

## Records and descriptions of Trichoceridae from the Japanese empire (Ord. Diptera).

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(With 4 Figures).

All species of Trichoceridae so far discovered in Japan and Formosa pertain to the genera *Trichocera* Meigen and *Paracladura* Brunetti. A number of species of the former genus seem to be conspecific with wide-spread Holarctic forms but a few others must be regarded as being distinct. It is virtually certain that a species of *Diazosma* Bergroth will be discovered in Eastern Asia since specimens have been taken in Europe and on both sides of the North American continent.

### **Paracladura Brunetti.**

Key to the Asiatic Species of *Paracladura* Brunetti.

1. Wings yellowish, with a distinct brown seam along the cord.  
(Eastern Himalayas). *elegans* Brunetti  
Wings unmarked, except for a stigmal darkening when this is present. 2
2. Wings unusually wide, especially across the level of the anal region, the 1st Anal cell being very extensive (Fig. 1). (Japan: Kiushiu). *latipennis* sp. n.  
Wings of moderate width or narrowed basally, the anal cells narrow. 3
3. General coloration of body yellow; wings subhyaline with subhyaline to yellow veins. 4  
General coloration of body brown to dark brown; wings gray or pale brownish gray, the veins brown. 5
4. Coloration yellow, the abdomen brownish yellow; veins yellow, distinct against the ground-color. (Eastern Himalayas).  
*gracilis* Brunetti  
*(flava* Brunetti)  
Coloration very pale yellow, the abdomen concolorous; veins nearly hyaline, difficult to distinguish against the membrane. (Fig. 2). (Formosa). *flavoides* (Alexander)

5. Wings of normal contour, the anal field of normal width (Fig. 3). (Japan: Kiushiu). *nipponensis* Alexander

Wings cuneiformly narrowed at base, the anal cells very narrow. (Formosa). *cuneata* Alexander

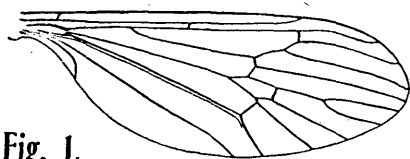


Fig. 1.

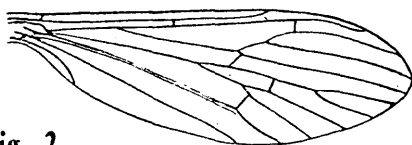


Fig. 2

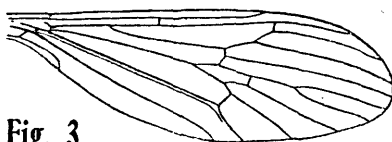


Fig. 3

*Paracladura latipennis* sp. n.

Antennae elongate, especially the outer segments of the flagellum; wings unusually wide, especially across the level of the anal field.

Male. Length about 3 mm; wing  $4 \times 1.45$  mm; antenna 2.5 mm.

Rostrum brown; palpi black. Antennae unusually elongate, especially the outer segments of the flagellum; scapal segments brown; flagellum brown, paling to whitish on the outer segments; flagellar segments gradually increasing in length outwardly, the outer segments very long and slender. Head brown.

Mesonotum brown, the scutellum slightly paler. Pleura dark brown. Halteres light brown, the knobs dark. Legs with the coxae and trochanters brown; remainder of the legs light brown, clothed with long pale setae. Wings (Fig. 1) of unusual width, especially across the level of the anal field; brownish gray, the stigmal region barely darker; veins brown. Venation:  $R^1$  a trifle shorter than  $R$ ; cell 1st  $M_2$  relatively short and wide for a member of this genus; m-cu on  $M_4$  shortly beyond the fork; anal cells very wide, especially the first anal.

Abdomen brown, the subterminal segments restrictedly darker. Male hypopygium with the dististyles cylindrical, unarmed. Gonapophyses appearing as slender curved hooks.

Hab. Japan (Kiushiu).

Holotype, ♂, Mt. Kirishima, altituda 3000—3500 feet, May 4, 1929 (S. Issiki).

I am very deeply indebted to my friend and colleague, Professor Syuti Issiki, for the present specimen and other additional species of *Paracladura* recorded at this time. The type is preserved in my collection.

***Paracladura flavoides* Alexander.**

1923. *Trichocera flavoides* Alexander; Philippine Journ. Sci., 22:467—468.

The types were taken at Tattaka, Formosa, altitude 7400 feet, August 17—19, 1921, by Dr. Teiso Esaki. An additional female from Arisan, Formosa, altitude 7300 feet, July 7, 1929 (S. Issiki).

***Paracladura nipponensis* Alexander.**

1924. *Paracladura nipponensis* Alexander; Insec. Inscit. Menst., 12:82.

The type, a female, was taken on Mt. Kirishima, Kiushiu, Japan, altitude 3250 feet, October 30, 1923, by Dr. Teiso Esaki. Two additional females were taken at Kosugidani, island of Yakushima, south of Kiushiu, altitude 2500 feet, April 29, 1929, by Professor S. Issiki.

***Paracladura cuneata* Alexander.**

1928. *Paracladura cuneata* Alexander; Philippine Journ. Sci., 36:456—457.

The type was taken at Nōkō, Formosa, altitude 9000 feet, June 26, 1927 by Professor Issiki. An additional specimen of each sex from Arisan, Formosa, altitude 7300 feet, July 7, 1929, collected by Issiki. The wing was figured at the time of the original definition of the species.

***Trichocera* Meigen.**

***Trichocera japonica* Matsumura.**

1915. *Trichocera japonica* Matsumura; Konchu Bunruigaku, 2:63.

This species has been so constantly overlooked by students of the order that attention is called to it at this time. The original description is in Japanese, with the sole exception of the scientific name. Through an error, the supposed reference to *Trichocera japonica* on the Plate (fig. 16) really refers to *Limnobia japonica* Matsumura. The actual identity of this latter species is somewhat doubtful but appears to refer to the wide-spread Holarctic species *Neolimnophila ultima* (Osten Sacken). In any case, the name *Limnobia japonica* Matsumura (1915) is invalidated by *Limnobia japonica* (Alexander, 1913).

Dr. Teiso Esaki has very kindly translated the original description of *Trichocera japonica* as follows: „Body dark brown, notum dark yellow; wings translucent, somewhat dark yellowish, veins dark yellow; halteres yellowish white with the apices dark yellow; abdomen flattened, hypopygium brown; legs dark yellow, tarsi somewhat darker. Length of body 1.5 bu. (1 bu equals 3 mm). This species is easily distinguishable from all other species by the very slender antennae.“

The actual identity of *Trichocera japonica* is very doubtful. The generic reference seems to be undoubtedly correct but no species having this type of coloration is known to me from this faunal region.

***Trichocera maculipennis pictipennis* subsp. n.**

Antennae black, the scape reddish; general coloration gray, the praescutum with four brown stripes; femoral tips broadly and uniformly darkened; wings subhyaline with dark brown spots at the origin of Rs, along the cord and outer end of cell 1st  $M_2$ , and, in some specimens, especially females, across the outer radial cells and at the end of vein 2nd A.

Male. Length about 5.5 mm; wing 7—7.5 mm.

Female. Length about 6 mm; wing 8.5 mm.

Rostrum dark brown; palpi dark brown. Antennae black, the scapal segments more reddish. Front gray pruinose, with long erect setae; remainder of head brownish gray.

Mesonotal praescutum yellowish gray with four brown stripes, the intermediate pair narrow, widely separated, extending from the anterior margin of the sclerite to near the suture; lateral stripes broader, indistinct; scutum yellowish gray, the lobes brown; scutellum light gray, more reddish beneath; postnotum gray. Pleura brownish gray. Halteres long and slender, yellow, the knobs dark brown. Legs with the hind coxae pale, sparsely pruinose, the other coxae paler; trochanters pale; femora dull yellow to brownish yellow basally, the tips broadly dark brown; tibiae and tarsi dark brown. Wings grayish subhyaline, the costal region more yellowish; the type shows brown spots arranged as follows: Origin of Rs;  $Sc_2$ ; along the cord;  $R_2$  and fork of  $R_{2+3+4}$ ; outer end of cell 1st  $M_2$  and fork of  $M_{1+2}$ ; a narrow band or spot extending from near the tip of  $R_{1+2}$  across cells  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$ ; a spot at the tip of vein 2nd A; indistinct gray clouds at the ends of the longitudinal

veins and in cell 1st A at the wing-margin. In most other specimens of the type-series, especially in the males, the narrow band before the wing-tip and the spot at 2nd A are lacking. Venation: Petiole of cell  $M_1$  usually short; vein 2nd A strongly curved.

Abdomen dark brown, the lateral and posterior margins of the segments a little paler. Ovipositor light horn-color.

Hab. Japan (Hokkaido and Honshiu).

Holotype, ♂, Meguro, Tokyo, April 1, 1919 (R. Takahashi).

Allotopotype, a broken ♂, March 29, 1919.

Paratopotypes, 2 ♀♀, March 23, 1919; paratypes, 2 ♂♂, Nakano, Tokyo, March 15, 1925 (T. Yokoyama); 1 sex?, Sapporo, September 1922 (S. Kuwayama).

I am greatly indebted to the various collectors for this series of specimens. It seems best to consider the present fly as representing a geographic race of *maculipennis*, differing chiefly in the coloration of the legs and other details of coloration. It seems highly probable that *Trichocera punctipennis* Brunetti will also finally be considered as being a race of *maculipennis*, since it has almost the same leg-pattern and structure of the male hypopygium, though with an even more varied wing-pattern.

***Trichocera sakaguchii* sp. n.**

General coloration brown; halteres pale, the knobs infuscated; femora brownish yellow, the tips darker; wings gray, the stigma and a cloud on r-m darker; male hypopygium with the dististyle flattened, provided with a slender setiferous lobe on the mesal face before midlength.

Male. Length about 6 mm; wing 7 mm.

Female. Length about 6.5–7 mm; wing 7.5–8 mm.

Rostrum and palpi black. Antennae black, in cases with the outer flagellar segments paler. Head grayish brown.

Mesonotum brown with a sparse yellow pollen, the praescutum with two darker brown stripes on either side of a median pale vitta; scutellum pale reddish brown apically. Pleura dark brown. Halteres pale, the knobs infuscated. Legs with the coxae brown, pale apically; trochanters pale; femora brownish yellow, the tips darker; tibiae brown, the tips darker; tarsi black. Wings of male of somewhat peculiar form, being broadest

on the basal half, cell 1st A unusually broad; apex of wing obtuse; wings of female more normal in conformation; coloration grayish, the oval, diffuse stigma darker; a small, still darker brown cloud on r-m; veins dark brown, the prearcular veins,  $Cu_2$  and Sc paler. Venation:  $R_{2+3+4}$  about three times  $R_{2+3}$ ; vein  $R_3$  conspicuously sinuous.

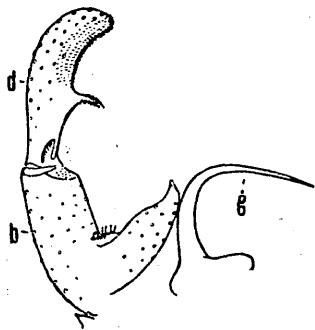


Fig. 4

Abdomen of male dark brown to brownish black, including the hypopygium; in female, the caudal margins of the abdominal segments paler. Male hypopygium (Fig. 4) with the basistyle (b) simple, unarmed. Dististyle (d) longer than the basistyle, dilated outwardly, on mesal face shortly before midlength with a slender setiferous lobe; beyond this lobe, the style is broader and more flattened, the outer face with long coarse setae, the mesal face with more abundant erect setae to form a cushion-like appearance. Gonapophyses (g) appearing as very long, tapering blades, the tips acute. Ovipositor with the valves unusually long and gently curved.

Hab. Japan (Honshiu).

Holotype, ♂, Okazaki, Kii, January 1, 1929 (S. Sakaguchi).

Allotopotype, ♀.

Paratopotypes, 3 ♂ ♀.

*Trichocera sakaguchii* is named in honor of the collector, Professor S. Sakaguchi, of the Wakayama Normal School, to whom I am indebted for many Tipulidae. It is distinct from all other described Holarctic and Oriental species of the genus-

#### Explanation of text-figures 1-4.

- Fig. 1. *Paracladura latipennis* sp. n.; wing, holotype.  
 „ 2. *Paracladura flavoides* (Alexander); wing, holotype.  
 „ 3. *Paracladura nipponensis* (Alexander); wing, holotype.  
 „ 4. *Trichocera sakaguchii* sp. n.; male hypopygium.  
 b = basistyle; d = dististyle; g = gonapophysis.

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