

# A LIST OF AQUATIC INSECTS OF STREAMS IN THE HAKUSAN REGION, II.

Kazumi TANIDA, *Hakusan Nature Conservation Center*, *Ishikawa*

白山周辺の河川における水生昆虫目録(II)

谷 田 一 三 石川県白山自然保護センター

Concerning the entomofauna of streams in the Hakusan region, HORI (1961), TOGASHI (1960, 1965, 1977, 1978), KAWANABE *et al.* (1972), TANIDA (1975), and OHGUSHI (1978) have listed the insect of this region. Most of the findings were based on information of larval collection. Little information about the imagines or adults of Plecoptera and Trichoptera (TOGASHI, 1960 ; HORI, 1961 ; TANIDA, 1975) is available.

Besides my own collection from this region, I have had a chance to examine some of the specimens deposited in Ishikawa Agricultural College and Hakusan Nature Conservation Center. In this report, I will present the additional list of the Plecoptera and Trichoptera fauna which have been reported by the above authors, using information concerning adults or imagines.

I wish to express my hearty thanks to Professor I.TOGASHI of Ishikawa Agricultural College, Dr. M. SAKURAI of Sapporo Mercantile College, Dr. T. MARUYAMA of Tokyo Fishery University, and the staff of Hakusan Nature Conservation Center for their kind proposal of materials, and to Professor T. KAWAI of Nara Women's University who was kind enough to identify the specimens of imagines of Plecoptera.

## LIST OF INSECTS

In this report, generic and specific names of Plecoptera follow KAWAI (1976), and those of Trichoptera follow SCHMID (1968, 1969, 1970), WIGGINS (1959, 1977), and TANI (1977). Newly recorded species in this region will be represented by asterisks on the species name.

## PLECOPTERA

PELTOPERLIDAE ヒロムネカワゲラ科

*Microperla brevicauda*\*KAWAI

1♂, Nomi-dan, Kawachi, 1 May 1977, I. TOGASHI leg.

NEMOURIDAE オナシカワゲラ科

*Nemoura pseudofluva*\*KAWAI

1♂, Ichinose, Shiramine, 3-4 July 1975, K. T. leg.

*Nemoura cercispinosa*\*KAWAI

2♂♂, Nomi-dan, Kawachi, 1 May 1977, I. TOGASHI leg.

*Nemoura stratum* KAWAI

1♂, Koaka-dan, Shiramine, 28 Apr. 1973, K. T. leg.

TAENIOPTERYGIDAE ミジカオカワゲラ科

*Obipteryx femoralis* OKAMOTO

1♂, Koaka-dan, Shiramine, 28 Apr. 1973, K. T. leg., Sweep.

CAPNIIDAE クロカワゲラ科

*Capnia naebensis*\*KAWAI

2♀♀, Koaka-dan, Shiramine, 23 Mar. 1973, K. T. leg., On Snow. ; 2♀♀, Girai-dan, Chugu, Yoshino-dani, 11 Mar. 1976, M. SAKURAI leg., On Snow.

*Capnia flebilis*\*KOHNO ヒメクロカワゲラ

4♀♀, Omichi-dan, Shiramine, 22 Mar. 1973, K.T. leg., On Snow.

*Takagripopteryx nigra*\*OKAMOTO オカモトクロカワゲラ

1♂, 2♀♀, Onsen-yama, Chugu, Yoshino-dani, 12 Mar. 1976, M. SAKURAI leg., On Snow. ; 1♂, 3♀♀, H.N.C.C., Chugu, Yoshino-dani, 7 Mar. 1976, M. SAKURAI leg., On Snow. ; 1♀, Girai-dan, Yoshino-dani, 9 Mar. 1976, M. SAKURAI leg., On Snow. ; 1♂, H.N.C.C. Chugu, Yoshino-dani, 10 Mar. 1976, M. SAKURAI leg., On Snow.

*Eucapnopsis stigmatica*\*OKAMOTO ミジカオクロカワゲラ

5♂♂, 6♀♀, Omichi-dan, Shiramine, 22 Mar. 1973, K. T. leg., On Snow. ; 1♂, Koaka-dan, Shiramine, 23 Mar. 1973, K. T. leg., On Snow. ; 1♂, Koaka-dan, Shiramine, 27 Apr. 1972, K.T. leg., Sweep.

*Eocapnia nivalis*\*(UÉNO) セツケイカワゲラ

4♀♀, Omichi-dan, Shiramine, 22 Mar. 1973, K.T. leg., On Snow. ; 1♂, Koaka-dan, Shiramine, 23 Mar. 1973, K.T. leg., On Snow. ; 1♂, 1♀, H.N.C.C. Chugu, Yoshino-dani, 10 Mar. 1976, M. SAKURAI leg., On Snow. ; 5♀♀, Onsen-yama, Chugu, Yoshino-dani, 12 Mar. 1976, M. SAKURAI leg., On Snow.

*Allocapniella monticola*\*KAWAI セツケイカワゲラモドキ

4♂♂, 14♀♀, Omichi-dan, Shiramine, 22 Mar. 1973, K.T. leg., On Snow. ; 1♂, Koaka-dan, Shiramine, 23 Mar. 1973, K.T. leg., On Snow. ; 2♂♂, Onsen-yama, Chugu, Yoshino-dani, 12 Mar. 1976, M. SAKURAI leg., On Snow. ; 2♂♂, 1♀, Girai-dan, Chugu, Yoshino-dani, 11 Mar. 1976, M. SAKURAI

leg., On Snow. ; 1♂, Girai-dan, Chugu, Yoshino-dani, 9 Mar. 1976, M. SAKURAI leg., On Snow. ; 1♂, H.N.C.C., Chugu, 10 Mar. 1976, M. SAKURAI leg., On Snow.

PERLORIDAE アミメカワゲラ科

*Tadamus kohnonis*\*RICKER コウノアミメカワゲラ

1♀, Nomi-dan, Kawachi, 1 May 1977, I. TOGASHI leg.,

*Pseudomegarcys japonicus* KOHNO ヤマトヒロバアミメカワゲラ

3♂♂, Heishiro-dan, Aka-dan, Shiramine, 28-30 Apr. 1973, T. MARUYAMA leg.

*Tadamus scriptus*\*(KLAPÁLEK) アミメカワゲラモドキ

1♀, Iwama, Oguchi, 31 Oct. 1974, K. T. leg., Sweep.

PERLIDAE カワゲラ科

*Acroneuria stigmatica* KLAPÁLEK モンカワゲラ

3♂♂, Koaka-dan, Shiramine, 5 July 1975, K. T. leg., Light Trap.

CHLOROPERLIDAE ミドリカワゲラ科

*Suwallia nipponica* (OKAMOTO)

1♀, Koaka-dan, Shiramine, K. T. leg., Light Trap. ; 1♂, 1♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg., Light Trap.

*Sweltsa shibakawae*\*(OKAMOTO)

1♀, Koaka-dan, Shiramine, 5 July 1975, K. T. leg., Light Trap.

TRICHOPTERA

RHYACOPHILIDAE ナガレトビケラ科

*Rhyacophila articulata* MORTON トワダナガレトビケラ

3♂♂, 1♀, Koaka-dan, Shiramine, 5 July 1975, K. T. leg., Light Trap.; 2♂♂, 3♀♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg., Light Trap.

*Rhyacophila lambakanta*\*SCHMID

1♂, 2♀♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg., Light Trap.

GLOSSOSOMATIDAE ヤマトビケラ科

*Glossosoma inops* (TSUDA) イノブスヤマトビケラ

Pupae (4♂♂, 2♀♀), Prepupae (2ex.), Koaka-dan, Shiramine, 19 Aug. 1971, K. T. leg.,

*Glossosoma altaica*\*(MARTYNOV) アルタイヤマトビケラ

1♂, 14♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg., Light Trap.

STENOPSYCHIDAE ヒゲナガカワトビケラ科

*Stenopsyche marmorata* NAVAS ヒゲナガカワトビケラ

3♂♂, Koaka-dan, Shiramine, 5 July 1975, K. T. leg., Light Trap. ; 3♂♂, 1♀, Kinameri, Yoshino-dani, 12 Sep. 1973, K. T. leg., Light Trap. ; 1♀, H.N.C.C., Chugu, Yoshino-dani, 2 July 1974, A. MIZUNO leg. ; 1♀, H.N.C.C. Chugu, Yoshino-dani, 8 July 1974, A. MIZUNO leg. ; 1♀, Chugu, Yoshino-dani, 21 Sep. 1973, A. MIZUNO leg. ; 1♀, Chugu, Yoshino-dani, 27 Sep. 1973, A. MIZUNO leg. ; 6♀♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg., Light Trap.

*Stenopsyche sauteri*\*(ULMER) チャバネヒゲナガカワトビケラ

1♀, H.N.C.C., Chugu, Yoshino-dani, 29 July 1973, A. MIZUNO leg. ; 3♂♂, 1♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg., Light Trap.

HYDROPSYCHIDAE シマトビケラ科

*Hydropsyche tsudai*\* TANI ウルマーシマトビケラ

2♂♂, 28♀♀, Kinameri, Yoshino-dani, 12 Sep. 1973, K. T. leg., Light Trap. ; 5♀♀, Mitsuyano, Torigoe, 5-8 June 1974, K. T. leg., Light Trap ; 3♂♂, 20♀♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg., Light Trap.

*Parapsyche maculata*\*(ULMER) シロフツヤトビケラ

1♀, Nomi-dan, Kawachi, 1 May 1977, I. TOGASHI leg. ; 1♀, Nomi-dan, 11 May 1977, I. TOGASHI leg.

*Diplectrona japonica*\* BANKS キマダラシマトビケラ

2♂♂, Nomi-dan, Kawachi, 11 May 1977, I. TOGASHI leg.

ODONTOCERIDAE フトヒゲトビケラ科

*Perrisoneura paradoxa* (MCLACHLAN) ヨツメトビケラ

1♀, (Grey type), Kura-dake, Tsurugi, 22 May 1977, A. TANIMOTO leg. ; 1♂, (Yellow type), Nomi-dan, Kawachi, 22 May 1977, A. TANIMOTO leg.

PHRYGANOPSYCHIDAE マルバネトビケラ科

*Phryganopsyche latipennis*\*(BANKS) マルバネトビケラ

1, H.N.C.C., Chugu, Yoshino-dani, Oct. 1979, K. T. leg.

LIMNEPHILIDAE エグリトビケラ科

*Goera japonica*\* BANKS ニンギョウトビケラ

2♂♂, Koaka-dan, Shiramine, 5 July 1975, K. T. leg. ; 1♂, Koaka-dan, Shiramine, 27 Apr. 1973, K. T. leg. ; 1♂, 1♀, Ichinose, Shiramine, 3-4 July 1975, K. T. leg.

*Limnephilus orientalis*\*MARTYNOV ウスバキトビケラ

1♂, Kinameri, Yoshino-dani, 12 Sep. 1973, K. T. leg. ; 1♂, Chugu, Yoshino-dani, 26 Sep. 1973, A. MIZUNO leg.

### SOME NOTES ON THE FAUNA

17 species of Plecoptera belonging to 6 families and 13 species of Trichoptera belonging to 7 families are identified and listed. Among them, 12 species of Plecoptera and 9 species of Trichoptera are new to this region. A total of 40 species of Plecoptera and 32 species of Trichoptera have been identified from this region.

Seven species of stoneflies belonging to Nemouridae, Taeniopterygidae, Capniidae were found on the snow at the foot of Mt. Hakusan in March. Two wingless capnids, *Eocapnia nivalis* and *Allocapniella monticola* were most abundant at Jadani or Chugu area (altitude 600m to 1,100m) where the Conservation Center exists. This two species are the most common ones in Central Japan (KAWAI, 1961; KOMATSU, 1972). Judging from the geographical distribution of these genera, further species will be found from this region.

*Microperla* is the peculiar genus of Peltoperlidae and only one species, *M. brevicauda*, has been found in Japan. Another species was reported from China by ULMER (KAWAI, 1961). Only two loci of *M. brevicauda* were previously found in Kyoto, and this is the first record outside of Kyoto.

### 要 約

石川県農業短期大学・白山自然保護センター・著者の所蔵標本の白山地域のカワゲラ目とカゲロウ目の成虫標本を検索した。6科17種のカワゲラと7科13種のトビケラを同定し、目録を作成した。そのうち、12種のカワゲラと9種のトビケラは、白山地域の新記録種であった。

雪上で採集されたカワゲラは3科7種で、セッケイカワゲラ *Eocapnia nivalis* とセッケイカワゲラモドキ *Allocapniella monticola* の2種が優占種であった。ヒロムネカワゲラ科の *Microperla brevicauda* は、京都以外で初めて記録された種類であり、白山は第3番目の産地である。

### REFERENCES

- HORI, K. (1961) The insect fauna of Mt. Hakusan and its ecological distribution. Ecological studies of Hakusan Quasi-National Park; 75-97+3pls.
- KAWAI, T. (1961) Insects on the snow of Niigata Pref., I. Plecoptera. Bull. Nagaoka Municipal Mus., no. 2; 3-5. (in Japanese)
- , (1967) Plecoptera (Insecta). Fauna Japonica. p 1-112. Tokyo.
- , (1976) A catalogue of Japanese Plecoptera. Nara Hydrobiol., no. 5; 5-46.
- KAWANABE, H., T. MARUYAMA, & K. TANIDA (1972) Survey of the biology of stream. Rep. Hakusan National Resource Survey Project (1971); 24-49. (in Japanese).
- KOMATSU, T. (1972) Studies on the ecology of the snow insects, II. Relation between the seasonal and annual occurrence of the snow-stoneflies (Plecoptera) and the environmental conditions. Jap. J.

- Ecol., 22 (3) ; 134-140. (in Japanese with English summary).
- OHGUSHI, R. (1978) Aquatic insects of Mekkodan and Maruishidan. Cons. Rep. Mekkodan water-power plant in Hakusan National Park ; 107-109. (in Japanese)
- SCHMID, F. (1968) La famille des Arctopsychides (Trichoptera). Mem. Ent. Soc. Quebec. no. 1 ; 1-84.
- (1969) La famille des Stenopsychides (Trichoptera). Can. Ent., 101 (2) ; 187-224 + 7pls.
- (1970) Le genre *Rhyacophila* et la famille des Rhyacophilidae (Trichoptera). Mem. Ent. Soc. Can., 66 ; 1-230.<sup>^</sup>
- TANI, K. (1977) Trichoptera. in Ito *et al.* ed., Coloured illustrations of the insects of Japan. II ; 184-206.
- TANIDA, K. (1975) A list of aquatic insects of streams in the Hakusan regions, I. Ann. Rep. Hakusan Nature Cons. Center, no. 2 ; 65-75. (in Japanese with English summary).
- TOGASHI, I. (1960) Stoneflies (Plecoptera) of Kaga-Hakusan. Biol. Study (Fukui), 4(1) ; 3. (in Japanese).
- (1965) Vernal aquatic fauna of the River Dainichi, Ishikawa Prefecture. ditto, 9 (3/4) ; 35-38. (in Japanese).
- (1977) Aquatic lives of Nomi-dan. Rep. Environmental Res. Nomi-dan ; 57-61. (in Japanese).
- (1978) Insect fauna of Mekkodan and Maruishidan. Cons. Rep. Mekkodan water-power plant in Hakusan National Park ; 73-95. (in Japanese).
- WIGGINS, G. B. (1959) A new family of Trichoptera from Asia. Can. Ent., 91 (12) ; 745-757.
- (1977) Larvae of the North American caddisfly genera. p. 1-401. Univ. Toronto Pr. Toronto & Buffalo.