Checklists of Trichoptera in Japan
3. Limnocentropodidae, Phryganopsychidae, Phryganeidae, Brachycentridae and Apataniidae

Takao NOZAKI, Kazumi TANIDA and Tomiko ITO

ABSTRACT
This third in a series of checklists of Japanese Trichoptera deals with 1 species of Limnocentropodidae, 2 species (1 genus) of Phryganopsychidae, 15 species (6 genera) of Phryganeidae, 15 species (3 genera) of Brachycentridae and 20 species (4 genera) of Apataniidae. We recognize Apatania momoyaensis KOBAYASHI and Moropsyche higoana KOBAYASHI as valid names from original descriptions. In Phryganeidae, we suggest three taxonomic problems: 1) the larva of an unnamed ‘species’ of Agrypnia is not identifiable as species; 2) the description of Oligotricha kawamurai (IWATA) was based only on the larval stage and is insufficient for specific identification; 3) it should be confirmed whether Neuronia maxima (IWATA) is a junior synonym of Eubasilissa regina (MCLACHLAN) or that of Semblis melaleuca (MCLACHLAN). In Brachycentridae, five taxonomic problems remain: 1) since Brachycentrus japonicus (IWATA) and three ‘species’ of Brachycentrus or Micrasema separated with tentative alphabetic designations were described only from larval specimens, the associations of their larval and adult stages should be established; 2) description of Eobrachycentrus oharensis (IWATA) described only larva, which is insufficient for species identification; 3) the description of Eobrachycentrus kitayamanus (TSUDA) is insufficient to confirm the species; 4) a ‘species’ of Micrasema with a tentative alphabetic designation recorded from Honshu has not yet been provided a specific name, although male genitalia were illustrated; 5) a few ‘species’ of Micrasema recorded from Honshu are not identifiable as species; 6) some undescribed species have been collected in Japan. In Apataniidae, two taxonomic problems remain: 1) the larvae of two ‘species’ of Apatania and Moropsyche with tentative alphabetic designations and two unnamed ‘species’ of Apatania are not identifiable as species; 2) many undescribed species have been collected in Japan.

Key words: Trichoptera, checklists, fauna, Japan

Limnocentropodidae TSUDA
The Limnocentropodidae are a small family with a single genus,
**Limnocentropus** Ulmer, distributed in Asia. Only one species, *Limnocentropus insolitus* Ulmer, is known from Japan.

**Limnocentropus insolitus** Ulmer, 1907 [Honshu (Miyagi, Tochigi, Ibaraki, Tokyo, Kanagawa, Niigata, Yamanashi, Nagano, Gifu, Aichi, Kyoto, Hyogo, Hiroshima), Shikoku (Ehime); **Kitagami-tobikera**]


Kitagamia montana, Iwata, 1927, 260, larva, case; Tsuda, 1936b, 395-397, male, female, larva, case; synonymized by Tsuda (1937b).

**Family Phryganopsychidae Wiggins**

The Phryganopsychidae are one of the smallest families in Trichoptera. Only three species belonging to a single genus *Phryganopsyche* Wiggins have been known only from East Asia. In Japan, two species are known.

**Phryganopsyche brunnea** Wiggins, 1969 [Honshu (Yamagata, Tokyo, Kanagawa, Niigata, Yamanashi, Aichi, Mie, Kyoto), Kyushu (Fukuoka); **Shirofu-marubane-tobikera**]


**Phryganopsyche sp.** Wiggins, 1959, 753, male.

**Phryganopsis latipennis** (Banks, 1906) [Hokkaido (Nemuro, Kushiro, Abashiri, Tokachi, Ishikari, Shiribeshi, Hiyama, Oshima), Honshu (Yamagata, Tokyo, Kanagawa, Niigata, Ishikawa, Yamanashi, Nagano, Gifu, Aichi, Mie, Kyoto, Hyogo, Nara, Shimane, Hiroshima, Yamaguchi), Shikoku (Ehime), Kyushu (Fukuoka, Kumamoto), Sado, Tsushima, Russia (Primorye), China (northeast), Korea; **Marubane-tobikera**]

**Phryganea latipennis** Banks, 1906, 107.


**Neuronia (Phryganopsis) latipennis** : Tsuda, 1951, 62, larva, case; Tsuda, 1959, 147, larva, case.

**Phryganopsychida latipennis sinensis** Schmid, 1965, 146-147, male.

**Family Phryganeidae Leach**

Recently, a monograph of the family Phryganeidae worldwide was published by Wiggins (1998). We can list 15 species belonging to 6 genera of this family from Japan. However, three taxonomic problems remain in the
Japanese Phryganeidae: (1) larva of an unnamed ‘species’ of Agrypnia originally identified as a European species, Phryganea varia, by IWATA (1927) is not identifiable as species; (2) description of Oligotricha kawamura (IWATA) was based only on the larval stage and is insufficient for specific identification; (3) it should be confirmed whether Neuronia maxima (IWATA) is a junior synonym of Eubasilissa regina (MCLACHLAN) or Semblis melaleuca (MCLACHLAN).

1. Subfamily Phryganeinae BURMEISTER

Agrypnia acristata WIGGINS, 1998 [Hokkaido (Kushiro, Shibetsu, Tokachi, Ishikari, Hidaka), Honshu (Aomori, Yamanashi, Nagano, Kyoto), Kyushu (Fukuoka); Sejiro-unmon-tobikera]


This species was widely misidentified as Agrypnia ulmeri MARTYNOV (WIGGINS, 1998). Agrypnia colorata HAGEN recorded by KUWAYAMA (1973) as Dasystegia principalis (MARTYNOV) is also a misidentification of this species or Agrypnia sordida (MCLACHLAN) (WIGGINS, 1998). Agrypnia sp. 1 recorded by ITO et al. (1998) is referred to this species.

Agrypnia incurvata WIGGINS, 1998 [Honshu (Gifu, Kyoto), Shikoku (Ehime), Kyushu (Fukuoka), Korea; Magari-unmon-tobikera*]


Agrypnia czerskyi recorded from Kyoto by KUWAYAMA (1973) was a misidentification of this species (WIGGINS, 1998).

Agrypnia picta KOLENATI, 1848 [Hokkaido (Iburi), Russia (Amur, Chukoto, Magadan, Kamtschatka, Khabarovsk, Primorye, Sakhalin, Kuriles), China, Korea, Mongolia, Europe; Tairiku-unmon-tobikera*]


Prophruganea picta : MARTYNOV, 1924b, 196–198, male.

WIGGINS (1998) first recorded this species from Japan.

Agrypnia sordida (MCLACHLAN, 1871) [Hokkaido (Nemuro, Kushiro, Abashiri, Tokachi, Ishikari, Oshima), Honshu (Aomori, Miyagi, Gumma, Niigata, Nagano, Gifu, Mie, Kyoto, Osaka, Hyogo), Shikoku (Ehime), Sado, Russia (Khabarovsk, Primorye Sakhalin, Kuriles), Korea; Unmon-tobikera]

Phryganea sordida MCLACHLAN, 1871, 106, female; ULMER, 1907a, 7–9, male, female.

Dasystegia sordida (MCLACHLAN) : TANI, 1978, 18, male.

Prophruganea umbrina MARTYNOV, 1924a, 224, male; synonymized by WIGGINS (1998).

Agrypnia umbrina : MARTYNOV, 1935, 293–294, male; AREFINA, 1997b, 84, male.

Dasystegia umbrina : NOZAKI and ITOU, 1988, 57, male, female.


Agrypnia ulmeri (MARTYNOV, 1909) [Hokkaido (Kushiro, Oshima),
Honshu (Kyoto) ; **Uruma-unmon-tobikera**

*Phryganea* sp. : **ULMER**, 1907a, 9, male.

*Phryganea ulmeri** MARTYNOV, 1909, 236-240, male, female.

*Phryganea ulmerina** NAVÁS, 1920, 161-162, male ; synonymized by **WIGGINS** (1998).


Many records of this species are probably misidentifications of *A. acristata* (WIGGINS, 1998). Although this species was known only from one male designated as the lectotype collected from Hakodate, Hokkaido (WIGGINS, 1998), **ITO et al.** (1999) discovered an additional specimen from Lake Panke-to, Akan-cho, Hokkaido.

**Agrypnia sp.** [Honshu (Nagano, Kyoto) : **Ike-tobikera**]

*Phryganea varia** FABRICIUS : **IWATA**, 1927, 239, larva.

**IWATA** (1927) recorded a European species, *P. varia*, from Japan on the basis of the larval material. The larvae undoubtedly belong to one of the Japanese species of *Agrypnia* (WIGGINS, 1998), but the identity of these specimens is uncertain.

**Eubasilissa imperialis** (NAKAHARA, 1915) [Honshu (Kyoto) ; **O-murasaki-tobikera**]

*Phryganea imperialis** NAKAHARA, 1915, 15-17, female.


Although the diagnosis of this species had been based only on the color pattern of the wings (NAKAHARA, 1915 ; KUWAYAMA, 1970), **WIGGINS** (1998) recognized it as a distinct species after an examination of the genitalia of the female holotype deposited in National Institute of Agro-Environmental Sciences. Since the male specimen studied by **KUWAYAMA** (1970) is anomalous (WIGGINS, 1998), only the holotype female is known at present (WIGGINS, 1998).

**Eubasilissa regina** (MCLACHLAN, 1871) [Hokkaido (Nemuro, Kushiro, Abashiri, Tokachi, Ishikari, Iburi, Shiribeshi, Oshima, Hiyama) ; Honshu (Aomori, Iwate, Miyagi, Yamagata, Tochigi, Gunma, Tokyo, Kanagawa, Niigata, Ishikawa, Yamanashi, Nagano, Gifu, Aichi, Kyoto, Osaka, Hyogo, Nara, Tottori, Shimane, Hiroshima, Yamaguchi), Shikoku (Ehime), Kyushu (Fukuoka), Sado, Tsushima, Russia (Sakhalin, Kuriles), Korea, Taiwan ; **Murasaki-tobikera**]

*Holostomis maclachlani* var. *regina* (an sp. distincta ?), **MCLACHLAN**, 1871, 103.

**Neuronia regina** : **ULMER**, 1907a, 6, male, female.

**Neuronia reginella** NAKAHARA, 1913a, 323-324, male ; **NAKAHARA**, 1913b, 266-267, male ; synonymized by **WIGGINS** (1998).


Although N. maxima was placed as a junior synonym of E. regina by TANIDA (1985), WIGGINS (1998) suggested that N. maxima might be a junior synonym of Sembris melaleuca (MCLACHLAN) based on the dorsal bands of the head in IWATA’s illustration. The type specimen of N. maxima should be compared with the larva of S. melaleuca, which has not yet been described. Hagenella apicalis (MATSUMURA, 1904) [Hokkaido (Nemuro, Soya, Kamikawa, Ishikari, Iburi, Oshima), Russia (Sakhalin, Kuriles); Hime-anime-tobikera]

Neuronia apicalis MATSUMURA, 1904, 172.


WIGGINS (1998) reported a continuous variation in the genitalic structure of females collected at a single site in Hokkaido on one day. Oligotricha fluvipes (MATSUMURA, 1904) [Hokkaido (Tokachi), Honshu (Fukushima, Gumma, Tokyo, Niigata, Toyama, Nagano, Gifu, Aichi, Kyoto, Hyogo, Nara, Shimane, Hiroshima, Yamaguchi); Amime-tobikera]

Neuronia fluvipes MATSUMURA, 1904, 172, female; TSUDA, 1959, 146, larva, case; TSUDA and AKAGI, 1962, larva, case.

Oligostomis hirayamae MATSUMURA, 1931, 1121, female; synonymized by WIGGINS and KUWAYAMA (1957).


Early records for this species should be confirmed in light of the recent discovery of two additional species, Oligotricha hybridoides WIGGINS and KUWAYAMA from Hokkaido and Oligotricha spicata WIGGINS and KUWAYAMA from alpine zone of Honshu (WIGGINS, 1998). A record from Hokkaido by YAMANOUCHI (1976) also should be checked (KUHARA and KURANISHI, 1997). Oligotricha hybridoides WIGGINS and KUWAYAMA, 1971 [Hokkaido (Nemuro, Kushiro, Abashiri, Teshio, Tokachi, Ishikari), Russia (Sakhalin, Kuriles); Kita-amime-tobikera*]


Oligotricha kawamurai (IWATA, 1927) [Honshu (Shiga); Futasuji-tobikera]


This species was described based on the larval stage (IWATA, 1927). WIGGINS (1998) suggested that this species is a member of the genus Oligotricha, but the larvae of this genus cannot be readily identified as a
species. No type was designated in the original description, and we could not find the specimen mentioned in the description. However, a larval specimen collected and identified as this species by Dr. IWATA is deposited in the Kiso Biological Station, Kyoto University. The specimen was collected from the same site as that mentioned in IWATA (1927), but the collecting date does not correspond with IWATA’s description.

*Oligotricha spicata* WIGGINS and KUWAYAMA, 1957 [Honshu (Yamagata, Tochigi, Gumma, Niigata); *Yachi-amime-tobikera*]


*Phryganea (Colpomera) japonica* McLACHLAN, 1866 [Hokkaido (Nemuro, Kushiro, Abashiri, Tokachi, Ishikari, Hidaka, Iburi, Oshima), Honshu (Miyagi, Fukushima, Tokyo, Kanagawa, Niigata, Nagano, Gifu, Aichi, Mie, Shiga, Kyoto, Osaka, Hyogo, Nara, Shimane, Hiroshima, Yamaguchi), Shikoku (Ehime, Kagawa), Kyushu (Fukuoka, Kumamoto), Russia (Kuriles); *Tsumaguro-tobikera*]

Phryganea japonica McLACHLAN, 1866, 248–249, male, female; ULMER, 1907a, 10, male, female.


Colpomera japonica ( McLACHLAN): MILNE, 1934, 8; TANI, 1978, 20, male.

WIGGINS (1998) pointed out that larvae described by TSUDA (1951) are typical of the genus Phryganea.

*Semblis metaleuca* ( McLACHLAN, 1871) [Hokkaido (Nemuro, Tokachi, Kushiro, Ishikari, Oshima), Honshu (Aomori, Iwate, Tochigi, Gumma, Yamanashi, Nagano, Gifu), Russia (Sakhalin, Kuriles); *Gomafu-tobikera*]

Holostomis metaleuca McLACHLAN, 1871, 106–107, male; KUWAYAMA, 1967, 3, male.


*Semblis phalaenoides* ( LINNAEUS, 1758) [Hokkaido (Kushiro, Tokachi, Teshio), Honshu (Hiroshima), Russia (Sakhalin, Kuriles), Korea, China, Mongolia, Europe; *Karafuto-gomafu-tobikera*]

Phryganea phalaenoides LINNAEUS, 1758, 378.


A record of this species from Oze, Honshu, by TANIDA (1982) was based on a misidentification of *S. metaleuca* (TANIDA and NOZAKI, in preparation). WIGGINS (1998) suggested that a record from Hiroshima, Honshu, by KUWAYAMA (1967) should be checked.
Family Brachycentridae Ulmer

In the Brachycentridae, four species of *Brachycentrus*, five species of *Eobrachycentrus* and six species of *Micrasema* have been known from Japan. However, six taxonomic problems remain regarding Japanese Brachycentridae: (1) no association has been established between larvae and adults for *Brachycentrus japonicus* (IWATA), and for three ‘species’ of *Brachycentrus* or *Micrasema* with tentative alphabetic designations, which were described only from larval specimens (AKAGI, 1957, 1962a, 1962b); (2) description of *Eobrachycentrus oharensis* (IWATA), is based only on larval material, which is insufficient for species identification; (3) the description of *Eobrachycentrus kitayamanus* (TSUDA) is insufficient to confirm the species; (4) a ‘species’ of *Micrasema* (AKAGI, 1959), which was marked only with a tentative alphabetic designation, has not yet been identified, though the illustrations of male genitalia were provided; (5) a few ‘species’ of *Micrasema* recorded from Honshu (IWATA, 1927) are not identifiable as species; (6) some undescribed species have been collected in Japan (TANIDA et al., 1991; NAKAJIMA et al., 1997).

1. Subfamily Brachycentrinae Ulmer
*Brachycentrus* (*Oligoplectrodes*) *americanus* (*BANKS, 1899*) [Hokkaido (Nemuro, Kushiro, Tokachi, Ishikari, Shiribeshi, Oshima, Hiyama), North America (northern and western), Russia (Primorye, Siberia, Sakhalin), Mongolia; Amerika-kakusui-tobikera]

*Oligoplectrum americanum* BANKS, 1899, 210, male.


*Brachycentrus* (*Sphinctogaster*) *bilobatus* MARTYNOV, 1935 [Honshu (Fukushima), Russia (Prymorye); Futamata-kakusui-tobikera*]


*Brachycentrus* (*Sphinctogaster*) *japonicus* (*IWATA, 1927*) [Honshu (Nagano, Hiroshima); Yamato-tsutsu-tobikera]

*Brachycentriella japonica* IWATA, 1927, 259, larva, case.

FLINT (1984) synonymized the monotypic genus *Brachycentriella* IWATA with *Sphinctogaster* PROVANCHER, a subgenus of *Brachycentrus* CURTIS. WIGGINS et al. (1985) examined larvae identified as *Brachycentriella japonica* in the IWATA collection deposited in the Otsu Hydrobiological Station of Kyoto University (now the Center for Ecological Research, Kyoto University), and suggested that they were in general accord with the description of the larva as *Brachycentrus* sp. BC by AKAGI (1962a).
However, their adult stages are not yet known. Since adults of *B. bilobatus* belonging to the subgenus *Sphinctogaster* were recorded from Japan, it is necessary to know the adult stage of *B. japonicus*.

**Brachycentrus** (*Brachycentrus*) *kuwayamai* WIGGINS, TANI and TANIDA, 1985 [Hokkaido (Kushiro, Abashiri, Ishikari, Oshima), Honshu (Fukushima); Kuwayama-kakusui-tobikera]

WIGGINS et al., 1985, 70–71, male; TASHIRO and TASHIRO, 1989, 10, upstream migration of adults.

**Brachycentrus** sp. BA [Honshu (Nara, Hiroshima)]


This species belongs to the subgenus *Brachycentrus* (FLINT, 1984), but identity as species has not been established.

**Brachycentrus** sp. BC [Honshu (Nagano)]

AKAGI, 1962a, 43, larva.

Although TANIDA (1985) treated this species as the larva of *B. (O.) americanus*, it was assigned to the subgenus *Sphinctogaster* (FLINT, 1984; WIGGINS et al., 1985).

**Brachycentrus** sp. [Honshu (Gifu)]


The European species, *B. subnubilus*, was wrongly recorded from Japan based on the larval characters which are insufficient for specific identification at present. WIGGINS et al. (1985) examined some of the larvae identified as *B. subnubilus* by IWATA, and found that specimens collected from Gifu belonged to *Brachycentrus*, but that another specimen from Mie was *Eobrachycentrus*. Although WIGGINS et al., (1985) stated that the specimens from Gifu are almost in accord with *Brachycentrus* sp. BA, the arrangement of abdominal gills described by IWATA (1927) differs from that by AKAGI (1957).

**Eobrachycentrus kitayamanus** (TSUDA, 1942) [Honshu (Kyoto); Kitayama-kakusui-tobikera]

*Brachycentrus kitayamanus* TSUDA, 1942b, 326, male.

*Eobrachycentrus kitayamanus*: WIGGINS et al., 1985, 66, comb.

No holotype was designated for this species, and the original specimen was probably lost. WIGGINS et al. (1985) regarded this species as distinct from the other *Eobrachycentrus* species assuming the drawing by TSUDA (1942) to be reasonably accurate. However, *Eobrachycentrus vernalis* BANKS was also collected from the same locality given for *kitayamanus* (WIGGINS et al., 1985). It is necessary to confirm the specific status of this species.

**Eobrachycentrus niigatai** (KOBAYASHI, 1968) [Honshu (Niigata); Niigata-tsutsu-tobikera*]

*Brachycentrus niigatai* KOBAYASHI, 1968, 7, male.

*Eobrachycentrus niigatai*: WIGGINS et al., 1985, 66, male, comb.

WIGGINS et al. (1985) provided illustrations of the holotype with the parts extended and suggested the necessity to confirm whether this species represents a species-level taxon, or is a variant of *E. vernalis*. 
Eobrachycentrus oharensis (IWATA, 1927) [Honshu (Kyoto); Oharatsu-tsu-tobikera]

Micrasema oharensis IWATA, 1927, 391–392, larva, case.
Eobrachycentrus oharensis: WIGGINS et al., 1985, 67, comb.
M. oharensis seems best treated as a nomen dubium for taxonomic stability, since larval distinctions for Eobrachycentrus species are quite problematic (WIGGINS et al., 1985).

Eobrachycentrus propinquus WIGGINS, TANI and TANIDA, 1985 [Hokkaido (Hiyama), Honshu (Tokyo, Mie); Nise-ohara-tsutsu-tobikera]

WIGGINS et al., 1985, 64–65, male, larva; ITO et al., 1997, 22, male.

Eobrachycentrus vernalis (BANKS, 1906) [Honshu (Tokyo, Kanagawa, Yamanashi, Toyama, Kyoto, Hyogo, Nara), Kyushu (Fukuoka); Tani-ohara-tsutsu-tobikera*]

WIGGINS et al., 1985, 61–64, male, female, pupa, variant of male genitalia, habitat, life cycle, comb; TANIDA, 1985, 192, larva, case.


WIGGINS et al. (1985) recognized some differences in male genitalia between the holotype male collected from Kyushu and material from Nara, Honshu, but tentatively regarded them as belonging to a single species. It is necessary to study larger samples from many localities in Japan.

Micrasema gelidum McLACHLAN, 1876 [Hokkaido (Nemuro, Kushiro, Tokachi, Ishikari), Europe, Russia (Kuriles), Korea, Mongolia, North America; Ezo-marutsutsu-tobikera]


Although ITO (1995) described a larval case as that of a young instar or an early period of the final instar of this species, it was in fact a case of M. hanasensis. The case of M. gelidum is almost straight in every instar.

Micrasema genjiroensis KOBAYASHI, 1971 [Honshu (Kanagawa); Genjiro-marutsutsu-tobikera]

KOBAYASHI, 1971a, 6–7, male; KOBAYASHI, 1971b, 37–38, male.

Micrasema hakonensis KOBAYASHI, 1969 [Honshu (Kangawa); Hakone-marutsutsu-tobikera]


Micrasema hanasensis TSUDA, 1942 [Hokkaido (Nemuro, Kushiro, Abashiri, Tokachi, Ishikari, Shiribeshi, Hiyama, Oshima), Honshu (Tokyo, Kanagawa, Ishikawa, Yamanashi, Aichi, Kyoto, Hyogo, Nara, Hiroshima), Russia (Kuriles); Hanase-marutsutsu-tobikera]

TSUDA, 1942, 327–328, male.


AKAGI (1957) provided illustrations of male genitalia as this species, but
they are not similar to those of *M. hanasensis* or any other *Micrasema* species. The lateral and ventral views, especially the inferior appendages, in Akagi's illustration suggest that the male is *Nippoberea gracilis* (Nozaki and Kagaya, 1994).

**Micrasema quadriloba** MARTYNOV, 1933 [Honshu (Tochigi, Nagano, Aichi, Mie, Kyoto, Nara, Hiroshima); Marutsu-tobikera]


**Micrasema uenoi** MARTYNOV, 1933 [Honshu (Tochigi, Tokyo, Kanagawa, Yamanashi, Aichi, Kyoto); Ueno-marutsu-tobikera]

MARTYNOV, 1933, 149–150, male; TADA, 1994, habitat; KATO, 1995, habitat; KATO, 1997, habitat, food.


**Micrasema sp. MC** was associated with this species (KAGAYA et al., 1998; KATO, personal communication).

**Micrasema sp. MB** [Honshu (Tokyo, Aichi, Kyoto, Nara)]

AKAGI, 1959, 42, larva, male genitalia; TSUDA and AKAGI, 1962, 141, larva.

The male genitalia of this species illustrated by AKAGI (1959) clearly show that this species differs from any other species recorded from Japan. Recently, KAGAYA et al. (1998) recorded an additional male specimen of this species from Tokyo.

**Micrasema sp. MD** [Honshu (Nagano)]

AKAGI, 1962b, 44–45, larva, case.

**Micrasema sp.** [Honshu (Kyoto, Okayama)]

**Micrasema minimum** McLACHLAN: IWATA, 1927, 260. larva, case.

Although the European species, *M. minimum*, is recorded based solely on larval characters (IWATA, 1927), its identity as a species is uncertain.

**Micrasema spp.** [Honshu (Tochigi, Kyoto)]

**Lasiocephala basalis** Kolenati: IWATA, 1927, 262–263, larva, case.

Larvae recorded as *L. basalis* by IWATA (1927) belong to the genus *Micrasema* (ITO, 1990b), however, they remain unidentified as species.

**Family Apataniidae WALLENGREN**

In the Apataniidae, we can list 2 species of *Allomyia*, 10 species of *Apatania*, 2 species of *Manophylax* and 6 species of *Moropsyche*. However, two problems remain regarding Japanese Apataniidae: (1) the larvae of two ‘species’ of *Apatania* and *Moropsyche* separated with tentative alphabetic designations (TSUDA and AKAGI, 1962; AKAGI, 1975), and two unnamed ‘species’ of *Apatania* (TSUDA, 1936c, 1959) are not identifiable as species; (2) many undescribed species have been collected in Japan (NISHIMOTO, personal communication).
1. Family Apataniidae WALLENGREN

Allomyia coronae LEVANIDOVA and AREFINA, 1995 [Hokkaido (Kushiro), Russia (Kuriles), Kanmuri-izumi-koeguri-tobikera*]

LEVANIDOVA et al., 1995, 197-200, male, female, larva, habitat; LEVANIDOVA and AREFINA, 1997, 133-138, male, female.

Allomyia delicatula LEVANIDOVA and AREFINA, 1995 [Hokkaido (Nemuro, Kushiro, Tokachi, Iburi, Ishikari), Russia (Sakhalin, Kuriles); Izumi-koeguri-tobikera*]


Apatania aberrans (MARTYNOV, 1933) [Hokkaido (Nemuro, Kushiro, Tokachi, Abashiri, Ishikari, Shiribeshi, Oshima), Honshu (Fukushima, Tochigi, Gumma, Tokyo, Kanagawa, Niigata, Ishikawa, Yamanashi, Nagano, Shizuoka, Aichi, Mie, Kyoto, Nara, Hiroshima), Kyushu (Fukuoka, Kumamoto), Russia (Primorye, Sakhalin, Kuriles); Hirata-koeguri-tobikera]

Apteelia aberrans MARTYNOV, 1933, 153-156, male, female.


Apatania biwaensis NISHIMOTO, 1994 [Honshu (Lake Biwa) : Biwa-koeguri-tobikera]

NISHIMOTO, 1994, 775-784, male, female, larva, life cycle, habitat.


Apatania chokaiensis KOBAYASHI, 1973 [Honshu (Akita, Yamagata) : Chokai-koeguri-tobikera]

KOBAYASHI, 1973, 33-34, male.

Apatania chyokaiensis [!] : KOBAYASHI, 1983, 52, male.

Apatania crassa SCHMID, 1953 [Hokkaido (Ishikari, Oshima) : Kita-koeguri-tobikera]


Apatania insularis LEVANIDOVA, 1979 [Hokkaido (Nemuro), Russia (Sakhalin, Kuriles); Chishima-koeguri-tobikera*]

LEVANIDOVA, 1979, 70-76, male, female ; LEVANIDOVA and AREFINA, 1997, 139-140, male, female.

Recently, ITO et al. (1998) recorded this species from eastern Hokkaido.

Apatania ishikawai SCHMID, 1964 [Honshu (Tokyo, Kanagawa, Ishikawa, Yamanashi, Nagano) : Ishikawa-koeguri-tobikera]


Apatania kyotoensis TSUDA, 1939 [Honshu (Saitama, Ishikawa, Kyoto), Kyushu (Fukuoka) : Kyoto-koeguri-tobikera]

TSUDA, 1939b, 291-293, male, female (size) ; KOBAYASHI, 1983, 47-48, male.


Two names, momoyaensis on page 34 and plate 8, and momoensis on page 35, were simultaneously published for this species in the original description. We select Apatania momoyaensis as the valid name since it refers to the locality “Momoya, Chokai-mura, Akita Pref.” (International Code of Zoological Nomenclature, Art. 24).

Apatania nikkoensis TSUDA, 1939 [Honshu (Tochigi): Nikko-koeguri-tobikera]

TSUDA, 1939b, 290–291, male, female (size); KOBAYASHI, 1983, 49, male.


Apatania parvula (MARTYNOV, 1935) [Hokkaido (Nemuro, Kushiro, Ishikari), Russia (Habarovsk, Sakhalin, Kuriles); Kogata-koeguri-tobikera*]


Recently, ITO et al. (1998) recorded this species from eastern Hokkaido.

Apatania shirahatai KOBAYASHI, 1973 [Honshu (Yamagata): Shirahata-koeguri-tobikera]


Apatania tsudai SCHMID, 1954 [Honshu (Nagano, Mie, Kyoto): Tsuda-koeguri-tobikera]


Apatania sp. AA


KIM (1974b) illustrated the larva and pupa of this species, but WIGGINS et al. (1985) suggested that the pupal abdomen resembles closely that of Eobrachycentrus vernalis.

Apatania sp. [Hokkaido (Kushiro)]

TSUDA, 1936c, 100–101, larva, case.

Apatania sp.

TSUDA, 1959, 149, larva, case.


NISHIMOTO, 1997, 1–8, male, female, larva, case, habitat.

Manophylax omogoensis NISHIMOTO, 1997 [Shikoku (Ehime): Omogoiwa-koeguri-tobikera*]

NISHIMOTO, 1997, 9–14, male, female, larva, case, habitat.

Moropsycha apicalis KOBAYASHI, 1985 [Tsushima; Togari-kurobane-tobikera*]

KOBAYASHI, 1985, 18–19, male.
Moropsycche higoana KOBAYASHI, 1971 [Honshu (Iwate, Kanagawa, Niigata) : Higo-kurobane-tobikera]


Two names, higoana on page 5–6 and higonoensis on plate 5, were simultaneously published for this species in the original description. We select Moropsycche higoana as the valid name since the name was used in later papers (International Code of Zoological Nomenclature, Art. 24).

Moropsycche parvissima SCHMID, 1954 [Honshu (Shiga, Kyoto) : Kogata-kurobane-tobikera*]


Moropsycche parvula BANKS, 1906 [Kyushu (Fukuoka) : Kurobane-tobikera]


Moropsycche spinifera NISHIMOTO, 1989 [Honshu (Kyoto, Osaka, Nara) ; Toge-kurobane-tobikera*]


Moropsycche yugawarana KOBAYASHI, 1983 [Honshu (Tokyo, Kanagawa, Yamanashi) : Yugawara-kurobane-tobikera]

KOBAYASHI, 1983, 56, male, female.

Moropsycche sp. AB [Honshu (Shizuoka, Nara, Wakayama)]

Apatania sp. AB : AKAGI, 1975, 7, larva.

Moropsycche sp. AB : TANIDA, 1985, 199, larva, comb.

Moropsycche sp. MA [Honshu (Nara)]

KIM, 1974b, 71–73, male, larva.

Judging from the illustration of the male genitalia by KIM (1974b), NISHIMOTO (1989) assumed that this species belongs to M. yugawarana or M. higoana.

2. Species wrongly described as Apatania

Limnephilus sericeus (SAY) (Limnephilidae)


gen. koizumii (IWATA, 1927) [Honshu (Nagano) : Koizumi-eguritobikera]

Apatania koizumii IWATA, 1927c, 390–391, larva, case.

Metanotal sclerites in IWATA’s illustration suggest that this species does not belong to the genus Apatania. The type series of this species deposited in the collection of the Center for Ecological Research, Kyoto University, Otsu are now being studied (MITSUHASHI et al., in preparation).

ACKNOWLEDGEMENTS

We wish to thank Dr. H. NISHIMOTO, Komaki City, for the valuable information on Apataniidae, and Dr. H. KATO, the National Institute for
Environmental Studies, for information on the larvae of *Micrasema uenoi*. This study was partly supported by a Grant-in Aid for Science and Culture (C) to the second author from the Ministry of Education, Science: International Cooperative Research Project on “Ecological Studies on the Biodiversity in Rivers and Streams in the Far East” from the Japan Society of Promotion of Science.

REFERENCES

The literature cited in the previous papers (Ito et al., 1993; Nozaki et al., 1994) is omitted from this list.


Kuwajima, S. (1973): The genus Holostomis in Japan and adjacent territories. Insecta Matsumurana, Suppl. 2-6 + pls. 1, 2.


MCLACHLAN, R. (1866) : Descriptions of new or little-known genera and species of exotic Trichoptera; with observations on certain species described by Mr. F. WALKER. Trans. ent. Soc. London, 3 : 247-278.


NAKAHARA, W. (1915) : Description of *Phryganea imperialis* n. sp. with remarks on the generic characters of *Phryganea* and *Neuronia*. Entomological Magazine, 1 : 15-17 + pl. 1.


*) Since these reports were not available to us, we referred them from WIGGINS (1998).

Takao NOZAKI: Kanagawa Environmental Research Center, 842 Nakahara-Shimojuku, Hiratsuka-shi, Kanagawa 254-0072 (野崎隆夫：〒254-0072 神奈川県平塚市中原下宿842, 神奈川県環境科学センター)

Kazumi TANIDA: Laboratory of Ecology, College of Integrated Arts and Sciences, Osaka Prefecture University, 1-1 Gakuencho, Sakai-shi, Osaka 599-8531 (谷田一三：〒599-8531 大阪府豊中市学園町1-1, 大阪府立大学総合科学部自然環境学科)

Tomiko ITO: Hokkaido Fish Hatchery, 3-373, Kita-kashiwagi, Eniwa-shi, Hokkaido, 061-1433 (伊藤富子：〒061-1433 北海道恵庭市北柏木町3-373, 北海道立水産孵化場)

(Received: 13 November 1998; Accepted 26 April 1999)
日本産トビケラ目チェックリスト
3. キタガミトビケラ科、マルバネトビケラ科、トビケラ科、
カクスイトビケラ科およびコエグリトビケラ科

野崎隆夫・谷田一三・伊藤富子

摘　要

日本産トビケラ目各種の分類、生物地理および種生態に関する文献のチェックリストの
第3報として、キタガミトビケラ科、マルバネトビケラ科、トビケラ科、カクスイトビケ
ラ科およびコエグリトビケラ科のリストを示した。キタガミトビケラ科は1属1種、そし
てマルバネトビケラ科は1属2種が現在までに日本から記録されている。トビケラ科では
現在までに日本から6属15種が記録されているが、以下の3つの分類学的な問題が残さ
れている。1）幼虫で記録されたウモントビケラ属Agrypniaの1種の種名が決定されて
いない。2）幼虫で記載されたフタブトビケラOligotricha kawamurai（IWATA）の種の確
認ができない。3）幼虫で記載されたオオムラサキトビケラNeuronia maxima（IWATA）
は、ムラサキトビケラEubasilissa regina（MCLACHLAN）のシノニムとされたが、ゴマフ
トビケラSemblis melaleuca（MCLACHLAN）のシノニムである可能性が指摘されている。カク
スイトビケラ科では現在までに日本から3属15種が記録されているが、分類学的には以
下的5つの問題点が残されている。1）ヤマトツットビケラBrachycentrus japonicus
（IWATA）とカクスイトビケラ属Brachycentrusまたはマルツットビケラ属Micrasemaと
して仮名が与えられている3つの'種'は、幼虫および幼虫ののみが知られるが、成虫との関
係を調べる必要がある。2）幼虫で記載されたオオハラツットビケラEobrachycentrus
oharenensis（IWATA）は種の特徴が明確に示されていない。3）キタヤマカクスイトビケラ
Eobrachycentrus kitayamanus（TSUDA）の記載は不十分で、種の確認ができない。4）雄の
交尾器が図示されているマルツットビケラ属Micrasemaの1種の種名が確定していない
ない。5）幼虫で記録されたマルツットビケラ属Micrasemaのなかには'種'の特徴が明確に
されていないものがある。6）日本には未記載種が数種存在する。コエグリトビケラ科では
現在までに日本から4属20種が記録されているが、そのうち原記載論文において種名
に二つのつづりがみられた2種について学名の修正を行った（Apatania momoyaensis
KOBAYASHIおよびMoropsycche higoana KOBAYASHI）。しかし、まだ以下の二つの分類学的
問題点が残っている。1）幼虫と巣の記載だけがなされているコエグリトビケラ属
Apataniaとクロバネトビケラ属Moropsyccheのいくつかの'種'では、種の特徴が明確に示
されていない。2）日本にはまだ多くの未記載種が存在する。