

A REDESCRIPTION OF *ZAVRELIA SIMANTONEOA* (SASA, SUZUKI AND SAKAI, 1998) COMB. NOV.

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Abstract

Examination of the holotype of *Micropsectra simantoneoa* Sasa, Suzuki and Sakai, 1998 revealed that the species should be transferred to the genus *Zavrelia*. The male adult has hairy eyes, antennae with 10 flagellomeres, a costa ending proximal to the tip of M_{3+4} , and a short and flattened superior volsella. This is the second *Zavrelia* species from Japan, and the 11th in the world.

Introduction

The genus *Zavrelia* was established by Kieffer, Thienemann and Bause in Bause (1913) for *Z. pentatoma* Kieffer and Bause in Bause, 1913 (Ashe and Cranston 1990, Ekrem and Stur 2009). The genus is placed in subtribe *Zavreliina* within tribe *Tanytarsini*, subfamily *Chironominae*, and was recently reviewed by Ekrem and Stur (2009). Ten *Zavrelia* species are known so far: *Z. aristata* Ekrem and Stur, 2009, *Z. bragemia* Guo and Wang, 2007; *Z. casasi* Ekrem and Stur, 2009; *Z. clinovolsella* Guo and Wang, 2004; *Z. elenae* Zorina, 2008; *Z. hudsoni* Ekrem and Stur, 2009; *Z. pentatoma* Kieffer and Bause in Bause, 1913; *Z. pseudopentatoma* Zorina, 2008; *Z. sinica* Ekrem and Stur, 2009, and *Z. tusimatijea* (Sasa and Suzuki, 1999).

Only five records of genus *Zavrelia* have previously been known from Japan, including *Z. tusimatijea* (Sasa and Suzuki 1999) and *Z. kibunensis* (Tokunaga 1938), which was transferred from the genera *Tanytarsus* van der Wulp, 1874 and *Neozavrelia* Goetghebuer, 1941 by Ekrem respectively (2002, 2006). The remaining three belong to unnamed *Zavrelia* species: a larva from Kokubunji Cliff Springs, Tokyo, by Ohno et al. (1999); an adult female from the Shinano River, Ueda, Nagano recorded by Hirabayashi et al. (2001); and a larva from the Takahari River, Okayama by Kitagawa (2003).

During reexamination of *Micropsectra* type specimens described by Sasa, *Micropsectra simantoneoa* Sasa, Suzuki and Sakai, 1998 was found also to fit the diagnosis of *Zavrelia*.

Zavrelia simantoneoa (Sasa, Suzuki and Sakai, 1998) comb. nov.

Micropsectra simantoneoa Sasa, Suzuki and Sakai, 1998: 62 (adult male, fig. 15).

Holotype: NSMT-I-Dip.5206 (SC.358-62), adult male labelled as "*Micropsectra simantoneoa*". Collecting data: Shimanto River, Nakamura Town, Shimanto, Kochi; 26.IV.1998, light trap, H. Suzuki.

Diagnosis

Zavrelia simantoneoa (Sasa, Suzuki and Sakai, 1998) can be separated from the other described *Zavrelia* species by the following combination of characters. Superior volsella broad, almost parallel sided and with rounded apex; lamellae of median volsella simple, directed medially; anal point without spinules between crests.

Redescription

Total length 1.88 mm, wing length 1.08 mm (*cit.* Sasa, Suzuki and Sakai 1998, 62.). Ground colour of scutum, and scutellum yellow; vittae and post-notum brown, abdomen yellowish brown, distal half of femora brownish yellow, other leg portions yellow (*ibid.*).

Head: Frontal tubercle absent. Superorbitals 3:3, eye (Fig. 1) hairy, without dorsomedial extension.

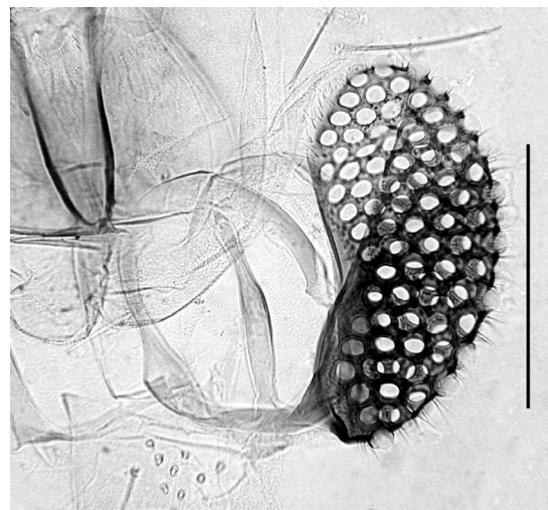
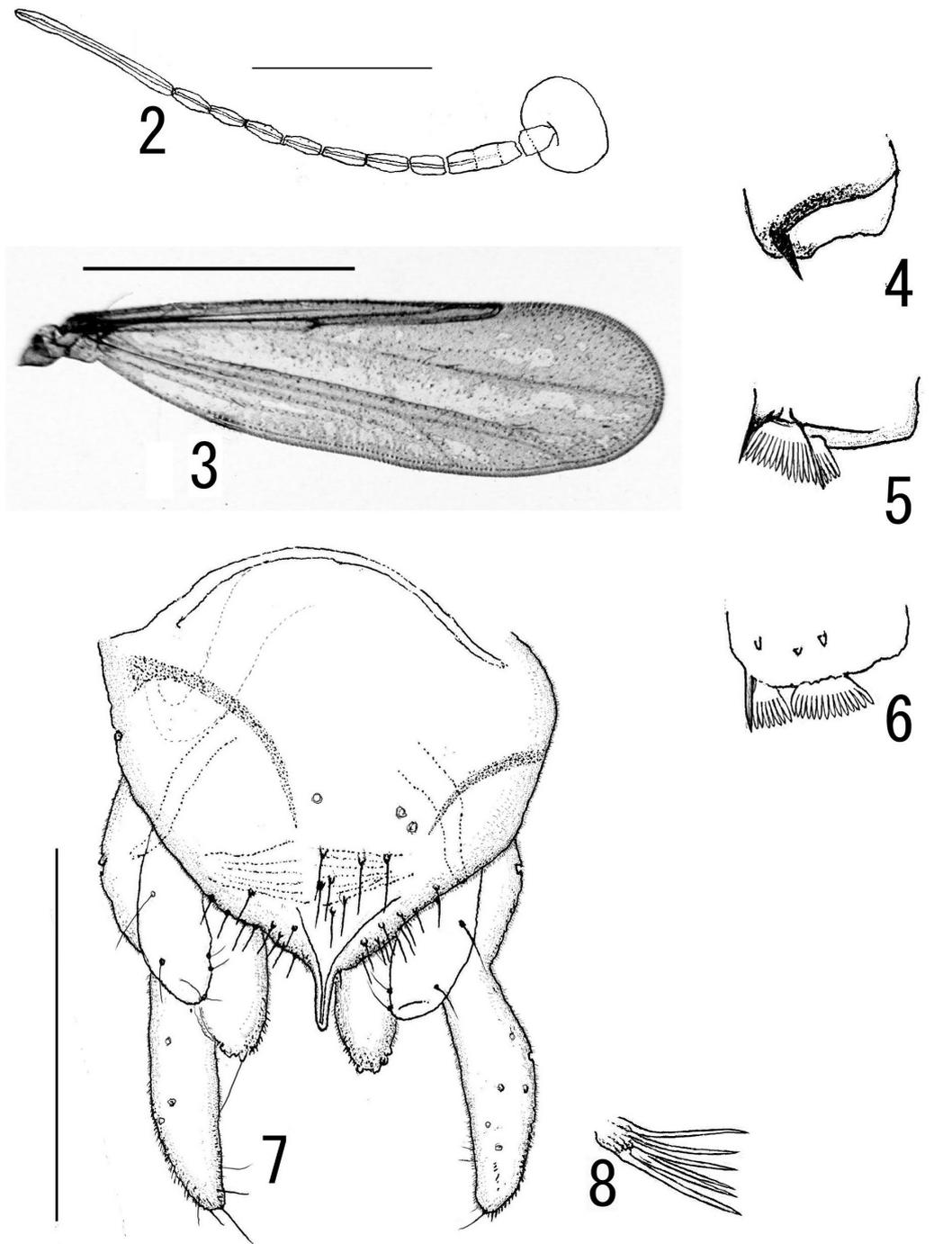


Figure 1. Eye, scale bar = 100µm.



Figures 2-8. 2, antenna, scale bar = 200 μ m; 3, wing, scale bar = 1,00mm; 4, apex of fore tibia, scale bar = 50 μ m; 5, apex of mid tibia, scale bar = 50 μ m; 6, apex of hind tibia, scale bar = 50 μ m; 7, hypopygium, scale bar = 100 μ m; 8, median volsella.

Antenna (Fig. 2) 578 μ m long, with 10 flagellomeres, 2nd flagellomere long (75 μ m) with 2 discernible vestigial joint (incomplete fusion), 3rd to 9th flagellomeres about 40 μ m long each one; groove beginning at distal part of 2nd flagellomere, AR 0.45. Clypeals 9. Palp long, palpomere lengths in μ m I 25, II 28, III 90, IV 93, V 129, palpomere III with sensilla chaetica near apex; tentorium 42 μ m long

and 5 μ m wide at most. **Thorax chaetotaxy:** Aps absent. Ac 11 biserial, Dc uniserial 9:9, Pa 1:1, Sct 2. **Wing** (Fig. 3): Wedge-shaped, widest near apex; squama bare, anal lobe weak, with macrotrichia more densely in distal half. Membrane with macrotrichia in all cells except anterior to vein M; all veins with macrotrichia except M and Sc; costal extension absent. R₄₊₅ ending far proximal to

Table 1. Lengths (in μm) and proportions of legs.

	fe	ti	ta ₁	ta ₂	ta ₃	ta ₄	ta ₅	LR
p ₁	410	240	470	225	140	100	60	1.96
p ₂	460	350	215	105	80	60	50	0.61
p ₃	560	-	290	150	-	-	-	-

apex of M₃₊₄, R₂₊₃ obscure, closely along R₄₊₅. FCu much distal to RM, VR 1.55, Cu₂ straight and short (150 μm). **Legs** (Table 1, Figs 4-6): Apex of fore tibia with short spur (10 μm long), tibiae of mid and hind legs with two combs and one short spur at least, sensilla chaetica apparently absent from all tarsomeres. LR1 1.96, LR2 0.61, LR3 unmeasurable ('0.75' in the original description); pulvilli absent. **Hypopygium** (Fig. 7): Laterosternite IX with setae, anal tergite bands separated, 7 median tergite setae placed mainly in dorsomedial area basally of anal point.

Anal point 15 μm long, almost parallel-sided, without spinulae between crests; widest at base and tapering towards round apex, with narrow anal crests; 6 basal and 6 lateral setae. Superior volsella with broad base, setiger rounded apically, with 3 median and 2 lateral setae, without basomedial seta. Median volsella (Fig. 8) 8 μm long, medially directed with 6-7 simple, 22 μm long lamellae. Inferior volsella covered with microtrichiae, with several distal long setae. Gonostylus simple, narrow, inner margin slightly concave.

Discussion

In the 'Remarks', Sasa et al. (1998) state "this specimen is provisionally classified into the genus *Micropsectra* Kieffer, 1915", and "it is quite unusual as a member of the *Micropsectra-Paratanytarsus* group". As the holotype has hairy eyes, broad and flattened superior volsella, and short, medially directed median volsella with simple lamellae, it certainly does not belong to the genus *Micropsectra* but to *Zavrelia*.

In the key to adult males of *Zavrelia* by Ekrem and Stur (2009), *Z. simantoneoa* cannot advance beyond couplet 3. This couplet separates species with "Setiger of superior volsella with obvious constriction in apical 1/3; anal point bare or with microtrichia in between crests" from species with "Setiger of superior volsella without constriction in apical 1/3; anal point with numerous microtrichia or small spinules". The present specimen has a setiger of superior volsella without constriction in apical 1/3 and a bare anal point in between crests. Thus, it does not fit any other presently keyed *Zavrelia* species and is different from all previously described species.

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