

**A NEW ORIENTAL SPECIES OF *URACANTHELLA*  
(EPHEMEROPTERA: EPHEMERELLIDAE)  
FROM THAILAND AND VIETNAM<sup>1</sup>**

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**ABSTRACT:** *Uracanthella oriens*, new species, is described based on series of larvae from Thailand and Vietnam. The new species is distinguished from other *Uracanthella* by having small, spatulate setae relatively densely distributed on the dorsal surfaces and posterior margins of the femora. The new species has a relatively uniform light brown body color with no dorsal longitudinal stripes.

**KEY WORDS:** *Uracanthella*, Ephemeroptera, Ephemerellidae, new species, Thailand, Vietnam

Eleven genera of extant Ephemerellinae (Ephemeroptera: Ephemerellidae) (McCafferty and Wang 2000) have been reported from the Oriental region: *Cincticostella* Allen, *Crinitella* Allen and Edmunds, *Drunella* Needham, *Ephacerella* Paclt, *Ephemerella* Walsh, *Hyrtanella* Allen and Edmunds, *Kangella* Sartori, *Serratella* Edmunds, *Teloganopsis* Ulmer, *Torleya* Lestage, and *Uracanthella* Belov [reviewed by Sartori et al. (2003), Jacobus and McCafferty (2004), Jacobus and Sartori (2004), Jacobus et al. (2004), Kluge et al. (2004), and Sartori (2004)].

Only one species of *Uracanthella* has been reported from the Oriental region. This species, *U. punctisetae* Matsumura, has a relatively broad Oriental and eastern Palearctic distribution (Zhou et al., 1997, Tong and Dudgeon 2000, Ishiwata 2001, Beketov and Kluge 2003, Soldán and Yang 2003). Sartori et al. (2003) reported *Uracanthella* from Borneo, but we examined some of this material [three larvae, Indonesia, East Kalimantan, Malinau Basin, Seturan River, Seturan, Tealat (Sungai Guang), 2°59'29"N, 116°33'29"E, 16-VIII-2000, P. Derleth, R. Schlaepfer, deposited at Musée de zoologie, Lausanne, Switzerland] and discovered that their report was based on misidentified larvae of *Teloganopsis media* Ulmer. Our examination of additional Oriental *Uracanthella* material has yielded the discovery of a new species, which we describe below from selected specimens. The adults of the new species are not yet known, but we consider the assignment of an epithet to this species prudent considering current efforts to document and describe the aquatic entomofauna of Southeast Asia (e.g., Sites et al., 2001, Pamrongo et al., 2002), which is facing threats of extirpation and extinction (Dudgeon 1990, 1999; Hendrich et al., 2004).

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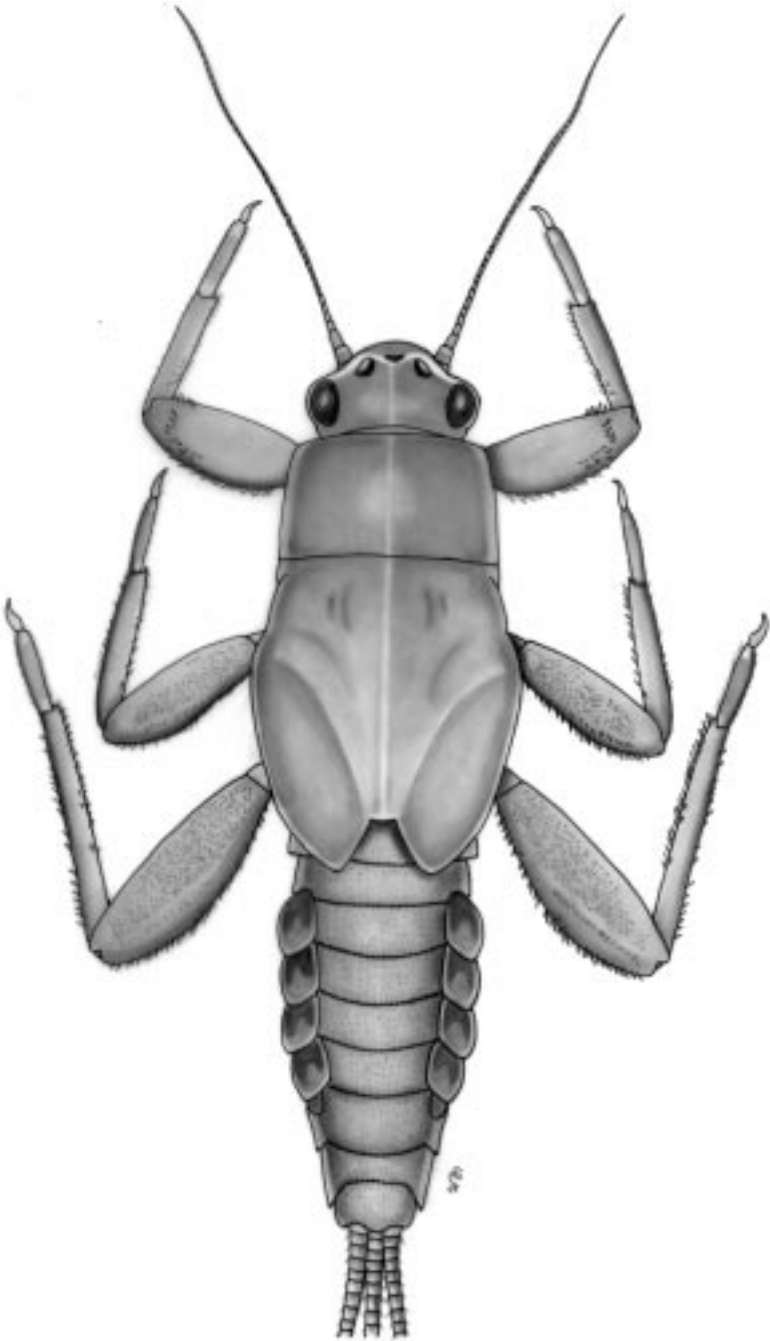


Figure 1. Larval habitus of *Uracanthella oriens*, new species.

*Uracanthella oriens* NEW SPECIES

Figures 1 and 2

**Description:** Larva (final instar, in alcohol). Length: body 5.5–7.7 mm; antennae 2.8–4.0 mm; caudal filaments 4.0–5.2 mm. General body color uniform dark yellow to light brown with very few variable faint brown markings and no pale spots.

**Head:** Color brown with pale areas around ocelli. Antennal scape and pedicel brown; flagellar segments yellow, with short, fine, hairlike setae distally on each segment; hairlike setae nearly half length of respective segment. Vertex smooth. Suboccipital spines absent. Frons with very few fine, hairlike setae. Clypeus and labrum with scattered fine, hairlike setae. Mandibles not extending beyond margins of head capsule. Maxilla (Fig. 2) with dense patch of hairlike setae on crown and seven to eight fimbriate medial setae; palp absent. Labium with palp segment 3 length one-third that of segment 2. **Thorax:** Thoracic dorsal protuberances absent. Pronotum sometimes with diffuse lateral brown maculation. Forefemur with broad subdistal band of short, spatulate setae; mid- and hindfemora each with numerous very short, spatulate setae on dorsal surface and numerous short, spatulate setae on posterior margin. Claws usually with three to five short medial denticles, one long subdistal denticle, and pair of short distal setae. **Abdomen:** Terga with scattered, short, spatulate setae and no paired medial spines. Ventral lamella of gill 6 bifurcate; gill 7 narrow, inserted near posterolateral corner. Caudal filaments segments pale and relatively densely covered with hairlike setae, with whorls of stout setae distally.



Figure 2. *Uracanthella oriens* new species. Maxilla (apex at left).

**Diagnosis:** *Uracanthella* larvae are distinguished from other Oriental ephemereid genera by having mandibles that are not greatly enlarged into tusks [as found in the genus *Kangella* Sartori (Jacobus et al., 2005)], maxillae that lack palps and that have numerous setae on the crown (Fig. 2), an abdomen with no paired tergal spines, and the ventral lamellae of gills 6 bifurcate. *Uracanthella oriens* is distinguishable from among *Uracanthella* species by having a relatively uniform dark yellow to light brown body color (specimens preserved in alcohol) and by having small, spatulate setae relatively densely distributed on the dorsal surfaces and posterior margins of the femora. In contrast, *U. punctisetae*

has fewer and longer setae on the femora, has a relatively darker body with pale spots, and usually a dorsal pair of pale mediolongitudinal stripes that sometimes are coalesced into a single, broad stripe.

**Etymology:** The specific epithet is a Latin noun, referring to the east—the source of the rising sun.

**Distribution:** East Oriental [Thailand, Vietnam].

**Material Examined:** HOLOTYPE, Vietnam, **Lo Cai**, tributary of Muong Hoa Ho River, 15 km east of Sapa, cobbles and boulders, fastest part of riffle, 926 m elev., 7-V-1995, D Currie, B Hubley, J Swann, ROM956017, male larva [Royal Ontario Museum, Toronto, Ontario, Canada (ROME)]. PARATYPES: Thailand, **Mae Hong Son**, River Nam Lang, before “Lod Cave,” near Soppong, 05.04.03, D Braasch, one larva [Purdue University Entomological Research Collection, West Lafayette, Indiana, USA]; Namtok Maw Pang, leaf pack, 19°22'N, 98°22'E, 850 m elev., 19-III-2002, 14-X-2002, GW Courtney, CMU team, four larvae [Chiang Mai University, Thailand; Florida A & M University, Tallahassee, Florida, USA [FAMU]; Iowa State University, Ames, Iowa, USA (ISUI)]; **Phrae**, Wieng Ko Sai National Park, upper NT Maekueung Luang, 17°58'N, 99°35'E, 430m elev., 22-VI-2002, two larvae [National Insect Collection, Department of Agriculture, Bangkok, Thailand; Royal Forestry Department, Thailand]. Vietnam, **Loa Cai**, tributary of Muong Hoa Ho River, 15 km east of Sapa, cobbles and boulders, fastest part of riffle, 926 m elev., 11-V-1995, 7-V-1995, D Currie, B Hubley, J Swann, ROM956017, ROM956034, seven larvae [ROME].

**Additional Material:** (not types): Thailand, **Chiang Mai**, Doi Inthanon National Park, Namtok Siriphum, root mat, 18°32'N, 98°31'E, 1460m elev., one larva [ISUI]; **Mae Hong Son**, Namtok Maw Pang, 19°22'N, 98°22'E, 850 m elev., 19-III-2002, GW Courtney, two larvae [ISUI]; **Lampang**, Chae Son National Park, Namtok Chae Som, cobble, 18°50'N, 99°28'E, 650 m elev., 25-X-2002, CMU team, one larva [ISUI]; **Phrae**, Wieng Ko Sai National Park, upper NT Maekueung Luang, wash rock, 17°58'N, 99°35'E, 430m elev., 24-V-2002, CMU team, two larvae [ISUI]. Vietnam, **Loa Cai**, Sapa Muong Hoa Ho River, 5/12-V-1995, D Currie, B Hubley, ROM956005, four larvae [ROME]; **Nghê An**, Khe Moi River, ca. 25 km SW of Con Cuông, Khe Moi River Forestry Camp, tropical forest edge, 18°56'N, 104°49'E, 308 m elev., 3-VI-1995, B Hubley, ROM956164, three larvae [ROME]; trib of Khe Moi R, ca. 25km SW of Cuông, Khe Moi River Forestry Camp, near “Ophiophagus” field, tropical forest edge, 18°56'N, 104°49'E, 308m elev., 9-VI-1995, B Hubley, ROM956188, one larva [ROME].

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