

锯形蜉属一新种记述^{*}

(蜉蝣目:小蜉科)

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摘要 详细描述了锯形蜉属一新种——膨铗锯形蜉(*Serratella tumiforceps* sp. nov.)成虫的形态特征,并与本属其他种进行了比较

关键词 蜉蝣目,小蜉科,锯形蜉属,新种

分类号 Q969.21

1 引言

锯形蜉属(*Serratella*)广泛分布于亚洲和北美洲,迄今为止全世界共报道24种,其中北美有14种,亚洲10种。我国已报道5种,分别为亚氏锯形蜉(*S. zapkinae* Bajkova 1967)、景洪锯形蜉(*S. jianghongensis* Xu et al. 1980)、黑斑锯形蜉(*S. nigramaculata* Xu et al. 1980)和天目山锯形蜉(*S. tianmushanensis* Xu et al. 1980)、海南锯形蜉(*S. hainanensis* Su et al. 1995)。其中亚氏锯形蜉首先由日本的今西锦司于1940年报道在中国有分布,但未命名,后由俄罗斯学者Bajkova命名。作者在整理近几年采集的标本时发现锯形蜉属1新种,其具体形态特征详细描述如下。模式标本保存在南京师范大学生物系。

2 新种描述

膨铗锯形蜉,新种(*Serratella tumiforceps* sp. nov.)

2.1 雄成虫(酒精保存)

体长5.5~6mm。复眼上半部棕红色,下半部黑色,两复眼在背面相接触;单眼基部黑色,端部白色;触角白至浅黄色。胸部棕红色,具有不规则黑色斑点;前翅透明,长5~5.5mm,横脉弱,翅缘具游离的闰脉(图1.1);后翅前缘突短小且钝,位于后翅前缘中间(图1.2);前足腿节棕黄色,其它各节淡黄色,腿节、胫节、跗节的长度之比为1.0:2.5:1.5,跗节各节长度的排列顺序为2,3,4,5,1(图1.3);后足淡黄色,腿节、胫节、跗节的长度之比为0.8:1.0:0.6,跗节各节长度的排列顺序为4,1=2,3(图1.4);三对足的爪均为一钝一尖。腹部棕红色,各节背板侧面及后缘具有黑色斑纹;尾铗3节,其基节、第2节、端节的长度比为2:9:1,第1节短而宽,第2节长直,端部明显膨大,第3节最为短小,长度不到宽度的2倍;阳茎长,两阳茎叶大部愈合,仅在端部呈“V”字型分离,阳茎背面靠近端部两侧各具一个小而尖的突起(图1.5);尾须3根等长,长为5mm,呈淡黄色。

2.2 雌成虫(酒精保存)

体长6~6.5mm。体色较雄成虫略浅。前足棕黄色,腿节、胫节、跗节的长度比为0.8:0.8:

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0.6, 跗节各节长度的排列顺序为5, 1, 2, 3, 4(图1. 6); 后足淡黄色, 腿节、胫节、跗节的长度之比为0.9:1.5:0.5, 跗节各节长度的排列顺序为4, 1, 2, 3(图1. 7). 下生殖板后缘呈弧型(图1. 8). 其他特征似雄成虫

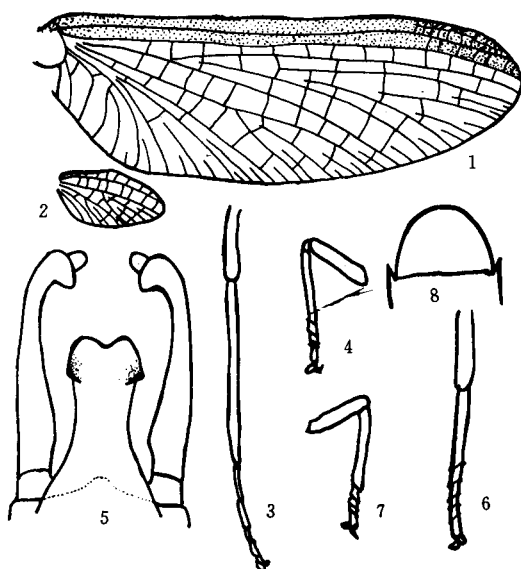


图1 膨钹锯形蜉(*Serratella tumiforceps* sp. nov.)

雄成虫(male imago): 1 前翅(fore wing); 2 后翅(hind wing); 3 前足(fore leg);

4 后足(hind leg); 5 外生殖器背面观(genitalia, dorsal view);

雌成虫(female imago): 6 前足(fore leg); 7 后足(hind leg); 8 下生殖板(subgenital plate)

3 模式标本

正模♂, 1994 VIII 18, 浙江龙泉兰巨, 周长发、朱朝东采; 配模、副模: 19♂♂、10♀♀, 同正模; 5♂♂, 1990 VII 7, 四川江津四面山, 杨莲芳、John C. Morse 采; 3♂♂、2♀♀, 1983 VII 6, 安徽霍山县磨子滩, 吴兴永、苏翠荣采; 10♂♂, 1986 VI 14, 湖南洪江大河渡口, 张俊、余书生采; 1♂♂, 1986 VI 18, 湖南张家界金鞭溪, 张俊、余书生采

4 讨论

从下面两个主要特征, 可将膨钹锯形蜉(*Serratella tumiforceps* sp. nov.)与锯形蜉属的其他种区别开来: 尾钹第2节端部明显膨大; 前足胫节长度为前腿节长度的2.5倍, 几乎达到前跗节的2倍长度

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A New Species of the Genus *Serratella* from China (Ephemeroptera: Ephemerellidae)

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Abstract This paper describes a new species of mayflies of the genus *Serratella* from China. The type specimens are deposited in the Department of Biology, Nanjing Normal University.

Serratella tumiforceps sp. nov. (Figs 1~ 8)

Male imago (in alc): Length of body 5.5~ 6.0mm. General color brown. Compound eyes large, ovoid, upper portion redish, lower portion dark-black, being contiguous apically. Fore wing 5.5mm long, transparent, almost colorless and hyaline, veins not clear. Hind wing with blunt and short costal projection. Ratio of femur:tibia:tarsus of fore leg and hind leg respectively is: 1.0:2.5:1.5, and 0.8:1.0:0.6, fore tarsus joints in proportion rank: 2, 3, 4, 5, 1 and that of hind tarsus joints: 4, 1= 2, 3. The relative lengths of three segments of forceps = 2:9:1, the second segments with expanded apical portion. Three caudal filaments, 5.5mm length.

Female imago (in alc): Ratio of femur:tibia:tarsus of fore leg and hind leg respectively is: 0.8:0.8:0.6 and 0.9:1.5:0.5, fore tarsus joints in proportion rank: 5, 1, 2, 3, 4 and that of hind tarsus joints: 4, 1, 2, 3. The posterior margin of subgenital plate entire.

This new species can be differed easily from other species in same genus by being two unique characters: the apical portions of 2ed segment of forceps expanded greatly; the fore tibia is comparative longer (femur:tibia:tarsus = 1:2.5:1.5).

Holotype ♂, allotype ♀, paratypes 19 ♂♂, 10 ♀♀ collected from Lanju, Nongchuan County, Zhejiang Province, VII- 18- 1994, by Zhou Changfa and Zhu Chaodong; 5 ♂♂ from Simian Mountain, Jiangjing County, Sichuan Province, VII- 7- 1990, by Dr. John C. Morse and Prof. Yang Lingfang; 3 ♂♂, 2 ♀♀, Mozitan, Huoshan County, Anhui Province, VII- 6- 1983, by Wu Xingyong and Su Cuirong; 10 ♂♂, Dahe, Hongjiang County, Hunan Province, V I- 14- 1986 and 1 ♂♂, 1 ♀♀, Jingbian Stream, Zhangjiajie, Hunan Province, VI- 18- 1986, by Zhang Jun and Se Shu-sheng.

Keywords Ephemeroptera, Ephemerellidae, *Serratella*, new species

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