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YUKAWA, Junichi

Entomological Laboratory, Faculty of Agriculture, Kyushu University

TOKUDA, Makoto

Laboratory of Systems Ecology, Faculty of Agriculture, Saga University

UECHI, Nami

Institute of Plant Protection, National Agriculture and Food Research Organization

MATSUNAGA, Kiyoko

<https://doi.org/10.5109/6613531>

出版情報 : ESAKIA. 55, pp.92-124, 2022-12-20. 九州大学大学院農学研究院昆虫学教室
バージョン :
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Distribution Records and Host Plant Ranges of Identified and Unidentified Species of Gall-inducing Cecidomyiids (Diptera) in Fukuoka Prefecture, Japan

Junichi YUKAWA¹⁾, Makoto TOKUDA²⁾, Nami UECHI³⁾ and Kiyoko MATSUNAGA⁴⁾

1) Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka 819-0395 Japan. E-mail: cecid_galler_jy@yahoo.co.jp

2) Laboratory of Systems Ecology, Faculty of Agriculture, Saga University, Saga 849-8502 Japan

3) Institute of Plant Protection, National Agriculture and Food Research Organization, Tsukuba, Ibaraki 305-8605 Japan

4) Hikarigaoka, Chikushino City, Fukuoka 818-0036 Japan

Abstract. A total of 173 sorts of cecidomyiid gall on 132 plant species across 88 genera of 54 families were recognized to occur in Fukuoka Prefecture. Among them, three sorts are new findings from Japan, and three plant species were regarded to be new hosts of cecidomyiids in Japan. Cecidomyiid galls were most abundant in Fagaceae, followed by Asteraceae, Fabaceae, Styracaceae, and Rosaceae. Species of gall-bearing plant were most abundant in Asteraceae, followed by Fagaceae, Fabaceae, Vitaceae, and Rosaceae. Sixty cecidomyiids were identified to the species level and 34 to the genus level. Among identified cecidomyiids, species of the genus *Asphondylia* were most abundant, followed by *Contarinia*, *Rhopalomyia*, and *Schizomyia*. The faunistic comparison between Fukuoka and Korea supports the consideration that Japanese cecidomyiids expanded their range northwards through Tsushima as a stepping stone island rather than for Korean cecidomyiids did southwards.

Key words: cecidomyiid gall, faunistic comparison, gall-bearing plant, species composition, species identification.

Introduction

Plant galls are induced by various species of arthropod taxa, such as Agromyzidae, Cecidomyiidae, Chloropidae, Tephritidae (Diptera), Chalcidoidea, Cynipidae, Tenthredinidae (Hymenoptera), Adelgidae, Aleyrodidae, Aphidoidea, Coccoidea, Phylloxeridae, Psylloidea, Tingidae (Hemiptera), Pyralidae, Sesiidae, Tortricidae (Lepidoptera), Apionidae, Buprestidae, Curculionidae (Coleoptera), Phlaeothripidae, Thripidae (Thysanoptera), and Eriophyoidea (Acarina). (e.g. Dreger-Jauffret & Shorthouse 1992; Mani 1964; Yukawa & Tokuda 2021). Among them, Cecidomyiidae are the most dominant gall inducers in the Holarctic Region (e.g. Felt 1965; Roskam 2019; Yukawa & Masuda 1996). Gall-inducing cecidomyiids are appropriate materials for faunistic studies because galls are conspicuous in shape and exist on the host plants

for a long time (e.g. Yukawa & Tokuda 2021). In addition, many gall-inducing cecidomyiids are mono- or oligophagous, and the appearance, structure and position of galls are specific to gall-inducing species in many instances (e.g. Yukawa & Masuda, 1996). Therefore, gall-inducing cecidomyiids can be frequently identified to the species or genus level based on host plant information and the appearance and structure of galls. In other words, the number of gall sorts roughly represents the potential number of gall-inducing cecidomyiid species, although we need to adjust both the numbers in cases when the species exhibit gall shape polymorphism (e.g. Ganaha *et al.* 2007), sister species relation (e.g. Tokuda *et al.* 2004b), host plant alternation (e.g. Uechi & Yukawa 2006; Uechi *et al.* 2004), and polyphagous host range (e.g. Uechi *et al.* 2003).

Before 1996, 628 sorts of cecidomyiid gall were found in Japan (Yukawa & Masuda 1996).

Thereafter, many amateur naturalists, our colleagues, former students of Kagoshima, Kyushu, and Saga Universities, and we have found various sorts of cecidomyiid gall in many parts of Japan. As a result, they approximately amount to 734 sorts on 88 families of 38 vascular plant orders (Yukawa & Tokuda 2021). Up to present, 122 species of gall-inducing cecidomyiid have been identified (e.g. Yukawa 2014; Yukawa & Tokuda 2021).

In Japan, local gall-inducing cecidomyiid fauna has been presented in Hokkaido (Minami 2017; Yukawa & Sunose 1979), and various prefectures such as Aomori (Yamauchi *et al.* 2016), Niigata (Yukawa 1994; Yukawa & Sunose 1988), Wakayama (Yukawa *et al.* 2018), Miyazaki (e.g. Nagai 2015, 2016, 2017, 2018, 2019, 2021), Kagoshima (Yukawa 1988), and Okinawa (Yamauchi *et al.* 1982). In Fukuoka Prefecture, however, no faunistic data for gall-inducing cecidomyiids was gathered together for a single paper although the occurrence of various species has been recorded in respective papers (e.g. Ganaha *et al.* 2004; Tokuda & Yukawa 2005; Tokuda *et al.* 2002, 2004b, 2006; Tsuda 1982; Uechi & Yukawa 2006; Uechi *et al.* 2002, 2012, 2018; Yukawa 1971, 1978; Yukawa *et al.* 2014; see Table 2 for other references).

Finding of two sorts of gall on *Celtis sinensis* Pers. (Cannabaceae) was the first record of cecidomyiid galls from Fukuoka Prefecture (Monzen 1938). Later Monzen (1955b) recorded three sorts of cecidomyiid gall, and then followed by one of us, J. Yukawa from the 1970s. Thereafter, gall-inducing cecidomyiids have been most intensively and extensively surveyed in Fukuoka Prefecture because J. Yukawa was working for Kyushu University as a professor and many students studied taxonomy and ecology of gall-inducing cecidomyiids in his laboratory. On this occasion, we intend to gather together published and unpublished data on distribution records and host plant ranges of gall-inducing cecidomyiids in Fukuoka Prefecture. The current data will contribute to future comparative faunistic studies between localities with different vegetation, topographies, latitudes, and altitudes. In particular, faunistic comparison with gall-inducing cecidomyiids in the Korean Peninsula is essential to understand north- and southward expansion of cecidomyiids through a stepping-stone island, Tsushima (Kim *et al.* 2015; Yukawa *et al.* 2021).

Materials and methods

Collection, dissection, and rearing of cecidomyiid galls, and species identification

Gall-inducing cecidomyiids listed in this paper were derived from literature survey, our field survey performed from 1971 to 2021, and cecidomyiid galls found in Fukuoka Prefecture by our colleagues. Some of the galls and gall-bearing plants found in the field surveys were brought back to laboratories of Kyushu or Saga University. After taking photographs, some galls were dissected under a binocular microscope to identify the gall inducer and to obtain larval and pupal specimens. Some galls were kept in plastic bags or in rearing cages to obtain adults and pupal exuviae. Gall-inducing cecidomyiids were identified based mainly on adult morphological features, and partly on molecular data. When adult specimens were not available, they were identified to the species or genus level based on larval morphological characters together with information on host plants and gall shapes.

In case when galls look immature inhabited by young larvae or too old with emergence holes of cecidomyiid or parasitoid, we took photographs of the galls on the host plants instead of collecting galls for species identification of gall-inducing cecidomyiids. Particularly in the protected area at Hiraodai of Kitakyushu City, we did not collect galls.

Depository of specimens examined

Gall midge specimens were preserved in 75% ethanol for morphological observation and in 99% ethanol or acetone for future DNA analysis. Galls and gall midge specimens used in the current study are kept mainly in the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Japan and partly in the Laboratory of Systems Ecology, Faculty of Agriculture, Saga University, Japan.

Arrangement of gall-inducing cecidomyiids in Table 2 and photographs of their galls

We followed the names of plant family that were compiled by Yonekura (2019). In Table 2, however, gall-inducing cecidomyiids are arranged, together with Japanese name and number of each gall, following the old-style order of plant families adopted by Yukawa & Masuda (1996) for readers to find photographs of cecidomyiid galls easier in their book.

Photographs are provided only for the galls

TABLE 1 Names of site where cecidomyiid galls were found in Fukuoka Prefecture

Abura-yama (Fukuoka City)	Kasuya Research Forest (Sasaguri Town)	Rikimaru Dam (Miyawaka City)
Akama (Munakata City)	Katsuyama-yayama (Miyako Town)	Rouji (Fukuoka City)
Akiduki (Asakura City)	Kita-yama (Koga City)	Sangahata (Miyawaka City)
Amagi (Asakura City)	Koishi-wara (Asakura County)	Sangun-san (Chikushino City)
Aobano-mori Park (Fukuoka City)	Konomi-yama (Fukutsu City)	Sefuri-san (Fukuoka City)
Chikushi (Chikushino City)	Kosho-san (Asakura City)	Sharikura (Fukutsu City)
Dazaifu Shrine (Dazaifu City)	Koura-san (Kurume City)	Shikano-shima (Fukuoka City)
Fukuchi-yama (Kitakyushu City)	Kouzono (Chikushino City)	Shima (Itoshima City)
Futsukaichi (Chikushino City)	Kurogi (Yame City)	Shimizu (Miyama City)
Hachiryû Shrine (Ukiha City)	Kusano (Kurume City)	Shimobaru (Fukuoka City)
Hakozaki (Fukuoka City)	Kusenbu-san (Nakagawa City)	Shiouji-yama (Dazaifu City)
Hakozaki Shrine (Fukuoka City)	Kuwabara (Fukuoka City)	Shôunji (Fukutsu City)
Hanami (Fukutsu City)	Magaribuchi (Fukuoka City)	Susenji (Fukuoka City)
Hanatate-yama (Ogôri City)	Maiduru Park (Fukuoka City)	Tachibana-yama (Fukuoka City)
Haruda (Chikushino City)	Masubuchi Dam (Kitakyushu City)	Takada (Iduka City)
Hibar (Fukuoka City)	Minami Park (Fukuoka City)	Tatara (Fukuoka City)
Hikarigaoka (Chikushino City)	Minou-san (Kurume City)	Tenpai-zan (Chikushino City)
Hiko-san (Soeda Town)	Mitsusawa (Ogôri City)	Tsuko (Ogôri City)
Hirao (Fukuoka City)	Mizunashi (Itoshima City)	Tsuya-honmachi (Fukuoka City)
Hiraodai (Kitakyushu City)	Motooka (Fukuoka City)	Tsuyazaki (Fukutsu City)
Hisasue Dam (Fukutsu City)	Naganobu (Hirokawa Town)	Wakasugi-yama (Sasaguri Town)
Hôman-zan (Dazaifu City)	Nagatani Dam (Fukuoka City)	Wakita (Miyawaka City)
Ichinose (Kitakyushu City)	Nishi Park (Fukuoka City)	Yahata (Kitakyushu City)
Ideura (Kitakyushu City)	Nogouchi (Fukuoka City)	Yakiyama-touge (Sasaguri Town)
Ino (Hisayama Town)	Nokono-shima (Fukuoka City)	Yakuouji (Koga City)
Inunaki-touge (Hisayama Town)	Notouge (Miyako Town)	Yamagami Dam (Chikushino City)
Jouyou (Yame City)	Orihata Shrine (Munakata City)	Yamamoto (Kurume City)
Kabuto-yama (Kurume City)	Orono-shima (Fukuoka City)	Yanouchi (Asakura City)
Kanayama (Fukuoka City)	Ôhori Park (Fukuoka City)	Yoshii (Ukiha City)
Kashii (Fukuoka City)	Ôtake (Fukuoka City)	Yoshiki (Chikushino City)
Kashii Shrine (Fukuoka City)	Rai-zan (Itoshima City)	Yukawa-yama (Okagaki Town)

that were not shown previously in Yukawa & Masuda (1996) and other publications such as Elsayed *et al.* (2018a), Kim *et al.* (2014), Kodoi *et al.* (2003), Shinji (1944), Tokuda & Yukawa (2004), Tokuda *et al.* (2006), Uechi & Yukawa (2004), Uechi *et al.* (2002, 2005a, 2007, 2012, 2018), Yukawa *et al.* (2014, 2018), and Yukawa & Tokuda (2021). Cecidomyiid galls newly found in Japan are briefly described with photographs, and galls on newly found host plants are also referred to with photographs.

Results and discussion

We found cecidomyiid galls at 93 places in 23 cities or towns of Fukuoka Prefecture including three islands, Nokono-shima, Orono-shima, and Shikano-shima, and 17 mountains such as Hiko-san (1199m), Kosho-san (860m), and Sefuri-san (1055m) (Table 1, Fig. 1). Ninety-seven sorts of cecidomyiid gall were previously recorded from

**FIGURE 1.** Map of cecidomyiid gall-collecting sites in Fukuoka Prefecture.

TABLE 2 A list of identified and unidentified species of gall-inducing cecidomyiids in Fukuoka Prefecture together with information on their host plants, galled organs, Japanese gall names, known distribution records, and current collecting data

PINACEAE	
<i>Paradiplosis manii</i> (Inouye, 1959) on <i>Abies firma</i>	<i>Rabdophaga salicis</i> (Schrank, 1803) on <i>Salix babylonica</i> & <i>Salix</i> sp.
Galled organ & Japanese gall name (gall no.): Needle, “Momi-ha-tama-fushi” (B-0010c) Known distribution record: Hiko-san (Tokuda & Yukawa 2003) Current collecting data: none	Galled organ & Japanese gall name (gall no.): Stem, “Yanagi-eda-kobu-fushi” (C-0350) Known distribution record: Hiko-san, Ôhori Park, & Sefuri-san (Nijveldt & Yukawa 1982) Current collecting data: none
FAGACEAE	
<i>Thecodiplosis japonensis</i> Uchida & Inouye, 1955 on <i>Pinus thunbergii</i> & <i>P. densiflora</i>	<i>Contarinia</i> sp. on <i>Quercus glauca</i>
Galled organ & Japanese gall name (gall no.): Needle, “Kuromatsu-ha-tama-fushi” (B-0060a), “Akamatsu-ha-tama-fushi” (B-0060b) Known distribution record: Fukuoka Pref. (Kuranaga & Taketani 1985) Current collecting data: Hakozaki on <i>P. thunbergii</i> by M. Tokuda & N. Uechi	Galled organ & Japanese gall name (gall no.): Leaf, “Arakasi-ha-ore-fushi” (C-0490a) Known distribution record: none Current collecting data: Hanatate-yama & Ino by J. Yukawa; Hisasue Dam & Konomi-yama, by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Mitsusawa by K. Matsunaga
CUPRESSACEAE	
<i>Contarinia inouyei</i> Mani, 1954 on <i>Cryptomeria japonica</i>	<i>Contarinia</i> sp. on <i>Quercus serrata</i>
Galled organ & Japanese gall name (gall no.): Needle, “Sugi-ha-tama-fushi” (B-0110) Known distribution record: Fukuoka Pref. (Morimoto 1996) Current collecting data: Motooka by J. Yukawa; Hisasue Dam, Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara	Galled organ & Japanese gall name (gall no.): Leaf, “Konara-hatoji-fukure-fushi” (C-0492) (Fig. 2a) Known distribution record: none Current collecting data: Hanatate-yama by J. Yukawa; Hikarigaoka by K. Matsunaga
SALICACEAE	
<i>Lygocecis yanagi</i> (Shinji, 1938) on <i>Salix babylonica</i> & <i>Salix</i> sp.	<i>Macro diplosis selenis</i> Kim & Yukawa, 2014 on <i>Quercus serrata</i> & <i>Q. dentata</i>
Galled organ & Japanese gall name (gall no.): Stem, “Yanagi-eda-katagawa-fushi” (C-0200) Known distribution record: Ôhori Park, Tsuya-honmachi (Nijveldt & Yukawa 1982) Current collecting data: none	Galled organ & Japanese gall name (gall no.): Leaf, “Konara-haberiore-fushi” (C-0493a) & “Kashiwa-haberiore-fushi” (C-0493c) Known distribution record: Haruda, Kasuya Research Forest, Mitsusawa (Kim <i>et al.</i> 2014) Current collecting data: none
<i>Rabdophaga salicivora</i> (Shinji, 1938) on <i>Salix babylonica</i> & <i>Salix</i> sp.	Unidentified species on <i>Quercus serrata</i>
Galled organ & Japanese gall name (gall no.): Stem, “Yanagi-eda-maru-zui-fushi” (C-0210) Known distribution record: Fukuoka Pref. (Monzen 1955b) Current collecting data: Koishi-wara by J. Onagamitsu	Galled organ & Japanese gall name (gall no.): Leaf, “Konara-ha-fukure-fushi” (C-0495a) (Figs 2b, c) Known distribution record: none Current collecting data: Haruda, Hikarigaoka, & Mitsusawa by K. Matsunaga
	<i>Contarinia</i> sp. (possibly) on <i>Quercus serrata</i> & <i>Q. crispula</i>
	Galled organ & Japanese gall name (gall no.):

TABLE 2 (continued)

<p>Leaf, "Konara-haberi-uramaki-fushi" (C-0498a) (Fig. 2d) & "Mizunara-haberi-uramaki-fushi" (C-0498b) Known distribution record: none Current collecting data: Haruda, Hikarigaoka, & Tsuko on <i>Q. serrata</i> by K. Matsunaga; Sefuri-san on <i>Q. crispula</i> by J. Yukawa</p>	<p><i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-hasuji-togari-tama-fushi" (C-1650) Known distribution record: Hiko-san, Kusenbu-san (Tsuda 1982) Current collecting data: none</p>
<p>Unidentified species on <i>Quercus crispula</i> Galled organ & Japanese gall name (gall no.): Leaf, "Mizunara-ha-fukure-fushi" (C-1893) Known distribution record: Hiko-san (Yukawa 1982) Current collecting data: none</p>	<p><i>Mikiola glandaria</i> Sato & Yukawa, 2008 on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-hasuji-donguri-fushi" (C-1660) Known distribution record: Sefuri-san (Sato & Yukawa 2008) Current collecting data: none</p>
<p>Unidentified species on <i>Castanea crenata</i> Galled organ & Japanese gall name (gall no.): Flower, "Kuri-hana-ketama-fushi" (C-0499) (Fig. 2e) Known distribution record: none Current collecting data: Hikarigaoka by K. Matsunaga</p>	<p>Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-haberi-tama-fushi" (C-1670) Known distribution record: Hiko-san, Kusenbu-san (Tsuda 1982) Current collecting data: none</p>
<p><i>Ametrodiplosis</i> ? <i>acutissima</i> (Monzen, 1937) on <i>Quercus acutissima</i> Galled organ & Japanese gall name (gall no.): Stem, "Kunugi-eda-himekobu-fushi" (C-0770a) Known distribution record: none Current collecting data: Tachibana-yama by K. Yamagishi Note: Generic position of this species should be reexamined (Yukawa 2014).</p>	<p>Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-haberi-hoso-fushi" (C-1680) Known distribution record: Hiko-san (Tsuda 1982; Sato <i>et al.</i> 2010) Current collecting data: none</p>
<p><i>Schizomyia castanopsisae</i> Elsayed & Tokuda, 2018 on <i>Castanopsis sieboldii</i> & <i>C. cuspidata</i> Galled organ & Japanese gall name (gall no.): Flower bud, "Sudajii-hanaeda-fukure-fushi" (C-1630a) & "Tsuburajii-hanaeda-fukure-fushi" (C-1630b) Known distribution record: Haruda on the two host plants (Tokuda <i>et al.</i> 2019) Current collecting data: none</p>	<p>Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-haura-ke-fushi" (C-1690) Known distribution record: Hiko-san (Tsuda 1982; Sato <i>et al.</i> 2010) Current collecting data: none</p>
<p>Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-hamyaku-kobu-fushi" (C-1640) Known distribution record: Hiko-san (Tsuda 1982) Current collecting data: none</p>	<p><i>Janetiella infrafoli</i> Monzen, 1955 on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-haura-kobu-fushi" (C-1700) Known distribution record: Hiko-san (Tsuda 1982) Current collecting data: none</p>
<p><i>Mikiola bicornis</i> Sato & Yukawa, 2008 on</p>	<p>Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, "Buna-haura-kometsubu-fushi" (C-1710) Known distribution record: Hiko-san (Tsuda 1982; Sato <i>et al.</i> 2010) Current collecting data: none</p>

TABLE 2 (continued)

Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-haura-hishigata-fushi” (C-1720) Known distribution record: Kusenbu-san (Tsuda 1982) Current collecting data: none	Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-ha-fukure-fushi” (C-1800) Known distribution record: Hiko-san, Kusenbu-san (Tsuda 1982) Current collecting data: none
<i>Hartigiola faggalli</i> (Monzen, 1955) on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-haomote-kaigara-fushi” (C-1740), “Buna-haura-kaigara-fushi” (C-1741) Known distribution record: Hiko-san (Tsuda 1982; Sato <i>et al.</i> 2010); Kusenbu-san (Tsuda 1982); Hôman-san, Notouge (Mishima <i>et al.</i> 2014) Current collecting data: none Note: There are two sexually isolated intraspecific populations, one inducing galls on upper leaf surface and the other on under leaf surface (Mishima <i>et al.</i> 2014).	Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-ha-marutama-fushi” (C-1830) Known distribution record: Hiko-san (Tsuda 1982; Sato <i>et al.</i> 2010); Kusenbu-san (Tsuda 1982) Current collecting data: none
Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-ha-kibatsuno-fushi” (C-1750) Known distribution record: Hiko-san, Kusenbu-san (Tsuda 1982) Current collecting data: none	<i>Tokiwadiplosis matecola</i> Simbolon & Yukawa, 1992 on <i>Lithocarpus edulis</i> Galled organ & Japanese gall name (gall no.): Leaf, “Matebashii-ha-usu-fushi” (C-1850) Known distribution record: Shikano-shima (Tokuda <i>et al.</i> 2014) Current collecting data: none
Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-ha-kotsuno-fushi” (C-1760) Known distribution record: Hiko-san (Tsuda 1982; Sato <i>et al.</i> 2010); Kusenbu-san (Tsuda 1982) Current collecting data: none	<p style="text-align: center;">CANNABACEAE</p> Unidentified species on <i>Celtis sinensis</i> Galled organ & Japanese gall name (gall no.): Leaf, “Enoki-ha-kobu-fushi” (C-2000a) Known distribution record: Fukuoka Pref. (Monzen 1938) Current collecting data: Ino & Yoshii by J. Yukawa
Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-ha-tsuno-fushi” (C-1780) Known distribution record: Hiko-san (Tsuda 1982; Sato <i>et al.</i> 2010); Kusenbu-san (Tsuda 1982) Current collecting data: none	Unidentified species on <i>Celtis sinensis</i> Galled organ & Japanese gall name (gall no.): Leaf bud, “Enoki-me-kobu-fushi” (C-2006) Known distribution record: none Current collecting data: Mitsusawa by K. Matsunaga
Unidentified species on <i>Fagus crenata</i> Galled organ & Japanese gall name (gall no.): Leaf, “Buna-ha-nagatsuno-fushi” (C-1790) Known distribution record: Hiko-san (Tsuda 1982) Current collecting data: none	<i>Celticecis japonica</i> Yukawa & Tsuda, 1987 on <i>Celtis sinensis</i> Galled organ & Japanese gall name (gall no.): Leaf, “Enoki-ha-togari-tama-fushi” (C-2020a) Known distribution record: Fukuoka Pref. (Monzen 1938); Hiko-san, Wakasugi-yama (Yukawa & Tsuda 1987) Current collecting data: Hakozaki, Ino, Kashii, Tachibana-yama, & Wakasugi-yama by J. Yukawa; Hisasue Dam, Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Orihata Shrine by J. Yukawa & M. Nohara;

TABLE 2 (continued)

Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Haruda by K. Matsunaga

Schizomyia humuli* (Shinji, 1939) on *Humulus japonicus

Galled organ & Japanese gall name (gall no.): Leaf, “Kanamugura-haura-kobu-fushi” (C-2250a)

Known distribution record: Ino (Tokuda *et al.* 2004b), Mitsusawa (Kim *et al.* 2019)

Current collecting data: Hisasue Dam by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Nishi Park by J. Yukawa, S. Kamitani & M. Tokuda

MORACEAE

Lasioptera* sp. on *Ficus sarmentosa* & *F. thunbergii

Galled organ & Japanese gall name (gall no.): Leaf, “Itabikazura-haura-goma-fushi” (C-2210a) & “Himeitabi-haura-goma-fushi” (C-2210c)

Known distribution record: Tachibana-yama on the two host plants (Yukawa *et al.* 2014)

Current collecting data: Konomi-yama by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara

Unidentified species on *Ficus erecta*

Galled organ & Japanese gall name (gall no.): Leaf, “Inubiwa-ha-marutama-fushi” (C-2232) (Fig. 2f)

Known distribution record: none

Current collecting data: Hisasue Dam, Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara

Unidentified species on *Morus alba*

Galled organ & Japanese gall name (gall no.): Leaf, “Kuwa-hamyaku-kobu-fushi” (C-2300a)

Known distribution record: none

Current collecting data: Hisasue Dam J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Haruda by K. Matsunaga

URTICACEAE

Unidentified species on *Boehmeria spicata*

Galled organ & Japanese gall name (gall no.):

Leaf, “Koakaso-hamyaku-fukure-fushi” (C-2349)

Known distribution record: none

Current collecting data: Wakasugi-yama by J. Yukawa & T. Ganaha

Unidentified species on *Boehmeria spicata*

Galled organ & Japanese gall name (gall no.):

Fruit, “Koakaso-mi-toge-fushi” (C-2350a)

Known distribution record: Hiko-san (Yukawa 1982)

Current collecting data: Ino by J. Yukawa

Lasioptera* sp. on *Boehmeria spicata

Galled organ & Japanese gall name (gall no.):

Stem, “Koakaso-kuki-kobu-fushi” (C-2353b)

Known distribution record: Ino (Yukawa *et al.* 2014)

Current collecting data: none

POLYGONACEAE

Unidentified species on *Fallopia japonica*

Galled organ & Japanese gall name (gall no.): Flower bud, “Itadori-tsubomi-fukure-fushi” (C-2395a) (Fig. 2g)

Known distribution record: none

Current collecting data: Masubuchi Dam by J. Yukawa

AMARANTHACEAE

Lasioptera achyranthii* Shinji, 1939 on *Achyranthes bidentata

Galled organ & Japanese gall name (gall no.): Stem, “Inokoduchi-kuki-maru-zui-fushi” (C-2450a)

Known distribution record: Hiko-san, Hirao (Yukawa 1971); Fukuchi-yama, Magaribuchi, Motooka, Orono-shima, Shôunji, Tachibana-yama, Wakasugi-yama, Yakuouji (Yukawa *et al.* 2014)

Current collecting data: Ino & Katsuyama-yayama by J. Yukawa; Hisasue Dam, Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Nishi Park by J. Yukawa, S. Kamitani & M. Tokuda; Haruda & Mitsusawa by K. Matsunaga

Note: Two varieties of the host plant, *A. bidentata* var. *tomentosa* and *A. b.* var. *japonica* are not distinguished.

TABLE 2 (continued)

Schizomyia achyranthesae* Elsayed & Tokuda, 2018 on *Achyranthes bidentata

Galled organ & Japanese gall name (gall no.):
 Fruit, “Inokoduchi-mi-fukure-fushi” (C-2460)
 Known distribution record: Motooka (Elsayed *et al.* 2018b)
 Current collecting data: Shikano-shima, Tachibana-yama, & Tenpai-zan, by J. Yukawa; Hisasue Dam, Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Ino by M. Tokuda; Haruda by K. Matsunaga; Mitsusawa by N. Gytoku

SCHISANDRACEAE***Illiciomyia yukawai* Tokuda, 2004 on *Illicium anisatum***

Galled organ & Japanese gall name (gall no.):
 Leaf, “Shikimi-ha-kobu-fushi” (C-2490)
 Known distribution record: Futsukaichi (Tokuda 2004); Hiko-san (Tokuda 2004; Yukawa *et al.* 2016); Kanayama, Tenpai-zan (Yukawa *et al.* 2013); Wakasugi-yama (Tokuda 2004; Yukawa *et al.* 2013; Yukawa *et al.* 2016)
 Current collecting data: Sefuri-yama by J. Yukawa; Konomi-yama & Sharikura by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara

LAURACEAE***Pseudasphondylia neolitseae* Yukawa, 1974 on *Neolitsea sericea***

Galled organ & Japanese gall name (gall no.):
 Leaf, “Shirodamo-ha-kobu-fushi” (C-2540)
 Known distribution record: Hirao (Yukawa 1974); Hiraodai, Ino (Tokuda & Yukawa 2005); Kurogi (Yukawa & Takahashi 2017)
 Current collecting data: Abura-yama, Kanayama, Kashii Shrine, & Motooka by J. Yukawa; Hisasue Dam, Konomi-yama, & Sharikura by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Tachibana-yama by K. Yamagishi; Chikushi & Tsuko by K. Matsunaga; Mitsusawa by N. Gytoku; Nishi Park by J. Yukawa, S. Kamitani & M. Tokuda

Daphnephila machilicola* Yukawa, 1974 on**Machilus thunbergii***

Galled organ & Japanese gall name (gall no.):
 Leaf, “Tabunoki-haura-usu-fushi” (C-2560)
 Known distribution record: Tachibana-yama (Maeda *et al.* 1982)
 Current collecting data: Ino, & Nagatani Dam by J. Yukawa; Konomi-yama & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Haruda by K. Matsunaga; Wakasugi-yama by M. Mishima & N. Uechi

Daphnephila* sp. on *Machilus japonica

Galled organ & Japanese gall name (gall no.):
 Leaf, “Hosobatabu-haura-tsubo-fushi” (C-2600)
 Known distribution record: none
 Current collecting data: Mizunashi & Tachibana-yama by J. Yukawa; Ino by N. Uechi; Wakasugi-yama by M. Mishima & N. Uechi

Unidentified species on *Machilus japonica*

Galled organ & Japanese gall name (gall no.):
 Leaf, “Hosobatabu-ha-fukure-fushi” (C-2620a)
 Known distribution record: none
 Current collecting data: Konomi-yama by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara

Unidentified species on *Machilus thunbergii*

Galled organ & Japanese gall name (gall no.):
 Leaf, “Tabunoki-ha-fukure-fushi” (C-2620b)
 Known distribution record: none
 Current collecting data: Ino, Motooka, & Nokono-shima by J. Yukawa; Hisasue Dam, Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita

Unidentified species on *Lindera glauca*

Galled organ & Japanese gall name (gall no.):
 Leaf, “Yama-koubashi-ha-kobu-fushi” (C-2657) (Fig. 2h)
 Known distribution record: none
 Current collecting data: Tachibana-yama by J. Yukawa

TABLE 2 (continued)

RANUNCULACEAE	
<i>Schizomyia</i> sp. on <i>Cimicifuga simplex</i>	
Galled organ & Japanese gall name (gall no.):	
Flower bud, “Sarashina-shouma-tsubomi-fukure-fushi” (C-2660a)	
Known distribution record: none	
Current collecting data: Kanayama by J. Yukawa	
Note: Generic position of this gall midge was determined by Toji <i>et al.</i> (2021) based on molecular phylogenetic analysis.	
LARDIZABALACEAE	
Unidentified species on <i>Akebia quinata</i>	
Galled organ & Japanese gall name (gall no.):	
Leaf, “Akebi-ha-toji-fushi” (C-2685a)	
Known distribution record: none	
Current collecting data: Hanatate-yama & Koura-san by J. Yukawa	
<i>Contarinia</i> sp. on <i>Akebia trifoliata</i>	
Galled organ & Japanese gall name (gall no.):	
Leaf, “Mitsuba-akebi-haberi-maki-fushi” (C-2687) (Fig. 2i)	
Known distribution record: none	
Current collecting data: Higarigaoka & Mitsusawa by K. Matsunaga	
ACTINIDIACEAE	
<i>Pseudasphondylia matatabi</i> (Yuasa & Kumazawa, 1938) on <i>Actinidia polygama</i>	
Galled organ & Japanese gall name (gall no.):	
Flower bud, “Matatabi-tsubomi-fukure-fushi” (C-2710)	
Known distribution record: Ino (Tokuda & Yukawa 2005)	
Current collecting data: Hiko-san by K. Setoya; Inunaki-touge by J. Yukawa, N. Uechi & W. Kim; Sefuri-san by T. Kawarabata	
PENTAPHYLACACEAE	
Unidentified species on <i>Eurya japonica</i> & <i>E. emarginata</i>	
Galled organ & Japanese gall name (gall no.):	
Stem, “Hisakaki-eda-kobu-fushi” (C-2760a), “Hama-hisakaki-eda-kobu-fushi” (C-2760b)	
Known distribution record: none	
Current collecting data: Ino on <i>E. japonica</i> by J. Yukawa; Orono-shima on <i>E. emarginata</i> by M. Tokuda <i>et al.</i>	
THEACEAE	
<i>Lasioptera camelliae</i> Ohno & Yukawa, 1984 on <i>Camellia japonica</i>	
Galled organ & Japanese gall name (gall no.):	
Leaf, “Yabutsubaki-hamyaku-fukure-fushi” (C-2800a)	
Known distribution record: Shima, Tachibana-yama (Ohno & Yukawa 1984)	
Current collecting data: Ino by J. Yukawa; Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by T. Katsuda; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Minami Park by M. Tokuda; Nishi Park by J. Yukawa, S. Kamitani & M. Tokuda	
HAMAMELIDACEAE	
<i>Asphondylia itoi</i> Uechi & Yukawa, 2004 on <i>Distylium racemosum</i>	
Galled organ & Japanese gall name (gall no.):	
Fruit, “Isunoki-mi-kogata-fushi” (C-2890)	
Known distribution record: Hakozaki Shrine (Uechi & Yukawa 2004)	
Current collecting data: none	
HYDORANGEACEAE	
<i>Contarinia hydrangea</i> Shinji, 1939 on <i>Hydrangea paniculata</i>	
Galled organ & Japanese gall name (gall no.):	
Fruit, “Noriutsugi-mi-fukure-fushi” (C-2920)	
Known distribution record: none	
Current collecting data: Hiko-san by K. Ohno	
Unidentified species on <i>Hydrangea serrata</i>	
Galled organ & Japanese gall name (gall no.):	
Fruit, “Yama-ajisai-mi-fukure-fushi” (C-2960)	
Known distribution record: none	
Current collecting data: Hiko-san, Ino, & Tenpai-zan by J. Yukawa	
ROSACEAE	
Unidentified species on <i>Pourthiaea villosa</i>	
Galled organ & Japanese gall name (gall no.):	
Leaf, “Kamatsuka-hamyaku-kobu-fushi” (C-3070)	
Known distribution record: none	
Current collecting data: Hiko-san by K. Tsuda	
Unidentified species on <i>Rubus palmatus</i>	
Galled organ & Japanese gall name (gall no.):	
Terminal bud, “Nagaba-momiji-ichigo-shintome-fushi” (C-3170a)	

TABLE 2 (continued)

<p>Known distribution record: none Current collecting data: Ino by J. Yukawa</p>	<p>Fruit, “Bakuchinoki-mi-midori-fushi” (C-3290)</p>
<p><i>Lasioptera rubi</i> (Schränk, 1803) on <i>Rubus parvifolius</i></p>	<p>Known distribution record: Minami Park (Uechi <i>et al.</i> 2018)</p>
<p>Galled organ & Japanese gall name (gall no.): Stem, “Nawashiro-ichigo-kuki-kobu-fushi” (C-3200a)</p>	<p>Current collecting data: Motooka by J. Yukawa; Minami Park by J. Yukawa & M. Ichinose</p>
<p>Known distribution record: Shimobaru (Yukawa 1971)</p>	<p>Note: <i>L. zippeliana</i> is an overwintering host plant of <i>A. yushimai</i> (Yukawa <i>et al.</i> 2003).</p>
<p>Current collecting data: Dazaifu Shrine, Hanami, Hiko-san, & Nogouchi by J. Yukawa</p>	<p>FABACEAE</p>
<p><i>Lasioptera</i> sp. on <i>Rosa multiflora</i></p>	<p>Unidentified species on <i>Pueraria lobata</i></p>
<p>Galled organ & Japanese gall name (gall no.): Stem, “Noibara-kuki-kobu-fushi” (C-3210a)</p>	<p>Galled organ & Japanese gall name (gall no.): Leaf, “Kuzu-haura-tama-fushi” (C-3380)</p>
<p>Known distribution record: Motooka (Yukawa <i>et al.</i> 2014)</p>	<p>Known distribution record: none</p>
<p>Current collecting data: Ino by J. Yukawa</p>	<p>Current collecting data: Ino & Tenpai-zan by J. Yukawa; Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Ôtake by M. Tokuda; Yoshii by H. Inoue; Mitsusawa & Tsuko by K. Matsunaga; Kasuya Research Forest by N. Uechi</p>
<p>Unidentified species on <i>Rosa multiflora</i></p>	<p><i>Pitydiplosis puerariae</i> Yukawa, Ikenaga & Sato, 2012 on <i>Pueraria lobata</i></p>
<p>Galled organ & Japanese gall name (gall no.): Leaf bud, “Noibara-me-fukure-fushi” (C-3220a)</p>	<p>Galled organ & Japanese gall name (gall no.): Leaf, “Kuzu-ha-togari-tama-fushi” (C-3390a)</p>
<p>Known distribution record: none</p>	<p>Known distribution record: Ino (Yukawa <i>et al.</i> 2012)</p>
<p>Current collecting data: Nagatani Dam & Yoshii by J. Yukawa; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Hanatate-yama & Koura-san by N. Gyoutoku</p>	<p>Current collecting data: Hiko-san, Ideura, Koga, Motooka, Shikano-shima, Tachibana-yama, Tatara, & Yoshii by J. Yukawa; Hisasue Dam by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Mitsusawa & Tsuko by K. Matsunaga</p>
<p><i>Dasineura</i> sp. on <i>Rosa multiflora</i></p>	<p><i>Asphondylia yushimai</i> Yukawa & Uechi, 2003 on <i>Glycine max</i></p>
<p>Galled organ & Japanese gall name (gall no.): Leaf, “Noibara-ha-ore-fushi” (C-3230a)</p>	<p>Galled organ & Japanese gall name (gall no.): Pod, “Daizu-saya-kubire-fushi” (C-3440a)</p>
<p>Known distribution record: Hiko-san (Tokuda & Yukawa 2004)</p>	<p>Known distribution record: Yoshiki (Yukawa <i>et al.</i> 2003; Ganaha <i>et al.</i> 2004; Uechi & Yukawa 2006; Uechi <i>et al.</i> 2018)</p>
<p>Current collecting data: Ino & Motooka by J. Yukawa; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Haruda, Mitsusawa, & Tsuko by K. Matsunaga</p>	<p>Current collecting data: none Note: <i>G. max</i> is a summer-autumn host plant of <i>A. yushimai</i> (Yukawa <i>et al.</i> 2003).</p>
<p><i>Contarinia</i> sp. on a cultivated <i>Rosa</i></p>	
<p>Galled organ & Japanese gall name (gall no.): Leaf, “Bara-ha-ore-fushi” (C-3231)</p>	
<p>Known distribution record: Jouyou, Kurogi, & Susenji (Tokuda & Yukawa 2004)</p>	
<p>Current collecting data: none</p>	
<p><i>Asphondylia yushimai</i> Yukawa & Uechi, 2003 on <i>Laurocerasus zippeliana</i></p>	
<p>Galled organ & Japanese gall name (gall no.):</p>	

TABLE 2 (continued)

Unidentified species on <i>Albizia julibrissin</i> Galled organ & Japanese gall name (gall no.): Leaf, “Nemunoki-hatoji-fushi” (C-3448) Known distribution record: none Current collecting data: Motooka by J. Yukawa	Galled organ & Japanese gall name (gall no.): Leaf, “Marubahagi-hatoji-tamago-fushi” (C-3490b) Known distribution record: none Current collecting data: Hiko-san & Nagatani Dam by J. Yukawa
<i>Dasineura wistariae</i> Mani, 1954 on <i>Wisteria floribunda</i> Galled organ & Japanese gall name (gall no.): Flower bud, “Fuji-tsubomi-fukure-fushi” (C-3470) Known distribution record: none Current collecting data: Kashii Shrine, Kurogi, & Sangahata by J. Yukawa; Haruda by K. Matsunaga	Unidentified species on <i>Wisteria brachybotrys</i> & <i>W. floribunda</i> Galled organ & Japanese gall name (gall no.): Leaf, “Yamafuji-haberi-maki-fushi” (C-3500a), “Fuji-haberi-maki-fushi” (C-3500b) Known distribution record: none Current collecting data: Fukuchi-yama & Kasuya Research Forest on <i>W. brachybotrys</i> by J. Yukawa; Tachibana-yama on <i>W. brachybotrys</i> by K. Takasu; Konomi-yama & Sharikura on <i>W. brachybotrys</i> by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima on <i>W. brachybotrys</i> by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Haruda by K. Matsunaga on <i>W. brachybotrys</i> ; Hisasue Dam & Shôunji on <i>W. floribunda</i> by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Minou-san by J. Yukawa on <i>W. floribunda</i>
Unidentified species on <i>Wisteria floribunda</i> & <i>W. brachybotrys</i> Galled organ & Japanese gall name (gall no.): Leaf, “Fuji-ha-ore-fushi” (C-3471a) (Fig. 2j), “Yamafuji-ha-ore-fushi” (C-3471b) Known distribution record: none Current collecting data: Haruda on <i>W. floribunda</i> & <i>W. brachybotrys</i> (New host record) by K. Matsunaga	Unidentified species on <i>Wisteria brachybotrys</i> & <i>W. floribunda</i> Galled organ & Japanese gall name (gall no.): Leaf, “Yamafuji-ha-ibo-fushi” (C-3510a), “Fuji-ha-ibo-fushi” (C-3510b) Known distribution record: none Current collecting data: Akama, Kasuya Research Forest, & Motooka by on <i>W. brachybotrys</i> J. Yukawa; Hisasue Dam & Konomi-yama on <i>W. brachybotrys</i> by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Inunaki-touge on <i>W. brachybotrys</i> J. Yukawa & K. Katahira; Haruda on <i>W. brachybotrys</i> by K. Matsunaga; Hiko-san, Ino, Kasuya Research Forest, Tachibana-yama, Takada, Wakasugi-yama, & Yahata on <i>W. floribunda</i> by J. Yukawa
<i>Lasioptera lespedezae</i> Shinji, 1939 on <i>Lespedeza bicolor</i> Galled organ & Japanese gall name (gall no.): Stem, “Yamahagi-kuki-tsuto-fushi” (C-3480a) Known distribution record: Wakasugi-yama (Yukawa <i>et al.</i> 2014) Current collecting data: Kasuya Research Forest by K. Yamagishi	Unidentified species on <i>Wisteria brachybotrys</i> Galled organ & Japanese gall name (gall no.): Leaf, “Yamafuji-ha-ke-fushi” (C-3520a) Known distribution record: none Current collecting data: Hisasue Dam & Konomi-yama by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Notouge by F.
Unidentified species on <i>Lespedeza bicolor</i> Galled organ & Japanese gall name (gall no.): Leaf, “Yamahagi-haguki-kobu-fushi” (C-3481) (Fig. 2k) Known distribution record: none Current collecting data: Kasuya Research Forest by K. Yamagishi	
Unidentified species on <i>Lespedeza bicolor</i> Galled organ & Japanese gall name (gall no.): Leaf, “Yamahagi-hatoji-tamago-fushi” (C-3490a) Known distribution record: none Current collecting data: Tenpai-zan by N. Uechi; Hibarū, Hiko-san, & Ino by J. Yukawa	
Unidentified species on <i>Lespedeza cyrtobotrya</i>	

TABLE 2 (continued)

Kodoi; Haruda by K. Matsunaga	Flower bud, “Yamahaze-tsubomi-fukure-fushi” (C-3650a), “Hazenoki-tsubomi-fukure-fushi” (C-3650b)
Unidentified species on <i>Wisteria brachybotrys</i> & <i>W. floribunda</i>	Known distribution record: Amagi & Kabuto-yama on <i>R. sylvestris</i> (Uechi & Yukawa 2006); Aoba Park & Yamamoto on <i>R. succedanea</i> (Uechi & Yukawa 2006)
Galled organ & Japanese gall name (gall no.): Leaf, “Yamafuji-ha-fukure-fushi” (C-3530a), “Fuji-ha-fukure-fushi” (C-3530b)	Current collecting data: Tachibana-yama on <i>R. succedanea</i> by K. Yamagishi
Known distribution record: none	Note: Species of <i>Rhus</i> are short-term spring host plants of <i>A. sphaera</i> (Uechi & Yukawa 2006).
Current collecting data: Ino, Kasuya Research Forest, Takada, & Yahata on <i>W. brachybotrys</i> by J. Yukawa; Tachibana-yama & Wakasugi-yama on <i>W. brachybotrys</i> by K. Takasu; Haruda on <i>W. brachybotrys</i> & <i>W. floribunda</i> by K. Matsunaga; Hisasue Dam & Shôunji on <i>W. floribunda</i> by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara	SAPINDACEAE
<i>Obolodiplosis robiniae</i> (Haldeman, 1847) on <i>Robinia pseudoacacia</i>	Unidentified species on <i>Acer palmatum</i>
Galled organ & Japanese gall name (gall no.): Leaf, “Harienju-haberi-maki-fushi” (C-3539)	Galled organ & Japanese gall name (gall no.): Leaf, “Irohamomiji-ha-wamon-fushi” (C-3677a)
Known distribution record: Kasuya Research Forest (Kodoi <i>et al.</i> 2003); Hakozaiki & Kasuya Research Forest (Uechi <i>et al.</i> 2005b)	Known distribution record: none
Current collecting data: Hikarigaoka & Tsuko by K. Matsunaga	Current collecting data: Hiko-san by J. Yukawa
EUPHORBIACEAE	AQUIFOLIACEAE
<i>Asphondylia</i> sp. on <i>Neoshirakia japonica</i>	<i>Schizomyia sasakii</i> (Monzen, 1937) on <i>Ilex crenata</i>
Galled organ & Japanese gall name (gall no.): Leaf bud, “Shiraki-me-tama-fushi” (C-3570)	Galled organ & Japanese gall name (gall no.): Axillary bud, “Inutsuge-me-tama-fushi” (C-3730a)
Known distribution record: Kitayama & Sangun-san (Uechi <i>et al.</i> 2005a)	Known distribution record: Fukuoka Pref. (Monzen 1955b); Hiko-san (Yukawa 1971; Tokuda <i>et al.</i> 2004b); Ino (Tokuda <i>et al.</i> 2004b); Inunaki, Sefuri-san & Tachibana-yama (Tokuda <i>et al.</i> 2002, 2004b)
Current collecting data: none	Current collecting data: Sangun-san by F. Kodoi & N. Uechi
RUTACEAE	<i>Schizomyia soyogo</i> Kikuti, 1939 on <i>Ilex pedunculosa</i>, <i>I. chinensis</i>, & <i>I. integra</i>
Unidentified species on <i>Zanthoxylum ailanthoides</i>	Galled organ & Japanese gall name (gall no.): Axillary bud, “Soyogo-me-tama-fushi” (C-3750a), “Nanaminoki-me-tama-fushi” (C-3750b), “Mochinoki-me-tama-fushi” (C-3750d)
Galled organ & Japanese gall name (gall no.): Leaflet, “Karasuzanshou-haberi-maki-fushi” (C-3597) (Fig. 21)	Known distribution record: Amagi, Hiko-san, Mizunashi, & Tsuyazaki on <i>Ilex pedunculosa</i> (Tokuda <i>et al.</i> 2002, 2004b), Aobano-mori Park, Sefuri-san, & Tachibana-yama on <i>I. chinensis</i> (Tokuda <i>et al.</i> 2002, 2004b), Maiduru Park & Minami Park on <i>I. integra</i> (Tokuda <i>et al.</i> 2002, 2004b)
Known distribution record: none	Current collecting data: Hanatate-yama & Koura-san on <i>Ilex pedunculosa</i> by J. Yukawa;
Current collecting data: Haruda & Mitsusawa by K. Matsunaga (New finding)	
Brief description: One or both margins of leaflet are rolled upward, containing plural larvae that exhibit jumping behavior.	
ANACARDIACEAE	
<i>Asphondylia sphaera</i> Monzen, 1937 on <i>Rhus sylvestris</i> & <i>R. succedanea</i>	
Galled organ & Japanese gall name (gall no.):	

TABLE 2 (continued)Haruda on *I. chinensis* by K. Matsunaga**CELASTRACEAE*****Asphondylia* sp. on *Celastrus orbiculatus***

Galled organ & Japanese gall name (gall no.):
Fruit, “Tsuru-umemodoki-mi-fukure-fushi”
(C-3790)

Known distribution record: Kusenbu-san
(Uechi *et al.* 2005a)

Current collecting data: Mitsusawa by K.
Matsunaga; Motooka by J. Yukawa & T. Fujii

***Masakimyia pustulae* Yukawa & Sunose, 1976
on *Euonymus japonicus***

Galled organ & Japanese gall name (gall no.):
Leaf, “Masaki-ha-fukure-fushi” (C-3810a)

Known distribution record: Hakozaki &
Shikano-shima (Fujii *et al.* 2014)

Current collecting data: Akama & Shima by J.
Yukawa; Nokono-shima by J. Yukawa, K.
Matsuo, W. Kim, S. Seto, & A. Sugita;
Shikano-shima by J. Yukawa, K. Matsuo, S.
Seto, & A. Sugita

VITACEAE***Schizomyia uechiae* Elsayed & Tokuda, 2019
on *Ampelopsis brevipedunculata***

Galled organ & Japanese gall name (gall no.):
Flower bud, “Kireha-nobudou-tsubomi-
fukure-fushi” (C-3850b)

Known distribution record: Haruda (Elsayed *et al.* 2019)

Current collecting data: Mitsusawa by K.
Matsunaga

***Asphondylia baca* Monzen, 1937 on
Ampelopsis glandulosa & *Cayratia japonica***

Galled organ & Japanese gall name (gall no.):
Fruit, “Nobudou-mi-fukure-fushi” (C-3860a),
“Yabugarashi-mi-fukure-fushi” (C-3860b)

Known distribution record: Aobano-mori Park,
Konomi-yama, Kusenbu-san, Sharikura,
Shikano-shima, Yame (Uechi *et al.* 2002),
Hiko-san (Uechi *et al.* 2002, 2004), Ino (Uechi
et al. 2002, 2004, 2018; Uechi & Yukawa
2006), Inunaki (Uechi *et al.* 2002, Uechi &
Yukawa 2006) on *Ampelopsis glandulosa*;
Kasuya Research Forest on *C. japonica* (Uechi
et al. 2002)

Current collecting data: Haruda, Mitsusawa, &
Tsuko on *A. glandulosa* by K. Matsunaga;
Katsuyama-yayama on *A. glandulosa* by J.

Yukawa; Motooka by J. Yukawa & M.
Ichinose; Nokono-shima & Shikano-shima on
A. glandulosa by J. Yukawa, K. Matsuo, W.
Kim, S. Seto, & A. Sugita

Note: *A. glandulosa* and *C. japonica* are
summer-autumn host plants of *A. baca* (Uechi
et al. 2004).

Unidentified species on *Vitis coignetiae*, *V. ficifolia*, & *V. flexuosa*

Galled organ & Japanese gall name (gall no.):
Leaf, “Yama-budou-ha-kobu-fushi” (C-3930a),
“Ebiduru-ha-kobu-fushi” (C-3930b),
“Sankakuduru-ha-kobu-fushi” (C-3930c)

Known distribution record: none

Current collecting data: Motooka on *V. coignetiae*,
Hiko-san on *V. ficifolia* by J. Yukawa;
Nokono-shima on *V. ficifolia* by J. Yukawa,
K. Matsuo, W. Kim, S. Seto, & A. Sugita;
Shikano-shima on *V. ficifolia* by J. Yukawa,
W. Kim, S. Seto, & A. Sugita; Hiko-
san on *V. flexuosa* by J. Yukawa

***Ampelomyia conicocoricis* Elsayed & Tokuda,
2019 on *Vitis vinifera***

Galled organ & Japanese gall name (gall no.):
Leaf, “Budou-ha-tokkuri-fushi” (C-3940d)

Known distribution record: none

Current collecting data: Hibarū (former
Horticultural Experiment Station of Fukuoka
Prefecture) by K. Yamada & J. Yukawa

ELAEOCARPACEAE***Pseudasphondylia elaeocarpi* Tokuda &
Yukawa, 2005 on *Elaeocarpus zollingeri***

Galled organ & Japanese gall name (gall no.):
Leaf, “Horutonoki-haura-eboshi-fushi” (C-
3950)

Known distribution record: none

Current collecting data: Ino by J. Yukawa;
Sharikura by J. Yukawa, M. Tokuda, J. Abe, N.
Uechi, & M. Nohara; Nokono-shima &
Shikano-shima by J. Yukawa, K. Matsuo, W.
Kim, S. Seto, & A. Sugita; Orono-shima by M.
Tokuda *et al.*

ELAEAGNACEAE**Unidentified species on *Elaeagnus pungens***

Galled organ & Japanese gall name (gall no.):
(C-4057d) (Fig. 2m)

Known distribution record: none Leaf bud,
“Nawashiro-gumi-me-fukure-fushi”

TABLE 2 (continued)

Current collecting data: Mitsusawa by K. Matsunaga (New host record from Fukuoka Pref.)	Current collecting data: Hiko-san on <i>S. macrophylla</i> by J. Yukawa; Nokono-shima on <i>S. macrophylla</i> by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Motooka on <i>S. macrophylla</i> by J. Yukawa & W. Kim; Yamagami Dam on <i>S. macrophylla</i> by K. Matsunaga; Ino Dam on <i>S. macrophylla</i> and <i>C. controversa</i> by J. Yukawa, W. Kim, M. Nohara, & K. Katahira.
<p style="text-align: center;">CUCURBITACEAE</p> <p><i>Lasioptera</i> sp. on <i>Trichosanthes cucumeroides</i> & <i>T. bracteata</i></p> <p>Galled organ & Japanese gall name (gall no.): Vine, “Karasuuri-kuki-fukure-fushi” (C-4100a), “Ôkarasuuri-kuki-fukure-fushi” (C-4100b)</p> <p>Known distribution record: Inunaki, Konomi-yama, Motooka, Shikano-shima, & Tachibana-yama on <i>T. cucumeroides</i> (Yukawa <i>et al.</i> 2014)</p> <p>Current collecting data: Katsuyama-yayama, Masubuchi Dam, Wakita, & Yakiyama-touge on <i>T. cucumeroides</i> by J. Yukawa; Hisasue Dam, Sharikura, & Shôunji on <i>T. cucumeroides</i> by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima on <i>T. cucumeroides</i> by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Nishi Park on <i>T. cucumeroides</i> & <i>T. bracteata</i> by J. Yukawa, S. Kamitani, & M. Tokuda</p>	
<p style="text-align: center;">GARRYACEAE</p> <p><i>Asphondylia aucubae</i> Yukawa & Ohsaki, 1988 on <i>Aucuba japonica</i></p> <p>Galled organ & Japanese gall name (gall no.): Fruit, “Aoki-mi-fukure-fushi” (C-4130a)</p> <p>Known distribution record: Hiko-san, Inunaki (Yukawa 1971); Ino (Uechi <i>et al.</i> 2018); Hiko-san, Ino, Konomi-yama, & Tachibana-yama (Uechi <i>et al.</i> 2002)</p> <p>Current collecting data: Motooka & Koura-san by J. Yukawa; Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Wakasugi-yama by M. Tokuda</p>	
<p style="text-align: center;">CORNACEAE</p> <p>Unidentified species on <i>Swida macrophylla</i> & <i>Cornus controversa</i></p> <p>Galled organ & Japanese gall name (gall no.): Leaf, “Kumano-mizuki-hamyaku-fukure-fushi” (C-4140a), “Mizuki-hamyaku-fukure-fushi” (C-4140b)</p> <p>Known distribution record: Ino Dam on <i>S. macrophylla</i> (Kim <i>et al.</i> 2015)</p>	
<p style="text-align: center;">HELWINGIACEAE</p> <p><i>Asphondylia</i> sp. on <i>Helwingia japonica</i></p> <p>Galled organ & Japanese gall name (gall no.): Fruit, “Hanaikada-mi-fukure-fushi” (C-4150)</p> <p>Known distribution record: Hiko-san (Uechi <i>et al.</i> 2002)</p> <p>Current collecting data: none</p>	
<p style="text-align: center;">ARALIACEAE</p> <p><i>Asphondylia</i> sp. on <i>Hedera rhombea</i></p> <p>Galled organ & Japanese gall name (gall no.): Flower bud, “Kiduta-tsubomi-fukure-fushi” (C-4170)</p> <p>Known distribution record: none</p> <p>Current collecting data: Ino, Motooka, & Nogouchi by J. Yukawa; Yakuouji by J. Yukawa & D. Yamaguchi; Rai-zan by M. Tokuda; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita</p>	
<p><i>Asphondylia</i> sp. on <i>Hedera rhombea</i></p> <p>Galled organ & Japanese gall name (gall no.): Fruit, “Kiduta-mi-fukure-fushi” (C-4172)</p> <p>Known distribution record: Shikano-shima, Yakuouji, & Yoshiki (Uechi <i>et al.</i> 2005a); Kuwabara (Uechi <i>et al.</i> 2018)</p> <p>Current collecting data: Ino & Nokono-shima by J. Yukawa; Orono-shima by M. Tokuda; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita</p> <p>Note: Fruit of <i>H. rhombea</i> is an overwintering site for this gall midge (Uechi <i>et al.</i> 2018).</p>	
<p>Unidentified species on <i>Kalopanax septemlobus</i></p> <p>Galled organ & Japanese gall name (gall no.): Leaf, “Harigiri-hamyaku-fukure-fushi” (C-4180)</p> <p>Known distribution record: Hiko-san (Yukawa 1978)</p>	

TABLE 2 (continued)

Current collecting data: none	
SCHOEPFIACEAE	
<i>Asphondylia tojoi</i> Elsayed & Tokuda, 2018 on <i>Schoepfia jasminodora</i>	
Galled organ & Japanese gall name (gall no.): Leaf bud, “Boroboronoki-me-fukure-fushi” (C-4351)	
Known distribution record: Shimizu, Kourasan, Tsuko, & Yoshii (Uechi <i>et al.</i> 2012); Koura-san (Elsayed <i>et al.</i> 2018a)	
Current collecting data: Haruda & Mitsusawa by K. Matsunaga	
PHYTOLACCACEAE	
<i>Asphondylia</i> sp. on <i>Phytolacca americana</i>	
Galled organ & Japanese gall name (gall no.): Fruit, “Youshu-yamagobou-mi-fukure-fushi” (C-4391a) (Fig. 2n)	
Known distribution record: none	
Current collecting data: Mitsusawa by K. Matsunaga	
Note: <i>P. americana</i> is a summer host plant of this gall midge (Uechi <i>et al.</i> 2018).	
CLETHRACEAE	
Unidentified species on <i>Clethra barbinervis</i>	
Galled organ & Japanese gall name (gall no.): Leaf, “Ryoubu-ha-tama-fushi” (D-0010)	
Known distribution record: none	
Current collecting data: Shiouji-yama by J. Yukawa & W. Kim	
ERICACEAE	
<i>Asphondylia</i> sp. on <i>Pieris japonica</i>	
Galled organ & Japanese gall name (gall no.): Flower bud, “Asebi-tsubomi-toji-fushi” (D-0035)	
Known distribution record: Minami Park (Uechi <i>et al.</i> 2002, 2005a)	
Current collecting data: none	
PRIMULACEAE	
<i>Asphondylia</i> sp. on <i>Ardisia japonica</i>	
Galled organ & Japanese gall name (gall no.): Flower bud, “Yabukouji-mi-fukure-fushi” (D-0055a)	
Known distribution record: Ino (Uechi <i>et al.</i> 2002, 2005a)	
Current collecting data: none	
STYRACACEAE	
<i>Lasioptera</i> sp. on <i>Styrax japonicus</i>	
Galled organ & Japanese gall name (gall no.): Stem, “Egonoki-eda-fukure-fushi” (D-0100)	
Known distribution record: Ino (Yukawa <i>et al.</i> 2014)	
Current collecting data: Hiko-san & Sefuri-yama by Y. So & M. Tokuda	
Unidentified species on <i>Styrax japonicus</i>	
Galled organ & Japanese gall name (gall no.): Leaf bud, “Egonoki-me-fukure-fushi” (D-0110a)	
Known distribution record: none	
Current collecting data: Hiko-san, Ino, Sefuri-yama, & Tachibana-yama by J. Yukawa; Wakasugi-yama by J. Yukawa & T. Ganaha; Ino by M. Tokuda; Haruda by K. Matsunaga	
<i>Dasineura</i> sp. on <i>Styrax japonicus</i>	
Galled organ & Japanese gall name (gall no.): Leaf, “Egonoki-haura-ketama-fushi” (D-0130)	
Known distribution record: Sefuri-yama & Tachibana-yama (Tokuda <i>et al.</i> 2006)	
Current collecting data: Fukuchi-yama, Motooka, & Shikano-shima by J. Yukawa; Sharikura by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Koura-san by J. Yukawa & K. Katahira; Hikarigaoka by K. Matsunaga; Hiko-san & Ino by Y. So & M. Tokuda; Yukawa-yama by Y. So, M. Tokuda, & J. Yukawa	
<i>Oxycephalomyia styraci</i> (Shinji, 1944) on <i>Styrax japonicus</i>	
Galled organ & Japanese gall name (gall no.): Leaf, “Egonoki-ha-tsubo-fushi” (D-0150a)	
Known distribution record: Ino (Tokuda <i>et al.</i> 2004a)	
Current collecting data: Koura-san by J. Yukawa; Haruda & Mitsusawa by K. Matsunaga	
<i>Contarinia</i> sp. on <i>Styrax japonicus</i>	
Galled organ & Japanese gall name (gall no.): Leaf, “Egonoki-ha-hirata-maru-fushi” (D-0160)	
Known distribution record: Sefuri-yama & Tachibana-yama (Tokuda <i>et al.</i> 2006)	
Current collecting data: Futsukaichi, Ino, & Tachibana-yama by J. Yukawa; Konomi-yama M. Nohara; Koura-san by J. Yukawa & K. Katahira; Hikarigaoka by K. Matsunaga; by J.	

TABLE 2 (continued)

Yukawa, M. Tokuda, J. Abe, N. Uechi, & Hiko-san by Y. So & M. Tokuda; Yukawa-yama by Y. So, M. Tokuda, & J. Yukawa

Contarinia* sp. on *Styrax japonicus

Galled organ & Japanese gall name (gall no.):
Leaf, “Egonoki-ha-ibo-fushi” (D-0161)
Known distribution record: Sefuri-yama & Tachibana-yama (Tokuda *et al.* 2006)
Current collecting data: Hikarigaoka by K. Matsunaga; Rai-zan by M. Tokuda; Ino by Y. So & M. Tokuda; Yukawa-yama by Y. So, M. Tokuda, & J. Yukawa; Haruda & Mitsusawa by K. Matsunaga, Y. So, & M. Tokuda

Unidentified species on *Styrax japonicus*

Galled organ & Japanese gall name (gall no.):
Flower bud, “Egonoki-tsubomi-fukure-fushi” (D-0170)
Known distribution record: none
Current collecting data: Tachibana-yama by J. Yukawa; Mitsusawa & Kouzono by K. Matsunaga; Ino by Y. So & M. Tokuda

Unidentified species on *Styrax japonicus*

Galled organ & Japanese gall name (gall no.):
Leaf, “Egonoki-haura-tama-fushi” (D-0171)
Known distribution record: none
Current collecting data: Hiko-san, Ino, & Tachibana-yama by J. Yukawa

Contarinia* sp. on *Styrax japonicus

Galled organ & Japanese gall name (gall no.):
Leaf, “Egonoki-haura-murasaki-fushi” (D-0172)
Known distribution record: Sefuri-yama (Tokuda *et al.* 2006)
Current collecting data: none

Unidentified species on *Styrax japonicus*

Galled organ & Japanese gall name (gall no.):
Fruit, “Egonoki-mi-fukure-fushi” (D-0173) (Fig. 2o)
Known distribution record: none
Current collecting data: Haruda by K. Matsunaga; Ino by Y. So & M. Tokuda (New finding)
Brief description: Somewhat flattened subglobular swelling of the fruit; pale green on the surface; mean height 8.4 mm and mean diameter 14.7 mm at maturity; each gall containing 8-16 larvae.

SYMPLOCACEAE

Unidentified species on *Symplocos coreana*

Galled organ & Japanese gall name (gall no.):
Leaf bud, “Tanna-sawafutagi-me-fukure-fushi” (D-0230)
Known distribution record: Hiko-san (Yukawa 1978)
Current collecting data: none

OLEACEAE

Asphondylia sphaera* Monzen, 1937 on *Ligustrum japonicum

Galled organ & Japanese gall name (gall no.):
Flower bud, “Nezumimochi-tsubomi-toji-fushi” (D-0260)
Known distribution record: Aobano-mori Park, Kasuya Research Forest, Nagatani Dam, & Tachibana-yama (Uechi *et al.* 2002)
Current collecting data: none
Note: Flower bud of *L. japonicum* is a short-term spring galling-site for *A. sphaera* (Uechi & Yukawa 2006).

Asphondylia sphaera* Monzen, 1937 on *Ligustrum japonicum

Galled organ & Japanese gall name (gall no.):
Fruit, “Nezumimochi-mi-midori-fushi” (D-0270a)
Known distribution record: Aobano-mori Park, Rai-zan, & Tachibana-yama (Uechi *et al.* 2002, 2018; Uechi & Yukawa 2006); Ino, Maiduru Park, Nagatani Dam, Orono-shima, Minami Park, & Yakuouji (Uechi *et al.* 2002); Kasuya Research Forest (Uechi & Yukawa 2006)
Current collecting data: Hanatate-yama & Motooka by J. Yukawa; Konomi-yama & Sharikura by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Orihata Shrine, Rai-zan, Shikano-shima, & Wakasugi-yama by M. Tokuda; Hikarigaoka by K. Matsunaga
Note: Fruit of *L. japonicum* is an annual galling-site for *A. sphaera* (Uechi & Yukawa 2006).

Asphondylia sphaera* Monzen, 1937 on *Ligustrum obtusifolium* & *L. lucidum

Galled organ & Japanese gall name (gall no.):
Fruit, “Ibotanoki-mi-midori-fushi” (D-0270b),

TABLE 2 (continued)

<p>“Tou-nezumimochi-mi-midori-fushi” (D-0270d) Known distribution record: Kasuya Research Forest on <i>L. obtusifolium</i> (Uechi <i>et al.</i> 2002); Yoshiki on <i>L. lucidum</i> (Uechi & Yukawa 2006) Current collecting data: none</p>	<p>0330a) Known distribution record: none Current collecting data: Masubuchi Dam by J. Yukawa; Shikano-shima by J. Yukawa, K. Matsuo, S. Seto, & A. Sugita; Mitsusawa by K. Matsunaga; Kasuya Research Forest by M. Tokuda</p>
<p><i>Asphondylia yushimai</i> Yukawa & Uechi, 2003 on <i>Osmanthus heterophyllus</i> Galled organ & Japanese gall name (gall no.): Fruit, “Hiiragi-mi-midori-fushi” (D-0290) Known distribution record: Maiduru Park (Uechi <i>et al.</i> 2005a, 2018) Current collecting data: Kasuya Research Forest by J. Yukawa Note: <i>O. heterophyllus</i> is an overwintering host plant of <i>A. yushimai</i> (Uechi <i>et al.</i> 2005a).</p>	<p>RUBIACEAE <i>Asphondylia</i> sp. on <i>Paederia foetida</i> Galled organ & Japanese gall name (gall no.): Flower bud, “Hekusokazura-tsubomi-hoso-fushi” (D-0360) Known distribution record: Ino (Uechi <i>et al.</i> 2002); Kasuya Research Forest (Uechi <i>et al.</i> 2018) Current collecting data: Konomi-yama by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Hikarigaoka & Mitsusawa by L. Matsunaga Note: <i>P. foetida</i> is a summer host plant of this gall midge (Uechi <i>et al.</i> 2018).</p>
<p>Unidentified species on <i>Fraxinus platypoda</i> Galled organ & Japanese gall name (gall no.): Leaf, “Shioji-hamyaku-fukure-fushi” (D-0299) (Fig. 3a) Known distribution record: none Current collecting data: Hiko-san by K. Odagiri</p>	<p><i>Schizomyia paederiae</i> Elsayed & Tokuda, 2018 on <i>Paederia foetida</i> Galled organ & Japanese gall name (gall no.): Flower bud, “Hekusokazura-tsubomi-maru-fushi” (D-0370) Known distribution record: Mitsusawa (Elsayed <i>et al.</i> 2018a) Current collecting data: Ino by J. Yukawa; Nishi Park by J. Yukawa, S. Kamitani, & M. Tokuda; Hikarigaoka & Tsuko by K. Matsunaga</p>
<p>GENTIANACEAE Unidentified species on <i>Swertia bimaculata</i> Galled organ & Japanese gall name (gall no.): Fruit, “Akebonosou-mi-fukure-fushi” (D-0302) (Fig. 3b) Known distribution record: none Current collecting data: Yanouchi by A. Tominaga</p>	<p><i>Asphondylia</i> sp. on <i>Paederia foetida</i> Galled organ & Japanese gall name (gall no.): Fruit, “Hekusokazura-mi-maru-fushi” (D-0371) (Fig. 3c) Known distribution record: none Current collecting data: Hikarigaoka & Mitsusawa by N. Gyoutoku</p>
<p>APOCYNACEAE <i>Ametrodiplosis aeroradicis</i> Elsayed, Yukawa & Tokuda, 2021 on <i>Trachelospermum asiaticum</i> Galled organ & Japanese gall name (gall no.): Aerial root, “Teikakazura-ne-kobu-fushi” (D-0320a) Known distribution record: none Current collecting data: Ino by J. Yukawa; Konomi-yama & Sharikura by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Tachibana-yama by N. Uechi</p>	<p><i>Lasioptera paederiae</i> (Shinji, 1944) on <i>Paederia foetida</i> Galled organ & Japanese gall name (gall no.): Vine, “Hekusokazura-kuki-fukure-fushi” (D-0378) Known distribution record: Inunaki (Yukawa 1971); Motooka (Yukawa <i>et al.</i> 2014) Current collecting data: Dazaifu, Koura-san, & Tachibana-yama by J. Yukawa</p>
<p><i>Schizomyia usubai</i> Elsayed & Tokuda, 2018 on <i>Trachelospermum asiaticum</i> Galled organ & Japanese gall name (gall no.): Fruit, “Teikakazura-mi-saki-fukure-fushi” (D-</p>	

TABLE 2 (continued)

<p>Unidentified species on <i>Galium spurium</i> Galled organ & Japanese gall name (gall no.): Leaf bud, “Yaemugura-me-fukure-fushi” (D-0384f) (Figs 3d, e) Known distribution record: none Current collecting data: Higarigaoka by K. Matsunaga (New host record)</p>	<p>Leaf, “Murasaki-shikibu-ha-ketama-fushi” (D-0422a), “Yabu-murasaki-ha-ketama-fushi” (D-0422b) (Fig. 3h) Known distribution record: none Current collecting data: Sharikura on <i>C. japonica</i> by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Hiko-san on <i>C. mollis</i> by K. Yamagishi</p>
<p>Unidentified species on <i>Galium pseudoasprellum</i> Galled organ & Japanese gall name (gall no.): Leaf bud, “Ôba-yaemugura-ha-fukure-fushi” (D-0385) Known distribution record: Shikano-shima (Yukawa 1982) Current collecting data: none</p>	<p><i>Asphondylia</i> sp. on <i>Callicarpa japonica</i> Galled organ & Japanese gall name (gall no.): Fruit, “Murasaki-shikibu-mi-fukure-fushi” (D-0430a) Known distribution record: none Current collecting data: Hiko-san by K. Takeno; Konomi-yama by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Tachibana-yama by K. Yamagishi</p>
<p>Unidentified species on <i>Galium kikumugurai</i> & <i>G. spurium</i> Galled organ & Japanese gall name (gall no.): Leaf bud, “Kikumugura-tsubomi-fukure-fushi” (D-0389a), “Yaemugura-tsubomi-fukure-fushi” (D-0389b) (Fig. 3f) Known distribution record: none Current collecting data: Haruda on <i>G. kikumugurai</i> & Higarigaoka on <i>G. spurium</i> by K. Matsunaga</p>	<p><i>Rhopalomyia</i> ? <i>callicarpae</i> Shinji, 1939 on <i>Callicarpa mollis</i>, <i>C. japonica</i>, & <i>C. j. var. luxurians</i> Galled organ & Japanese gall name (gall no.): Stem, “Yabu-murasaki-haguki-kobu-fushi” (D-0440a), “Ômurasaki-shikibu-haguki-kobu-fushi” (D-0440b), “Murasaki-shikibu-haguki-kobu-fushi” (D-0440c) Known distribution record: none Current collecting data: Motooka on <i>C. mollis</i>, <i>C. japonica</i>, & <i>C. j. var. luxurians</i> by J. Yukawa; Tachibana-yama on <i>C. mollis</i> by K. Yamagishi; Kasuya Research Forest on <i>C. japonica</i> by N. Uechi; Konomi-yama & Sharikura on <i>C. japonica</i> by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara Note: Generic position of this species should be reexamined (Yukawa 2014).</p>
<p>BORAGINACEAE Unidentified species on <i>Ehretia acuminata</i> Galled organ & Japanese gall name (gall no.): Flower bud, “Chishanoki-tsubomi-fukure-fushi” (D-1211) (Fig. 3g) Known distribution record: none Current collecting data: Ichinose by D. Kunitoku</p>	
<p>LAMIACEAE <i>Lasioptera callicarpae</i> Shinji, 1938 on <i>Callicarpa japonica</i> Galled organ & Japanese gall name (gall no.): Stem, “Murasaki-shikibu-eda-tsuto-fushi” (D-0420) Known distribution record: Sharikura (Yukawa <i>et al.</i> 2014) Current collecting data: Konomi-yama by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara</p>	<p>Unidentified species on <i>Isodon inflexus</i> Galled organ & Japanese gall name (gall no.): Leaf bud, “Yamahakka-me-fukure-fushi” (D-0520) Known distribution record: none Current collecting data: Tachibana-yama by K. Yamagishi</p>
<p>Unidentified species on <i>Callicarpa japonica</i> & <i>C. mollis</i> Galled organ & Japanese gall name (gall no.):</p>	<p>SOLANACEAE <i>Asphondylia</i> sp. on <i>Solanum nigrum</i> ? Galled organ & Japanese gall name (gall no.): Fruit, “Inuhoozuki?-mi-midori-fushi” (D-1235d) (Fig. 3i)</p>

TABLE 2 (continued)

<p>Known distribution record: none Current collecting data: Tsuko by K. Matsunaga Note: This fruit gall is similar to that induced by <i>Asphondylia</i> sp. on <i>Solanum photeinocarpum</i> in Okinawa Prefecture (Uechi <i>et al.</i> 2012).</p>	<p>(D-0610c), “Nishiki-utsugi-me-tama-fushi” (D-0610d) Known distribution record: Nagatani Dam & Minami Park on <i>W. hortensis</i> (Uechi <i>et al.</i> 2002); Hiko-san on <i>W. japonica</i> (Yukawa 1971; Uechi <i>et al.</i> 2004); Aobano-mori Park & Rikimaru Dam on <i>W. coraeensis</i> (Uechi <i>et al.</i> 2002); Inunaki on <i>W. coraeensis</i> (Uechi <i>et al.</i> 2004); Minami Park on <i>W. decora</i> (Uechi <i>et al.</i> 2002)</p>
<p><i>Asphondylia</i> sp. on <i>Solanum nigrum</i> ? Galled organ & Japanese gall name (gall no.): Flower bud, “Inuhoozuki?-tsubomi-midori-fushi” (D-1235g) (Fig. 3j) Known distribution record: none Current collecting data: Mitsusawa by K. Matsunaga (New host record)</p>	<p>Current collecting data: Shiouji-yama on <i>W. japonica</i> by J. Yukawa & W. Kim; Nokono-shima & Shikano-shima on <i>W. coraeensis</i> by J. Yukawa; Koura-san on <i>W. coraeensis</i> by N. Gyoutoku Note: Species of <i>Weigela</i> are overwintering host plants of <i>A. baca</i> (Uechi <i>et al.</i> 2004).</p>
<p style="text-align: center;">ADOXACEAE</p> <p>Unidentified species on <i>Viburnum dilatatum</i> Galled organ & Japanese gall name (gall no.): Stem, “Gamazumi-eda-kobu-fushi” (D-0570a) Known distribution record: none Current collecting data: Tsuko possibly on <i>V. dilatatum</i> by K. Matsunaga</p>	
<p>Unidentified species on <i>Viburnum phlebotrichum</i> Galled organ & Japanese gall name (gall no.): Leaf, “Otoko-youzome-ha-hirata-fushi” (D-0580b) Known distribution record: Hiko-san (Yukawa 1978) Current collecting data: none</p>	<p>Unidentified species on <i>Lonicera japonica</i> Galled organ & Japanese gall name (gall no.): Flower bud, “Suikazura-tsubomi-toji-fushi” (D-0688) (Fig. 3l) Known distribution record: none Current collecting data: Hikarigaoka & Tsuko by K. Matsunaga</p>
<p style="text-align: center;">ASTERACEAE</p> <p><i>Lasioptera artemisifoliae</i> Shinji, 1939 on <i>Artemisia japonica</i> Galled organ & Japanese gall name (gall no.): Leaf, “Otokoyomogi-ha-fukure-fushi” (D-0740a) Known distribution record: Hiraodai, Ideura, & Shikano-shima (Yukawa <i>et al.</i> 2014) Current collecting data: none</p>	
<p>Unidentified species on <i>Viburnum dilatatum</i> & <i>V. erosum</i> Galled organ & Japanese gall name (gall no.): Flower bud, “Gamazumi-tsubomi-toji-fukure-fushi” (D-0596a) (Fig. 3k), “Kobano-gamazumi-tsubomi-toji-fukure-fushi” (D-0596b) Known distribution record: none Current collecting data: Kusano on the two host plants by N. Gyoutoku</p>	<p><i>Rhopalomyia artemisiae</i> (Bouche, 1834) on <i>Artemisia japonica</i> Galled organ & Japanese gall name (gall no.): Leaf bud, “Otokoyomogi-me-hanagata-fushi” (D-0742a) Known distribution record: none Current collecting data: Hiraodai & Ideura by J. Yukawa</p>
<p style="text-align: center;">CAPRIFOLIACEAE</p> <p><i>Asphondylia baca</i> Monzen, 1937 on <i>Weigela hortensis</i>, <i>W. japonica</i>, <i>W. coraeensis</i>, & <i>W. decora</i> Galled organ & Japanese gall name (gall no.): Leaf bud, “Taniutsugi-me-tama-fushi” (D-0610a), “Tsukushi-yabuutsugi-me-tama-fushi” (D-0610b), “Hakone-utsugi-me-tama-fushi”</p>	
<p><i>Rhopalomyia japonica</i> Monzen, 1937 on <i>Artemisia japonica</i> Galled organ & Japanese gall name (gall no.): Leaf, “Otokoyomogi-ha-maruibo-fushi” (D-0744a) (Fig. 3m) Known distribution record: none Current collecting data: Ideura by J. Yukawa</p>	

TABLE 2 (continued)

<p><i>Rhopalomyia chrysanthemum</i> on <i>Chrysanthemum</i> × <i>morifolium</i> (cultivated <i>chrysanthemum</i>)</p> <p>Galled organ & Japanese gall name (gall no.): Leaf, “Kiku-ha-ibo-fushi” (D-0750a)</p> <p>Known distribution record: Fukuoka Pref. (Monzen 1955a)</p> <p>Current collecting data: Motooka by J. Yukawa; Konomi-yama by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Hikarigaoka by K. Matsunaga</p>	<p>Galled organ & Japanese gall name (gall no.): Flower bud, “Hiyodoribana-tsubomi-fukure-fushi” (D-0932) (Fig. 3p)</p> <p>Known distribution record: none</p> <p>Current collecting data: Haruda by K. Matsunaga</p> <p>Note: In addition to yellowish larvae of <i>Schizomyia</i> sp., larvae of two more species were sometimes found in the flower bud galls. One possibly belongs to <i>Trotteria</i> (inquiline) and the other to Cecidomyiidi (predator or inquiline).</p>
<p><i>Schizomyia</i> sp. on <i>Aster ageratoides</i></p> <p>Galled organ & Japanese gall name (gall no.): Flower, “Yamashirogiku-hana-hossu-fushi” (D-0810c)</p> <p>Known distribution record: none</p> <p>Current collecting data: Tachibana-yama by K. Yamagishi</p>	<p>Unidentified species on <i>Artemisia stolonifera</i></p> <p>Galled organ & Japanese gall name (gall no.): Leaf, “Hiroha-yamayomogi-ha-magatama-fushi” (D-0940)</p> <p>Known distribution record: Ideura (Nohara & Yukawa 2003)</p> <p>Current collecting data: none</p>
<p>Unidentified species on <i>Aster ageratoides</i></p> <p>Galled organ & Japanese gall name (gall no.): Leaf bud, “Yamashirogiku-me-uroko-fushi” (D-0817) (Figs 3n, o)</p> <p>Known distribution record: Tachibana-yama (Yukawa 1982)</p> <p>Current collecting data: none</p>	<p>Unidentified species on <i>Parasenecio delphiniifolius</i></p> <p>Galled organ & Japanese gall name (gall no.): Leaf, “Momijigasa-ha-togari-kobu-fushi” (D-0970a)</p> <p>Known distribution record: none</p> <p>Current collecting data: Hiko-san by H. Ikenaga</p>
<p><i>Rhopalomyia</i> sp. on <i>Chrysanthemum japonense</i> & <i>C. indicum</i></p> <p>Galled organ & Japanese gall name (gall no.): Leaf bud, “Nojigiku-me-nagatsubo-fushi” (D-0870a), “Shima-kangiku-me-nagatsubo-fushi” (D-0870f)</p> <p>Known distribution record: none</p> <p>Current collecting data: Ideura & Motooka on <i>C. japonense</i> by J. Yukawa; Hiraodai, Ino, & Shikano-shima on <i>C. indicum</i> by J. Yukawa; Tachibana-yama on <i>C. indicum</i> by K. Yamagishi; Nokono-shima on <i>C. indicum</i> by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita</p>	<p><i>Rhopalomyia struma</i> Monzen, 1937 on <i>Artemisia indica</i> var. <i>maximowiczii</i> & <i>A. japonica</i></p> <p>Galled organ & Japanese gall name (gall no.): Stem, “Yomogi-kuki-kobu-fushi” (D-1020a), “Otokoyomogi-kuki-kobu-fushi” (D-1020c)</p> <p>Known distribution record: Hiraodai & Ideura (Ganaha <i>et al.</i> 2004)</p> <p>Current collecting data: Ino, Hachiryû Shrine, Shikano-shima on <i>A. indica</i> var. <i>maximowiczii</i> by J. Yukawa; Shikano-shima on <i>A. indica</i> var. <i>maximowiczii</i> by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Ideura on <i>A. japonica</i> by J. Yukawa</p>
<p>Unidentified species on <i>Eupatorium makinoi</i></p> <p>Galled organ & Japanese gall name (gall no.): Flower, “Hiyodoribana-hana-fukure-fushi” (D-0930a)</p> <p>Known distribution record: none</p> <p>Current collecting data: Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara</p>	<p><i>Rhopalomyia giraldii</i> Kieffer & Trotter, 1900 on <i>Artemisia indica</i> var. <i>maximowiczii</i>, <i>A. capillaris</i> & <i>A. lancea</i></p> <p>Galled organ & Japanese gall name (gall no.): Stem, “Yomogi-kuki-wata-fushi” (D-1070a), “Kawarayomogi-kuki-wata-fushi” (D-1070c), “Himeyomogi-kuki-wata-fushi” (D-1070d)</p>
<p><i>Schizomyia</i> sp. on <i>Eupatorium makinoi</i></p>	

TABLE 2 (continued)

Known distribution record: none
 Current collecting data: Ideura & Ino on *A. i.* var. *maximowiczii* by J. Yukawa; Nokono-shima on *A. i.* var. *maximowiczii* by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima on *A. i.* var. *maximowiczii* by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Nishi Park on *A. i.* var. *maximowiczii* by J. Yukawa, S. Kamitani, & M. Tokuda; Ideura on *A. capillaris* by J. Yukawa; Hiraodai on *A. lancea* by J. Yukawa

Rhopalomyia iwatensis* Shinji, 1938 on *Artemisia indica* var. *maximowiczii

Galled organ & Japanese gall name (gall no.): Terminal bud, “Yomogi-shintome-fushi” (D-1080a)

Known distribution record: none

Current collecting data: Ideura, Ino, Motooka, & Shikano-shima by J. Yukawa; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Tachibana-yama by K. Yamagishi

Rhopalomyia longitubifex* (Shinji, 1939) on *Artemisia indica* var. *maximowiczii

Galled organ & Japanese gall name (gall no.): Axillary bud, “Yomogi-me-tsubo-fushi” (D-1090a), “Yomogi-me-nagatsubo-fushi” (D-1101)

Known distribution record: Hiraodai, Hakozaki, Ideura, Ino, Kasuya, Nokono-shima, & Yakuouji (Ganaha *et al.* 2007)

Current collecting data: Ideura by J. Yukawa; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita

Note: Galls induced by this species are regarded as “gall polymorphism” (Ganaha *et al.* 2007).

Rhopalomyia yomogicola* (Matsumura, 1931) on *Artemisia indica* var. *maximowiczii

Galled organ & Japanese gall name (gall no.): Leaf, “Yomogi-ha-eboshi-fushi” (D-1120a)

Known distribution record: Hakozaki, Rouji, & Wakasugi-yama (Yukawa 1971); Hibiru, Hanami, Nokono-shima, & Hachiryû Shrine (Nohara & Yukawa 2003); Motooka & Nokono-shima (Nohara *et al.* 2007)

Current collecting data: Ideura, Ino, & Tachibana-yama by J. Yukawa; Hiraodai by J. Yukawa & T. Ganaha; Hisasue Dam, Konomi-

yama, & Sharikura by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Hiko-san by A. Taketani; Wakasugi-yama by J. Yukawa & T. Ganaha

Rhopalomyia cinerarius* Monzen, 1937 on *Artemisia indica* var. *maximowiczii

Galled organ & Japanese gall name (gall no.): Leaf, “Yomogi-ha-shiroke-tama-fushi” (D-1130a)

Known distribution record: none

Current collecting data: Akiduki, Hachiryû Shrine, Ideura, Ino, & Wakasugi-yama by J. Yukawa; Konomi-yama, Sharikura, & Shôunji by J. Yukawa, M. Tokuda, J. Abe, N. Uechi, & M. Nohara; Hiraodai by J. Yukawa & T. Ganaha; Nokono-shima by J. Yukawa, K. Matsuo, W. Kim, S. Seto, & A. Sugita; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita

Rhopalomyia foliorum* (Loew, 1850) on *Artemisia indica* var. *maximowiczii

Galled organ & Japanese gall name (gall no.): Leaf, “Yomogi-ha-himeeboshi-fushi” (D-1140a)

Known distribution record: Ideura (Nohara & Yukawa 2003)

Current collecting data: Ino by J. Yukawa; Shikano-shima by J. Yukawa, W. Kim, S. Seto, & A. Sugita; Tachibana-yama by K. Yamagishi

DIOSCOREACEAE

Lasioptera* sp. on *Dioscorea japonica* & *D. tokoro

Galled organ & Japanese gall name (gall no.): Vine, “Yamanoimo-tsuru-fukure-fushi” (E-0020a), “Onidokoro-tsuru-fukure-fushi” (E-0020c)

Known distribution record: Aobano-mori Park, Inunaki-touge, Konomi-yama, Koura-san, Motooka on *D. japonica* & Tachibana-yama on *D. tokoro* (Yukawa *et al.* 2014)

Current collecting data: Mitsusawa on *D. japonica* by K. Matsunaga

POACEAE

Unidentified species on *Setaria* sp.

Galled organ & Japanese gall name (gall no.):

TABLE 2 (continued)

<p>Fruit, “Enokoro-mi-kakure-fushi-modoki” (E-0102) (Figs 4a, b, c) Known distribution record: none Current collecting data: Mitsusawa & Tsuko by K. Matsunaga (New finding) Brief description: Until adult emergence, galled fruit containing a cecidomyiid larva is unrecognizable from healthy fruit by its appearance covered with glume as has been noted for the other known cecidomyiid gall of <i>Contarinia</i> ? sp. on <i>Setaria</i> sp. (E-0103a) & <i>S. pumila</i> (E-0103b). We record this gall as a new finding because male flagellomeres (Fig. 4c) exhibit differences from those of <i>Contarinia</i> species.</p>	<p>Galled organ & Japanese gall name (gall no.): Flower bud, “Ran-tsubomi-toji-fushi” (E-0221a) Known distribution record: Naganobu & Shima (Uechi <i>et al.</i> 2007) Current collecting data: none</p>
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Contarinia* ? sp. on *Setaria* sp. & *S. pumila

Galled organ & Japanese gall name (gall no.):
Fruit, “Enokoro-mi-kakure-fushi” (E-0103a),
“Kin-enokoro-mi-kakure-fushi” (E-0103b)
(Figs 4d, e, f)
Known distribution record: none
Current collecting data: Mitsusawa & Tsuko on *Setaria* sp. by K. Matsunaga; Dazaifu & Ideura on *S. pumila* by J. Yukawa
Note: In addition to the gall-inducing species, larvae of unidentified species of Oligotrophidi live together in the fruit galls.

Contarinia* ? sp. on *Echinochloa crus-galli* & *Paspalum urvillei

Galled organ & Japanese gall name (gall no.):
Fruit, “Inubie-mi-kakure-fushi” (E-0104a),
“Tachi-suzumenohie-mi-kakure-fushi” (E-0104d) (Figs 4g, h)
Known distribution record: none
Current collecting data: Mitsusawa & Tsuko on the two host plants by K. Matsunaga (*P. urvillei* was newly found as a host plant of this gall midge)

Unidentified species on *Sasamorpha borealis*

Galled organ & Japanese gall name (gall no.):
Leaf bud, “Suzutake-me-hime-sasauo-fushi” (E-0091) (Fig. 4i)
Known distribution record: none
Current collecting data: Hiko-san by S. Yamauchi

ORCHIDACEAE***Contarinia maculipennis* Felt, 1933 on *Dendrobium phalaenopsis***

TABLE 3 Family of gall-bearing plants with its number of genera and species, and the sorts of gall

Plant family	No. of genera	No. of species	No. of gall sorts	Plant family	No. of genera	No. of species	No. of gall sorts
Pinaceae	2	3	2	Elaeagnaceae	1	1	1
Cupressaceae	1	1	1	Cucurbitaceae	1	2	1
Salicaceae	1	2	3	Garryaceae	1	1	1
Fagaceae	5	10	26	Cornaceae	2	2	1
Cannabaceae	2	2	4	Helwingiaceae	1	1	1
Moraceae	2	4	3	Araliaceae	2	2	3
Urticaceae	1	1	3	Schoepfiaceae	1	1	1
Polygonaceae	1	1	1	Phytolaccaceae	1	1	1
Amaranthaceae	1	1	2	Clethraceae	1	1	1
Schisandraceae	1	1	1	Ericaceae	1	1	1
Lauraceae	3	4	6	Primulaceae	1	1	1
Ranunculaceae	1	1	1	Styracaceae	1	1	10
Lardizabalaceae	1	2	2	Symplocaceae	1	1	1
Actinidiaceae	1	1	1	Oleaceae	3	5	5
Pentaphylacaceae	1	2	1	Gentianaceae	1	1	1
Theaceae	1	1	1	Apocynaceae	1	1	2
Hamamelidaceae	1	1	1	Rubiaceae	2	4	7
Hydorangeaceae	1	2	2	Boraginaceae	1	1	1
Rosaceae	4	6	8	Lamiaceae	2	4	5
Fabaceae	6	8	15	Solanaceae	1	1	2
Euphorbiaceae	1	1	1	Adoxaceae	1	3	3
Rutaceae	1	1	1	Caprifoliaceae	2	5	2
Anacardiaceae	1	2	1	Asteraceae	5	11	18
Sapindaceae	1	1	1	Dioscoreaceae	1	2	1
Aquifoliaceae	1	4	2	Poaceae	4	5	4
Celastraceae	2	2	2	Orchidaceae	1	1	1
Vitaceae	3	6	4				
Elaeocarpaceae	1	1	1	Total 53 families	88	132	173

Fukuoka Prefecture and we newly added 78 sorts based on the current field data (Table 2, Figs 2, 3, 4). Among them, three sorts are new findings from Japan (Figs 2l, o, 4a, b, c), and three plant species were regarded to be new hosts of gall-inducing cecidomyiids in Japan. As a result, a total of 173 sorts of cecidomyiid gall on 132 plant species across 88 genera of 54 families are now known to occur in Fukuoka Prefecture (Tables 2, 3). Sorts of cecidomyiid gall were most abundant in Fagaceae (26 sorts), followed by Asteraceae (18), Fabaceae (15), Styracaceae (10), and Rosaceae (8). Species of gall-bearing plant were most abundant in Asteraceae (11 species), followed by Fagaceae (10), Fabaceae (8), Vitaceae (7), and Rosaceae (6). These tendencies are usual in the Holarctic Region (e.g. Felt 1965; Roskam 2019; Yukawa & Masuda 1996). In addition, some plant families, such as Lauraceae, Aquifoliaceae, and Oleaceae, bore several sorts of cecidomyiid gall,

respectively. These plant families include many evergreen broad-leaved trees that are growing more abundantly in southwestern Japan, of which the Southwest Islands in Kagoshima and Okinawa Prefectures are included in the Oriental Region. Therefore, we found galls induced by Oriental cecidomyiid species in Fukuoka Prefecture as have been found in Kagoshima and Wakayama Prefectures.

Among inducers of the 97 sorts of previously recorded cecidomyiid gall from Fukuoka Prefecture, 50 cecidomyiids were identified to the species level and 19 to the genus level. Among inducers of the 78 newly found galls, ten cecidomyiids were identified to the species level and 15 to the genus level. In addition, two inducers were identified to the species level based on Monzen (1937) and Shinji (1944), but their generic position should be reexamined in the future (Yukawa 2014). Except these two species, a total of 60 cecidomyiids were identifi-

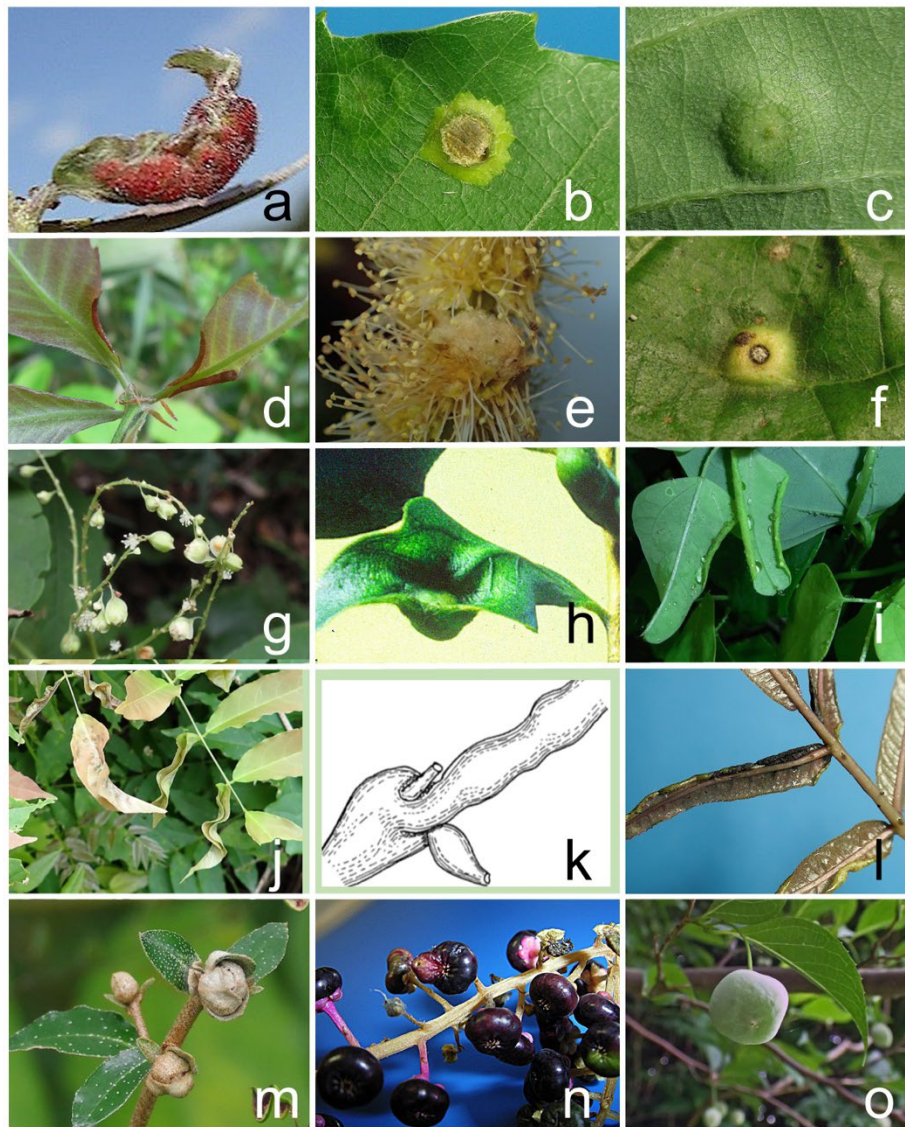


FIGURE 2. Cecidomyiid galls on various plant families (1). **a.** Leaf fold gall of *Contarinia* sp. on *Quercus serrata*, "Konara-hatoji-fukure-fushi" (C-0492), **b.** Leaf gall of an unidentified cecidomyiid on *Quercus serrata*, a view of upper leaf surface, "Konara-ha-fukure-fushi" (C-0495a), **c.** *ibid.* a view of under leaf surface, **d.** Leaf margin roll galls of *Contarinia* sp. (possibly) on *Quercus serrata*, "Konara-haberi-uramaki-fushi" (C-0498a), **e.** Flower gall of an unidentified cecidomyiid on *Castanea crenata*, "Kuri-hana-ketama-fushi" (C-0499), **f.** Leaf gall of an unidentified cecidomyiid on *Ficus erecta*, "Inubiwa-ha-marutama-fushi" (C-2232), **g.** Flower bud galls of an unidentified cecidomyiid on *Fallopia japonica*, "Itadori-tsubomi-fukure-fushi" (C-2395a), **h.** Leaf galls of an unidentified cecidomyiid on *Lindera glauca*, "Yama-koubashi-hakobu-fushi" (C-2657), **i.** Leaf margin roll galls of *Contarinia* sp. on *Akebia trifoliata*, "Mitsuba-akebi-haberi-maki-fushi" (C-2687), **j.** Leaf fold galls of an unidentified cecidomyiid on *Wisteria floribunda*, "Fuji-ha-ore-fushi" (C-3471a), **k.** Stem galls of an unidentified cecidomyiid on *Lespedeza bicolor*, "Yamahagi-haguki-kobu-fushi" (C-3481), **l.** Leaflet margin rolled galls of an unidentified cecidomyiid on *Zanthoxylum ailanthoides*, "Karasuzanshou-haberi-maki-fushi" (C-3597), **m.** Leaf bud galls of an unidentified cecidomyiid on *Elaeagnus pungens*, "Nawashiro-gumi-me-fukure-fushi" (C-4057d), **n.** Fruit galls of *Asphondylia* sp. on *Phytolacca americana*, "Youshu-yamagobou-mi-fukure-fushi" (C-4391a), **o.** Fruit gall caused by an unidentified cecidomyiid on *Styrax japonicus*, "Egonoki-mi-fukure-fushi" (D-0173).

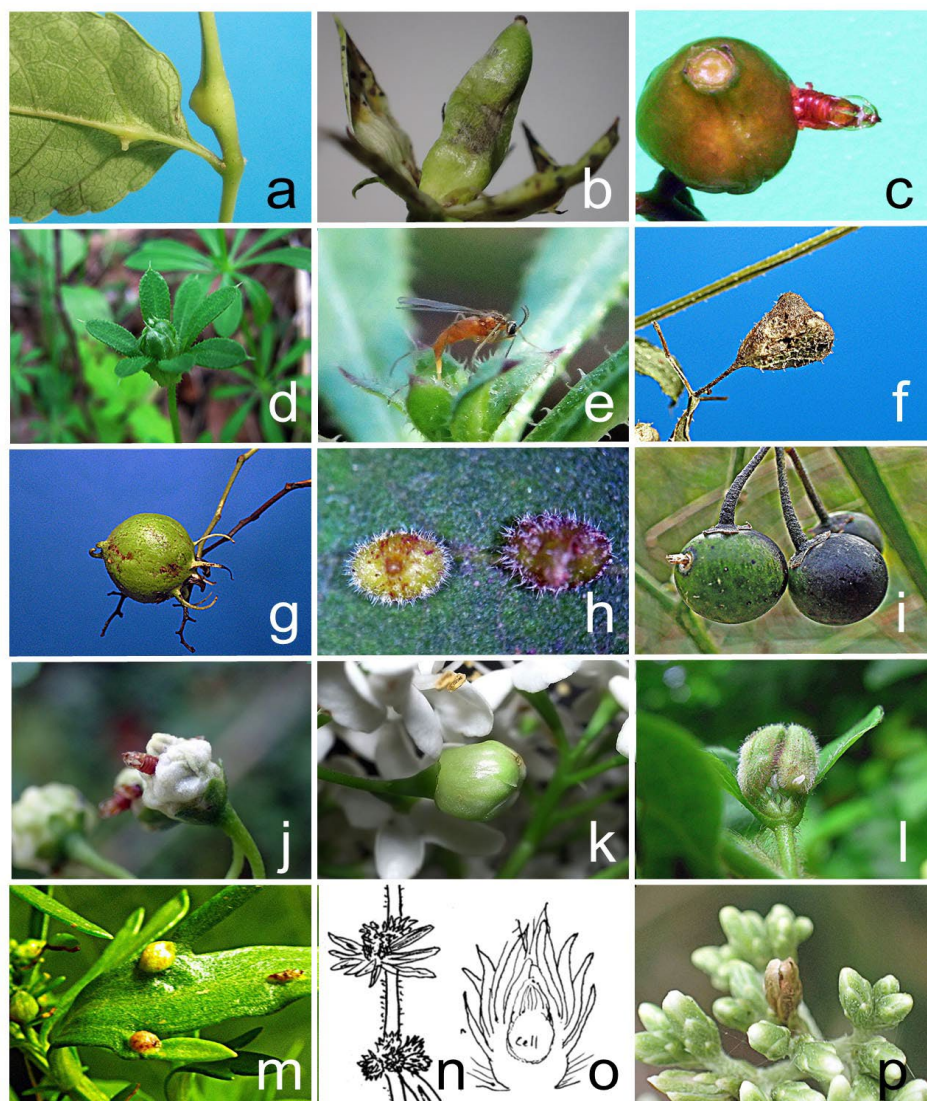


FIGURE 3. Cecidomyiid galls on various plant families (2). **a.** Leaf vein and stem galls of an unidentified cecidomyiid on *Fraxinus platypoda*, “Shioji-hamyaku-fukure-fushi” (D-0299), **b.** Fruit gall of an unidentified cecidomyiid on *Swertia bimaculate*, “Akebonosou-mi-fukure-fushi” (D-0302), **c.** Fruit gall and a pupal case of *Asphondylia* sp. on *Paederia foetida*, “Hekusokazura-mi-maru-fushi” (D-0371), **d.** Leaf bud gall of an unidentified cecidomyiid on *Galium spurium*, “Yaemugura-me-fukure-fushi” (D-0384f), **e.** Female ovipositing her eggs into the leaf bud of *Galium spurium*, **f.** Leaf bud gall of an unidentified cecidomyiid on *Galium spurium*, “Yaemugura-tsubomi-fukure-fushi” (D-0389b), **g.** Flower bud gall of an unidentified cecidomyiid on *Ehretia acuminata*, “Chishanoki-tsubomi-fukure-fushi” (D-1211), **h.** Hairy leaf galls of an unidentified cecidomyiid on *Callicarpa mollis*, “Yabu-murasaki-ha-ketama-fushi” (D-0422b), **i.** Fruit galls of *Asphondylia* sp. on *Solanum nigrum*?, “Inuhoozuki?-mi-midori-fushi” (D-1235d), **j.** Flower bud galls and pupal cases of *Asphondylia* sp. on *Solanum nigrum*?, “Inuhoozuki?-tsubomi-midori-fushi” (D-1235g), **k.** Flower bud gall of an unidentified cecidomyiid on *Viburnum dilatatum*, “Gamazumi-tsubomi-toji-fukure-fushi” (D-0596a), **l.** Flower bud gall of an unidentified cecidomyiid on *Lonicera japonica*, “Suikazura-tsubomi-toji-fushi” (D-0688), **m.** Leaf galls caused by *Rhopalomyia japonica* Monzen, 1937 on *Artemisia japonica*, “Otokoyomogi-hamaruibo-fushi” (D-0744a), **n.** Leaf bud gall of an unidentified cecidomyiid on *Aster ageratoides*, “Yamashirogiku-me-uroko-fushi” (D-0817), **o.** *ibid.* inside the gall, **p.** Flower bud gall of *Schizomyia* sp. on *Eupatorium makinoi*, “Hiyodoribana-tsubomi-fukure-fushi” (D-0932).

TABLE 4 Faunistic comparison between three Japanese prefectures and Korea for gall-inducing cecidomyiids identified to the species or genus level

Supertribe, tribe, species, and (gall No. for species distinction)	Host plant	Galling position	Distribution ¹			
			Fukuoka ²	Kagoshima ³	Wakayama ⁴	Korea ⁶
Cecidomyiidi: Asphondyliini						
<i>Ampelomyia conicocorticis</i>	<i>Vitis vinifera</i>	Leaf	○	×	×	×
<i>Asphondylia aucubae</i>	<i>Aucuba japonica</i>	Fruit	○	○	○	×
<i>Asphondylia baca</i>	<i>Ampelopsis glandulosa</i> , <i>Cayratia japonica</i>	Fruit	○	○	○	○
	(Summer-autumn host)					
<i>ibid.</i>	<i>Weigela hortensis</i> , <i>W. japonica</i> , <i>W. coraeensis</i> , <i>W. decora</i> (Overwintering host)	Leaf bud	○	○	○	?
<i>Asphondylia itoi</i>	<i>Distylium racemosum</i>	Fruit	○	×	×	×
<i>Asphondylia sphaera</i>	<i>Ligustrum japonicum</i> , <i>L. obtusifolium</i> , <i>L. lucidum</i>	Flower bud,	○	○	○	○
	(Annual host)	Fruit				
<i>ibid.</i>	<i>Rhus sylvestris</i> , <i>R. succedanea</i> (Short-term host)	Flower bud	○	?	?	?
<i>Asphondylia tojoi</i>	<i>Schoepfia jasminodora</i>	Leaf bud	○	×	×	×
<i>Asphondylia yushimai</i>	<i>Glycine max</i> (Summer-autumn host)	Pod	○	○	○	○
<i>ibid.</i>	<i>Laurocerasus zippeliana</i> , <i>Osmanthus heterophyllus</i>	Fruit	○	○	?	?
	(Overwintering host)					
<i>Asphondylia</i> sp. (E-0160)	<i>Alpinia intermedia</i>	Fruit	×	○	○	×
<i>Asphondylia</i> sp. (D-0055a)	<i>Ardisia japonica</i>	Flower bud	○	×	○	×
<i>Asphondylia</i> sp. (D-0430a)	<i>Callicarpa japonica</i>	Fruit	○	○	○	×
<i>Asphondylia</i> sp. (C-3790)	<i>Celastrus orbiculatus</i>	Fruit	○	○	×	×
<i>Asphondylia</i> sp. (C-4170)	<i>Hedera rhombea</i>	Flower bud	○	○	○	×
<i>Asphondylia</i> sp. (C-4172)	<i>Hedera rhombea</i>	Fruit	○	×	○	○
<i>Asphondylia</i> sp. (C-4150)	<i>Helwingia japonica</i>	Fruit	○	○	○	×
<i>Asphondylia</i> sp. (C-3570)	<i>Neoshirakia japonica</i>	Leaf bud	○	×	×	×
<i>Asphondylia</i> sp. (D-0035)	<i>Pieris japonica</i>	Flower bud	○	○	×	×
<i>Asphondylia</i> sp. (D-1235d)	<i>Solanum nigrum</i> ?	Fruit	○	×	○	×
<i>Asphondylia</i> sp. (D-1235g)	<i>Solanum nigrum</i> ?	Flower bud	○	×	×	×
<i>Asphondylia</i> sp. (C-4143)	<i>Swida macrophylla</i>	Fruit	×	×	○	×
<i>Bruggmaniella actinodaphne</i>	<i>Actinodaphne lancifolia</i>	Stem	×	○	○	×
<i>Daphnephila machilicola</i>	<i>Machilus thunbergii</i>	Leaf	○	○	○	○
<i>Daphnephila</i> sp. (C-2600)	<i>Machilus japonica</i>	Leaf	○	○	×	×
<i>Illiciomyia yukawai</i>	<i>Illicium anisatum</i>	Leaf	○	○	○	×
<i>Kiefferia pericarpicola</i>	Apiaceae spp.	Fruit	×	×	×	○
<i>Oxycephalomyia styraci</i>	<i>Styrax japonicus</i>	Leaf	○	○	○	×
<i>Pseudasphondylia elaeocarpi</i>	<i>Elaeocarpus zollingeri</i>	Leaf	○	○	○	×
<i>Pseudasphondylia matatabi</i>	<i>Actinidia polygama</i>	Flower bud	○	○	○	○
<i>Pseudasphondylia neolitseae</i>	<i>Neolitsea sericea</i>	Leaf	○	○	○	×
<i>Pseudasphondylia rokuharensis</i>	<i>Viburnum dilatatum</i>	Fruit	×	○	○	○
<i>Schizomyia achyranthesae</i>	<i>Achyranthes bidentata</i>	Fruit	○	○	×	○
<i>Schizomyia castanopsissae</i>	<i>Castanopsis sieboldii</i> , <i>C. cuspidata</i>	Flower bud	○	○	×	×
<i>Schizomyia humuli</i>	<i>Humulus japonicus</i>	Leaf	○	○	○	○
<i>Schizomyia paederiae</i>	<i>Paederia foetida</i>	Flower bud	○	○	×	×
<i>Schizomyia sasakii</i>	<i>Ilex crenata</i>	Axillary bud	○	○	○	○
<i>Schizomyia soyogo</i>	<i>Ilex pedunculosa</i> , <i>I. chinensis</i> , <i>I. integra</i>	Axillary bud	○	○	○	×
<i>Schizomyia uechiae</i>	<i>Ampelopsis brevipedunculata</i>	Flower bud	○	×	×	×
<i>Schizomyia usubai</i>	<i>Trachelospermum asiaticum</i>	Fruit	○	○	○	×
<i>Schizomyia</i> sp. (D-0810c)	<i>Aster ageratoides</i>	Flower	○	×	×	×
<i>Schizomyia</i> sp. (C-2660a)	<i>Cimicifuga simplex</i>	Flower bud	○	×	×	×
<i>Schizomyia</i> sp. (D-0932)	<i>Eupatorium makinoi</i>	Flower bud	○	×	×	×

ed to the species level and 34 to the genus level in Fukuoka Prefecture (Table 4). Among identified cecidomyiids, species of the genus *Asphondylia* were most abundant (19 species), followed by *Contarinia* (13), *Rhopalomyia* (11), and *Schizomyia* (11). Inducers of 75 sorts of gall

are still waiting for species or generic identification (Table 2).

From the Fukuoka side, the percentage of common species between Kagoshima or Wakayama Prefecture was more than 50 % and it was more than 80 % from the opposite side

TABLE 4 (continued)

Cecidomyiidi: Cecidomyiini						
<i>Allocontarinia sorghicola</i>	<i>Sorghum bicolor</i>	Grain				
<i>Contarinia hydrangea</i>	<i>Hydrangea paniculata</i>	Fruit				
<i>Contarinia inouyei</i>	<i>Cryptomeria japonica</i>	Needle	○	○	○	×
<i>Contarinia maculipennis</i>	<i>Dendrobium phalaenopsis</i>	Flower bud	○	×	×	×
<i>Contarinia matusintome</i>	<i>Pinus densiflora</i>	Needle	×	×	○	○
<i>Contarinia okadai</i>	<i>Citrus unshiu</i>	Flower bud	×	○	×	×
<i>Contarinia</i> sp. (C-2687)	<i>Akebia trifoliata</i>	Leaf	○	×	×	×
<i>Contarinia</i> sp. (C-0490a)	<i>Quercus glauca</i>	Leaf	○	○	○	×
<i>Contarinia</i> sp. (C-0492)	<i>Quercus serrata</i>	Leaf	○	×	×	×
<i>Contarinia</i> sp. (C-0498a)	<i>Quercus serrata</i> , <i>Q. crispula</i>	Leaf	○	×	×	×
<i>Contarinia</i> sp. (D-0160)	<i>Styrax japonicus</i>	Leaf	○	○	○	×
<i>Contarinia</i> sp. (D-0161)	<i>Styrax japonicus</i>	Leaf	○	×	○	×
<i>Contarinia</i> sp. (D-0172)	<i>Styrax japonicus</i>	Leaf	○	×	×	×
<i>Contarinia</i> sp. (C-3231)	cultivated <i>Rosa</i>	Leaf	○	×	×	×
<i>Contarinia</i> ? sp. (E-0104a,d)	<i>Echinochloa crus-galli</i> , <i>Paspalum urvillei</i>	Fruit	○	○	×	×
<i>Contarinia</i> ? sp. (E-0103a,b)	<i>Setaria pumila</i> , <i>Setaria</i> sp.	Fruit	○	○	×	×
<i>Macrodiplosis selenis</i>	<i>Quercus serrata</i> , <i>Q. dentata</i>	Leaf	○	×	×	×
<i>Paradiplosis manii</i>	<i>Abies firma</i>	Needle	○	×	×	×
<i>Thecodiplosis japonensis</i>	<i>Pinus thunbergii</i> , <i>P. densiflora</i>	Needle	○	○	○	○
Cecidomyiidi: Clinodiplosini						
<i>Ametrodiplosis aeroradicis</i>	<i>Trachelospermum asiaticum</i>	Aerial root	○	○	○	×
<i>Sitodiplosis mosellana</i>	<i>Triticum aestivum</i>	Grain	×	○	×	○
Cecidomyiidi: Lopesiini						
<i>Obolodiplosis robiniae</i>	<i>Robinia pseudoacacia</i>	Leaf	○	×	○	○
Cecidomyiidi: Unplaced to tribe						
<i>Geromyia nawai</i>	<i>Pleioblastus simonii</i>	Stem	×	○	○	×
<i>Orseolia miscanthi</i>	<i>Miscanthus sinensis</i>	Leaf bud	×	○	×	○
<i>Dasineura pteridis</i>	<i>Pteridium aquilinum</i>	Leaf	×	×	○	×
<i>Dasineura viticola</i>	<i>Vitis coignetiae</i>	Leaf	?	×	×	○
<i>Dasineura wistariae</i>	<i>Wisteria floribunda</i>	Flower bud	○	×	×	×
<i>Dasineura</i> sp. (C-2543)	<i>Neolitsea sericea</i>	Leaf	×	○	×	×
<i>Dasineura</i> sp. (C-3230a)	<i>Rosa multiflora</i>	Leaf	○	×	○	×
<i>Dasineura</i> sp. (D-0130)	<i>Styrax japonicus</i>	Leaf	○	○	○	×
<i>Hartigiola faggalli</i>	<i>Fagus crenata</i>	Leaf	○	○	○	×
<i>Janetiella infrafoli</i>	<i>Fagus crenata</i>	Leaf	○	○	×	×
<i>Lygocecis yanagi</i>	<i>Salix babylonica</i> , <i>Salix</i> sp.	Stem	○	×	○	×
<i>Rabdophaga rosaeformis</i>	<i>Salix koreensis</i>	Leaf bud	×	×	○	○
<i>Rabdophaga rosaria</i>	<i>Salix koriyanagi</i>	Leaf bud	×	×	○	○
<i>Rabdophaga salicis</i>	<i>Salix babylonica</i> , <i>Salix</i> sp.	Stem	○	○	×	○
<i>Rabdophaga salicivora</i>	<i>Salix babylonica</i> , <i>Salix</i> sp.	Stem	○	×	○	○
Lasiopteridi: Lasiopterini						
<i>Lasioptera achyranthii</i>	<i>Achyranthes bidentata</i>	Stem	○	○	○	○
<i>Lasioptera artemisifoliae</i>	<i>Artemisia japonica</i>	Leaf	○	×	×	×
<i>Lasioptera callicarpae</i>	<i>Callicarpa japonica</i>	Stem	○	○	×	×
<i>Lasioptera camelliae</i>	<i>Camellia japonica</i>	Leaf	○	○	×	×
<i>Lasioptera euphobiae</i>	<i>Eupatorium makinoi</i>	Stem	×	×	○	○
<i>Lasioptera lespedezae</i>	<i>Lespedeza bicolor</i>	Stem	○	○	×	○
<i>Lasioptera paederiae</i>	<i>Paederia foetida</i>	Vine	○	○	×	○
<i>Lasioptera rubi</i>	<i>Rubus parvifolius</i>	Stem	○	○	○	○
<i>Lasioptera</i> sp. (D-0720b)	<i>Artemisia indica</i> var. <i>maximowiczii</i>	Stem	×	×	○	×
<i>Lasioptera</i> sp. (C-2353b)	<i>Boehmeria spicata</i>	Stem	○	×	○	×
<i>Lasioptera</i> sp. (E-0020a,c)	<i>Dioscorea japonica</i> , <i>D. tokoro</i>	Vine	○	○	○	○
<i>Lasioptera</i> sp. (C-2210a,c)	<i>Ficus sarmentosa</i> , <i>F. thunbergii</i>	Leaf				
<i>Lasioptera</i> sp. (D-0470a)	<i>Leucoscepttrum japonicum</i>	Stem				
<i>Lasioptera</i> sp. (C-3210a)	<i>Rosa multiflora</i>	Stem				
<i>Lasioptera</i> sp. (D-0100)	<i>Styrax japonicus</i>	Stem				
<i>Lasioptera</i> sp. (C-4100a,b)	<i>Trichosanthes cucumeroides</i> , <i>T. bracteata</i>	Vine	○	○	○	○

(Table 4). These data indicate similarity in species composition between the three

prefectures possibly because similar gall-bearing plant vegetation (Table 4). In contrast,

TABLE 4 (continued)

Lasiopteridi: Rhopalomyiini						
<i>Rhopalomyia artemisiae</i>	<i>Artemisia japonica</i>	Leaf bud	○	×	×	×
<i>Rhopalomyia caterva</i>	<i>Artemisia japonica</i>	Leaf bud	×	×	×	○
<i>Rhopalomyia chrysanthemum</i>	<i>Chrysanthemum</i> × <i>morifolium</i> (cultivated chrysanthemum)	Leaf	○	○	×	×
<i>Rhopalomyia cinerarius</i>	<i>Artemisia indica</i> var. <i>maximowiczii</i>	Leaf	○	○	○	○
<i>Rhopalomyia foliorum</i>	<i>Artemisia indica</i> var. <i>maximowiczii</i>	Leaf	○	○	○	×
<i>Rhopalomyia giraldii</i>	<i>Artemisia indica</i> var. <i>maximowiczii</i> , <i>A. capillaris</i> , <i>A. lancea</i>	Stem	○	○	○	○
<i>Rhopalomyia iwatensis</i>	<i>Artemisia indica</i> var. <i>maximowiczii</i>	Terminal bud	○	○	×	×
<i>Rhopalomyia japonica</i>	<i>Artemisia japonica</i>	Leaf	○	○	○	×
<i>Rhopalomyia longicauda</i>	<i>Chrysanthemum</i> spp.	Leaf, leaf bud	×	×	×	○
<i>Rhopalomyia longitubifex</i>	<i>Artemisia indica</i> var. <i>maximowiczii</i>	Axillary bud	○	×	○	○
<i>Rhopalomyia struma</i>	<i>Artemisia indica</i> var. <i>maximowiczii</i> , <i>A. japonica</i>	Stem	○	○	○	○
<i>Rhopalomyia yomogicola</i>	<i>Artemisia indica</i> var. <i>maximowiczii</i>	Leaf	○	○	○	○
<i>Rhopalomyia</i> sp. (D-0870a,f)	<i>Chrysanthemum japonense</i> , <i>C. indicum</i>	Leaf bud	○	○	○	×
Lasiopteridi: Unplaced to tribe						
<i>Celticecis japonica</i>	<i>Celtis sinensis</i>	Leaf	○	○	○	×
<i>Masakimyia pustulae</i>	<i>Euonymus japonicus</i>	Leaf	○	○	○	○
<i>Mikiola bicornis</i>	<i>Fagus crenata</i>	Leaf	○	○	×	×
<i>Mikiola glandaria</i>	<i>Fagus crenata</i>	Leaf	○	×	○	×
Total number of identified cecidomyiid species excluding host-alternating <i>Asphondylia</i> on winter hosts.			94	68	65	37
Number of cecidomyiid species commonly found in Fukuoka Prefecture			–	59	53	26
% of common species from the Fukuoka side			–	62.8	56.4	27.7

¹○: Galls were found, ×: Galls were not found. ²Based on the current paper. ³Based on Yukawa (1988); Tokuda *et al.* (2004a); Tokuda & Yukawa (2006); Tokuda & Kawauchi (2013); Yukawa *et al.* (2014); Yukawa & Takesaki (Unpublished data). ⁴Based on Yukawa *et al.* (2018; 2021a) excluding data from islands south of Kagoshima mainland. ⁵Based on Yukawa *et al.* (2021b).

the similarity between Fukuoka and Korea was very low from the Korean side while it was more than 70 % from the Fukuoka side. This data supports the consideration of Kim *et al.* (2015) and Yukawa *et al.* (2021) that Japanese insects expanded their range northwards through Tsushima as a stepping stone island rather than for Korean insects did southwards.

Life history strategy of gall-inducing cecidomyiids has been divided into four types, IA, IB, IIA, and IIB, based on their overwintering sites and larval developmental stadia (Yukawa 1987). In type IA, larvae mature quickly, exit the galls, and drop to the ground mostly before summer. They usually spin cocoons on the ground. In type IB, mature larvae do not exit from galls, but galls or gall-bearing organs drop to the ground usually in early summer, or in late autumn. Larvae of the two types overwinter on the ground in the cocoons or within the galls and pupate in the following spring. Because most unidentified cecidomyiids adopt type IA or IB life history strategy, their adult specimens are hardly obtained in compared to type IIA and IIB gall midges of which adult directly emerge from the galls remaining on their

host plants. Further effort is required in future to obtain adult specimens for species identification.

Acknowledgments

We would like to express our sincere gratitude to the following persons for providing us with materials, photographs, drawings, and distributional and host range information on various gall-inducing cecidomyiids in Fukuoka Prefecture: J. Abe, T. Fujii, T. Ganaha-Kikumura, N. Gytoku, M. Ichinose, H. Ikenaga, H. Inoue, S. Kamitani, K. Katahira, T. Katsuda, T. Kawarabata, W. Kim, F. Kodoi, D. Kunitoku, K. Matsuo, M. Mishima, A. Nagai, M. Nohara, K. Odagiri, K. Ohno, J. Onagamitsu, S. Seto, K. Setoya, Y. So, A. Sugita, K. Takasu, K. Takeno, A. Taketani, A. Tominaga, K. Tsuda, K. Yamada, K. Yamagishi, D. Yamaguchi, and S. Yamauchi. This study was supported partly by JSPS KAKENHI Grant Numbers JP18K05682 to N. Uechi.

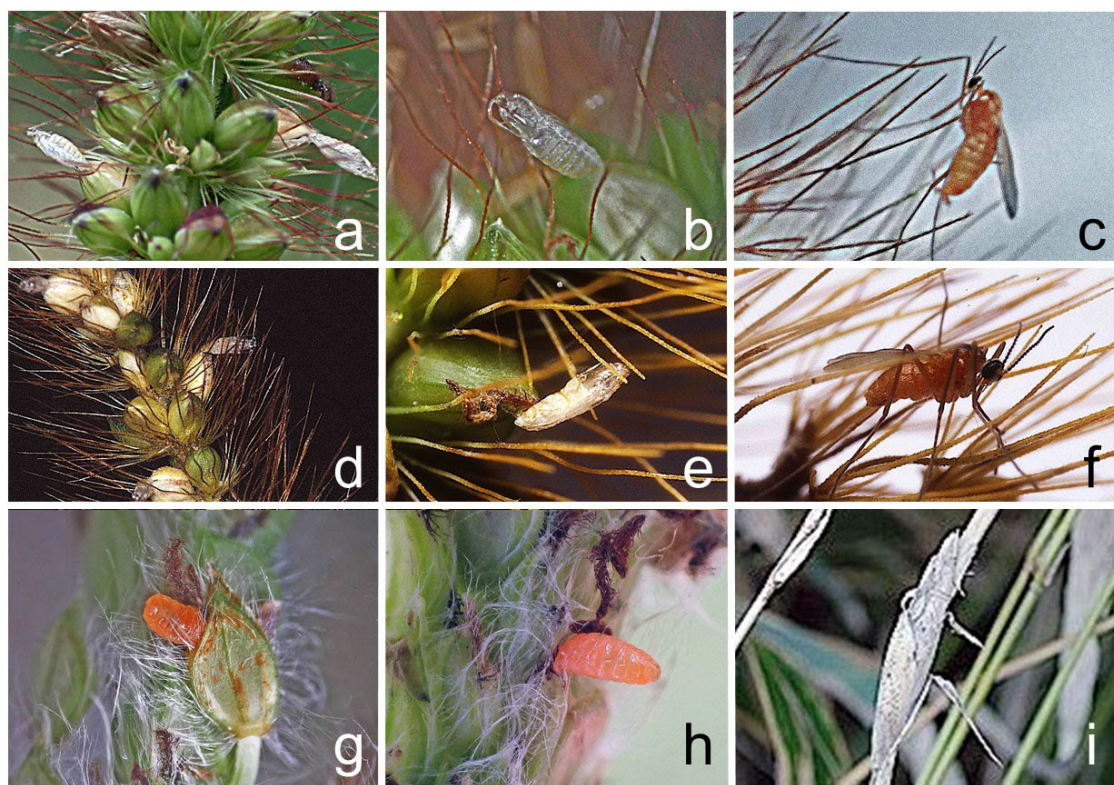


FIGURE 4. Cecidomyiid galls on Poaceae. **a.** Fruit galls and pupal cases of an unidentified cecidomyiid on *Setaria* sp., “Enokoro-mi-kakure-fushi-modoki” (E-0102), **b.** *ibid.* a pupal case, **c.** *ibid.* a male, **d.** Fruit galls and pupal cases of *Contarinia* ? sp. on *Setaria* sp., “Enokoro-mi-kakure-fushi” (E-0103a), “Kin-enokoro-mi-kakure-fushi” (E-0103b), **e.** *ibid.* a pupa, **f.** *ibid.* a female, **g.** **h.** Fruit galls and mature larvae of *Contarinia* ? sp. on *Paspalum urvillei*, “Tachi-suzumenohie-mi-kakure-fushi” (E-0104d), **i.** Leaf bud gall of an unidentified cecidomyiid on *Sasamorph borealis*, “Suzutake-me-hime-sasauo-fushi” (E-0091).

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