A First Recorded Genus Cyphomella Sæther (Diptera: Chironomidae) from China

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Abstract: The genus Cyphomella Sæther, 1977 is firstly recorded from China. Detail description and illustration of the species C. cornea Sæther, 1977 and the key to males of genus Cyphomella Sæther in the world are given. The specimen is deposited in College of Life Sciences, Nankai University, Tianjin of China.

Key words: Chironomidae; Cyphomella; new record genus; China

摇蚊亚科中国一新纪录属——脊突摇蚊属(双翅目:摇蚊科)

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摘要: 记述了摇蚊亚科中国一新纪录属——脊突摇蚊属 Cyphomella Sæther, 1977。给出了脊突摇蚊属 C. cornea Sæther, 1977 的详细描述，绘图以及世界脊突摇蚊属雄成虫分种检索表。标本保存于南开大学生命科学学院。

关键词：摇蚊科；脊突摇蚊属；新纪录属；中国

The genus Cyphomella was established by Sæther in 1977 included six species: C. argentea (Townes), C. angusta (Freeman), C. camelus (Kieffer), C. cornea Sæther, C. gibbera Sæther, C. grisea (Malloch), with C. gibbera Sæther as the type species. The genus is the member of the Harnaichia generic complex because the reduced superior and inferior volsella. The adult males of Cyphomella are characterized by the presence of a central scutal tubercle and little hunchback on the tergite IX. Cranston and Martin (1989) placed the species C. angusta (Freeman) into the genus Paracladopelma.

To date, the genus contains only 6 species: 1 in the Palaeartic region, 4 in the Nearctic region, 1 in the Afrotropical region (Sæther, 1977; Cranston & Martin, 1989). In this paper, based on the material from Hebei province, we re-described the species C. cornea Sæther. The genus is firstly recorded in China. Keys to known males of the world are given.

1 Key

Key to males of genus Cyphomella Sæther [ Revisited by Sæther (1977) ]

1. Mid and hind tibia with 1 spur; AR1.5～2.0 ......... 2
   -Mid and hind tibia with 2 spurs; AR2.5～4.0 ......... 3
2. Lobe connecting superior and inferior volsella; superior volsella without apical setae ........................................... C. gibbera Sæther, 1977 (Nearctic)

   -No lobe connecting superior and inferior volsella; superior volsella with 4～9 setae ............................................ C. cornea Sæther, 1977 (Holarctic)

3. Superior and inferior volsella together with about 5～7 setae; AR about 2.9 ......... C. grisea (Malloch, 1915) (Nearctic)
   -Superior and inferior volsella together with about 10～13 setae; AR 2.5 or 3.9 .............................................. 4
4. Superior volsella overreached by inferior volsella; AR 2.5; central tubercle of scutum divided into 2 small tubercles C. camelus (Kieffer, 1925) (Afrotropical)
   -Inferior volsella overreached by superior volsella; AR 3.9; central scutal tubercle undivided C. argentea (Townes, 1945) (Nearctic)

2 Species Description

Cyphomella cornea Sæther (Fig. 1～3) Cyphomella cornea Sæther 1977; 105; Makarchenko et al. 2005; 409


Diagnostic characters: The species is distinguished by the
following combination of characters; Thorax with dark brown spots, acrostichals apparently absent; AR 1. 88 ~ 2. 00, large frontal tubercles present; R1 bare; the presence of only one spur on middle and hind tibia; superior volsella thumb-shaped and dorsal surface bare but ventral surface covered by microtrichia and bearing setae.

**Description:** Male (n = 4, unless otherwise stated). Total length 3.78 ~ 4.23, 4.03 mm. Wing length 1.80 ~ 2.23, 2.10 mm. Total length/wing length 1.83 ~ 2.10, 1.93. Wing length/length of profemur 2.44 ~ 2.59, 2.52.

**Coloration.** Thorax brown with dark brown vittae; front leg dark brown; mid and hind leg dark brown except for tibia yellowish brown. Abdomen with tergite 1-5 yellowish brown with dark brown bands distally, tergites VI-VIII and hypopygium dark brown.

**Head.** AR 1. 88 ~ 2. 00, 1. 93; ultimate flagellomere 660 ~ 740, 710 μm long. Frontal tubercles cylindrical, 23 ~ 25, 28 (3) μm long; 13(3) μm wide at base. Temporal setae 11 ~ 19, 16, including 4 inner verticals, 4 ~ 8, 6 outer verticals, and 7 ~ 8, 7 postorbitals. Clypeus with 11 ~ 16, 12 setae. Tentorium 125 ~ 157, 137 μm long, 30 ~ 40, 35 μm wide. Palpomere lengths (in μm): 25 ~ 38; 32; 38 ~ 50, 45; 145 ~ 168, 157; 145 ~ 175, 155(3); 202 ~ 223, 218(3). Palpomere 5/3 1.30 ~ 1.54, 1.40(3).

**Thorax.** Antepronotals 3 ~ 6, 5; acrostichals 0; dorsocentrals 5 ~ 7, 6; prealars 3 ~ 4, 4. Scutellum with 8 ~ 11, 10 setae.

**Wing (Fig.).** VR 1.06 ~ 1.11, 1.08. R with 7 ~ 9, 8; R1 bare; R4 + 5 with 1 ~ 3 (2) setae medially and 1 apical seta. Brachium with 2 setae. Squama with 9 ~ 14, 12 setae.

**Legs.** Fore tibia with 2 subapical setae, 80 ~ 94, 88 μm and 90 ~ 98, 95 μm. All of mid and hind with 1 spur, spur of mid tibia 23 ~ 30, 25 μm long; comb with 22 ~ 26, 24 teeth, 10 ~ 11, 10 μm long. Spur of hind tibia 29 ~ 32, 30 μm; comb with 40 ~ 42, 42 teeth, 11 ~ 13, 12 μm long. Tarsomere 1 of mid leg with 4 ~ 6, 5 sensilla chaetica; tarsomere 1 of hind leg without sensilla chaetica. Lengths (in μm) and proportions of legs as in Table.

<table>
<thead>
<tr>
<th></th>
<th>t1</th>
<th>t2</th>
<th>t3</th>
<th>t4</th>
<th>t5</th>
<th>LR</th>
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</thead>
<tbody>
<tr>
<td>p1</td>
<td>810 ~ 900,865</td>
<td>610 ~ 730,685</td>
<td>910 ~ 1060,990</td>
<td>450 ~ 500,475</td>
<td>360 ~ 390,375</td>
<td>260 ~ 290,278</td>
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<tr>
<td>p2</td>
<td>740 ~ 850,808</td>
<td>700 ~ 810,775</td>
<td>330 ~ 400,375</td>
<td>200 ~ 240,223</td>
<td>140 ~ 190,175</td>
<td>110 ~ 140,130</td>
</tr>
<tr>
<td>p3</td>
<td>860 ~ 1010,945</td>
<td>870 ~ 1010,955</td>
<td>550 ~ 620,600</td>
<td>340 ~ 370,358</td>
<td>270 ~ 310,293</td>
<td>160 ~ 230,190</td>
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![Fig. 1-3 Cyphomella cornea Sather, male (n=4)](image)

Male. 1-wing, 2-hypopygium, dorsal view, 3-hypopygium, ventral view.

Anal point swollen medially, 45 μm long, 11 μm wide at middle. Phallapodeme 53 μm long. Transverse sternapodeme 43 μm long. Superior volsella composed of dorsal and ventral lobes, dorsal lobe bare, rectangular base with a spatulate projection; ventral lobe foot-shaped, covered with microtrichia and with 1 seta on the heel and 1 apical seta. Inferior volsella with rounded upper apex and covered with microtrichia. Gonoxite 90 μm long; with 3 strong setae along inner margin. Gonostylus 160 μm long,
with straight margin. HR 0.56; HV 2.00.

**Hypopygium** (Fig. 2,3). Anal tergite with semicircular posterior margin, bearing 18–24, 22 setae at base of anal point; anal tergite bands V-shaped, separated medially. Laterosternite IX with 3–4, 4 setae. Anal point with sclerotized ridge basally, and constricted medially, swollen apically, 70–75, 73 μm long. Phallapodeme 64–85, 75 μm long. Transverse sternapodeme 43–60, 52 μm long. Superior volsella thumb-shaped, curved medially, dorsal surface bare, ventral surface nearly without microtrichia and seta, broadened at apex covered by microtrichia and bearing 7–9, 8 setae. Inferior volsella flake-shaped and covered by microtrichia. Gonocoxite 113–133, 124 μm long; with 3–4, 4 strong setae along inner margin. Gonostylus 175–195, 183 μm long. HR 0.64–0.76, 0.68; HV 2.12–2.28, 2.21.

**Distribution:** The species is widespread in Holarctic region. It was collected by sweep net and light trap from Hebei province in China. It is a new record for China.

**Remarks:** Based on material examined from China, the superior volsella of the Chinese specimen with microtrichia, but not mention it in Sarther (1977); the inferior volsella without seta but one specimen with it in Sarther (1977).

3 **References**

