

**Homoptera-Auchenorrhyncha and Heteroptera
(Insecta, Rhynchota)
from Sugadaira, Central Honshu, Japan***

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(Accepted 17 October 1997)

Synopsis

Through recent field researches to clarify the Rhynchota fauna, 378 species are recognized and recorded from Sugadaira, Nagano Prefecture, central Honshu. They comprise 218 Homoptera-Auchenorrhyncha and 160 Heteroptera including 21 species new to Japan. A brief note on taxonomy and/or ecology is also given for some species.

Key words: Homoptera-Auchenorrhyncha, Heteroptera, fauna, list, Sugadaira, Japan

Sugadaira is situated at the northeastern part of Nagano Prefecture, central Honshu, spread on the southern to western slopes of Mt. Azumaya and Mt. Neko-dake at the altitude of about 1,300 m. The vegetations are montane grasslands, deciduous forests growing on gentle slope, evergreen coniferous forests in subalpine, low-moor developed at the basin, and several valley forests along streams at the southern edge.

Field researches for the Rhynchota fauna by our laboratory were made at the various sites around Sugadaira since the mid-1980's, intensively engaged 1995 to 1996 mainly by the junior author. As a result of our taxonomic investigation, we recognized 378 species of Rhynchota, 218 homopterans plus 160 heteropterans, including 21 species newly recorded from Japan. Here, we list them, together with the collecting data, comparative notes and/or ecological remarks for noticeable species. The species newly recorded from Japan are shown by an asterisk (*), and the number of species is also added in parentheses after each family name.

The following abbreviations of collecting sites (altitudes) are used in the text:

* Contributions from Sugadaira Montane Research Center, University of Tsukuba no. 159.

** Present address: 1422-7 Hatai, Ôtone, Saitama 349-1132, Japan.

CE: Sugadaira Montane Research Center, University of Tsukuba (1,320 m)

AZ: Mt. Azumaya (1,600-2,350 m)

NE: Mt. Neko-dake (1,600-2,200 m)

DV: Daimyojin-sawa (area along a montane stream; 1,300-1,350 m)

NK: Nakano-sawa (area along a montane stream; 1,320-1,360 m)

TP: Torii Pass (1,200-1,350 m)

SM: Sugadaira Moor "Shizen-kan" (low-moor; 1,250 m)

KV: Kakuma Valley, Sanada (1,000-1,200 m)

The material not specified in the text is preserved in the Department of Biology, Faculty of Education, Saitama University, Urawa.

Before going into details, we wish to express our hearty thanks to the following entomologists for help to identification and offer of material: Dr. Ryuichiro MACHIDA (University of Tsukuba, Tsukuba; formerly, Sugadaira Montane Research Center), Dr. Masaaki TOMOKUNI (National Science Museum, Tokyo), Dr. Tomohide YASUNAGA (Hokkaido University of Education, Sapporo), Mr. Tadao ICHITA (Aomori Agricultural Experiment Station, Kuroishi), Dr. Tadaaki TSUTSUMI (Fukushima University, Fukushima), Mr. Yukinobu NAKATANI (Osaka Prefectural University, Sakai) and our colleagues (Saitama University, Urawa). We are also much indebted to Dr. R. MACHIDA and Prof. Emerit. Hiroshi ANDO (University of Tsukuba) for their kind support to our study.

HOMOPTERA-Auchenorrhyncha

Cicadomorpha

CICADIDAE (7)

Cicadinae

Tibicen bihamatus (MOTSCHULSKY, 1861) コエゾゼミ [CE, AZ, SM, KV]

Tibicen japonicus (KATO, 1925) エゾゼミ [CE, SM, TP, KV]

Several specimens are preserved in the Sugadaira Montane Research Center: 1 ♂ 1 ♀, Sugadaira, Nagano Pref., Coll. M. SHIMIZU (♂, ab. *immaculatus* KATO); 1 ♂, Sugadaira (detailed locality unknown), 11. VII. 1966, collector unknown; 1 ♂, same data except 30. VII. 1978; 1 ♂, Sanada (Yokosawa), 31. VII. 1978, M. NAGAI leg.

Graptopsaltria nigrofuscata (MOTSCHULSKY, 1866) アブラゼミ [AZ, CE]

Terpnosia nigricosta (MOTSCHULSKY, 1866) エゾハルゼミ [CE, SM, KV]

Tanna japonensis japonensis (DISTANT, 1892) ヒグラシ [CE, KV]

Oncotympana maculaticollis (MOTSCHULSKY, 1866) ミンミンゼミ [CE]

Tibicininae

Cicadetta radiator (UHLER, 1896) チャッチゼミ (Fig. 1) [CE, KV]

Specimen examined. [CE] 1 ♀, 21. IX. 1988, T. TSUTSUMI leg.

At the Sugadaira Montane Research Center, University of Tsukuba are there deposited

2 ♂ specimens labeled "Sugadaira, 15. IX. 1960, H. ANDO leg.". This cicada is also recognized to sing at the Kakuma Valley.

CERCOPIDAE (1)

Eoscarta assimilis (UHLER, 1896) コガシラアワフキ [CE, DM, SM, KV]

APHROPHORIDAE (24)

Aphrophora alni (FALLÉN, 1805) ハンノアワフキ [AZ, NE]

Specimens examined. [AZ] 2 ♂ 3 ♀, 9. VIII. 1995; 3 ♂ 8 ♀, 9. IX. 1995; 1 ♂ 2 ♀, 31. VII. 1996; 6 ♀, 3. IX. 1996. [NE] 4 ♂ 4 ♀, 27. VII. 1995; 4 ♂ 3 ♀, 4. IX. 1996.

Aphrophora brevis MATSUMURA, 1903 トドマツアワフキ (Fig. 2) [CE, SM]

A. abieti MATSUMURA was synonymized with this species by KOMATSU (1997). The host plant may be some species of *Abies* conifers. This species is locally found in Hokkaido and northern Honshu, and fairly rare everywhere.

Specimens examined. [CE] 2 ♂, 25-26. IX. 1985; 1 ♀, 19. IX. 1988; 1 ♂, 1. IX. 1992; 2 ♂, 25. VII. 1995; 1 ♀, 2. VIII. 1996; 2 ♂, 4. IX. 1996 (light trap); 1 ♂, 5. IX. 1996. [SM] 1 ♂, 3. IX. 1996.

Aphrophora flavipes UHLER, 1896 マツアワフキ [CE, SM]

This froghopper is common on *Pinus* forests growing in lowland; it is rather rare in montane areas beyond 1,000 m in altitude.

Specimens examined. [CE] 2 ♀, 25-26. IX. 1985; 1 ♂, 2. IX. 1992; 1 ♀, 9. VIII. 1995 (light trap). [SM] 1 ♂, 25. IX. 1985.

Aphrophora intermedia UHLER, 1896 シロオビアワフキ [CE, DM, NK, SM, KV]

Aphrophora ishidae MATSUMURA, 1903 イシダアワフキ [CE, AZ, NE, DM, NK, SM, KV]

Aphrophora major (UHLER, 1896) モンキアワフキ [CE, AZ, NE, DM, NK, KV]

Aphrophora obliqua MATSUMURA, 1903 ヒメシロオビアワフキ [CE, DM, NK, KV]

Aphrophora obtusa MATSUMURA, 1903 コガタアワフキ (Fig. 3) [CE, AZ, NE, DM, NK, SM, KV]

Aphrophora pectoralis MATSUMURA, 1903 マエキアワフキ [CE, AZ, NE, NK, SM, KV]

A. costalis MATSUMURA, 1903, was recently synonymized with *pectoralis* by KOMATSU (1997).

Aphrophora stictica MATSUMURA, 1903 ホシアワフキ [CE, SM, KV]

Aphropsis galloisi (MATSUMURA, 1940) オオアワフキ [CE, KV]

The genus *Nikkofukia* MATSUMURA, 1940, is surely a synonym of *Aphropsis* METCALF et HORTON, 1934. *A. galloisi* is recognized to feed exclusively on *Clethra barbinervis* SIEB. et ZUCC. (Clethraceae).

Specimens examined. [CE] 1 ♂ 1 ♀, 2. IX. 1992. [KV] 1 ♀, 3. IX. 1992; 1 ♂, 8. VIII. 1995; 1 ♀, 8. IX. 1995; 1 ♂, 19. IX. 1995; 5 ♂, 4. VII. 1996; 1 ♂ 10 ♀, 5. IX. 1996 (light trap).

Peuceptyelus dimidiatus MATSUMURA, 1904 [CE, KV]

This froghopper is small-sized and must be identical with *dimidiatus* from MATSUMURA's original description. It is often found on various trees of Cupressaceae, Pinaceae and Betulaceae.

Specimens examined. [CE] 1 ♀, 25. IX. 1985; 1 ♂, 2. X. 1987; 1 ♂, 1. IX. 1992 (light trap); 1 ♂, 3. IX. 1992; 1 ♂, 9. VI. 1996. [KV] 1 ♀, 20. VI. 1995; 1 ♂, 22. VIII. 1995; 1 ♂ 1 ♀, 8. IX. 1995; 1 ♂ 3 ♀, 19. IX. 1995; 1 ♀, 11. VI. 1996; 1 ♂, 4. VII. 1996; 1 ♂ 2 ♀, 5. IX. 1996. *Peuceptyelus indentatus* (UHLER, 1896) コミヤマアワフキ [CE, NE, SM, KV]

This species is equal to so-called *medius* MATSUMURA, 1904; *P. medius* may be synonymous with *P. indentatus* (UHLER). The probable host plants are *Pinus densiflora* SIEB. et ZUCC. (Pinaceae), *Chamaecyparis obtusa* SIEB. et ZUCC. (Cupressaceae), *Alnus japonica* STEUD. (Betulaceae), etc.

Specimens examined. [CE] 1 ♂ 5 ♀, 26. IX. 1985; 1 ♂, 27. IX. 1985; 1 ♀, 22. IX. 1987; 3 ♂, 1. X. 1987; 2 ♂, 22. IX. 1989; 5 ♂ 7 ♀, 1-2. IX. 1992; 12 ♂ 10 ♀, 16-17. IX. 1993; 1 ♂ 1 ♀, 9. VIII. 1995 (light trap); 4 ♂ 4 ♀, 21-23. VIII. 1995; 5 ♂ 5 ♀, 10. IX. 1995; 6 ♂ 11 ♀, 18-20. IX. 1995; 5 ♂ 5 ♀, 2-5. IX. 1996. [NE] 2 ♂ 2 ♀, 4. IX. 1996. [SM] 3 ♂ 4 ♀, 16. IX. 1993; 1 ♀, 8. VIII. 1995; 7 ♂ 12 ♀, 19. IX. 1995; 8 ♀, 3. IX. 1996. [KV] 1 ♂, 3. IX. 1993; 1 ♂, 8. VIII. 1995; 1 ♂, 22. VIII. 1995.

Peuceptyelus miyabei MATSUMURA, 1911* [CE, AZ]

This froghopper was originally described from Sakhalin, and it is recorded from Japan for the first time. *P. miyabei* is very similar to *P. coriaceus* (FALLÉN, 1826) occurring widely in Europe (cf. ANUFRIEV and EMELJANOV 1988). Further study is needed about the status of *miyabei* and *coriaceus*. *P. miyabei* inhabits pinaceous conifers such as *Abies mariesii* MASTERS, *Pinus pumila* REGEL, etc.

Specimens examined. [CE] 3 ♂ 3 ♀, 2. IX. 1991. [AZ] 1 ♂, 31. VII. 1996.

Peuceptyelus nigroscutellatus MATSUMURA, 1904 ミヤマアワフキ [CE, AZ, NE]

The host plants are *Abies sakkalinensis* MASTERS, *Pinus densiflora* SIEB. et ZUCC. and *Larix leptolepis* GORD. (Pinaceae).

Specimens examined. [CE] 1 ♂, 3. IX. 1986; 25 ♂ 32 ♀, 1-2. IX. 1992 (light trap); 9 ♂ 6 ♀, 16 - 18. IX. 1993; 1 ♂, 9. VIII. 1995 (light trap); 1 ♀, 21. VIII. 1995; 1 ♀, 10. IX. 1995; 1 ♀, 18. IX. 1995; 1 ♂, 20. IX. 1995; 1 ♀, 2. IX. 1996. [AZ] 2 ♂ 4 ♀, 9. IX. 1995; 2 ♂ 2 ♀, 3. IX. 1996. [NE] 1 ♂, 4. IX. 1996.

Awafukia nawae (MATSUMURA, 1904) マダラアワフキ [KV]

Sinophora hatimantaiana MATSUMURA, 1942 [CE, AZ, KV]

Sinophora submacula METCALF et HORTON, 1934 クロフアワフキ [CE, AZ, NE, KV]

Lepyronia grossa UHLER, 1896 マルアワフキ [CE, AZ, NE, DM, SM, KV]

Lepyronia okadae MATSUMURA, 1903 オカダアワフキ [CE]

Specimens examined. [CE] 21 ♂ 30 ♀, 25-26. IX. 1985; 19 ♂ 14 ♀, 2. X. 1986; 12 ♂ 5 ♀, 1. X. 1987; 1 ♂ 1 ♀, 19. IX. 1988; 9 ♂ 4 ♀, 22. IX. 1989; 4 ♀, 2. IX. 1992; 10 ♂ 4 ♀, 18-20. IX. 1995; 4 ♂ 8 ♀, 2. IX. 1996.

Philagra albinotata UHLER, 1896 テングアワフキ [CE, TP, KV]

Aphilaenus abieti (MATSUMURA, 1904) トドマツホソアワフキ [CE, AZ, NE, SM, KV]

Aphilaenus nigripectus MATSUMURA, 1903 クロスジホソアワフキ [CE, AZ, NE, KV]

The population in Sugadaira is mainly dependent upon *Malus sieboldii* REHD. (Rosaceae), rather than *Prunus* trees.

Neophilaenus takaii (MATSUMURA, 1934) タカイホソアワフキ (Fig. 4) [CE, AZ, NE, SM]

This tiny froghopper, originally described from Mt. Yatsugatake, inhabits open grasslands in higher montane zone, and feeds on poaceous (gramineous) grasses.

MEMBRACIDAE (6)

Butragulus flavipes (UHLER, 1896) ツノゼミ [CE, AZ, NE, KV]

Centrotus nitobei MATSUMURA, 1912 ニトベツノゼミ [CE]

Many morphological features show the close affinity with *Butragulus flavipes* (UHLER), and both species should be integrated into a single group. The host plants are reported to be *Euonymus sieboldianus* BL. (Celastraceae), *Magnolia salicifolia* MAXIM. and *M. kobus* DC. (Magnoliaceae) (HAYASHI *et al.* 1983, HAYASHI and ENDO 1985, CHIKU 1994).

Specimens examined. [CE] 5 ♂ 1 ♀, 9. VIII. 1986; 1 ex. (nymph), 19. IX. 1988; 1 ♀, 22. IX. 1989; 1 ♀, 9. VIII. 1995 (light trap); 2 ♀, 10. VIII. 1995; 2 ♀, 21. VIII. 1995; 1 ♂, 23. VIII. 1995; 2 ♀, 4. IX. 1996; 1 ♀, 5. IX. 1996.

Machaerotypus sibiricus (LETHIERRY, 1876) トビイロツノゼミ [CE, DM, SM, KV]

Gargara doenitzi MATSUMURA, 1912 ハコネマルツノゼミ (Fig. 5) [AZ, KV]

Although this species lacks suprahumeral horns on the pronotum, it is probably allied to *Butragulus flavipes* (UHLER), maybe forming a single taxon together with *B. flavipes* and *Centrotus nitobei* MATSUMURA, on the basis of many morphological features.

Specimens examined. [AZ] 1 ♀, 9. IX. 1995. [KV] 1 ♀, 5. IX. 1996.

Gargara hatoi METCALF et WADE, 1965 オビマルツノゼミ [CE, KV]

This treehopper is very similar to *G. ligustri* (MATSUMURA, 1912) which has no fuscous band on the forewing in males.

Specimens examined. [CE] 1 ♀, 10. VIII. 1995; 1 ♀, 1. VIII. 1996. [KV] 1 ♀, 26. VII. 1995.

Gargara rhodendrona KATO, 1937 ミヤママルツノゼミ (Fig. 6) [AZ, NE]

In the extent of present knowledge, the host plant is confined to *Lespedeza cyrtobotrya* MIQ. (Leguminosae) in Honshu (HAYASHI and ENDO 1985).

Specimens examined. [AZ] 10 ♂ 20 ♀, 9. IX. 1995; 6 ♂ 22 ♀, 19. IX. 1995. 4 ♂ 4 ♀, 3. IX. 1996. [NE] 2 ♂, 4. IX. 1996.

CICADELLIDAE (146)

Agalliinae

Onuhigallia onuhii (MATSUMURA, 1905) オヌキシグヨコバイ [CE, NK, SM, KV]

Japanagallia pteridis (MATSUMURA, 1905) シグヨコバイ [CE, SM, KV]

Macropsinae

Macropsis costalis (MATSUMURA, 1911) マエジロハトムネヨコバイ [CE, AZ, KV]

This species had been formerly treated as a variety of *M. prasina* (BOHEMAN, 1852), but was later raised to species rank by NAST (1972).

Specimens examined. [CE] 3 ♀, 28. VII. 1995; 1 ♀, 30. VII. 1996; 1 ♀, 2. VIII. 1996. [AZ] 1 ♂ 1 ♀, 9. IX. 1995; 1 ♀, 31. VII. 1996; 2 ♂ 1 ♀, 3. IX. 1996. [KV] 1 ♀, 1. VIII. 1996.

Macropsis matsumurana CHINA, 1925 フタオビハトムネヨコバイ (フタオビホソズキンヨコバイ) [CE, AZ, KV]***Macropsis quercus*** (MATSUMURA, 1912) カシハトムネヨコバイ [CE, AZ, KV]

Specimens examined. [CE] 2 ♀, 25-27. VII. 1995 (light trap); 5 ♂ 3 ♀, 7-9. VIII. 1995; 2 ♀, 22. VIII. 1995 (light trap); 1 ♀, 18. IX. 1995; 1 ♀, 20. IX. 1995; 1 ♂, 5. IX. 1996. [AZ] 1 ♀, 31. VII. 1996. [KV] 6 ♂, 8. VIII. 1995; 1 ♂, 8. IX. 1995; 1 ♂, 1. VIII. 1996.

***Macropsis* sp.** [CE]

This species is similar to *M. irrorata* (MATSUMURA, 1912), occurring in warm temperate forests; they have been erroneously recognized to be identical.

Specimens examined. [CE] 1 ♀, 22. VIII. 1995; 1 ♀, 20. IX. 1995 (light trap).

***Pediopsis* sp.** [CE]

ANUFRIEV (1976) applied *kurentsovi* (new name for *P. orientalis* ANUFRIEV, 1971) for "*tiliae*" from Hokkaido. However, the specimens from Honshu show distinct differences in the male genitalia; this must be an independent species new to science. The host plant is *Tilia japonica* SIMONK. and *T. maximowicziana* SHIRAS. (Tiliaceae), so likely as in *kurentsovi* ANUFRIEV and *tiliae* (GERMAR, 1831) in Europe.

Specimens examined. [CE] 1 ♀, 21. VIII. 1995; 1 ♂, 23. VIII. 1995; 1 ♂ 10 ♀, 18-19. IX. 1995; 3 ♂, 2. VII. 1996.

Oncopsis adusta ANUFRIEV, 1967* [CE, SM, KV]

At present, this leafhopper is, once synonymized with *Oncopsis juglans* by HAMILTON (1980b), treated as an independent species (cf. ANUFRIEV and EMELJANOV 1988). *O. adusta* has hitherto been known only from the South Kurile Islands (Kunashir Is.), and it is recorded from Honshu (Japan) for the first time.

Specimens examined. [CE] 1 ♀, 20. VI. 1995; 1 ♂ 2 ♀, 2. VII. 1996; 3 ♀, 3. VII. 1996. [SM] 1 ♂, 26. VII. 1995. [KV] 1 ♂, 11. VI. 1996 (light trap).

Oncopsis alni (SCHRANK, 1801) ハンノヒロズヨコバイ [CE, NE, SM]***Oncopsis caliginosa*** ANUFRIEV, 1967* [AZ, NE]

This species, known from the S. Kuriles, is first recorded from Honshu, Japan.

Specimens examined. [AZ] 1 ♀, 9. VIII. 1995; 1 ♂ 6 ♀, 31. VII. 1996. [NE] 1 ♀, 27. VII. 1995.

Oncopsis discrepans ANUFRIEV, 1967* [CE, SM, KV]

This species was described from the Russian Maritime Territory (Primorye), and it is newly collected from Japan.

Specimens examined. [CE] 4 ♂, 1. VII. 1996 (light trap); 1 ♂ 1 ♀, 2. VII. 1996; 1 ♂ 2 ♀,

3. VII. 1996; 1 ♂, 4. VII. 1996. [SM] 1 ♂, 2. VII. 1996; 1 ♂, 1. VIII. 1996. [KV] 1 ♂, 20. VI. 1995.

Oncopsis sardescens ANUFRIEV, 1967* [AZ, NE]

This leafhopper has been known from the Kurile Islands and the Okhotsk seashore, and it is newly collected from montane areas of central Honshu, Japan.

Specimens examined. [AZ] 1 ♀, 9. VIII. 1995; 1 ♂ 2 ♀, 31. VII. 1996. [NE] 2 ♀, 4. IX. 1996.

Oncopsis tristis (ZETTERSTEDT, 1838) マダラヒロズヨコバイ [CE, AZ, NE]

Specimens examined. [CE] 1 ♂ 1 ♀, 25. VII. 1995; 1 ♂, 27. VII. 1995 (light trap); 1 ♀, 9. VIII. 1995 (light trap); 4 ♀, 21-23. VIII. 1995; 1 ♀, 7. IX. 1995; 31 ♂ 9 ♀, 2-4. VII. 1996; 1 ♀, 30. VII. 1996; 6 ♀, 2. IX. 1996; 7 ♀, 5. IX. 1996. [AZ] 1 ♂, 9. VIII. 1995; 1 ♀, 31. VII. 1996; 1 ♂ 3 ♀, 3. IX. 1996. [NE] 2 ♂, 27. VII. 1995.

Pediopsoides juglans (MATSUMURA, 1912) クルミヒロズヨコバイ [CE, KV]

ANUFRIEV (1977) described *Oncopsis kurentsovi* for *O. juglans* cited in his former literature (ANUFRIEV 1967). Later, HAMILTON (1980b) transferred it to the genus *Pediopsoides* MATSUMURA (subgenus *Sisprocis* ANUFRIEV). However, ANUFRIEV and EMELJANOV (1988) also recognized *juglans* as a member of *Pediopsoides*.

Oncopsis mali (MATSUMURA, 1905) モンキヒロズヨコバイ

This species must belong to the subfamily Idiocerinae (see Idiocerinae).

Ledrinae

Ledra auditura WALKER, 1858 ミミズク [CE, KV]

Cicadellinae

Mileewanini

Milewa margheritae (MELICHAR, 1902) ヨモギシロテンヨコバイ [CE, SM, KV]

Cicadellini

Cicadella viridis (LINNAEUS, 1758) オオヨコバイ [CE, AZ, DM, SM, KV]

Kolla atramentaria (MOTSCHULSKY, 1859) マエジロオオヨコバイ [CE, NE, KV]

Bothrogonia ferruginea (FABRICIUS, 1787) ツマグロオオヨコバイ [CE, SM, KV]

Evacanthini

Evacanthus acuminatus (FABRICIUS, 1794) トワダカンムリヨコバイ (Fig. 7) [CE, KV]

Specimens examined. [CE] 1 ♀, 22. IX. 1989; 1 ♂, 25. VII. 1995; 1 ♂ 4 ♀, 28. VII. 1995; 1 ♀, 23. VIII. 1995; 1 ♀, 3. VII. 1996; 1 ♂ 2 ♀, 2. VIII. 1996; 1 ♀, 5. IX. 1996. [KV] 7 ♂ 5 ♀, 4. VII. 1996; 1 ♂, 26. VII. 1996; 1 ♀, 1. VIII. 1996 (light trap).

Evacanthus fatuus ANUFRIEV, 1970 クロキシジカンムリヨコバイ (Fig. 8) [CE, AZ, NE, SM, KV]

This species was first recorded from Hokkaido by TANABE and HASEGAWA (1979). It also occurs in montane areas of Honshu, previously confused with *E. interruptus* listed below.

Many specimens have been collected from various localities around Sugadaira.

Evacanthus interruptus (LINNAEUS, 1758) キスジカンムリヨコバイ (Fig. 9) [CE, SM, KV]

Onukia onukii MATSUMURA, 1912 オヌキヨコバイ [CE, DM, KV]

"*Oniella leucocephala* MATSUMURA, 1912 シロズオオヨコバイ"

Nowadays, this species does not belong to Cicadellinae (see Nirvaninae).

Pagaroniini

Pagaronia grossa ANUFRIEV, 1970 オオクワキヨコバイ [CE, SM, KV]

This leafhopper is widely found in the montane areas around the Kanto District; Sugadaira is its northernmost locality.

Pagaronia sp. 1 [KV]

This is very similar and probably closely allied to *P. omani* ANUFRIEV, 1971, occurring widely around the Kanto District, but differing in the shape of male genitalia; a pair of apical processes much elongated. This may be new to science.

Specimens examined. [KV] 9 ♂ 5 ♀, 20. VI. 1995; 2 ♀, 26. VII. 1995; 1 ♀, 8. VIII. 1995; 23 ♂ 20 ♀, 4. VII. 1996.

Pagaronia sp. 2 [AZ, NE]

This leafhopper is very similar to *P. kawasei* OKADA, 1978, from Ishikawa Prefecture of the Hokuriku District, but differing in the shape of male genitalia; the aedeagal shaft not strongly curved near base. This must be new to science.

Specimens examined. [AZ] 10 ♂ 2 ♀, 9. VIII. 1995; 10 ♂ 2 ♀, 31. VII. 1996. [NE] 13 ♂ 6 ♀, 27. VII. 1995.

Pagaronia sp. 3 [CE, AZ, NE, SM, KV]

This species is, probably new to science, very similar to *P. ornata* M. HAYASHI et ARAI, 1990, described from Sado Is. in Niigata Prefecture, but they differ from each other in the configuration of the apical part of aedeagal shaft.

Specimens examined. [CE] 15 ♂ 10 ♀, 18. VI. 1995; 12 ♂ 2 ♀, 19. VI. 1995; 6 ♂ 2 ♀, 20. VI. 1995; 22 ♂ 21 ♀, 25. VII. 1995 (light trap); 1 ♀, 27. VII. 1995 (light trap); 1 ♂, 28. VII. 1995; 4 ♂ 1 ♀, 7. VIII. 1995; 7 ♂ 4 ♀, 9. VIII. 1995 (light trap); 47 ♂ 66 ♀, 1. VII. 1996 (32 ♂ 54 ♀ by light trap); 27 ♂ 31 ♀, 2. VII. 1996; 34 ♂ 28 ♀, 3. VII. 1996; 10 ♂ 4 ♀, 4. VII. 1996; 1 ♀, 30. VII. 1996; 1 ♂, 31. VII. 1996; 1 ♀, 1. VIII. 1996; 2 ♂ 1 ♀, 2. VIII. 1996. [AZ] 5 ♂ 3 ♀, 31. VII. 1996. [NE] 1 ♂, 27. VII. 1995. [SM] 13 ♂ 8 ♀, 19. VI. 1995; 1 ♀, 26. VII. 1995; 6 ♂ 5 ♀, 2. VII. 1996; 1 ♀, 1. VIII. 1996. [KV] 1 ♂ 2 ♀, 4. VII. 1996 (light trap).

Pagaronia sp. 4 [KV]

This species is similar to *P. odai* OKADA, 1976, *P. musashiana* M. HAYASHI et YOSHIDA, 1995, and *P. taxilla* M. HAYASHI et YOSHIDA, 1995, of the *guttigera*-complex, and it can be distinguished from them by the shape of male genitalia (aedeagal shaft).

Specimens examined. [KV] 9 ♂ 5 ♀, 20. VI. 1995; 2 ♂, 11. VI. 1996; 1 ♂ 2 ♀, 4. VII. 1996.

Pagaronia sp. 5 [KV]

This leafhopper is similar to *P. caudata* M. HAYASHI et ARAI, 1990, described from southern part of the Kanto District, but differing in the apical processes of compressed aedeagal shaft extending not apicad but laterad, and must be a new species.

Specimens examined. [KV] 1 ♂ 1 ♀, 4. VII. 1996.

Epiacanthus sp. [CE, AZ, NE, SM, KV]

This species is similar to *E. hasegawai* ANUFRIEV, 1976, from Mt. Norikura, Nagano Prefecture, but differing in having the indentate pygofer process of male genitalia.

Specimens examined. [CE] 26 ♂ 41 ♀, 25. VII. 1995 (16 ♂ 21 ♀ by light trap); 10 ♂ 4 ♀, 27. VII. 1995 (light trap); 3 ♂ 21 ♀, 28. VII. 1995; 2 ♂ 19 ♀, 7. VIII. 1995; 8 ♀, 9. VIII. 1995; 1 ♂ 1 ♀, 10. VIII. 1995; 4 ♀, 21. VIII. 1995; 1 ♀, 23. VIII. 1995; 16 ♂ 4 ♀, 1. VII. 1996; 24 ♂ 18 ♀, 2. VII. 1996; 4 ♂ 2 ♀, 3. VII. 1996; 7 ♂ 6 ♀, 4. VII. 1996; 1 ♂, 30. VII. 1996; 2 ♂ 11 ♀, 2. VIII. 1996. [AZ] 2 ♂, 31. VII. 1996. [NE] 1 ♂, 27. VII. 1995. [SM] 3 ♀, 8. VIII. 1995; 5 ♂, 2. VII. 1996. [KV] 2 ♂ 3 ♀, 26. VII. 1995.

Idiocerinae

Podulmorinus vitticollis (MATSUMURA, 1905) ズキンヨコバイ [CE, AZ, KV]

Metidiocerus rutilans (KIRSCHBAUM, 1868) ムナグロズキンヨコバイ [CE, AZ, NE, SM, KV]

Populicerus ishiyamae (MATSUMURA, 1905) シロズキンヨコバイ [CE, AZ, KV]

'*Oncopsis*' *mali* (MATSUMURA, 1905) モンキヒロズヨコバイ (Fig. 10) [CE, AZ, DM, SM, KV]

This leafhopper has been treated as a member of the genus *Oncopsis* of the Macropsinae. On the basis of morphological features including the male genitalia, however, it may belong to the genus *Balcanocerus* MALDONADO-CAPRILES, 1971, or its ally of the Idiocerinae (cf. MALDONADO-CAPRILES 1971, DLABOLA 1974, HAMILTON 1980a).

Iassinae

Iassus dorsalis (MATSUMURA, 1912) [CE, NE, SM, KV]

Specimens examined. [CE] 4 ♂, 25. VII. 1995 (light trap); 7 ♂, 27. VII. 1995 (light trap). [NE] 1 ♂, 4. IX. 1996. [SM] 1 ♀, 8. IX. 1995; 10 ♂ 3 ♀, 2. VII. 1996; 2 ♀, 1. VIII. 1996. [KV] 2 ♂ 2 ♀, 4. VII. 1996; 1 ♀, 1. VIII. 1996.

Iassus lateralis (MATSUMURA, 1905) オオアオズキンヨコバイ (Fig. 11) [CE, KV]

Specimens examined. [CE] 2 ♀, 9. VIII. 1995 (light trap). [KV] 1 ♂, 4. VII. 1996.

Trocnadella suturalis (MELICHAR, 1902) セグロアオズキンヨコバイ [CE, AZ, NE, SM, KV]

The name *Iassus dorsalis* (MATSUMURA, 1912) had been erroneously used for this species in the past.

Batracomorpus mundus (MATSUMURA, 1912) アオズキンヨコバイ [CE, KV]

Batracomorpus punctilligerus ANUFRIEV, 1981* [CE, SM, KV]

This iassine leafhopper, known only from the Primorye, Russian Far East, is newly

collected in Japan; Hokkaido and Honshu including Sugadaira. It inhabits montane deciduous forests in Japan.

Specimens examined. [CE] 5 ♂, 7-9. VIII. 1995 (light trap); 8 ♂, 22. VIII. 1995 (light trap); 3 ♀, 10. IX. 1995; 1 ♂ 3 ♀, 18. IX. 1995; 2 ♂, 4. IX. 1996 (light trap). [SM] 1 ♂ 2 ♀, 8. VIII. 1995; 2 ♂, 22. VIII. 1995; 1 ♀, 8. IX. 1995; 2 ♂ 1 ♀, 1. VIII. 1996; 2 ♂, 3. IX. 1996. [KV] 1 ♀, 19. IX. 1995.

Batracomorpha sp. [CE, AZ, SM, KV]

This leafhopper is similar in general habitus to *B. stigmaticus* (MATSUMURA, 1912) occurring in southern Japan, but differs in the shape of male genitalia; the tip of style not bifid but hook-like, the aedeagus slender and elongate, etc.

Aphrodinae

Planaphrodes nigricans (MATSUMURA, 1912) クロサジヨコバイ [CE, KV]

Stroggylocephalus agrestis (FALLÉN, 1806) イネヒラタヨコバイ [SM]

Specimens examined. [SM] 1 ♀, 2. VIII. 1996; 5 ♂ 1 ♀, 3-4. IX. 1996.

Penthimiinae

Penthimia nitida LETHIERRY, 1876 クロヒラタヨコバイ [CE, SM]

Penthimia sincipitalis M. HAYASHI et MACHIDA, 1996 オオクロヒラタヨコバイ (新称) [KV]

Specimens examined. [KV] 3 ♂ 3 ♀, 25. V. 1995; 1 ♀, 11. VI. 1996.

Selenocephalinae

Drabescus nitobei MATSUMURA, 1912 ニトベブチミャクヨコバイ (Fig. 12) [CE, AZ, NE, SM, KV]

Drabescus pallidus MATSUMURA, 1912 ウスブチミャクヨコバイ (Fig. 13) [KV]

The host plant is recognized to be chestnut trees, *Castanea crenata* SIEB. et ZUCC. (Fagaceae).

Specimens examined. [KV] 1 ♂ 2 ♀, 1. VIII. 1996.

Parabolopona ishihari WEBB, 1981 [CE]

This leafhopper resembles *P. guttata* (UHLER, 1896), and they are distinguished from each other only by the shape of male genitalia (WEBB 1981).

Specimen examined. [CE] 1 ♂, 2. VIII. 1996.

Xestocephalinae

Xestocephalus japonicus ISHIHARA, 1961 ホシヨコバイ [CE]

Xestocephalus nikkoensis MATSUMURA, 1914 ニッコウホシヨコバイ [KV]

Deltocephalinae

Deltocephalini

Alobaldia tobae (MATSUMURA, 1902) トバヨコバイ [CE, AZ, DM, NK, KV]

Recilia dorsalis (MOTSCHULSKY, 1859) イナズマヨコバイ [CE, NK]

Recilia latifrons (MATSUMURA, 1902) ヒロズマダラヨコバイ [CE, NK, SM, KV]

Recilia variegata ANUFRIEV, 1970* [CE, KV]

This species has hitherto been known to Kunashir Is. of the Kurile Islands, and it is recorded from Honshu (Japan) for the first time.

Specimens examined. [CE] 6♂ 2♀, 18. IX. 1995; 1♀, 20. IX. 1995; 2♂, 2. VII. 1996; 3♂ 1♀, 2. VIII. 1996; 1♂, 9. VIII. 1995 (light trap); 5♂ 1♀, 2. IX. 1996; 1♂, 5. IX. 1996. [KV] 1♀, 19. IX. 1995.

Balcluthini

Balclutha punctata (FABRICIUS, 1775) カスリヨコバイ [CE, AZ, NE, SM, KV]

Balclutha rubrinervis (MATSUMURA, 1902) アカカスリヨコバイ [CE, SM, KV]

Balclutha versicolor VILBASTE, 1968 [CE, DM, KV]

This leafhopper was recorded from Japan by WEBB and VILBASTE (1994), and it is widely found in Hokkaido and montane areas of Honshu.

Macrostelini

Macrosteles brunescens ANUFRIEV, 1968 [CE, AZ, NE, SM, KV]

Macrosteles quadrimaculatus (MATSUMURA, 1900) ヨツテンヨコバイ [CE, SM, KV]

Macrosteles striifrons ANUFRIEV, 1968 ヒメフタテンヨコバイ [CE, SM, KV]

Opsiini

Hishimonus araii OKADA, 1978 アライヒシモンヨコバイ [CE, SM]

Hishimonus bucephalus EMELJANOV, 1969 オオヒシモンヨコバイ (新称) [CE]

The host plant must be a walnut tree, *Juglans mandshurica* MAXIM. subsp. *sieboldiana* KITAM. (cf. HAYASHI 1992).

Specimens examined. [CE] 1♂, 16. IX. 1993; 7♂, 9. VIII. 1995 (light trap); 5♂ 4♀, 18-19. IX. 1995.

Athysanini

Albicostella albicosta (MATSUMURA, 1914) マエジロヨコバイ [CE]

Amimenus mojiensis (MATSUMURA, 1914) モジヨコバイ [CE, KV]

Athysanus latifasciatus KATO, 1933 ヒロオビフトヨコバイ (Fig. 14) [CE, SM, KV]

Specimens examined. [CE] 1♀, 1. X. 1987; 1♀, 22. IX. 1989. [SM] 1♀, 17. IX. 1993; 1♀, 19. IX. 1995. 1♂ 1♀, 1. VIII. 1996; 3♀, 3. IX. 1996. [KV] 1♂, 22. VIII. 1995.

Paralaevicephalus nigrifemoratus (MATSUMURA, 1902) モモグロヨコバイ [KV]

Handianus limbifer (MATSUMURA, 1902) マエジロヒロヨコバイ (マエジロイチモンジヨコバイ) [CE, AZ, NE, SM, KV]

Elymana pallidipennis (LINDBERG, 1929)* (Fig. 15) [CE, SM, KV]

This leafhopper has been known from the Russian Maritime Territory (Primorye) and Korea, and it is newly recorded from Japan.

Specimens examined. [CE] 1 ♂ 2 ♀, 25-26. IX. 1985; 3 ♀, 1. X. 1987; 2 ♂, 1-2. IX. 1992; 1 ♀, 21. VIII. 1995; 1 ♂, 7. IX. 1995; 1 ♂, 18. IX. 1995; 1 ♂, 20. IX. 1995; 2 ♂ 4 ♀, 5. IX. 1996. [SM] 5 ♀, 1. X. 1987; 1 ♀, 8. IX. 1995; 1 ♂ 1 ♀, 19. IX. 1995; 3 ♂ 4 ♀, 3. IX. 1996. [KV] 1 ♂ 2 ♀, 2. X. 1987; 1 ♀, 8. IX. 1995; 14 ♂ 12 ♀, 5. IX. 1996.

Ophiola flavopicta (ISHIHARA, 1953) キマグラヒロヨコバイ [CE, DM]

Ophiola jahowleffi (LETHIERRY, 1888) セグロヒロヨコバイ [CE, AZ]

Ophiola russeola (FALLÉN, 1826)* [AZ, NE]

This species has been known widely in the Holarctic Region, and it is first recorded from Japan. The leafhopper inhabits lower *Juniperus* conifer shrubs at higher altitudes (more than 1,600 m) of Mt. Azumaya and Mt. Neko-dake.

Specimens examined. [AZ] 53 ♂ 9 ♀, 9. VIII. 1995; 34 ♂ 4 ♀, 31. VII. 1996; 1 ♂ 6 ♀, 3. IX. 1996. [NE] 19 ♂ 26 ♀, 4. IX. 1996.

Bambusana bambusae (MATSUMURA, 1914) タケナガヨコバイ [CE, AZ, NE]

Speudotettix minor EMELJANOV, 1962* (Fig. 16) [CE, KV]

This leafhopper has been known to occur in the Russian Maritime Territory, Korea, Mongolia, Altai, etc., and it is recognized from several localities in central Honshu, new to Japan.

Specimens examined. [CE] 1 ♂, 27. V. 1995; 1 ♀, 19. VI. 1995; 2 ♀, 2. VII. 1996. [KV] 1 ♂ 13 ♀, 25. V. 1995; 2 ♂ 6 ♀, 20. VI. 1995; 8 ♂ 28 ♀, 11. VI. 1996; 1 ♀, 4. VII. 1996.

Psammotettix koreanus (MATSUMURA, 1915)* (Fig. 17) [CE, AZ, NE, SM, KV]

This leafhopper was originally described from Korea, occurring also in the Russian Maritime Territory and China extending to Middle Siberia, and it is new to Japan. Many specimens were collected in grasslands around Sugadaira.

Matsumurella hogotensis (MATSUMURA, 1914) コチャイロヨコバイ [CE, KV]

Matsumurella praesul (HORVÁTH, 1899) チャイロヨコバイ [CE, SM, KV]

Watanabella montivaga (BAKER, 1924) [CE, AZ, DM, SM, KV]

Laburris impictifrons (BOHEMAN, 1852) ミドリヒロヨコバイ [CE, AZ, SM]

Orientus ishidae (MATSUMURA, 1902) リンゴマグラヨコバイ [CE, AZ, NK, SM, KV]

Paramesodes albinervosus (MATSUMURA, 1902) シロミヤクイチモンジヨコバイ [CE]

Scaphoideus festivus MATSUMURA, 1902 シラホシスカシヨコバイ [CE, KV]

Fieberiellini

Phlogotettix cyclops (MULSANT et REY, 1855) ヒトツメヨコバイ [CE, SM, KV]

Nakaharanus nakaharae (MATSUMURA, 1914) ナカハラヨコバイ (Fig. 18) [KV]

This leafhopper is very rare; there have been collected as few as 10 specimens from Iwate, Niigata, Saitama, Wakayama and Ehime Prefectures up to the present (cf. HAYASHI 1991).

Specimen examined. [KV] 1 ♂, 20. VI. 1995.

Paralimnini

Paralimnus tamagawanus MATSUMURA, 1914 タマガワヨシヨコバイ (Fig. 19) [KV]

Specimen examined. [KV] 1 ♂, 4. VII. 1996 (light trap).

Paralimnus fallaciosus MATSUMURA, 1902 ヨシヨコバイ (Fig. 20) [SM]

According to the illustration by ISHIHARA (1954), this leafhopper must be identical with *P. fallaciosus* described from Uryu-numa, central Hokkaido. *P. fallaciosus* is easily distinguishable from *P. tamagawanus* by the marking on forewing and the shape of male genitalia.

Specimens examined. [SM] 1 ♂, 26. VII. 1995; 1 ♂ 1 ♀, 1. VIII. 1996; 1 ♀, 3. IX. 1996.

Sorhoanus tritici (MATSUMURA, 1902) ムギトガリヨコバイ [AZ, NE]

Specimens examined. [AZ] 1 ♂ 4 ♀, 9. IX. 1995; 42 ♂ 70 ♀, 3. IX. 1996. [NE] 103 ♂ 114 ♀, 4. IX. 1996.

Metalimnus sp. (Fig. 21) [SM]

This leafhopper is very similar to *M. singularis* EMELJANOV, 1966, described from the Russian Maritime Territory, but differing in the shape of male genitalia, *i.e.*, length and curvature of aedeagal shaft. This leafhopper is found among *Carex* sedges (Cyperaceae) growing on marsh of the Sugadaira Moor (1,250 m alt.).

Specimens examined. [SM] 11 ♂ 19 ♀, 25. IX. 1985; 15 ♂ 19 ♀, 1. X. 1987; 6 ♂ 4 ♀, 26. VII. 1995; 117 ♂ 20 ♀, 2. VII. 1996; 26 ♂ 24 ♀, 1. VIII. 1996; 13 ♂ 42 ♀, 3-4. IX. 1996.

Yanocephalus yanonis (MATSUMURA, 1902) ヤノトガリヨコバイ [CE, AZ, NE, NK, SM, KV]***Futasujinus towadensis*** (MATSUMURA, 1914) [CE, AZ, NE]***Urganus chosenensis*** (MATSUMURA, 1915)* (Fig. 22) [CE, AZ, NE, KV]

This leafhopper has been known from Korea, Mongolia, Russian Maritime Territory (Primorye, Amur, Sakhalin, *etc.*), and it is first recorded from Japan. *U. chosenensis* is observed to live on a poaceous grass, *Agrostis exarata* TRIN. var. *nukabo* T. KOYAMA.

Specimens examined. [CE] 2 ♂ 2 ♀, 22. IX. 1989; 1 ♀, 27. VII. 1995 (light trap); 2 ♂, 2-3. VII. 1996; 1 ♀, 30. VII. 1996; 3 ♀, 2. VIII. 1996. [AZ] 2 ♂ 8 ♀, 31. VII. 1996; 18 ♂ 18 ♀, 3. IX. 1996. [NE] 10 ♂ 16 ♀, 4. IX. 1996. [KV] 1 ♂, 20. VI. 1995; 2 ♀, 26. VII. 1995; 1 ♀, 8. VIII. 1995; 1 ♂ 1 ♀, 22. VIII. 1995; 85 ♂ 99 ♀, 4. VII. 1996; 9 ♂ 25 ♀, 1. VIII. 1996; 1 ♀, 5. IX. 1996.

Stirellini

Nephotettix cincticeps (UHLER, 1896) ツマグロヨコバイ [CE]***Stirellus*** sp. (Fig. 23) [AZ]

No leafhoppers of this genus have been hitherto known from Japan. This leafhopper is metallic green in live, and found in dry grasslands (*Zoysia japonica* STEUD., Poaceae) on higher altitudes (1,600-1,800 m) of Mt. Azumaya.

Specimens examined. [AZ] 25 ♂ 2 ♀, 9. VIII. 1995; 46 ♂ 67 ♀, 9. IX. 1995; 37 ♂ 43 ♀, 19. IX. 1995; 21 ♂ 1 ♀, 31. VII. 1996; 33 ♂ 27 ♀, 3. IX. 1996.

Nirvaninae

Nirvana pallida MELICHAIR, 1903 ホソサジヨコバイ [CE]

Specimen examined. [CE] 1 ♀, 25. VII. 1995.

Oniella leucocephala MATSUMURA, 1912 シロゾオオヨコバイ [CE, AZ, NE, SM, KV]

This species has hitherto been included in the subfamily Cicadellinae, but it is now classified into the Nirvaninae on the basis of morphological features such as of head, male genitalia, etc. (ANUFRIEV 1977, ZHANG 1990, GODOY and WEBB 1994).

Typhlocybinae

Alebrini

Alebra costatella MATSUMURA, 1931 [CE]

Specimens examined. [CE] 1 ♀, 9. VIII. 1995 (light trap); 2 ♀, 21. VIII. 1995; 2 ♀, 23. VIII. 1995; 2 ♀, 7-8. IX. 1995; 5 ♀, 18-19. IX. 1995; 1 ♀, 30. VII. 1996; 2 ♂ 3 ♀, 1-2. VIII. 1996; 3 ♀, 2-3. IX. 1996; 3 ♀, 5. IX. 1996.

Dikraneurini

Dikraneura orientalis DWORAKOWSKA, 1993 [CE, KV]

In Japan, this species had been known only from Kyushu (DWORAKOWSKA 1993), and it was recently recorded from Honshu (HAYASHI 1997).

Specimens examined. [CE] 1 ♀, 9. IX. 1995; 1 ♀, 9. VI. 1996; 1 ♀, 2. VIII. 1996; 1 ♀, 5. IX. 1996. [KV] 1 ♀, 25. V. 1995; 1 ♂, 20. VI. 1995; 1 ♂ 1 ♀, 26. VII. 1995; 1 ♀, 8. VIII. 1995; 1 ♀, 8. IX. 1995; 13 ♂ 12 ♀, 4. VII. 1996; 2 ♂ 2 ♀, 1. VIII. 1996; 4 ♂ 6 ♀, 5. IX. 1996.

Forcipata sp. [CE, AZ, NE, SM, KV]

This leafhopper is very similar but not conspecific to *F. glaucans* ANUFRIEV, 1969, recently recorded from Japan (HAYASHI 1992).

Naratettix ibuhisanus MATSUMURA, 1931 [CE, KV]*Naratettix inornatus* (MATSUMURA, 1920) [CE, SM, KV]*Naratettix matsumurai* DWORAKOWSKA, 1980 [CE, NE, SM, KV]

This species was described from Kyushu, Japan, and it is new to Honshu. The dorsal habitus resembles that of *N. zonatus* (MATSUMURA, 1915).

Nowadays, *Naratettix* leafhoppers are classified into several independent species (cf. DWORAKOWSKA 1980), and need further taxonomic investigation.

Erythroneurini

Tautoneura mori (MATSUMURA, 1910) チマダラヒメヨコバイ (Fig. 24) [CE, KV]*Zygina yamashiroensis* MATSUMURA, 1916 ヤマシロヒメヨコバイ (Fig. 25) [CE, KV]

Specimens examined. [CE] 1 ♂, 25. V. 1995; 1 ♀, 20. VI. 1995; 1 ♀, 25. VII. 1995; 1 ♀, 27. VII. 1995; 6 ♂ 6 ♀, 23. VIII. 1995; 5 ♂ 13 ♀, 9-10. IX. 1995; 36 ♂ 41 ♀, 18-20. IX. 1995; 1 ♂ 44 ♀, 9-11. VI. 1996; 2 ♂, 4. IX. 1996 (light trap). [KV] 1 ♀, 22. VIII. 1995; 1 ♂, 8. IX. 1995.

Arboridia apicalis (NAWA, 1913) フタテンヒメヨコバイ [CE, NE, DM, NK, KV]*Arboridia suzukii* (MATSUMURA, 1916) スズキヒメヨコバイ [CE, AZ, NE, DM, NK, SM, KV]*Arboridia yanonis* (MATSUMURA, 1932) ヤノヒメヨコバイ [CE, DM, KV]

Specimens examined. [CE] 1 ♂, 1. VII. 1996. [DM] 1 ♂, 25. IX. 1985. [KV] 6 ♂ 23 ♀, 25. V. 1995; 2 ♂ 11 ♀, 20. VI. 1995; 4 ♀, 26. VII. 1995; 1 ♀, 8. VIII. 1995; 8 ♂ 18 ♀, 8. IX. 1995; 7 ♂ 78 ♀, 11. VI. 1996; 5 ♂ 38 ♀, 4. VII. 1996; 4 ♂ 7 ♀, 5. IX. 1996.

Ziczacella hirayamella (MATSUMURA, 1932) イナズマヒメヨコバイ [CE, AZ, SM, KV]

Mitjaevia sp. [CE, KV]

This unidentified leafhopper is very similar to *M. amsel* (DLABOLA, 1961) from Afghanistan and East Kazakhstan in the coloration and markings on dorsum, but quite differing in the shape of male genitalia, viz. aedeagus elongate and recurved with a pair of subapical processes ventrally (DWORAKOWSKA 1970).

Specimens examined. [CE] 5 ♂ 2 ♀, 28. VII. 1995; 1 ♀, 7. VIII. 1995; 3 ♀, 10. VIII. 1995; 2 ♂, 10. IX. 1995; 1 ♂ 3 ♀, 18-20. IX. 1995. [KV] 1 ♀, 8. VIII. 1995; 3 ♀, 19. IX. 1995.

Alnetoidia (Alnella) alneti (DAHLBOM, 1850) [CE, AZ, SM, KV]

DWORAKOWSKA (1972) put a new name, *watanabei* (under the genus *Alnella*, subgenus *Sapporoa*), for Japanese '*alneti*' determined by Dr. S. MATSUMURA. However, *alneti* was recognized to occur also in Japan and is quite different from *watanabei*.

Alnetoidia (Alnella) sp. [KV]

This leafhopper is very similar to *A. (A.) alneti*, but differing in some male genital structures: pygofer process much elongated, a process on mid-ventral part of aedeagal shaft flattened and curved dorsad, etc.

Specimens examined. [KV] 4 ♂ 1 ♀, 26. VII. 1995; 3 ♀, 22. VIII. 1995; 7 ♀, 8. IX. 1995; 3 ♂, 1. VIII. 1996.

Alnetoidia (Alnetoidia) lutescens ANUFRIEV, 1971* [KV]

This typhlocybinae has been known from the Russian Maritime Territory, and it is also collected from Sugadaira, central Honshu; new to Japan.

Specimens examined. [KV] 3 ♂ 1 ♀, 25. V. 1995.

Alnetoidia (Alnetoidia) sapporensis (MATSUMURA, 1932) サッポロヒメヨコバイ [CE]

Specimens examined. [CE] 1 ♂ 2 ♀, 9. VIII. 1995.

Alnetoidia (Alnetoidia) straminea ANUFRIEV, 1972* [CE]

This species was described from the Russian Maritime Territory, and it is recorded from Japan for the first time. Japanese specimens have a slight difference in the male genitalia; apical process of aedeagus not triangular but obliquely truncate at tip.

Specimens examined. [CE] 8 ♂ 14 ♀, 27-28. VII. 1995; 3 ♂ 5 ♀, 7. VIII. 1995; 133 ♂ 25 ♀, 9-10. VIII. 1995; 4 ♂ 12 ♀, 21-23. VIII. 1995; 6 ♀, 7-10. IX. 1995; 2 ♂ 8 ♀, 18-20. IX. 1995; 2 ♂ 1 ♀, 3-4. VII. 1996; 2 ♀, 2. VIII. 1996; 1 ♂ 1 ♀, 4-5. IX. 1996.

Empoascini

Nihkotettix galloisi MATSUMURA, 1931 (Fig. 26) [CE, KV]

This large-sized typhlocybinae leafhopper is dark red in color, but pale ochraceous females are sometimes found at Sugadaira.

Specimens examined. [CE] 9 ♀, 31. VIII. 1992; 6 ♀, 1-2. IX. 1992; 1 ♂ 1 ♀, 9. VIII. 1995;

2 ♂ 12 ♀, 21-23. VIII. 1995; 3 ♀, 4. IX. 1996 (light trap). [KV] 3 ♂, 8. VIII. 1995; 1 ♂ 1 ♀, 1. VIII. 1996.

Apheliona (Sujitettix) ferruginea (MATSUMURA, 1931) カンキツヒメヨコバイ [CE]

Specimens examined. [CE] 1 ♀, 16. IX. 1993; 2 ♀, 27. VII. 1995 (light trap); 2 ♂ 2 ♀, 7-9. VIII. 1995 (light trap); 1 ♂, 7. IX. 1995; 1 ♂ 1 ♀, 18-19. IX. 1995.

Helionides singularis MATSUMURA, 1931 (Fig. 27) [CE, KV]

Acia olivacea (ANUFRIEV, 1969) from Ussuri, described under *Empoasca* and later transferred to *Ussuriasca* ANUFRIEV, 1972, is probably synonymous with this species.

Specimens examined. [CE] 1 ♂, 27. VII. 1995 (light trap); 5 ♂ 3 ♀, 7-9. VIII. 1995 (light trap); 2 ♂, 31. VII. 1996; 1 ♀, 2. VIII. 1996. [KV] 1 ♂, 1. VIII. 1996 (light trap).

Alebroides akashianus MATSUMURA, 1931 [CE]

DWORAKOWSKA (1997) declared against the identity of this species and *A. rubicunda* ISHIIHARA, 1953.

Specimens examined. [CE] 2 ♂, 9. VIII. 1995 (light trap); 4 ♂, 22. VIII. 1995 (light trap); 1 ♂, 19. IX. 1995.

Alebroides flavifrons MATSUMURA, 1931 [CE, KV]

A. dinghuensis CHIOU et ZHANG, 1987, was recently synonymized with this species. The male genitalia of the material from Sugadaira exactly accord with the illustration by CHOU and ZHANG (1987).

Specimens examined. [CE] 17 ♂ 8 ♀, 25-28. VII. 1995 (light trap); 1 ♂ 5 ♀, 7-9. VIII. 1995; 2 ♀, 21. VIII. 1995; 1 ♂ 4 ♀, 22-23. VIII. 1995; 1 ♀, 8. IX. 1995; 1 ♂ 2 ♀, 10. IX. 1995; 8 ♂ 8 ♀, 18-20. IX. 1995; 1 ♀, 3. IX. 1996 (light trap). [KV] 1 ♂, 8. VIII. 1995; 1 ♀, 4. VII. 1996.

Alebroides hachijonis MATSUMURA, 1931 [CE, AZ, NE, DM, NK, SM, KV]

Jacobiasca boninensis (MATSUMURA, 1931) ウスバヒメヨコバイ [CE, SM, KV]

Empoasca (Matsumurasca) aino MATSUMURA, 1931 [CE, AZ, SM, KV]

This leafhopper had been known only from Hokkaido in Japan, but it was recently recorded from the Tanzawa Mts., central Honshu (HAYASHI 1997). Many specimens were collected around Sugadaira.

Empoasca (Empoasca) abietis (MATSUMURA, 1917) マツヒメヨコバイ [AZ]

Empoasca (Empoasca) altaica VILBASTE, 1965* [CE, AZ, SM, KV]

This leafhopper has been widely known from northeastern Eurasia; Russian Far East (Primorye, Sakhalin, S. Kuriles), Korea, Mongolia and Altai. And, this is the first record from Japan; many specimens were collected from various localities around Sugadaira.

Empoasca (Empoasca) cienka DWORAKOWSKA, 1982* [CE]

This leafhopper has been known only from Korea, and it is new to Japan.

Specimens examined. [CE] 1 ♂, 25. VII. 1995 (light trap); 1 ♂, 27. VII. 1995 (light trap); 3 ♂, 18. IX. 1995.

Empoasca (Empoasca) okadai DWORAKOWSKA, 1982 [CE]

Empoasca (Empoasca) sakaii DWORAKOWSKA, 1971 [CE]

Empoasca (Empoasca) todo (MATSUMURA, 1931) トドマツヒメヨコバイ [CE, AZ, NE, KV]

This olive-green leafhopper has hitherto been known from Hokkaido in Japan, and it is first recorded from Honshu.

In general, it is very difficult to identify some species belonging to the genus *Empoasca* (subgenus *Empoasca*), because there are few differences in the shape of male genitalia. Furthermore, it is nearly impossible to determine the species based on females.

Typhlocybini

Aguriahana stellulata (BURMEISTER, 1841) ギンイロヒメヨコバイ [CE]

Aguriahana triangularis (MATSUMURA, 1932) シロズヒメヨコバイ [CE, KV]

Aguriahana uncinata (VILBASTE, 1965)* [AZ]

This olive-green typhlocybini has been known from S. Kuriles, Khabarovsk, Irkutsk, Mongolia, etc., and this is the first record from Japan.

Specimen examined. [AZ] 1 ♀, 3. IX. 1996.

Eurhadina (Eurhadina) betularia ANUFRIEV, 1969 シロヒメヨコバイ [CE, DM, KV]

Eurhadina (Eurhadina) japonica DWORAKOWSKA, 1971 [SM]

Eurhadina (Eurhadina) pulchella (FALLÉN, 1806) [CE, AZ, DM, SM, KV]

Eurhadina (Eurhadina) sp. [CE, KV]

This species is ivory-white or pale yellow in color and similar to *E. (E.) alba* DWORAKOWSKA, 1979, and *E. (E.) japonica*, but it is distinguishable from them by the shape of the aedeagus with apical processes not branched at all (cf. DWORAKOWSKA 1969).

Specimens examined. [CE] 10 ♂, 7-9. VIII. 1995 (light trap); 1 ♂, 4. IX. 1996. [KV] 13 ♂, 8. VIII. 1995 (light trap); 18 ♂, 1. VIII. 1996 (light trap); 7 ♂, 5. IX. 1996 (light trap).

Agnesiella (Agnesiella) aino (MATSUMURA, 1932) (Fig. 28) [CE, KV]

This is very similar to the next species in dorsal habitus, but differing in having five black spots on the pronotum.

Linnavuoriana (Linnavuoriana) decempunctata (FALLÉN, 1806) (Fig. 29) [CE, AZ, NE, NK, SM, KV]

This leafhopper had been known only from Hokkaido in Japan, but recently it was also recorded from the Tanzawa Mts., Kanagawa Prefecture, central Honshu (HAYASHI 1997).

Linnavuoriana (Linnavuoriana) sexmaculata (HARDY, 1850) ムツボシヒメヨコバイ [CE, SM]

Eupteryx (Eupteryx) melanocephala MELICHAIR, 1902 [SM, KV]

This leafhopper is known to occur in Japan (Honshu and Shikoku), Korean Peninsula and E. Siberia.

Specimens examined. [SM] 1 ♀, VIII. 1996; 3 ♀, 3. IX. 1996. [KV] 4 ♀, 4. VII. 1996.

Eupteryx (Eupteryx) minuscula LINDBERG, 1929 ヨモギヒメヨコバイ [CE, AZ, NK, SM, KV]

Paracyba akashiensis (TAKAHASHI, 1928) アカシヒメヨコバイ [CE, AZ, NE, SM]

Paracyba nopporensis (MATSUMURA, 1932) [CE, AZ, SM]

Typhlocyba babai ISHIHARA, 1958 ババヒメヨコバイ (Fig. 30) [CE, KV]

Empoa (Parempoa) albifascia ANUFRIEV, 1979 (Fig. 31) [KV]

This black-and-white leafhopper was recently recorded from Japan (Yamanashi Prefecture) (HAYASHI 1992), and it is also collected from the Kakuma Valley at the southern edge of Sugadaira, Honshu. One ♂ specimen from Hokkaido (Misumai, Sapporo) is also preserved in our laboratory, Faculty of Education, Saitama University.

Specimens examined. [KV] 3 ♂, 8. VIII. 1995 (light trap).

Empoa (Empoides) anufrievi (DWORAKOWSKA, 1970)* (Fig. 33) [CE, KV]

This species has been known to occur in southern part of the Primorye (Russia) and northern Korea, and it is also recorded from Japan for the first time. This leafhopper looks like *E. (E.) omani* at a glance, but they are easily distinguishable from each other by the coloration of dorsum, shape of head, etc.

Specimens examined. [CE] 13 ♂ 5 ♀, 25-27. VII. 1995; 3 ♂ 3 ♀, 9. VIII. 1995; 4 ♀, 22. VIII. 1995; 2 ♂, 1-2. VII. 1996. [KV] 42 ♀, 26. VII. 1995 (light trap); 38 ♂, 8. VIII. 1995 (light trap); 63 ♂, 4. VII. 1996 (light trap); 26 ♂, 1. VIII. 1996 (light trap); 2 ♂ 1 ♀, 5. IX. 1996.

Empoa (Empoides) fumapicata (DLABOLA, 1967)* (Fig. 32) [KV]

This scarlet leafhopper, recorded from the Russian Maritime Territory and Mongolia, is newly found in Japan.

Specimens examined. [KV] 8 ♂, 4. VII. 1996 (light trap).

Empoa (Empoides) omani DWORAKOWSKA, 1977 (Fig. 34) [CE, SM, KV]

This species is confined to Honshu, Japan, in distribution, and inhabits montane deciduous forests.

Edwardsiana ishidae (MATSUMURA, 1932) [CE, SM, KV]

Zyginellini

Limassolla ishiharai DWORAKOWSKA, 1972 [CE, KV]

Specimens examined. [CE] 1 ♂, 27. VII. 1995 (light trap); 1 ♂, 31. VII. 1996; 1 ♂, 9. VIII. 1995 (light trap); 1 ♀, 7. IX. 1995 (light trap). [KV] 4 ♂, 8. VIII. 1995 (light trap); 4 ♂, 1. VIII. 1996 (light trap).

F u l g o r o m o r p h a

CIXIIDAE (4)

Kuvera flaviceps (MATSUMURA, 1900) キガシラヒシウンカ [CE, SM, KV]

In our list, this planthopper is identified with *flaviceps* on the basis of the original description (MATSUMURA 1900), with special reference to coloration and markings of head and forewing. This species may be identical with *Kuvera* sp. 5 of ICHITA (1996a) and *K. kurilensis* ANUFRIEV, from the comparison of male genital structures.

Kuvera pallidula MATSUMURA, 1914 [CE, AZ, KV]

Some specimens have black clypeus and distally smoky forewing, called 'var. *fumata*

MATSUMURA, 1914'. This species may be identical with *Kuvera* sp. 2 of ICHITA (1996a).

Trirhacus towadensis (MATSUMURA, 1914) [KV]

Specimens examined. [KV] 5 ♂, 20. VI. 1995; 1 ♀, 11. VI. 1996; 1 ♂ 5 ♀, 4. VII. 1996.

Trirhacus sp. [KV]

This planthopper is very similar to *T. hakonensis* (MATSUMURA, 1914), but slightly differing in the carination on head and infuscation on forewing.

Specimens examined. [KV] 2 ♂, 20. VI. 1995; 1 ♀, 11. VI. 1996; 1 ♂ 1 ♀, 4. VII. 1996.

DELPHACIDAE (18)

Stenocraninae

Stenocranus chenzhouensis DING 1981 ホソスジナガウンカ (Fig. 35) [SM]

This planthopper, first recorded from Japan (Aomori) by ICHITA (1996b), inhabits wet grasslands near water streams, and it was often confused with *S. ozenumensis* ISHIHARA, 1952, listed below.

Specimens examined. [SM] 54 ♂ 60 ♀, 25. IX. 1985; 1 ♂, 8. IX. 1995; 1 ♀, 19. IX. 1995; 98 ♂ 109 ♀, 3. IX. 1996.

Stenocranus matsumurai METCALF, 1943 エゾナガウンカ [SM, KV]

Stenocranus ozenumensis ISHIHARA, 1952 オゼナガウンカ [CE]

This species is very similar and closely allied to *S. sapporensis* MATSUMURA, 1935, described from Hokkaido. A single ♀ was collected at Suga-ike (1,320 m alt.), ca. 500 m north of the Sugadaira Montane Research Center, on 4 September 1996.

Terauchiana singularis MATSUMURA, 1915 テラウチウンカ [KV]

Delphacinae

Tropidocephalini

Epeurya nawatii (MATSUMURA, 1900) タケウンカ [NE, KV]

Specimens examined. [NE] 1 ♀, 4. IX. 1996. [KV] 1 ♂, 4. VII. 1996.

Delphacini

Chloriona tateyamana MATSUMURA, 1935 タテヤマヨシウンカ [SM, KV]

Kakuna kuwayamai MATSUMURA, 1935 クワヤマウンカ [AZ, KV]

Muirodelphax matsuyamensis (ISHIHARA, 1952) マツヤマチビウンカ [AZ, NE, SM]

Specimens examined. [AZ] 7 ♂ 1 ♀, 31. VII. 1996; 1 ♀, 3. IX. 1996. [NE] 1 ♂, 4. IX. 1996. [SM] 2 ♀, 2. VII. 1996.

Nilaparvata lugens (STÅL, 1854) トビイロウンカ [CE, SM]

Garaga sp. [CE]

This species has been confused with *G. nagaragawana* (MATSUMURA, 1900), but the male genitalia of both species are quite different in shape (cf. ICHITA 1996b).

Specimens examined. [CE] 1 ♀, 27. IX. 1985; 2 ♂ 2 ♀, 2. X. 1986; 1 ♂, 19. IX. 1988; 1 ♀, 22. IX. 1989; 2 ♂, 1-2. IX. 1992 (light trap); 1 ♀, 28. VII. 1995; 1 ♀, 7. VIII. 1995; 1 ♂ 1 ♀,

10. IX. 1995; 1 ♀, 18. IX. 1995; 1 ♂, 2. IX. 1996; 5 ♂ 6 ♀, 5. IX. 1996.

Sogatella furcifera (HORVÁTH, 1899) セジロウンカ [CE, AZ, NE, DM, SM, KV]

Muellerianella extrusa (SCOTT, 1871) ナカノウンカ [CE, SM, KV]

Unkanodes albifascia (MATSUMURA, 1900) シロオビウンカ [CE, AZ, SM, KV]

Unkanodes sapporona (MATSUMURA, 1935) サッポロトビウンカ [CE, AZ]

Specimens examined. [CE] 1 ♂ 2 ♀, 23. VIII. 1995; 1 ♂, 18. IX. 1995; 1 ♂, 4. VII. 1996; 1 ♂, 2. VIII. 1996; 1 ♂ 1 ♀, 2. IX. 1996. [AZ] 1 ♀, 3. IX. 1996.

Terthron albovittatum (MATSUMURA, 1900) セスジウンカ [CE]

Terthronella basalis (MATSUMURA, 1915)* (Fig. 36) [SM, KV]

This planthopper has been known to occur in the Russian Maritime Territory (Khabarovsk, S. Sakhalin, S. Kuriles), northern Korea and Mongolia, and it is recorded from Japan for the first time.

Specimens examined. [SM] 10 ♂ 8 ♀, 10. VI. 1996; 13 ♂ 11 ♀, 4. VII. 1996. [KV] 1 ♀, 20. VI. 1995; 1 ♂, 26. VII. 1995.

Paradelphacodes paludosa (FLOR, 1861) エゾトビウンカ [CE, SM, KV]

Laodelphax striatella (FALLÉN, 1826) ヒメトビウンカ [CE, NE, DM, SM, KV]

MEENOPLIDAE (1)

Eponisiella guttulinervis (MATSUMURA, 1914) シマウンカモドキ [SM]

Specimens examined. [SM] 3 ♂, 26. VII. 1995; 10 ♂ 10 ♀, 2. VII. 1996; 5 ♂ 20 ♀, 1. VIII. 1996; 2 ♂ 7 ♀, 3. IX. 1996.

DERBIDAE (3)

Pamendanga matsumurae (MUIR, 1918) マダラハネナガウンカ [KV]

Epotiocerus flexuosus (UHLER, 1896) アカフハネナガウンカ [CE, KV]

Mysidioides sapporensis (MATSUMURA, 1900) クロフハネナガウンカ [KV]

ACHILIDAE (3)

Epirama shikokuana ISHIHARA, 1954 シコクコガシラウンカ (Fig. 37) [CE]

This species is rare; only a few specimens have been collected from some localities in Shikoku and eastern Honshu.

Specimen examined. [CE] 1 ♂, 9. VIII. 1995 (light trap).

Rhotala nawae MATSUMURA, 1914 ナワコガシラウンカ [KV]

Catanidia sobrina UHLER, 1896 ウチワコガシラウンカ [CE, KV]

DICTYOPHARIDAE (2)

Dictyophara patruelis (STÅL, 1859) テングスケバ [KV]

Saigona ishidae (MATSUMURA, 1905) クロテングスケバ [CE, KV]

TROPIDUCHIDAE (1)

Cixiopsis punctata MATSUMURA, 1900 ヒシウンカモドキ (Fig. 38) [CE, NE]

This troiduchid planthopper inhabits dry grasslands, feeding on ferns, especially on *Pteridium aquilinum* KUHN var. *latiusculum* UNDERW. (Pteridaceae).

TETTIGOMETRIDAE (1)

Tettigometra bipunctata MATSUMURA, 1900 アリヅカウンカ (Fig. 39) [CE]

This species was recently recorded from Sugadaira by HIGASHIKAWA (1997). None have been known on the ecology of this planthopper.

RICANIIDAE (1)

Pochazia albomaculata (UHLER, 1896) アミガサハゴロモ [KV]

HETEROPTERA

Nepomorpha

NEPIDAE (1)

Ranatra chinensis MAYR, 1865 ミズカマキリ [CE]

CORIXIDAE (1)

Sigara nigroventralis (MATSUMURA, 1905) ハラグロコミズムシ [KV]

Specimen examined. [KV] 1♂, 5. IX. 1996 (light trap).

NOTONECTIDAE (1)

Notonecta triguttata MOTSCHULSKY, 1861 マツモムシ [CE, SM]

Gerromorpha

GERRIDAE (4)

Aquarius paludum paludum (FABRICIUS, 1794) ナミアメンボ [SM]

Gerris (Macrogerris) insularis (MOTSCHULSKY, 1866) ヤスマツアメンボ [CE, SM]

Gerris (Macrogerris) yezoensis MIYAMOTO, 1958 エゾコセアカアメンボ [CE, SM]

Gerris (Gerris) latiabdominis MIYAMOTO, 1958 ヒメアメンボ [SM]

Leptopodomorpha

SALDIDAE (2)

Saldula recticollis (HORVÁTH, 1899) エゾミズギワカメムシ [KV]

Saldula saltatoria (LINNAEUS, 1758) ミズギワカメムシ [SM, KV]

Cimicomorpha

TINGIDAE (5)

Stephanitis pyrioides (SCOTT, 1874) ツツジグンバイ [NE]

Stephanitis takeyai DRAKE et MAA, 1953 トサカグンバイ [CE]

Cystechila chiniana DRAKE, 1942 ヤブガラシグンバイ [SM]

According to Dr. M. TOMOKUNI (pers. comm.), the usage of *chiniana* may be recommended for this species; *C. consueta* DRAKE, 1948, probably does not occur in Japan (cf. PÉRICART and GOLUB 1996).

Cystechila fieberi (SCOTT, 1874) コアカソグンバイ [CE, SM, KV]

Derephysia foliacea (FALLÉN, 1807) ミヤマグンバイ [CE, KV]

Specimens examined. [CE] 1 ♂, 25. VII. 1995. [KV] 1 ♀, 1. VIII. 1996.

NABIDAE (6)

Nabinae

Himacerus (Himacerus) apterus (FABRICIUS, 1798) ハラビロマキバサシガメ [CE, AZ, DM, NK, SM, KV]

Himacerus (Stalia) dauricus (KIRITSHENKO, 1911) クロマキバサシガメ (Fig. 40) [CE]

Specimen examined. [CE] 1 ♀, 1. X. 1987.

Gorpis brevilineatus (SCOTT, 1874) アカマキバサシガメ [KV]

Nabis (Mitu) apicalis MATSUMURA, 1913 コバネマキバサシガメ [KV]

Nabis (Mitu) reuteri JAKOVLEV, 1876 エゾマキバサシガメ (Fig. 41) [CE, AZ, SM, KV]

Nabis (Nabis) stenoferus HSIAO, 1964 ハネナガマキバサシガメ [CE, AZ, KV]

ANTHOCORIDAE (2)

Anthocorinae

Anthocoris miyamotoi HIURA, 1959 キモンクロハナカメムシ [CE, KV]

Specimens examined. [CE] 1 ♀, 9. IX. 1995. [KV] 1 ♀, 19. IX. 1995; 2 ♀, 11. VI. 1996; 1 ♀, 4. VII. 1996.

Lyctocorinae

Amphiareus obscuriceps (POPPIUS, 1909) ヤサハナカメムシ [CE]

Specimen examined. [CE] 1 ♂, 6. XI. 1995.

MIRIDAE (56)

Bryocorinae

Monalocoris filicis (LINNAEUS, 1758) ズアカシグメクラガメ [SM]

Bryocoris montanus KERZHNER, 1972 [CE]

Specimen examined. [CE] 1 ♀, 3. VII. 1996.

Deraeocorinae

Alloetomus simplex (UHLER, 1896) マツノヒゲホソメクラガメ [CE]

Specimens examined. [CE] 2 ♂, 20. IX. 1995.

Deraeocoris (Deraeocoris) ater JAKOVLEV, 1889 モンキクロメクラガメ [CE, SM, KV]

Deraeocoris (Deraeocoris) elegantulus HORVÁTH, 1905 コベニモンメクラガメ [CE, SM, KV]

Deraeocoris (Deraeocoris) herzhneri JOSIFOV, 1983 [CE, KV]

Deraeocoris (Deraeocoris) koreanus LINNAVUORI, 1963 ケブカアカツヤメクラガメ (Fig. 42) [CE, NE]

NAKATANI and OZAKI (1997) suggested that this bug does not belong to true *Deraeocoris* on the basis of male genitalia.

Specimens examined. [CE] 3 ♀, 9-10. VI. 1996; 1 ♀, 1. VII. 1996. [NE] 1 ♀, 27. VII. 1995.

Deraeocoris (Deraeocoris) olivaceus (FABRICIUS, 1777) オオモンキメクラガメ (Fig. 43) [CE, SM]

Deraeocoris (Camptobrochis) punctulatus (FALLÉN, 1807) シロテンツヤメクラガメ [CE, AZ, DM, SM]

Mirinae

Arbolygus potanini (REUTER, 1906) カシワメクラガメ [CE, NE, KV]

Specimens examined. [CE] 1 ♂ 7 ♀, 25-26. VII. 1995; 2 ♂, 27. VII. 1995 (light trap); 2 ♀, 7. VIII. 1995 (light trap); 4 ♀, 9. VIII. 1995 (light trap); 1 ♂ 3 ♀, 1. VIII. 1996 (light trap). [NE] 2 ♀, 27. VII. 1995. [KV] 1 ♂ 3 ♀, 20. VI. 1995; 1 ♀, 11. VI. 1996; 2 ♀, 1. VIII. 1996 (light trap).

Arbolygus rubripes (JAKOVLEV, 1876) アシアカクロメクラガメ [CE, AZ, NE, SM, KV]

Calocoris (Rhabdomiris) pulcherrimus LINDBERG, 1934 [CE]

Specimens examined. [CE] 4 ♂, 10-11. VI. 1996.

Adelphocoris demissus HORVÁTH, 1905 ウスモンメクラガメ [CE]

Specimen examined. [CE] 1 ♂, 7. VIII. 1995.

Adelphocoris lineolatus (GOEZE, 1778) ウススジメクラガメ [CE, AZ, NE, SM]

Adelphocoris piceosetosus KULIK, 1965 ウスアカメクラガメ [CE, AZ, NE]

Adelphocoris reicheli (FIEBER, 1837) キエリフタモンメクラガメ [CE, AZ, NE, DM]

Adelphocoris suturalis (JAKOVLEV, 1882) ナカグロメクラガメ [CE, AZ, SM, KV]

Adelphocoris triannulatus (STÅL, 1858) ブチヒゲクロメクラガメ [CE, AZ, DM, SM, KV]

Lygocoris (Lygocoris) idoneus (LINNAVUORI, 1963) ムモンミドリメクラガメ [CE, AZ, NE, SM, KV]

Lygocoris (Lygocoris) pabulinus (LINNAEUS, 1761) ナガミドリメクラガメ [CE, AZ, SM, KV]

Lygocoris (Neolygus) honshuensis (LINNAVUORI, 1961) フタモンウスキメクラガメ [CE, SM]

Lygocoris (Neolygus) juglandis KERZHNER, 1987 フタホシミドリメクラガメ [CE, AZ]

Specimens examined. [CE] 1 ♂ 2 ♀, 25. VII. 1995; 2 ♀, 21. VIII. 1995; 1 ♀, 7. IX. 1995. [AZ] 1 ♂, 31. VII. 1996.

Lygocoris (Neolygus) longiusculus KULIK, 1965 ヒゲナガミドリメクラガメ [CE, AZ,

SM]

Specimens examined. [CE] 2 ♀, 20. IX. 1995; 1 ♀, 2. IX. 1996. [AZ] 1 ♂, 19. IX. 1995. [SM] 1 ♀, 26. VII. 1995; 1 ♂, 1. VIII. 1996.

Lygocoris (Neolygus) nemoralis KULIK, 1965 チャモンミドリメクラガメ [CE]

Specimens examined. [CE] 1 ♀, 28. VII. 1992; 1 ♂, 25. VII. 1995; 1 ♂, 7. VIII. 1995 (light trap); 1 ♂, 9. VIII. 1995 (light trap); 1 ♂, 7. IX. 1995; 1 ♂, 1. VIII. 1996.

Lygocoris (Apolygus) furvus KERZHNER, 1972 ヒゲナガクロバメクラガメ [CE, NE, SM, KV]

Lygocoris (Apolygus) hilaris (HORVÁTH, 1905) フタモンアカメクラガメ [CE, AZ, SM, KV]

Lygocoris (Apolygus) pallens YASUNAGA, 1991 コアカソメクラガメ [CE, KV]

Specimens examined. [CE] 1 ♀, 23. VIII. 1995; 1 ♂, 3. VII. 1996. [KV] 1 ♂, 22. VIII. 1995; 1 ♂, 1. VIII. 1996.

Lygocoris (Apolygus) roseofemoralis YASUNAGA, 1992 モモアカハギメクラガメ [CE, SM]

Specimens examined. [CE] 1 ♀, 28. VII. 1995; 1 ♀, 7. VIII. 1995 (light trap); 2 ♂ 1 ♀, 9. VIII. 1995 (light trap). [SM] 2 ♀, 8. VIII. 1995; 2 ♂, 2. VII. 1996.

Lygocoris (Apolygus) subpulchellus KERZHNER, 1987 ツマグロハギメクラガメ [CE]

Specimens examined. [CE] 1 ♀, 21. VIII. 1995; 1 ♀, 10. IX. 1995; 1 ♀, 2. IX. 1996 (light trap).

It is difficult to determine the species belonging to the subgenus *Apolygus* in the genus *Lygocoris*; the species of this group resembles one another in general habitus (size, proportion and coloration), male genitalia, etc. In particular, it is nearly impossible to identify the species based only on female specimens. Around Sugadaira, we have further recognized a few undetermined species.

Stenotus binotatus (FABRICIUS, 1794) フタスジメクラガメ [CE, AZ, NE, SM, KV]

Salignus duplicatus medius KERZHNER, 1976 シモフリメクラガメ [CE, KV]

Specimens examined. [CE] 1 ♂ 4 ♀, 4. VII. 1996. [KV] 1 ♀, 20. VI. 1995.

Eurystylus coelestialium (KIRKALDY, 1902) メンガタメクラガメ [SM, KV]

Stenodema (Brachystira) calcaratum (FALLÉN, 1807) ムギメクラガメ [CE, KV]

Stenodema (Stenodema) rubrinerve HORVÁTH, 1905 アカミヤクメクラガメ [CE, AZ, NE, SM, KV]

Stenodema (Stenodema) sibiricum BERGROTH ナガムギメクラガメ [CE]

Specimen examined. [CE] 1 ♂, 27. VII. 1995 (light trap).

Trigonotylus caelestialium (KIRKALDY, 1902) アカヒゲホソミドリメクラガメ [CE, SM]

Lygus saundersi REUTER, 1896 マグラメクラガメ [CE, AZ, DM, SM, KV]

Mermitelocerus annulipes REUTER, 1908 シマアオメクラガメ [CE, KV]

Specimens examined. [CE] 1 ♀, 3. VII. 1996; 1 ♀, 4. VII. 1996. [KV] 2 ♂ 3 ♀, 25. V. 1995; 1 ♂ 5 ♀, 20. VI. 1995; 1 ♂ 2 ♀, 11. VI. 1996; 1 ♀, 4. VII. 1996.

Onomaus lautus (UHLER, 1896) アカアシメクラガメ [CE, DM, SM, KV]

Creontiades tricolor (SCOTT, 1880) オオチャイロメクラガメ [CE, AZ, NE, SM]

Pinalitus japonicus (KERZHNER, 1976) オオキベリメクラガメ [CE, SM]

Specimens examined. [CE] 1 ♂, 25. VII. 1995; 2 ♀, 28. VII. 1995; 1 ♂ 1 ♀, 3. VII. 1996; 3 ♂, 4. VII. 1996. [SM] 1 ♂, 26. VII. 1995; 1 ♂ 3 ♀, 2. VII. 1996.

Pinalitus nigriceps KERZHNER, 1988 ズグロキベリメクラガメ [CE]

This plant bug is observed to feed on *Pinus densiflora* SIEB. et ZUCC. growing in montane areas.

Specimens examined. [CE] 2 ♀, 20. IX. 1995; 1 ♀, 3. VII. 1996; 1 ♀, 4. VII. 1996; 1 ♀, 4. IX. 1996 (light trap).

Pinalitus sp. [CE, KV]

This bug is very similar to *P. rubricatus* (FALLÉN, 1829) widely distributed in the Palearctic Region, but slightly differing in the shape of the left paramere in male genitalia (cf. KERZHNER 1988).

Specimens examined. [CE] 1 ♂, 1. VII. 1996 (light trap); 4 ♂ 2 ♀, 3-4. VII. 1996. [KV] 1 ♂, 20. VI. 1995.

Charagochilus gyllenhalii (FALLÉN, 1807) ヒメセダカメクラガメ [DM, KV]

Polymerus (Poeciloscytus) palustris (REUTER, 1905) キボシメクラガメ [CE, SM]

Orthops sachalinus (CARVALHO, 1959) モンキマキバメクラガメ [CE, NE, DM, KV]

Gigantomiris jupiter MIYAMOTO et YASUNAGA, 1988 アカスジオオメクラガメ (Fig. 44) [CE, KV]

At the Sugadaira Montane Research Center, many adults and nymphs were found on *Malus sieboldii* REHD. (Rosaceae) in June (cf. YASUNAGA 1990).

Orthotylinae

Zanchius tarasovi KERZHNER, 1988* [CE]

This pale-colored plant bug has hitherto been known from the Russian Maritime Territory (Primorye), and it is newly collected from Japan.

Specimens examined. [CE] 2 ♂ 2 ♀, 9. VIII. 1995 (light trap); 3 ♂, 21. VIII. 1995; 1 ♂ 3 ♀, 23. VIII. 1995; 1 ♀, 7. IX. 1995; 1 ♂, 10. IX. 1995; 1 ♂, 20. IX. 1995; 2 ♂ 3 ♀, 2-4. IX. 1996.

Orthotylus (Melanotrichus) flavosparsus (SAHLBERG, 1842) テンサイメクラガメ [CE, AZ, KV]

Specimens examined. [CE] 2 ♂ 2 ♀, 7. VII. 1995 (light trap); 1 ♀, 8. IX. 1995; 1 ♂, 4. VII. 1996. [AZ] 3 ♂ 6 ♀, 9. IX. 1995. [KV] 2 ♂, 19. IX. 1995.

Orthocephalus funestus JAKOVLEV, 1881 クロマルメクラガメ [CE, AZ, KV]

Strongylocoris leucocephalus (LINNAEUS, 1758) ツヤクロマルメクラガメ [CE, AZ, NE]

Dryophilocoris sp. [CE, SM, KV]

Specimens examined. [CE] 1 ♀, 18. VI. 1995; 1 ♂ 2 ♀, 2-4. VII. 1996. [SM] 1 ♀, 8. IX. 1995. [KV] 1 ♂ 1 ♀, 20. VI. 1995.

This bug was identified in generic level by Dr. T. YASUNAGA.

Phylinae

Pilophorus setulosus HORVÁTH, 1905 ヒョウタンメクラガメ [CE, AZ, NE, SM]

Plagiognathus miyamotoi KERZHNER, 1988 ウスイロホソメクラガメ [CE, NE, SM]

Plagiognathus yomogi MIYAMOTO, 1969 ヒメヨモギメクラガメ [CE, AZ, SM, KV]

Harpocera orientalis KERZHNER, 1976 コブヒゲメクラガメ [CE, KV]

Specimens examined. [CE] 1 ♀, 20. VI. 1995; 15 ♀, 9-11. VI. 1996. [KV] 1 ♀, 25. V. 1995.

No taxonomic studies on Japanese Phylinae have been made up to the present. Other than the species listed above, we recognized 15 unidentified (even in generic level) species around Sugadaira.

REDUVIIDAE (2)

Harpactocorinae

Rhynocoris leucospilus rubromarginatus (JAKOVLEV, 1893) アカヘリサシガメ [CE, TP, KV]

Specimens examined. [CE] 1 ♂, 20. VI. 1995; 1 ♂, 3. VII. 1996. [KV] 1 ♀, 4. VII. 1996.

Coranus dilatatus (MATSUMURA, 1913) ハネナシサシガメ [CE, NK, SM]

Specimens examined. [CE] 1 ♂, 25. IX. 1985; 1 ♂, 25. VII. 1995; 1 ♂, 10. VIII. 1995; 1 ♂, 23. VIII. 1995; 1 ♂, 1. VII. 1996; 1 ♂ 1 ♀, 2. IX. 1996. [NK] 1 ♀, 25. IX. 1985. [SM] 1 ♂ (macropterous form), 8. VIII. 1995; 1 ♀, 3. IX. 1996.

Pentatomomorpha

ARADIDAE (2)

Aradus orientalis BERGROTH, 1885 ノコギリヒラタカメムシ [CE, SM, KV]

Aradus esakii KORMILEV et HEISS, 1976 エサキヒラタカメムシ [KV]

Specimens examined. [KV] 3 ♂ 3 ♀, 11. VI. 1996; 1 ♀, 4. VII. 1996.

LYGAEIDAE (20)

Orsillinae

Nysius plebejus DISTANT, 1883 ヒメナガカメムシ [KV]

Ischnorhynchinae

Pylorgus ishiharai HIDAKA et IZZARD, 1960 イシハラナガカメムシ [KV]

Specimen examined. [KV] 1 ♀, 1. VIII. 1996.

Kleidocerys resedae (PANZER, 1797) ウスイロヒラタナガカメムシ (Fig. 46) [CE, SM, KV]

At the Sugadaira Montane Research Center, all the specimens were collected from *Betula platyphylla* SUKAT. var. *japonica* HARA.

Cyminae

Cymus glandicolor HAHN, 1831 オオヒメヒラタナガカメムシ (Fig. 47) [SM]

Specimens examined. [SM] 2 ♂ 2 ♀, 26. V. 1995; 1 ♀, 10. VI. 1996.

Ninomimus flavipes (MATSUMURA, 1913) ホソメダカナガカメムシ [SM]

Specimens examined. [SM] 1 ♀, 22. VIII. 1995; 1 ♀, 3. IX. 1996.

Geocorinae

Hypogeocoris itonis (HORVÁTH, 1905) クロオオメナガカメムシ (Fig. 45) [CE, NE, SM]

This bug is rather abundant at grassland in the Sugadaira Montane Research Center, University of Tsukuba.

Piocoris varius (UHLER, 1860) オオメナガカメムシ [KV]

Pachygronthinae

Pachygrontha antennata (UHLER, 1860) ヒゲナガカメムシ [CE]

Pachygrontha similis UHLER, 1896 クロスジヒゲナガカメムシ [SM, KV]

Rhyparochrominae

Antillocorini

Botocudo japonicus (HIDAKA, 1959) ヨツボシチビナガカメムシ [CE]

Specimen examined. [CE] 1 ♂, 25. VII. 1995.

Iodinus ferrugineus LINDBERG, 1927 ヒナナガカメムシ [CE, AZ, KV]

Specimens examined. [CE] 1 ♂, 3. VII. 1996. [AZ] 1 ♂ 2 ♀, 7. X. 1995, T. TSUTSUMI leg. [KV] 2 ♀, 20. VI. 1995.

Drymini

Trichodrymus major TOMOKUNI, 1994 オオケブカナガカメムシ [CE, KV]

Specimens examined. [CE] 1 ♀, 23. VIII. 1995; 1 ♀, 20. IX. 1995; 1 ♂, 2. VII. 1996. [KV] 1 ♂ 1 ♀, 4. VII. 1996.

Eremocoris plebejus (FALLÉN, 1807) オオムラクモナガカメムシ [NE]

Specimen examined. [NE] 1 ♀, 4. IX. 1996.

Lamproplax membranea DISTANT, 1883 クロツヤナガカメムシ [CE]

Specimen examined. [CE] 1 ♀, 5. IX. 1996.

Drymus (Sylvadrymus) marginatus DISTANT, 1883 クロナガカメムシ [SM, KV]

Myodochini

Togo hemiptera (SCOTT, 1874) コバネヒョウタンナガカメムシ [CE, DM, SM, KV]

Stigmatonotum rufipes (MOTSCHULSKY, 1866) チビナガカメムシ [CE, AZ, DM, SM, KV]

Pamerarma rustica (SCOTT, 1874) サビヒョウタンナガカメムシ [SM]

Rhyparochromini

Panaorus japonicus (STÅL, 1874) シロヘリナガカメムシ [CE, AZ, SM, KV]

Paradieuches dissimilis (DISTANT, 1883) チャモンナガカメムシ [CE, KV]

PYRRHOCORIDAE (2)

Pyrrhocoris sibiricus KUSCHAKEWITSCH, 1867 フタモンホシカメムシ [CE]

Pyrrhocoris sinuaticollis REUTER, 1885 クロホシカメムシ [CE]

COREIDAE (4)

Pseudophloeinae

Coriomeris integerrimus JAKOVLEV, 1904 トゲヘリカメムシ (Fig. 48) [CE]

The specimens examined were collected under stones on dry grassland at the Sugadaira Montane Research Center, University of Tsukuba.

Specimens examined. [CE] 1 ♂ 1 ♀, 2. X. 1987.

Mictinae

Molipteryx fuliginosa (UHLER, 1860) オオヘリカメムシ [TP, KV]

Coreinae

Cletus rusticus STÅL, 1859 ハリカメムシ [CE, KV]

Coreus marginatus orientalis KIRITSHENKO, 1916 ヘリカメムシ (Fig. 49) [CE, SM, TP]

ALYDIDAE (2)

Riptortus clavatus (THUNBERG, 1783) ホソヘリカメムシ [CE]

Specimen examined. [CE] 1 ♂, 19. VI. 1995.

Paraplesius unicolor SCOTT, 1874 ヒメクモヘリカメムシ [CE, DM]

RHOPALIDAE (4)

Rhopalus (Aeschynteles) latus JAKOVLEV, 1883 オオヒメヘリカメムシ [CE]

Specimens examined. [CE] 1 ♂ 1 ♀, 22. IX. 1989.

Rhopalus (Aeschynteles) maculatus (FIEBER, 1836) アカヒメヘリカメムシ [CE, AZ, SM, KV]

Rhopalus (Aeschynteles) sapporensis (MATSUMURA, 1905) ケブカヒメヘリカメムシ [CE, KV]

Specimens examined. [CE] 1 ♂, 18. IX. 1995; 1 ♂, 9. VI. 1996; 2 ♂, 3. VII. 1996. [KV] 1 ♂, 11. VI. 1996; 1 ♂, 5. IX. 1996.

Stictopleurus punctatonevrosus (GOEZE, 1778) ブチヒメヘリカメムシ [CE, AZ, SM, KV]

UROSTYLIDAE (4)

Urostylis annulicornis SCOTT, 1874 ヘラクヌギカメムシ [CE, AZ, KV]

Differing from *U. westwoodi* SCOTT, 1874, feeding on *Quercus acutissima* CARRUTH., this urostylid usually lives on *Q. dentata* THUNB., *Q. serrata* THUNB. and *Q. mongolica* FISCH. var. *grosseserrata* REHD. et WILS. (Fagaceae).

Urostylis striicornis SCOTT, 1874 サジクヌギカメムシ [CE]

The host plants may be also fagaceous deciduous trees of the genus *Quercus* but have never

been specified. Most specimens were, however, found on *Q. mongolica* var. *grosseserrata* around Sugadaira; this plant is possibly one of the host plants.

Specimens examined. [CE] 1 ♀, 16. IX. 1993; 1 ♀, 21. VIII. 1995; 1 ♂, 1. VIII. 1996; 1 ♂, 4. IX. 1996.

Urochela luteovaria DISTANT, 1881 ナシカメムシ [CE, SM, KV]

Urochela quadrinotata (REUTER, 1881) ヨツモンカメムシ [CE]

Specimen examined. [CE] 1 ♂, 28. VII. 1995.

PLATASPIDAE (1)

Coptosoma biguttulum MOTSCHULSKY, 1859 ヒメマルカメムシ [CE, AZ]

CYDNIDAE (2)

Sehirinae

Adomerus triguttulus (MOTSCHULSKY, 1866) ミツボシツチカメムシ [CE, SM]

Cydninae

Chilocoris (*Chilocoris*) sp. オオツヤツチカメムシ [KV]

According to LIS (1994), the Japanese specimens are not true *nilidus* MAYR, 1864, known to occur in Nepal, India, South China, etc.

Specimen examined. [KV] 1 ♀, 1. VIII. 1996.

SCUTELLERIDAE (1)

Poecilocoris lewisi (DISTANT, 1883) アカスジキンカメムシ

This bug was recorded from Sugadaira (detailed locality unknown) by MACHIDA *et al.* (1992). No specimens have been collected through our research.

PENTATOMIDAE (23)

Podopinae

Graphosoma rubrolineatum (WESTWOOD, 1873) アカスジカメムシ [CE, KV]

Asopinae

Picromerus bidens (LINNAEUS, 1758) オオクチプトカメムシ (Fig. 50) [CE, AZ, NE, KV]

P. fuscoannulatus STÅL, 1858, described from Irkutsk, was synonymized with *bidens* by KERZHNER (1988).

Specimens examined. [CE] 1 ♂, 26. IX. 1985; 1 ♀, 2. X. 1986; 2 ♀, 17. IX. 1993. [AZ] 5 ♂ 3 ♀, 9. IX. 1995; 1 ♂, 31. VII. 1996; 1 ♂, 3. IX. 1996. [NE] 1 ♀, 2. IX. 1992. [KV] 1 ♀, 19. IX. 1995.

Picromerus lewisi SCOTT, 1874 クチプトカメムシ (Fig. 51) [CE]

Specimens examined. [CE] 1 ♂, 18. X. 1992; 1 ♂, 18. IX. 1995; 1 ♂ 1 ♀, 2. VII. 1996; 1 ♀, 3. VII. 1996.

Arma custos (FABRICIUS, 1794) チャイロクチプトカメムシ [CE]

Specimen examined. [CE] 1 ♂, 18. IX. 1995.

Pinthaeus sanguinipes (FABRICIUS, 1787) アカアシクチプトカメムシ [CE]

Specimen examined. [CE] 1 ♂, 5. IX. 1990.

Dinorhynchus dybowskyi JAKOVLEV, 1876 アオクチプトカメムシ (Fig. 52) [CE, AZ, DM, NK, SM, KV]

Zicrona caerulea (LINNAEUS, 1758) ルリクチプトカメムシ [CE]

Specimen examined. [CE] 1 ♀, 2. X. 1986.

Pentatominae

Palomena angulosa (MOTSCHULSKY, 1861) エゾアオカメムシ [CE, DM, NK, SM, KV]

Dolycoris baccatum (LINNAEUS, 1758) ブチヒゲカメムシ [CE, AZ]

Carpocoris purpureipennis DE GEER, 1773 ムラサキカメムシ (Fig. 53) [CE, AZ, NE, DM]

Eysarcoris lewisi (SCOTT, 1833) オオトゲシラホシカメムシ [CE, AZ, NE, SM, KV]

Halyomorpha halys (FABRICIUS, 1794) クサギカメムシ [CE, KV]

Hermolaus amurensis HORVÁTH, 1903 ミヤママダラカメムシ [AZ, KV]

The host plants of this shield bug are *Carpinus japonica* BL. and *C. cordata* BL. of the Betulaceae.

Specimens examined. [AZ] 1 ♂, 9. VIII. 1995. [KV] 1 ♂, 25. V. 1995; 1 ♀, 20. VI. 1995; 1 ♂, 8. IX. 1995; 3 ♂ 4 ♀, 11. VI. 1996; 1 ♀, 5. IX. 1996.

Carbula humerigera (UHLER, 1860) トゲカメムシ [CE, AZ, SM, KV]

Rubiconia intermedia WOLFF, 1811 ヒメカメムシ [CE, AZ]

Specimens examined. [CE] 1 ♂, 2. X. 1986; 1 ♂, 19. IX. 1988; 1 ♂ 1 ♀, 25. VII. 1995; 2 ♂, 30. VII. 1996; 2 ♀, 2. VIII. 1996. [AZ] 1 ♀, 9. VIII. 1995; 17 ♂ 6 ♀, 9. IX. 1995; 8 ♂ 12 ♀, 19. IX. 1995; 7 ♂ 4 ♀, 3. IX. 1996.

Eurydema rugosa MOTSCHULSKY, 1861 ナガメ [CE, AZ, SM, KV]

Plautia stali SCOTT, 1874 チャバネアオカメムシ [CE]

Homalogonia obtusa (WALKER, 1868) ヨツボシカメムシ [CE]

Menida scotti PUTON, 1886 スコットカメムシ [CE, DM, SM, KV]

Pentatoma japonica (DISTANT, 1882) ツノアオカメムシ [CE, AZ, NE, SM, KV]

Pentatoma rufipes (LINNAEUS, 1758) アシアカカメムシ [CE, AZ, SM, KV]

Lelia decempunctata (MOTSCHULSKY, 1859) トホシカメムシ [CE, KV]

Specimens examined. [CE] 1 ♀, 25. VII. 1995; 1 ♂ 1 ♀, 1. VIII. 1996. [KV] 1 ♀, 1. VIII. 1996.

Phyllocephalinae

Gonopsis affinis (UHLER, 1860) エピイロカメムシ [CE]

ACANTHOSOMATIDAE (15)

Acanthosoma crassicauda JAKOVLEV, 1880 フトハサミツノカメムシ (Fig. 54) [CE]

This acanthosomatid is very rare and recognized to live on *Prunus* trees (Rosaceae) (HAYASHI 1990).

Specimens examined. [CE] 1 ♂, 21. VII. 1992, T. TSUTSUMI leg.; 1 ♀, 11. VI. 1996; 1 ♂ 1 ♀, 1. VII. 1996 (light trap).

Acanthosoma denticauda JAKOVLEV, 1880 セアカツノカメムシ [CE, SM]

Acanthosoma expansum HORVÁTH, 1905 エゾツノカメムシ [CE, AZ]

Specimens examined. [CE] 1 ♀, 11. VI. 1996. [AZ] 1 ♂, 9. IX. 1995.

Acanthosoma forficula JAKOVLEV, 1880 ヒメハサミツノカメムシ [KV]

The host plants must be *Carpinus japonica* BL. and *C. cordata* BL. (Betulaceae).

Acanthosoma labiduroides JAKOVLEV, 1880 ハサミツノカメムシ [CE, KV]

Acanthosoma spinicolle JAKOVLEV, 1880 ミヤマツノカメムシ [CE, AZ, KV]

Sastragala esakii HASEGAWA, 1959 エサキモンキツノカメムシ [CE, SM, KV]

Dichobothrium nubilum (DALLAS, 1851) アオモンツノカメムシ [CE]

Elasmotethus humeralis JAKOVLEV, 1883 ベニモンツノカメムシ [CE, DM, NK]

Elasmotethus minor HORVÁTH, 1890 ヒメセグロベニモンツノカメムシ (Fig. 55) [AZ, NE]

This bug feeds on *Betula ermanii* CHAM. predominant to higher altitudinal zone of Mt. Azumaya and Mt. Neko-dake.

Specimens examined. [AZ] 3 ♀, 9. IX. 1995; 7 ♂ 7 ♀, 31. VII. 1996; 15 ♂ 10 ♀, 3. IX. 1996. [NE] 7 ♂ 4 ♀, 4. IX. 1996.

Elasmucha amurensis KERZHNER, 1972 クロヒメツノカメムシ [CE, AZ, DM, SM]

This bug was collected exclusively on *Betula platyphylla* SUKAT. var. *japonica* HARA.

Elasmucha dorsalis (JAKOVLEV, 1876) アカヒメツノカメムシ [KV]

Elasmucha fieberi (JAKOVLEV, 1864) キタヒメツノカメムシ [CE, AZ, DM, KV]

This species was also found on *Betula platyphylla* SUKAT. var. *japonica* HARA.

Elasmucha putoni SCOTT, 1874 ヒメツノカメムシ [CE, DM, SM, KV]

Elasmucha signoreti SCOTT, 1874 セグロヒメツノカメムシ [CE, KV]

References

- ANUFRIEV, G. A. (1967) Notes on the genus *Oncopsis* BURMEISTER, 1838 (Homoptera, Auchenorrhyncha) with descriptions of new species from the Soviet Far East. *Entomol. Ts.* 88: 174-184.
- ANUFRIEV, G. A. (1976) Notes on the genus *Psammotettix* HPT. with descriptions of two new species from Siberia and the Far East. *Reichenbachia* 16: 129-134.
- ANUFRIEV, G. A. (1977) Leafhoppers (Homoptera, Auchenorrhyncha, Cicadellidae) of the Kurile Islands. *Trudy Zool. Inst.* 70: 10-36.
- ANUFRIEV, G. A. and A. F. EMELJANOV (1988) Cicadinea (Auchenorrhyncha), pp. 12-495. In P. A. LER (ed.) "Keys to Insects of Far East USSR, Vol. 2".
- CHIKU, T. (1994) Some new information of *Centrotus nitobei* (Homoptera, Membracidae).

- Cicada 12 : 37. (In Japanese).
- CHOU, I. and Y. ZHANG (1987) A taxonomic study of the genus *Alebroides* MATS. from China (Homoptera, Cicadellidae, Typhlocybinae). *Entomotaxonomia* 9 : 289-302.
- DLABOLA, J. (1974) Generische Griederung der Unterfamilie Idiocerinae in der Paläarktis (Homoptera Auchenorrhyncha). *Acta Faun. Entomol. Nat. Pragae* 15 : 59-68.
- DWORAKOWSKA, I. (1969) Revision of the Palearctic and Oriental species of the genus *Eurhadina* HPT. (Homoptera, Cicadellidae, Typhlocybinae). *Ann. Zool., Warszawa* 27 : 67-88.
- DWORAKOWSKA, I. (1970) On the genera *Asianidia* ZACHV. and *Singapore* MAHM. with the description of two new genera (Auchenorrhyncha, Cicadellidae, Typhlocybinae). *Bull. Acad. Pol. Sci. Biol., II* 18 : 759-765.
- DWORAKOWSKA, I. (1972) *Aaka* gen. n. and some other Erythroneurini (Auchenorrhyncha, Cicadellidae, Typhlocybinae). *Bull. Acad. Pol. Sci. Biol., II* 20 : 769-778.
- DWORAKOWSKA, I. (1980) Review of the genus *Naralettix* MATS. (Auchenorrhyncha, Cicadellidae, Typhlocybinae). *Bull. Acad. Pol. Sci. Biol., II* 27 : 645-652.
- DWORAKOWSKA, I. (1993) *Fusiplata* AHMED and some other Dikraneurini (Insecta, Auchenorrhyncha, Cicadellidae : Typhlocybinae). *Entomol. Abh. Mus. Tierkd. Dresden* 55 : 97-139.
- DWORAKOWSKA, I. (1997) A review of the genus *Alebroides* MATSUMURA, with description of *Shumka*, gen. nov. (Homoptera : Auchenorrhyncha : Cicadellidae). *Oriental Insects* 31 : 241-407.
- GODOY, C. and M. D. WEBB (1994) Recognition of a new subfamily of Cicadellidae from Costa Rica based on a phenetic analysis with similar taxa (Hemiptera Homoptera Auchenorrhyncha). *Trop. Zool.* 7 : 131-144.
- HAMILTON, K. G. A. (1980a) Review of the Nearctic Idiocerini, excepting those from the Sonoran Subregion (Rhynchota : Homoptera : Cicadellidae). *Can. Entomol.* 112 : 811-848.
- HAMILTON, K. G. A. (1980b) Contributions to the study of the World Macropsini (Rhynchota : Homoptera : Cicadellidae). *Can. Entomol.* 112 : 875-932.
- HAYASHI, M. (1990) A note on host plants of two acanthosomatid bugs. *Rostria* (40) : 678-679. (In Japanese with English summary).
- HAYASHI, M. (1991) A record of leafhoppers (Homoptera, Cicadellidae) from eastern Japan. *Rostria* (41) : 43-47. (In Japanese with English summary).
- HAYASHI, M. (1992) New records of some leafhoppers (Homoptera, Cicadellidae) from Japan. *Jpn. J. Entomol.* 60 : 261-262.
- HAYASHI, M. (1997) Rhynchota, pp. 262-272. In "Fauna and Flora of the Tanzawa Mountains", Kanagawa Prefectural Government, Yokohama. (In Japanese).
- HAYASHI, M. and T. ENDO (1985) Some biological notes on Japanese treehoppers (Homoptera, Membracidae). *Rostria* (37) : 533-542. (In Japanese with English summary).
- HAYASHI, M., T. ENDO, H. SEKIGUCHI, K. IWAMA, Y. NAKANO and K. SATAKE (1983) Some biological notes on *Centrotus nilobei* MATSUMURA, with description of the exuviae (Homoptera, Membracidae). *Rostria* (35) : 451-459. (In Japanese with English summary).

- HIGASHIKAWA, O. (1997) Records of *Tettigometra bipunctata* (Homoptera, Tettigometridae) from central Honshu, Japan. *Rostria* (46): 45-46. (In Japanese with English summary).
- ICHITA, T. (1996a) Fulgoromorpha fauna of Aomori Prefecture, North Japan (Homoptera). *Celastrina* (31): 41-76. (In Japanese with English summary).
- ICHITA, T. (1996b) The Delphacidae of Aomori Prefecture, with taxonomic notes (Homoptera, Fulgoromorpha). *Bull. Aomori Agr. Exp. Sta.* (35): 13-52. (In Japanese with English summary).
- ISHIHARA, T. (1954) Two Japanese genera of Deltocephalidae, *Paralimnus* MATSUMURA, 1902, and *Metalimnus* RIBAUT, 1948 (Insecta: Hemiptera). *Zool. Mag., Tokyo* 63: 373-376. (In Japanese with English resume).
- KERZHNER, I. M. (1988) Cimicomorpha — Nabidae, Anthocoridae, Microphysidae and Miridae, pp. 761-857. In P. A. LER (ed.) "Keys to Insects of Far East USSR, Vol. 2".
- KOMATSU, T. (1997) A revision of the froghopper genus *Aphrophora* GERMAR (Homoptera, Cercopoidea, Aphrophoridae) from Japan, Part 2. *Jpn. J. Entomol.* 65: 369-383.
- LIS, J. A. (1994) A Revision of Oriental Burrower Bugs (Heteroptera: Cydnidae). Upper Silesian Museum, Bytom, Poland.
- MACHIDA, R., T. KISHIMOTO and H. UEMIYA (1992) Insects of Sugadaira. Sanada, Nagano. (In Japanese).
- MALDONADO-CAPRILES, J. (1971) About Idiocerinae leafhoppers: V. *Balcanocerus*, a new genus for *Chunrocerus balcanicus* ZAKHVATKIN, 1946 (Homoptera: Cicadellidae). *Proc. Entomol. Soc. Wash.* 73: 184-187.
- MATSUMURA, S. (1900) Untersicht der Fulgoriden Japans. *Entomol. Nachr.* 26: 205-213.
- NAKATANI, Y. and M. OZAKI (1997) Records of *Termatophyllum hikosanum* and *Deraeocoris koreanus* (Heteroptera, Miridae) from Honshu, Japan. *Rostria* (46): 11-13. (In Japanese with English summary).
- NAST, J. (1972) Palaearctic Auchenorrhyncha (Homoptera), an Annotated Check List. Polish Academy of Sciences, Warszawa.
- PÉRICART, J. and V. B. GOLUB (1996) Superfamily Tingoidea LAPORTE, 1832, pp. 3-78. In B. AUHEMA and C. RIEGER (eds.) "Catalogue of the Heteroptera of the Palaearctic Region, Vol. 2".
- TANABE, H. and H. HASEGAWA (1979) Insects of Hokkaido. Sapporo. (In Japanese).
- WEBB, M. D. (1981) The Asian, Australian and Pacific Paraboloponinae (Homoptera: Cicadellidae). *Bull. Br. Mus. Nat. Hist. (Entomol.)* 43: 39-76.
- WEBB, M. D. and J. VILBASTE (1994) Review of the leafhopper genus *Balclutha* KIRKALDY in the Oriental Region (Insecta: Homoptera: Auchenorrhyncha: Cicadellidae). *Entomol. Abh. Mus. Tierkd. Dresden* 56: 55-87.
- YASUNAGA, T. (1990) Abnormal food habits observed on two mirids (Heteroptera, Miridae). *Rostria* (40): 665-667. (In Japanese with English summary).
- ZHANG, Y. (1990) A Taxonomic Study of Chinese Cicadellidae (Homoptera). Tianze Eldonejo, Shaanxi, China.



Figs. 1-6. Homoptera-Cicadomorpha.

1. *Cicadetta radiator*, ♀ (total body length, 31 mm). 2. *Aphrophora brevis*, ♂ (9.5 mm). 3. *Aphrophora obtusa* [a, pale-colored specimen (♂, 9.0 mm); b, dark form (♀, 9.5 mm)]. 4. *Neophilaenus takaii*, ♀ (6.0 mm). 5. *Gargara doenitzi*, ♂ (5.9 mm) from Uchiyama Pass, Nagano Pref. 6. *Gargara rhodendrona*, ♂ (4.6 mm).



Figs. 7-13. Homoptera-Cicadellidae.

7. *Evacanthus acuminatus*, ♂ (5.1 mm). 8. *Evacanthus fatuus*, ♀ (7.5 mm). 9. *Evacanthus interruptus*, ♂ (6.4 mm). 10. '*Oncopsis*' *mali* [a, ♂ (5.2 mm); b, ♀ (6.1 mm)]. 11. *Iassus lateralis*, ♀ (11.0 mm). 12. *Drabescus nitobei*, ♀ (10.5 mm). 13. *Drabescus pallidus*, ♀ (9.0 mm).



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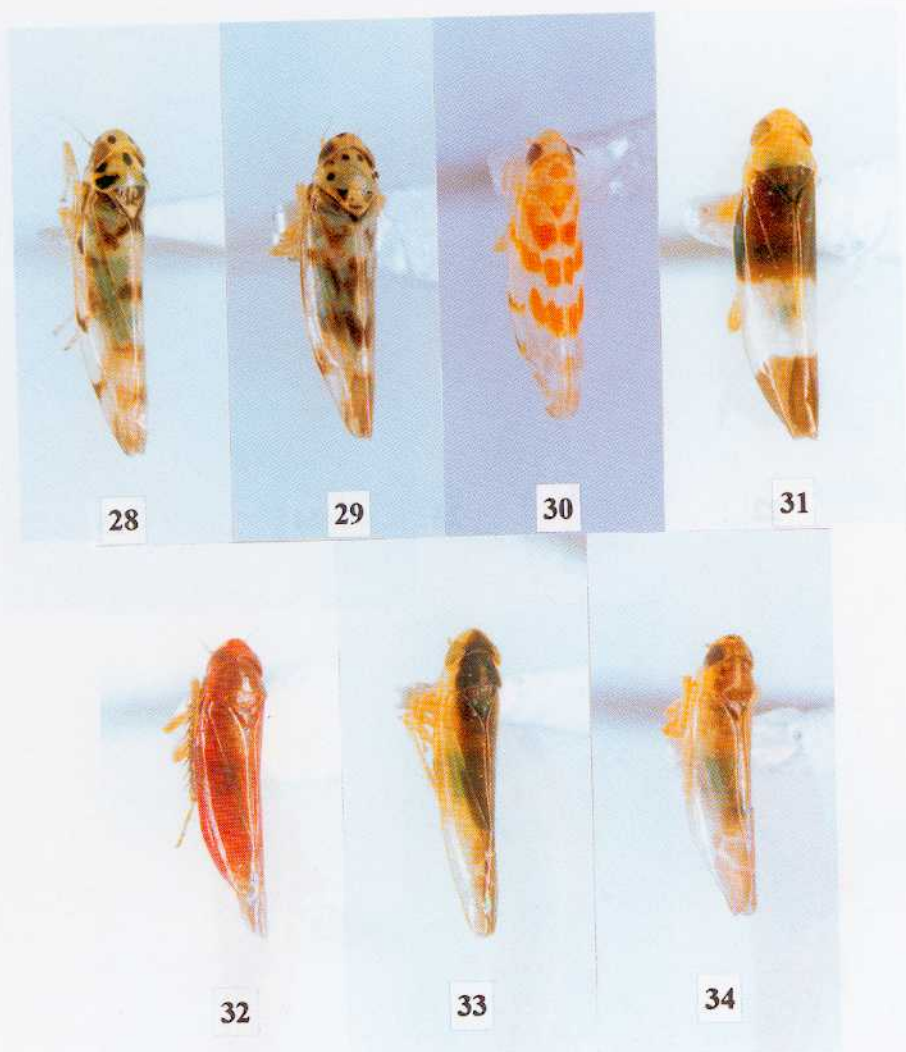
Figs. 14-21. Homoptera-Cicadellidae.

14. *Athysanus latifasciatus*, ♀ (6.0 mm). 15. *Elymana pallidipennis*, ♀ (5.5 mm). 16. *Speudotettix minor*, ♂ (5.5 mm). 17. *Psammotettix koreanus*, ♀ (4.3 mm). 18. *Nakaharanus nakaharae*, ♂ (5.3 mm). 19. *Paralimnus tamagawanus*, ♀ (6.0 mm) from Ôme, Tokyo. 20. *Paralimnus fallaciosus*, ♀ (5.4 mm). 21. *Metalimnus* sp., ♂ (4.1 mm).



Figs. 22-27. Homoptera-Cicadellidae.

22. *Urganus chosenensis*, ♂ (3.6 mm). 23. *Stirellus* sp., ♀ (5.8 mm). 24. *Tautoneura mori*, ♂ (2.5 mm). 25. *Zygina yamashiroensis*, ♀ (3.1 mm). 26. *Nikkotettix galloisi* [a, normal dark red form (♂, 5.1 mm); b, ivory-white form (♀, 5.7 mm)]. 27. *Helionides singularis*, ♂ (3.9 mm).



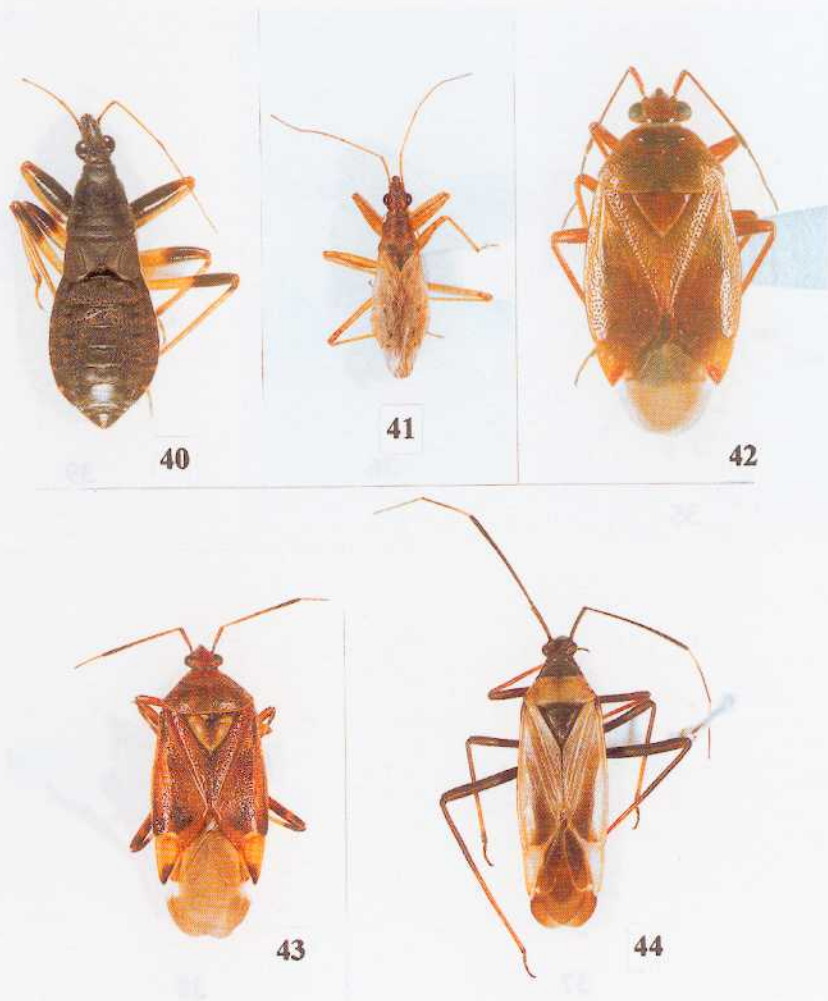
Figs. 28-34. Homoptera-Cicadellidae.

28. *Agnesiella (Agnesiella) aino*, ♂ (3.5 mm). 29. *Linnavuoriana (Linnavuoriana) decempunctata*, ♂ (3.4 mm). 30. *Typhlocyba babai*, ♂ (3.1 mm). 31. *Empoa (Parempoa) albifascia*, ♂ (3.6 mm). 32. *Empoa (Empoides) fumapicata*, ♂ (3.2 mm). 33. *Empoa (Empoides) anufrievi*, ♂ (3.4 mm). 34. *Empoa (Empoides) omani*, ♂ (3.1 mm).



Figs. 35-39. Homoptera-Fulgoromorpha.

35. *Stenocranus chenzhouensis*, ♂ (6.0 mm). 36. *Terthronella basalis*, ♂ (2.6 mm). 37. *Epirama shikokuana*, ♂ (7.6 mm). 38. *Cixiopsis punctata*, ♂ (7.1 mm). 39. *Tettigometra bipunctata*, ♂ (4.9 mm).

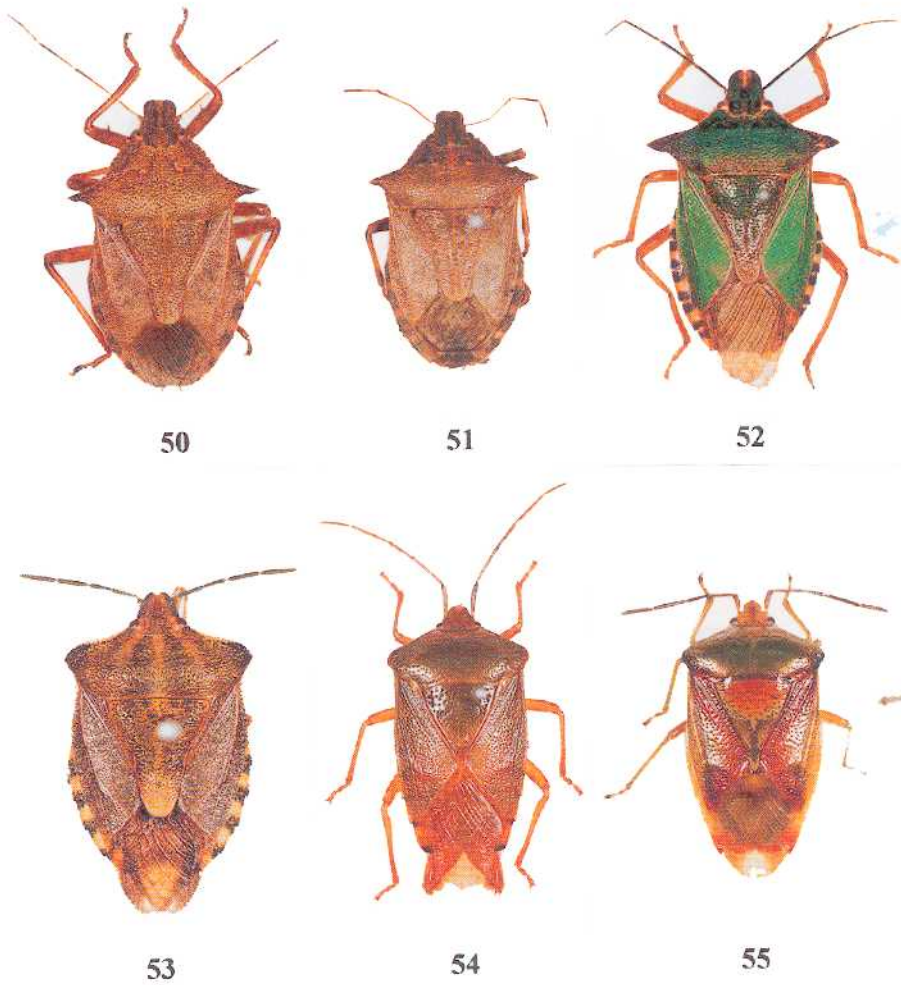


Figs. 40-44. Heteroptera-Cimicomorpha.
 40. *Himacerus (Stalia) dauricus*, ♀ (11.0 mm). 41. *Nabis (Milu) reuteri*, ♂ (6.9 mm). 42. *Deraeocoris (Deraeocoris) koreanus*, ♀ (5.6 mm). 43. *Deraeocoris (Deraeocoris) olivaceus*, ♂ (13 mm). 44. *Gigantomiris jupiter*, ♀ (13 mm).



Figs. 45-49. Heteroptera-Pentatomomorpha.

45. *Hypogeocoris itonis*, ♂ (4.8 mm). 46. *Kleidocerys resedae*, ♂ (5.3 mm).
47. *Cymus glandicolor*, ♀ (4.6 mm). 48. *Coriomeris integerrimus*, ♂ (8.5 mm).
49. *Coreus marginatus orientalis*, ♀ (14 mm).



Figs. 50-55. Heteroptera-Pentatomomorpha.

50. *Picromerus bidens*, ♀ (15 mm). 51. *Picromerus lewisi*, ♀ (13 mm). 52. *Dinorhynchus dybowskii*, ♀ (22 mm). 53. *Carpocoris purpureipennis*, ♂ (14 mm). 54. *Acanthosoma crassicauda*, ♂ (17 mm). 55. *Elasmostethus minor*, ♀ (12 mm).