDAE29 (Emp, Dip) 870530 (1); EMPIDIDAE35 (Emp, Dip) 850602 (1); EMPIDIDAE38 (Emp, Dip) 860604 (1), 870606 (1); *Betasyrphus seraius* (Syr, Dip) M, 860604 (1); *Cheilosia* sp.1 (Syr, Dip) F, 840606 (1), 860604 (1), 870530 (1); *Cheilosia* sp.10 (Syr, Dip) F, 870530 (1), M, 870530 (1); *Episyrphus balteatus* (Syr, Dip) F, 870530 (2), M, 870530 (1), 870606 (1); *Eristalis cerealis* (Syr, Dip) F, 870530 (2), M, 860604 (2); *Helophilus virgatus* (Syr, Dip) M, 870530 (1); *Imatisma abdominalis* (Syr, Dip) M, 840606 (1); *Melanostoma scalare* (Syr, Dip) F, 870530 (1); *Penthesilea apicalis* (Syr, Dip) F, 840606 (1); *Sphaerophoria menthastri* (Syr, Dip) F, 860604 (1); *Sphegina* sp.2 (Syr, Dip) M, 870530 (1); *Syrphus vitripennis* (Syr, Dip) M, 870530 (2); CONOPIDAE13 (Con, Dip) 860604 (1); CONOPIDAE5 (Con, Dip) 860604 (1); EPHYDRIDAE3 (Eph, Dip) 860604 (1); CANACEIDAE3 (Can, Dip) 860604 (1); CHLOROPIDAE1 (Chl, Dip) 840606 (1); ANTHOMYIIDAE12 (Ant, Dip) F, 860604 (1); ANTHOMYIIDAE50 (Ant, Dip) M, 850602 (1); *Gymnosoma rotundatum* (Pha, Dip) 840606 (2), 860604 (1); *Brachyloma curtum* (Sil, Col) 840606 (2); *Tachinus* sp. (Sta, Col) 850602 (1); *Blitopertha orientalis* (Sca, Col) M, 860604 (1); *Nipponovalgus angusticollis* (Sca, Col) 850515 (1); *Ganoxanthus pallidus* (Ela, Col) 860604 (2);

Vuilletus viridissilis (Ela, Col) 870530 (1); *Vuilletus viridis* (Ela, Col) 840606 (3); *Tremus cyanipennis* (Can, Col) 840606 (2); NITIDULIDAE15 (Nit, Col) 840606 (1); NITIDULIDAE7 (Nit, Col) 860604 (1); NITIDULIDAE8 (Nit, Col) 860604 (1); *Languriomorpha nigratarsis* (Lan, Col) 860522 (1); *Mordellina* sp. (Mor, Col) 840606 (2), 850602 (10), 860604 (5); *Mordellistena* sp. (Mor, Col) 840606 (1), 860604 (1); *Oedemeronia manicata* (Oed, Col) 840606 (1), 850602 (1), 860604 (3); *Demonax transilis* (Cer, Col) 860604 (6), 870530 (2); *Dere thoracica* (Cer, Col) 840606 (1); *Grammographus notabilis* (Cer, Col) 860604 (1); *Pidonia aegrota* (Cer, Col) 860604 (1); *Pidonia amentata* (Cer, Col) 840606 (1); *Pidonia signifera* (Cer, Col) 860604 (1); *Strangalomorpha tenuis* (Cer, Col) 860604 (2), 870530 (1); *Bruchidius urbanus* (Bru, Col) 860604 (1); *Spermophagus japonicus* (Bru, Col) 860604 (1); *Agelasa nigriceps* (Chr, Col) 850515 (1); *Nonartha cyaneum* (Chr, Col) 840606 (1), 850602 (2), 860604 (1); *Byctiscus puberulus* (Att, Col) 840606 (1); APIONIDAE1 (Api, Col) 840606 (1); APIONIDAE2 (Api, Col) 840606 (1); *Phyllobius armatus* (Cur, Col) 840606 (1); CURCULIONIDAE7 (Cur, Col) 860604 (2); *Corymbas nipponica* (Ten, Hym) F, 860604 (1); *Tenthredo convagennata* (Ten, Hym) 840606 (1); *Tenthredo finchi seguro* (Ten, Hym) F, 870530 (1); *Camponotus nipponensis* (For, Hym) 860604 (1); *Formicidae* sp. (For, Hym) 840606 (2); *Lasius hayashi* (For, Hym) 840606 (2); *Psenulus* sp. (Sph, Hym) F, 850602 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) F, 840606 (1); *Hylaeus floralis* (Col, Hym) M, 860604 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) 870530 (1), F, 840606 (1), 850602 (1), 860604 (25), 870530 (3); *Ceratina japonica* (Ant, Hym) F, 860604 (1); *Ceratina megastigmata* (Ant, Hym) F, 870530 (1); *Nomada sheppardana okubira* (Ant, Hym) M, 850602 (1), 860604 (11)

Weigela hortensis

ARANEIDA47 (Ara, Ara) 860604 (1); *Elasmucha nipponica* (Pen, Hem) 870530 (1); *Menida violacea* (Pen, Hem) 840606 (2), 870606 (2); MIRIDAE17 (Mir, Hem) 840606 (1); *Pelopides jansonis* (Hes, Lep) F, 840606 (1); *Papilix macilentus* (Pap, Lep) M, 870606 (1); *Philopota nigroaenea* (Acr, Dip) M, 840606 (1), 870606 (1); EMPIDIDAE29 (Emp, Dip) 870530 (1); EMPIDIDAE36 (Emp, Dip) 840606 (1); EMPIDIDAE38 (Emp, Dip) 870606 (1); *Episyrphus balteatus* (Syr, Dip) F, 870606 (2), M, 870530 (2); *Melangyna* sp. (Syr, Dip) M, 870530 (1); *Melanostoma scalare* (Syr, Dip) F, 840606 (16), 860604 (5), 870606 (5); *Platycheirus urakawensis* (Syr, Dip) M, 870606 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 870606 (1), M, 870606 (1); *Syrphus vitripennis* (Syr, Dip) M, 870530 (2); ANTHOMYIIDAE28 (Ant, Dip) F, 870606 (1); ANTHOMYIIDAE30 (Ant, Dip) 870606 (1); ELATERIDAE14 (Ela, Col) 850602 (1); *Trachys saundersi* (Bup, Col) 840606 (1); *Epuraea* sp. (Nit, Col) 850602 (1); NITIDULIDAE15 (Nit, Col) 850602 (1); *Mordellistena* sp. (Mor, Col) 850602 (2); *Oedemeronia manicata* (Oed, Col) 860604 (1); *Pidonia signifera* (Cer, Col) 850602 (2); *Linoetis coeruleipennis* (Chr, Col) 850602 (2); *Nonartha cyaneum* (Chr, Col) 850602 (1); *Stenoluperus nipponensis* (Chr, Col) 840606 (3); *Taxonus* sp. (Ten, Hym) M, 870606 (1); *Zaraea fasciata* (Cim, Hym) 850602 (1); ICHNEUMONIDAE 25 (Ich, Hym) F, 850602 (1); ICHNEUMONIDAE29 (Ich, Hym) F, 840606 (1); ICHNEUMONIDAE31 (Ich, Hym) F, 840606 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) M, 840606 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) 870530 (1), F, 870530 (3); *Andrena (Stenomelissa) halictoides* (And, Hym) F, 870530 (1), 870606 (2); *Ceratina japonica* (Ant, Hym) F, 840606 (1), 870606 (3); *Ceratina megastigmata* (Ant, Hym) F, 840606 (2), 860604 (2), 870606 (2); *Nomada sheppardana okubira* (Ant, Hym) F, 860604 (1), M, 860604 (2); *Bombus (Diversobombus) diversus diversus* (Api, Hym) Q, 840606 (3), 870530 (1); *Bombus (Pyrobombus) ardens* (Api, Hym) M, 840606 (2), W, 840606 (1)

Valerianaceae

Patrinia villosa

Ectophasia sinensis (Pha, Dip) 840915 (1); *Lasioglossum (Evylaeus) sibiriacum* (Hal, Hym) M, 840915 (1)

Valeriana flaccidissima

Melanostoma scalare (Syr, Dip) M, 860507 (1)

Dipsacaceae

Dipsacus japonicus

Rhingia laevigata (Syr, Dip) M, 870919 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 870919 (1)

Compositae

Aster ageratoides

PIPUNCULIDAE3 (Pip, Dip) 871003 (1); *Betasyrphus seraius* (Syr, Dip) F, 871020 (1), M, 871029 (1); *Cheilosia* sp.13 (Syr, Dip) M, 871010 (1); *Episyrphus balteatus* (Syr, Dip) F, 871029 (1), M, 871020 (1); *Eristalis cerealis* (Syr, Dip) F, 871003 (1), M, 870927 (2), 871003 (1)

Aster ageratoides ovatus

Graptomyza ishikawai (Syr, Dip) F, 841012 (1)

Aster ageratoides amplexifolius

Helophilus virgatus (Syr, Dip) F, 871003 (1), 871020 (1); *Megaspis zonata* (Syr, Dip) F, 871029 (1); CONOPIDAE6 (Con, Dip) F, 871010 (1); ANTHOMYIIDAE39 (Ant, Dip) F, 871105 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 871010 (1), 871020 (1), M, 871029 (1); TACHINIDAE55 (Tac, Dip) F, 871020 (1); TACHINIDAE 60 (Tac, Dip) 871010 (1); TACHINIDAE80 (Tac, Dip) 871029 (1), F, 871029 (2); TACHINIDAE89 (Tac, Dip) 871020 (1); *Gymnosoma rotundatum* (Pha, Dip) 871010 (1); *Lasioglossum (Evylaeus) hirashimae* (Hal, Hym) M, 871029 (1); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) F, 871029 (1); *Lasioglossum (Evylaeus)* sp.5 (Hal, Hym) M, 871020 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) M, 871010 (2), 871020 (1), 871029 (1); *Lasioglossum (Evylaeus) baleicum* (Hal, Hym) F, 871003 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) 871105 (1), M, 871020 (1); *Lasioglossum (Lasioglossum)* sp.3 (Hal, Hym) M, 871003 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 871029 (1)

Aster glehni

Bothrogonia japonica (Tet, Hem) 841001 (1); TETTIGELLIDAE3 (Tet, Hem) 841001 (1); SCIARIDAE3 (Sci, Dip) 841012 (2); *Cheilosia* sp.13 (Syr, Dip) M, 870927 (1); *Eristalis cerealis* (Syr, Dip) F, 870927 (1), 871003 (3); *Helophilus virgatus* (Syr, Dip) F, 870927 (3); ANTHOMYIIDAE25 (Ant, Dip) 841012 (1); ANTHOMYIIDAE28 (Ant, Dip) F, 841012 (1), M, 841012 (1); ANTHOMYIIDAE 38 (Ant, Dip) F, 870919 (1); TACHINIDAE57 (Tac, Dip) M, 870919 (1); TACHINIDAE90 (Tac, Dip) 870927 (1); *Carpophilus chalybeus* (Nit, Col) 841001 (1); *Epuraea* sp. (Nit, Col) 841012 (1); *Pyrrhalta fuscipennis* (Chr, Col) 841012 (1); ICHNEUMONIDAE60 (Ich, Hym) F, 841001 (1); *Campsomeris primatica* (Sco, Hym) F, 871003 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 841012 (1), M, 871010 (1); *Lasioglossum (Lasioglossum)* sp.3 (Hal, Hym) M, 870927 (2)

Aster subulatus

Ceratina flavipes (Ant, Hym) 850908 (1)

Cirsium microspicatum

Eurema hecabe (Pie, Lep) F, 871029 (1), M, 871029 (1); *Mauoglossum pynhosticta* (Sph, Lep) F, 871010 (1); TIPULIDAE16 (Tip, Dip) 871020 (1); *Betasyrphus*

seraius (Syr, Dip) M, 841012 (1); *Dasysyrphus bilineatus* (Syr, Dip) F, 841012 (1); *Episyrphus balteatus* (Syr, Dip) M, 871029 (1); TACHINIDAE60 (Tac, Dip) 871020 (1); *Epuraea* sp. (Nit, Col) 860913 (2); *Vespa xanthoptera* (Ves, Hym) Q, 841012 (1); *Ceratina japonica* (Ant, Hym) F, 850908 (2), 860926 (1), 870910 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) M, 851008 (2), 870919 (1), 871003 (1), 871010 (2), 871020 (2), W, 840907 (2), 840915 (2), 841001 (1), 841012 (4), 850908 (2), 860913 (2), 860926 (4), 870903 (1), 870910 (6), 870919 (6), 870927 (9), 871003 (9), 871010 (6), 871020 (2), 871029 (1); *Bombus (Thoracobombus) honshuensis* (Api, Hym) W, 870910 (1), 870919 (3), 870927 (2)

Eupatorium chinense

Pteroelecta felderi (Cal, Lep) 870819 (1)

Ixeris dentata

ANTHOMYIIDAE28 (Ant, Dip) F, 870614 (1); *Lasioglossum (Evylaeus) japonicum* (Hal, Hym) M, 841012 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) M, 841012 (1); *Lasioglossum (Evylaeus) nipponense* (Hal, Hym) F, 870606 (1)

Kalimeris pinnatifida

Cheilosia sp.13 (Syr, Dip) M, 841012 (1)

Kalimeris yomena

ORTHOPTERA1 (Ort, Ort) 840907 (2); *Carbula humerigera* (Pen, Hem) 840907 (2); *Nysius* sp. (Lyg, Hem) 860926 (2); *Onomaus lautus* (Mir, Hem) 860926 (1); *Bothrogonia japonica* (Tet, Hem) 840907 (1); *Parnara guttata* (Hes, Lep) M, 870927 (1); PIPUNCULIDAE3 (Pip, Dip) 870927 (1); *Cheilosia* sp.7 (Syr, Dip) M, 840907 (2), 840915 (2), 860926 (1), 870910 (2); *Cheilosia* sp.3 (Syr, Dip) F, 870919 (1); *Cheilosia* sp.13 (Syr, Dip) F, 870919 (1); *Epistotophe shibakawae* (Syr, Dip) M, 870919 (2); *Episyrphus balteatus* (Syr, Dip) F, 870826 (1), 870910 (2), 870919 (1), 870927 (1), M, 860926 (1), 870826 (1), 870910 (1); *Eristalis cerealis* (Syr, Dip) F, 840915 (1), 860926 (1), 870826 (2), 870903 (2), 870910 (4), 870919 (2), 870927 (2), 871003 (4), 871010 (2); *Helophilus virgatus* (Syr, Dip) F, 870910 (1), 870927 (1), 871003 (3); *Megaspis zonata* (Syr, Dip) M, 851008 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 870809 (3), 870819 (1), 870827 (1), M, 870809 (1), 870819 (1); *Sphaerophoria menthastri* (Syr, Dip) M, 840907 (1); CONOPIDAE6 (Con, Dip) M, 870927 (1); CONOPIDAE7 (Con, Dip) 870826 (1); ANTHOMYIIDAE25 (Ant, Dip) M, 840823 (1), 840907 (1); ANTHOMYIIDAE31 (Ant, Dip) F, 851008 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 860926 (1), 871010 (1), M, 860926 (1), 871010 (1); TACHINIDAE58 (Tac, Dip) F, 870910 (1), 870927 (2), 871003 (1); TACHINIDAE60 (Tac, Dip) 871010 (1); TACHINIDAE62 (Tac, Dip) M, 871003 (1); TACHINIDAE64 (Tac, Dip) F, 870826 (2); TACHINIDAE65 (Tac, Dip) 870919 (1); TACHINIDAE66 (Tac, Dip) M, 870919 (1); *Ectophasia sinensis* (Pha, Dip) 851008 (2); *Gymnosoma rotundatum* (Pha, Dip) 870826 (1), 871003 (2), 871010 (2); *Carpophilus chalybeus* (Nit, Col) 840907 (1); NITIDULIDAE10 (Nit, Col) 840907 (1); *Polistes mandarinus* (Ves, Hym) 841012 (1); *Vespula shidai* (Ves, Hym) Q, 870819 (1); *Alysson cameroni* (Sph, Hym) F, 840907 (1); *Hylaeus floralis* (Col, Hym) F, 840907 (1); *Lasioglossum (Evylaeus)* sp. 5 (Hal, Hym) F, 870827 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 851008 (1), 870809 (1), 871010 (1), M, 871010 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) 860926 (1), F, 870910 (1), M, 871010 (1); *Lasioglossum (Lasioglossum)* sp.3 (Hal, Hym) M, 870819 (1), 870826 (2), 870827 (1), 871010 (1); *Ceratina esakii* (Ant, Hym) F, 870910 (1); *Ceratina japonica* (Ant, Hym) F, 860926 (1), 870809 (4), 870819 (5), 870827 (3), 870910 (4), 870927 (1); *Ceratina megastigmata* (Ant, Hym) F, 870927 (1), M, 851008 (1); *Epeolus melectiformis* (,) M, 870819 (1); *Bombus (Bombus) hypocrita hypocrita* (Api, Hym) M, 870903 (1); *Apis cerana japonica* (Api, Hym) W, 870927 (1)

Ligularia fischerii

ORTHOPTERA7 (Ort, Ort) 860926 (1); *Elasmucha nipponica* (Pen, Hem) 841012

(1); MIRIDAE14 (Mir, Hem) 860926 (1); *Euctenurapteryx maculicaudaria* (Geo, Lep) 840907 (1), 860926 (1); *Pteroelecta felderi* (Cal, Lep) 841012 (1), 871003 (1); *Episyrphus balteatus* (Syr, Dip) F, 861008 (1), M, 861008 (2); *Melanostoma scalare* (Syr, Dip) F, 841012 (1); *Syrphus vitripennis* (Syr, Dip) F, 861008 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 871010 (1); TACHINIDAE 29 (Tac, Dip) M, 861008 (1); TACHINIDAE55 (Tac, Dip) F, 871010 (1); TACHINIDAE60 (Tac, Dip) 841012 (1), 871010 (1); *Ectophasia sinensis* (Pha, Dip) 860926 (1); *Epuraea* sp. (Nit, Col) 841012 (25); *Nonartha cyaneum* (Chr, Col) 860926 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 850908 (1), 860926 (1); *Megachile tsurugensis* (Meg, Hym) F, 850908 (1); *Ceratina japonica* (Ant, Hym) F, 860926 (1); *Ceratina megastigmata* (Ant, Hym) F, 850908 (1), 860926 (2); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 860926 (5), 861008 (5), 870927 (1); *Bombus (Thoracobombus) honshuensis* (Api, Hym) M, 840915 (2); *Apis cerana japonica* (Api, Hym) W, 841012 (1)

Senecio nikoensis

Sphaerophoria macrogaster (Syr, Dip) F, 870704 (1)

Stenactis annuus

ARANEIDA10 (Ara, Ara) 860825 (1); ARANEIDA9 (Ara, Ara) 860724 (1); *Carbula humerigera* (Pen, Hem) 840723 (2), 850730 (1), 860724 (1); *Menida violacea* (Pen, Hem) 860724 (1), 860825 (1); *Homoeocerus dilatatus* (Cor, Hem) 840723 (1); *Gorpis* sp. (Nab, Hem) 840723 (2); *Onomaus lautus* (Mir, Hem) 860724 (4); MIRIDAE16 (Mir, Hem) 840723 (1); MIRIDAE4 (Mir, Hem) 840723 (1); TRICHOPTERA1 (Tri, Tri) 860612 (1); *Ochlolodes ochracea* (Hes, Lep) M, 870704 (1); *Polytremis bellucida* (Hes, Lep) F, 870704 (1); *Pieris melete* (Pie, Lep) F, 850730 (1), M, 870704 (4), 870709 (1); *Lycaena phlaeas* (Lyc, Lep) F, 870709 (1); EMPIDIDAE39 (Emp, Dip) 860825 (1); EMPIDIDAE41 (Emp, Dip) 860612 (1); *Baccha maculata* (Syr, Dip) M, 870819 (1); *Didea fasciata* (Syr, Dip) F, 870827 (1); *Episyrphus balteatus* (Syr, Dip) F, 870704 (1), 870801 (2), 870819 (2), M, 870819 (1); *Eristalis cerealis* (Syr, Dip) F, 870709 (1), 870722 (1), 870801 (1), M, 870627 (1), 870801 (1); *Eumerus japonica* (Syr, Dip) M, 840811 (1); *Helophilus virgatus* (Syr, Dip) F, 870819 (1); *Megaspis zonata* (Syr, Dip) M, 870809 (1); *Paragus jozanus* (Syr, Dip) 870722 (1); *Paragus tibialis* (Syr, Dip) F, 860708 (1), 870627 (1), M, 870819 (1); *Sphegina clunipes* (Syr, Dip) M, 870819 (1); *Sphaerophoria macrogaster* (Syr, Dip) F, 860708 (1), 870722 (1), 870809 (1), M, 870627 (2), 870704 (6), 870709 (8), 870722 (4), 870731 (1), 870801 (2), 870809 (1), 870819 (1), 870826 (1); *Sphaerophoria menthastri* (Syr, Dip) F, 860708 (1), M, 860708 (1), 860825 (1); CONOPIDAE1 (Con, Dip) 870722 (1); CONOPIDAE3 (Con, Dip) 870722 (1); CONOPIDAE9 (Con, Dip) 870709 (1); LONCHAEIDAE3 (Lon, Dip) 840811 (1); ANTHOMYIIDAE 25 (Ant, Dip) M, 840723 (1); ANTHOMYIIDAE28 (Ant, Dip) F, 870704 (3), 870709 (1); ANTHOMYIIDAE33 (Ant, Dip) F, 860612 (1); ANTHOMYIIDAE50 (Ant, Dip) F, 840723 (1); TACHINIDAE13 (Tac, Dip) F, 870809 (2); TACHINIDAE35 (Tac, Dip) M, 870709 (1); TACHINIDAE64 (Tac, Dip) F, 870826 (1); TACHINIDAE65 (Tac, Dip) M, 870819 (1); TACHINIDAE82 (Tac, Dip) F, 870801 (1); SARCOPHAGIDAE15 (Sar, Dip) 840723 (1); *Blitopertha orientalis* (Sca, Col) F, 840723 (3), 860724 (1), M, 840723 (2); *Paratrachus doentzi* (Sca, Col) M, 870722 (1); *Phyllopertha irregularis* (Sca, Col) 870722 (1); *Popillia japonica* (Sca, Col) 870709 (1); *Linotetis coeruleipennis* (Chr, Col) 840723 (1); *Nonartha cyaneum* (Chr, Col) 850811 (1); CHRYSOMELIDAE35 (Chr, Col) 840723 (1); ICHNEUMONIDAE78 (Ich, Hym) F, 860612 (1); *Cerceris hortivaga* (Sph, Hym) M, 870709 (1); *Rhopalum (Latrorhopalum) latronum* (Sph, Hym) M, 860612 (1), 870819 (1); *Trpocylon* sp. (Sph, Hym) F, 870704 (1); *Lasioglossum (Evylaeus) hirashimae* (Hal, Hym) F, 870722 (1); *Lasioglossum (Evylaeus)* sp.25 (Hal, Hym) F, 870709 (1); *Lasioglossum (Evylaeus)* sp.5 (Hal, Hym) 860708 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840723 (2), 840811 (1), 850730 (5), 850811 (2), 870704 (1), 870731 (1); *Lasioglossum (Evylaeus) baleicum* (Hal, Hym) F, 870704 (2), 870709 (1); *Lasioglossum (Evylaeus)*

sibiriacum (Hal, Hym) F, 840723 (1), 850730 (1), 870722 (2), 870731 (1); *Lasioglossum (Lasioglossum) occidens* (Hal, Hym) 870704 (2), 870827 (1), F, 840723 (1), 870704 (1), 870709 (1), 870722 (4), 870731 (1); *Lasioglossum (Lasioglossum) sp.3* (Hal, Hym) F, 870704 (1), M, 870819 (1); *Megachile tsurugensis* (Meg, Hym) F, 870704 (1), 870809 (1); *Megachile yasumatsui* (Meg, Hym) F, 870704 (1), 870731 (2), 870801 (1); *Ceratina esakii* (Ant, Hym) F, 870627 (1), 870809 (5), 870826 (1); *Ceratina japonica* (Ant, Hym) F, 840723 (2), 850730 (1), 870627 (1), 870704 (2), 870709 (8), 870722 (2), 870809 (1), 870819 (6), 870826 (1), 870910 (1); *Nomada sheppardana okubira* (Ant, Hym) F, 860612 (1), 860708 (1), 870709 (1); *Bombus (Pyrobombus) ardens* (Api, Hym) M, 870627 (1)

Youngia denticulata

Mauglossum pynhosticta (Sph, Lep) F, 871020 (1); *Bombus (Diversobombus) diversus diversus* (Api, Hym) W, 871020 (1)

Commelinaceae

Pollia japonica

Menida violacea (Pen, Hem) 840823 (1); *Cheilosia* sp.12 (Syr, Dip) F, 840522 (1); *Nonartha cyaneum* (Chr, Col) 840823 (1); *Lasioglossum (Evylaeus) apristum* (Hal, Hym) F, 840522 (1)

Graminae

Calamagrostis arundinacea

Melanostoma scalare (Syr, Dip) F, 870614 (1)

Digitaria ciliaris

Melanostoma scalare (Syr, Dip) M, 860507 (3)

Cyperaceae

Carex curvicolis

ARANEIDA23 (Ara, Ara) 860430 (1); PLECOPTERA4 (Ple, Ple) 860430 (1); DELTOCEPHALIDAE1 (Del, Hem) 860430 (1); DELPHACIDAE1 (Del, Hem) 860430 (1); ACHILIDAE3 (Ach, Hem) 860430 (8); PYRALIDAE1 (Pyr, Lep) 860430 (1); MYCETOPHILIDAE4 (Myc, Dip) 860430 (2); CHIRONOMIDAE6 (Chi, Dip) 860430 (1); LONCHOPTERIDAE1 (Lon, Dip) 860430 (3); PIPUNCULIDAE2 (Pip, Dip) 860430 (1); *Melanostoma scalare* (Syr, Dip) F, 860430 (4); DROSOPHILIDAE1 (Dro, Dip) 860430 (1); DROSOPHILIDAE10 (Dro, Dip) 860430 (1); DROSOPHILIDAE13 (Dro, Dip) 860430 (1); DROSOPHILIDAE16 (Dro, Dip) 860430 (1); DROSOPHILIDAE8 (Dro, Dip) 860430 (1); CHLOROPIDAE13 (Chl, Dip) 860430 (1); CHLOROPIDAE5 (Chl, Dip) 860430 (1); CHLOROPIDAE6 (Chl, Dip) 860430 (2); CHLOROPIDAE7 (Chl, Dip) 860430 (1); CHLOROPIDAE8 (Chl, Dip) 860430 (1); CHLOROPIDAE9 (Chl, Dip) 860430 (1); CLUSIIDAE1 (Clu, Dip) 860430 (3); CLUSIIDAE5 (Clu, Dip) 860430 (1); *Asclera nigrocya* (Oed, Col) 860430 (1); BRACONIDAE39 (Bra, Hym) F, 860430 (1); ICHNEUMONIDAE46 (Ich, Hym) F, 860430 (1); ICHNEUMONIDAE86 (Ich, Hym) F, 860430 (1)

Appendix 2.

Plants visited by each insect species of three dipterous, four coleopterous and 13 hymenopterous families in Kibune. Each record is arranged in the following order: plant species name, sex and caste (F - female, M - male, Q - queen, W - worker), date in the form of year + month + day, and (the number of insect individuals).

LEPIDOPTERA**Hesperiidae***Choaspes benjaminii*

Rubus crataegifolius, F, 850515 (1); *Staphylea Bumalda*, F, 870518 (1)

Daimio tethys

Deutzia Maximowicziana, F, 840606 (1)

Erynnis montanus

Rubus crataegifolius, F, 850515 (1)

Ocholodes ochracea

Deutzia crenata, M, 840628 (1), 870618 (1), 870627 (1), 870709 (2); *Stenactis annuus*, M, 870704 (1)

Parnara guttata

Kalimeris yomena, M, 870927 (1)

Pelopides jansonis

Symplocos chinensis, F, 840606 (1); *Weigela hortensis*, F, 840606 (1)

Polytremis pellucida

Stenactis annuus, F, 870704 (1)

Thoressa varia

Symplocos chinensis, F, 840606 (1), M, 840606 (2); *Deutzia Maximowicziana*, M, 840606 (1), 860604 (1); *Viburnum plicatum*, M, 840606 (1)

Papilionidae*Papilix macilentus*

Weigela hortensis, M, 870606 (1)

Pieridae*Eurema hecabe*

Cirsium microspicatum, F, 871029 (1), M, 871029 (1)

Pieris melete

Persicaria thunbergii, F, 860913 (1); *Deutzia crenata*, F, 840628 (1), 870614 (1), 870627 (1), M, 870614 (1), 870704 (1); *Stenactis annuus*, F, 850730 (1), M, 870704 (4), 870709 (1)

Pieris rapae

Clethra barbinervis, F, 840811 (1); *Staphylea Bumalda*, F, 870518 (1)

Ahlber ferra

Rubus palmatus, F, 860430 (1)

Lycaenidae*Lycaena phlaeas*

Stenactis annuus, F, 870709 (1)

Nymphalidae*Arasehmia burejana*

Rubus crataegifolius, F, 870518 (1), M, 870518 (1); *Deutzia crenata*, F, 870614 (1), M, 840628 (1); *Deutzia Maximowicziana*, F, 840606 (1), M, 860604 (1); *Hydrangea paniculata*, F, 860724 (1); *Staphylea Bumalda*, F, 850515 (1)

Satyridae*Harima callipteris**Aralia cordata*, F, 870927 (1)*Mycalesis francisca**Rubus crataegifolius*, F, 870518 (1)**Callidulidae***Pteroelecta felderi**Symplocos chinensis*, 840606 (2); *Kerria japonica*, 870430 (1); *Rubus palmatus*, 870430 (1); *Hydrangea paniculata*, 860805 (1); *Staphylea Bumalda*, 870518 (1); *Eupatorium chinense*, 870819 (1); *Ligularia fischerii*, 841012 (1), 871003 (1)**Sphingidae***Hemaris affinis**Deutzia crenata*, F, 870627 (1)*Mauoglossum pynhosticta**Reynoutria japonica*, M, 840907 (1); *Rabdosia longituba*, F, 871010 (1); *Cirsium microspicatum*, F, 871010 (1); *Youngia denticulata*, F, 871020 (1)*Mauoglossum* sp.*Deutzia crenata*, F, 870627 (1)**DIPTERA****Bombyliidae***Bombylius major**Corydalis incisa*, F, 870509 (1); *Viola verecunda*, F, 860522 (1); *Rubus palmatus*, F, 860507 (4); *Staphylea Bumalda*, F, 860522 (1); *Omphalodes japonica*, F, 850421 (3), 850503 (1)*Cephenius nitobei**Astilbe thunbergii*, M, 840723 (1); *Persicaria thunbergii*, M, 861008 (3); *Aralia cordata*, M, 870827 (1)**Acroceridae***Philopota nigroaenea**Rhododendron kaempferi*, M, 850515 (3); *Deutzia Maximowicziana*, M, 870530 (2); *Viburnum phlebotricum*, M, 850515 (2); *Weigela hortensis*, M, 840606 (1), 870606 (1)**Syrphidae***Asarcuna porcina**Persicaria thunbergii*, F, 861008 (1), 871010 (2); *Reynoutria japonica*, M, 870910 (1); *Ampelopsis brevipedunculata*, F, 870801 (2), M, 870809 (1)*Baccha apicalis**Deutzia crenata*, F, 850602 (1)*Baccha maculata**Ranunculus silerifolius*, F, 860708 (1), 870709 (1), 870801 (1), 870809 (1), M, 860805 (1); *Corydalis incisa*, F, 870509 (2); *Agrimonia pilosa*, M, 870827 (1); *Geum japonicum*, F, 870801 (1); *Hydrangea hirta*, M, 840628 (1); *Hydrangea macrophylla*, M, 850708 (1); *Desmodium podocarpum*, M, 870819 (2); *Cryptotaenia japonica*, F, 840723 (1); *Trigonotis brevipes*, M, 840710 (1); *Stenactis*

- annuus*, M, 870819 (1)
- Betasyrphus seraius*
Deutzia crenata, M, 870704 (1); *Desmodium podocarpum*, F, 870826 (1);
Viburnum plicatum, M, 860604 (1); *Aster ageratoides*, F, 871020 (1), M, 871029
(1); *Cirsium microspicatum*, M, 841012 (1)
- Brachyopa bicolor*
Orixa japonica, M, 870423 (1)
- Cheilosia omogensis*
Aralia cordata, F, 871003 (1), 871010 (9); *Angelica polymorpha*, F, 851008 (5);
Angelica pubescens, F, 840915 (1), 860926 (5), 870919 (1), 871003 (1), 871010
(6), M, 840907 (5), 840915 (3); *Osterium sieboldii*, M, 860926 (1)
- Cheilosia* sp.1
Astilbe thunbergii, F, 870722 (1), M, 840723 (1), 870722 (1); *Symplocos chinensis*,
F, 870530 (1); *Rubus crataegifolius*, F, 860522 (1); *Deutzia crenata*, F, 840628
(1), 850602 (1); *Deutzia Maximowicziana*, F, 870530 (1); *Euonymus alatus*, F,
870530 (1); *Aralia cordata*, M, 871010 (1); *Aralia elata*, F, 840907 (1), M, 870
819 (1); *Viburnum plicatum*, F, 840606 (1), 860604 (1), 870530 (1)
- Cheilosia* sp.10
Aralia cordata, F, 870826 (1), M, 871010 (1); *Viburnum plicatum*, F, 870530
(1), M, 870530 (1)
- Cheilosia* sp.11
Rubus palmatus, F, 870430 (1)
- Cheilosia* sp.12
Rubus crataegifolius, F, 850515 (1); *Rubus palmatus*, M, 860507 (3); *Deutzia*
Maximowicziana, F, 870530 (1); *Acer carpiniifolium*, F, 870509 (1); *Pollia*
japonica, F, 840522 (1)
- Cheilosia* sp.2
Orixa japonica, M, 870423 (1)
- Cheilosia* sp.4
Orixa japonica, F, 860430 (1)
- Cheilosia* sp.6
Astilbe thunbergii, F, 840723 (3), 860724 (1), 870722 (2), M, 840723 (3), 870722
(1); *Persicaria thunbergii*, F, 850908 (1), M, 850908 (1); *Stephanandra incisa*,
F, 870606 (1); *Deutzia crenata*, 870627 (1); *Aralia elata*, F, 870819 (1); *Angelica*
polymorpha, M, 851008 (1); *Angelica pubescens*, F, 840907 (2), M, 840907 (5),
870910 (1), 870927 (1), 871003 (1); *Osterium sieboldii*, F, 871003 (1), M, 860926
(2), 861008 (2)
- Cheilosia* sp.7
Persicaria thunbergii, M, 870910 (1), 870919 (1); *Cardamine regeliana*, F, 870
430 (1); *Kerria japonica*, M, 860507 (1); *Cardiandra alternifolia*, M, 840907
(1); *Kalimeris yomena*, M, 840907 (2), 840915 (2), 860926 (1), 870910 (2)
- Cheilosia* sp.8
Euonymus alatus, F, 870530 (1)
- Cheilosia* sp.3
Kalimeris yomena, F, 870919 (1)
- Cheilosia* sp.13
Persicaria thunbergii, M, 841001 (1); *Aster ageratoides*, M, 871010 (1); *Aster*
glehni, M, 870927 (1); *Kalimeris pinnatifida*, M, 841012 (1); *Kalimeris yomena*,
F, 870919 (1)
- Cheilosia* sp.14
Rubus crataegifolius, M, 850515 (1); *Rubus palmatus*, F, 850421 (1), 860430
(1), 870430 (1), M, 860430 (1)
- Chrysogaster okazakii*
Duchesnea chrysantha, F, 870530 (1)
- Chrysotoxum grande*
Persicaria thunbergii, M, 840915 (1)
- Criorhina japonica*

- Rubus palmatus*, M, 860507 (1)
- Dasysyrphus bilineatus*
Cirsium microspicatum, F, 841012 (1)
- Didea fasciata*
Leucosceptrum stellipilum, F, 841001 (1); *Stenactis annuus*, F, 870827 (1)
- Epistorophe aino*
Sambucus racemosa, M, 850421 (1)
- Epistorophe orientaris*
Osterium sieboldii, F, 861008 (3)
- Epistrophe shibakawae*
Persicaria thunbergii, M, 870927 (1), 871003 (1); *Aralia cordata*, M, 840907 (1); *Angelica polymorpha*, F, 851008 (1), M, 851008 (1); *Angelica pubescens*, M, 870910 (1), 870919 (2), 871003 (1); *Rabdosia trichocarpa*, M, 870919 (5), 870927 (2), 871003 (1); *Kalimeris yomena*, M, 870919 (2)
- Episyrphus balteatus*
Houttuynia cordata, F, 870709 (1); *Clematis apiifolia*, F, 860825 (1); *Ranunculus silerifolius*, 870809 (1), F, 870704 (1), 870731 (2); *Chelidonium majus*, F, 870606 (1); *Macleaya cordata*, M, 860805 (1); *Persicaria pubescens*, M, 841001 (1); *Persicaria thunbergii*, F, 841001 (2), 851008 (2), 860926 (1), 861008 (5), 870919 (2), 871003 (2), 871020 (2), M, 841001 (2), 841012 (1), 851008 (1), 861008 (5), 870910 (1), 870919 (3), 870927 (1), 871003 (2), 871020 (4), 871029 (2); *Persicaria yokusaiana*, M, 871003 (1), 871010 (1); *Reynoutria japonica*, F, 870919 (1), M, 870910 (1); *Agrimonia pilosa*, F, 870819 (1); *Geum japonicum*, F, 870809 (1); *Stephanandra incisa*, F, 870606 (1); *Deutzia crenata*, F, 850602 (1), 860612 (1), M, 870614 (2); *Deutzia Maximowicziana*, F, 870606 (1); *Hydrangea paniculata*, M, 870801 (1); *Desmodium podocarpum*, F, 870819 (1), 870826 (1); *Euonymus alatus*, F, 870530 (1); *Staphylea Bumalda*, F, 840522 (1), 850515 (1), M, 850515 (1); *Geranium nepalense*, F, 870903 (1); *Impatiens textori*, M, 871010 (1); *Aralia cordata*, F, 870919 (1); *Angelica pubescens*, M, 871020 (2); *Callicarpa japonica*, F, 840710 (1), M, 840710 (1); *Rabdosia longituba*, F, 860926 (1); *Viburnum plicatum*, F, 870530 (2), M, 870530 (1), 870606 (1); *Weigela hortensis*, F, 870606 (2), M, 870530 (2); *Aster ageratoides*, F, 871029 (1), M, 871020 (1); *Cirsium microspicatum*, M, 871029 (1); *Kalimeris yomena*, F, 870826 (1), 870910 (2), 870919 (2), 870927 (1), M, 860926 (1), 870826 (1), 870910 (1); *Ligularia fischerii*, F, 861008 (1), M, 861008 (2); *Stenactis annuus*, F, 870704 (1), 870801 (2), 870819 (2), M, 870819 (1)
- Eristalis cerealis*
Astilbe thunbergii, F, 870722 (1); *Persicaria thunbergii*, F, 841001 (2), 841012 (1), 871003 (2), 871010 (1), M, 841001 (6), 871003 (2); *Reynoutria japonica*, F, 840907 (2); *Symplocos chinensis*, M, 860604 (1); *Agrimonia pilosa*, F, 870826 (1); *Rubus crataegifolius*, F, 850515 (1); *Deutzia crenata*, F, 870627 (2), M, 840628 (1), 850602 (1), 870614 (2); *Hydrangea paniculata*, F, 840723 (1); *Cornus macrophylla*, F, 840606 (1); *Orixa japonica*, M, 860430 (1); *Aralia cordata*, M, 871003 (2); *Angelica pubescens*, F, 840823 (1), 870927 (1), M, 870919 (1); *Osterium sieboldii*, M, 860926 (5); *Swertia bimaculata*, F, 841012 (1); *Viburnum plicatum*, F, 870530 (2), M, 860604 (2); *Aster ageratoides*, F, 871003 (1), M, 870927 (2), 871003 (1); *Aster glehni*, F, 870927 (1), 871003 (3); *Kalimeris yomena*, F, 840915 (1), 860926 (1), 870826 (2), 870903 (2), 870910 (4), 870919 (2), 870927 (2), 871003 (4), 871010 (2); *Stenactis annuus*, F, 870709 (1), 870722 (1), 870801 (1), M, 870627 (1), 870801 (1)
- Eristalomya ienax*
Persicaria thunbergii, M, 841012 (1); *Prunus jamasakura*, F, 850404 (1); *Rubus crataegifolius*, M, 850515 (2)
- Eumerus iidai*
Ranunculus silerifolius, F, 870731 (1); *Agrimonia pilosa*, F, 870809 (1), 870819 (1); *Geum japonicum*, F, 850811 (1)

*Eumerus japonica**Stenactis annuus*, M, 840811 (1)*Graptomyza ishikawai**Stephanandra incisa*, F, 870606 (1); *Hydrangea macrophylla*, F, 840710 (1);
Aralia cordata, F, 871010 (1); *Aster ageratoides*, F, 841012 (1)*Helophilus virgatus**Persicaria thunbergii*, F, 841001 (11), 841012 (1), 861008 (1), 871003 (1), 871010 (1), M, 841001 (1); *Rubus crataegifolius*, M, 850515 (2); *Rubus palmatus*, M, 870430 (1); *Deutzia Maximowicziana*, F, 860604 (1); *Geranium nepalense*, F, 870910 (1); *Viburnum plicatum*, M, 870530 (1); *Aster ageratoides*, F, 871003 (1), 871020 (1); *Aster glehni*, F, 870927 (3); *Kalimeris yomena*, F, 870910 (1), 870927 (1), 871003 (3); *Stenactis annuus*, F, 870819 (1)*Imatisma abdominalis**Deutzia Maximowicziana*, M, 840606 (1); *Viburnum plicatum*, M, 840606 (1)*Lathrophthalmus viridis**Deutzia crenata*, M, 870627 (1)*Megaspis zonata**Persicaria thunbergii*, M, 861008 (1), 871003 (1); *Reynoutria japonica*, M, 860913 (1), 870910 (1); *Clethra barbinervis*, F, 840723 (1); *Kerria japonica*, 870509 (1); *Deutzia crenata*, F, 870618 (1); *Deutzia Maximowicziana*, 870530 (1); *Hydrangea paniculata*, F, 870722 (1); *Angelica polymorpha*, M, 851008 (1); *Angelica pubescens*, F, 850908 (1); *Aster ageratoides*, F, 871029 (1); *Kalimeris yomena*, M, 851008 (1); *Stenactis annuus*, M, 870809 (1)*Melangyna ezoensis**Persicaria thunbergii*, M, 841001 (1); *Angelica pubescens*, F, 841012 (1);
Leucosceptrum stellipilum, F, 841012 (1); *Lonicera gracilipes*, F, 850421 (1)*Melangyna* sp.*Weigela hortensis*, M, 870530 (1)*Melanostoma scalare**Ranunculus silerifolius*, F, 870614 (1), 870704 (1); *Chelidonium majus*, F, 870614 (2); *Corydalis incisa*, 870518 (2), F, 870509 (1), M, 870430 (1), 870509 (3); *Bistorta tenuicaulis*, F, 870423 (1); *Cardamine tanakae*, F, 850503 (1); *Rorippa indica*, F, 870614 (10); *Duchesnea chrysantha*, F, 870530 (3); *Kerria japonica*, 870430 (6), 870509 (9), F, 840522 (1), 850503 (1), 860507 (9), M, 850503 (3), 860507 (9); *Rubus crataegifolius*, M, 870518 (1); *Rubus palmatus*, F, 850503 (1), 870430 (1), M, 860507 (9); *Stephanandra incisa*, F, 870606 (2); *Deutzia crenata*, F, 870614 (1); *Desmodium podocarpum*, F, 870827 (1); *Trifolium repens*, F, 840606 (1); *Staphylea Bumalda*, F, 840522 (1), 870518 (2), M, 870518 (2); *Orixa japonica*, M, 870423 (1); *Angelica pubescens*, M, 870919 (1); *Omphalodes japonica*, M, 850503 (2); *Glechoma hederacea*, 870518 (1); *Viburnum plicatum*, F, 870530 (1); *Weigela hortensis*, F, 840606 (16), 860604 (5), 870606 (5); *Valeriana flaccidissima*, M, 860507 (1); *Ligularia fischerii*, F, 841012 (1); *Calamagrostis arundinacea*, F, 870614 (1); *Digitaria ciliaris*, M, 860507 (3); *Carex curucollis*, F, 860430 (4)*Metasyrphus corollae**Glechoma hederacea*, F, 870518 (1)*Metasyrphus nintens**Rubus crataegifolius*, M, 840522 (1)*Microdon japonicus**Hydrangea hirta*, F, 850620 (1)*Narumyia narumyia**Rubus crataegifolius*, M, 850515 (1)*Neoascia* sp.*Angelica pubescens*, M, 840907 (1)*Paragus jozanus**Ranunculus silerifolius*, M, 870731 (1); *Persicaria thunbergii*, M, 841001 (1);
Desmodium podocarpum, M, 870819 (2); *Stenactis annuus*, 870722 (1)

Paragus tibialis

Ranunculus silerifolius, 870722 (1), F, 850708 (2), 870704 (2), M, 850708 (1), 870704 (1), 870731 (1); *Stellaria uchiyamana*, F, 850503 (1); *Cardamine regeliana*, 870509 (1); *Rorippa indica*, M, 870614 (1); *Potentilla sundaica*, F, 850503 (1); *Desmodium podocarpum*, F, 870819 (1); *Cryptotaenia japonica*, F, 840723 (1); *Stenactis annuus*, F, 860708 (1), 870627 (1), M, 870819 (1)

Penthesilea apicalis

Rubus crataegifolius, F, 850515 (1), M, 850515 (1), 870518 (1); *Cornus macrophylla*, F, 840606 (1); *Staphylea Bumalda*, F, 850515 (1), M, 870518 (1); *Viburnum plicatum*, F, 840606 (1)

Phalacrodira aeneostoma

Corydalis incisa, M, 850421 (1); *Kerria japonica*, M, 870430 (2); *Omphalodes japonica*, F, 850421 (1)

Pipiza inornata

Angelica pubescens, M, 870910 (1); *Rabdosia trichocarpa*, F, 871003 (1)

Platycheirus urakawensis

Corydalis incisa, F, 850421 (1); *Corydalis pallida*, F, 870423 (1); *Omphalodes japonica*, M, 850421 (1); *Weigela hortensis*, M, 870606 (1)

Pseudomerdon takasaqoensis

Aralia elata, M, 870819 (1)

Rhingia laevigata Persicaria thunbergii

Persicaria thunbergii, F, 861008 (1), 871003 (1); *Dipsacus japonicus*, M, 870919 (1)

Sphaerophoria viridaenea

Omphalodes japonica, F, 850503 (1)

Sphaerophoria macrogaster

Ranunculus silerifolius, F, 870731 (1), 870809 (1), M, 870704 (1), 870722 (1); *Corydalis pallida*, F, 870606 (1); *Reynoutria japonica*, F, 840915 (1); *Rorippa indica*, 870530 (1), F, 870614 (3), M, 870606 (2), 870614 (6), 870618 (2); *Duchesnea chrysantha*, M, 870606 (2); *Rubus palmatus*, F, 870509 (1); *Deutzia crenata*, F, 870614 (1), M, 870614 (1), 870704 (1); *Deutzia Maximowicziana*, F, 870530 (1); *Rhus javanica*, F, 870819 (1); *Weigela hortensis*, F, 870606 (1), M, 870606 (1); *Kalimeris yomena*, F, 870809 (3), 870819 (1), 870827 (1), M, 870809 (1), 870819 (1); *Senecio nikoensis*, F, 870704 (1); *Stenactis annuus*, F, 860708 (1), 870722 (1), 870809 (1), M, 870627 (2), 870704 (6), 870709 (8), 870722 (4), 870731 (1), 870801 (2), 870809 (1), 870819 (1), 870826 (1)

Sphaerophoria menthastri

Ranunculus silerifolius, F, 850708 (1), 860708 (1), M, 840723 (1); *Persicaria thunbergii*, M, 861008 (1); *Deutzia crenata*, F, 840628 (1), 850620 (1), 860612 (1), M, 840628 (2), 860612 (1); *Torilis japonica*, F, 850730 (1); *Callicarpa japonica*, F, 840710 (1); *Viburnum plicatum*, F, 860604 (1); *Kalimeris yomena*, M, 840907 (1); *Stenactis annuus*, F, 860708 (1), M, 860708 (1), 860825 (1)

Sphegina clunipes

Astilbe thunbergii, M, 860724 (1); *Ranunculus silerifolius*, M, 870809 (1); *Macleaya cordata*, M, 850811 (2); *Agrimonia pilosa*, M, 840823 (1), 870809 (2), 870819 (4); *Geum japonicum*, M, 850811 (1), 870809 (1); *Kerria japonica*, 870509 (1); *Rubus crataegifolius*, M, 850515 (1); *Rubus palmatus*, M, 860507 (4); *Stephanandra incisa*, 870606 (3), M, 870606 (5); *Deutzia crenata*, M, 870618 (1), 870704 (1); *Deutzia Maximowicziana*, M, 870606 (1); *Acer carpinifolium*, 870509 (1); *Angelica polymorpha*, M, 851008 (2); *Angelica pubescens*, M, 840823 (1), 840907 (1), 860926 (2), 870927 (1), 871003 (1); *Swertia bimaculata*, M, 870927 (1), 871010 (1); *Trigonotis brevipes*, M, 870614 (1); *Stenactis annuus*, M, 870819 (1)

Sphegina sp.1

Astilbe thunbergii, F, 840723 (1); *Ranunculus silerifolius*, F, 850811 (1); *Stephanandra incisa*, F, 870606 (1); *Cardiandra alternifolia*, F, 860825 (1); *Aralia elata*, M, 840907 (1); *Angelica pubescens*, F, 840907 (1), 860926 (2), M, 860926 (1), 870919 (1)

Sphegina sp.2

Rubus crataegifolius, M, 850515 (1); *Rubus palmatus*, M, 860507 (2); *Orixa japonica*, M, 860430 (1); *Viburnum plicatum*, M, 870530 (1)

Sphegina sp.5

Stephanandra incisa, M, 870606 (1); *Trigonotis brevipes*, M, 840710 (1)

Sphegina sp.6

Reynoutria japonica, F, 860913 (1)

Syrphus japonica

Leucosceptra stellipilum, F, 841012 (1)

Syrphus vitripennis

Euptelea polyandra, M, 850404 (1); *Persicaria thunbergii*, M, 871010 (2); *Symplocos chinensis*, M, 870530 (1); *Kerria japonica*, M, 870430 (1); *Aralia cordata*, M, 871010 (1); *Viburnum plicatum*, M, 870530 (2); *Weigela hortensis*, M, 870530 (2); *Ligularia fischerii*, F, 861008 (1)

Temnostoma nitobei

Rubus crataegifolius, M, 860522 (1)

Vollucella jeddona

Rubus crataegifolius, M, 850515 (1); *Deutzia crenata*, F, 850602 (1), M, 850602 (1)

Vollucella nigricans

Deutzia crenata, F, 870627 (1)

Vollucella tabanoides

Macleaya cordata, F, 850811 (1); *Deutzia crenata*, F, 850620 (1), 870627 (1)

Phasiidae*Ectophasia sinensis*

Persicaria thunbergii, 850908 (1); *Reynoutria japonica*, 840915 (1); *Desmodium podocarpum*, 870903 (1); *Aralia cordata*, 871003 (1), 871010 (1); *Angelica polymorpha*, 851008 (4); *Angelica pubescens*, 840907 (1), 840915 (1), 850908 (1), 870827 (1), 870910 (4), 870927 (1), 871020 (2); *Patrinia villosa*, 840915 (1); *Kalimeris yomena*, 851008 (2); *Ligularia fischerii*, 860926 (1)

Gymnosoma rotundatum

Persicaria thunbergii, 841012 (1); *Reynoutria japonica*, 860913 (1); *Deutzia crenata*, 850602 (1); *Aralia cordata*, 841012 (1); *Angelica pubescens*, 840915 (2), 870903 (1), 871020 (1), 871029 (1); *Viburnum plicatum*, 840606 (2), 860604 (1); *Aster ageratoides*, 871010 (1); *Kalimeris yomena*, 870826 (1), 871003 (2), 871010 (2)

COLEOPTERA**Staphylinidae***Eusphalerum parallelum*

Lindera obtusiloba, 850404 (38)

Oxyporus basiventris

Corydalis incisa, 850421 (1)

Priochirus japonicus

Corydalis incisa, 850421 (1)

Tachinus sp.

Rubus crataegifolius, 850515 (1); *Deutzia crenata*, 840628 (1); *Viburnum plicatum*, 850602 (1)

Scarabaeidae*Blitopertha orientalis*

Hydrangea paniculata, M, 870722 (1); *Viburnum plicatum*, M, 860604 (1);

- Stenactis annuus*, F, 840723 (3), 860724 (1), M, 840723 (2)
Ectinohoplia obducta
Hydrangea paniculata, 840723 (1)
Eucetonia pilifera
Deutzia crenata, 870614 (1)
Eucetonia roelofsi
Deutzia Maximowicziana, 860604 (2); *Hydrangea paniculata*, 860724 (1);
Aralia cordata, 870903 (1)
Mimela costata
Reynoutria japonica, 870903 (1)
Nipponovalgus angusticollis
Deutzia Maximowicziana, 840606 (3), 860604 (4); *Staphylea Bumalda*, 860522
(1), 870518 (2); *Viburnum phlebotricum*, 850515 (1); *Viburnum plicatum*, 850
515 (1)
Onthophagus lenzii
Kerria japonica, 860507 (1)
Oxycetonia jucunda
Deutzia crenata, 860612 (1); *Angelica pubescens*, 870910 (1)
Paratrichius doentzi
Stenactis annuus, M, 870722 (1)
Phyllopertha irregularis
Symplocos chinensis, 860604 (1); *Stenactis annuus*, 870722 (1)
Popillia japonica
Stenactis annuus, 870709 (1)
Trichius japonicus
Clethra barbinervis, 840811 (1); *Hydrangea paniculata*, 860724 (1)

Cantharidae

- Podabrus malthinoides*
Staphylea Bumalda, 870518 (1)
Prothemus ciusianus
Corydalis incisa, 870518 (1); *Kerria japonica*, 870430 (1); *Rubus crataegifolius*,
850515 (1); *Staphylea Bumalda*, 850515 (1)
Tremus cyanipennis
Symplocos chinensis, 860604 (1), 870530 (5); *Stephanandra incisa*, 870606 (1);
Euonymus alatus, 870530 (1); *Viburnum plicatum*, 840606 (2)

Byturidae

- Byturus affinis*
Corydalis pallida, 870423 (1); *Kerria japonica*, 860430 (30), 860507 (6), 870423
(1), 870430 (4); *Rubus crataegifolius*, 840522 (1), 850515 (14), 860522 (5), 870518
(1); *Rubus palmatus*, 850421 (1), 860507 (1), 870509 (2); *Acer carpinifolium*,
870509 (1)

Oedemeridae

- Asclera nigrocya*
Carex curvicollis, 860430 (1)
Oedemeronia lucidicollis
Stellaria uchiyamana, 850503 (1); *Viola verecunda*, 840522 (1), 850503 (1);
Rubus crataegifolius, 850515 (1); *Hydrangea macrophylla*, 840710 (1); *Glechoma
hederacea*, 870509 (2)
Oedemeronia manicata
Symplocos chinensis, 860604 (2); *Stephanandra incisa*, 870606 (2); *Deutzia*

Maximowicziana, 870530 (1); *Staphylea Bumalda*, 840522 (1); *Viburnum plicatum*, 840606 (1), 850602 (1), 860604 (3); *Weigela hortensis*, 860604 (1)
Xanthochroa sp.
Astilbe thunbergii, 840723 (1)

Cerambycidae

Demonax transilis
Symplocos chinensis, 860604 (1); *Viburnum plicatum*, 860604 (6), 870530 (2)
Dere thoracica
Viburnum plicatum, 840606 (1)
Dinoptera minuta ticollis
Rubus palmatus, 870430 (3)
Dinoptera minuta
Cardamine tanakae, 850503 (1)
Grammographus notabilis
Viburnum plicatum, 860604 (1)
Idiostrangalia contracta
Hydrangea macrophylla, 840710 (1); *Hydrangea paniculata*, 840723 (1), 860724 (2)
Lemula decipiens
Wisteria floribunda, 840606 (1)
Leptura ochraceofasciata
Hydrangea paniculata, 840723 (4), 860724 (4), 870722 (1), 870731 (2); *Angelica pubescens*, 840823 (1)
Pachytodes cometes
Hydrangea paniculata, 840723 (1), 870731 (1)
Parastrangalis nymphula
Deutzia crenata, 870627 (1)
Pidonia aegrotata
Symplocos chinensis, 840606 (1), 860604 (1); *Kerria japonica*, 860430 (1); *Viburnum phlebotricum*, 850515 (2); *Viburnum plicatum*, 860604 (1)
Pidonia amentata
Kerria japonica, 870509 (1); *Rubus crataegifolius*, 850515 (1); *Viburnum phlebotricum*, 850515 (1); *Viburnum plicatum*, 840606 (1)
Pidonia miwai
Viburnum phlebotricum, 850515 (1)
Pidonia puziloi
Paeonia japonica, 860522 (3); *Kerria japonica*, 840522 (3), 870509 (1), 870518 (1); *Rubus palmatus*, 850503 (1); *Viburnum phlebotricum*, 850515 (3)
Pidonia signifera
Rubus crataegifolius, 850515 (2), 860522 (1); *Viburnum plicatum*, 860604 (1); *Weigela hortensis*, 850602 (2)
Strangalomorpha tenuis
Viburnum plicatum, 860604 (2), 870530 (1)

Chrysomelidae

Agelasa nigriceps
Rubus crataegifolius, 850515 (2); *Viburnum plicatum*, 850515 (1)
Agelastica coerulea
Reynoutria japonica, 840907 (1)
Basilepta ruficollis
Deutzia crenata, 840628 (1)
Cassida rubiginosaidalis
Angelica pubescens, 850908 (1)

- Galerucella vittaticollis*
Persicaria thunbergii, 841012 (1); *Rubus crataegifolius*, 850515 (1)
- Linoetis coeruleipennis*
Weigela hortensis, 850602 (2)
- Linotetis coeruleipennis*
Stenactis annuus, 840723 (1)
- Lypesthes ater*
Deutzia crenata, 840628 (1)
- Monolepta pallidula*
Reynoutria japonica, 840907 (2)
- Nonartha cyaneum*
Lindera umbellata, 850421 (3); *Persicaria thunbergii*, 841001 (1); *Reynoutria japonica*, 840907 (5), 840915 (1); *Rubus crataegifolius*, 850515 (1); *Deutzia crenata*, 840628 (2), 850620 (1); *Hydrangea hirta*, 870618 (1); *Staphylea Bumalda*, 850515 (1); *Rhus javanica*, 840823 (1); *Aralia elata*, 840907 (1); *Angelica polymorpha*, 860926 (1); *Angelica pubescens*, 840823 (8), 840907 (2); *Viburnum plicatum*, 840606 (1), 850602 (2), 860604 (1); *Weigela hortensis*, 850602 (1); *Ligularia fischerii*, 860926 (1); *Stenactis annuus*, 850811 (1); *Polia japonica*, 840823 (1)
- Paridea angulicollis*
Deutzia crenata, 860612 (1)
- Pyrrhalta fuscipennis*
Aster glehni, 841012 (1)
- Stenoluperus nipponensis*
Astilbe thunbergii, 840723 (1); *Deutzia crenata*, 840628 (1); *Deutzia Maximowicziana*, 840606 (1); *Hydrangea hirta*, 840628 (9), 850620 (3); *Hydrangea macrophylla*, 840710 (3); *Meliosma tenuis*, 840710 (1); *Weigela hortensis*, 840606 (3)
- Thlaspidia cribrosaoidalis*
Staphylea Bumalda, 860522 (1); *Callicarpa japonica*, 840710 (1)
- Zeugophora annulata*
Symplocos chinensis, 860604 (1); *Hydrangea hirta*, 840628 (1); *Hydrangea macrophylla*, 840710 (1)

HYMENOPTERA
TENTHREDINOIDEA
Pamphiliidae

- Onycholyda lucida*
Rubus crataegifolius, F, 860522 (1)

Tenthredinidae

- Allantus nigrocaeleus*
Hydrangea hirta, 850620 (1)
- Asiemphtus deutziae*
Staphylea Bumalda, 850515 (1); *Omphalodes japonica*, 850421 (1)
- Athalia japonica*
Corydalis incisa, M, 870518 (1); *Corydalis pallida*, M, 870423 (1); *Kerria japonica*, M, 870430 (1)
- Corymbas nipponica*
Symplocos chinensis, F, 860604 (1), 870530 (7); *Stephanandra incisa*, F, 870606 (1); *Viburnum plicatum*, F, 860604 (1)
- Loderus eversmanini obscurus*
Viola verecunda, F, 860507 (1)
- Macrophya apicalis*

- Rubus crataegifolius*, 850515 (1)
Macrophya sp.
Orixa japonica, M, 860430 (1)
Pachyprotasis hiensis
Omphalodes japonica, F, 860430 (1)
Pachyprotasis sp.
Viola verecunda, 850503 (1); *Rubus crataegifolius*, 850515 (2)
Pachyprotasis sp.1
Orixa japonica, M, 860430 (1)
Pachyprotasis sp.2
Orixa japonica, M, 860430 (1)
Perineura okutanii
Rubus palmatus, F, 870423 (1)
Priophorus nigricans
Orixa japonica, M, 870423 (1)
Siobla felox
Rubus crataegifolius, 850515 (2); *Deutzia crenata*, 850602 (1)
Strogyllogaster onocleae
Orixa japonica, F, 860430 (1)
Strombocerina koebelei
Stellaria uchiyamana, 850421 (1); *Kerria japonica*, M, 870430 (1)
Taxonus fulvicornis
Deutzia crenata, 850602 (1)
Taxonus sp.
Weigela hortensis, M, 870606 (1)
Tenthredinidae sp.
Rubus crataegifolius, M, 870518 (1)
Tenthredo convagennata
Rubus palmatus, M, 860507 (1); *Deutzia Maximowicziana*, 840606 (1); *Viburnum plicatum*, 840606 (1)
Tenthredo finchi seguro
Symplocos chinensis, F, 870530 (1); *Staphylea Bumalda*, M, 860522 (1); *Acer carpinifolium*, M, 870509 (1); *Viburnum plicatum*, F, 870530 (1)
Tenthredo flavipectus
Symplocos chinensis, M, 870530 (1); *Euonymus alatus*, M, 870530 (1)
Tenthredo hokkaidonis
Rubus crataegifolius, 850515 (1); *Deutzia Maximowicziana*, M, 860604 (1)
Tenthredopsis sp.
Rubus crataegifolius, 850515 (1)

Argidae

- Arge similis*
Angelica pubescens, M, 870910 (1)
Arge sp.
Angelica pubescens, 850908 (1)

Cimbicidae

- Orientabia maguna*
Astilbe thunbergii, F, 870722 (1)
Zaraea akebii
Corydalis incisa, 850421 (1)
Zaraea fasciata
Weigela hortensis, 850602 (1)

FORMICOIDEA**Formicidae**

- Camponotus kiusiuensis*
Rubus palmatus, W, 860430 (1); *Codonopsis lanceolata*, 870919 (1)
- Camponotus nipponensis*
Deutzia Maximowicziana, 860604 (1); *Viburnum plicatum*, 860604 (1)
- Camponotus obscripes*
Deutzia crenata, 840628 (1), 850620 (1), 870704 (1); *Aralia cordata*, 850908 (2)
- Formica japonica*
Hydrangea paniculata, 860724 (1)
- Formica* sp.
Astilbe thunbergii, 870731 (4); *Reynoutria japonica*, 840907 (2); *Aralia cordata*, 850908 (1)
- Formicidae* sp.
Viburnum plicatum, 840606 (2)
- Lasius hayashi*
Viburnum plicatum, 840606 (2)
- Lasius niger*
Rubus crataegifolius, 860522 (5); *Rubus palmatus*, 860507 (2); *Deutzia Maximowicziana*, 870606 (2); *Angelica polymorpha*, 861008 (2); *Angelica pubescens*, 860926 (5); *Glechoma hederacea*, 870509 (2)
- Lasius* sp.
Kerria japonica, 840522 (1)

SCOLICOIDEA**Scoliidae**

- Campsomeris primatica*
Aster glehni, F, 871003 (1)

VESPOIDEA**Eumenidae**

- Eumenes rubronotatus*
Deutzia crenata, M, 870618 (1); *Angelica pubescens*, 850908 (1); *Rabdosia trichocarpa*, F, 870919 (1)
- Stenodynerus tokyanus tokyanus*
Desmodium podocarpum, F, 870826 (1)

Vespidae

- Dolichovespula media sugare*
Aralia cordata, Q, 870826 (1); *Angelica pubescens*, Q, 870827 (1), 870903 (1)
- Parapolybia indica*
Orixa japonica, F, 870423 (1)
- Parapolybia varia*
Deutzia crenata, 850620 (1)
- Polistes mandarinus*
Deutzia crenata, F, 860612 (1); *Aralia cordata*, F, 871003 (1); *Kalimeris yomena*, 841012 (1)
- Vespa analis insularis*
Cardiandra alternifolia, Q, 840915 (1)
- Vespa tropica pulchra*
Aralia cordata, M, 871010 (1)
- Vespa xanthoptera*

- Persicaria thunbergii*, 841001 (1), W, 871010 (1), 871029 (1); *Reynoutria japonica*, 840907 (3), W, 860913 (3); *Deutzia crenata*, Q, 850602 (1); *Ampelopsis brevipedunculata*, 870722 (2), W, 870722 (1), 870809 (1); *Aralia cordata*, 840907 (1), W, 870826 (2), 870919 (5), 870927 (5), 871003 (4), 871010 (3); *Angelica polymorpha*, W, 871003 (1); *Angelica pubescens*, W, 870910 (2), 870919 (1); *Rabdosia trichocarpa*, W, 870919 (1); *Codonopsis lanceolata*, W, 870919 (1); *Cirsium microspicatum*, Q, 841012 (1)
- Vespula schrenckii*
Achyranthes bidentata, Q, 870826 (1); *Desmodium podocarpum*, Q, 870819 (1)
- Vespula shidai*
Aralia cordata, Q, 871003 (1); *Kalimeris yomena*, Q, 870819 (1)

SPHECOIDEA

Sphecidae

- Alysson cameroni*
Persicaria thunbergii, F, 860926 (1); *Kalimeris yomena*, F, 840907 (1)
- Cerceris carinalis*
Reynoutria japonica, M, 870827 (1); *Angelica pubescens*, F, 870927 (1)
- Cerceris hortivaga*
Reynoutria japonica, F, 870910 (1); *Stenactis annuus*, M, 870709 (1)
- Crabro* sp.
Reynoutria japonica, F, 870903 (1)
- Crossocerus walkeri*
Persicaria thunbergii, M, 841001 (1); *Deutzia crenata*, F, 850602 (1)
- Ectemnius (Cameronitus) nigrirtarsus*
Angelica pubescens, M, 870919 (1)
- Ectemnius (Cameronitus) radiatus*
Rubus palmatus, F, 860507 (1); *Aralia cordata*, M, 870827 (1)
- Ectemnius dives*
Ranunculus silerifolius, M, 850708 (1)
- Ectemnius* sp. or *Cranocernus* sp.
Astilbe thunbergii, 840723 (1)
- Lestica (Solenius) collaris*
Reynoutria japonica, M, 870827 (1), 870903 (1); *Angelica pubescens*, M, 870903 (1)
- Lestica collaris*
Angelica polymorpha, M, 851008 (1); *Angelica pubescens*, F, 840823 (1), M, 840823 (1)
- Passaloecus clypealis yamato*
Cardiandra alternifolia, M, 840823 (1)
- Psenulus* sp.
Deutzia Maximowicziana, M, 860604 (1); *Viburnum plicatum*, F, 850602 (1)
- Rhopalum (Latrorhopalum) latronum*
Astilbe thunbergii, M, 840723 (1); *Macleaya cordata*, M, 840811 (1); *Persicaria thunbergii*, M, 841001 (1); *Reynoutria japonica*, F, 840915 (3), 870903 (1); *Symplocos chinensis*, F, 840606 (1), M, 840606 (2), 860604 (1); *Stephanandra incisa*, M, 870606 (1); *Deutzia crenata*, F, 840628 (2); *Deutzia Maximowicziana*, F, 840606 (1), M, 860604 (3); *Hydrangea hirta*, F, 840628 (1); *Trifolium repens*, F, 840606 (1); *Alangium platanifolium*, M, 840628 (1); *Euonymus alatus*, M, 870530 (1); *Staphylea Bumalda*, M, 840522 (1); *Rhus javanica*, F, 840823 (1), M, 840823 (1); *Angelica polymorpha*, F, 860926 (6), M, 860926 (1); *Angelica pubescens*, F, 871020 (1), M, 850908 (1), 870919 (1); *Viburnum plicatum*, F, 840606 (1); *Weigela hortensis*, M, 840606 (1); *Stenactis annuus*, M, 860612 (1), 870819 (1)

Sphacidae sp.*Stellaria uchiyamana*, F, 850421 (2)*Trpocylon* sp.*Reynoutria japonica*, F, 870910 (1); *Aralia cordata*, F, 871010 (1); *Angelica pubescens*, F, 871003 (1); *Stenactis annuus*, F, 870704 (1)**APOIDEA****Colletidae****Colletinae***Colletes babai**Reynoutria japonica*, M, 870827 (4); *Angelica pubescens*, F, 870827 (1)**Hylaeinae***Hylaeus floralis**Reynoutria japonica*, M, 840915 (2); *Symplocos chinensis*, M, 860604 (2); *Deutzia Maximowicziana*, M, 860604 (1); *Angelica polymorpha*, M, 860926 (2); *Angelica pubescens*, F, 850908 (1), M, 840915 (3); *Viburnum plicatum*, M, 860604 (1); *Kalimeris yomena*, F, 840907 (1)*Hylaeus globula**Persicaria thunbergii*, F, 841001 (1), 850908 (2), M, 850908 (3); *Reynoutria japonica*, M, 840907 (1), 860913 (1); *Symplocos chinensis*, M, 860604 (1); *Cardiandra alternifolia*, M, 840823 (1); *Aralia cordata*, F, 850908 (1), 870819 (1), 870826 (1); *Angelica polymorpha*, F, 851008 (1), 860926 (9), 861008 (1), M, 860926 (3); *Angelica pubescens*, F, 840823 (3), 840907 (5), 840915 (9), M, 840823 (1), 840907 (1), 840915 (2), 850908 (1), 870903 (3), 870910 (1), 870919 (1)*Hylaeus nippon**Reynoutria japonica*, M, 840907 (1); *Rhus javanica*, F, 840823 (1); *Angelica polymorpha*, M, 860926 (1)*Hylaeus submonticola**Agrimonia pilosa*, F, 870819 (1), 870826 (1), M, 870826 (2); *Aralia cordata*, M, 870826 (2); *Angelica polymorpha*, M, 860913 (2); *Angelica pubescens*, M, 870903 (1), 870910 (1)**Halictidae***Lasioglossum (Dialictus) problematicum**Persicaria thunbergii*, F, 851008 (1)*Lasioglossum (Ctenonomia) sp.1**Angelica polymorpha*, M, 861008 (1)*Lasioglossum* (carinaless *Evylaeus*) *allocalum**Rubus palmatus*, F, 860507 (1); *Angelica pubescens*, M, 840915 (1)*Lasioglossum* (carinaless *Evylaeus*) *hirashimae**Macleaya cordata*, F, 860805 (1); *Symplocos chinensis*, F, 870530 (1); *Hydrangea macrophylla*, F, 870722 (1); *Aster ageratoides*, M, 871029 (1); *Stenactis annuus*, F, 870722 (1)*Lasioglossum* (carinaless *Evylaeus*) *japonicum**Persicaria thunbergii*, F, 841001 (1); *Reynoutria japonica*, F, 840915 (1); *Agrimonia pilosa*, F, 870819 (1); *Duchesnea chrysantha*, F, 870606 (1); *Deutzia crenata*, F, 850620 (1); *Desmodium podocarpum*, F, 870819 (1), 870826 (1); *Aster ageratoides*, F, 871029 (1); *Ixeris dentata*, M, 841012 (1)*Lasioglossum* (carinaless *Evylaeus*) *sexstrigatum**Paederia scandens*, M, 840823 (1)*Lasioglossum* (carinaless *Evylaeus*) sp.a*Desmodium podocarpum*, F, 870826 (1)

- Lasioglossum* (carinaless *Evylaeus*) sp.10
Ranunculus silerifolius, F, 870731 (1); *Deutzia crenata*, F, 840628 (1)
- Lasioglossum* (carinaless *Evylaeus*) sp.25
Deutzia crenata, F, 840628 (2), 850620 (1); *Hydrangea macrophylla*, F, 840628 (1), 870709 (1); *Stenactis annuus*, F, 870709 (1)
- Lasioglossum* (carinaless *Evylaeus*) sp.39
Persicaria thunbergii, M, 871010 (1); *Aralia cordata*, M, 870819 (1); *Angelica polymorpha*, M, 860926 (2), 871003 (1); *Swertia bimaculata*, M, 871010 (2), 871020 (1)
- Lasioglossum* (carinaless *Evylaeus*) sp.5
Ranunculus silerifolius, F, 840723 (1); *Cryptotaenia japonica*, F, 840723 (1); *Aster ageratoides*, M, 871020 (1); *Kalimeris yomena*, F, 870827 (1); *Stenactis annuus*, 860708 (1)
- Lasioglossum* (carinaless *Evylaeus*) *transpositum*
Astilbe thunbergii, F, 850708 (1), 860724 (3); *Macleaya cordata*, F, 850730 (2), 860805 (9); *Persicaria thunbergii*, F, 870927 (1); *Reynoutria japonica*, 870827 (1); *Kerria japonica*, F, 840522 (3), 870509 (1); *Rubus crataegifolius*, F, 850515 (1), 860522 (1); *Rubus palmatus*, F, 860507 (3); *Deutzia crenata*, F, 840628 (7), 850602 (3), 850620 (13), 860612 (2), 870627 (4), 870704 (1); *Hydrangea hirta*, F, 870627 (1); *Hydrangea macrophylla*, F, 840710 (4), 850708 (16), 870704 (3), 870709 (7); *Hydrangea paniculata*, F, 840723 (1), 860724 (3), 860805 (1); *Desmodium podocarpum*, M, 870819 (2); *Aralia cordata*, F, 871010 (1); *Aralia elata*, F, 870826 (1)
- Lasioglossum* (carinate *Evylaeus*) *apristum*
Astilbe thunbergii, F, 840723 (11); *Ranunculus silerifolius*, F, 840723 (1); *Macleaya cordata*, F, 840811 (23), 850730 (2), 850811 (1), 860805 (3); *Stellaria alsine*, F, 870509 (1); *Persicaria thunbergii*, F, 841012 (1), M, 841001 (1), 841012 (2), 851008 (1), 861008 (5), 871003 (2), 871010 (5), 871020 (6); *Reynoutria japonica*, F, 840915 (4), M, 840915 (18); *Symplocos chinensis*, F, 860604 (1), 870530 (2); *Clethra barbinervis*, F, 840811 (1); *Agrimonia pilosa*, F, 840823 (1), 870809 (2), 870826 (1); *Geum japonicum*, F, 850730 (2); *Rubus crataegifolius*, 860522 (1), F, 850515 (17), 860522 (12); *Rubus palmatus*, F, 860507 (6); *Cardiandra alternifolia*, F, 840823 (1), 850811 (10), 860825 (1); *Deutzia crenata*, F, 840628 (2), 850602 (5), 850620 (8); *Deutzia Maximowicziana*, F, 840606 (1), 870530 (1); *Hydrangea hirta*, F, 840628 (4), 850620 (3), 870618 (1); *Hydrangea macrophylla*, F, 840723 (13), 850708 (3), 870709 (1); *Hydrangea paniculata*, F, 870731 (1), 870801 (2), 870809 (1); *Ampelopsis brevipedunculata*, F, 870809 (2); *Staphylea Bumalda*, F, 860522 (2); *Acer carpinifolium*, F, 870509 (1); *Orixa japonica*, F, 860430 (2), 870423 (3); *Aralia cordata*, F, 841012 (1), 870819 (1), M, 871003 (1), 871010 (2); *Angelica polymorpha*, M, 860926 (3); *Angelica pubescens*, F, 841012 (1), M, 840915 (7), 841012 (1), 860926 (2), 871003 (1), 871010 (1); *Torilis japonica*, F, 850730 (1); *Leucosceptum stellipilum*, F, 860926 (1); *Paederia scandens*, F, 850811 (1); *Viburnum phlebotricum*, F, 850515 (2); *Viburnum plicatum*, 870530 (1), F, 840606 (1), 850602 (1), 860604 (25), 870530 (3); *Weigela hortensis*, 870530 (1), F, 870530 (3); *Aster ageratoides*, M, 871010 (2), 871020 (1), 871029 (1); *Aster glehni*, F, 841012 (1), M, 871010 (1); *Ixeris dentata*, M, 841012 (1); *Kalimeris yomena*, F, 851008 (1), 870809 (1), 871010 (1), M, 871010 (1); *Ligularia fischerii*, F, 850908 (1), 860926 (1); *Stenactis annuus*, F, 840723 (2), 840811 (1), 850730 (5), 850811 (2), 870704 (1), 870731 (1); *Pollia japonica*, F, 840522 (1)
- Lasioglossum* (carinate *Evylaeus*) *baleicum*
Corydalis incisa, F, 850421 (2); *Stellaria uchiyamana*, F, 850421 (1); *Persicaria thunbergii*, F, 841001 (1); *Hydrangea macrophylla*, F, 840710 (8), 850708 (1), 870704 (6), 870709 (8); *Aralia elata*, F, 870819 (1); *Aster ageratoides*, F, 871003 (1); *Stenactis annuus*, F, 870704 (2), 870709 (1)
- Lasioglossum* (carinate *Evylaeus*) *nipponense*
Rubus palmatus, F, 850503 (2), 870509 (1); *Ixeris dentata*, F, 870606 (1)

Lasioglossum (carinate *Evylaeus*) *sibiriacum*

Astilbe thunbergii, F, 840723 (1); *Ranunculus silerifolius*, F, 870801 (1);
Macleaya cordata, F, 840811 (1), 850730 (2); *Corydalis incisa*, F, 850421 (2);
Reynoutria japonica, F, 840907 (1); *Hydrangea macrophylla*, F, 840710 (1),
 870709 (10); *Hydrangea paniculata*, 860724 (1); *Orixa japonica*, F, 860430 (1);
Patrinia villosa, M, 840915 (1); *Stenactis annuus*, F, 840723 (1), 850730 (1),
 870722 (2), 870731 (1)

Lasioglossum (*Lasioglossum*) *exiliceps*

Corydalis incisa, F, 850421 (5); *Corydalis pallida*, F, 870423 (1); *Rhododendron
 kaempferi*, F, 850515 (1); *Rubus crataegifolius*, F, 850515 (9), 860522 (7); *Rubus
 palmatus*, F, 860430 (1), 860507 (2); *Omphalodes japonica*, F, 850421 (1)

Lasioglossum (*Lasioglossum*) *occidens*

Astilbe thunbergii, 860724 (1); *Macleaya cordata*, F, 850730 (1), 860805 (1);
Achyranthes bidentata, 870826 (1); *Persicaria conspicua*, M, 860926 (1);
Persicaria thunbergii, F, 871010 (1), M, 841001 (1), 850908 (1), 860926 (5), 861
 008 (1), 871010 (1); *Reynoutria japonica*, M, 860913 (1), 870910 (2), 870919 (1);
Deutzia crenata, 870627 (1), F, 840628 (4), 850620 (6), 870618 (1), 870627 (1);
Hydrangea hirta, F, 840628 (2); *Hydrangea macrophylla*, 870704 (1), 870709
 (1), F, 870709 (3); *Hydrangea paniculata*, 870722 (1), F, 860724 (2), 870722 (2),
 870731 (3); *Desmodium podocarpum*, M, 870819 (1); *Impatiens noli-tangere*,
 F, 870627 (1); *Aralia cordata*, 870826 (1); *Angelica polymorpha*, M, 860926
 (1); *Ligustrum obtusifolium*, F, 860612 (1); *Aster ageratoides*, 871105 (1), M,
 871020 (1); *Kalimeris yomena*, 860926 (1), F, 870910 (1), M, 871010 (1); *Stenactis
 annuus*, 870704 (2), 870827 (1), F, 840723 (1), 870704 (1), 870709 (1), 870722
 (4), 870731 (1)

Lasioglossum (*Lasioglossum*) sp.3

Achyranthes bidentata, M, 870910 (1); *Persicaria thunbergii*, F, 871003 (1);
 M, 841001 (1), 860926 (1), 870910 (2); *Actinidia arguta*, F, 870709 (1); *Viola
 verecunda*, F, 860507 (2); *Cardamine regeliana*, F, 870509 (1); *Rubus palmatus*,
 F, 860507 (3); *Hydrangea macrophylla*, F, 870704 (1), 870709 (2); *Hydrangea
 paniculata*, F, 860724 (2); *Geranium nepalense*, F, 870927 (1), M, 870910 (2),
 870927 (2); *Angelica pubescens*, F, 871029 (1); *Leucoscepttrum stellipilum*, F,
 860926 (1), 871029 (2), M, 871029 (1); *Aster ageratoides*, M, 871003 (1); *Aster
 glehni*, M, 870927 (2); *Kalimeris yomena*, M, 870819 (1), 870826 (2), 870827 (1),
 871010 (1); *Stenactis annuus*, F, 870704 (1), M, 870819 (1)

Lasioglossum (*Lasioglossum*) sp.6

Symplocos chinensis, F, 870530 (1)

Andrenidae*Andrena* (*Andrena*) *aburana*

Rubus crataegifolius, F, 860522 (1)

Andrena (*Andrena*) *ishiharai*

Rubus crataegifolius, M, 860522 (1)

Andrena (*Andrena*) *nawai*

Rubus palmatus, F, 860507 (1)

Andrena (*Calomelissa*) *protomias*

Deutzia crenata, F, 850602 (5), 850620 (4), 870618 (2), 870627 (2), M, 840628
 (1), 850602 (1), 860612 (1), 870614 (4), 870618 (1), 870627 (1)

Andrena (*Calomelissa*) *tsukubana*

Deutzia crenata, F, 850602 (4), 850620 (3), 860612 (4), 870618 (1), 870627 (6),
 870704 (5), 870709 (3), M, 850602 (7), 870618 (1)

Andrena (*Euanrena*) *hebes*

Rubus palmatus, F, 850503 (2); *Omphalodes japonica*, F, 850421 (1), 850503
 (3), M, 850503 (1)

Andrena (*Gymnandrena*) *parathoracica*

- Deutzia crenata*, F, 870618 (1)
Andrena (*Gymnandrena*) *watasei*
Rubus crataegifolius, M, 850515 (2); *Rubus palmatus*, F, 860507 (1), 870509 (1); *Deutzia Maximowicziana*, M, 860604 (1)
Andrena (*Hoplandera*) *akitsushimae*
Hydrangea macrophylla, F, 840710 (1), 870709 (1); *Hydrangea paniculata*, F, 840723 (2), 860724 (1), 860805 (1), M, 840723 (3)
Andrena (*Hoplandera*) *dentata*
Clethra barbinervis, F, 840811 (3), 840823 (1); *Rubus crataegifolius*, F, 850515 (1), 860522 (1); *Aralia elata*, F, 870819 (1)
Andrena (*Hoplandrena*) *miyamotoi*
Rubus palmatus, F, 860507 (2)
Andrena (*Micrandrena*) *brassicae*
Rubus palmatus, F, 850421 (1)
Andrena (*Micrandrena*) *hikosana*
Kerria japonica, F, 860507 (1)
Andrena (*Micrandrena*) *kaguya*
Stellaria uchiyamana, F, 850421 (1); *Cardamine tanakae*, F, 850503 (1); *Kerria japonica*, F, 870430 (1); *Rubus crataegifolius*, F, 850515 (1); *Staphylea Bumalda*, F, 860522 (2); *Orixa japonica*, F, 860430 (2)
Andrena (*Micrandrena*) *minutula*
Corydalis pallida, F, 870423 (1); *Stellaria alsine*, F, 850503 (1); *Stellaria uchiyamana*, F, 850503 (1); *Symplocos chinensis*, F, 860604 (1); *Viola verecunda*, F, 860507 (1), M, 860507 (1); *Cardamine tanakae*, F, 850503 (4); *Duchesnea chrysantha*, F, 870530 (3), 870606 (1); *Kerria japonica*, F, 840522 (1), 870430 (1); *Rubus crataegifolius*, F, 850515 (1), 860522 (3); *Rubus palmatus*, F, 850503 (3), 860507 (4), 870430 (1); *Deutzia Maximowicziana*, F, 870530 (1)
Andrena (*Micrandrena*) *sublevigata*
Rubus palmatus, M, 860507 (1)
Andrena (*Micrandrena*) *subopaca*
Deutzia crenata, F, 860612 (1)
Andrena (*Oreomelissa*) *mitakensis*
Angelica polymorpha, F, 861008 (1)
Andrena (*Simandrena*) *opacifovea opacifovea*
Rubus crataegifolius, F, 860522 (1), M, 850515 (1)
Andrena (*Simandrena*) *yamamotoi*
Deutzia crenata, F, 870618 (1)
Andrena (*Stenomelissa*) *halictoides*
Rubus crataegifolius, M, 850515 (2); *Staphylea Bumalda*, M, 840522 (1); *Lonicera gracilipes*, M, 850421 (1); *Weigela hortensis*, F, 870530 (1), 870606 (2)

Megachilidae

- Megachile tsurugensis*
Ranunculus silerifolius, F, 840628 (1); *Deutzia crenata*, M, 860612 (1); *Hydrangea hirta*, F, 870618 (1); *Desmodium podocarpum*, F, 870819 (1); *Geranium nepalense*, M, 870927 (3); *Ligularia fischerii*, F, 850908 (1); *Stenactis annuus*, F, 870704 (1), 870809 (1)
Megachile yasumatsui
Hypericum pseudopetiولاتum, F, 870819 (1); *Stenactis annuus*, F, 870704 (1), 870731 (2), 870801 (1)
Osmia cornifrons
Omphalodes japonica, M, 860430 (1)

Anthophoridae
Anthophorinae

*Anthophora pilipes villosula**Corydalis incisa*, F, 850503 (1), M, 850503 (1)*Tetralonia nipponens**Corydalis incisa*, M, 850503 (2)

Xylocopinae

*Xylocopa (Alloxylocopa) appendiculata circumvolan**Deutzia crenata*, 870627 (2)*Ceratina esakii**Corydalis incisa*, M, 850421 (1); *Stellaria alsine*, F, 850503 (1); *Viola verecunda*, F, 850503 (8), 870509 (2), M, 850503 (2), 860507 (2); *Rorippa indica*, F, 870606 (1); *Duchesnea chrysantha*, F, 870606 (2); *Omphalodes japonica*, F, 850503 (1), M, 850421 (1); *Glechoma hederacea*, F, 860522 (1); *Kalimeris yomena*, F, 870910 (1); *Stenactis annuus*, F, 870627 (1), 870809 (5), 870826 (1)*Ceratina flavipes**Stellaria uchiyamana*, M, 850503 (1); *Aster subulatus*, 850908 (1)*Ceratina iwatai**Ranunculus silerifolius*, F, 870722 (1); *Leucosceptrum stellipilum*, F, 860926 (1)*Ceratina japonica**Lindera umbellata*, M, 850421 (1); *Macleaya cordata*, F, 840811 (1), 850730 (1), 850811 (1); *Corydalis incisa*, F, 850503 (4), M, 850503 (3); *Stellaria uchiyamana*, M, 850503 (2); *Achyranthes bidentata*, F, 870826 (1); *Persicaria conspicua*, F, 860926 (1); *Persicaria thunbergii*, F, 841001 (18), 851008 (1), 860926 (7), 871003 (1), M, 841001 (1), 860926 (1); *Reynoutria japonica*, F, 870826 (1); *Viola verecunda*, F, 850503 (2), 860507 (3), M, 850503 (4); *Rorippa indica*, F, 870530 (1), 870606 (1), 870627 (1); *Duchesnea chrysantha*, F, 870606 (1); *Kerria japonica*, M, 840522 (1), 870509 (1); *Rubus palmatus*, F, 850503 (1), 860507 (3), M, 850421 (1), 870509 (2); *Deutzia crenata*, F, 850602 (1), 850620 (1), 870627 (1); *Deutzia Maximowicziana*, F, 860604 (2), M, 860604 (5); *Hydrangea hirta*, F, 870618 (2), 870627 (1); *Hydrangea macrophylla*, F, 850708 (1), 870709 (2); *Hydrangea paniculata*, F, 840811 (1); *Geranium nepalense*, F, 870903 (1), 870910 (1); *Impatiens noli-tangere*, F, 870627 (1); *Aralia cordata*, F, 870826 (1); *Angelica polymorpha*, M, 860926 (1); *Angelica pubescens*, F, 850908 (1), M, 871029 (1); *Omphalodes japonica*, F, 850421 (1), 850503 (4), 860430 (1), 860507 (2), M, 850503 (3); *Glechoma hederacea*, F, 860522 (1), 870509 (1); *Leucosceptrum stellipilum*, F, 860926 (8), M, 860926 (1); *Rabdosia trichocarpa*, F, 871003 (1); *Paederia scandens*, F, 870819 (1); *Viburnum plicatum*, F, 860604 (1); *Weigela hortensis*, F, 840606 (1), 870606 (3); *Cirsium microspicatum*, F, 850908 (2), 860926 (1), 870910 (1); *Kalimeris yomena*, F, 860926 (1), 870809 (4), 870819 (5), 870827 (3), 870910 (4), 870927 (1); *Ligularia fischerii*, F, 860926 (1); *Stenactis annuus*, F, 840723 (2), 850730 (1), 870627 (1), 870704 (2), 870709 (8), 870722 (2), 870809 (1), 870819 (6), 870826 (1), 870910 (1)*Ceratina megastigmata**Corydalis incisa*, F, 850421 (1), M, 850421 (10), 870509 (1); *Corydalis pallida*, M, 870423 (4), 870430 (1); *Persicaria thunbergii*, F, 841001 (2), M, 841001 (1); *Viola verecunda*, F, 860507 (1), M, 850503 (1), 860507 (4); *Cardamine regaliana*, M, 870509 (1); *Cardamine tanakae*, M, 850503 (1); *Kerria japonica*, F, 870509 (1), M, 850503 (1), 860507 (2); *Potentilla sundaica*, M, 850503 (1); *Rubus crataegifolius*, F, 850515 (1), 860522 (1); *Rubus palmatus*, F, 850503 (1), 860507 (3), 870430 (1), 870509 (3), M, 850421 (1), 850503 (2), 860507 (2), 870423 (1), 870430 (1), 870509 (2); *Deutzia crenata*, F, 840628 (1); *Deutzia Maximowicziana*, F, 860604 (1), 870530 (2); *Wisteria floribunda*, M, 840522 (2); *Staphylea*

Bumalda, M, 840522 (1); *Omphalodes japonica*, F, 850421 (2), 850503 (2), 860507 (4), M, 850421 (2), 850503 (12), 860430 (1), 860507 (3); *Leucosceptrum stellipilum*, F, 860926 (2), M, 860926 (3); *Lonicera gracilipes*, M, 850421 (9); *Sambucus racemosa*, M, 850421 (1); *Viburnum plicatum*, F, 870530 (1); *Weigela hortensis*, F, 840606 (2), 860604 (2), 870606 (2); *Kalimeris yomena*, F, 870927 (1), M, 851008 (1); *Ligularia fischerii*, F, 850908 (1), 860926 (2)

Nomadinae

Nomada aswensis

Viola verecunda, M, 870509 (1); *Cardamine regeliana*, M, 870509 (1)

Nomada clalii okubira

Viola verecunda, F, 860522 (1)

Nomada comparata

Rubus crataegifolius, M, 850515 (1)

Nomada esakii

Rubus crataegifolius, M, 850515 (1); *Omphalodes japonica*, F, 850503 (1), M, 860430 (1), 860507 (1)

Nomada flavoguttata japonensis

Viola verecunda, F, 840522 (1)

Nomada galloisi

?, F, 841001 (1)

Nomada ginran

Corydalis incisa, F, 850421 (1), M, 850421 (1); *Viola verecunda*, F, 870509 (1); *Rubus crataegifolius*, F, 850515 (1); *Deutzia Maximowicziana*, F, 860604 (2), 870530 (1); *Omphalodes japonica*, F, 860507 (1), M, 850421 (2), 850503 (1), 860430 (1), 860507 (1)

Nomada hakonensis

Rubus crataegifolius, F, 850515 (1)

Nomada harimensis

Cardamine tanakae, M, 850503 (1); *Omphalodes japonica*, F, 850503 (1), M, 850503 (1); *Glechoma hederacea*, F, 870509 (1)

Nomada sheppardiana okubira

Stellaria uchiyamana, M, 850503 (1); *Viola verecunda*, M, 860522 (9); *Rorippa indica*, F, 870606 (1), M, 870606 (5), 870618 (1); *Duchesnea chrysantha*, F, 870606 (1), M, 860522 (1), 870530 (1), 870606 (4); *Rubus palmatus*, F, 860430 (1); *Stephanandra incisa*, M, 870606 (1); *Deutzia crenata*, F, 870704 (1); *Deutzia Maximowicziana*, F, 860604 (1), M, 860604 (6); *Viburnum plicatum*, M, 850602 (1), 860604 (11); *Weigela hortensis*, F, 860604 (1), M, 860604 (2); *Stenactis annuus*, F, 860612 (1), 860708 (1), 870709 (1)

Nomada shirakii

Rubus crataegifolius, M, 850515 (1)

Nomada sp.

Viola verecunda, M, 860522 (2)

Epeolus melectiformis

Reynoutria japonica, M, 870826 (2); *Aralia cordata*, F, 870827 (1); *Kalimeris yomena*, M, 870819 (1)

Apidae

Bombinae

Bombus (Bombus) hypocrita hypocrita

Macleaya cordata, W, 840811 (3), 850811 (1); *Corydalis incisa*, Q, 850421 (2); *Corydalis pallida*, Q, 870430 (1); *Persicaria thunbergii*, M, 871003 (2); *Actinidia arguta*, W, 870704 (1); *Clethra barbinervis*, W, 840811 (1), 870801 (2); *Rubus crataegifolius*, Q, 850515 (1); *Deutzia crenata*, W, 870627 (1); *Hydrangea*

macrophylla, W, 840710 (4), 870709 (3); *Hydrangea paniculata*, W, 840723 (3), 840811 (2), 870722 (3), 870731 (4), 870801 (5); *Staphylea Bumalda*, Q, 870518 (1); *Rhus javanica*, W, 870819 (3); *Geranium nepalense*, M, 870910 (1); *Aralia elata*, W, 870819 (3); *Angelica polymorpha*, M, 860913 (1); *Omphalodes japonica*, Q, 860507 (1); *Plantago asiatica*, W, 870903 (1); *Kalimeris yomena*, M, 870903 (1)

Bombus (Bombus) ignitus

Macleaya cordata, Q, 840811 (1), W, 840811 (1)

Bombus (Diversobombus) diversus diversus

Ranunculus silerifolius, W, 870809 (1); *Macleaya cordata*, W, 840811 (1), 860 805 (1); *Corydalis incisa*, Q, 850421 (1), 850503 (1), 870509 (3), 870518 (1); *Corydalis pallida*, Q, 870423 (2), 870509 (2); *Persicaria thunbergii*, W, 841001 (4), 860926 (1), 861008 (6), 870919 (4), 870927 (8), 871003 (2); *Reynoutria japonica*, W, 870910 (1), 870919 (1); *Actinidia arguta*, W, 870704 (1); *Agrimonia pilosa*, W, 870910 (1); *Geum japonicum*, W, 870809 (1); *Rubus crataegifolius*, Q, 850 515 (1), 860522 (1); *Rubus palmatus*, Q, 850421 (1), 860507 (1), W, 860430 (2); *Rubus Buergeri*, W, 870826 (1), 870903 (1); *Cardiandra alternifolia*, W, 840823 (4), 840907 (1), 860825 (1), 870826 (1); *Deutzia crenata*, W, 840628 (1), 870627 (4); *Hydrangea paniculata*, W, 840723 (1), 870722 (1), 870731 (1); *Albizia Julibrissin*, W, 870731 (2), 870809 (1); *Amphicarpaea bracteata*, W, 870903 (1); *Desmodium podocarpum*, W, 840907 (2); *Vicia venosa*, W, 870722 (2), 870731 (1); *Wisteria floribunda*, Q, 840522 (1); *Staphylea Bumalda*, Q, 870518 (2); *Geranium nepalense*, W, 840907 (1), 840915 (1), 870910 (1), 870919 (1); *Impatiens noli-tangere*, W, 840628 (3), 840723 (2), 850708 (1), 860708 (1), 870627 (3), 870704 (5), 870709 (2), 870801 (1); *Impatiens textori*, M, 851 008 (2), W, 840907 (2), 840915 (2), 841001 (2), 850908 (2), 851008 (1), 860913 (7), 860926 (3), 870826 (7), 870827 (2), 870903 (5), 870910 (14), 870919 (15), 870927 (10), 871003 (9), 871010 (3); *Aralia cordata*, W, 870826 (3); *Angelica pubescens*, W, 870903 (1); *Leucosceptrum stellipilum*, W, 841012 (1), 860926 (4), 870919 (1), 870927 (1), 871003 (1), 871010 (2); *Meehania urticifolia*, Q, 840522 (1), 850503 (1), 860522 (1); *Rabdosia longituba*, M, 841012 (1), W, 841001 (2), 870927 (1), 871003 (1); *Rabdosia trichocarpa*, 841012 (1), W, 870927 (1), 871003 (1); *Paederia scandens*, W, 840823 (1), 870819 (2), 870827 (1); *Weigela hortensis*, Q, 840606 (3), 870530 (1); *Dipsacus japonicus*, W, 870919 (1); *Aster ageratoid es*, W, 871029 (1); *Cirsium microspicatum*, M, 851008 (2), 870919 (1), 871003 (1), 871010 (2), 871020 (2), W, 840907 (2), 840915 (2), 841001 (1), 841012 (4), 850908 (2), 860913 (2), 860926 (4), 870903 (1), 870910 (6), 870919 (6), 870927 (9), 871003 (9), 871010 (6), 871020 (2), 871029 (1); *Ligularia fischerii*, W, 860926 (5), 861008 (5), 870927 (1); *Youngia denticulata*, W, 871020 (1)

Bombus (Pyrobombus) ardens

Corydalis incisa, Q, 850503 (1); *Rhododendron kaempferi*, Q, 850515 (1); *Eriobotrya japonica*, Q, 850404 (1); *Rubus crataegifolius*, Q, 850515 (3), W, 860522 (1), 870518 (1); *Rubus palmatus*, Q, 850421 (1), 850503 (2), 860507 (1), 870430 (1), W, 870509 (1); *Deutzia crenata*, M, 840628 (1), 870627 (2), 870704 (3), Q, 870627 (1), W, 870627 (3), 870709 (1); *Deutzia Maximowicziana*, Q, 86 0604 (1), W, 870530 (3); *Alangium platanifolium*, M, 840628 (1); *Staphylea Bumalda*, Q, 870518 (2); *Meliosma tenuis*, M, 870709 (2); *Acer carpinifolium*, W, 870509 (1); *Lonicera gracilipes*, Q, 850421 (1); *Weigela hortensis*, M, 8406 06 (2), W, 840606 (1); *Stenactis annuus*, M, 870627 (1)

Bombus (Thoracobombus) honshuensis

Geum japonicum, W, 860805 (1), 870801 (1), 870809 (1); *Cardiandra alternifolia*, W, 840907 (1), 870826 (1); *Deutzia Maximowicziana*, W, 870530 (1); *Hydrangea paniculata*, W, 840723 (1); *Vicia venosa*, W, 870801 (1), 870809 (1), 870819 (2); *Staphylea Bumalda*, Q, 870518 (2); *Leucosceptrum stellipilum*, W, 870919 (1); *Cirsium microspicatum*, W, 870910 (1), 870919 (3), 870927 (2); *Ligularia fischerii*, M, 840915 (2)

Apinae*Apis cerana japonica*

Macleaya cordata, W, 850811 (1), 860805 (1); *Corydalis incisa*, W, 850421 (8);
Euptelea polyandra, W, 850404 (2); *Persicaria thunbergii*, W, 871003 (2);
Reynoutria japonica, W, 860913 (2), 870910 (1); *Stachyurus praecox*, W, 850404
(1); *Prunus jamasakura*, W, 850404 (4); *Rubus crataegifolius*, W, 850515 (3),
860522 (2), 870518 (3); *Rubus palmatus*, W, 860507 (2), 870430 (3); *Rubus*
Buergeri, W, 841012 (4); *Deutzia crenata*, W, 860612 (1), 870627 (3); *Staphylea*
Bumalda, W, 860522 (1); *Rhus javanica*, W, 840823 (2), 870819 (2); *Aralia*
cordata, W, 850908 (1), 870910 (3), 870919 (1); *Aralia elata*, W, 870819 (1);
Kalimeris yomena, W, 870927 (1); *Ligularia fischerii*, W, 841012 (1)