第 25 卷 第 3 期
2000 年 7 月

动物分类学报
ACTA ZOOTAXONOMICA SINICA

Vol. 25, No. 3
Jul., 2000

大鳃蜉属在中国的首次记录附一新种记述
(蜉蝣目:小蜉科)

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摘要 报道了中国一新纪录属,即大鳃蜉属 Torleya Lestage(1917),并详细描述了该属一新种,宽茎大鳃蜉 T. grandipennis Zhou, Su et Gui, sp. nov. 的形态特征,并将其与近似种作了比较。

关键词 蜉蝣目,小蜉科,大鳃蜉属,新种.

中图分类号 Q969.212.4

大鳃蜉属 Torleya Lestage(1917)以前我国未曾报道,该属现有 5 种,其中 T. major Klapalek(1905)(= T. belgica Lestage, 1917)分布在欧洲,起初放在小蜉属 Ephemerella 中,后由 Ulmer(1928)移入 Torleya。其它 4 种 T. nepalica Allen et Edmunds(1963)、T. padunica Kazlaukas(1963)、T. japonica Gose(1980)和 T. mikhaili Tiunova(1995)分布在亚洲。其中,除尼泊尔大鳃蜉 T. nepalica 的成虫尚未发现外,其余 4 种的稚虫和成虫特征均有详细描述。

大鳃蜉属雄成虫的尾铗第 3 节长为宽的 2～4 倍,第 2 节弯曲,其长至少是第 1 节长之 4 倍;两阳茎叶大部分愈合,背面两侧各具一个较大的侧突;稚虫的鳃位于腹部第 3～7 节背板的两侧,第 3 对鳃扩大,几乎盖住后面 3 对鳃;前 4 对鳃结构相似:分成背腹两叶,背叶单片膜质,腹叶分成 2 叉状,每叉又分成许多小叶,第 5 对鳃最小,其腹叶不呈二叉状分枝,一般只分成 4 小叶。

作者在研究中国小蜉科蜉蝣时,发现大鳃蜉属一新种,描述如下。模式标本保存在南京师范大学生物系动物教研室。

宽茎大鳃蜉,新种 Torleya grandipennis Zhou, Su et Gui, sp. nov. (图 1～5)

雄成虫(酒精保存) 体长 5.0 mm。体色棕红。复眼上半部灰红色,下半部黑色,两复眼在背面相互紧靠;3 只单眼的基部黑色,端部淡黄色。胸部棕红色,具不规则的黑色斑纹;前翅长 5.0 mm,除 Sc 区和 R_1 区半透明外其余部分透明,翅缘闰脉单根(图 1);后翅长 1.5 mm,前缘突钝小,位于 Sc 脉的内半部(图 2);前足长 4.5 mm,在腿、胫、跗节中,腿节最短,跗节略长于胫节,跗节各节长度排列顺序为:2,3,4,5,1(图 3);中、后足相似,均为胫节长度 > 腿节长度 > 跗节长度,跗节 4 节,其长度排列顺序为:4,1,2,3(图 4);各足具爪 2 枚,一钝一尖。腹部淡黄色;尾铗 3 节,第 1 节粗短,第 2 节最长,为第 1 节的 4 倍以上,在端部弯曲,第 3 节长为宽的 3 倍;阳茎大部分愈合,宽大,端部呈"V"形缺刻,背面具一对大的突起,生殖下板中部略向后突出(图 5);尾丝 3 根,长度相等,6.0～6.5 mm,淡黄色。

讨论 在成虫已知的 4 个种中,T. major 和 T. japonica 的阳茎叶背部具大而显著的侧

收稿日期:1999-03-15,修回稿日期:1999-10-20.

突,而 T. padunica 和 T. mikhaili 的阳茎叶背部仅稍稍隆起,而不具叶状突起(Tiunova 1995)。宽茎大鳃蜉 Torleya grandipennis sp. nov. 阳茎叶背部具侧突,阳茎叶端部圆钝而与普通大鳃蜉 T. major 最为接近,但根据二者雄性外生殖器之间的差别可将二者区别开来:1)新种的尾铗第 3 节长为宽的 3 倍,而普通大鳃蜉 T. major 尾铗第 3 节长为宽的 2 倍左右;2)新种阳茎端部"V"形缺刻较普通大鳃蜉 T. major 的缺刻深;3)普通大鳃蜉 T. major 阳茎背部侧突具大而明显的脊,新种的侧突上不具脊(图 5,6)。

正模 ♂,副模 4 ♂♂,湖南洪江大河渡口,1986-06-16,张俊,佘书生等。

致谢　感谢俄罗斯科学院远东部生物学和儿科学研究所淡水生物学实验室的 T. M. Tiunova 博士(Laboratory of Freshwater Hydrobiology, Institute of Biology and Pedology, Far East Branch, Russian Academy of Sciences, Russia)在鉴定过程中所给予的帮助并赠送有关资料。

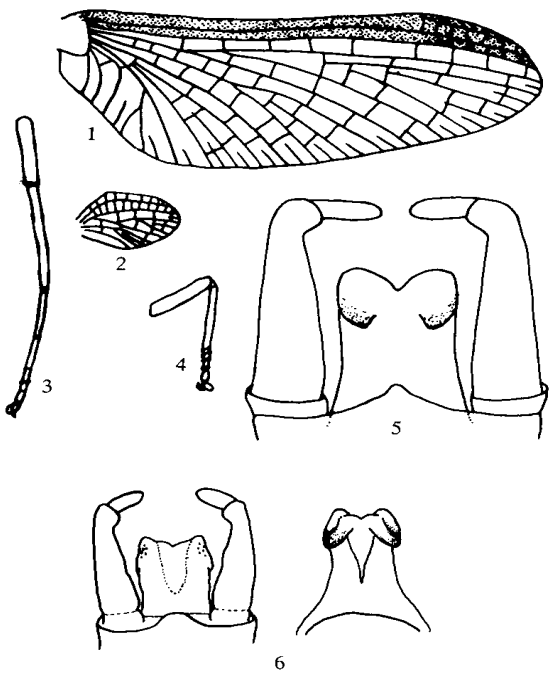

图 1～5　宽茎大鳃蜉,新种 Torleya grandipennis Zhou, Su et Gui sp. nov. 雄成虫(male imago)
1. 前翅(fore wing)　2. 后翅(hind wing)　3. 前足(fore leg)
4. 后足(hind leg)　5. 外生殖器(背面观)
(genitalia, dorsal view)

图 6　普通大鳃蜉 T. major 的雄性外生殖器
(腹面观和阳茎背面观)
(genitalia, ventral view; penis, dorsal view)

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THE FIRST RECORD OF THE GENUS TORLEYA IN CHINA WITH DESCRIPTION OF A NEW SPECIES (EPHEMEROPTERA: EPHEMERELLIDAE)

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Abstract

A new record genus Torleya Lestage (1917) to China is reported and a new species of this genus is described in detail.

Torleya grandipennis Zhou, Su et Gui, sp. nov. (Figs. 1-5)

Male imago (In alc.). Length of body 5.0 mm. General color reddish. Compound eyes large, ovoid with upper portion reddish and lower portion dark-black, being contiguous apically. Fore wing 5.0 mm long, transparent, almost colorless. Hind wing with blunt and short coastal projection. Fore tarsus joints in proportion rank: 2, 3, 4, 5, 1 and that of hind tarsus joints in: 4, 1, 2, 3. The forceps three segmented, the length of the second segment is four times more than that of the basal one, and the length of apical segment is three times of its width; the two penis fused together and only with a broad V-shaped apicomedian cleft between them, each penis with a large lateral subapical projection. Three caudal filaments identical, 6.0-6.5 mm in length.

Female imago and nymph not be found. There are five species in genus Torleya, They are T. major Klapalek (1905) (= T. belgica Lestage, 1917), T. nepalica Allen et Edmunds (1963) (known nymph only), T. padunica Kazlaukas (1963), T. japonica Gose (1980) and T. mikhaili Tiunova (1995). The T. grandipennis sp. nov. is similar to T. major. But the shape of their male genitalia is different (Figs. 5, 6): 1) the length of apical segment of forceps of this new species is three times of its width, while the length of that of T. major is only two times of its width; 2) the V-shaped apicomedian cleft of two penis in new species is deeper than that of T. major; 3) the lateral subapical projection of penis in T. major with obvious ridge, but the new species has not.

Holotype ♂, paratypes 4 ♂♂, Dahe River, Hongjiang County (27°07′N, 109°59′E), Hunan Province, Jun. 16, 1986, by ZHANG Jun and SHE Shu-Sheng.

Key words Ephemeroptera, Ephemerellidae, Torleya, new species.