

Japanese Sawflies of the Genus *Macrophya* (Hymenoptera, Tenthredinidae), Taxonomic Notes and Key to Species

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Abstract The tenthredinid sawfly genus *Macrophya* is reviewed for Japan and a new key to the 27 Japanese species is provided. A subjective junior synonym of *M. malaisei* Takeuchi, 1937, is *Macrophya malaisei* var. *Kibunensis* [sic] Takeuchi, 1937, **syn. nov.** and subjective junior synonyms of *Macrophya timida* Smith, 1874, are *M. nigra* Marlatt, 1898, **syn. nov.**, *M. femorata* Marlatt, 1898, **syn. nov.**, *M. nigrata* Enslin, 1910, **syn. nov.**, and *M. mikagei* Togashi, 2005, **syn. nov.** New distribution records are *M. annulitibia* Takeuchi, 1933, and *M. forsiusi* Takeuchi, 1937, from Shikoku, Japan, *M. crassuliformis* Forsius, 1925, from Korea, *M. duodecimpunctata sodalitia* Mocsáry, 1909, *M. forsiusi*, *M. malaisei* and *M. marlatti* Zhelochovtsev, 1935, from Hokkaido, Japan, and *M. minutifossa* Wei and Nie, in Wei *et al.*, 2003 (= *M. liukiwana*: Okutani, 1965, not Takeuchi, 1926) from Okinawa Is., Japan. Very dark color variants are reported for *M. annulitibia* Takeuchi, 1933, and *M. harai* Shinohara and Li, 2015.

Key words: Symphyta, new synonymy, new distribution records.

Introduction

The sawfly genus *Macrophya* Dahlbom, 1835, is represented by more than 260 species mainly distributed in the Holarctic region (Li *et al.*, 2014; Shinohara and Li, 2015; Shinohara and Yoshida, 2015). Takeuchi (1937) revised North-east Asian species of the genus and recognized 20 species (and two “varieties”) in Japan. Togashi (1974, 1975) added two species to the Japanese fauna. Gibson (1980) listed 24 species as Japanese but five of these, *M. annulicornis* Konow, 1904, *M. koreana* Takeuchi, 1937, *M. minutissima* Takeuchi, 1937, *M. sanguinolenta* (Gmelin, 1790), *M. sibirica* Forsius, 1918, were not known from Japan. Gibson (1980) did not give collection data for the five species and he most probably mistook Takeuchi’s (1937) records of those five species from Korea or Sakhalin for those from Japan. Gibson (1980) and Haris (2000) treated *M. femorata* Marlatt, 1898, which

was regarded as a “variety” of *M. timida* Smith, 1874, by Takeuchi (1937), as a full species. Inomata (1989) published a review of the Japanese species, where he treated *Pachyprotasis sanguinitarsis* Togashi, 1963, as a species of *Macrophya*, treated *M. sanguinolenta* (Gmelin, 1790) and *M. poecilopus* (Aichinger, 1870) as separate species, and recorded *M. sanguinolenta* and *M. koreana* Takeuchi, 1937, from Japan for the first time. However, the recent catalogue and checklist treated *Pachyprotasis sanguinitarsis* in *Pachyprotasis*, not in *Macrophya* (Taeger *et al.*, 2010; Yoshida, 2015), and *M. poecilopus* as a synonym of *M. sanguinolenta* (Taeger *et al.*, 2010) or as a subspecies of *M. sanguinolenta* (Yoshida, 2015). Togashi (2005), Shinohara and Li (2015) and Shinohara and Yoshida (2015) described four new species from Japan.

Takeuchi (1937) and Inomata (1989) published good keys for identifying the Japanese species but they are now obviously outdated. My recent

studies of over 2500 specimens of Japanese *Macrophya* have revealed new synonyms, new distributions and existence of large intraspecific color variations in some species, which should be taken into consideration in species identification. Here I propose new synonyms, give new distribution records and provide a new key to the Japanese species. I do not use the subgeneric division, which is until now applied only to a part of the species within the genus (Taeger *et al.*, 2010). For each species, only selected references are given. Full synonymy and additional references will be found in Takeuchi (1937) and Taeger *et al.* (2010).

Materials and methods

Specimens used in this work are enumerated in the Appendix, except for the type specimens listed in the main text. All the specimens are housed in the National Museum of Nature and Science, Tsukuba (NSMT), unless otherwise indicated. Abbreviations for other depositories are: KU—Kobe University, Kobe; MNHAH—Museum of Nature and Human Activities, Hyogo, Sanda; USNM—National Museum of Natural History, Washington, D.C.; OPU—Osaka Prefecture University, Sakai.

Observations of the morphology were made with an Olympus SZ60 stereo binocular microscope. Photographs were taken with a Nikon DS-Fi2 microscope camera attached to Leica MZ APO stereo binocular microscope (Figs. 1–6) and Keyence VHX-D510 Digital SEM/Microscope (Figs. 7–11). The digital images were processed and arranged with Adobe Photoshop Elements® 9 and 12 software.

For the morphological terminology, I generally follow Viitasaari (2002) and for the usage of the “metepimeral appendage” I follow Gibson (1980).

Results

Macrophya annulitibia Takeuchi, 1933

(Fig. 2)

Macrophya annulitibia Takeuchi, 1933: 24; Takeuchi, 1937: 433; Inomata, 1989: 105.

Macrophya (Macrophya) annulitibia: Taeger *et al.*, 2010: 552.

Material examined (see Appendix). 57 ♀ 62 ♂ from Japan (Hokkaido, Honshu, Shikoku) and 1 ♂ from Russia (Sakhalin).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu; Southern Kuriles). Russia (Sakhalin). Korea. New record from Shikoku.

Host plant. Unknown.

Remarks. This species normally has the median ring on the hind tibia and most of the hind tarsomeres 2 to 5 creamy white. However, the eight females and three males, all from Honshu, listed separately in the Appendix have the white mark on the hind tibia and tarsus reduced; the white ring on the hind tibia is small and often restricted to the dorsal surface only and the tarsus is entirely or almost entirely black. These dark specimens cannot be determined as *M. annulitibia* using the keys by Takeuchi (1937) and Inomata (1989). Besides the dark color pattern of the hind legs, I was not able to separate those specimens from the normal-colored specimens of *M. annulitibia* and I regard them as dark color variants of *M. annulitibia*.

Macrophya apicalis Smith, 1874

(Fig. 7)

Macrophya apicalis Smith, 1874: 378; Takeuchi, 1937: 393; Inomata, 1989: 105.

Macrophya (Macrophya) apicalis: Taeger *et al.*, 2010: 552.

Material examined (see Appendix). 90 ♀ 38 ♂ from Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Sado-ga-shima Is., Awa-shima Is.; Southern Kuriles). Korea.

Host plant. Caprifoliaceae: *Sambucus race-*

mosa L. subsp. *sieboldiana* (Miq.) H. Hara (after Okutani, 1967).

***Macrophya carbonaria* Smith, 1874**

Macrophya carbonaria Smith, 1874: 380; Takeuchi, 1937: 426; Inomata, 1989: 105.

Macrophya (Macrophya) carbonaria: Taeger *et al.*, 2010: 553.

Material examined (see Appendix). 325 ♀ 109 ♂ from Japan (Hokkaido, Honshu, Shikoku, Kyushu), 1 ♂ from Korea and 1 ♀ 1 ♂ from Russia (Sakhalin).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Awa-shima Is., Awaji-shima Is., Tsushima Is.; Southern Kuriles). Russia (Sakhalin), Korea, China.

Host plant. Caprifoliaceae: *Sambucus racemosa* L. subsp. *sieboldiana* (Miq.) H. Hara (after Okutani, 1967).

***Macrophya coxalis* (Motschulsky, 1866)**

(Fig. 8)

Dolerus coxalis Motschulsky, 1866: 182.

Macrophya ignava Smith, 1874: 379; Inomata, 1989: 105.

Macrophya coxalis: Zhelochovtsev, 1935: 148; Takeuchi, 1937: 398; Taeger *et al.*, 2010: 559.

Material examined (see Appendix). 271 ♀ 218 ♂ from Japan (Hokkaido, Honshu, Shikoku, Kyushu) and 10 ♀ 9 ♂ from Korea.

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Sado-ga-shima Is., Awaji-shima Is., Oki Is.). Korea, China.

Host plants. Rosaceae: *Rosa multiflora* Thunb., *Rosa onoei* Makino var. *onoei* (after Okutani, 1967).

***Macrophya crassuliformis* Forsius, 1925**

Macrophya crassuliformis Forsius, 1925: 6; Takeuchi, 1937: 445; Inomata, 1989: 105.

Macrophya (Pseudomacrophya) crassuliformis: Taeger *et al.*, 2010: 557.

Material examined (see Appendix). 12 ♀ 9 ♂ from Japan (Honshu) and 3 ♀ from Korea.

Distribution. Japan (Honshu, Shikoku). Russia (Primorsky krai). Korea, China. New record for Korea.

Host plant. Oleaceae: ?*Ligustrum obtusifolium* Sieb. et Zucc. (after Inomata, 1989, see remarks below).

Remarks. Okutani (1967) noted that the adult of this species fed on the leaf of *Ligustrum obtusifolium* but the larva was unknown and Inomata (1989), without giving reasons, simply listed *L. obtusifolium* as a host plant of *M. crassuliformis*. This host record needs confirmation. I have examined three females collected in Sambang in North Korea. This is the first record from Korea.

Macrophya duodecimpunctata sodalitia

Mocsáry, 1909

Macrophya sodalitia Mocsáry, 1909: 16.

Macrophya duodecimpunctata var. *solitaria*: Malaise, 1931: 125.

Macrophya duodecimpunctata var. *sodalitia*: Takeuchi, 1936: 82; Takeuchi, 1937: 396; Togashi, 1975: 5.

Macrophya (Macrophya) duodecimpunctata sodalitia: Taeger *et al.*, 2010: 554.

Material examined (see Appendix). 12 ♀ from Japan (Hokkaido, Honshu), 1 ♀ from Russia (Sakhalin) and 3 ♀ from Korea.

Distribution. Japan (Hokkaido, Honshu). Russia (Sakhalin, Primorsky krai), Korea. New record for Hokkaido.

Host plant. Unknown. The Eurosiberian nominotypical subspecies feeds on "various Cyperaceae (*Carex vesicaria*) and Gramineae" (Verzhutskii, 1966).

Remarks. In Japan, this species was known only from Honshu (Togashi, 1975).

***Macrophya enslini* Forsius, 1925**

Macrophya enslini Forsius, 1925: 2; Takeuchi, 1937: 406; Inomata, 1989: 105; Taeger *et al.*, 2010: 559.

Material examined (see Appendix). 11 ♀ 3 ♂ from Japan (Honshu).

Distribution. Japan (Honshu, Shikoku).

Host plant. Oleaceae: *Ligustrum obtusifolium* Sieb. et Zucc. (after Okutani, 1967).

Macrophya esakii (Takeuchi, 1923)

(Fig. 5)

Pachyprotasis esakii Takeuchi, 1923: 10.*Macrophya exilis* Takeuchi, 1933: 25.*Macrophya esakii*: Takeuchi, 1936: 83; Togashi, 1998: 40; Taeger *et al.*, 2010: 560.*Macrophya esakii* var. *exilis*: Takeuchi, 1937: 417.*Macrophya esakii exilis*: Inomata, 1989: 105.

Material examined (see Appendix). 116 ♀ 22 ♂ from Japan (Hokkaido, Honshu, Shikoku) and 2 ♀ from Russia (Sakhalin).

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

Host plant. Unknown.

Macrophya falsifica Mocsáry, 1909*Macrophya falsifica* Mocsáry, 1909: 17; Takeuchi, 1937: 420; Inomata, 1989: 105; Taeger *et al.*, 2010: 560.

Material examined (see Appendix). 78 ♀ 25 ♂ from Japan (Honshu).

Distribution. Japan (Honshu, Shikoku).

Host plant. Oleaceae: *Ligustrum obtusifolium* Sieb. et Zucc., *L. ovalifolium* Hassk. (after Inomata, 1989; Murase, 1995).

Macrophya fascipennis Takeuchi, 1933*Macrophya fascipennis* Takeuchi, 1933: 22; Takeuchi, 1937: 401; Inomata, 1989: 105; Taeger *et al.*, 2010: 560.

Material examined (see Appendix). 28 ♀ 2 ♂ from Japan (Honshu, Shikoku, Kyushu).

Distribution. Japan (Honshu, Shikoku, Kyushu).

Host plants. Rosaceae: *Rosa onoei* Makino var. *onoei* (after Inomata, 1989).

Macrophya forsiusi Takeuchi, 1937*Macrophya forsiusi* Takeuchi, 1937: 439; Inomata, 1989: 105; Taeger *et al.*, 2010: 561.

Material examined (see Appendix). 21 ♀ 26 ♂ from Japan (Hokkaido, Honshu, Shikoku).

Distribution. Japan (Hokkaido, Honshu, Shikoku). New record for Hokkaido and Shikoku.

Host plant. Oleaceae: *Ligustrum obtusifolium* Sieb. et Zucc. (after Inomata, 1989).

Macrophya harai Shinohara and Li, 2015*Macrophya harai* Shinohara and Li, 2015: 2.

Material examined. 3 ♀ 6 ♂ (type series) listed by Shinohara and Li (2015) and 16 ♀ 1 ♂ additional specimens from Japan (Hokkaido, Honshu: see Appendix).

Distribution. Japan (Hokkaido, Honshu).

Host plant. Unknown.

Remarks. When *Macrophya harai* was described, the 11 dark female specimens listed separately in the Appendix were thought to belong to a different species, because they differ from the type series in the entirely black clypeus and labrum. After a close comparison, including an examination of the lancet, I have concluded that the above specimens are only dark color variants of *M. harai*. The clypeus and labrum vary from almost entirely creamy white to almost entirely black in this species.

Macrophya imitator Takeuchi, 1937*Macrophya maculitibia* Takeuchi, 1933: 27 (in part).*Macrophya imitator* Takeuchi, 1937: 436; Inomata, 1989: 105.*Macrophya (Macrophya) imitator*: Taeger *et al.*, 2010: 554.

Material examined (see Appendix). 123 ♀ 64 ♂ from Japan (Hokkaido, Honshu), 1 ♀ from Russia (Sakhalin) and 1 ♀ from Korea.

Distribution. Japan (Hokkaido, Honshu; Southern Kuriles). Russia (Sakhalin), Korea.

Host plant. Asteraceae: *Aster scaber* Thunb. or *A. glehnii* F. Schmidt var. *glehnii* (after Inomata, 1989, see remarks below).

Remarks. Based on his successful rearing in Hokkaido, Inomata (1989) gave "*Aster scaber* Thunb. Gomana (Kiku-ka [= Compositae])" as a host of this species. However, "Gomana" is a Japanese name for *Aster glehnii* F. Schmidt var. *hondoensis* Kitam., which occurs only in Honshu, and the Japanese name for *Aster scaber* is

“Shirayamagiku”, which occurs in Hokkaido. *Aster glehnii* F. Schmidt var. *glehnii* occurs in Hokkaido, though it is usually called “Ezo-Gomana” in Japanese. Therefore, either Inomata’s Japanese name or Latin name of the plant was erroneous and the host plant of *M. imitator* should be *A. scaber* [= Shirayamagiku] or *A. glehnii* var. *glehnii* [= Ezo-Gomana]. The true host should be confirmed by further studies, though *M. imitator* may feed on both plant species.

***Macrophya infumata* Rohwer, 1925**

Macrophya apicalis var. *infumata* Rohwer, 1925: 7.

Macrophya infumata: Takeuchi, 1937: 391; Inomata, 1989: 105.

Macrophya (Macrophya) infumata: Taeger *et al.*, 2010: 554.

Material examined (see Appendix). 5 ♀ 18 ♂ from Japan (Hokkaido, Honshu) and 1 ♂ from Russia (Sakhalin).

Distribution. Japan (Hokkaido, Honshu; Southern Kuriles). Russia (Primorsky Krai, Sakhalin), Korea, China.

Host plant. Caprifoliaceae: *Sambucus racemosa* L. subsp. *sieboldiana* (Miq.) H. Hara (after Inomata, 1989).

***Macrophya kisuji* Togashi, 1974**

(Fig. 1)

Macrophya kisuji Togashi, 1974: 10; Inomata, 1989: 105; Taeger *et al.*, 2010: 562; Shinohara, 2014: 471.

Material examined (see Appendix). 43 ♀ 47 ♂ from Japan (Honshu).

Distribution. Japan (Honshu).

Host plant. Unknown.

***Macrophya koreana* Takeuchi, 1937**

Macrophya koreana Takeuchi, 1937: 438; Inomata, 1989: 105; Shinohara and Yoshida, 2015: 123.

Macrophya (Macrophya) koreana: Taeger *et al.*, 2010: 554.

Material examined. 10 ♀ from Japan (Hon-

shu), 1 ♀ from Russia and 5 ♀ from Korea listed by Shinohara and Yoshida (2015).

Distribution. Japan (Honshu). Russia (Amur Oblast, Primorsky Krai), Korea, China.

Host plant. Lamiaceae: *Isodon effusus* (Maxim.) H. Hara (after Inomata, 1989).

***Macrophya liukiwana* Takeuchi, 1926**

(Figs. 4, 10)

Macrophya liukiwana Takeuchi, 1926: 228; Takeuchi, 1937: 419; Inomata, 1989: 105; Taeger *et al.*, 2010: 562.

Material examined (see Appendix). 2 ♀ 4 ♂ from Japan (Okinawa Islands).

Distribution. Japan (Okinawa-honto Island).

Host plant. Unknown.

Remarks. Takeuchi (1926) described this species based on eight males from Naha, Okinawa. Okutani (1965) described what he thought to be the female of this species but his description agrees well with *Macrophya minutifossa* Wei and Nie, in Wei *et al.*, 2003, not *M. liukiwana*. The previously undescribed female of *M. liukiwana* is easily recognized by the characters given in the key.

***Macrophya maculitibia* Takeuchi, 1933**

Macrophya maculitibia Takeuchi, 1933: 27; Takeuchi, 1937: 434; Inomata, 1989: 105.

Macrophya (Macrophya) maculitibia: Taeger *et al.*, 2010: 554.

Material examined (see Appendix). 62 ♀ 18 ♂ from Japan (Hokkaido, Honshu, Shikoku).

Distribution. Japan (Hokkaido, Honshu, Shikoku; Southern Kuriles). Russia (Sakhalin), Korea.

Host plant. Asteraceae: *Petasites japonicus* (Siebold et Zucc.) Maxim., *Parasenecio hastatus* (L.) H. Koyama subsp. *orientalis* (Kitam.) H. Koyama (after Inomata, 1989).

***Macrophya malaisei* Takeuchi, 1937**

Macrophya malaisei Takeuchi, 1937: 441; Inomata, 1989:

105; Taeger *et al.*, 2010: 562.

Macrophya malaisei var. *Kibunensis* [sic] Takeuchi, 1937: 443. **Syn. nov.**

Macrophya malaisei kibunensis: Abe and Togashi, 1989: 551.

Material examined (see Appendix). 106 ♀ 61 ♂ from Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Awaji-shima Is.). China. New record from Hokkaido.

Host plant. Oleaceae: *Ligustrum obtusifolium* Sieb. et Zucc., *Syringa vulgaris* L. (after Okutani, 1967).

Remarks. Takeuchi (1937) described *Macrophya malaisei* var. *Kibunensis* [sic] from four specimens from Kyoto, central Honshu. According to Takeuchi (1937), *M. malaisei kibunensis* differs from the nominotypical subspecies in having the hind femur, tibia and tarsus mostly dark reddish brown and the abdomen usually with many white spots on each side. The nominotypical subspecies has been recorded from Honshu, Shikoku, Kyushu and China (Takeuchi, 1940) and is recorded here from Hokkaido for the first time. An examination of a long series of specimens from various localities in Japan has revealed that *M. malaisei* is variable in color pattern. Although the specimens with dark reddish brown hind legs, identified as *M. malaisei kibunensis*, have been found almost exclusively in Kansai area, central Honshu, it is difficult to regard them as representing a distinct subspecies. Here I propose to treat it as a synonym of *M. malaisei*.

***Macrophya marlatti* Zhelochovtsev, 1935**

(Fig. 6)

Macrophya japonica Marlatt, 1898: 495.

Macrophya marlatti Zhelochovtsev, 1935: 147; Takeuchi, 1937: 418; Inomata, 1989: 105; Taeger *et al.*, 2010: 562.

Macrophya sanguinolenta var. *poecilopus* (not of Aichinger, 1870): Takeuchi, 1937: 411.

Macrophya sanguinolenta (not of Gmelin, 1790): Inomata, 1989: 105.

Macrophya poecilopus (not of Aichinger, 1870): Inomata, 1989: 105.

Type material examined. Holotype of *Macrophya japonica* Marlatt, 1898: ♀, “a” [upper side of cardboard where the specimen is placed], “25, 5, 15, Gifu, Tsutsumi, ♀” [underside of cardboard], “Japan, Mitsukuri”, “Type No. 3821, U. S. N. M.” [red], “*Macrophya japonica* Marl., ♀”, “USNM ENT 00778525” (USNM).

Other material examined (see Appendix). 11 ♀ 4 ♂ from Japan (Hokkaido, Honshu).

Distribution. Japan (Hokkaido, Honshu). New record from Hokkaido.

Host plant. Orobanchaceae: *Pedicularis resupinata* L. subsp. *oppositifolia* (Miq.) T. Yamaz. (after Inomata, 1989).

Remarks. This species has not been correctly interpreted before. Marlatt (1898) described this species based on one female specimen from Gifu, central Honshu. Takeuchi (1937) and Inomata (1989) noted that they were not able to study any specimens. I have examined the holotype and found several specimens belonging to this species as listed in the Appendix. This species can be recognized by the characters given in the key. This is the first record of *Macrophya marlatti* from Hokkaido.

Of the 11 females examined, six specimens were determined as *M. sanguinolenta* var. *poecilopus* (Aichinger, 1870) by Takeuchi (1937) or as *M. sanguinolenta* (Gmelin, 1790) or *M. poecilopus* (Aichinger, 1870) by Inomata (1989). Those six females are from mountains in Nagano and Nara prefectures, Honshu, and have the hind femora and tibiae largely marked with dark reddish brown. Three females from Hokkaido have no reddish brown areas on hind legs, whereas another one from Hokkaido has a dark reddish brown area on the hind tibia and one from Hiroshima prefecture in western Honshu has an obscurely dark reddish area on hind femur. Two females from Mt. Hakuba-dake, Nagano prefecture, have the labrum mostly blackish and the clypeus has no pale mark medially, and one female from Umanose, Nagano prefecture, has the labrum white and the clypeus has no pale

marks medially, whereas all the other females have the labrum largely whitish and the anterior part of clypeus obscurely marked with white medially. Here I regard all these as intraspecific color variations. From *M. sanguinolenta* (including *M. poecilopus* as a synonym, Taeger *et al.*, 2010), *M. marlatti* is distinguished by the entirely black abdomen in both sexes and by the creamy white clypeus and the entirely black lateral part of the hind coxa in the male. The surface sculpture of the head and the mesepisternum is less distinct (with smoother interspaces between dense and fine punctures) in *M. marlatti* than in *M. sanguinolenta*. The larva of *M. marlatti* feeds on *Pedicularis* (Orobanchaceae) as noted below, whereas the larva of *M. sanguinolenta* feeds on *Veronica* (Plantaginaceae) and *Galeopsis* (Lamiaceae) in Europe (Taeger *et al.*, 1998).

Two females and four males in MNHAH were reared by R. Inomata from larvae feeding on *Pedicularis resupinata* subsp. *oppositifolia* collected by him in Shikotsu, Hokkaido on July 27, 1986 (Inomata, 1989). Very interesting is that one female and four male adults emerged on May 21 to June 2, 1987 whereas one female emerged on May 31, 1988, after overwintering twice in the soil. Such variability in the timing of emergence may be a common phenomenon among sawflies (Viitasaari, 2002).

***Macrophya minutifossa* Wei and Nie, 2003**

(Figs. 3, 9)

Macrophya minutifossa Wei and Nie, in Wei *et al.*, 2003: 95; Taeger *et al.*, 2010: 563.

Macrophya liukiwana (not of Takeuchi, 1926): Okutani, 1965: 77.

Material examined (see Appendix). 3 ♀ from Japan (Okinawa-honto Island).

Distribution. Japan (Okinawa-honto Island). China. New record for Japan.

Host plant. Unknown.

Remarks. This species was known from the vast areas in central, southern and eastern China and Taiwan (Li and Wei, 2013) and this is the

first record from Okinawa, Japan. *Macrophya minutifossa* is a member of the *M. coxalis* group (Li and Wei, 2013; Li *et al.*, 2013) and is well characterized by the presence of a distinct basin on the elongate metepimeral appendage, the almost entirely milky white clypeus, labrum and coxae, the entirely black hind tibia, and richly white-marked abdomen. The Japanese specimens may differ from the original description in the entirely pale tegula and the pale-marked lateral posterior margins of the 6th to 8th abdominal terga. Okutani's (1965) description of the female of "*Macrophya liukiwana*" agrees well with this species.

***Macrophya obesa* Takeuchi, 1933**

Macrophya obesa Takeuchi, 1933: 23; Takeuchi, 1937: 443; Inomata, 1989: 105; Taeger *et al.*, 2010: 563.

Material examined (see Appendix). 25 ♀ 1 ♂ from Japan (Honshu).

Distribution. Japan (Hokkaido, Honshu). Korea.

Host plant. Unknown.

***Macrophya rohweri* Forsius, 1925**

Macrophya rohweri Forsius, 1925: 4; Takeuchi, 1937: 403; Inomata, 1989: 105; Taeger *et al.*, 2010: 565.

Material examined (see Appendix). 6 ♀ 2 ♂ from Japan (Honshu).

Distribution. Japan (Honshu, Shikoku, Kyushu).

Host plant. Chloranthaceae: *Chloranthus serratus* (Thunb.) Roem. et Schult. (after Okutani, 1970).

***Macrophya sanguinitarsis* (Togashi, 1963)**

Pachyprotasis sanguinitarsis Togashi, 1963: 212; Taeger *et al.*, 2010: 573.

Macrophya sanguinitarsis: Inomata, 1989: 105.

Material examined (see Appendix). 2 ♀ 1 ♂ from Japan (Honshu).

Distribution. Japan (Honshu).

Host plant. Unknown.

Remarks. Togashi (1963) originally described this species in *Pachyprotasis* based on a female specimen from Mt. Hakusan in Ishikawa prefecture, central Honshu, but Inomata (1989) treated it as a *Macrophya* species. Although the holotype has not been available for study, I agree with Inomata (1989) and determine the above three specimens as *M. sanguinitarsis*. This species belongs to the *M. annulitibia* group (Liu *et al.*, 2015) and closely resembles *M. annulitibia*. They can be distinguished by the color characters given in the key, but their relationships should be re-examined with more material including immature stages and host plants.

***Macrophya satoi* Shinohara and Li, 2015**

Macrophya satoi Shinohara and Li, 2015: 9.

Material examined. 16 ♀ 7 ♂ (type series) from Japan (Honshu) listed by Shinohara and Li (2015). No additional material.

Distribution. Japan (Honshu).

Host plant. Oleaceae: *Fraxinus japonica* Blume *ex* K. Koch (after Shinohara and Li, 2015).

***Macrophya timida* Smith, 1874**

(Fig. 11)

Macrophya timida Smith, 1874: 380; Takeuchi, 1937: 429; Inomata, 1989: 105; Taeger *et al.*, 2010: 565.

Macrophya nigra Marlatt, 1898: 496. Syn. nov.

Macrophya femorata Marlatt, 1898: 496; Taeger *et al.*, 2010: 560. Syn. nov.

Macrophya nigrata Enslin, 1910: 481. Syn. nov.

Macrophya timida var. *femorata*: Takeuchi, 1937: 431.

Macrophya mikagei Togashi, 2005: 21. Syn. nov.

?*Macrophya femorata*: Haris, 2000: 303; Liu and Wei, 2005: 58.

Type material examined. Holotype of *Macrophya nigra* Marlatt, 1898: ♀, “b” [upper side of cardboard where the specimen is placed], “23, 4, 21, Gifu, Tsutsumi, ♀” [underside of cardboard], “Japan, Mitsukuri”, “Type No. 3822, U. S. N. M.” [red], “*Macrophya nigra* Marl., ♀”, “USNM ENT 00778543” (USNM). Syntypes of *Macrophya femorata* Marlatt, 1898: ♂, “Type, c”

[upper side of cardboard where the specimen is placed], “23, 4, 6, Gifu, Tsutsumi, ♂” [underside of cardboard], “Japan, Mitsukuri”, “Type No. 3823, U. S. N. M.” [red], “*Macrophya femorata* Marl., ♀ [sic]”, “USNM ENT 00778486” (USNM); ♂, “c” [upper side of cardboard where the specimen is placed], “23, 4, 6, Gifu, Tsutsumi, ♂” [underside of cardboard], “Type No. 3823, U. S. N. M.” [red], “Japan, Mitsukuri” (USNM). Holotype of *Macrophya mikagei* Togashi, 2005: ♀, “Nagasaki-ken, Tsushima, Mitsushima-cho, Ohunakoshi, I. V. 2001, T. Mikage leg.” “NSMT-I-HYM 62122” “Holotype *Macrophya mikagei* sp. nov.” (NSMT). Paratype of *Macrophya mikagei* Togashi, 2005: 1 ♀, “Mine-cho, Tsushima, Nagasaki Pref., I V. 2001, T. Mikage leg.” “NSMT-I-HYM 62123” “Paratype *Macrophya mikagei* sp. nov.” (NSMT).

Other material examined (see Appendix). 154 ♀ 116 ♂ from Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Sado-ga-shima Is., Awaji-shima Is., Tsushima Is.). Korea, China.

Host plants. Oleaceae: *Ligustrum obtusifolium* Sieb. et Zucc., *L. japonicum* Thunb., *Syringa vulgaris* L. (after Okutani, 1967).

Remarks. Takeuchi (1937) treated *Macrophya femorata* as a variety of *M. timida* and showed that both occur together in some localities. He listed 16 localities for the distribution of *M. timida* and 16 localities for that of “var. *femorata*” including eight localities cited for the two taxa. He apparently suggested that the two taxa were infrasubspecific individual variations. After examining a long series of specimens, I have also confirmed that *M. femorata* and *M. timida* are not distinguishable except for the color of the hind femur and they very often occur together. The extent of the reddish area on the femur is also variable in *M. femorata*. I conclude that *M. femorata* and *M. timida* are conspecific, representing color variations occurring within the same local populations, and treat them as synonyms. The holotype and a paratype of *M. mikagei* cannot be distinguished from the holotype of *M. nigra* and

I also synonymize *M. mikagei* with *M. timida*.

Haris (2000) referred to *M. femorata* as a valid species without any comments and Liu and Wei (2005) first recorded *M. femorata* from China. Liu and Wei's (2005) description generally agrees with the Japanese specimens, except that the Chinese specimens have the "fore and mid trochanters ... internally white" (p. 59, translated from Chinese). Specific identity of the Chinese specimens may need confirmation.

Macrophya togashii

Yoshida and Shinohara, 2015

Macrophya togashii Yoshida and Shinohara, in Shinohara and Yoshida, 2015: 124.

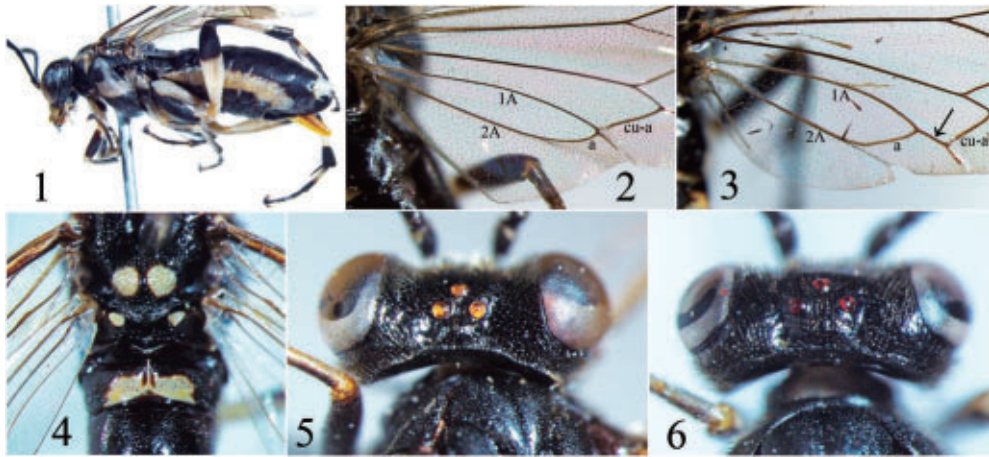
Material examined. 9 ♀ 1 ♂ (type series) and 1 ♀ from Japan (Honshu) listed by Shinohara and Yoshida (2015). No additional material.

Distribution. Japan (Honshu).

Host plant. Unknown.

Key to Japanese species

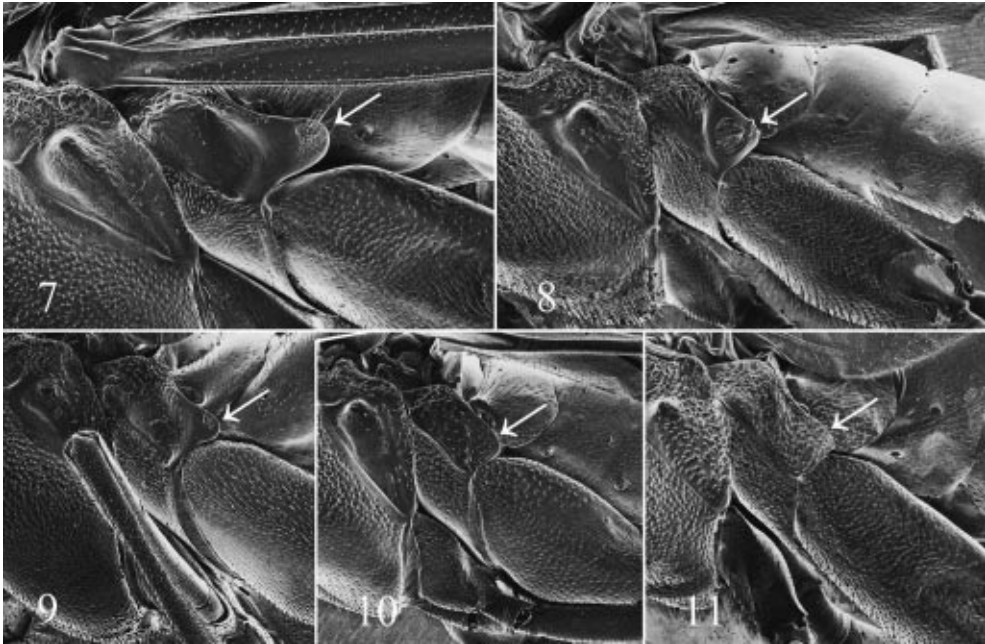
1. Antennal flagellum partly white.....2
—Antennal flagellum entirely black.....5
2. Antennal flagellum apically white (except for apex of terminal flagellomere)3
—Antennal flagellum medially white.....4
3. Labrum and hind trochanter white; wings hardly infuscated..... *M. apicalis* ♀
—Most of labrum and hind trochanter black; wings slightly infuscated..... *M. infumata* ♀ ♂
4. Antenna very long; hind tibia and tarsus entirely black..... *M. rohweri* ♀
—Antenna of normal length; hind tibia and tarsus dorsally with creamy white marks
..... *M. enslini* ♀ ♂
5. Supraclypeal area and lower margin of eye with creamy white marks *M. rohweri* ♂
—Supraclypeal area and lower margin of eye without creamy white marks6
6. Forewing with dark band under stigma *M. fascipennis* ♀ ♂
—Forewing without dark band under stigma7
7. Lateral side of thorax and abdomen with almost continuous creamy white marks from near anterior margin of mesepisternum to posterior margin of abdominal tergum 8 (Fig. 1)..... *M. kisuji* ♀
—Lateral side of thorax and abdomen mostly or entirely black without continuous creamy white marks8
8. Hind coxa black laterally, without creamy white mark9
—Hind coxa laterally with large creamy white mark, sometimes lateral surface entirely creamy white.20
9. Hind trochanter black..... *M. maculitibia* ♀ ♂
—Hind trochanter creamy white.....10
10. Hind tibia entirely black.....11
—Hind tibia black with dark reddish brown or creamy white ring medially or with creamy white mark dorsally.....12
11. Clypeus almost entirely creamy white; hind tarsus partly creamy white *M. marlatti* ♂
—Clypeus with only anterior margin creamy white; hind tarsus entirely black *M. timida* ♂
12. Anal cell in hindwing without petiole (Fig. 2, crossvein a joining vein 1A distal to junction of crossvein cu-a with vein 1A).....13
—Anal cell in hindwing with petiole (Fig. 3, crossvein a joining vein 1A basal to junction of crossvein cu-a with vein 1A).....14
13. Hind tibia black with dark reddish brown ring medially *M. sanguinitarsis* ♂
—Hind tibia black with creamy white ring medially (sometimes reduced to dorsal spot).....



Figs. 1–6. Lateral view (1), hind wing, showing anal cell (2–3, petiole arrowed), posterior part of thorax and base of abdomen, dorsal view (4), and head, dorsal view (5–6). — 1, *Macrophyta kisuji*, ♀, Chiyoda, Tokyo; 2, *M. annulitibia*, ♂, Asahidake-onsen, Hokkaido; 3, *M. minutifossa*, ♀, Nishime-dake, Okinawa; 4, *M. liukiwana*, ♂, Naha, Okinawa; 5, *M. esakii*, ♀, Minoto, Nagano; 6, *M. marlatti*, ♀, Nakayama-toge, Hokkaido.

-*M. annulitibia* ♂ (part)
14. Labrum and clypeus black15
 —Labrum and clypeus creamy white16
15. Robust, small species (length *ca.* 7 mm); posterior margin of pronotum creamy white.....
*M. crassuliformis* ♂ (part)
 —Slender, middle-sized species (length *ca.* 7.5–9.5 mm); posterior margin of pronotum entirely black.
*M. imitator* ♀ ♂
16. Hind tarsus partly creamy white17
 —Hind tarsus entirely black18
17. Hind femur with basal 1/4–1/3 creamy white; hind tibia and tarsomere 2 black beneath, with creamy white marks only on dorsal surface.....*M. harai* ♂
 —Hind femur with basal 1/2 creamy white; hind tibia and tarsomere 2 with creamy white marks covering both dorsal and ventral surfaces.....*M. satoi* ♂
18. Hind femur marked with reddish brown; posterior margin of abdominal tergum 1 broadly creamy white.....*M. forsiusi* ♂ (part)
 —Hind femur not marked with reddish brown; posterior margin of abdominal tergum 1 black19
19. Head and thorax dorsally mat, covered with distinct surface microsculpture; posterior margin of pronotum in male very narrowly creamy white (sometimes entirely black)*M. kisuji* ♂
 —Head and thorax dorsally punctate but with shiny interspaces; posterior margin of pronotum in male broadly creamy white.....*M. coxalis* ♀ ♂
20. Abdominal tergum 1 medially with large rectangular creamy white mark occupying posterior 1/2–1/3 of its whole length and laterally black to its posterior margin (Fig. 4).....*M. liukiwana* ♀ ♂
 —Abdominal tergum 1 not as above.21
21. Metepimeral appendage with well-defined setiferous area (Figs. 7, 9) or basin (Fig. 8)22
 —Metepimeral appendage without setiferous area or basin (Figs. 10–11)24
22. Mesoscutellum marked with creamy white*M. duodecimpunctata sodalitia* ♀
 —Mesoscutellum entirely black23

23. Clypeus and posterior margin of pronotum creamy white; abdomen with creamy white marks laterally and on dorsum of terminal segment.....*M. minutifossa* ♀
 —Clypeus, posterior margin of pronotum and all abdomen black.....*M. apicalis* ♂
24. Posterior margin of abdominal tergum 1 creamy white (usually continuously and becoming broader laterally).....25
 —Posterior margin of abdominal tergum 1 black or very narrowly creamy white medially28
25. Posterior margin of pronotum black; entire hind tarsus and often part of hind tibia reddish brown in female; hind leg without reddish brown areas in male; abdomen in female without creamy white dorsal spot apically.....26
 —Posterior margin of pronotum creamy white; hind tibia and tarsus usually without reddish brown areas (sometimes marked with reddish brown in *M. malaisei*); abdomen in female with creamy white dorsal spot apically.....27
26. Creamy white spot on lateral surface of hind coxa oval in shape and situated anteriorly, not extending to posterior coxal margin; hind tibia reddish brown except for both apices. Male unknown.....*M. koreana* ♀
 —Creamy white spot on lateral surface of hind coxa usually extending to posterior coxal margin; hind tibia black, dorsally often reddish brown, with creamy white dorsal mark in apical half; in male, creamy white mark on lateral surface of hind coxa small and situated near base and hind tibia and tarsus black except for creamy white dorsal mark in apical half of tibia.....*M. togashii* ♀ ♂
27. Hind femur usually with reddish brown areas; in female, clypeus usually entirely black and abdomen black except for white-marked terga 1 and 10.....*M. forsiusi* ♀ ♂ (part)
 —Hind femur without reddish brown areas; in female, clypeus with broad anterior margin creamy white and abdomen usually with tergum 2 and more posterior terga laterally and tergum 6 and more posterior terga dorsally marked with creamy white.....*M. malaisei* ♀ ♂ (part)
28. Hind tarsus partly creamy white29
 —Hind tarsus entirely black34
29. Fore and mid trochanters creamy white; anal cell in hindwing without petiole (Fig. 2).....30
 —Fore and mid trochanters mostly black; anal cell in hindwing with long petiole (Fig. 3).....31
30. Hind tibia and tarsomere 1 with dark reddish brown area; in female, mid femur with whitish line along anterior surface and posterior margin of tergum 10 whitish.....*M. sanguinitarsis* ♀
 —Hind tibia and tarsomere 1 without dark reddish brown area; in female, mid femur without whitish line along anterior surface and tergum 10 all black.....*M. annulitibia* ♀ ♂ (part)
31. Anterior margin of head seen from above distinctly concave between large and slightly protruding eyes (Fig. 5); hind coxa usually with lateral surface mostly and sometimes also ventral surface whitish.....*M. esakii* ♀ ♂
 —Anterior margin of head seen from above not distinctly concave between normal-sized eyes (Fig. 6); hind coxa with large spot at base of lateral surface and narrow apical margin whitish32
32. Hind tibia entirely black or partly dark reddish brown and without creamy white mark.....
*M. marlatti* ♀
 —Hind tibia black with creamy white mark.....33
33. Slender species; pronotum, mesepisternum and metepisternum entirely black; creamy white mark on hind tibia restricted to dorsal part.....*M. harai* ♀
 —Robust species; posterior margin of pronotum broadly creamy white; mesepisternum and metepisternum with creamy white marks; creamy white mark on hind tibia ring-like, covering also ventral part.....*M. satoi* ♀
34. Posterior margin of pronotum creamy white35



Figs. 7–11. Metepimeral appendage (arrowed) with well-defined setiferous area (7, 9) or setiferous basin (8) or without such structures (10–11). —7, *Macrophyta apicalis*, ♀, Chiyoda, Tokyo; 8, *M. coxalis*, ♀, Chiyoda, Tokyo; 9, *M. minutifossa*, ♀, Nishime-dake, Okinawa; 10, *M. liukuana*, ♂, Naha, Okinawa; 11, *M. timida*, ♀, Chiyoda, Tokyo.

- Posterior margin of pronotum black38
 35. Clypeus black..... *M. crassuliformis* ♀ ♂ (part)
 —Clypeus creamy white.....36
 36. Anal cell in hindwing without petiole (Fig. 2).....*M. annulitibia* ♂ (part)
 —Anal cell in hindwing with petiole (Fig. 3).....37
 37. Dorsal surface of head generally smooth and shiny; female length 9–12 mm, antennal scape, mesoscutellum and its appendage with creamy white marks; male length 8–9. 5 mm, lateral side of abdomen often with creamy white marks*M. falsifica* ♀ ♂
 —Dorsal surface of head densely punctate, only bluntly shiny; female length 7. 5–9. 5 mm, antennal scape, mesoscutellum and its appendage entirely black; male length 6. 5–8 mm, abdomen entirely black*M. malaisei* ♀ ♂ (part)
 38. Mesoscutellum creamy white*M. obesa* ♀ ♂
 —Mesoscutellum black39
 39. Mesonotum with smooth interspaces between punctures and shiny; hind trochanter black
*M. carbonaria* ♀ ♂
 —Mesonotum densely punctate, mat or very weakly shiny; hind trochanter usually creamy white40
 40. Clypeus and dorsal surface of hind tibia with creamy white marks; anal cell in hindwing without petiole (Fig. 2).....*M. annulitibia* ♀ (part)
 —Clypeus and hind tibia entirely black; anal cell in hindwing with long petiole (Fig. 3).....
*M. timida* ♀

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**Appendix: A list of the specimens examined,
except for the type specimens listed
in the main text**

Macrophya annulitibia Takeuchi, 1933

JAPAN: HOKKAIDO— 3 ♀, Asahidake-onsen, Daisetsu-zan Mts., Kamikawa, 15. VII. 1997, A. Shinohara; 1 ♀, same data but 23–26. VI. 1998; 3 ♂, same data but 25–28. VI. 2001; 1 ♂, same data but 24–26. VI. 2004; 1 ♀, same data but 26–29. VI. 2006; 1 ♂, Asahidake-onsen, 1050 m, Daisetsu-zan Mts., 43-38-50N, 142-47-27E, 23–26. VI. 2007, A. Shinohara; 1 ♀, same data but 27–29. VI. 2009; 1 ♂, Yukomanbatsu, Daisetsu-zan Mts., 23. VI. 1986, M. Ishii; 1 ♀, Aizankei, Daisetsu-zan Mts., 19. VII. 1974, A. Shinohara; 1 ♂, Yamada-onsen, 800 m, Tokachi, 21–25. VI. 1992, A. Shinohara; 1 ♂, same data but 20–21. VI. 1996; 1 ♀ 4 ♂, Yamada-onsen, 1000 m, Tokachi, 21–24. VI. 1997, A. Shinohara; 4 ♂, Yamada-onsen, 900 m, Tokachi, Malaise trap, 25. VI. 2005, H. Hara & A. Shinohara; 1 ♂, Yamada-onsen, 800–1000 m, Tokachi, Malaise trap, 19. VI. 1998, A. Shinohara; 2 ♂, Horoka-onsen, 600 m, Daisetsuzan Mts., Tokachi, 21. VI. 2001, A. Shinohara; 1 ♂, Horoshika-toge, 1100 m, Tokachi, 16. VII. 1997, A. Shinohara; 1 ♂, Nissho-toge, 1100 m, Hidaka Mts., Tokachi, 23. VI. 2004, A. Shino-

hara; 1 ♂, same data but H. Hara; 1 ♂, same locality but 20. VI. 2006, A. Shinohara; 1 ♂, Ukishima-toge, ca. 8 km SE of Mt. Teshio-dake, Kamikawa, 19. VI. 1996, H. Hara; 1 ♀, Ukishima-toge, 43.56N, 142.58E, 24. VI. 2003, A. Shinohara; 2 ♂, Sensho-toge, Tokachi, Kushiro, 20. VI. 2001, H. Hara; 1 ♂, Mikuni-toge, 1000 m, Tokachi, 22. VI. 1998, A. Shinohara; 1 ♀, Tokachi-mitsumata, 650 m, Tokachi, 21. VI. 1998, A. Shinohara; 1 ♀, Nakayama-toge, 800 m, Shirabeshi, 30. VI. 1987, A. Shinohara; 1 ♂, same data but 27–30. VI. 1992; 1 ♂, same data but 8. VII. 1996; 1 ♂, same data but 13–15, VII, 1996; 1 ♂, same data but 29–30. VI. 2002; 2 ♂, Shikotsu-ko, Ishikari, Malaise trap, 23. VI–7. VII. 1996, Y. Nagayasu; 2 ♂, Sapporo, 8. VI. 1957, K. Kamijo; 1 ♂, Hitsujigaoka, Sapporo, 43°00'N, 141°24'E, Malaise trap, 11–18. VI. 2003, K. Konishi; 1 ♀, Jozankei, 16. VII. 1959, K. Sato; 1 ♂, Hoheikyō, nr. Sapporo, 12. VI. 1979, A. Shinohara; 1 ♂, Ochiishi, Nemuro, 22. VI. 2002, A. Shinohara; 1 ♀, Akan-ko, 20. VI. 1970, A. Shinohara; 1 ♂, Sounkyo, 19. VI. 1938, K. Sato; 1 ♀, Hakodate, 12. VII. 1959, K. Sato.

HONSHU—Aomori Pref.: 1 ♂, Sukayu-Sarukura, 23–24. VI. 1987, A. Shinohara. **Iwate Pref.:** 1 ♀, Mt. Hayachine, 11. VII. 1967, R. Ishikawa. **Fukushima Pref.:** 2 ♀, Mt. Azuma, 19. VII. 1959, K. Sato. **Tochigi Pref.:** 1 ♀, Nikko, 14. VI. 1918. **Yamanashi Pref.:** 1 ♂, Kiyosato, Yatsugatake Mts., 17–19. VI. 1999, A. Shinohara. **Nagano Pref.:** 1 ♀, Togakushi, 21. VI. 1932, K. Sato; 1 ♂, Mt. Nyugasa-yama, 18. VI. 1989, R. Inomata (MNHAH); 9 ♂, Mt. Nyugasa-yama, 1740 m, Fujimi, 10. VI. 2001, Y. Nishimoto; 1 ♀, Minoto, Yatsugatake Mts., 19. VII. 1980, A. Shinohara; 1 ♀, Minoto, 2000 m, Yatsugatake Mts., 3. VIII. 1984, A. Shinohara; 1 ♀, Minoto, 1800 m, Yatsugatake Mts., 29. VII–3. VIII. 1986, A. Shinohara; 2 ♀, same data but 4–8. VIII. 1987; 1 ♀, same data but 4–8. VIII. 1988; 2 ♀, same data but 6–9. VIII. 1991; 3 ♀, Minoto, 1850 m, Yatsugatake Mts., 23–16. VII. 1996, A. Shinohara; 1 ♀, same data but 1. VIII. 1997; 3 ♀, same data but 27–31. VII. 1999; 6 ♀, same data but 25–29. VII. 2000; 1 ♀, Minoto, 1750–2000 m, Yatsugatake Mts., 35°59'N, 138°20'E, 27–28. VII. 2006, A. Shinohara; 2 ♀, Karasawa-kosen, 1700 m, Yatsugatake Mts., 26–27. VII. 2001, A. Shinohara; 1 ♂, Shibunoyu, Yatsugatake Mts., 5. VII. 1978, A. Shinohara; 1 ♂, Mt. Tateshina-yama, Gosensui, 1830 m, 30. VI. 1971, R. & F. Ishikawa; 2 ♀, Kamikochi, 21. VII. 1915; 1 ♂, Yarisawa, 1600–1900 m, Kamikochi, 18–20. 22. VII. 1989, A. Shinohara; 1 ♀, Yokodani, 1600–2000 m, Kamikochi, 21–23. VII. 1989, A. Shinohara; 1 ♀, Mibugawa, 1400 m, Oshika-mura, 18. VI. 1994, Y. Nishimoto. **Gifu Pref.:** 3 ♂, Hatahoko, Nyukawa-mura, 29. V. 1994, Y. Nishimoto. **Nara Pref.:** 1 ♀, Mt. Nippon-dake, Omine-san Mts., 22. VI. 1979, K. Mizuno; 1 ♀, Mt. Misen, Omine-san Mts., 23. VI. 1985, K. Mizuno. **SHIKOKU—Tokushima Pref.:** 1 ♂, Mt. Tsurugi-san, 1700–1900 m, 5.

VI. 2003, Y. Kikuhara. **Dark-colored specimens from Japan: HONSHU—Fukushima Pref.:** 1 ♀, Masuzawa, Tateiwa-mura, 27. V. 1995, K. Mizuno. **Tokyo Met.:** 1 ♂, Kariyosezawa, Itsukaichi, 30. IV. 1973, A. Shinohara. **Yamanashi Pref.:** 1 ♀, Mt. Misaka-yama, 8–9. VI. 1974, M. Kuboki. **Nagano Pref.:** 3 ♂, Mt. Nyugasa-yama, 18. VI. 1989, R. Inomata (MNHAH). **Shizuoka Pref.:** 1 ♀, Tenshokyo, 1000 m, Mt. Fuji-san, 20. VI. 1989, H. Ishikawa. **Kyoto Pref.:** 1 ♀, Mt. Daihi-zan, 28. IV. 1974, K. Mizuno. **Hyogo Pref.:** 1 ♀, Mt. Kasagata-yama, Taka, 12. VI. 1960, R. Inomata (MNHAH); 1 ♀, Mt. Kasagata-yama, Taka, 18. VI. 1961, R. Inomata (MNHAH); 1 ♀, Sengamine, Taka, 22. V. 1962, R. Inomata (MNHAH); 1 ♀, Akasai-keikoku, 700 m, Haga-cho, Shiso-gun, 26. V. 1992, M. Matsumoto (KU). **RUSSIA: SAKHALIN—**1 ♂, “Karafuto, Aikawa, 22. VII. 1932”.

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JAPAN: HOKKAIDO—1 ♀, Kasumi-toge, Utanobori, Soya, 22. VI. 2006, H. Hara; 1 ♀, Nayoro, 16. VI. 1938, K. Sato; 1 ♀, Midori, Kiyosato, Abashiri, 15. VII. 1998, A. Shinohara; 1 ♂, Nibushi, Teshikaga, Kushiro, 20. VI. 1998, H. Hara; 1 ♀, Akkeshi, Kushiro, 19. VII. 2002, A. Shinohara; 1 ♀, Ikeda, 30. VII. 1930, H. Sugiura; 1 ♂, Nukabira, Tokachi, 25. VI. 1986, S. Hurukawa; 2 ♀, Horoshika-toge, 1000 m, Daisetsuzan Mts., Tokachi, 23–25. VI. 2005, A. Shinohara; 1 ♀ 2 ♂, Asahidake-osen, Daisetsuzan Mts., Kamikawa, 25–28. VI. 2001, A. Shinohara; 1 ♀, Kogen-osen, Daisetsuzan Mts., Kamikawa, 11. VII. 1996, A. Shinohara; 1 ♀, Sounkyo, 18. VI. 1938, K. Sato; 1 ♂, Sounkyo, 25. VI. 2006, H. Hara; 1 ♀, Asahikawa, 17. VI. 1938, K. Sato; 1 ♀, Bibai, Koshunai, 12–22. VII. 2002, Malaise trap; 1 ♂, Bibai, Koshunai, 28. V.–10. VI. 2003, Malaise trap; 1 ♀, Kurisawa, Manji, 7–21. VIII. 2003, Malaise trap; 1 ♀, Sapporo, 21. VII. 1929, S. Fujii; 1 ♀, Sapporo, 24. VI. 1931, C. Watanabe; 1 ♀, Maruyama, Sapporo, 8. VI. 1957, K. Kamijo; 3 ♂, Hitsujigaoka, Sapporo, 43°00'N 141°24'E, Malaise trap, 28. V.–4. VI. 2003, K. Konishi; 1 ♂, same data but 4–11. VI. 2003; 1 ♀, same data but 11–18. VI. 2003; 1 ♀, Jozankei, 20. VI. 1932, K. Sugiura; 1 ♀, Jozankei, 16. VII. 1959, K. Sato; 1 ♀, Nakayama-toge, 800 m, Shiribeshi, 8. VII. 1996, A. Shinohara; 2 ♀, same data but 13–15. VII. 1996; 1 ♂, same data but 14. VII. 1997; 1 ♂, same data but 17–18. VI. 2001; 1 ♀, same data but 19. VI. 2002; 2 ♀, Nakayama-toge, 42 50N 141 05E, 770 m, Shiribeshi, 30. VI.–2. VII. 2006, A. Shinohara; 1 ♀, Shikotsu-ko, Ishikari, 27. V. 1995, A. Shinohara; 2 ♂, same data but 19. VI. 1997; 1 ♀, Shikotsu-ko, Ishikari, Malaise trap, 23. VI.–7. VII. 1996, Y. Nagayasu; 1 ♀, Kitahiroshima, 25. VI. 1932, H. Sugiura; 1 ♂, Futamata, Kitahiyama, Hiyama, 11. VI. 1984, A. Shinohara; 1 ♀, Hakodate, 12. VII. 1959, K. Sato. **HONSHU—Iwate Pref.:** 1 ♀, Hanamaki, 4. VI. 1953, K. Sato; 1 ♂, Orobetsu,

Oohasama-machi, 3. VI. 2001, U. Jinbo. **Gunma Pref.:** 3 ♂, Marunuma, 1420m, 3. VI. 1971, Ishikawa & Kachi. **Ibaraki Pref.:** 1 ♀, Mt. Tsukuba-san, 16. VII. 1940, J. Yoshioka. **Chiba Pref.:** 1 ♀, Mt. Nokogiri-yama, 30. IV. 1955, J. Yoshioka; 1 ♀, Ichikawa, 8. V. 1955, J. Yoshioka; 1 ♀, Ichikawa, 20. V. 1955, J. Yoshioka. **Saitama Pref.:** 2 ♀, Agano, 5. V. 1955, J. Yoshioka; 1 ♂, Koma, Hidakacho, 11. V. 1996, A. Shinohara. **Tokyo Met.:** 2 ♀, Dokan-shinmichi, Imperial Palace, Chiyoda, 4–11. V. 2010, Malaise trap; 2 ♀, same data but 18–25. V. 2010; 2 ♀ 2 ♂, Fukiage-gyoen, Imperial Palace, Chiyoda, 16. IV. 2001, T. Nambu; 9 ♀ 4 ♂, same data but 18. IV. 2002; 2 ♀, same data but 8. V. 2003; 2 ♀, same data but 17. V. 2004; 3 ♀ 5 ♂, same locality, 27. IV. 2010, H. Nagase; 3 ♀, same data but A. Shinohara; 1 ♀, Kajuen, Fukiage-gyoen, Imperial Palace, Chiyoda, 20. IV.–11. V. 2010, Malaise trap; 1 ♀, same data but 4–11. V. 2010; 1 ♀, Meguro, 5. V. 1928, K. Sato; 1 ♀, Mt. Takao-yama, 4. VI. 1937, S. Asahina. **Kanagawa Pref.:** 1 ♀, Shishigaya, Yokohama, 22. V. 1955, K. Sato; 1 ♀, Gumyoji, Yokohama, 20. IV. 1930, K. Sato; 1 ♀, Furansu-yama, Yokohama, 2. V. 1940, K. M. **Yamanashi Pref.:** 1 ♀, Subaru-rando, 1000m, N slope of Mt. Fuji-san, 25–26. VI. 1981, Y. Kurosawa. **Nagano Pref.:** 1 ♀, Karuizawa, 28. VI. 1934, K. Sato; 1 ♀, Kose, Karuizawa, 20. VII. 1938; 1 ♀, Kose, Karuizawa, 22. VII. 1938; 1 ♀, Togakushi, 20. VI. 1932, K. Sato; 1 ♀, Minoto, 1850m, Yatsugatake Mts., 23–26. VII. 1996, A. Shinohara; 1 ♀, Shimashima, 24. VII. 1915; 1 ♀, Shimashima, 13. V. 1928, K. Sato; 1 ♀, Shimashima, 18. VII. 1938; 1 ♂, Shimashima, 23. V. 1985, A. Shinohara; 3 ♂, Minamiyamasen, 1200m, Ooshika-mura, 11. VI. 1994, Y. Nishimoto. **Kyoto Pref.:** 1 ♀, Kibune, VI. 1931, C. Teranishi. **Nara Pref.:** 1 ♀, Yoshino, 24. V. 1927, C. Teranishi. **Osaka Pref.:** 1 ♀, Toyono-gun, Toyono Town, Hatsutani, alt. 250m, N34°54'/E135°20'. V. 2001, H. Yoshida; 1 ♀, Chihaya-akasaka Village, Mt. Kongo, alt. 1000m, N34°25'/E135°9'. VI. 2001, H. Yoshida. **Hyogo Pref.:** 1 ♂, Akasai-Keikoku, Haga-cho, 20–23. V. 1999, Y. Okushima. **Tottori Pref.:** 1 ♀ 1 ♂, Yokotemichi, 1000m, w. slope of Mt. Daisen, 25–29. V. 2001, A. Shinohara; 1 ♀, Yokotemichi, ca. 850m, 35–22–39N 133–31–21E, Mt. Daisen, 20–21. V. 2007, A. Shinohara; 1 ♀, Daisen Town, Daisen, alt. 800m, N35°23'/E133°31', 14. VI. 2012, H. Yoshida. **SHIKOKU—Tokushima Pref.:** 1 ♀, Minokoshi, 1500m, 33°52'N 134°05'E, Tsurugisan Mts., 5. VI. 2003, A. Shinohara. **Ehime Pref.:** 2 ♀ 1 ♂, Nanokawagoe, 1450m, 33°45'N 133°09'E, Ishizuchiyama Mts., 8–10. VI. 2005, A. Shinohara; 1 ♀, Komenono, Matsuyama-shi, 8. V. 2005, A. Shinohara. **KYUSHU—Kumamoto Pref.:** 1 ♀, “Higo, Kunimi-yama”, 4. VIII. 1919.

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JAPAN: HOKKAIDO— 1 ♀, Rishiri Is., 15. VII.

1971, A. Shinohara; 1 ♀, Rishiri Is., 15. VII. 1971, S. Ibuki; 1 ♀, Rishiri Is., 16. VII. 1971, S. Ibuki; 1 ♂, Mt. Rishiri, 700m, Oshidomari-guchi, Rishiri Is., 25. VI. 1990, A. Shinohara; 1 ♀, Atsutoko, Nemuro, 19. VI. 1992, A. Shinohara; 1 ♀, Yoroushi-onsen, Nemuro, 19. VI. 1992, A. Shinohara & H. Hara; 1 ♀, Rausu, 20m, Shiretoko, Nemuro, 17–18. VII. 1997, A. Shinohara; 1 ♀, Iwaobetsu, Shiretoko, 27. VI. 1980, A. Shinohara; 1 ♀, Utoro, Shiretoko, Abashiri, 29. VI. 1970, A. Shinohara; 1 ♂, Oketo, Abashiri, 8. VII. 1994, A. Shinohara; 1 ♀, Akan-ko, Kushiro, 30. VI. 1970, A. Shinohara; 1 ♀, Akan-ko, Kushiro, 28–29. VI. 1980, A. Shinohara; 1 ♂, Kussharo-ko, Kushiro, 15. VI. 1982, E. Nishida; 1 ♀, Tsurumi-toge, Kushiro, 25. VI. 1999, A. Shinohara; 1 ♀, Yamada-onsen, 800m, Tokachi, 21. VI. 1990, A. Shinohara; 1 ♀, same data but 18. VI. 1991; 1 ♀, same data but 20. VI. 1991; 1 ♀ 1 ♂, same data but 22. VI. 1991; 1 ♀ 1 ♂, same data but 24. VI. 1991; 1 ♀, same locality, 9–11. VII. 1996, H. Hara; 3 ♂, Meto, Ashoro, Tokachi, 17. VI. 1992, A. Shinohara; 2 ♂, Nukabira, Tokachi, 16–21. VI. 1982, A. Shinohara; 1 ♀, Nukabira, Tokachi, 26. VI. 1992, A. Shinohara; 1 ♂, Nukabira, Tokachi, 21–22. VI. 1993, A. Shinohara; 1 ♂, Nukabira, 600–700m, Tokachi, 20. VI. 1979, A. Shinohara; 1 ♀, Horoshika-toge, 1100m, Tokachi, 28–30. VI. 1995, H. Hara; 1 ♀, Kanno-onsen, Tokachi, 18. VII. 1972, A. Shinohara; 1 ♀, Sounkyo, Kamikawa, 18. VI. 1938, K. Sato; 1 ♂, Sounkyo, Kamikawa, 19. VI. 1938, K. Sato; 2 ♀, Nayoro, Kamikawa, 16. VI. 1938, K. Sato; 1 ♀, Asahikawa, 17. VI. 1938, K. Sato; 1 ♂, Nissho-toge, Hidaka, 17. VI. 1984, A. Shinohara; 1 ♀ 1 ♂, nr. Ichikishirigawa, Mikasashi, Sorachi, 28. V. 1997, H. Hara; 1 ♀, Bibai, Koshunai, 28. V.–10. VI. 2003, Malaise trap; 1 ♂, Sapporo, VI. 1932, C. Teranishi; 1 ♀, Sapporo, 17. VI. 1931, C. Watanabe; 1 ♀, Sapporo, 5. VI. 1918, S. Isshiki; 1 ♂, Kotoni, 18. VI. 1932, H. Sugiura; 3 ♀, Jozankei, 16. VII. 1959, K. Sato; 1 ♀, Nakayama-toge, Shirabeshi, 800m, 20. VI. 1990, A. Shinohara; 1 ♀, same data but 4. VII. 1994; 1 ♀, same data but 22. VI. 1996; 5 ♀ 1 ♂, same data but 13–15. VII. 1997; 1 ♀, Shikotsu-ko, Ishikari, 19. VI. 1997, A. Shinohara; 1 ♀, Tanekawa, Imakane, 22. VI. 1970, R. Ishikawa; 1 ♂, Hakodate, 12. VII. 1959, K. Sato. **HONSHU—Iwate Pref.:** 1 ♀, Take, foot of Mt. Hayachine, 13. VII. 1967, R. Ishikawa; 1 ♀, Hanamaki, 4. VI. 1953, K. Sato. **Yamagata Pref.:** 1 ♀, Nozoki, 22. VI. 1961. **Tochigi Pref.:** 1 ♀, Kensetsudaira, Oku-Nikko, 26. VII. 1984, H. Itami; 1 ♂, Kawamata, 6. VI. 1973, A. Shinohara; 1 ♀, Yumoto, 1600m, Nikko, 5. VI. 1977, A. Shinohara; 1 ♀, Chuzenji, Nikko, 21. V. 1914; 1 ♀, Nikko, 18. VII. 1914. **Gunma Pref.:** 2 ♀, Mt. Komochiyama, Matsuida, 17. VI. 1987, T. Matsumoto; 1 ♀, Mt. Komochiyama, Matsuida, 18. VI. 1987, S. Izumiya; 1 ♀, Mt. Komochiyama, Minamimakimura, 20. V. 1987, T. Matsumoto; 1 ♀, Kirizumi, Matsuida, 22. V. 1987, T.

- Matsumoto; 1 ♀, Marunuma, 1400 m, 8–9. VI. 2001, A. Shinohara; 1 ♀, Amazakehara, Hagio, Azuma-machi, 25. V. 1987, T. Matsumoto. **Ibaraki Pref.:** 3 ♀, Komenoi, Toride, 8. V. 1993, H. Hamaji. **Chiba Pref.:** 1 ♀ 1 ♂, Tateyama, 15. IV. 1931, K. Sato; 1 ♂, Chikura, 15. IV. 1931, K. Sato; 2 ♀, Chiba University, Chiba, 24. IV. 1996, R. Kano; 1 ♀, Ichikawa, 19. IV. 1960, J. Yoshioka; 2 ♀, Ichikawa, 26. IV. 1960, J. Yoshioka; 1 ♂, Matsudo, 19. IV. 1960, J. Yoshioka; 2 ♂, Narita, 28. V. 1955, J. Yoshioka. **Saitama Pref.:** 5 ♀, Koma, Hidaka-cho, 11. V. 1996, A. Shinohara; 1 ♀, Mt. Hodo-san, Nagatoro-machi, 18. VI. 1994, K. Emoto; 1 ♀, Akigase, Urawa, 23. IV. 1977, A. Shinohara; 1 ♀, Kawagoe, 30. IV. 1937, J. Yoshioka; 1 ♀, Mt. Ryokami-san, 1. VI. 1967, J. Yoshioka. **Tokyo Met.:** 1 ♀, Dokan-shinmichi, Imperial Palace, Chiyoda, 29. III.–6. IV. 2010, Malaise trap; 1 ♀, same data but 20–27. IV. 2010; 1 ♀, same data but 25. V.–1. VI. 2010; 1 ♂, same data but 4–11. V. 2010; 1 ♂, Fukiage-gyoen, Imperial Palace, Chiyoda, 18. IV. 2000, T. Nambu; 3 ♀, same data but 16. IV. 2001; 1 ♀, same data but 8. V. 2003; 1 ♀ 1 ♂, same data but 14. IV. 2005; 1 ♀, same data but 12. IV. 2005; 1 ♂, same locality, 23. III. 2010, K. Watanabe; 2 ♀, same locality, 27. IV. 2010, A. Shinohara; 1 ♀, Otakinagare, Fukiage-gyoen, Imperial Palace, Chiyoda, 14–26. IV. 2011, Malaise trap; 1 ♀, same data but 26. IV.–4. V. 2011; 1 ♀ 1 ♂, same data but 4–12. V. 2011; 1 ♀, same data but 12–17. V. 2011; 1 ♀, Kajuen, Fukiage-gyoen, Imperial Palace, Chiyoda, 20–27. IV. 2010, Malaise trap; 1 ♀ 1 ♂, same data but 18–25. V. 2010; 1 ♂, Biological Institute, nr. paddy field, Imperial Palace, Chiyoda, 14–26. IV. 2011, Malaise trap; 1 ♂, same data but 26. IV.–4. V. 2011; 1 ♀, same data but 12–17. V. 2011; 2 ♂, same data but 17–24. V. 2011; 2 ♀, Momiji-yama, Imperial Palace, Chiyoda, 14. V. 2010, H. Nagase; 1 ♀, Kameari, Katsushika, 3. VIII. 1954, J. Yoshioka; 1 ♀ 1 ♂, Mizumoto, Katsushika, 24. IV. 1937, J. Yoshioka; 1 ♂, same data but 2. VI. 1937; 2 ♀ 2 ♂, same data but 3. VI. 1937; 1 ♂, Totsuka, Shinjuku, 1. V. 1932, S. Asahina; 1 ♀, same data but 26. V. 1932; 1 ♀, Nakano, 11. V. 1930, H. Sugiura; 1 ♀, Shimura, Itabashi, 26. VI. 1931, H. Sugiura; 1 ♀ 2 ♂, Akatsuka, Itabashi, 28. IV. 1928, K. Sato; 1 ♀, Ongata, Hachioji City, 28. IV. 1977, Y. Kurosawa; 1 ♀, Mt. Takao-san, 16. V. 1915; 1 ♀, Mt. Takao-san, 30. V. 1915; 1 ♂, Mt. Takao-san, 25. IV. 1928, K. Sato; 1 ♀ 1 ♂, Mt. Takao-san, 28. IV. 1930, K. Sato; 1 ♀, Mt. Takao-san, 6. V. 1941, J. Yoshioka; 1 ♀, Mt. Takao-san, 11. V. 1957, Y. Kurosawa; 1 ♀, Mt. Takao-san, 24. IV. 1960, J. Yoshioka; 1 ♂, Hikagezawa, Mt. Takao-san, 28. IV. 1973, A. Shinohara; 1 ♀, same data but 20. V. 1990; 1 ♂, Hikagezawa, Mt. Takao-san, 17. IV. 1977, N. Matsuba; 1 ♀ 1 ♂, Kobotoke, Mt. Takao-san, 3. V. 1972, A. Shinohara; 1 ♂, same data but 6. V. 1972; 1 ♀, same data but 4. V. 1973; 1 ♀, Kamiange, Mt. Jinba-yama, 4. V. 1974, A. Shinohara; 1 ♀, same data but 10. V. 1974; 1 ♀, same data but 12. V. 1974; 1 ♀, same data but 8. V. 1977; 1 ♀, same data but 14. V. 1978; 2 ♀ 1 ♂, same data but 6. V. 1990; 1 ♀, same data but 2. V. 1999; 1 ♀, same data but 18. V. 1999; 4 ♀, same data but 7. V. 2001; 4 ♀ 1 ♂, same locality but 19. V. 1980, Y. Kurosawa; 1 ♀, Hikawa, Okutama, 19. V. 1935, S. Asahina; 1 ♂, Hikawa, 15. V. 1955, K. Sato; 1 ♀, Ikusabata, Okutama, 1. V. 1977, A. Shinohara; 1 ♀, Ikusabata, Okutama, 1. V. 1977, N. Matsuba; 1 ♂, Outake, Okutama, 14. V. 1989, M. Tomokuni; 1 ♂, Kariyose-zawa, Itsukaichi, 23. IV. 1973, A. Shinohara. **Kanagawa Pref.:** 3 ♀ 2 ♂, Negishi, Yokohama, 18. IV. 1930, K. Sato; 2 ♀ 1 ♂, Hakone Yumoto, 19. IV. 1930, K. Sato; 1 ♀, Yokohama, 30. IV. 1929, S. Fujii; 1 ♂, Shishigaya, Yokohama, 22. V. 1955, K. Sato; 1 ♀, Shinohara-cho, Yokohama, 17. V. 1955, K. Sato; 1 ♀, Furansu-yama, Yokohama, 20. IV. 1940, K. M.; 1 ♀, Hambara, 5. V. 1973, A. Shinohara; 2 ♀, Hiyoshi, 17. V. 1971, A. Shinohara; 1 ♀, Hiyoshi, 27. V. 1971, A. Shinohara. **Yamanashi Pref.:** 4 ♀, Mt. Mitsutoge, 25–26. VI. 1981, Y. Kurosawa; 1 ♀, Masutomi, 28. VI. 1958, K. Sato; 4 ♀, Masutomi spa, 22. VII. 1978, A. Shinohara; 1 ♀, Masutomi, Sudama, 12. VI. 1987, S. Takeda; 2 ♀, Sagashio, 15. VII. 1957, R. Kawasaki; 1 ♀, Sagashio, 25. VII. 1959, K. Sato; 2 ♂, Utsukushinomori, 1500–1700 m, Yatsugatake Mts., 5–8. VI. 2000, A. Shinohara; 2 ♀, Kiyosato, Yatsugatake Mts., 17–19. VI. 1999, A. Shinohara; 1 ♀, Subaru-rando, 1000 m, N slope of Mt. Fuji-san, 25–26. VI. 1981, Y. Kurosawa; 1 ♂, Aokigahara, 2. VIII. 1975, S. Tsuyuki; 1 ♂, Yanagisawa Pass, 9. VI. 1971, R. & F. Ishikawa; 1 ♀, Hikawa-rindo, 13. VI. 1982, M. Toyama; 1 ♀, Mt. Minobu-san, 12. VI. 1928, K. Sato; 1 ♀, Sasago-toge, 27. V. 1987, H. Yamazaki; 1 ♀, Hinazuru-toge, 19. V. 1938, Uchida. **Shizuoka Pref.:** 1 ♀ 1 ♂, Sasamado, 29. IV. 1954, J. Minamikawa; 1 ♂, Komyosan, 16. VI. 1951, J. Minamikawa; 1 ♀, Mt. Ryuso, 30. V. 1954, J. Minamikawa; 2 ♀, Amagi-toge, Izu, 29. VI. 1996, A. Shinohara; 1 ♀, Hamamatsu, 2. V. 1931, S. Fujii; 1 ♀, Tenshokyo, 1000 m, Mt. Fuji, 24. V. 1989, H. Ishikawa; 1 ♀, Awakura (Tenshokyo, 1000 m), Fujinomiya, 25. V. 1989, H. Ishikawa. **Niigata Pref.:** 1 ♀, Suginosawa, Myoko, 28. V. 1981, A. Shinohara; 1 ♀, Kamo-machi, 3. V. 1952, J. Yoshioka. **Nagano Pref.:** 7 ♀ 2 ♂, Minamiyamasen, 1200 m, Ooshika-mura, 11. VI. 1994, Y. Nishimoto; 1 ♀, Mt. Nyugasa-yama, 31. VII. 1983, Y. Nishimoto; 3 ♂, Mt. Nyugasa-yama, 1740 m, Fujimi, 10. VI. 2001, Y. Nishimoto; 1 ♀, same data but 24. VI. 2000; 4 ♀ 1 ♂, Mt. Nyugasa-yama, 1900 m, Fujimi, 27. VI. 1993, Y. Nishimoto; 1 ♀, Mibu-gawa Joryu, 1400 m, Ooshikamura, 18. VI. 1994, Y. Nishimoto; 8 ♀, Mibu-gawa Karyu, 1800 m, Ooshika-mura, 18. VI. 1994, Y. Nishimoto; 3 ♀, Torikura-rindo, 1200 m, Ooshika-mura, 1. VI. 1994, Y. Nishimoto; 2 ♀, Higashimata-gawa, 980 m, Shimosuwa-machi, 25. VI. 2000, Y. Nishimoto; 2 ♀, Koseto-

kosen, 1100m, Ooshika-mura, 3. VII. 1994, Y. Nishimoto; 2 ♀, Kisokoma-kogen, 1400m, 23. VII. 1993, Y. Nishimoto; 1 ♀, Yokohata, 780m, Neba-mura, 20. V. 2001, Y. Nishimoto; 1 ♀, Yokokawa, 900m, Tatsunomachi, 22. V. 1994, Y. Nishimoto; 2 ♀ 2 ♂, Yamada, 20. V. 1960, J. Yoshioka; 2 ♀, Tokusawa, Kamikochi, 4–6. VI. 1989, A. Shinohara; 1 ♀ 2 ♂, Kappabashi–Myojin, 1500m, Kamikochi, 21–23. VI. 1989, A. Shinohara; 2 ♀, Yarisawa, 1600–1900m, Kamikochi, 18–20. 22. VII. 1989, A. Shinohara; 1 ♀ 1 ♂, Niiyama-toge, 1200m, 35°46'N138°02'E, Ina, 23–24. V. 2003, A. Shinohara; 1 ♀, Kamikochi, 7. VII. 1927, K. Sato; 1 ♀, Shimashima, 24. VII. 1915; 1 ♀, Shimashima, 13. VI. 1928, K. Sato; 1 ♀ 1 ♂, Shimashima-dani, 1700m, 28. VI. 1976, A. Shinohara; 2 ♀ 1 ♂, Togakushi, 20. VI. 1932, K. Sato; 3 ♀, Shirahone spa, 26. VI. 1976, A. Shinohara; 1 ♀, Azusayama, Kawakami-mura, 5. VII. 1980, Y. Kurosawa; 1 ♀, Minoto, 2000m, Yatsugatake Mts., 3. VIII. 1984, A. Shinohara; 1 ♀, Minoto, 2000m, Yatsugatake Mts., 23–26. VII. 1996, A. Shinohara; 1 ♀, Makuwa, 1550m, Shiga-kogen, 7–9. VIII. 1996, A. & T. Shinohara; 1 ♂, Nojiriko, 28. V. 1981, A. Shinohara; 1 ♀, Karuizawa, 28. VI. 1934, K. Sato; 1 ♀, Hirano, 14. V. 1932, K. Sato; 1 ♂, Kiso-Outaki, 26. V. 1981, H. Hara. **Gifu Pref.:** 1 ♂, Maki, alt. 1100m, Nyukawa-mura, 29. V. 1994, Y. Nishimoto; 1 ♂, Hatahoko, 1000m, Nyukawa-mura, 29. V. 1994, Y. Nishimoto. **Fukui Pref.:** 2 ♀, Kami-koike, Hakusanroku, 6. VI. 1992, Y. Nishimoto; 1 ♀, Hatogayu, 24. VI. 1990, Y. Nishimoto; 1 ♀, Ikenokouchi, Obama, 18. V. 1986, T. Ito. **Kyoto Pref.:** 1 ♀, Seryo, 8. VI. 1991, Y. Nishimoto; 1 ♀, Kibune, 20. IV. 1930, C. Teranishi; 1 ♀, Kyoto City, Sakyo-ku, Hanase Pass, alt. 700m, N35°09'/E135°47', 4. VI. 2000, H. Yoshida. **Wakayama Pref.:** 1 ♀, Mt. Koya-san, 9. VI. 1940, J. Yoshioka; 1 ♀, Katsuragi-cho, 5. V. 1981, H. Hara. **Nara Pref.:** 4 ♀, Mt. Kongo-zan, alt. 1120m, 12. VI. 1993, Y. Nishimoto; 1 ♀, Mt. Misen, Omine-san Mts., 23. V. 1985, K. Mizuno; 1 ♀, Yoshino, 7. VI. 1940, J. Yoshioka. **Osaka Pref.:** 1 ♀ 3 ♂, Mt. Mino, 8. VI. 1929, C. Teranishi; 1 ♀, Mino, 31. V. 1930, C. Teranishi; 1 ♀, Minoh City, Saigahara, alt. 300m, N34°51'/E135°28', 30. IV. 2005, H. Yoshida; 2 ♀, Higashi-osaka City, Zushitani, alt. 400m, N34°41'/E135°40', 29. IV. 2005, H. Yoshida; 1 ♀, Higashi-osaka City, Mt. Ikoma, alt. 600m, N34°41'/E135°40', 5. V. 2003, H. Yoshida; 1 ♀, same data but 29. IV. 2005; 2 ♀ 1 ♂, Nose, 29. IV. 1982, H. Nishida; 4 ♀, Nose, 6. VI. 1982, H. Nishida; 1 ♀ 1 ♂, Mt. Myoken-zan, Nose, 16. V. 1993, Y. Nishimoto; 1 ♀, Sasabe, 26. IV. 1981, E. Nishida. **Hyogo Pref.:** 4 ♀, Hatsutani, Kawanishi, 5. V. 1991, Y. Nishimoto; 14 ♀ 1 ♂, same data but 15. VI. 1991; 3 ♀, Hatsutani, alt. 300m, Kawanishi, 6. V. 1993, Y. Nishimoto; 1 ♂, same data but 5. VI. 1993; 1 ♀ 1 ♂, Akasai-keikoku, Haga-cho, 20–23. V. 1999, A. Shinohara; 2 ♀, Kami Town, Mt. Hachibuse, alt. 980m, N35°23'/

E134°33', 23. VI. 2012, H. Yoshida. **Okayama Pref.:** 1 ♀, Mt. Sangaiyo, 21. V. 1977, K. Mizuno; 1 ♀, Tsuki, Souja-shi, 6. V. 1997, Y. Okushima. **Tottori Pref.:** 1 ♀ 1 ♂, Yokotemichi, 1000m, W. slope of Mt. Daisen, 20–25. V. 2000, A. Shinohara; 3 ♂, same data but 25–29. V. 2001; 2 ♂, Yokotemichi, ca. 850m, 35-2-39N 133-31-21E, Mt. Daisen, 7–9. V. 2007, A. Shinohara; 1 ♂, Sannosawa, Mt. Daisen, 21–22. V. 1981, A. Shinohara; 1 ♀, Daisenji, Mt. Daisen, 19. V. 1981, A. Shinohara. **Shimane Pref.:** 1 ♀, Kousa, 15. IV. 1953, J. Yoshioka; 1 ♀ 1 ♂, Kousa, 15. V. 1953, J. Yoshioka; 1 ♂, Kousa, 11. V. 1953, J. Yoshioka. **Yamaguchi Pref.:** 4 ♀ 5 ♂, Hagi, 14. IV. 1953, J. Yoshioka; 2 ♀, Kibe, Ube-shi, 20. V. 1953, J. Yoshioka; 1 ♀, Kibe, Ube-shi, 26. V. 1953, J. Yoshioka; 1 ♀, Shimonoseki, 1. V. 1931, K. Sato. **SHIKOKU—Tokushima Pref.:** 1 ♀, Minokoshi, 1500m, 33°52'N 134°05'E, Tsurugi-san Mts., 5. VI. 2003, A. Shinohara; 3 ♀, Meoto-ike, 1400m, 33°52'N 134°04'E, Tsurugi-san Mts., 6–7. VI. 2003, A. Shinohara; 1 ♀, Meoto-ike, Mt. Tsurugi-san, 10–11. VI. 1999, K. Mizuno. **Ehime Pref.:** 1 ♀ 1 ♂, Nanokawagoe, 33°45'N 133°09'E, Tsuchigoya, Ishizuchi-yama Mts., 2–4. VI. 2003, A. Shinohara; 2 ♀, Furu-Iwaya, 5–6. V. 2006, A. Shinohara; 1 ♀, Tsuchigoya, Mt. Ishizuchi, 26–27. V. 1986, A. Shinohara. **KYUSHU—Nagasaki Pref.:** 1 ♀ 1 ♂, Mt. Gokaharadake, 1050m, Tara-dake Mts., 16. V. 1997, A. Shinohara; 3 ♀ 1 ♂, Fukikoshi, Unzen, 16. V. 1997, A. Shinohara; 1 ♀, Is. Tsushima, Oohoshi-yama, 13. VI. 1968, Y. Kurosawa. **Nagasaki/Saga Pref.:** 3 ♀, Kurinoki-toge, 600m, Mt. Kunimi-yama, 15. V. 1997, A. Shinohara. **Oita Pref.:** 3 ♀, Mt. Kuro-dake, Kuju, 16–24. V. 1986, A. Shinohara; 6 ♀, Mt. Kuro-dake, 900–1100m, Kuju-san, 18–19. V. 1997, A. Shinohara. **Fukuoka Pref.:** 1 ♀, Buzenbo, Mt. Hiko-san, 13. V. 1986, A. Shinohara. **Kumamoto Pref.:** 1 ♀, Kikuchi-keikoku, Aso, 17. V. 1997, A. Shinohara. **Kagoshima Pref.:** 1 ♂, Ariake-cho, Soo-gun, 18. IV. 1980, H. Nagase. **LOCALITY UNDETERMINED:** 2 ♀, “Goshiki, 14. VII. 1960, J. Yoshioka”; 1 ♂, Goshiki, 24. V. 1960, J. Yoshioka”. **RUSSIA: SAKHALIN—**1 ♀ 1 ♂, “Karafuto, M. Yano”. **NORTH KOREA:** 1 ♂, “Sanbo [=Sambang, Sepho-kun, Kangwon-do], Chosen, 21-V-1935, coll. K. Sato”.

Macrophya coxalis (Motschulsky, 1866)

JAPAN: HOKKAIDO—2 ♂, Yamada-onsen, 800m, Tokachi, 21–25. VI. 1992, A. Shinohara; 1 ♂, Yamada-onsen, 1000m, Tokachi, 21–24. VI. 1997, H. Hara; 1 ♀, Shintoku, Tokachi, 17. VI. 1991, A. Shinohara; 1 ♂, nr. Ichikishirigawa, Mikasa-shi, Sorachi, 28. V. 1997, H. Hara; 2 ♂, Sapporo, 26. V. 1930, S. Fujii; 1 ♂, Shikotsuko, Ishikari 17. VI. 1996, A. Shinohara; 1 ♀ 1 ♂, Shikotsuko, Ishikari, 19. VI. 1997, A. Shinohara; 1 ♀, Date-mombetsu, 30. VI. 1932, H. Sugiura. **HONSHU—Iwate Pref.:** 1 ♀, Take, foot of Mt. Hayachine, 13. VII. 1967,

- R. Ishikawa. **Yamagata Pref.:** 1 ♀, Tamagawa Val., 10. VI. 1976, Y. Kurosawa. **Fukushima Pref.:** 1 ♀, Masuzawa, Tateiwa-mura, 27. V. 1995, K. Mizuno. **Tochigi Pref.:** 1 ♂, Ouchi, Bato, 4–5. V. 1993, A. & T. Shinohara; 2 ♀, Ouchi, Bato, 4–6. V. 1996, A. Ta., N. & To. Shinohara; 2 ♀, Sukusukunomori, Bato, Nakagawa, 16. V. 2010, S. Ibuki; 1 ♀, Banbi Farm, Wami, Bato, Nakagawa, 3. V. 2010, S. Ibuki; 1 ♂, same data but 6. V. 2010; 2 ♀, Kawamata, 6. VI. 1973, A. Shinohara; 1 ♀, Nishi-Arakawa, Higashi-Furuie, Shioya, 19. V. 1989, Y. Kurosawa; 1 ♀, Yumoto, 1600m, Nikko, 5. VI. 1977, A. Shinohara; 1 ♂, Kotoku, Nikko, 5. VI. 1977, A. Shinohara; 1 ♀ 1 ♂, Nikko, 6. VI. 1915; 1 ♀, Chuzenji, Nikko, 23. VI. 1915. **Gunma Pref.:** 1 ♀, Ura-Myogi, Nishinomaki, Matsudaira, 20. V. 1987, T. Matsumoto; 1 ♀, Hagio, Azuma, 19. VI. 1987, S. Izumiyama. **Chiba Pref.:** 1 ♀ 1 ♂, Mt. Kiyosumi-yama, 16. IV. 1931, K. Sato; 2 ♀ 2 ♂, Tateyama, 15. IV. 1931, K. Sato; 1 ♂, Chiba University, Chiba City, 24. IV. 1996, R. Kano; 1 ♀, Ichikawa, 29. IV. 1960, J. Yoshioka; 2 ♂, Abiko, 19. IV. 1937, J. Yoshioka; 1 ♀, Mabashi, Matsudo, 12. V. 1960, J. Yoshioka. **Saitama Pref.:** 2 ♂, Akigase, 25. IV. 1977, A. Shinohara; 1 ♀, Akigase, 23. IV. 1977, A. Shinohara; 1 ♂, Akigase, 14. IV. 1996, A. Ta., N. & To. Shinohara; 1 ♀ 1 ♂, Koma, Hidaka-cho, 11. V. 1996, A. Shinohara; 1 ♀, Kawagoe, 20. IV. 1937, J. Yoshioka; 3 ♂, Shiki, 19. IV. 1968, A. Shinohara; 1 ♀, Shiki, 25. IV. 1968, A. Shinohara; 1 ♀, Shiki, 22. IV. 1969, A. Shinohara; 1 ♂, Shiki, 25. IV. 1971, A. Shinohara; 1 ♀, Shiki, 22. IV. 1972, A. Shinohara; 1 ♀ 1 ♂, Toda City, 29. IV. 1970, K. Ishii; 1 ♀, Hachigata, Yorii, 13–14. VI. 1986, S. Izumiyama; 1 ♀, Shomaru-toge, 5. IV. 1954, M. Yamanaka; 1 ♀, Sayama-ko, 23. IV. 1954, M. Yamanaka; 1 ♀, Urawa, 9. V. 1941, J. Yoshioka. **Tokyo Met.:** 1 ♀, Otakinagare, Fukiagegyoen, Imperial Palace, Chiyoda, 26. IV.–4. V. 2011, Malaise trap; 4 ♀, same data but 4–12. V. 2011; 3 ♀, same data but 12–17. V. 2011; 1 ♀, same data but 17–24. V. 2011; 1 ♀, same data but 24. V.–2. VI. 2011; 1 ♀, Dokan-Shinmichi, Imperial Palace, Chiyoda, 13–20. IV. 2010, Malaise trap; 2 ♀, same data but 20–27. IV. 2010; 3 ♀, same data but 27. VI.–4. V. 2010; 1 ♀, same data but 4–11. V. 2011; 1 ♀, Biol. Inst. nr. paddy field, Imperial Palace, Chiyoda, 14–26. IV. 2011, Malaise trap; 2 ♀, same data but 26. IV.–4. V. 2011; 1 ♀, same data but 4–12. V. 2011; 3 ♀, same data but 12–17. V. 2011; 3 ♀, Kajuen, Fukiage-gyoen, Imperial Palace, Chiyoda, 4–11. V. 2010, Malaise trap; 3 ♂, Fukiage-gyoen, Imperial Palace, Chiyoda, 18. IV. 2000, T. Nambu; 1 ♀ 1 ♂, same data but 18. IV. 2002; 5 ♀, same data but 8. V. 2003; 4 ♀ 1 ♂, Fukiage-gyoen, Imperial Palace, Chiyoda, 27. IV. 2010, A. Shinohara; 1 ♀, Imperial Palace, Chiyoda, 14. V. 2001, T. Nambu; 15 ♂, same data but 16. IV. 2001; 2 ♀, same data but 12. V. 2005; 1 ♀ 1 ♂, Kinuta, Setagaya, 10. IV. 1959, Y. Kurosawa; 1 ♀, Kanamachi, Katsushika, 8. V. 1961, J. Yoshioka; 1 ♀, Mizumoto, Katsushika, 28. IV. 1937, J. Yoshioka; 1 ♂, Momijigaoka, Fuchu (Tamabonchi), 24. IV. 1997, T. Nambu; 1 ♀, Institute for Nat. Stud., Shiroganedai, Minato, 15. V. 2006, A. Shinohara; 1 ♀, Kazuma, 3. V. 1973, A. Shinohara; 1 ♀, Tama-ko, 23. IV. 1954, M. Yamanaka; 1 ♀, [no detailed locality], 27. V. 1956, K. Sato; 1 ♂, Kamiange, 400m, Mt. Jinba-yama, Hachioji, 11. V. 1973, A. Shinohara; 1 ♀ 1 ♂, same data but 4. V. 1974; 1 ♀ 1 ♂, same data but 30. IV. 1977; 2 ♀, same locality but N. Matsuba; 2 ♂, same locality but 14. V. 1978, A. Shinohara; 1 ♀, same data but 9. V. 1987; 2 ♀ 2 ♂, same data but 6. V. 1990; 1 ♀, same data but 25. V. 1996; 1 ♀, same data but 5. V. 1997; 1 ♀, same data but 29. IV. 1996; 1 ♂, same data but 29. IV. 1997; 1 ♀, same data but 29. IV. 1998; 4 ♂, same data but 2. V. 1999; 5 ♂, same data but 30. IV. 2000; 1 ♂, same data but 7. V. 2000; 1 ♀, same data but 7. V. 2001; 1 ♂, same data but 4. V. 2001; 1 ♂, same data but 29. IV. 2001; 1 ♀, same data but 18. V. 2008; 3 ♀ 1 ♂, Ikusabata, Okutama, 1. V. 1977, N. Matsuba; 3 ♀ 3 ♂, Ikusabata, Okutama, 1. V. 1977, A. Shinohara; 1 ♀, Kori, Okutama, 16. V. 1991, M. Kuboki; 2 ♂, Kariyosezawa, Itsukaichi, 23. IV. 1973, A. Shinohara; 1 ♂, same data but 26. IV. 1973; 1 ♀ 1 ♂, same data but 30. VI. 1973; 1 ♀ 1 ♂, same data but 29. IV. 1977; 1 ♀, Takao, 16. V. 1915; 1 ♂, Mt. Takao-san, 4. V. 1928, K. Sato; 1 ♂, Mt. Takao-san, 28. IV. 1930, K. Sato; 1 ♂, Takao, 3. V. 1931, S. Asahina; 1 ♀, Jataki, Mt. Takao-san, 5. V. 1939; 2 ♂, Takao, 26. IV. 1940, J. Yoshioka; 1 ♂, Mt. Takao-san, 24. IV. 1960, J. Yoshioka; 1 ♀, Mt. Takao-san, 1. V. 1956, Y. Kurosawa; 1 ♂, Mt. Takao-san, 16. IV. 1979, K. Akiyama; 1 ♀, Hikagezawa, Mt. Takao-san, 8. V. 1993, A. Shinohara; 1 ♂, Hikagezawa, Mt. Takao-san, 28. IV. 1973, A. Shinohara; 4 ♀, Hikagezawa, Mt. Takao-san, 20. V. 1990, A. Shinohara. **Kanagawa Pref.:** 1 ♀ 1 ♂, Yokohama, 30. IV. 1928, K. Sato; 1 ♀, Yokohama, 25. IV. 1925, S. Fujii; 1 ♂, Negishi, Yokohama, 18. IV. 1930, K. Sato; 1 ♀, Baba-cho, Yokohama, 25. IV. 1954, K. Sato; 1 ♀, Hakone-Yumoto, 4. V. 1930, K. Sato; 1 ♀, Kamonomiya, Odawara, 30. IV. 1971, H. Kachi; 1 ♀, Mt. Koubou-san, 20. V. 1984, H. Masuura; 1 ♀, Tsukui-ko, 28. IV. 1984, A. Shinohara; 1 ♂, Hiyoshi, 17. IV. 1971, A. Shinohara. **Yamanashi Pref.:** 2 ♀ 6 ♂, Utsukushinomori, 1500–1700m, Yatsugatake Mts., 5–8. VI. 2000, A. Shinohara; 1 ♀ 2 ♂, Kawaguchi-ko, 22. VI. 2003, A. Shinohara; 1 ♀, Kawaguchi-ko, 29. V. 1977, A. Shinohara; 1 ♀, Kawaguchi-ko, 28. V. 1978, A. Shinohara; 1 ♀, Aokigahara, 27. V. 1978, N. Matsuba; 1 ♀, Aokigahara, 27. V. 1978, A. Shinohara; 1 ♀, Hikawarindo, Daibosatsu, 9. VI. 1986, Y. Kurosawa; 1 ♀, Otome-Kogen, Makioka-cho, 5. VI. 1987, H. Yamazaki; 1 ♂, Yamanashi, Makioka, near Kinpo-onsen, 3. VI. 2009, H. Hara; 1 ♀, Kanayama-daira, Sudama-machi, 20. VI. 1993, T. Horiguchi; 1 ♀, Daibosatsu-toge, 27–28.

- VII. 1981, T. Niisato; 1 ♂, Toshima, nr. Fujinomiya, 4. V. 1977, A. Shinohara; 1 ♀, Mitsutoge, 28. V. 1977, A. Shinohara. **Shizuoka Pref.:** 1 ♀ 2 ♂, Kawazu, Izu, 13. IV. 1928, K. Sato; 3 ♀, Iwamoto, 8. V. 1931, S. Fujii; 1 ♀ 1 ♂, Komyo-san, 16. IV. 1951, J. Minamikawa; 1 ♂, Kanaya, 17. IV. 1950, J. Sonan; 1 ♀, Awakura (Tenshokyo, 1000m), Fujinomiya, 25. V. 1989, H. Ishikawa; 1 ♀, Awakura (Tenshokyo, 600m), Fujinomiya, 31. V. 1988, H. Ishikawa; 1 ♂, Shiratsuka-rindo, Mt. Fuji-san, 22. V. 1980, A. Shinohara; 1 ♀, Fuji-rindo, 20. VII. 1982, M. Tao. **Niigata Pref.:** 1 ♀, Kamo, 31. VII. 1953, J. Yoshioka. **Nagano Pref.:** 1 ♀ 2 ♂, Niiyama-toge, 1200m, 35°46'N 136°02'E, Ina, 23–24. V. 2003, A. Shinohara; 2 ♀, Iida, Kita-Azumi, 14. V. 1977, A. Shimizu; 4 ♂, Mt. Nyugasa-yama, 1740m, Fujimi, 10. VI. 2001, Y. Nishimoto; 2 ♀, Asahi-machi, Hiraya-mura, 940m, 18. V. 2003, Y. Nishimoto; 1 ♀, Yokohatashita, Neba-mura, 700m, 12. V. 2002, Y. Nishimoto; 1 ♀, Shirahone spa, 26. VI. 1976, A. Shinohara; 1 ♂, Fujii-dani, Matsumoto, 15. V. 1984, A. Shinohara; 2 ♀, Mt. Tateshina-yama, Kasuga Bokujyo, 1. VII. 1971, R. & F. Ishikawa; 1 ♀, Nojiri-ko, 5. V. 1984, A. Shinohara; 1 ♀ 1 ♂, Togakushi, 21. VI. 1932, K. Sato; 1 ♂, Kashiwabara, 29. V. 1932, K. Sato; 1 ♀, Kashiwabara, 13. VI. 1931, H. Sugiura; 1 ♂, Toyono, 13. V. 1932, K. Sato; 1 ♀, Suwa, V. 1919; 1 ♀, Nagano, 16. V. 1932, K. Sato; 1 ♀, Obuse, 17. V. 1932, K. Sato. **Gifu Pref.:** 1 ♀, Isozawa, 560m, Kamiyahagi-cho, 29. IV. 2001, Y. Nishimoto; 1 ♀, Hagiwara, 520m, Iidabora, Kamiyahagi-cho, 4. V. 2001, Y. Nishimoto; 3 ♂, Hikagedaira, 21. V. 1979, A. Shinohara; 1 ♀, Hikagedaira, 15. VI. 1981, T. Nasu; 1 ♀, Hikagedaira, 9. VI. 1983, T. Tanabe. **Aichi Pref.:** 2 ♀, Futagawa, 4. V. 1931, S. Fujii; 1 ♀, Komazaki, 7. V. 1931, S. Fujii; 1 ♀, Hiratsuki-yama, Oonose, Inabu-cho, 6. V. 2002, Y. Nishimoto. **Mie Pref.:** 1 ♂, Ouchi-yama, 3. V. 1984, N. Shinohara. **Shiga Pref.:** 1 ♀, Azai-cho, 8. V. 1984, A. Shinohara; 1 ♀, Shiga-gun, Shiga Town, Kitakomatsu, alt. 500m N35°15'/E135°57', 3. V. 2003, H. Yoshida. **Kyoto Pref.:** 1 ♂, Kibune, 20. IV. 1930, C. Teranishi. **Wakayama Pref.:** 1 ♀, Hashimoto City, Yagurawaki, alt. 300m, N34°22'/E135°36', 13. V. 2006, H. Yoshida. **Nara Pref.:** 1 ♀, Ikoma City, Haginodai, alt. 120m, N34°39'/E135°42', 5. V. 2001, H. Yoshida. **Osaka Pref.:** 1 ♀, Higashi-osaka City, Mt. Ikoma-yama, alt. 600m, N34°41'/E135°40', 5. V. 2003, H. Yoshida; 1 ♀ 1 ♂, Higashi-osaka City, Mt. Ikoma-yama, alt. 600m, N34°41'/E135°40', 29. IV. 2005, H. Yoshida; 1 ♀ 1 ♂, Minoo, 25. IV. 1982, H. Nishida; 1 ♀, Minoo, 10. V. 1979, N. Yashiro; 2 ♂, Minoo, 21. IV. 1979, A. Shinohara; 1 ♀, Minomo, 18. V. 1941, K. Iwata; 1 ♀ 3 ♂, Minoh City, Saigahara, alt. 300m, N34°51'/E135°28', 30. IV. 2005, H. Yoshida; 1 ♀, Minoh City, Simo-todoromi, alt. 160m, N34°52'/E135°27', 3. V. 1999, H. Yoshida; 1 ♀, Minoh City, Minoh Riv. Dam, alt. 350m, N34°51'/E135°28', 4. V. 2001, H. Yoshida; 1 ♀ 1 ♂, Takatsuki City, Kanmaki, alt. 5m, N34°52'/E135°40', 15. IV. 1999, H. Yoshida; 1 ♀, Tanabe City, Inari-cho, Hikiiwagun-kita, alt. 150m, N33°45'/E135°22', 29. IV. 2004, H. Yoshida; 1 ♂, Kairazuka City, Baba, alt. 100m, N34°23'/E135°23', 29. IV. 2009, H. Yoshida; 1 ♀, Ibaraki City, Kuwanohara, alt. 80m, N34°51'/E135°33', 12. V. 1996, H. Yoshida; 1 ♀, Hirakata City, Hotani, alt. 250m, N34°47'/E135°43', 17. IV. 2005, H. Yoshida; 1 ♀, Kawanishi-shi, Sasabe, 2. V. 1981, A. Shinohara; 3 ♀, Takarazuka City, Takedao, alt. 450m, N34°45'/E135°18', 2. V. 2004, H. Yoshida; 3 ♀ 1 ♂, Kobe City, Nishi-ku, Oshibedani-cho, Kidu, alt. 150m, N34°45'/E135°05', 28. IV. 2012, H. Yoshida; 4 ♂, Kobe City, Hyogo-ku, Karasuhara-cho, alt. 100m, N34°41'/E135°08', 28. IV. 2013, H. Yoshida; 1 ♀ 1 ♂, Kobe City, Nada-ku, Mt. Rokko, alt. 100m, N34°41'/E135°14', 27. IV. 2002, H. Yoshida; 9 ♂, Kobe City, Kita-ku, Yamada-cho, Oubu, alt. 400m, N34°44'/E135°10', 27. IV. 2013, H. Yoshida; 1 ♀, Kobe City, Kita-ku, Yamada-cho, Aina, alt. 250m, N34°44'/E135°07', 3. V. 2001, H. Yoshida; 1 ♀, same data but 25. IV. 2004; 1 ♀ 1 ♂, same data but 3. V. 2006; 1 ♀, Arima, 31. V. 1929, C. Teranishi; 1 ♀ 1 ♂, Himeji City, Aboshi-ku, Okinohama, alt. 2m, N34°47'/E134°34', 11. IV. 1999, H. Yoshida; 1 ♀ 2 ♂, Tatsuno City, Shinzaike, Ibo river, alt. 15m, N34°50'/134°31', 29. IV. 2012, H. Yoshida; 2 ♂, Tatsuno City, Ibo-cho, Imaichi, Ibo river, alt. 10m, N34°49'/E134°32', 3. V. 2011, H. Yoshida; 2 ♀, Akasai-keikoku, Haga-cho, 20–23. V. 1999, A. Shinohara; 1 ♀, Sayo Town, Funakoshi, alt. 230m, N35°05'/E134°25', 15. V. 2011, H. Yoshida. **Okayama Pref.:** 6 ♀, Wake Town, Hara, alt. 15m, N34°47'/E134°08', 15. V. 2013, H. Yoshida; 1 ♀, Tamagashi, 34°43'N133°58'E, 2–4. V. 2005, A. Shinohara; 1 ♀, Kurashiki City, Kojimahieda-cho, alt. 35m, N34°29'/E133°48', 24. IV. 2000, H. Yoshida; 5 ♀ 7 ♂, Mimasaka City, Imaoka, alt. 220m, N35°06'/E134°19', 3. V. 2013, H. Yoshida. **Tottori Pref.:** 1 ♀, Yokotemichi, 1000m w. slope of Mt. Daisen, 20–25. V. 2000, A. Shinohara. **Shimane Pref.:** 1 ♀ 2 ♂, Kousa, 15. IV. 1953, J. Yoshioka. **Yamaguchi Pref.:** 1 ♀, Hagi, 17. V. 1932, J. Yoshioka; 1 ♂, Hagi, 20. V., J. Yoshioka; 5 ♂, Hagi, 20. IV. 1953, J. Yoshioka; 1 ♀ 1 ♂, Hagi, 28. IV. 1953, J. Yoshioka; 2 ♂, Konishimi, Hagi, 17. IV. 1958, J. Yoshioka; 2 ♀ 2 ♂, Yamaguchi, 23. IV. 1953, J. Yoshioka; 1 ♀, Yamaguchi, 26. IV. 1953, J. Yoshioka; 2 ♀, Yamaguchi, 4. V. 1953, J. Yoshioka; 5 ♀ 5 ♂, Ajisu, 27. IV. 1953, J. Yoshioka; 2 ♀ 3 ♂, Tokusa, 6. V. 1953, J. Yoshioka; 1 ♀ 1 ♂, Tokusa, 9. V. 1953, J. Yoshioka; 3 ♂, Jihuku, 6. V. 1953, J. Yoshioka; 1 ♀, Kibe, Ube-shi, 13. V. 1953, J. Yoshioka; 1 ♀, same data but 15. V. 1953; 3 ♀, same data but 19. V. 1953; 1 ♀ 1 ♂, same data but 20. V. 1953; 1 ♀, Jakuchi-kyo, 11. V. 1983, H. Nishida; 1 ♀, Iwakuni, 18. V. 1928, K. Sato; 1 ♀, Ogouri, 28. IV. 1953, J. Yoshioka; 2 ♂, Shimonoseki, 1. V. 1931, K. Sato.

SHIKOKU—Tokushima Pref.: 3 ♀ 12 ♂, Naruto City, Oasa-cho, Hinoki, alt. 50m, N34°16'/E134°50', 4. IV. 2013, H. Yoshida; 2 ♂, Awa City, Yoshino-cho, Saijo, Yoshino river, alt. 10m, N34°05'/E134°22', 5. IV. 2007, H. Yoshida; 1 ♀ 1 ♂, Mino-cho, 27. IV. 1987, A. Shinohara; 3 ♀, Mino-cho, 28. IV. 1987, A. Shinohara. **Ehime Pref.:** 1 ♀ 4 ♂, Mt. Takanawa-yama, 950m, Houjo-shi, 7. V. 2005, A. Shinohara. **Kochi Pref.:** 3 ♀, Ryugado, 5. IV. 1955, M. Yamanaka. **KYUSHU—Nagasaki Pref.:** 1 ♀, Fukukoshi, Unzen, 16. V. 1997, A. Shinohara. **Oita Pref.:** 1 ♀ 1 ♂, Kitakitsuki, 27. IV. 1928, C. Teranishi; 1 ♀ 1 ♂, Shigeoka, 29. IV. 1928, C. Teranishi; 1 ♀, Makiguchi, 13. V. 1932, H. Sugiura; 2 ♀ 4 ♂, Mt. Kuro-dake, Kuju, 16–24. V. 1986, A. Shinohara; 4 ♀, Mt. Kuro-dake, 900–1100m, Kuju-san Mts., 18–19. V. 1997, A. Shinohara. **Kumamoto Pref.:** 4 ♀ 1 ♂, Mt. Kura-dake, ca. 1000m, 17. V. 1997, A. Shinohara; 1 ♀ 1 ♂, Shimoyabe, 15. IV. 1926, K. Sato; 1 ♀ 2 ♂, Yatsushiro, 5. IV. 1924, K. Sato; 3 ♀, Kumamoto, 12. IV. 1956, K. Sato; 1 ♀ 1 ♂, Kumamoto, 15. IV. 1956, K. Sato. **Miyazaki Pref.:** 1 ♀ 1 ♂, Miyazaki, 2. IV. 1924, K. Sato; 1 ♀, Aoshima, 28. IV. 1928, C. Teranishi. **Kagoshima Pref.:** 1 ♀, Airocho, Kimotsuki-gun, 11. V. 1980, H. Nagase. **LOCALITY UNDETERMINED:** 1 ♂, Goshiki, 22. V. 1960, J. Yoshioka; 1 ♀, Goshiki, 24. V. 1960, J. Yoshioka; 1 ♂, Goshiki, 25. V. 1960, J. Yoshioka; 1 ♀, Goshiki, 15. VII. 1960, J. Yoshioka; 1 ♂, Kurata, Satonoyama, 26. IV. 1953. **NORTH KOREA:** 1 ♀, “Senpo [= Sepo, Kangwon-do], 5. VIII. 1933, K. Sato”. **KOREA:** 1 ♀ 1 ♂, Suigen [= Suwon, Gyeonggi-do], 29. IV. 1924, K. Sato; 3 ♀, same data but 20. V. 1926; 1 ♂, same data but 21. V. 1926; 1 ♀, same data but 25. IV. 1929; 1 ♀, same data but 5. V. 1931; 2 ♂, same data but 18. IV. 1938; 2 ♀ 3 ♂, same data but 20. IV. 1938; 1 ♂, same data but 23. IV. 1938; 1 ♀ 1 ♂, Torai [= Dongnae, Busan], 2. V. 1931, H. Sugiura.

Macrophya crassuliformis Forsius, 1925

JAPAN: HONSHU—Yamanashi Pref.: 3 ♀, Masutomi, 29. VI. 1958, K. Sato. **Nagano Pref.:** 1 ♂, Mt. Nyugasa-yama, 26. VI. 1988, R. Inomata (MNHAH); 2 ♂, Mt. Nyugasa-yama, 18. VI. 1989, R. Inomata (MNHAH); 1 ♂, Mt. Nyugasa-yama, 5. VII. 1992, Y. Nishimoto; 1 ♀, Karuizawa, 29. VI. 1969, A. Shinohara; 2 ♀, Togakushi, 20. VI. 1932, K. Sato; 1 ♀, [no detailed locality], 12. VI. 1932, Y. Nakajima. **Gifu Pref.:** 1 ♀, Hikagedaira, 12. VI. 1980, E. Nishida; 1 ♀, Hikagedaira, 16. VI. 1982, H. Nishida. **Fukui Pref.:** 2 ♀, Hatogayu, 7. VI. 1989, Y. Nishimoto. **Kyoto Pref.:** 1 ♀, Ashiu, 1–2. VI. 1974, K. Mizuno. **Hyogo Pref.:** 5 ♂, Mt. Hakusan, 29. IV. 1961, R. Inomata (MNHAH). **NORTH KOREA:** 3 ♀, “Sanbo [= Sambang, Sepho-kun, Kangwon-do], Chosen, 21-V-1935, coll. K. Sato”.

Macrophya duodecimpunctata sodalitia Mocsáry, 1909

JAPAN: HOKKAIDO— 1 ♀, Yamada-onsen, 800–1000m, Tokachi, 11. VII. 1998, A. Shinohara; 1 ♀, Nakasatsunai, Tokachi, 19. VI. 2001, A. Shinohara. **HONSHU—Aomori Pref.:** 1 ♀, Sukayu-Sarukura, 23–24. VI. 1987, A. Shinohara. **Tochigi Pref.:** 2 ♀, Kotoku-Yumoto, Nikko, 18. VI. 1972, A. Shinohara; 1 ♀, Chuzenji, Nikko, 16. VI. 1974, A. Shinohara. **Gunma Pref.:** 1 ♀, Ozegahara, 10. VII. 1979, M. Tomokuni. **Niigata Pref.:** 1 ♀, Sasagamine, Mt. Myoko-zan, 31. VII. 1983, H. Itami. **Yamanashi Pref.:** 2 ♀, Daibosatsu-toge, 27–28. VII. 1981, T. Niisato; 1 ♀, Kiyosato, Yatsugatake Mts., 17–19. VI. 1999, A. Shinohara. **Nagano Pref.:** 1 ♀, Togakushi, 20. VI. 1932, K. Sato. **RUSSIA: SAKHALIN—** 1 ♀, “Karafuto, coll. M. Yano”. **NORTH KOREA:** 3 ♀, “Sharei [= Charyeong, Hamgyeongbuk-do], Korea, 19. VII. 1931, K. Sato”.

Macrophya enslini Forsius, 1925

JAPAN: HONSHU—Osaka Pref.: 1 ♀, “Mt. Mino”, 8. VI. 1929, C. Teranishi; 1 ♀ 1 ♂, “Mino”, 11. VI. 1930, C. Teranishi. **Hyogo Pref.:** 2 ♀ 2 ♂, Arima, 17. V. 1928, K. Sato; 5 ♀, Arima, 31. V. 1929, C. Teranishi; 1 ♀, Nagamine, 21. V. 1983, Y. Nishimoto; 1 ♀, Mayasan, 28. V. 1989, Y. Nishimoto.

Macrophya esakii (Takeuchi, 1923)

JAPAN: HOKKAIDO— 1 ♀, Akkeshi, Kushiro, 19. VII. 2002, A. Shinohara; 1 ♀, Daisetsu-zan, 4. VII. 1940, J. Yoshioka; 1 ♂, Asahidake-onsen, Daisetsu-zan Mts., Kamikawa, 14. VII. 1998, A. Shinohara; 1 ♀, Aizankei, Daisetsu-zan Mts., Kamikawa, 20. VII. 1974, A. Shinohara; 1 ♂, Sounkyo, 19. VI. 1938, K. Sato; 1 ♂, Asahikawa, 17. VI. 1938, K. Sato; 1 ♀, Horoka-onsen, Tokachi, 10. VII. 1980, A. Shinohara; 1 ♀, Shikaribetsu-ko, 26. VII. 1931, C. Watanabe; 1 ♀, Kurisawa, Manji, 7–21. VIII. 2003, Malaise trap; 1 ♀ 1 ♂, Noppo, 18. VII. 1928, K. Sato; 1 ♀, Jozankei, 5. VIII. 1940, J. Yoshioka. **HONSHU—Tochigi Pref.:** 1 ♀, Nikko-Yumoto, 1700m, 5. IX. 1999, A. Shinohara. **Tokyo Met.:** 1 ♀, Mt. Tenzozan, nr. Nippara, 12. VIII. 1977, Y. Kurosawa. **Gunma Pref.:** 2 ♀, Houshi, 3. VIII. 1953, J. Yoshioka; 1 ♀, Houshi, 6. VIII. 1953, J. Yoshioka; 1 ♀, Houshi, 9. VIII. 1953, J. Yoshioka. **Yamanashi Pref.:** 1 ♀, Masutomi, VIII. 1918, J. Yoshioka; 1 ♀, Utsukushinomori, Yatsugatake Mts., 17. VII. 1977, N. Matsuba; 4 ♀, Sagashio, 25. VII. 1957, K. Sato; 1 ♀, Hirogawara, S. Alps, 9. VIII. 1988, A. Shinohara. **Nagano Pref.:** 1 ♀, Nagano, Y. Nakajima; 1 ♂, Nagano, 14. VIII. 1931, Y. Nakajima; 1 ♀, Nagano, 4. VI. 1933, Y. Nakajima; 2 ♀, Togakushi, 29. VI. 1932, K. Sato; 1 ♀, Shiga, 18. VII. 1958, J. Yoshioka; 1 ♀, Makuiwa, 1150m, Shiga-kogen, 7–9. VII. 1996, A. & T. Shinohara; 5 ♀ 1 ♂, Mt. Nyugasa-yama, 22–24. VII. 1991, Y. Nishimoto; 2 ♀, same

data but 24. VII. 1992; 13 ♀, Mt. Nyugasa-yama, 1100 m, Fujimi, 5. VII. 1992, Y. Nishimoto; 2 ♀, same data but 10. VIII. 1992; 2 ♀, Mt. Nyugasa-yama, 1900 m, Fujimi, 13. VIII. 1993, Y. Nishimoto; 1 ♀ 1 ♂, Yatsugatake, 23. VII. 1970, A. Shinohara; 1 ♀, Minoto, Yatsugatake Mts., 24–26. VII. 1980, A. Shinohara; 1 ♀, Minoto, 2000 m, Yatsugatake Mts., 3. VIII. 1984, A. Shinohara; 2 ♀, Minoto, 1800 m, Yatsugatake Mts., 29. VII–3. VIII. 1986, A. Shinohara; 1 ♀, same data but 4–8. VIII. 1987; 23 ♀ 3 ♂, Minoto, 1850 m, Yatsugatake Mts., 23–26. VII. 1996, A. Shinohara; 3 ♀, same data but 31. VII. 1997; 3 ♀, same data but 2. VIII. 1997; 2 ♀ 1 ♂, same data but 27–31. VII. 1999; 5 ♀, same data but 25–29. VII. 2000; 1 ♀, Minoto, Yatsugatake Mts., 1750–2000 m, 35°59'N 138°20'E, 27–28. VII. 2006, A. Shinohara; 1 ♀, Karasawa-kosen, Yatsugatake Mts. 1700 m, 26–27. VII. 2001, A. Shinohara; 2 ♀, Shibunoyu, Yatsugatake Mts., 4–5. VII. 1978, A. Shinohara; 4 ♀, Mongakudaira, Tateshina, 21–24. VIII. 1992, A. & T. Shinohara; 1 ♀, Tenshojihara, Tateshina, 29. VII. 1972, A. Shinohara; 1 ♂, Kasuga Bokujo, Mt. Tateshina-yama, 1. VII. 1971, R. & F. Ishikawa; 3 ♀, Shimashima, 3. IX. 1928, K. Sato; 1 ♀, Shimashima, 19. VII. 1938; 3 ♀ 1 ♂, Shimashima-dani, 1700 m, 28–29. VI. 1976, A. Shinohara; 2 ♂, Shimashima-dani, 1100 m, 30. VI. 1976, A. Shinohara; 1 ♂, Tokugo-toge, 27. VII. 1976, A. Shinohara; 1 ♀, Kamikochi, 21. VI. 1915; 1 ♀, Kamikochi, 10. VII. 1919, K. Sato; 1 ♀ 3 ♂, Kamikochi, 17. VII. 1927, K. Sato; 1 ♀ 1 ♂, Tokusawa, Kamikochi, 4–6. VII. 1989, A. Shinohara; 1 ♀, Yarisawa, Kamikochi, 1600–1900 m, 30. VII. 1990, A. Shinohara; 1 ♂, Mibugawa, 1400 m, Ooshikamura, 18. VI. 1994, Y. Nishimoto. **NARA Pref.:** 1 ♀, Mt. Misen, Ohmine-san Mts., 12. VII. 1981, K. Mizuno; 1 ♂, Mt. Misen, Ohmine-san Mts., 12. VII. 1987, K. Mizuno. **SHIKOKU: Tokushima Pref.:** 1 ♀, Mt. Tsurugisan, 28–30. VII. 1973, K. Mizuno. **RUSSIA: SAKHALIN—** 2 ♀, “Karafuto, M. Yano”.

Macrophya falsifica Mocsáry, 1909

JAPAN: HONSHU— Chiba Pref.: 1 ♀, Nagaura, Sodegaura, 27. IV. 2002, E. Ishitani; 1 ♀, same data but 28. IV. 2002. **Tokyo Met.:** 1 ♂, Otakinagare, Fukiagegoen, Imperial Place, 17–24. V. 2011, Malaise Trap; 1 ♀, Meguro, 25. V. 1934, K. Sato; 1 ♀, Asakawa, IV. 1936, M. Ikuno; 1 ♀, Mt. Takao-san, 3. V. 1959, K. Sato; 4 ♀ 2 ♂, [no detailed locality], M. Yano; 2 ♀, [no detailed locality], 11. V. 1934, ? Sawada. **Yamanashi Pref.:** 1 ♀, Mt. Fuji-san, 27. VII. 1986, K. Mizuno; 1 ♀, Tarobo, Mt. Fuji-san, 1280 m, 2. VIII. 1974, R. Ishikawa & A. Shinohara; 1 ♀, “Kuradake, Koosyu”, 12. VI. 1932, S. Asahina; 1 ♀, Oishi-Toge, Mt. Tateshina-yama, 19. VII. 1980, K. Mizuno. **Shizuoka Pref.:** 1 ♀, Mt. Ryuso, 30. V. 1954, J. Minamikawa. **Nagano Pref.:** 1 ♀, Suwa, V. 1919, M. Yano; 2 ♀, Nagano, 28. VI. 1931, Y. Naka-

jima. **Kyoto Pref.:** 1 ♀, Ashiu, 23. VI. 1974, K. Mizuno; 1 ♀, Ashiu, 3. VII. 1975, K. Mizuno; 1 ♀ 1 ♂, Ashiu, 26. VI. 1988, K. Mizuno; 1 ♀, Ashiu, 27. VI. 1993, K. Mizuno; 1 ♂, Hanase, 23. V. 1982, T. Ikeda; 3 ♀, Kohataike, Uji-shi, 13. V. 1995, K. Mizuno. **Osaka Pref.:** 1 ♀, Shiromi, 5 m alt., N34°41'/E135°31', Chuo-ku, 1. VII. 2000, H. Yoshida; 1 ♀, same data but 19. V. 2002; 2 ♂, same data but 25. V. 2011; 3 ♀, same data but 25. V. 2011; 5 ♂, same data but 1. V. 2013; 21 ♀, same data but 1. V. 2013; 1 ♀, Mt. Mino, 8. VI. 1929, C. Teranishi; 1 ♀, Mino, 11. VI. 1930, C. Teranishi; 1 ♂, Hatsutani, 5. V. 1991, Y. Nishimoto; 2 ♀ 1 ♂, same data but 18. V. 1991. **Hyogo Pref.:** 2 ♀ 1 ♂, Nagamine, 20. V. 1983, Y. Nishimoto; 2 ♀ 3 ♂, same data but 21. V. 1983; 1 ♀, same data but 31. V. 1983; 3 ♂, same data but 3. VI. 1983; 3 ♀, same data but 18. VI. 1983; 1 ♂, Sumiyoshi, 21. V. 1983, Y. Nishimoto; 1 ♂, Sumiyoshidai, 2. VI. 1983, Y. Nishimoto; 1 ♂, Sumiyoshidai, 3. VI. 1983, Y. Nishimoto; 1 ♀, Tounomachi, Takarazuka, 1. V. 1993, Y. Nishimoto; 1 ♀, Toriwaki, 6. V. 1991, Y. Nishimoto; 3 ♀, Mt. Myoken, SW, 400–500 m, Kawanishi, 5. VI. 1994, Y. Nishikawa; 5 ♀ 1 ♂, Arima, 31. V. 1929, C. Teranishi; 1 ♀, Yumeno, 1. V. 1939, “K. M.”. **Yamaguchi Pref.:** 2 ♀, Hagi, 21. V. 1953, J. Yoshioka; 1 ♀, same data but 27. V. 1953.

Macrophya fascipennis Takeuchi, 1933

JAPAN: HONSHU— Iwate Pref.: 1 ♀, Urobetsu, Oohasama-machi, 3. VI. 2001, U. Jinbo. **Ibaraki Pref.:** 1 ♀, Fukuroda, 11. VI. 1942, J. Yoshioka. **Chiba Pref.:** 1 ♀, Mabashi, 23. V. 1937, J. Yoshioka; 1 ♀, Mabashi, 12. V. 1960, J. Yoshioka. **Tokyo Met.:** 1 ♀, Mt. Takaozan, 3. VI. 1933, K. Sato. **Kanagawa Pref.:** 1 ♀, Yokohama, 29. IV. 1959, K. Sato; 1 ♀, Hakone, 21. V. 1959, K. Sato. **Yamanashi Pref.:** 1 ♀, Mt. Mitsu-toge, 30. VII. 1981, Y. Kurosawa. **Nagano Pref.:** 1 ♀, Karuizawa, 28. VI. 1934, K. Sato. **Shiga Pref.:** 1 ♀, Kitakomatsu, 500 m, 35°15'N 135°57'E, 3. V. 2003, H. Yoshida; 1 ♀, Mt. Hirasano, VI. 1929, C. Teranishi. **Kyoto Pref.:** 1 ♀, Ashiu, 3. VII. 1976, K. Mizuno. **Osaka Pref.:** 1 ♀, Mt. Minozan, 8. VI. 1929, C. Teranishi; 1 ♀, Mino, 31. V. 1930, C. Teranishi. **Hyogo Pref.:** 1 ♀, Mt. Rokko, 700 m, 34°45'N 135°14'E, 3. VI. 2001, H. Yoshida; 1 ♀, Arima, 250 m, Kobe, 34°44'N 135°07'E, 3. VI. 2001, H. Yoshida; 3 ♀ 1 ♂, Arima, 31. V. 1929, C. Teranishi. **Tottori Pref.:** 1 ♀, Yokotemichi, 1000 m, Mt. Daisen, 25–29. V. 2001, A. Shinohara. **SHIKOKU— Ehime Pref.:** 1 ♀, Mt. Ishizuchi, 18. VI. 1978, N. Yashiro. **KYUSHU— Oita Pref.:** 1 ♀, Kuju, 20. V. 1932, H. Sugiura. **Kumamoto Pref.:** 4 ♀ 1 ♂, Mt. Kura-dake, 1000 m, 17. V. 1997, A. Shinohara. **Nagasaki Pref.:** 1 ♀, Mt. Gokahara-dake, 1050 m, Tara-dake Mts., 16. V. 1997, A. Shinohara. **Kagoshima Pref.:** 1 ♀, Mt. Awano-dake, 5. V. 1954, Sakamoto.

Macrophya forsiusi Takeuchi, 1937

JAPAN: HOKKAIDO— 1 ♀, Shintoku, Tokachi, 5. VI. 2012, H. Hara. **HONSHU**— **Tochigi Pref.:** 1 ♀, Ouchi, 5–7. V. 1994, A. & T. Shinohara. **Ibaraki Pref.:** 1 ♀, Komenoi, Toride, 8. V. 1993, H. Hamaji. **Gunma Pref.:** 1 ♀, Ozegahara, 10. VII. 1979, M. Tomokuni. **Chiba Pref.:** 2 ♂, Abiko, 19. V. 1937, J. Yoshioka. **Saitama Pref.:** 1 ♀, Akigase, 25. IV. 1977, A. Shinohara; 2 ♂, Shiki, 25. IV. 1971, A. Shinohara. **Tokyo Met.:** 1 ♂, Kamiange, Mt. Jinba, 4. V. 1974, A. Shinohara; 1 ♀ 9 ♂, Otakinagare, Fukiage-gyoen, Imperial Palace, Chiyoda, 14–26. IV. 2011, Malaise trap; 1 ♀, same data but 26. IV–4. V. 20; 1 ♀, Kinuta, Setagaya, 10. IV. 1959, Y. Kurosawa; 1 ♀, Hikagezawa, Mt. Takao, 19. IV. 1973, A. Shinohara; 1 ♀, Mt. Takao, 23. IV. 1919, K. Sato. **Kanagawa Pref.:** 1 ♀, Yokohama, 30. IV. 1929, S. Fujii; 1 ♀, Yokohama, 28. IV. 1930, S. Fujii; 2 ♀, Yokohama, 8. V. 1933, K. Sato; 1 ♀, Nagatsuda, 4. V. 1933, K. Sato. **Yamanashi Pref.:** 1 ♀, Daibosatsu, 24. VI. 1979, T. Misato; 1 ♀, Kawaguchi-ko, 28. V. 1978, A. Shinohara; 1 ♀, Saruhashi, Otsuki, 16–18. V. 1990, M. Kimura. **Shizuoka Pref.:** 3 ♂, Kawazu, Izu, 13. IV. 1928, K. Sato. **Nagano Pref.:** 1 ♀ 1 ♂, Kappabashi-Myojin, 1500 m, Kamikochi, 21–23. VI. 1989, A. Shinohara; 1 ♂, Obuse, 15. V. 1932, K. Sato; 1 ♀, Togakushi, 20. VI. 1932, K. Sato. **Gifu Pref.:** 1 ♂, Hikagedaira, 19. V. 1979, A. Shinohara; 1 ♀, Hikagedaira, 12. VI. 1980, E. Nishida; 1 ♂, Hikagedaira, 30. V. 1981, S. Hashimoto; 1 ♀, Hikagedaira, 16. VI. 1982, H. Nishida. **Wakayama Pref.:** 4 ♂, Takada, 17. IV. 1992, Y. Nishimoto. **SHIKOKU**— **Ehime Pref.:** 1 ♂, Mt. Takanawayama, Houjo-shi, 950 m, 7. V. 2005, A. Shinohara.

Macrophya harai Shinohara & Li, 2015

JAPAN: HOKKAIDO— 2 ♀, Jozankei, 16. VII. 1959, K. Sato; 1 ♂, Nissho-toge, 1100 m, Hidaka Mts., 25. VI. 2004, H. Hara. **HONSHU**— **Nagano Pref.:** 2 ♀, Shimashima, 13. VII. 1928, K. Sato; 1 ♀, Tokugo-toge, 19. VII. 1915. **Dark-colored specimens: HOKKAIDO**— 2 ♀, Nakayama-toge, Shiribeshi, 25. VI. 1995, A. Shinohara; 3 ♀, Shikotsu-ko, Ishikari, Malaise trap, 4–18. VIII. 1996, Y. Nagayasu; 1 ♀, Kurisawa, Manji, 23. VII. –7. VIII. 2003, Malaise trap. **HONSHU**— **Tochigi Pref.:** 1 ♀, Kawamata, 6. VI. 1973, A. Shinohara. **Kanagawa Pref.:** 1 ♀, Mikuni-toge, 1100 m, Yamakita, 9. VI. 2002, H. Nagase. **Yamanashi Pref.:** 1 ♀, Kiyosato, Yatsugatake Mts., 17–19. VI. 1999, A. Shinohara. **Fukui Pref.:** 1 ♀, Hatogayu, 7. VI. 1989, Y. Nishimoto. **Hyogo Pref.:** 1 ♀, Hyonosen, Mikata-gun, 4. VII. 1992, T. Ikeda (KU).

Macrophya imitator Takeuchi, 1937

JAPAN: HOKKAIDO— 1 ♀ 1 ♂, Asahidake-onsen, 1050 m, Daisetsu-zan Mts., Kamikawa, 15. VII. 1997, A.

Shinohara; 1 ♀, same data but 14. VII. 1998; 2 ♀, same data but 16. VII. 2002; 1 ♂, Asahikawa, 17. VI. 1938, K. Sato; 3 ♂, Mikasa, Tomatsu, 23. VII.–8. VIII. 2003, Malaise trap; 2 ♀, Bibai, Koshunai, 12–22. VII. 2002, Malaise trap; 2 ♀, Kurisawa, Manji, 7–21. VIII. 2003, Malaise trap; 1 ♀, Kurisawa, Manji, 23. VII.–7. VIII. 2003, Malaise trap; 2 ♀, Sapporo, 27. VII. 1928, K. Sato; 1 ♀, Sapporo, VI. 1923, C. Teranishi; 1 ♀ 1 ♂, Garugawa, 22. VII. 1928, K. Sato; 1 ♀, Nakayama-toge, 800 m, Shiribeshi, 14. VII. 1997, A. Shinohara; 1 ♀ 1 ♂, same data but 17. VII. 2001. **HONSHU**— **Iwate Pref.:** 4 ♀, Matsukusa, 19. VIII. 1931, K. Sato; 1 ♀, Take, foot of Mt. Hayachine, 13. VII. 1967, R. Ishikawa. **Miyagi Pref.:** 1 ♂, Sainogawara, Zao-san Mts., 23. VII. 1976, A. Shinohara. **Fukushima Pref.:** 1 ♀, Mt. Azuma-san, 19. VII. 1959, K. Sato; 1 ♀, Mt. Bandai-san, 28. VIII. 1940, J. Yoshioka. **Tochigi Pref.:** 2 ♀, Kensetsu-daira, Oku-Nikko, 26. VII. 1981, H. Itami. **Gunma Pref.:** 1 ♀, Mt. Haruna-san, 28. VI. 1981, S. Tsuyuki. **Yamanashi Pref.:** 1 ♀, “Yamanashi-ken”, 22. VIII. 1955, M. Fujita; 1 ♀, Aokikosen–Houougoya, 25–27. VII. 1987, K. Mizuno; 1 ♀ 1 ♂, Sagashio, 25. VII. 1957, K. Sato; 1 ♀, Masutomi, 28. VI. 1958, K. Sato; 1 ♀, Subaru-rando, 1000 m, N. slope of Mt. Fuji, 25–26. VI. 1981, Y. Kurosawa; 1 ♂, Fuji-rindo, 11. VII. 1976, K. Kimura. **Niigata Pref.:** 2 ♀ 1 ♂, Sasagamine, Mt. Myoko-zan, 8–9. VIII. 1973, A. Shinohara. **Nagano Pref.:** 1 ♀, Shimashima, 24. VII. 1915; 3 ♀ 1 ♂, Shimashima, 13. VII. 1928, K. Sato; 1 ♀, Shimashima, 3. IX. 1928, K. Sato; 2 ♀, Shimashima, 18. VII. 1938; 2 ♂, Kamikochi, 10. VII. 1919, K. Sato; 1 ♀, Shiga, 18. VII. 1960, J. Yoshioka; 1 ♀, Ishinoyu, 1600 m, Shiga-kogen, 9. VIII. 2002, A. Shinohara; 2 ♀, Ichinomata, 1700 m, Azumi-mura, 31. VII. 1989, S. Shinonaga; 5 ♀, Yarisawa, 1600–1900 m, Kamikochi, 18–22. VII. 1989, A. Shinohara; 1 ♀, Okumata, 1600–2000 m, Kamikochi, 4. VIII. 1990, A. Shinohara; 1 ♀, Karasawa, 2100–2500 m, Kamikochi, 1–3. VIII. 1990, A. Shinohara; 10 ♀ 2 ♂, Mt. Nyugasa-yama, 23–24. VII. 1991, Y. Nishimoto; 2 ♀ 9 ♂, Mt. Nyugasa-yama, 1700 m, 5. VII. 1992, Y. Nishimoto; 6 ♀ 1 ♂, same data but 23–24. VII. 1992; 2 ♀, Mt. Nyugasa-yama, 1100 m, 10. VIII. 1992, Y. Nishimoto; 1 ♀ 2 ♂, Mt. Nyugasa-yama, 1900 m, 27. VI. 1993, Y. Nishimoto; 8 ♀ 2 ♂, Koseto-kosen, 1100 m, Ooshika-mura, 3. VII. 1994, Y. Nishimoto; 15 ♂, Mibugawa Joryu, 1400 m, Ooshika-mura, 18. VI. 1994, Y. Nishimoto; 5 ♀ 1 ♂, Mibu-gawa Deai, 1200 m, Ooshika-mura, 16. VII. 1994, Y. Nishimoto; 2 ♂, Minamiyamasen, 1200 m, Ooshika-mura, 16. VII. 1994, Y. Nishimoto; 2 ♂, Nishi[illegible]rindo, 1100 m, Ooshika-mura, 3. VII. 1993, Y. Nishimoto; 2 ♀ 1 ♂, Yokokawa, 800 m, Tatsunomachi, 24. VII. 1993, Y. Nishimoto; 1 ♀ 5 ♂, Tanohara, Mt. Ontake-san, 22. VII. 1993, Y. Nishimoto; 5 ♀, Minoto, 1800 m, Yatsugatake Mts., 4–8. VIII. 1987, A. Shinohara; 2 ♀, same data but 4–8. VIII. 1988; 2 ♀,

same data but 6–9. VIII. 1991; 7 ♀ 2 ♂, Minoto, 1850 m, Yatsugatake Mts., 23–26. VII. 1996, A. Shinohara; 2 ♀, same data but 31. VII.–2. VIII. 1997, A. Shinohara; 3 ♀ 1 ♂, same data but 27–31. VII. 1999, A. Shinohara; 7 ♀ 4 ♂, same data but 25–29. VII. 2000, A. Shinohara; 2 ♀, Karasawa-kosen, 1700 m, 26–27. VII. 2001, A. Shinohara; 1 ♀, Mikuni-toge, Kawakami, 30. VII. 1978, K. Mizuno; 1 ♀, Kasuga Bokujo, Mt. Tateshina-yama, 1. VII. 1971, R. & F. Ishikawa; 2 ♀, Kakuma, Sanada, 14–15. VII. 1982, H. Hara; 1 ♀ 1 ♂, Shirahone-onsen, 26. VI. 1976, A. Shinohara. **Ishikawa Pref.:** 1 ♀, “Mitsudai, Ishikawa”, 23. VII. 1985, Y. Nishimoto. **RUSSIA: SAKHALIN**— 1 ♀, “Karafuto, M. Yano”. **NORTH KOREA:** 1 ♀, “Sharei [= Charyeong, Hamgyeongbukdo], 19. VII. 1931, K. Sato”.

Macrophya infumata Rohwer, 1925

JAPAN: HOKKAIDO— 1 ♂, Obako, nr. Sounkyo, Daisetsu-zan Mts., Kamikawa, 21. VI. 1997, A. Shinohara; 1 ♀, Tokachi-Mitsumata, 800 m, Tokachi, 10. VII. 1996, A. Shinohara; 1 ♂, Nukabira-onsen, 500 m, Tokachi, 28. VI. 1995, A. Shinohara; 1 ♀, Kurisawa, Manji, 7–21. VIII. 2003, Malaise trap; 1 ♂, Mikasa, Tomatsu, 23. VII.–8. VIII. 2003, Malaise trap; 1 ♂, Nopporo, 18. VII. 1928, K. Sato; 1 ♀, Nakayama-toge, 800 m, Shiribeshi, 13–15. VII. 1996, A. Shinohara; 2 ♂, Hakodate, 12. VII. 1959, K. Sato. **HONSHU**— **Nagano Pref.:** 2 ♀, Karasawa-kosen, 1700 m, Yatsugatake Mts., 26–27. VII. 2001, A. Shinohara; 1 ♂, Minoto, 1850 m, Yatsugatake Mts., 23–26. VII. 1996, A. Shinohara; 1 ♂, Kasuga-Bokujo, Mt. Tateshina-yama, 1. VII. 1971, R. & F. Ishikawa; 1 ♂, Mt. Nyugasa-yama, 24. VII. 1991, Y. Nishimoto; 2 ♂, Mt. Nyugasa-yama, Fujimi, 1700 m, 5. VII. 1992, Y. Nishimoto; 5 ♂, Kisokoma-kogen, 1400 m, 23. VII. 1993, Y. Nishimoto; 1 ♂, Kitazawa-toge, 25. VII. 1991, Y. Nishimoto; 1 ♂, Kamikochi, 17. VII. 1927, K. Sato. **RUSSIA: SAKHALIN**— 1 ♂, “Karafuto, M. Yano”.

Macrophya kisuji Togashi, 1974

JAPAN: HONSHU— **Tochigi Pref.:** 1 ♀, Nikko, 8. VII. 1914; 1 ♀, Nikko, 6. VI. 1915; 1 ♀ [paratype], Shiobara, 7. VI. 1971, S. Ibuki. **Gunma Pref.:** 1 ♀, Urayoygi, Matsuida, 15. VI. 1989, T. Matsumoto. **Tokyo Met.:** 1 ♀, Takao, 16. V. 1915; 35 ♀ 42 ♂ from Imperial Palace, Tokyo, listed by Shinohara (2014). **Yamanashi Pref.:** 1 ♂, Kiyosato, Yatsugatake Mts., 8. VI. 1974, A. Shinohara; 3 ♀, same data but 17–19. VI. 1999. **Nagano Pref.:** 1 ♂, Kashiwabara, 29. V. 1932, K. Sato; 1 ♂, Mt. Nyugasa-yama, 1900 m, Fujimi, 27. VI. 1993, Y. Nishimoto; 2 ♂, same data but 1740 m, 10. VI. 2001.

Macrophya liukuana Takeuchi, 1926

JAPAN: OKINAWA ISLAND (Kyushu, Okinawa

Pref.): 1 ♀, “Okinawa-ken, Motobu-cho, Nagataki, 2000. 3. 26, M. Kimura leg.”; 1 ♀ 2 ♂, “Okinawa Is., Ohgimi vil., Mt. Nekumachiji, 1–4. III. 1998, M. Kimura leg.”; 2 ♂, “Sueyoshi, Naha, 23. III. 1983, E. Nishida”.

Macrophya maculitibia Takeuchi, 1933

JAPAN: HOKKAIDO— 1 ♀, “Hokkaido, 1970”; 2 ♀, Rausu, Shiretoko, Nemuro, 22. VI. 1984, A. Shinohara; 1 ♂, Yoroushi-onsen, Nemuro, 19. VI. 1992, A. Shinohara & H. Hara; 2 ♂, Sounkyo, Kamikawa, 19. VI. 1938, K. Sato; 1 ♀, Obako, Sounkyo, Kamikawa, 21. VI. 1997, H. Hara; 1 ♀, Mt. Kurodake, 1500–2000 m, Daisetsu-zan Mts., Kamikawa, 11. VII. 2001, A. Shinohara; 2 ♀, Aizankei, Daisetsu-zan Mts., Kamikawa, 11–12. VII. 1972, A. Shinohara; 1 ♀ 1 ♂, same data but 6. VII. 1980; 1 ♀, same data but 25. VI. 1984; 2 ♀, Asahidake-onsen, 1050 m, 43-38-50N 142-47-27E, Daisetsu-zan Mts., Kamikawa, 23–26. VI. 1998, A. Shinohara; 3 ♀, same data but 14. VII. 1998; 1 ♀, same data but 2. VII. 2000; 1 ♀, same data but 25–28. VI. 2001; 2 ♀, same data but 25–28. VI. 2002; 1 ♀, same data but 16. VII. 2002; 2 ♀, same data but 25–28. VI. 2003; 1 ♀ 1 ♂, same data but 22–24. VI. 2008; 1 ♀, same data but 27–29. VI. 2009; 1 ♂, Horoka-onsen, 600 m, Tokachi, 21. VI. 2001, A. Shinohara; 1 ♂, same data but H. Hara; 1 ♂, Nukabira-onsen, 900 m, Tokachi, 8. VII. 1980, A. Shinohara; 1 ♀, Tokachi-Mitsumata, 800 m, 10. VII. 1996, A. Shinohara; 1 ♀, same data but 21. VI. 2001; 1 ♀ 1 ♂, Yamada-onsen, 800–1000 m, Tokachi, 22. VI. 1991, A. Shinohara; 1 ♀, same data but 7. VII. 1994; 1 ♂, same data but 19. VI. 1998; 2 ♀, same data but 11. VII. 1998; 1 ♂, Meto, Ashoro, Tokachi, 17. VI. 1992, A. Shinohara; 1 ♀, Nisho-toge, 1100 m, Hidaka Mts., 23. VI. 2004, A. Shinohara; 1 ♀, Mt. Petegari, 1200 m, Hidaka Mts., 28. VII. 1970, R. Ishikawa; 1 ♀, Kurisawa, Manji, 7–21. VIII. 2003, Malaise trap; 1 ♀, Koshunai, Bibai, 22–29. VII. 2002, Malaise trap; 1 ♀, Jozankei, 16. VII. 1959, K. Sato. **HONSHU**— **Yamagata Pref.:** 1 ♀, Mt. Gassan, 7. VIII. 1993, H. Itami. **Fukushima Pref.:** 1 ♀, Hinoemata, 30–31. VII. 1974, K. Mizuno. **Yamanashi Pref.:** 1 ♀, Sagashio, 25. VII. 1957, K. Sato. **Nagano Pref.:** 1 ♀, Minoto, 1800 m, Yatsugatake Mts., 29. VII.–3. VIII. 1986, A. Shinohara; 1 ♀, same data but 4–8. VIII. 1987; 1 ♀, same data but 1. VIII. 1997; 2 ♀ 1 ♂, Shibunoyu, Yatsugatake Mts., 4–5. VII. 1978, A. Shinohara; 1 ♀, Mt. Nyugasa-yama, 23. VII. 1991, Y. Nishimoto; 2 ♀, Mt. Nyugasa-yama, 1700 m, 5. VII. 1992, Y. Nishimoto; 2 ♀, Mt. Nyugasa-yama, 1900 m, 27. VI. 1993, Y. Nishimoto; 1 ♂, Kitazawa-toge, 25. VII. 1991, Y. Nishimoto; 1 ♀, Tanohara, Mt. Ontake-san, 22. VII. 1993, Y. Nishimoto; 1 ♀, Kisokoma-kogen, 1400 m, 23. VII. 1993, Y. Nishimoto; 1 ♀, Shiga, 16. VII. 1960, J. Yoshioka; 2 ♀ 1 ♂, Shimashima-dani, 1700 m, 28–29. VI. 1976, A. Shinohara; 1 ♂, Tokugo-toge, 27. VI. 1976, A. Shinohara; 1 ♀,

Kamikochi, 17. VII. 1927, K. Sato; 1 ♀, Kappabashi-Myojin, 1500m, Kamikochi, 21–23. VI. 1989, A. Shinohara; 2 ♀, Tokusawa, Kamikochi, 4–6. VII. 1989, A. Shinohara; 1 ♀, Tokusawa, Kamikochi, 1. VIII. 1989, S. Shinonaga; 1 ♂, Yokoo-dani, 1600–2000m, 21–23. VII. 1989, A. Shinohara; 1 ♀, Yarisawa, 1600–1900m, Kamikochi, 18–22. VII. 1989, A. Shinohara; 1 ♀, same data but 30. VII. 1990; 1 ♀, Ichinomata, 31. VII. 1989, S. Shinonaga. **SHIKOKU—Tokushima Pref.:** 2 ♀ 2 ♂, Mt. Tsurugi-san, 1730–1900m, 5. VI. 2003, T. Kurihara.

Macrophya malaisei Takeuchi, 1937

JAPAN: HOKKAIDO— 2 ♀ 1 ♂, Sapporo, 16. V. 1930, S. Fujii; 2 ♀, Sapporo, 1. VI. 1930, S. Fujii; 1 ♀ 2 ♂, Sapporo, 18. V. 1930, S. Fujii; 1 ♂, Sapporo, 14. V. 1957, K. Kamijo; 1 ♀, Hoheikyo, nr. Sapporo, 12. VI. 1979, A. Shinohara; 1 ♀, Shikotsu-ko, Tomakomai, 27. VI. 1995, H. Hara. **HONSHU—Ibaraki Pref.:** 1 ♀, Komenoi, Torida, 8. V. 1993, H. Hamaji. **Gunma Pref.:** 1 ♀, Tsumakoi-mura, 28. V. 1995, A. Shinonaga; 1 ♂, Minowa, Mt. Akagisan, 1000m, 17–20. V. 2001, A. Shinohara. **Chiba Pref.:** 3 ♀ 2 ♂, Mt. Kiyosumi, 16. IV. 1931, K. Sato; 3 ♀ 4 ♂, Tateyama, 14. IV. 1931, K. Sato; 2 ♀, Chikura, 15. IV. 1931, K. Sato; 1 ♀, Mt. Nokogiriyama, 30. IV. 1940, J. Yoshioka; 1 ♂, Abiko, 19. IV. 1937, J. Yoshioka; 1 ♀, Ichikawa, 25. IV. 1960, J. Yoshioka. **Saitama Pref.:** 1 ♀, Akgigase, Urawa, 23. IV. 1977, A. Shinohara; 1 ♀, Akgigase, Urawa, 25. IV. 1977, A. Shinohara; 1 ♀, Koma, Hidakacho, 11. V. 1996, A. Shinohara; 1 ♀, Kawagoe, 30. IV. 1937, J. Yoshioka; 1 ♀, Agano, 15. V. 1940, J. Yoshioka. **Tokyo Met.:** 2 ♂, Imperial Palace, Chiyoda, 18. IV. 2000, T. Nambu; 1 ♂, same data but 16. IV. 2001; 1 ♂, same data but 18. IV. 2002; 1 ♀ 2 ♂, same data but 14. IV. 2005; 2 ♂, Kajuen, Fukiage-gyoen, Imperial Palace, Chiyoda, 13–20. IV. 2010, Malaise trap; 1 ♀, same data but 4–11. V. 2010; 2 ♂, Dokan-Shinmichi, Imperial Palace, Chiyoda, 20–27. IV. 2010, Malaise trap; 1 ♂, same data but 27. IV–4. V. 2010; 1 ♀, Otakinagare, Fukiage-gyoen, Imperial Palace, Chiyoda, 4–12. V. 2010, Malaise trap; 1 ♂, same data but 29. III–14. IV. 2011; 4 ♀ 2 ♂, same data but 14–26. IV. 2011; 1 ♂, Takadanobaba, 23. IV. 1981, S. Asahina; 1 ♂, Kinuta, Setagaya, 10. IV. 1959, Y. Kurosawa; 2 ♀, Takao, 26. IV. 1940, J. Yoshioka; 1 ♀, Mt. Takao-zan, 20. IV. 1930, H. Sugiura; 1 ♀ 1 ♂, Mt. Takao-zan, 24. IV. 1960, J. Yoshioka; 1 ♀, Hikagezawa, Mt. Takao-zan, 28. IV. 1973, A. Shinohara; 1 ♀, same data but 20. IV. 1974; 1 ♀, same data but 19. IV. 1998; 1 ♀, same data but 23. IV. 2000; 1 ♂, Hikagezawa, Mt. Takao-zan, 17. IV. 1977, N. Matsuba; 1 ♂, same data but 24. IV. 1977; 1 ♂, Kogesawa, Mt. Kagenobu-yama, 18. IV. 1973, A. Shinohara; 1 ♀, Ikusabata, Okutama, 1. V. 1977, A. Shinohara. **Kanagawa Pref.:** 1 ♀, Yokohama, 23. IV. 1928, K. Sato; 2 ♂, same data but 26. IV. 1928; 1 ♂, same data but 11.

IV. 1930; 3 ♀, same data but 18. IV. 1930; 1 ♀, same data but 19. IV. 1930; 1 ♀ 3 ♂, same data but 20. IV. 1930; 9 ♀ 8 ♂, same data but 21. IV. 1930; 3 ♀, same data but 5. V. 1930; 2 ♀, same data but 8. V. 1933; 1 ♀, same data but 9. V. 1936; 4 ♀, same data but 29. IV. 1956; 2 ♀ 3 ♂, Yokohama, 25. IV. 1929, S. Fujii; 7 ♀, same data but 30. IV. 1929; 1 ♀, Sugita, 6. IV. 1930, K. Sato; 1 ♀, Mt. Koubousan, 20. V. 1984, H. Matsumura. **Yamanashi Pref.:** 1 ♀, Fuji-rindo, Narusawa-mura, 18. VI. 1988, K. Mizuno; 1 ♀, Mt. Fujisan, 27. VII. 1986, K. Mizuno. **Shizuoka Pref.:** 1 ♀, Atami, IV. 1934, K. Sato; 3 ♀, Kawazu, Izu, 13. IV. 1928, K. Sato. **Nagano Pref.:** 1 ♀, Togakushi, 20. VI. 1932, K. Sato. **Gifu Pref.:** 2 ♀, Hikagedaira, 19. V. 1979, A. Shinohara; 1 ♂, Hikagedaira, 29–31. V. 1981, S. Hashimoto. **Niigata Pref.:** 1 ♀, Kuzuba pass, 2. V. 1982, M. Yagi. **Kyoto Pref.:** 1 ♀, Kibune, 20. IV. 1930, C. Teranishi. **Osaka Pref.:** 1 ♀ 2 ♂, Minoo, 13. IV. 1930, C. Teranishi; 1 ♀, Mt. Mino, 6. V. 1929, C. Teranishi; 1 ♂, Minoo, 21. IV. 1979, A. Shinohara; 1 ♀, Minoh City, Shimo-todoromi, 160m, N34°52'/E135°27', 3. V. 1999, H. Yoshida. **Hyogo Pref.:** 1 ♀, Torihara, Kobe, 30. IV. 1983, Y. Nishimoto; 1 ♀, Kobe Univ., 20. IV. 1983, Y. Nishimoto. **Tottori Pref.:** 1 ♀, Jadani, Mt. Daisen, 20. V. 1981, A. Shinohara; 1 ♀, Sanosawa, Mt. Daisen, 21–22. V. 1981, A. Shinohara. 1 ♂, Yokotemichi, 1000m w. slope of Mt. Daisen, 20–25. V. 2000, A. Shinohara; 3 ♀, same data but 25–29. V. 2001; 1 ♀, same data but 7–9. V. 2007. **Shimane Pref.:** 1 ♀, Uchidani, Nita, 18. V. 1980, H. Nishida. **Yamaguchi Pref.:** 2 ♂, Hagi, 20. IV. 1953, J. Yoshioka; 1 ♀ 2 ♂, Hagi, 28. IV. 1953, J. Yoshioka. **SHIKOKU—Ehime Pref.:** 1 ♀, Narukawa-keikoku, Kihoku, 33°12'N 132°37'E, 8. V. 2006, A. Shinohara. **KYUSHU—Fukuoka Pref.:** 1 ♀, Mt. Hikosan, 9. V. 1986, A. Shinohara. **Nagasaki Pref.:** 2 ♀, Fukikoshi, Unzen, 16. V. 1997, A. Shinohara. **Oita Pref.:** 1 ♀, Shigeoka, 29. IV. 1928, C. Teranishi; 1 ♀, Makiguchi, 13. V. 1932, H. Sugiura. **Kagoshima Pref.:** 1 ♂, Uchinoura-cho, 8. IV. 1979.

Macrophya marlatti Zhelochovtsev, 1935

JAPAN: HOKKAIDO— 1 ♀, Nakayama-toge, Shiribeshi, 4. VII. 1994, A. Shinohara; 1 ♀, same locality, 25–26. VI. 2008, A. Shinohara; 1 ♂, Shikotsu, 27. VII. 1986, larva on *Pedicularis resupinata* subsp. *oppositifolia*, em. 21. V. 1987, R. Inomata (MNHAH); 1 ♂, same data but em. 25. V. 1987 (MNHAH); 1 ♂, same data but em. 28. V. 1987 (MNHAH); 1 ♀, same data but em. 31. V. 1987 (MNHAH); 1 ♂, same data but em. 2. VI. 1987 (MNHAH); 1 ♀, same data but em. 31. V. 1988 “two winters in soil!” (MNHAH). **HONSHU—Nagano Pref.:** 2 ♀, “1. VIII. 1932, Mt. Hakuba, Takeuchi” (OPU); 1 ♀, “Kitazawa-toge, Senjo, 4. VIII. 1968” (MNHAH); 1 ♀, “7. VIII. 1968, Umanose [nr. Mt. Senjodake], B-3” (MNHAH). **Nara Pref.:** 1 ♀, “Inamuradake, 26. VI.

1971" (MNHAH); 1 ♀, "Inamuradake, 9. VII. 1972" (MNHAH). **Hiroshima Pref.:** 1 ♀, Kurihara, Onomichi, 13. V. 1932, K. Obayashi (OPU).

Macrophya minutifossa Wei & Nie, 2003

JAPAN: OKINAWA ISLAND (Kyushu, Okinawa Pref.): 1 ♀, "Kunigami-son, Nishime-dake, 2000. 4. 1, M. Kimura leg."; 1 ♀, "Nakijin-mura, Otoh-dake, 1998. 4. 1-3, M. Kimura leg."; 1 ♀, "Naha, Sueyoshi, 23. III. 1983, E. Nishida".

Macrophya obesa Takeuchi, 1933

JAPAN: HONSHU— Miyagi Pref.: 1 ♀, Sainogawara, Zao-san Mts., 23. VII. 1976, A. Shinohara. **Tochigi Pref.:** 1 ♀, Nasu, 10. VI. 1973, A. Shinohara. **Gunma Pref.:** 1 ♀, Sugenuma-Marunuma, 8. VII. 1979, T. Niisato; 1 ♀, Marunuma, 1400m, 8-9. VI. 2001, A. Shinohara; 1 ♀, Komochiyama, Kirizumi, Matsuida, 17. VI. 1987, T. Matsumoto. **Yamanashi Pref.:** 4 ♀, Masutomi, 28-29. VI. 1958, K. Sato; 2 ♀, Sagashio, 25. VII. 1957, K. Sato; 1 ♀, Mitsutoge, 30. V. 1974, K. Kimura; 1 ♀, Hikawa-rindo, 13. VI. 1982, M. Toyama; 1 ♀, Mt. Daibotsatsu, 27. VI. 1976, K. Mizuno; 1 ♀, Utsukushinomori, Yatsugatake Mts., 17. VII. 1977, N. Matsuba. **Nagano Pref.:** 2 ♀, Togakushi, 20. VI. 1932, K. Sato; 1 ♀, Togakushi, 27. VII. 1932, K. Sato; 4 ♀, Karuizawa, 28. VI. 1934, K. Sato; 1 ♀, Mibugawa, Oshika-mura, 1400m, 18. VI. 1994, Y. Nishimoto; 1 ♀, Oishi-toge, Mt. Tateshina-yama, 19. VII. 1980, K. Mizuno; 1 ♂, Mt. Nyugasa-yama, 28. VI. 1988, R. Inomata (MNHAH). **Gifu Pref.:** 1 ♀, Hikagedaira, 27. VII. 1981, A. Shinohara.

Macrophya rohweri Forsius, 1925

JAPAN: HONSHU— Yamanashi Pref.: 1 ♀, "Mt. Minobu, 12. VI. 1928, coll. K. Sato". **Nagano Pref.:** 1 ♀, "Karuizawa, 28. VI. 1934, coll. K. Sato". **Kyoto Pref.:** 1 ♀, "Kibune, VI. 1931, C. Teranishi". **Nara Pref.:** 1 ♀, "Mt. Obako-dake, 16. VII. 1980, H. Matsuura". **Hyogo Pref.:** 1 ♀ 1 ♂, "Futari-Shizuka [= *Chloranthus serratus*], 26-VI-4-VII. '66, 28-IV '67 emerged" (MNHAH); 1 ♂, "Futari-Shizuka, 7-17-VII. '66 entered soil, 29-IV '67 emerged" (MNHAH). **NO DATA:** 1 ♀.

Macrophya sanguinitarsis (Togashi, 1963)

JAPAN: HONSHU— Nagano Pref.: 1 ♀, Minoto, ca. 1850m, Yatsugatake Mts., 7. VIII. 1988, A. Shinohara; 1 ♀, same locality, 31. VII. 1997, A. Shinohara; 1 ♂, same locality, 25-29. VII. 2000, A. Shinohara.

Macrophya timida Smith, 1874

JAPAN: HOKKAIDO— 1 ♂, Mt. Piyashiri-yama, Kamikawa, 22. VI. 1990, A. Shinohara. **HONSHU— Tochigi Pref.:** 2 ♀, Ouchi, Bato, 5-7. V. 1994, A. & T.

Shinohara; ♀, Nikko, 4. VI. 1967, A. Shinohara. **Ibaraki Pref.:** 2 ♀, Komenoi, Toride, 8. V. 1993, H. Hamaji. **Chiba Pref.:** 2 ♀ 2 ♂, Tateyama, 14. IV. 1931, K. Sato; 2 ♀, Chikura, 15. IV. 1931, K. Sato; 1 ♀ 1 ♂, Mt. Kiyosumi-yama, 16. IV. 1931, K. Sato; 1 ♂, Ichikawa, 29. IV. 1937, J. Yoshioka; 1 ♀ 2 ♂, Yabashira, 19. IV. 1960, J. Yoshioka; 1 ♀, Mabashi, 23. IV. 1960, J. Yoshioka. **Saitama Pref.:** 1 ♀, Akigase, Urawa, 23. IV. 1977, A. Shinohara; 3 ♀, Akigase, Urawa, 25. IV. 1977, A. Shinohara; 3 ♀, Koma, Hidaka-cho, 11. V. 1996, A. Shinohara; 2 ♀, Agano, 15. V. 1940, J. Yoshioka; 1 ♀, Chichibu, 13. V. 1917; 4 ♀, Kawagoe, 30. IV. 1937, J. Yoshioka; 1 ♀, Shiki, 27. IV. 1968, A. Shinohara; 1 ♀, Shiki, 22. IV. 1972, A. Shinohara. **Tokyo Met.:** 1 ♀, Imperial Palace, Chiyoda-ku, 19. IV. 2004, T. Nambu; 1 ♂, Dokan-bori, Imperial Palace, Chiyoda-ku, 18. IV. 2000, T. Nambu; 11 ♂, Otakinagare, Fukiage-gyoen, Imperial Palace, Chiyoda-ku, 14-26. IV. 2011, Malaise trap; 2 ♂, same data but 26. IV.-4. V. 2011; 1 ♀, same data but 4-12. V. 2011; 1 ♀, same data but 12-17. V. 2011; 3 ♂, Kajuen, Fukiage-gyoen, Imperial Palace, Chiyoda-ku, 6-13. IV. 2010, Malaise trap; 1 ♀ 3 ♂, same data but 13-20. IV. 2010; 1 ♂, Dokan-shinmichi, Imperial Palace, Chiyoda-ku, 29. III.-6. IV. 2010, Malaise trap; 2 ♂, same data but 13-20. IV. 2010; 1 ♂, Biological Institute nr. paddy field, Imperial Palace, Chiyoda-ku, 29. III.-14. IV. 2011, Malaise trap; 1 ♂, same data but 14-26. IV. 2011; 1 ♀, same data but 17-24. V. 2011; 2 ♀, Akatsuka, 28. IV. 1928, K. Sato; 1 ♀, Kinuta, Setagaya-ku, 10. IV. 1959, Y. Kurosawa; 1 ♂, Mizumoto, Katsushika-ku, 24. IV. 1937, J. Yoshioka; 1 ♀, Shiroyama, Asakawa, 24. V. 1931; 2 ♀, Mt. Takao-san, 27. IV. 1919, K. Sato; 1 ♀ 1 ♂, Mt. Takao-san, 25. IV. 1928, K. Sato; 1 ♀, Mt. Takao-san, 4. V. 1928, K. Sato; 1 ♀, Mt. Takao-san, 17. IV. 1929, S. Fujii; 3 ♀ 2 ♂, Mt. Takao-san, 20. IV. 1930, H. Sugiura; 1 ♀, Mt. Takao-san, 28. IV. 1930, K. Sato; 1 ♀ 1 ♂, Mt. Takao-san, 18. IV. 1937, S. Asahina; 1 ♂, Mt. Takao-san, 26. IV. 1940, J. Yoshioka; 1 ♀, Mt. Takao-san, 6. V. 1941, J. Yoshioka; 1 ♀, Mt. Takao-san, 22. IV. 1956, K. Sato; 1 ♀, Uratako, 23. IV. 1967, A. Shinohara; 1 ♂, Hikagezawa, Mt. Takao-san, 26. IV. 1973, A. Shinohara; 1 ♀, same data but 28. IV. 1973; 1 ♂, Hikagezawa, Mt. Takao-san, 24. IV. 1977, N. Matsuba; 1 ♀, same data but 5. V. 1978; 1 ♂, Kobotoke, Mt. Takao-san, 23. IV. 1971, A. Shinohara; 1 ♀ 1 ♂, Kogesawa, Mt. Kagenobu-yama, 18. IV. 1973, A. Shinohara; 2 ♀, Kamiange, 400m, Mt. Jinbayama, 10. V. 1973, A. Shinohara; 1 ♀ 1 ♂, same data but 4. V. 1974; 3 ♂, same data but 30. IV. 1977; 1 ♂, same data but 1. V. 1979; 1 ♂, same data but 6. V. 1991; 1 ♀, same data but 2. V. 1999; 1 ♀, Kariyosezawa, Itsukaichi, 23. IV. 1973, A. Shinohara; 1 ♂, same data but 30. IV. 1973; 1 ♀ 1 ♂, Hosoo, Hinode-cho, Nishi-tama, 26. IV. 1981; 1 ♀ 1 ♂, Ikusabata, Okutama, 1. V. 1977, A. Shinohara; 1 ♀, Mt. Mitake-san, Okutama, 17. V. 1988, A. Shi-

- nohara. **Kanagawa Pref.:** 1 ♀4 ♂, Yokohama, 23. IV. 1928, K. Sato; 2 ♀1 ♂, same data but 26. IV. 1928; 1 ♀1 ♂, same data but 30. IV. 1928; 1 ♀, Yokohama, 30. IV. 1929, S. Fujii; 1 ♀, Yokohama, 18. IV. 1930, K. Sato; 1 ♀, same data but 20. IV. 1930; 6 ♀, Yokohama, 29. IV. 1956, K. Sato; 4 ♀2 ♂, Baba-cho, Yokohama, 22. IV. 1955, K. Sato; 1 ♀, same data but 3. V. 1955; 1 ♀, Shinohara-cho, Yokohama, 8. V. 1955, K. Sato; 2 ♀, same data but 21. IV. 1957; 4 ♀4 ♂, Sugita, 6. IV. 1930, K. Sato; 2 ♀, Hanbara, 5. V. 1973, A. Shinohara; 1 ♀, Hiyoshi, Yokohama, 17. IV. 1971, A. Shinohara; 1 ♂, Tsukui-ko, 20. IV. 1969, A. Shinohara; 1 ♀, Miura, 4. V. 1981, T. Niisato. **Niigata Pref.:** 1 ♀, Tainai, Kurokawa, 22. VI. 1971, Y. Kurosawa. **Yamanashi Pref.:** 1 ♂, Toshima, nr. Fujinomiya, 4. V. 1977, A. Shinohara; 1 ♀, Kawaguchiko, 28. V. 1978, A. Shinohara. **Shizuoka Pref.:** 1 ♂, Atami, 9. IV. 1928, K. Sato; 1 ♀, Hamamatsu, 2. V. 1931, S. Fujii; 1 ♀1 ♂, Kawazu, Izu, 13. IV. 1928, K. Sato; 1 ♀, Gotenba, 11. V. 1953, J. Minamikawa; 1 ♀, Tani, Miyakoda-mura, 23. IV. 1951, J. Minamikawa. **Nagano Pref.:** 2 ♀1 ♂, near Hora, Matsumoto, 10–11. V. 1985, M. Nishimura; 2 ♀1 ♂, Suzaka, 11. V. 1932, K. Sato; 1 ♀, Karuizawa, 28. VI. 1934, K. Sato; 1 ♀, Tokusawa, Kamikochi, 4–6. VII. 1989, A. Shinohara; 1 ♂, Mt. Nyugasa-yama, 1740m, Fujimi, 10. VI. 2001, Y. Nishimoto. **Shiga Pref.:** 1 ♂, Azai-cho, 8. V. 1984, A. Shinohara. **Wakayama Pref.:** 1 ♂, Mt. Koya-san, 10. VI. 1940, J. Yoshioka. **Osaka Pref.:** 4 ♀30 ♂, Mozu, Sakai, 7. V. 1982, A. Shinohara; 1 ♀3 ♂, Mt. Mino-zan, 6. V. 1929, C. Teranishi; 1 ♀, Higashiosaka City, Mt. Ikoma-yama, alt. 600m, N34°41'/E135°40', 29. IV. 2005, H. Yoshida; 1 ♀, Ibaraki City, Ai, alt. 40m, N34°51'/E135°33', 6. V. 1996, H. Yoshida; 1 ♀, Minoh City, Minoh Riv. Dam, alt. 350m, N34°51'/E135°28', 4. V. 2001, H. Yoshida; 1 ♀, Sasabe, 25. IV. 1981, E. Nishida; 1 ♀, Mt. Myoken-zan, 25. V. 1993, Y. Nishimoto; 1 ♀, Mt. Izumikatsuragi-san, 23. IV. 1982, A. Shinohara. **Hyogo Pref.:** 2 ♀, Tounocho, Takarazuka, 15. IV. 1993, Y. Nishimoto; 2 ♀, same data but 19. IV. 1994; 1 ♀, same data but 20. IV. 1994; 1 ♀, same data but 22. IV. 1994; 2 ♀, Takarazuka City, Takedao, alt. 450m, N34°51'/E135°18', 2. V. 2004, H. Yoshida; 1 ♀, Kobe City, Kita-ku, Aina, alt. 250m N34°44'/E135°07', 7. V. 2011, H. Yoshida; 1 ♀, Kobe City, Kita-ku, Yamada-cho, Aina, alt. 250m N34°44'/E135°07', 23. IV. 2002, H. Yoshida; 1 ♀, Kobe City, Kita-ku, Yamada-cho, Shimotanigami, alt. 300m, N34°43'/E135°10', 5. V. 1999, H. Yoshida; 1 ♀, Kobe City, Kita-ku, Dojo-cho, Ikuno, alt. 150m, N34°51'/E135°15', 13. V. 2013, H. Yoshida; 1 ♀, Nagamine, 27. IV. 1991, Y. Nishimoto; 1 ♀, Nishitani, 24. IV. 1983, Y. Nishimoto; 1 ♀, Arima, 31. V. 1929, C. Teranishi; 3 ♀, Hatsutani, 5. V. 1991, Y. Nishimoto; 1 ♀, Nishinomiya City, Shiose-cho, Najio, alt. 100m, N34°51'/E135°18', 25. IV. 1999, H. Yoshida. **Okayama Pref.:** 1 ♀, Tamagashi, Okayama, 1–3. V. 2003, A. Shinohara. **Tottori Pref.:** 1 ♀, Yokotemichi, 1000m W. slope of Mt. Daisen, 25–29. V. 2001, A. Shinohara. **Shimane Pref.:** 1 ♀, Iwamitsuga, Misato-cho, 28. IV. 1918, Yuasa; 1 ♀, same data but 8. V. 1918; 1 ♀, Nita (Uchiodani), 18. V. 1980, H. Nishida; 2 ♀, Kousa, 15. IV. 1953, J. Yoshioka. **Yamaguchi Pref.:** 2 ♀, Yamaguchi, 23. IV. 1953, J. Yoshioka; 2 ♀, same data but 26. IV. 1953; 1 ♀, Kibe, Ube-shi, 20. V. 1953, J. Yoshioka; 1 ♂, Hagi, 20. IV. 1953, J. Yoshioka; 1 ♀, Hagi, 28. IV. 1953, J. Yoshioka; 1 ♀, Tokusa, 4. V. 1953, J. Yoshioka; 1 ♀, same data but 6. V. 1953; 1 ♀, Ajisu, 29. IV. 1953, J. Yoshioka; 2 ♀, Shimonoseki, 1. V. 1931, K. Sato; 1 ♀, Jakuchi-kyo, 11. V. 1983, H. Nishida. **SHI-KOKU—Tokushima Pref.:** 1 ♀, Naruto City, Oasa-cho, Hinoki, alt. 50m, N34°16'/E134°50', 4. IV. 2013, H. Yoshida. **Ehime Pref.:** 1 ♂, Mt. Takawawa-yama, 950m, Houjo-shi, 7. V. 2005, A. Shinohara; 1 ♀, Odamiyama, 18. IV. 1998, S. Shinonaga. **KYUSHU—Oita Pref.:** 1 ♀, Kitakitsuki, 27. IV. 1928, C. Teranishi; **Nagasaki/Saga Prefs.:** 1 ♀, Kurinoki-toge, 600m, Mt. Kunimiyama, 15. V. 1997, A. Shinohara. **Kumamoto Pref.:** 1 ♀, Mt. Kura-dake, ca. 1000m, 17. V. 1997, A. Shinohara.