



## *Hanocladius*, a new orthoclad genus from China (Diptera: Chironomidae)

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### Abstract

*Hanocladius longipes* gen. nov., sp. nov. from Oriental China is described from the male imago. The long metatarsus, the very broad, scale-like virga and the conspicuously scalpellate acrostichals distinguish the genus from all of the known genera in Orthoclaadiinae.

### Introduction

Four chironomid genera, *Xiaomyia*, *Shangomyia*, *Zhouomyia* and *Qiniella* have been described based on material from China (Saether & Wang, 1993; Wang & Saether, 1998). Here we describe a fifth chironomid genus on Orthoclaadiinae collected in a subtropical mountain forest area in Hubei Province, Oriental China.

### Methods, terminology and materials

The morphological nomenclature follows Saether (1980) with the additions and corrections given by Saether (1990). The material examined was mounted on slides following the procedure outlined by Saether (1969). In the figures of the male genitalia the dorsal view is shown to the left, the ventral aspect and the apodemes to the right.

The holotype of the new species is deposited in Department of Biology, Nankai University, China (BDN13977). The paratypes are in the Museum of Zoology, Bergen, Norway.

### *Hanocladius* gen. nov.

*Type species:* *Hanocladius longipes* sp. nov. by present designation.

*Diagnostic characters:* The male imago is separable

from other Orthoclaadiinae by having a metatarsus longer than that in any other known orthoclads; combined with 12 flagellomeres; bare eyes, wing and squama; long costal extension; scalpellate acrostichals and very broad, scale-like virga.

*Etymology:* From *Han*, the fifth dynasty of China, and the Latin, *cladius*, a common ending used in Orthoclaadiinae.

### Male imago

Small species, wing length about 1 mm.

*Eyes:* Bare, small, reniform, without dorsomedian elongation. Antenna with 12 flagellomeres, fully plumed, groove beginning at flagellomere 3. Antennal ratio lower than 1. Palpal segments 3–5 similar in length. Temporals few, postorbitals absent. Tentorium narrow, stipes normal. Clypeus with few setae.

*Thorax:* Anteprepronotum well developed with lobes narrowly separated medially anterior to non-extended scutum. Few strongly scalpellate acrostichals present on mid-scutum.

*Wing:* All veins and cells bare. Moderately coarse punctation easily visible at 100× magnification. Anal lobe strongly reduced. Costa strongly extended, Cu<sub>1</sub> distinctly sinuous, R<sub>2+3</sub> ends 1/3 of distance between R<sub>1</sub> and R<sub>4+5</sub>. R<sub>4+5</sub> ends above M<sub>3+4</sub>. Squama bare.

*Legs:* All spurs slightly curved, lateral denticles present on mid and hind tibia. Pseudospurs absent.

Pulvilli vestigial or absent.  $LR_1$  higher than 1.0. Sensilla chaeticae not observed.

**Abdomen:** Tergites and sternites with scattered setae.

**Hypopygium:** Anal point short, parallel-sided with rounded apex, microtrichiae extending to middle. Tergite IX with few, weak setae. Sternapodeme slightly concave, with weak oral projection. Virga scale-like, conspicuously broad. Inferior volsella with bare double dorsal lobe situated above weaker, setose ventral lobe. Crista dorsalis absent or vestigial. Megaseta weak.

Female and immature stages unknown.

### Systematics

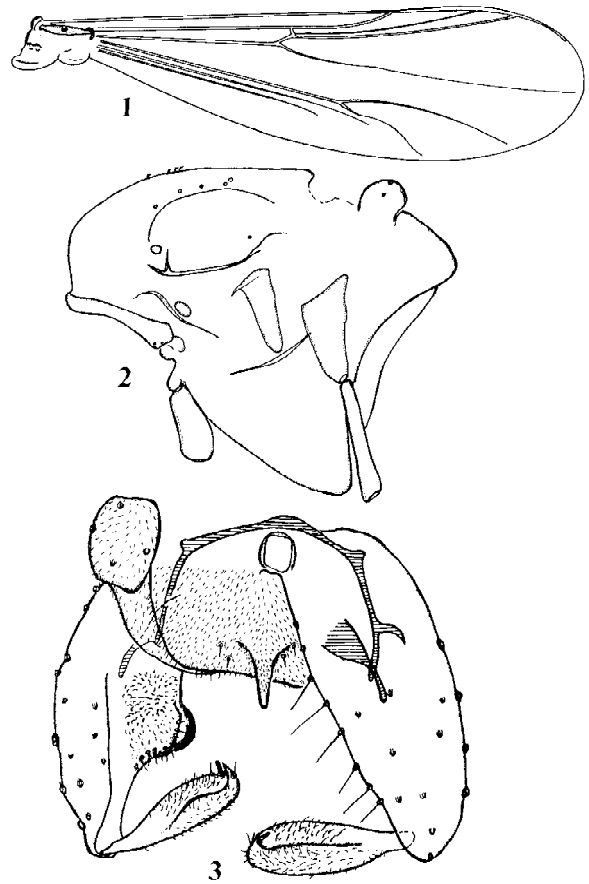
The long metatarsus ( $LR_1 > 1.0$ ) is unique among Orthoclaadiinae, but occurs in all genera of Chironominae. Together with the combined characters: 12 flagellomeres; bare eyes, wing and squama; long costal extension; reduced anal lobe; scalpellate acrostichal scale-like virga and lateral spines on spurs of mid and hind legs indicate it differs from all of known orthoclad genera.

In the key to Orthoclaadiinae Cranston et al. (1989) *Hanocladius* will key to *Krenosmittia* Thienemann et Kruger. However, That genus does not have acrostichals and has a quite different wing venation and virga. *Hanocladius* keys to *Compterosmittia* Saether in Saether et al. (2000). *Compterosmittia* has a quite similar wing venation and scalpellate acrostichals. However *Compterosmittia* has no or a weak virga, more numerous acrostichals, and a quite different hypopygium including a broad megaseta with several teeth.

If the squama is regarded as possessing setae, *Hanocladius* will key to *Unniella* Saether except for the different virga. *Unniella* has a more similar wing venation and strongly scalpellate acrostichals, centrally placed on the scutum. A new genus from Argentina known in all stages appears to form the sister genus of *Unniella*. It has a scale-like virga, not as broad as in *Hanocladius*, but with well developed pulvilli and setose squama. *Hanocladius* appears to be most closely related to *Unniella* and the Argentinean genus, but could also be more closely related to *Compterosmittia*.

### *Hanocladius longipes* sp. n (Figs 1–3)

**Type material:** Holotype male, CHINA: Hubei Province, Wufeng County, Houhe, 10. VI 1999, sweep net, B. Ji (BDN No. 13977); Paratype 2, males same



Figures 1–3. *Hanocladius longipes* sp. n. Male imago. (1) Wing. (2) Thorax. (3) Hypopygium.

as holotype, deposite in Museum of Zoology, Bergen, Norway.

**Etymology:** From Latin *longipes*, referring to the long metatarsus.

### Male imago ( $n = 3$ ).

Total length 1.43–1.56 mm. Wing length 0.91–0.98 mm. Total length/wing length 1.46–1.71. Wing length/length of profemur 2.37–2.61. Coloration dark brown.

**Head:** Ultimate flagellomere 164–192  $\mu\text{m}$  long. AR 0.41–0.46. Temporal setae 3–4 including 1 inner verticals, 2 outer verticals and 0–1 postorbitals. Clypeus with 2–4 setae Tentorium 88–96  $\mu\text{m}$  long, stipes 70–96  $\mu\text{m}$  long. Palpomere lengths (in  $\mu\text{m}$ ): 16–18, 24–28, 56–60, 46–50, 60–68.

*Wing* (Fig. 1): Anal lobe oblique. Moderately coarse punctation easily visible at 100 magnification. VR 1.36–1.43.  $R_{2+3}$  ends 1/3 of distance between  $R_1$  and  $R_{4+5}$ . Costal extension 100–120  $\mu\text{m}$  long. Brachiolum, veins and cells without setae.  $\text{Cu}_1$  short and curved. Squama bare.

*Thorax* (Fig. 2): Anteprenotum apparently with 2 weak setae. Dorsocentrals 5; acrostichals 4, very small, scalpellate and starting in about mid-scutum; prealars 1. Scutellum with 4 setae.

*Legs*: Spur of front tibia 26–28  $\mu\text{m}$  long, spurs of middle 22–26  $\mu\text{m}$  and 18–20  $\mu\text{m}$  long of hind tibia 28–30  $\mu\text{m}$  and 16–18  $\mu\text{m}$ . Width at apex of front tibia 26  $\mu\text{m}$ , of middle tibia 24–26  $\mu\text{m}$  of hind tibia 28  $\mu\text{m}$  long. Hind tibial comb with 7–8 setae, 14–26  $\mu\text{m}$ , long.

Lengths (in  $\mu\text{m}$ ) and proportions of legs ( $n=1$ ):

	fe	ti	ta <sub>1</sub>	ta <sub>2</sub>	ta <sub>3</sub>	ta <sub>4</sub>	ta <sub>5</sub>	LR
P <sub>1</sub>	384	330	344	212	136	72	48	1.15
P <sub>2</sub>	432	348	280	100	68	44	36	0.80
P <sub>3</sub>	400	392	272	128	98	56	40	0.69

*Abdomen*: Tergites each with 8–12 setae in 2 irregular rows.

*Hypopygium* (Fig. 3): Tergite IX with 4–5 short setae. Anal point parallel-sided with rounded apex, 28–30  $\mu\text{m}$  long, basal half covered with microtrichiae. Laterostemite IX with 4 long setae. Phallapodeme 36–52  $\mu\text{m}$  long; transverse stemapodeme 52–58  $\mu\text{m}$  long with oral projections. Gonocoxite 110–116  $\mu\text{m}$  long, inner margin with 6 long setae, bare apparent superior volsella, setose inferior volsella. Gonostylus straight, 56–60  $\mu\text{m}$  long; megaseta 4  $\mu\text{m}$  long. HR 1.93–1.96, HV 2.38–2.79.

Female and immature stages unknown.

**Distribution.** The species is known from a subtropical mountain area, 1000 m above sea level. The specimen was collected by sweep net.

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