

A List of Aquatic Insects from Two Streams with Different Acidities in Sugadaira, Central Japan*

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Synopsis

We give a preliminary list of aquatic insects of an acidic stream, the Daimyojin-zawa, and a neutral one, the Naka-no-sawa in Sugadaira. The numbers of collected species from the Daimyojin-zawa and the Naka-no-sawa are 34 and 61, respectively, including many species hitherto unrecorded in these streams.

Key words: Fauna, aquatic insect, acidic stream, neutral stream, Central Japan.

The aquatic insect fauna of an unusually acidic stream in Sugadaira, the Daimyojin-zawa has been examined, in comparison with that of neutral ones in the same area (NEGORO, 1938; IDE, 1954; HIROSE, 1961; YOSHIDA, 1967). Our knowledge on the fauna of Daimyojin-zawa is, however, still insufficient, and we accordingly attempted to reexamine it. Adding to the Daimyojin-zawa, a neutral one, the Naka-no-sawa, which is close and substantially identical in size and features to the former, was selected for comparison. Here, we give a preliminary list of aquatic insects of these two streams.

The sampling site in the Daimyojin-zawa was selected in the Sugadaira Montane Research Center, University of Tsukuba (1250-1300m alt.). The site in the Naka-no-sawa was also set up at the substantially the same height along the stream. Surveys were made four times in the former, three times in the latter in the period of 1987-1988 (Table 1).

Through these surveys we could list up species nearly as twice as in previous reports.

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Table 1. Date of survey

Daimyōjin-zawa			Naka-no-sawa		
Aug.	23,	1987	Aug.	24,	1987
Oct.	11,	1987 (pH 6.5)	Oct.	11,	1987 (pH 7.4)
Nov.	29,	1987	Aug.	—7,	1988 (pH 7.4)
Aug.	—7,	1988 (pH 5.1)			

As shown in Table 2, we could collect 34 and 61 species in the Daimyōjin-zawa and the Naka-no-sawa, respectively: a few increase of species may be expected, because some of "species" in the list may include plural forms. The species collected are categorized into three.

1. *Species restricted to Daimyōjin-zawa*

Thirteen species were enumerated. Species collected more than twice of four-times surveys are as follows:

Plectrocnemia sp.

Apsilochorema sutchanum

Parapsyche sp. (sp. II)

Hydrophilidae gen. sp.

Dicranota sp.

2. *Species restricted to Naka-no-sawa*

Thirty-nine species were enumerated. Species collected more than twice of three-times surveys are as follows:

Epeorus curvator

Baetis sahoensis

Ephemerella bifurcata

Ephemerella cryptomeria

Ephemera japonica

Nemoura sp.

Yoraperla japonica

Calineuria stigmatica

Rhyacophila impar

Diplectrona sp.

Goerodes sp.

3. *Species common to Daimyōjin-zawa and Naka-no-sawa*

Twenty-one species were enumerated. Species collected more than twice of surveys in both streams are as follows:

Baetis yamatoensis

Scopura montana

Amphinemura sp.

Protonemura sp./spp.

Chloroperlidae gen./genr. sp./spp.

Parapsyche sp. (sp. I)

Staphylinidae gen. sp.

Simulium japonicum

We will continue the faunal survey of aquatic insects in Sugadaira, and our further study will ensure the precise appreciation and characterization of faunae of each stream.

References

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Table 2. Aquatic insects collected from Daimyojin-zawa and Naka-no-sawa.

			Frequency	
			Daimyojin-zawa	Naka-no-sawa
Ephemeroptera	Siphonuridae	<i>Ameletus</i> sp.	+	+
	Heptageniidae	<i>Epeorus uenoi</i>	+	+
		** <i>E. latifolium</i>		+
		** <i>E. curvaturus</i>		+++
	Baetidae	<i>Baetis yamatoensis</i>	+++	+++
		** <i>B. sahoensis</i>		++
	Leptophlebiidae	** <i>Paraleptophlebia</i> sp.		+
	Ephemerellidae	<i>Ephemerella orientalis</i>	+	+
		** <i>E. bifurcata</i>		++
		** <i>E. cryptomeria</i>		+++
		** <i>E. (Drunella)</i> sp.		+
	Ephemeridae	** <i>Ephemerella japonica</i>		+++
	Gomphidae	** <i>Davidius fujiana</i>		+
Plecoptera	Scopuridae	<i>Scopura montana</i>	+++	+++
	Nemouridae	** <i>Nemoura</i> sp.		++
		<i>Amphinemura</i> sp.	+++	++
		<i>Protonemura</i> sp./spp.	++++	+++
	Capniidae	*Capniidae gen. sp.	+	
	Peltoperlidae	** <i>Yoraperla japonica</i>		++
		** <i>Cryptoperla japonica</i>		+
	Perlodidae	** <i>Stavsolus</i> sp.		+
	Perlidae	** <i>Calineuria stigmatica</i>		+++
		**Acroneurinae gen. sp.		+
		** <i>Kamimuria tibialis</i>		+
		** <i>Niponiella limbata</i>		+
Planipennia Trichoptera	Chloroperlidae	Chloroperlidae gen./genr. sp./spp.	++++	+++
	Osmylidae	<i>Osmylidae</i> gen. sp. ¹⁾	+	++
	Stenopsychidae	** <i>Stenopsyche marmorata</i>		+
	Philopotamidae	<i>Dolophilodes</i> sp. I	+	+
		<i>D.</i> sp. II	+	+
		**Philopotamidae gen. sp.		+
		* <i>Plectrocnemia</i> sp.	++	
	Rhyacophilidae	<i>Rhyacophila towadensis</i>	++++	+
		** <i>R. kawamurai</i>		+
		** <i>R. impar</i>		++
		<i>R.</i> sp.	+	++
		* <i>Apsilochorema sutchanum</i>	+++	

Coleoptera	Glossosomatidae	**Glossosomatidae gen. sp.		+
	Hydropsychidae	<i>Parapsyche</i> sp. I	++++	++
		* <i>P.</i> sp. II	++	
		** <i>Diplectrona</i> sp.		++
		** <i>Arctopsyche</i> sp. I		+
		** <i>A.</i> sp. II		+
		** <i>A.</i> sp. III		+
	Phryganeidae	* <i>Eubasilissa regina</i>	+	
		**Phryganeidae gen. sp.		+
	Limnephilidae	* <i>Pseudostenophylax ondakensis</i>	+	
		** <i>Uenoa tokunagai</i>		+
		<i>Limnephilus</i> sp.	+	+++
	Lepidostomatidae	** <i>Goerodes</i> sp.		++
		**Lepidostomatidae gen. sp.		+
	Dytiscidae	*Colymbetinae Agabini gen. sp.	+	
Diptera		**Dytiscidae gen. sp.		+
	Hydrophilidae	<i>Hydrocassis lacustris</i>	+	+
		*Hydrophilidae gen. sp.	++	
	Helodidae	* <i>Helodes</i> sp.	+	
	Ptilodactylidae	Ptilodactylidae gen. sp.	+	+
	Elmidae	**Elmidae 2genr. 2spp.		++
	Staphylinidae	Staphylinidae gen. sp. ¹⁾	++	++
	Cantharidae	**Cantharidae gen. sp. ¹⁾		+
	Tipulidae	<i>Tipula</i> sp. I	++	+
		* <i>T.</i> sp. II	+	
		**Tipulidae gen. sp.		+
		<i>Holorusia</i> sp. I	++	+
		* <i>H.</i> sp. II	+	
		* <i>Dicranota</i> sp.	++	
	Simuliidae	<i>Simulium japonicum</i>	++	++
		* <i>S. uchidai</i>	+	
	Chironomidae	**Chironomidae gen./genr. sp./spp.		+++
		**Tanytarsini gen. sp.		+
	Athericidae	** <i>Atherix ibis</i>		+
		** <i>A.</i> sp.		+
			**Athericidae gen. sp.	+
Number of species			34	61

+ : Number of positive records (max. 4 in Daimyojin-zawa, 3 in Naka-no-sawa), * : Species collected only from Daimyojin-zawa,

** : Species collected only from Naka-no-sawa

1) These species may be not euaquatic.