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NOTES ON SOME SPECIES OF
THE GENUS *CULICOIDES* FROM MANCHOUKUO
WITH DESCRIPTION OF A NEW SPECIES*

(CERATOPOGONIDAE, DIPTERA)

By

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(高橋 弘)
(With 2 figures)

So far as the author is aware, only two *Culicoides*-species, *C. mubeculosus* (MEIGEN) and *C. oroi* TOKUNAGA, have been recorded by M. TOKUNAGA** from Manchoukuo. On this occasion six more species, one of which is new to science, are added to the Ceratopogonid fauna of Manchoukuo.

**Key to the Species**

1. Wings either unmarked or with a single dark spot on the costal two radial cells, without any markings on the membrane .......................... 2
2. Wings marked on the membrane .................................................. 3
2. Wings with macrotrichia spread over the whole surface, wing-length more than 1 mm. Maxillary palp with many scattered spoon-like sensillae on the distal half of the third segment ........... *C. albicans* (Winnertz)
3. Wings nearly bare, wing-length less than 1 mm. Maxillary palp with short spoon-like sensillae in a common pore on the third segment ........... *C. chiopterus* (MEIGEN)
3. Wings with the second radial cell including marginal veins entirely dark ... 4
4. Wings with the second radial cell including marginal veins mainly pale ... 5
4. Wings bare except at the tip; markings indefinite. Thorax without any definite markings. Wing-length about 1 mm. ........... *C. obsoletus* (MEIGEN)
5. Wings clothed with macrotrichia on the greater part of the surface; markings sharply definite. Thorax with three large irregular dark marks. Wing-length 2 mm. .................. *C. pulicaris punctatus* (MEIGEN)

*The studies on which this paper is based were conducted with the support and under the auspices of the "Rikugun Gun-i Gakko", Tokyo.
5. Wings with gray clouds on pale ground; a dark marking in the median fork and in the cubital fork. Wing-length 2 mm. .......... C. buhetoensis n. sp.
- Wings with as many as fifteen clear spots on the dark ground, three clear spots in the median fork and a clear spot in the cubital fork. Wing-length about 1.3 mm. ...................... C. erairai Kôno et Takahasi

1. Culicoides albicans (Winnertz)

Ceratopogon albicans Winnertz, Linnea Entomolog., Stettini, VI, p. 41, Pl. VI, fig. 36 (1852); Walker, Ins. Britannica, Dipt., III, p. 221 (1856); Schinner, Fauna Austriaca, Dipt., II, p. 582 (1864); Kertész, Cat. Dipt., I, p. 159 (1902).


Gen. Dist.: Manchoukuo; Europe.

Remarks: No definite record of the blood-sucking habit of this species has yet been published. The author caught the midge together with C. pulicaris punctatus and C. erairai.

This species is new to the fauna of Manchoukuo.

2. Culicoides buhetoensis n. sp.

♀. Length, 2.3 mm.; Wing, 2 mm.

Head brown with the eyes widely separated from each other. Frons and vertex pubescent. A large seta situated in the middle of the frons; rather short setae scattered on the vertex. Maxillary palpus (Fig. 1, b) 5-segmented (13:30:30:12:17), pale brown, with the 3rd segment having a sensory pore in which several spoon-like sensillae are assembled. Antennae pale brown, with the scape reddish brown. Relative length of seven distal segments as follows—13:15:15:16:19:20:31. Antennal ratio about 1 (112:111). Mandible with about thirteen minute teeth; galea with sixteen teeth; labrum-epipharynx with four lateral large teeth on each side and with three minute terminal teeth. Mesonotum and scutellum brown. Wings (Fig. 1, a) hyaline, with small scattered markings on the membrane; first dark costal marking not visible; second dark costal marking covering the whole of the two radial cells; third dark costal marking constricted at the middle. r-m as long as M4+5. Radius and costa with macrotrichia. Macrotrichia comparatively sparse, spreading over the distal one-fourth of the membrane of the wing. Halteres white. Legs pale brown. Relative length of femora, tibiae and tarsi (1st:2nd:3rd:4th:5th) as follows: Fore leg—37:30:36 (15:8:5:3:5); middle leg—37:39:43.
NSECTA MATSUMURANA


Holotype (♀): Buheto (博知村), 31/VII, 1940, H. TAKAHASI.

Type in the Entomological Institute of the Hokkaido Imperial University, Sapporo.

Habitat: Manchoukuo.

Fig. 1. Culicoides buhetoensis n. sp.

a: Wing; b: Maxillary palpus

Remarks: The new species closely resembles *C. tubeculosus* (MEIGEN)*, but is easily distinguished from the latter in having an indefinite first costal dark marking of the wing.

It was a cold and cloudy evening when the specimen was collected by the author, the temperature being 5°C. The midge stung the back of his hand giving a sharp pain. The inflammation continued about an hour. It is noteworthy that the midge is active on such a cold evening.

3. **Culicoides chiopterus** (MEIGEN)


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Ceratopogon amoenus WINNERZ, Linnaea Entomolog., Stettini, VI, p. 29, Pl. V, fig. 29 (1842); WALKER, Ins. Britannica, Dipt., III, p. 218 (1856); SCHINER, Fauna Austriaca, II, p. 590 (1864).
Culicoides chiopterus KIEFFER, in Faune de France, XI, p. 76 (1925); EDWARDS, Trans. Ent. Soc. London, LXXIV, pp. 404, 405 (1926); GOETGHEBLER & LENZ, in LINDNER, 13a, Heleidae, pp. 38, 41, Pl. V, fig. 51 (1934); EDWARDS, in British Blood-sucking Flies, pp. 31, 45, 143, fig. 60, b (1939).

Habitat: Hengtaohotze, I♀, 24/VII, 1940, H TAKAHASI.
Gen. Dist.: Manchoukuo; Europe.
Remarks: This species belongs to a group having the 3rd segment of the maxillary palpus with a sensory pore in which several spoon-like sensillae are assembled.
There are as yet no definite records of the blood-sucking habit of this midge. The present specimen was collected together with C. obsoletus, C. pulicarpis and C. erairai in a bush on the hill near Hengtaohotze in the evening.
This species is new to the fauna of Manchoukuo.

4. Culicoides erairai KÔNO et TAKAHASI

Culicoides erairai KÔNO et TAKAHASI, Ins. Mals., XIV, 2/3, p. 70, fig. 1 (1940); TOKUNAGA, Tenhirudo, III, 2, 142 (1940).

Fig. 2. Culicoides erairai KÔNO et TAKAHASI (♀). a: Wing; b. Thorax.
Habitat: Sekimonshi, 3♀♂, 20/VII, 1940, H. TAKAHASI; Tonei (東帝), 4♀♂, 21/VII, 1940, H. TAKAHASI; Hengtaohotze, 10♀♂, 24/VII, 1940, H. TAKAHASI, Mutanchiang (牡丹江), 1♀, VIII, 1940, T. KONNO; Masan (里山), 2♀♀, VIII, 1940, H. KAMIJIJI.

Gen. Dist.: Nippon; Manchoukuo.

Remarks: This species belongs to a group having the 3rd segment of the maxillary palpus with scattered spoon-like sensillae. *C. erairai* is a troublesome and abundant species in north-eastern Manchoukuo. It chiefly attacks the hairy parts of the human body, such as the head or beard. The bite is very painful and causes a big swelling, and sometimes inflammation and eczema. *C. erairai* is only troublesome out of doors. It is most active in the evening or in cloudy weather.

5. **Culicoides obsoletus** (MEIGEN)

*Ceratopogon obsoletus* MEIGEN, Syst. Beschr., I, p. 76 (1818).


Habitat: Hengtaohotze, 2♀♀, 24/VII, 1940, H. TAKAHASI; Mutanchiang, 1♀, VIII, 1940, T. KONNO.

Gen. Dist.: Nippon; Manchoukuo; Europe.

Remarks: This very troublesome small midge was first found in Manchoukuo in the summer of 1940. The bite is often painful and sometimes makes a big swelling as the author has already reported (l.c.).

6. **Culicoides pulicaris punctatus** (MEIGEN)


*Ceratopogon pulicaris* MEIGEN, Sys. Beschr., I, p. 75, PI. II, fig. 17 (1818); WALKER, Ins. Britannica, DIPT., III, p. 220 (1858); SCHINNER, Fauna Austriaca, II, p. 581 (1864); WULP, DIPT. NEEDL., I, p. 232 (1877); KERTÉSZ, CAT. DIPT., I, p. 178 (1902).

*Culicoides pulicaris* KIEFFER, Ann. Mus. Nat. Hist. Hungarici, XVII, pp. 34, 41, fig. 24 (1919); KIEFFER, in Faune de France, XI, p. 87 (1925); EDWARDS, Trans. Ent. Soc. London, LXXIV, pp. 404, 406, PI. XCII, fig. 24 (1926); GOETGHUBER & LENZ, in LINDNER, Die Fliegen, 13a, Heleidae, pp. 39, 46, PI. XI, fig. 107 (1934); TOKUNAGA, Tenthredo, I, 3, pp. 274, 308, Fig. 22, I. XXVI, fig. 12 (1937).
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Culicoides sawamotoi Kôno et Takahasi, Ins. Mats., XIV. 2/3, p. 75, fig. 5 (1940) (n. syn).


Gen. Dist.: Nippon; Manchoukuo; Europe.

Remarks: In the course of the present study the author's observations have convinced him that C. sawamotoi Kôno et Takahasi should be a synonym of C. pulicaris punctatus (Meigen). In the original description C. sawamotoi is placed in a group having the 3rd segment of the maxillary palpus with a sensory pore in which several spoon-like sensillae are assembled, but it truly belongs to a group having the 3rd segment of the maxillary palpus with scattered spoon-like sensillae.

The midge is a troublesome species in Manchoukuo as well as in Europe, and it is usually most active in the evening out of doors, but is inactive indoors similarly to C. cratirai.

This species is new to the fauna of Manchoukuo.

摘 要

滿洲國東北帯地域にはメカカ属の吸血昆虫が多く、夏期野外に於ける役職を著しく阻害され大問題となって居る。著者は、昭和15年夏、同地方に採集旅行をなし、下記の種類を採集した。

1. Culicoides albicans (Winnertz) ヒロメカカ (新記録)
2. C. bukhotensis n. sp. ブヘトメカカ (新種)
3. C. chiopterus (Meigen) チビメカカ (新記録)
4. C. cratirai Kôno et Takahasi エブメカカ (新記録)
5. C. obsoletus (Meigen) メカカ (新記録)
6. C. pulicaris punctatus (Meigen) ササモトメカカ (新記録)

同地に於ける被害状況は、様式の場合と共通するものがあり、且種類も共通種が多い。滿洲國に於ては Culicoides nobilis (Meigen), C. owi Tokunaga (德永氏に譜る)の2種、並びに今回の6種を加へ、合計8種が知られて居るにすぎないが、更に多くの種類が発見出来るものと考へられる。本文を草するに當り、被害状況の他に於て、武藤二郎氏の御教示に負ふ所が多いた。

終りに陸軍軍興学校並びに在滿各機関の絶大なる御庇護に対し厚く感謝の意を表す。