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A NEW AND TWO UNRECORDED SPECIES OF TRICHOPTERA FROM JAPAN

By

SATORU KUWAYAMA

(With 5 Text Figures)

The Trichoptera discussed in this paper are from various parts of Japan, and the material was received from Messrs. S. ARAKAWA, Y. HASEGAWA, S. HIRAYAMA, S. ISSIKI, T. KANO and A. NOHIRA, besides the collection by myself. I wish to express my hearty thanks to all of the above-named gentlemen for the opportunity of studying the interesting collections of Trichoptera upon which the following descriptions are based. I must also tender my deepest thanks to Prof. Dr. S. MATSUMURA for his kind advice during the course of this study. The types of the species are preserved now in my collection.

Fam. **Calamoceratidæ**

1. ***Asotocerus nigripennis*** sp. nov.

♂. Head and thorax entirely black, sparsely pubescent and with many dark brownish long hair on the dark yellowish warts at the head and also on the prothorax; antennae dark brown, with indistinct blackish annulations; legs dark yellow with exceptions of blackish coxae and reddish brown claws, and darkened at the apices of tibiae and tarsal joints. Wings subhyaline and blackish brown, with moderately dense blackish pubescence; veins blackish; in the fore wings the costal areas are darkened with iridescent black colour and many indistinct light coloured spots scattered all over the surface. Abdomen blackish brown.

Vertex with a large rounded wart between the antennae and four transverse warts on the inner sides of eyes and near the posterior angles, the warts being grown with long hair. The antennae quite slender and 2.5 times the length of fore wing; the basal joint thick and rather globular, with concolorous hair, the second short, and the remainings cylindrical. Maxillary palpi long and densely pubescent; 1st joint short, 2nd longest and followed by the 3rd, 4th about the length of the 1st, 5th slender but shorter than the 3rd. The fore wings elongate, acute at the apex, the outer margin being oblique, but not falcated

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at the apex, the discoidal cell and the median cellule elongate and similar in shape, and the anastomosis consisted nearly of a line. The hind wings short but

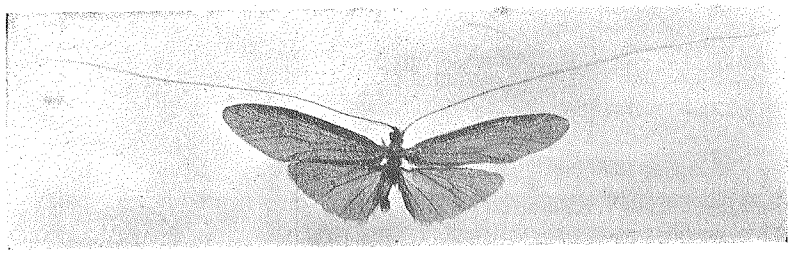

Fig. 1.
Asotocerus nigripennis sp. nov.,
♂ (Holotype) [Natural size]

much broader; 5th apical cellule broad at the base, the vein Cu being branched into Cu_1 and Cu_2 at right angles.

9th segment dark brownish, projected in a triangular shape on the above, with a prominent median depression; lateral projections not very large, triangular in shape; appendages praeanales dull yellow, slender and straight, directed rather outwardly, with concolorous long hair; 10th segment elongate, somewhat angulated, divided into two parallel processes, dark yellowish; chitinous portion of the penis elongate and sharpened at the apex, brownish yellow; lower portions of the pedes genitales reddish brown, with dense concolorous long hair, long and curved inwardly, the apex of each being nearly touched; the upper portions of the pedes genitales scarcely visible.

♀. Colouration similar to the opposite sex, excepting blackish brown antennae and concolorously dark brownish legs. The antennae somewhat thicker and shorter than those of the male, being 1.3 times the length of fore wing. The fore wings much broader than those of the male, that is, the ratio of the width and the length is 1 : 2.77 in the female against 1 : 3.27 in the male; the discoidal cell rather narrow than the median cellule.

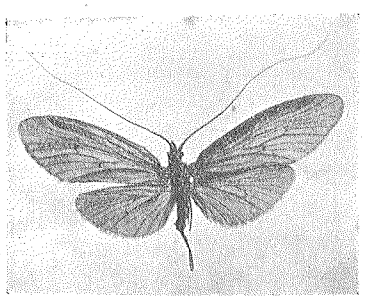

Fig. 2.
Asotocerus nigripennis sp. nov.,
♀ (Allotype)
[Natural size]

8th sternit large and bilobed, blackish, with dense dull yellowish hair on the apical margin, and not covering the 9th sternit; 9th sternit dark brown with a pair of blackish short process and a median depression on the anterior portion; 9th tergit large and triangular, with a bilobed apical process,

dark brownish; 10th segment represents a pair of large process, brownish with long black hair.

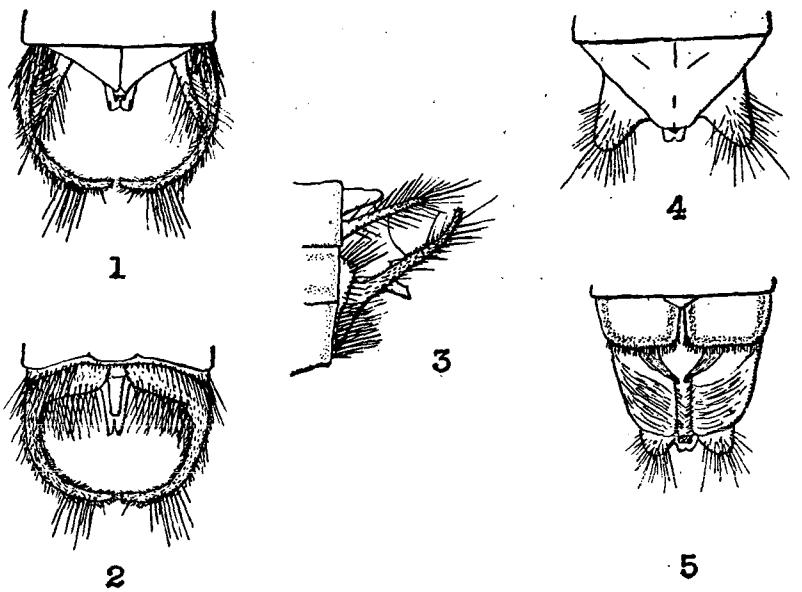

Fig. 3.

Genitalia of *A. nigripennis*

1. Male genitalia, from above
2. Same, from beneath
3. Same, from side
4. Female genitalia, from above
5. Same, rom beneath

Measurements: The data of 5 males and 3 females examined are as follows:

No.	Sex	Length of body	Length of fore wing	Width of fore wing	Length of hind wing	Length of Antenna
		mm	mm	mm	mm	mm
1	♂ (Holo-type)	11.5	23.0	7.0	14.0	57.0
2	♂	12.0	22.5	7.0	13.5	damaged
3	♂	11.5	22.0	6.5	13.5	"
4	♂	12.5	22.0	6.5	13.5	"
5	♂	12.0	20.0	6.3	13.0	53 0
Average		11.9	21.9	6.7	13.5	55.0
6	♀ (Allo-type)	11.5	22.5	8.3	14.5	30.0
7	♀	12.5	23.5	8.5	15.0	29.0
8	♀	15.0	24.0	8.5	16.0	32.5
Average		13.0	23.3	8.4	15.2	30.5

Local Distribution: Kyoto (1 ♂, leg. S. HIRAYAMA); Kyoto (2 ♂ ♂, Holotype and paratopotype, May 31, 1915, leg. A. NOHIRA); Mt. Kurama, near Kyoto (2 ♀ ♀, Allotype and paratopotype, May 18, 1914, leg. A. NOHIRA); Kitayama, near Kyoto (1 ♂, May 25, 1914, leg. A. NOHIRA); Koryo (1 ♂ 1 ♀, June 10, 1923, leg. Y. HASEGAWA (in alcohol)).

General Distribution: Honshu, Chosen.

Remarks: As far as I am aware, the hitherto known species of the genus *Asotocerus* MACLACHLAN distributed only in Asiatic tropics, such as Sunda Islands, Philippines and Himalaya. So I believe that the occurrence of the present species is noteworthy in the zoogeographical standpoint.

Fam. **Leptoceridæ**

Subfam. **Leptocerinæ**

2. *Mystacides azurea* LINNÉ

Phryganea azurea LINNÉ, Fauna Suec., ed. II, p. 380 (1761); LINNÉ, Syst. Nat., ed. XII, p. 909 (1767).

Setodes azurea KOLENATI, Gen. et Spec. Trichop., II, p. 263, Pl. III-fig. 33 (1859).

Mystacides nigra (nec LINNÉ) PICTET, Rech. Phryg., p. 169, Pl. XII-fig. 5 (1834).

Mystacida nigra (nec LINNÉ) RAMBUR, Hist. Nat. Ins., Névrop., p. 511 (1842).

Mystacides azurea MACLACHLAN, Trans. Ent. Soc. Lond., (3 ser.) V, p. 145, Pl. II-fig. 6, Pl. VI-fig. 5, Pl. XII-figs. 29, 30 (1865); MACLACHLAN, Monog. Rev. & Syn. Trich. Eur. Fauna, p. 315, Pl. XXXIV (1877); ULMER, Coll. Zool. Edm. Selys Longs., IV-1, Trichop., p. 46 (1907); ULMER, Gen. Ins., LX, p. 139 (1907); ULMER, Süsswass. Deutschl., V/VI, p. 95, Fig. 157 (1909); IWATA, Dobutsu. Zasshi, XXXIX, p. 244, Fig. 117 (1927); IWATA, Ann. Zool. Jap., XI, p. 211, Fig. 117 (1927).

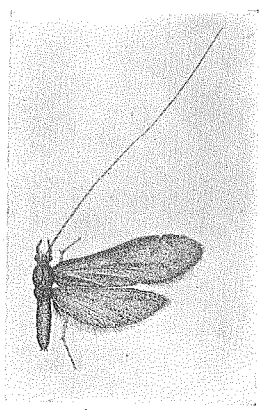

Fig. 4.
Mystacides azurea LINNÉ
[ca × 2.5]

Local Distribution: Sapporo, (1 ♀, September 15, 1918, leg. S. ISSIKI; Ônuma, Prov. Oshima (6 ♂ ♂ 2 ♀ ♀, June 26, 1929, leg. S. KUWAYAMA), Tokyo (1 ♂, April 21, 1924, leg. T. KANO), Uwa, Prov. Iyo (2 ♂ ♂ 3 ♀ ♀, leg. S. ARAKAWA).

General Distribution: Hokkaido, Honshu, Shikoku; Europe.

Remarks: This species seems to be common throughout Hokkaido, Honshu and Shikoku, yet hitherto I have received no record from our faunal region on the adult-stage. However, in 1927, Mr. IWATA detected the occurrence of the larvae of this species from Lake Kizaki in Nagano-Prefecture and Chizu-river in Tottori-Prefecture. I have at Lake Ônuma

observed that this caddice-fly has a habit to gather under the shade of a bush and flies intermittently up and down.

From Karafuto (Saghalien) the related species *Mystacides nigra* LINNÉ, which is widely distributed in Europe, Siberia and North America, is reported by Prof. S. MATSUMURA[1].

3. *Oecetis testacea* CURTIS

Leptocerus testaceus CURTIS, Phil. Mag., 1834, p. 214 (1834).

Setodes testacea MACLACHLAN, Trans. Ent. Soc. Lond., (3 ser.) V, p. 119, Pl. XIII-fig. 4 (1865).

Oecetis testacea MACLACHLAN, Monog. Rev. & Syn. Trich. Eur. Fauna, p. 336, Pl. XXXVI (1877); ULMER, Gen. Ins., LX, p. 144, Pl. XXXVII-fig. 9 (1907); ULMER, Süsswass. Deutschl., V/VI, p. 104, fig. 171 (1909).

Pleurograpta testacea WALLENGREN, Skand. Neurop., II, p. 135 (189 1

Setodes lacustris (nec PICTET) KOLENATI, Gen. et Spec. Trichop., II, p. 266 (1859).

Local Distribution: Ônuma, Prov. Oshima(2 ♀ ♀, June 26, 1929, leg. S. KUWAYAMA).

General Distribution: Hokkaido; Europe.

Remarks: I captured this caddice-fly at Lake Ônuma among the crowd of *Mystacides azurea*. This species is hitherto unknown to our faunal region.

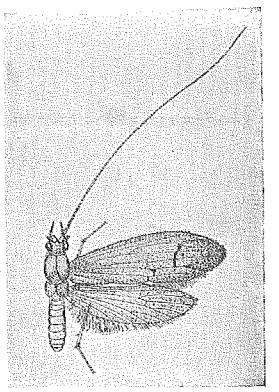

Fig. 5.
Oecetis testacea CURTIS
[ca × 2.5]

1) Jour. Coll. Agr., Tohoku Imp. Univ., IV, p. 17 (1911).

摘　　要

この小文に於て次のアシエダトビケラ科 (Calamoceratidae) に屬する一新種とヒゲナガトビケラ科 (Leptoceridae) に屬する二未記錄種とを發表した。

1. *Asotocerus nigripennis* KUWAYAMA (n. sp.) クロアシエダトビケラ（新稱）
余は本州京都附近並に朝鮮江陵にての採集品を所持して居る。

2. *Mystacides azurea* LINNÉ アナヒゲナガトビケラ
本種は本邦に普通種であつて、幼蟲に就ては既に 1927年 岩田正俊氏により發表せられたが、成蟲に就て記したものは本編を以て嚆矢と信ずる。

3. *Oecetis testacea* CURTIS キイロヒゲナガトビケラ（新稱）
歐洲に普通なもので、余は之を始めて北海道大沼公園での採集品中に發見した。