

A new species in the genus *Polypedilum* Kieffer (Diptera: Chironomidae) from the Xianju National Park, Zhejiang

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Abstract: A new species, *Polypedilum* (*Polypedilum*) *xianjuensis* sp. nov. collected from the Xianju National Park, Zhejiang Province is described and illustrated. The new species is characterized by dark brown body coloration, small antennal ratio (0.60–0.88) and superior volsella without lateral seta.

Key words: Culicoidea; morphology; taxonomy

浙江仙居国家公园多足摇蚊属一新种记述 (双翅目: 摇蚊科)

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摘要: 记述采自浙江省仙居国家公园的多足摇蚊属 1 新种: 仙居多足摇蚊 *Polypedilum* (*Polypedilum*) *xianjuensis* sp. nov., 对其特征作了描述, 绘制了雄成虫的特征图。新种的主要鉴别特征为: 体深棕色、触角比小 (仅 0.60–0.88)、上附器无外侧背刚毛。

关键词: 蚊总科; 形态; 分类

Introduction

Polypedilum Kieffer is one of the largest genera in the family Chironomidae. At least 90 species have been described in China. According to the review study in Sæther *et al.* (2010), this genus contains eight subgenera: *Polypedilum sensu strictus* Kieffer, 1913; *Pentapedilum* Kieffer, 1913; *Tripedilum* Kieffer, 1921; *Kribionympha* Kieffer, 1921; *Tripodura* Townes, 1945; *Uresipedilum* Oyewo & Sæther, 1998; *Cerobregma* Sæther & Sundal, 1999 and *Probolum* Andersen & Sæther, 2010. The subgenus *Polypedilum* was established by Kieffer in 1913, with *Polypedilum* (*Polypedilum*) *nubeculosum* (Meigen, 1818) as type species (Sæther *et al.* 2010). The male imagines of the subgenus can be distinguished by having no frontal tubercles, a bare wing membrane, wing vein R₂₊₃ usually relatively well-separated from R₁, projection of superior volsella long compared to the short base and nearly always with outer seta and anal point never trifid or with lateral teeth or shoulders to each side of the anal point.

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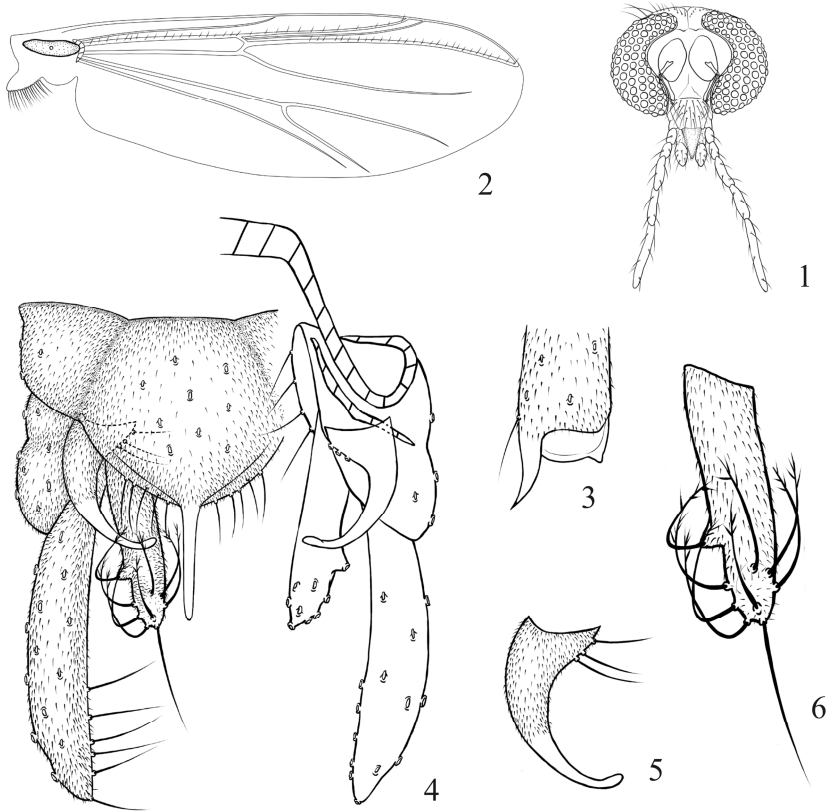
So far, 9 species of the subgenus *Polypedilum* have been reported in Zhejiang Province: *P. (P.) acutum* Kieffer, 1915, *P. (P.) albicorne* (Meigen, 1818), *P. (P.) asakawaense* Sasa, 1980, *P. (P.) benokiense* Sasa & Hasegawa, 1983, *P. (P.) edensis* Ree & Kim, 1995, *P. (P.) genpeiense* Niitsuma, 1996, *P. (P.) henicurum* Wang, 1995, *P. (P.) medivittatum* (Tokunaga, 1964) and *P. (P.) tsukubaense* (Sasa, 1979) (Wang 1995, 2000; Qi & Wang 2010). In this contribution, a new and morphologically clearly distinct species was found in the Xianju National Park of Zhejiang Province by Xin QI on August 2015. The species is named *Polypedilum (Polypedilum) xianjuensis* sp. nov. and described below.

Material and methods

The morphological nomenclature follows Sæther (1980). The material examined was mounted on slides, following the procedure outlined by Sæther (1969). Specimens are deposited in the College of Life Science, Taizhou University, China.

Taxonomy

Polypedilum (Polypedilum) xianjuensis sp. nov. (Figs. 1–6)



Figures 1–6. *Polypedilum (Polypedilum) xianjuensis* sp. nov., ♂. 1. Head; 2. Wing; 3. Fore tibial scale; 4. Hypopygium; 5. Superior volsella; 6. Inferior volsella.

Diagnostic characters. The male imago can be distinguished from known species of the genus by the following combination of characters: superior volsella without lateral seta, dark brown body coloration and small AR value (0.60–0.88).

Male ($n = 15$).

Total length 2.50–3.13 mm. Wing length 1.38–1.78 mm. Total length/wing length 1.61–1.91. Wing length/length of profemur 2.13–2.58.

Coloration. Body dark brown except for legs yellow.

Head (Fig. 1). Frontal tubercle absent. AR 0.60–0.88. Ultimate flagellomere 295–440 μm long. Temporal setae 12–15; including 2–3 inner verticals; 5–8 outer verticals and 3–6 postorbitals. Clypeus with 16–22 setae. Tentorium 105–140 μm long; 20–28 μm wide. Palpomere lengths (in μm): 30–40; 33–43; 80–110; 98–115; 175–215.

Thorax. Dorsocentrals 16–27 including 4–6 humerals; acrostichals 16–30; prealars 4–7. Scutellum with 15–23 setae.

Wing (Fig. 2). Wing transparent, without markings. VR 1.34–1.39. R with 14–20 setae; R_1 with 11–19; R_{4+5} with 24–36. Squama with 14–21 setae. Anal lobe well-developed.

Legs. Terminal scale (Fig. 3) of front tibia 33–43 μm long, triangular and apically pointed. Spur on mid tibiae 50–28 μm long including 25–30 μm long comb, unspurred comb 20–28 μm long, spur on hind tibia 50–65 μm long including 25–38 μm long comb, and unspurred comb 23–28 μm long. Width at apex of front tibia 40–58 μm , of mid tibia 45–53 μm , and of hind tibia 50–63 μm . Lengths (in μm) and proportions of legs in Table 1.

Table 1. Lengths (in μm) and proportions of legs of *P. (Polypedilum) xianjuensis* sp. nov.

	fe	ti	ta ₁	ta ₂	ta ₃	ta ₄	ta ₅	LR
p ₁	600–730	410–530	710–830	480–590	290–370	240–300	120–140	1.54–1.81
p ₂	700–880	600–750	290–325	200–240	150–190	110–135	70–80	0.43–0.50
p ₃	770–950	650–810	450–520	260–310	240–280	150–170	80–95	0.63–0.70

Hypopygium (Fig. 4). Anal tergite band developed and fused basal. Tergite IX with 6–13 median setae, posterior margin of tergite IX with 10–12 setae. Laterosternite with 2–3 setae. Anal point 53–68 μm long tapered from base and then parallel-sided. Phallapodeme 65–88 μm long; transverse sternapodeme 30–55 μm long. Gonocoxite 120–143 μm long. Superior volsella (Fig. 5) 60–78 μm long, base with 2–4 inner setae and covered with microtrichiae, without lateral setae. Inferior volsella (Fig. 6) 70–90 μm long, with 8–13 split oral setae and an apical seta. Gonostylus 110–138 μm long, with 4–5 long setae along inner margin and an apical seta. HR 0.96–1.16. HV 2.00–2.42.

Holotype. ♂, **China**, Zhejiang, Taizhou City, Xianju County, Xianju National Park, 27-VIII-2015, sweeping method, Xin QI. **Paratypes.** 14♂, same as holotype.

Etymology. The species is named after the type locality, using the Latin suffix *-ensis*, denoting place of origin.

Remarks. The new species is similar to *P. (P.) toganudum* Sasa & Okazawa, 1991, but can be distinguished by the smaller body size, by having no black longitudinal band in the abdominal segments and by the pale legs. This species is also similar to the species *P. (P.) medivittatum* (Tokunaga, 1964) by the structure of hypopygium, but AR of *P. (P.) xianjuensis* sp. nov. is 0.60–0.88, stremely less than that of AR about 2.00 in *P. (P.) medivittatum* (Tokunaga).

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