

# Type specimens and identity of the mirid species described by Japanese authors in 1906-1917 (Heteroptera: Miridae)

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Of the 16 nominal species of Miridae described by the Japanese authors in 1906-1917, 13 are represented by type specimens in the collection of S. Matsumura, Entomological Institute of the Hokkaido University. Lectotypes of 11 species are designated. The following new combinations and new synonymies are established: *Orthops udonis* (Matsumura, 1917), comb. n. (*Lygus*) = *O. sachalinus* (Carvalho, 1959), syn. n.; *Tingitotopsis oryzae* (Matsumura, 1910), comb. n. (*Lygus*) = *T. dromedarius* Poppius, 1915, syn. n.; *Orthotylus flavosparsus* (C.R. Sahlberg, 1841) = *Tuponia guttula* Matsumura, 1917 (synonymy confirmed) = *O. nigropilosus* Lindberg, 1934, syn. n.; *Phylus stundjuki* Kulik, 1973 = *Heterocordylus flavipes* (Nitobe, 1906), nom. praeocc., syn. n..

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## Introduction

Sixteen new species of Miridae were described from Japan, Sakhalin and Taiwan by Japanese authors in the first half of XX century (Nitobe, 1906; Matsumura, 1910, 1911b, 1913, 1917; Shiraki, 1913), including one species (Nawa, 1910) for which an available name was given by a German author (Schumacher, 1917). Most of these species were described by the eminent Japanese entomologist S. Matsumura. In 1996 S. Yasunaga has had opportunities to examine Matsumura's collection in Systematic Entomology, Faculty of Agriculture, Hokkaido University, Sapporo (abbreviated to SEHU in the later text; for characteristic of this collection, see Tomokuni, 1994). Some observations in Matsumura's collection were made earlier and partly published by S. Miyamoto. I.M. Kerzhner examined types of some taxa from China and Russia related to this study.

This paper contains a review of species, lectotype designations and notes on taxonomy of some poorly known species. The following are the current names of some localities of Sakhalin and Taiwan cited in S. Matsumura's works: Chipsani = Ozerskiy; Galkinowraskoe

= Dolinsk; Gunkawa = about 10 km NW of Yuzhno-Sakhalinsk; Otani = Sokol; Solowiyofka = Solov'evka; Taichu = Taichung; Tonnaitcha = Tunaycha Lake; Toyohara = Yuzhno-Sakhalinsk. The current names of two localities in Taiwan (Kagi, or Kaji, and Rinkihō) are unknown to us.

## Type material

The species are listed in alphabetical order of their original names. All the type material discussed in this section is kept in SEHU. Lectotypes (designated in this paper) and paralectotypes are provided with respective type labels by Yasunaga; these labels are not cited in the following text. Inscriptions in Japanese characters are transliterated and cited in square brackets [ ].

**Atractotomus rubrolineatus** Matsumura, 1913: 248, 249, pl. 15, fig. 27; 1930: 196 (Jap.), 38 (Engl.), pl. 16, fig. 27; 1931: 1217, fig. Described from 2 females collected by Matsumura in Honshu. The type locality was indicated as Harima in the English text but Kyoto in the Japanese text. Only one syntype is found in SEHU. *Lectotype*: ♀, 07.

8.14 (14.viii.1907), [Ki-] (=probably a headletter of Ki-yo-u-to, or Kyoto). Current name: *Eolygus rubrolineatus* (Matsumura, 1913), see Linnavuori (1963: 82).

***Calocoris karafutonis*** Matsumura, 1911b: 38. Described from 2 specimens (♂ and ♀) collected at Galkinowraskoe and Solowiyofka, Sakhalin, but additional material from Hokkaido was recorded. Both Sakhalin specimens are found in SEHU although Miyamoto (1974) once reported that types had been lost. *Lectotype*: ♂, 27.vii, [Garukino] (=Galkino), Saghalin, Oguma. *Paralectotype*: ♀, 11.vii, [Soroyofuka] (=Solowiyofka), Saghalin, Oguma. It is not conspecific with the lectotype, corresponding to *Adelphocoris lineolatus* (Goeze). *Calocoris karafutonis* is a junior synonym of *Adelphocoris quadripunctatus* (Fabricius, 1794) (see Miyamoto, 1974: 121). *Note*: Matsumura's description of female(s) fits *A. quadripunctatus* and that of male(s) fits *A. lineolatus* (Goeze, 1778). Apparently Matsumura confused the characters and the sexes, or described them based on the Hokkaido material, as the male from Sakhalin belongs to *A. quadripunctatus* and the female to *A. lineolatus*.

***Calocoris pallens*** Matsumura, 1911b: 39. Described from a male and a female collected at Tonnaitcha, Sakhalin. Only the male is found in SEHU. *Lectotype*: ♂, Tonnaicha, 22.vii, Saghalin, Oguma. Current name: *Orthotylus pallens* (Matsumura, 1911), see Miyamoto (1977: 232). *Note*: Kerzhner (1978: 41) incorrectly synonymized *Calocoris pallens* with *Stenotus binotatus* (Fabricius, 1794).

***Calocoris rubrovittata*** Matsumura, 1913: 247, 248, pl. 15, fig. 26; 1930: 196 (Jap.), 37 (Engl.), pl. 16, fig. 26; 1931: 1217, fig. Described from 1 female from Honshu, Kyoto, collected by M. Suzuki. There are 3 specimens found in SEHU; of these, one female without any collecting data is labelled "Type". We consider this female as holotype. Current name: *Stenotus rubrovittatus* (Matsumura, 1913), see Hsiao & Meng (1963: 442) and Kerzhner (1972: 284).

***Chlamydatus collaris*** Matsumura, 1911b: 40. Described from "5 (2 ♂, 2 ♀) Exemplaren" collected at Solowiyofka, Sakhalin. Five apparent syntypes are found in SEHU. *Lectotype*: 1 ♀, 27.vii, [Soroyofuka] (=Solowiyofka), Saghalin, Oguma. *Paralectotypes*: 2 ♂, 1 ♀, Tonnaicha, 22.vii, Saghalin, Oguma; 1 ♀, 29.vii.1909, Garukino (=Galkino), Saghalin, Oguma. Current name: *Plagiognathus collaris* (Matsumura, 1911), see Miyamoto (1969b: 86) and Kerzhner (1988: 76).

***Dimorphocoris angustatus*** Matsumura, 1911b: 37. Described from 1 male from Chipsani, Sakhalin. Holotype: ♂, 23.vii, [Chibesani] (=Chipsani), Saghalin, Oguma. Junior synonym of *Mecomma (Globicellus) dispar* (Boheman, 1852), see Kerzhner (1972: 290).

***Heterocordylus flavipes*** Nitobe, 1906: 19; Matsumura, 1909: 363-365, pl. 18; 1917: 471, pl. 18, fig. 3; 1931: 1218, fig. The species was described from Aomori Prefecture, Honshu. Nitobe credited the authorship to S. Matsumura, who apparently identified the species and proposed the new name. Thus, two Nitobe's specimens from Aomori Prefecture found in SEHU should be considered syntypes. *Lectotype*: ♀, Aomori, Nitobe, without date, with det. label handwritten by Matsumura as *Heterocordylus flavipes* and Japanese name "Ringo-kuro-mekuragame". *Paralectotype*: ♀? (teneral and in very bad condition), same data as for lectotype. Junior synonym of *Phylus stundjuki* Kulik, 1973, see p. 93.

***Lygus flavoscutellata*** Matsumura, 1911b: 37. Described from 4 specimens collected at Tonnaitcha and Chipsani, Sakhalin. Only 3 specimens from Tonnaitcha are found in SEHU. *Lectotype*: ♀, 22.vii, Tonnaitcha, Saghalin, Oguma. *Paralectotypes*: 2 ♀, same data as for lectotype. Junior synonym of *Orthops udonis* (Matsumura, 1917), see p. 93.

***Lygus oryzae*** Matsumura, 1910: 22, pl. 12, fig. 12; 1911a: 137; Shiraki, 1910: 81, pl. 39, fig. 2 ("Lygaeus"). The species was described from 4 males collected at Kagi (or Kaji) and Taichu, Taiwan, of them 3 specimens from rice and 1 from sugar cane. The only male specimen found in Matsumura collection is designated as the lectotype. *Lectotype*: ♂, Formosa, Matsumura, 26.iv.07. The remaining 3 specimens were considered to have been lost or returned to the former Agricultural Experiment Station of Formosa. Current name: *Tingitopsis oryzae* (Matsumura, 1910), see p. 93.

***Lygus sacchari*** Matsumura, 1910: 23, pl. 12, fig. 9; 1911a: 137; Shiraki, 1910: 82, pl. 39, fig. 9 ("Lygaeus"). Described from one specimen from Rinkihō, Taiwan. Location of the holotype is unknown. It is considered to have been lost or returned to Taiwan. The identity of this species is not clear, but obviously not *Lygus* s. str.

***Lygus udonis*** Matsumura, 1917: 434, pl. 19, fig. 8; 1931: 1218, fig. Described from Hokkaido and Honshu. 4 syntypes mounted together are found in SEHU. *Lectotype*: ♂, 30.ix.1911, Sapporo, Matsumura, [Udo] (=Aralia cordata, Araliaceae). *Paralectotypes*: 3 ♀, same data as for lectotype. Cur-

rent name: *Orthops udonis* (Matsumura, 1917), see below.

**Orthocephalus flavipes** Matsumura, 1911b: 39. Described from 1 female from Tonnaitcha, Sakhalin. Holotype: ♀, Tonnaicha, 22.vii, Saghalin, Oguma, det. as *Orthocephalus flavipes* n. sp. Junior synonym of *Chlamydatus pulicarius* (Fallén, 1807), see Kerzhner (1978: 44).

**Plagiognathus solani** Matsumura, 1917: 432, pl. 18, fig. 6; 1931: 1219, fig. Described from Sakhalin, Hokkaido, and Honshu. Sixteen specimens, that are regarded syntypes, are found in SEHU. Of these, a female from Sakhalin with a det. label handwritten by Matsumura as "*Plagiognathus solani* Mats." is selected as the lectotype. *Lectotype*: ♀, 24.viii.1914, Otani, Saghaline, Adachi & Isshiki. *Paralectotypes*: 1 ♂, 4 ♀, same data as for lectotype except for date, 22.viii.1914; 3 ♂, 1 ♀, same data as for lectotype; 3 ♂, 2 ♀, [Toyohara], Saghaline, 24.viii.1914, Adachi & Isshiki; 1 ♀, [Gunkawa], 25.viii.1914, Saghaline, Adachi & Isshiki. Junior synonym of *Europiella artemisiae* (Becker, 1864), see Miyamoto (1977b: 233) and Schuh & al. (1995: 386).

**Stethoconus japonicus** Schumacher, 1917: 344. The name was given to "*Capsidae* sp." described and figured by Nawa (1910: 414-416, pl. 16) from specimen(s) first collected by him (apparently in environs of Gifu) on September 16, 1908. The syntype(s) were not located, but as the identity of the species is clear, no neotype designation is necessary.

**Tancredus viridis** Shiraki, 1913: 186, 187. The species was described from Taiwan, Taihoku, as a pest of *Sesamum indicum*. Location of type specimens unknown. As *Tancredus* is a junior synonym of *Stenotus*, the species is known now as *Stenotus viridis* (Shiraki, 1913), but its identity is not clarified.

**Tuponia guttula** Matsumura, 1917: 432, pl. 18, fig. 5; 1931: 1220, fig. Described from Hokkaido and Honshu, figure marked "♀". Six specimens regarded syntypes are deposited in SEHU. *Lectotype*: ♀, [40.8.26] (=26.viii.1907), Iwate, Ogasawara, with a det. label handwritten by Matsumura as *Tuponia guttula* and with a type label. *Paralectotypes*: 1 ♂, 1 ♀, 7.viii.1904, Urakawa, without collector name; 1 ♀, 7.14. (=14.vii.) 1910, (Mt.) Maruyama, Sapporo, Matsumura; 1 ♀, [45.7.20] (=20.vii.1912), Iwate, Ogasawara; 1 ♀, 1.vii.1915, [(sugar) beet], Sapporo, Matsumura. Junior synonym of *Orthotylus flavosparsus* (C. Sahlberg, 1841), see Schuh (1995: 157) and note below.

## Taxonomic notes

**Orthops udonis** (Matsumura, 1917), comb. n.

*Lygus flavoscutellata* Matsumura, 1911: 37 (junior primary homonym of *L. flavoscutellatus* Distant, 1904), **syn. n.**

*Lygus udonis* Matsumura, 1917: 434.

*Lygus sachalinus* Carvalho, 1959: 128 (nomen novum for *L. flavoscutellata* Matsumura, 1911), **syn. n.**

Examination of the types of *Lygus udonis* Matsumura shows that they are conspecific with *Orthops sachalinus* Carvalho which becomes a junior synonym. In the type locality, Sapporo, this species is abundant on the flowers of the Araliaceae and Umbelliferae.

**Tinginotopsis oryzae** (Matsumura, 1910), comb. n.

*Lygus oryzae* Matsumura, 1910: 22.

*Tinginotopsis dromedarius* Poppius, 1915: 24, **syn. n.**

Poppius (1915: 36) and Esaki (1926: 174) suspected already that this species belongs to *Tinginotopsis*. It is very characteristic in having a conspicuous hump on the posterior center of the pronotum. Judging from the original description of *T. dromedarius* Poppius, 1915, we consider these two are conspecific, and *dromedarius* is synonymized with *oryzae*.

**Orthotylus flavosparsus** (C.R. Sahlberg, 1841)

*Phytocoris flavosparsus* C.R. Sahlberg, 1841: 411.

*Tuponia guttula* Matsumura, 1917: 432.

*Orthotylus nigropilosus* Lindberg, 1934: 41, **syn. n.**

The synonymy of *Tuponia guttula* with *Orthotylus flavosparsus* was first indicated by Schuh (1995: 157). It was not noticed by him as new and was based on information sent from Miyamoto to Kerzhner. Here this synonymy is confirmed. *O. nigropilosus* was described from 4 specimens from China (Gansu). A male labelled "Kina, S. Kansu", "Sven Hedins Exp. Ctr. Asien Dr Hummel" from the collection of the Stockholm Museum is designated here lectotype. Paralectotypes are in this museum (1 ♂, 1 ♀) and in the Helsinki Museum (1 ♀).

**Phylus stundjuki** Kulik, 1973

*Heterocordylus flavipes* Nitobe, 1906: 19, junior secondary homonym of *Cimex flavipes* Scopoli, 1763, **syn. n.**

*Heterocordylus flaviceps*[sic]: Carvalho, 1958: 71 (incorrect subsequent spelling).

*Phylus stundjuki* Kulik, 1973: 22.

Nitobe's species is synonymous with *Ph. stundjuki* Kulik, 1973 from the Far East of Russia. Nitobe and some other authors declared this species was very important pest injurious to apple, but nowadays in Japan it is never collected from planted apple, whereas several specimens have been collected by random sweeping and by light traps.

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