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Two New Species of the Genus *Odontella* from Xishuangbanna, Yunnan, Southwest China (Collembola; Pseudachorutidae)[1)]

Hiroshi TAMURA and Lijun ZHAO

Shanghai Institute of Entomology, Academia Sinica
225 Chongqing Road (S.), Shanghai, 200025 China

Abstract Two new species belonging to the genus *Odontella, O. yunnanensis* TAMURA, sp. nov. and *O. yinae* ZHAO, sp. nov., are described from Xishuangbanna, Yunnan Province, southwest China. The former is characteristic in having a T-shaped sensillum near sensory rods of third antennal organ and many truncated setulae on ventral side of fourth antennal segment, while the latter is in having three rows of setae on fourth abdominal segment and coarse granules surrounding setae on sixth abdominal segment.

Key words: Collembola; *Odontella yunnanensis*; *O. yinae*; new species; Yunnan; China.

No species of the genus *Odontella* have so far been recorded from China. In 1992, through the field survey of Collembola by the Sino-Japanese Cooperative Study on the Soil Fauna in Southwest China, two new species belonging to the genus Odontella were collected from the litter layer of subtropical forests at Xishuangbanna, Yunnan Province. These are described and illustrated here.

Odontella yunnanensis TAMURA, sp. nov.

(Figs. 1–15)

Body dark gray with irregular pale spots (Fig. 1), between 590–850 μm [675.1$\pm$93.9 μm] ($\bar{x}\pm$SD, n=7) long and 210–275 μm [255.2$\pm$28.9 μm (n=5)] wide, being 0.38 in average ratio of width to length.

Antenna shorter than head diagonal, being 0.88 in ratio to head. Length ratio of antennal segments I : II : III : IV as 1 : 1 : 1 : 1.3. Ant. III with 2 coarsely granulated sensory rods, by which a T-shaped guard sensillum is present (Figs. 6 and 7). Ant. IV apically having 2 bulbs, dorsally with 5 thick, curved sensilla (Fig. 6), and ventrally with 2 long, thick sensilla and about 17 short peg-like setulae truncated at tip (Fig. 8). PAO consisting of a central circle and 4 long vesicles irregular in shape (Fig. 9). Eyes 5+5 (Fig. 9).

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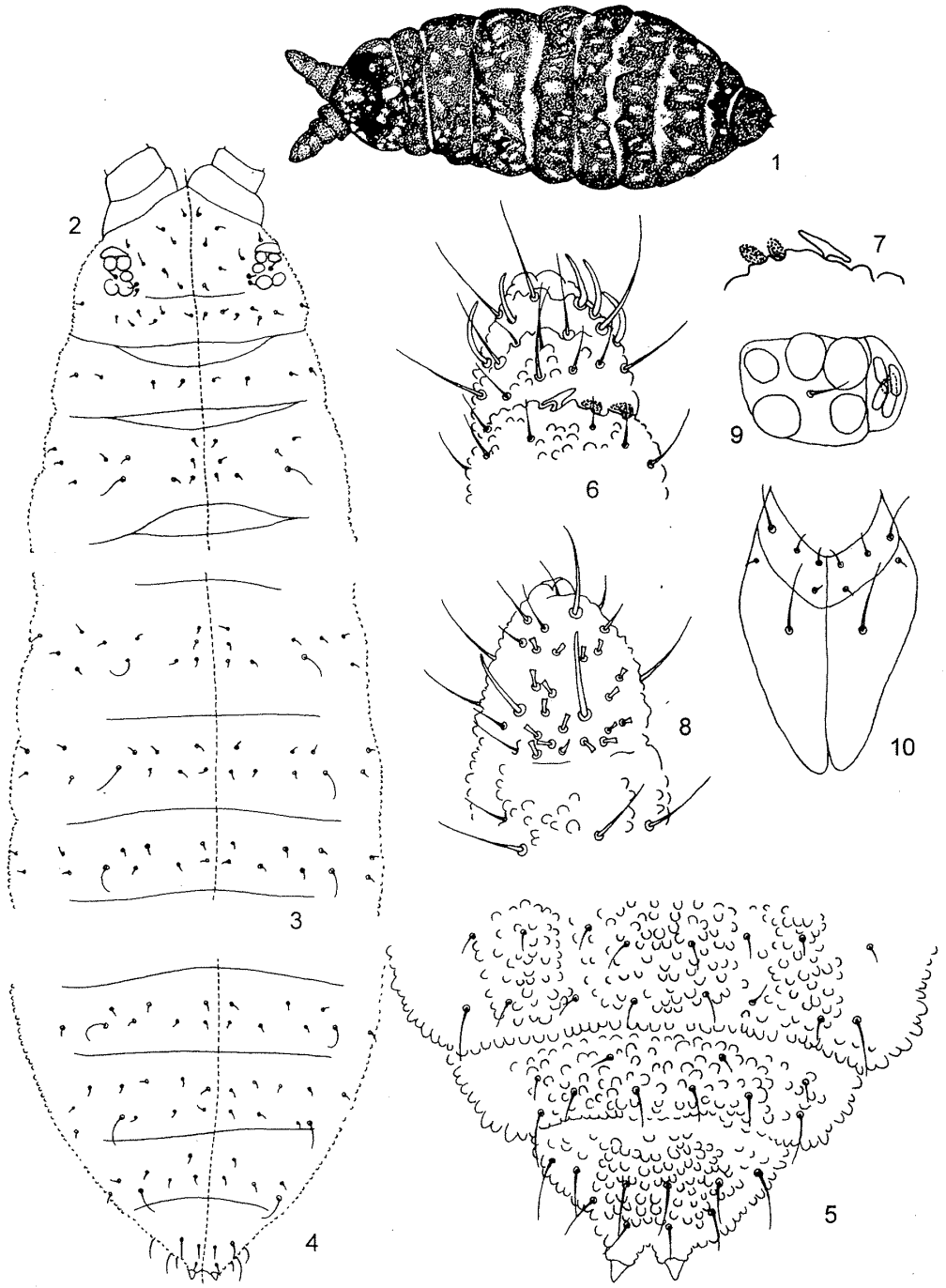
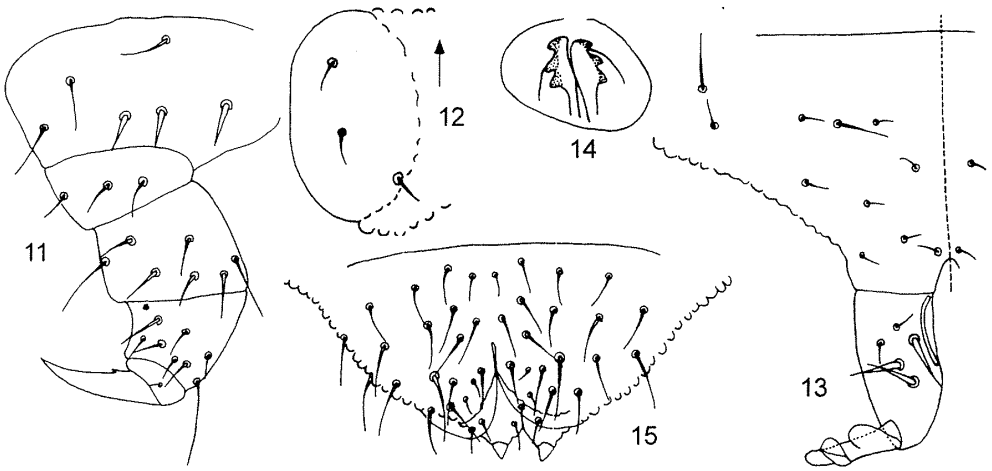
Buccal cone long, being 0.4 in length ratio to head, labial triangle with 4+4 setae of which lateral ones are longer (Fig. 10).



Figs. 1–10. *Odontella yunnanensis* TAMURA, sp. nov. 1, Habitus; 2, chaetotaxy on head to Th. II; 3, ditto on Th. III–Abd. II; 4, ditto on Abd. III–VI; 5, enlargement of Abd. IV–VI; 6, Ant. III·IV (dorsal view); 7, Ant. III organ; 8, Ant. III·IV (ventral view); 9, PAO and eyes; 10, labial triangle.



Figs. 11–15. *Odontella yunnanensis* TAMURA, sp. nov. 11, Hind leg; 12, ventral tube; 13, furca (right half); 14, tenaculum; 15, anal lobes.

Chaetotaxy as illustrated in Figs. 2–4. Head without median setae (Fig. 2). Th. II–Abd. IV lacking a_2 setae (Figs. 2–4), but Abd. IV·V with it (Figs. 4 and 5). Body setae simple, short, in a row on Th. I, 3 rows on Th. II·III, 2 rows on Abd. I–V. Long seta arrangement as 1, 1/1, 1, 1, 1, 1, at position of p_3 on Th. II·III and at p_4 on Abd. I–V. Mid-coxa with 7 setae; hind coxa with 6 setae (Fig. 11). Ventral tube with 3+3 setae (Fig. 12). Manubrium with 11+11 setae; dentes with 5+5 setae of which three are thick and two are simple (Fig. 13). Tenaculum with 3+3 barbs, without setae (Fig. 14). Chaetal arrangement on anal lobes as in Fig. 15, with 19+19 setae.

Inner edge of hind claw 19.4±2.2 μm (n=7) long, with a small basal tooth; empodial appendage absent (Fig. 11). Length ratio of dens to manubrium 1.57. Mucro 21.0±2.2 μm (n=7) long, with 2 high flaps, being 1.08 in ratio to claw (Fig. 13). Anal spine 8.7±1.0 μm (n=7) long, being 0.45 in ratio to claw (Figs. 4, 5 and 15).

Holotype. Female, taken from limestone-rich A_0 soil layer of a tropical rain forest dominated by *Symphyllia selhetiana* and *Cleistanthus sumatranus,* Menglun National Nature Forest Reserve, 600 m alt., Mengla, Xishuangbanna, Yunnan Province, southwest China, 30–X–1992, H. TAMURA and L. ZHAO leg. *Paratypes.* Six specimens, data same as for holotype. The holotype and paratypes are preserved in Shanghai Institute of Entomology, Academia Sinica, but one paratype is in the collection of the senior author.

Remarks. This species is close to *O.* (*Superodontella*) *deharvengi* YOSHII et YAYUK, 1989 from Indonesia and *O. nepalica* YOSII, 1971 from Khumbu Himal in having a T-shaped sensillum on Ant. III and many peg-like setae on Ant. IV. But the former is distinguished from *deharvengi* by the shape of peg-like setulae and the number of setae on ventral tube, and from *nepalica* by the presence of sensory rods on Ant. III (setulae pointed at apex and 2+2 setae

on ventral tube in *deharvengi* and sensory rods absent in *nepalica*).

Odontella yinae ZHAO, sp. nov.

(Figs. 16–32)

Body gray with irregular pale spots (Fig. 16), between 460–830 μm [612.2 $\pm$154.9 μm ($\bar{x}\pm$SD, n=10)] long and 239.8$\pm$66.6 μm (n=9) wide, being 0.39 in average ratio of width to length.

Antenna shorter than head diagonal, being 0.83 in ratio to head. Length ratio of antennal segments I : II : III : IV as 1 : 1 : 1 : 1.3. Ant. III with 2 sensory rods, without guard sensilla (Fig. 22). Ant. IV apically having 2 bulbs, dorsally with 5 thick, curved sensilla (Fig. 22), ventrally with 2 long, thick sensilla and about 8 short, thick setae pointed at tip (Fig. 23). PAO consisting of a central circle and 4 short vesicles in elliptical groove (Fig. 24). Buccal cone as in Fig. 25, being 0.51 in length ratio to head; labial triangle with 4+4 setae of subequal length.

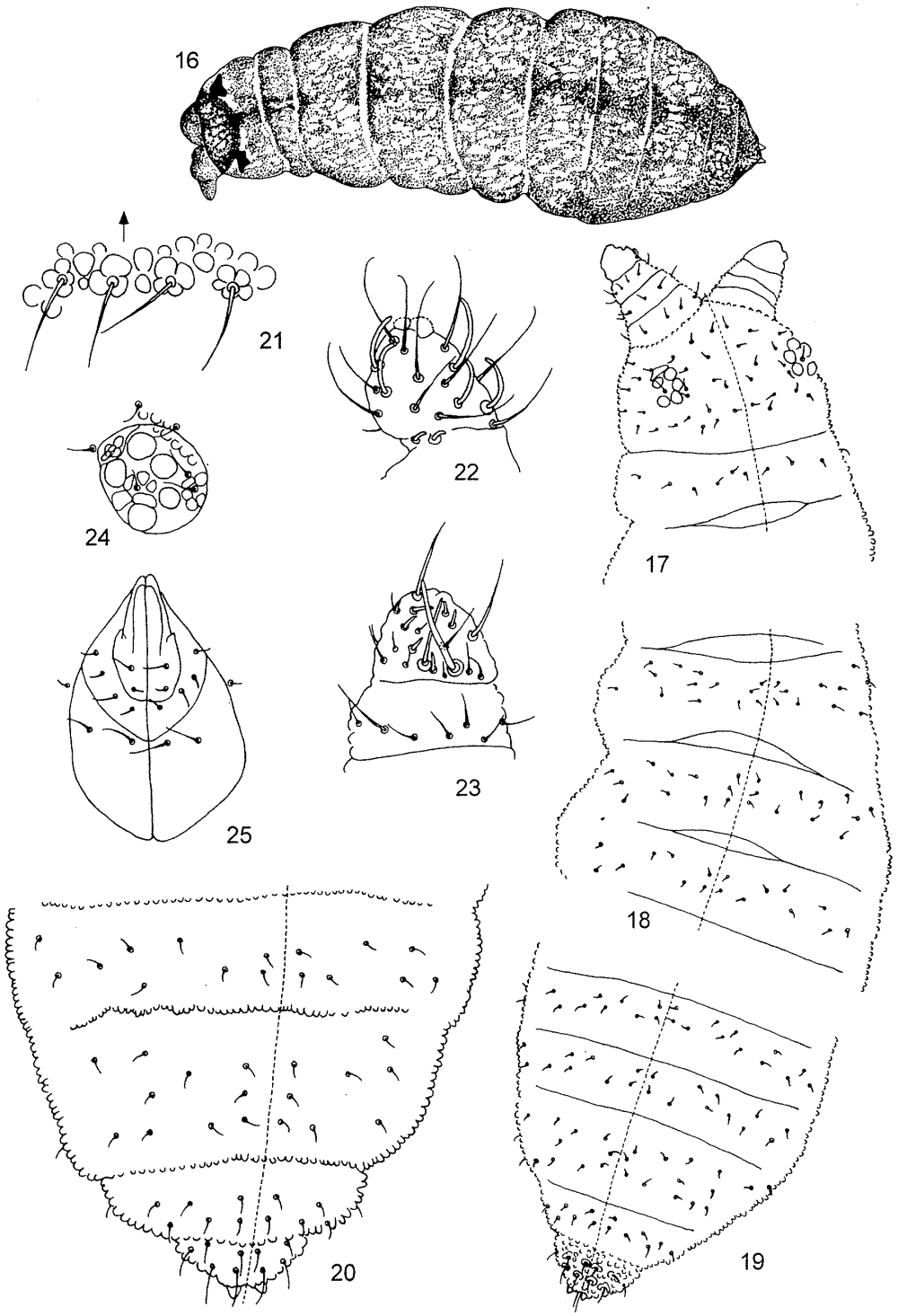
Chaetotaxy as illustrated in Figs. 17–19. Head without median setae (Fig. 17). Th. II–Abd. V without a_2 seta (Figs. 18, 19 and 20). Body setae simple, short, in a row on Th. I, in 3 rows on Th. II, III and Abd. IV, in 2 rows on Abd. I–III and V. Long setae not differentiated. Ventral tube with 3+3 setae (Fig. 27). Manubrium with 11+11 setae; dentes with 5+5 setae of which three are thick and two are simple (Figs. 28 and 29). Tenaculum with 3+3 barbs, without setae (Fig. 30). Female genital aperture as in Fig. 31. Chaetal arrangement on anal lobes as in Fig. 32, with 16+16 setae. Setae on Abd. VI surrounded compactly by coarse granules (Fig. 21).

Inner edge of hind claw 21.5$\pm$4.8 μm (n=10) long, with a small basal tooth; empodial appendage absent (Fig. 26). Ratio of dens to manubrium 1.23. Mucro 25.1$\pm$7.5 μm (n=10) long, with 2 high flaps, being 1.17 in ratio to claw (Figs. 28 and 29). Anal spines 9.8$\pm$2.7 μm (n=10) long, being 0.46 in ratio to claw (Figs. 19, 20 and 32).

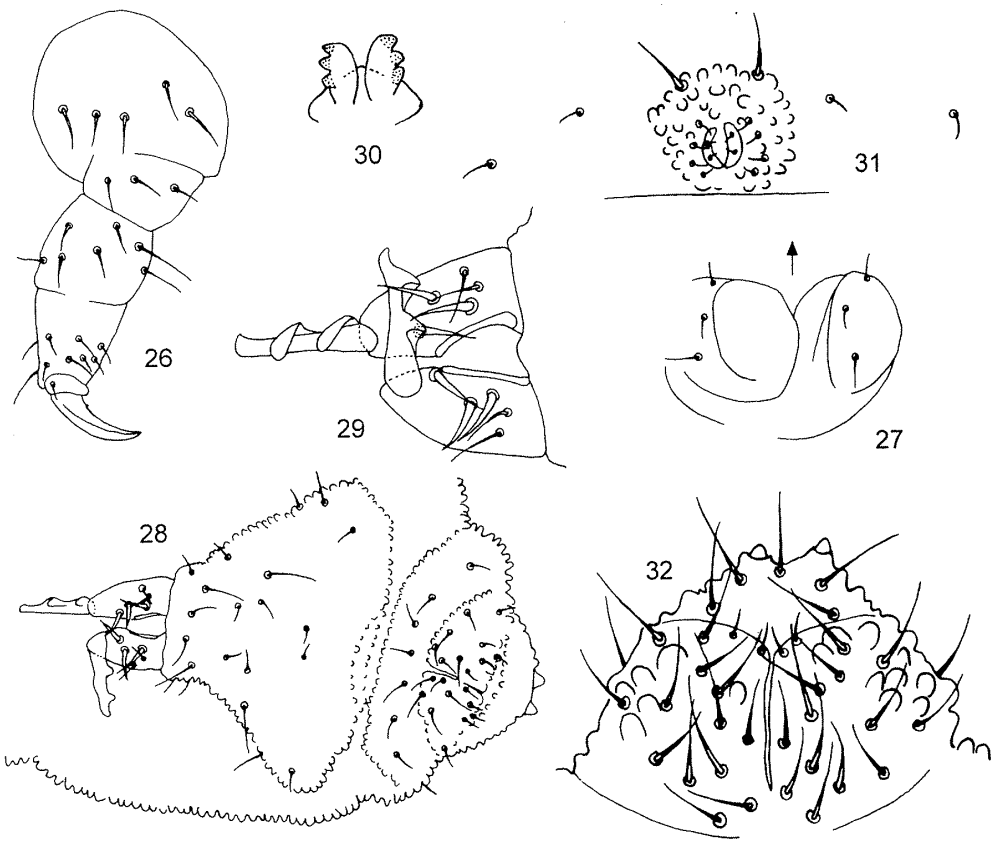
Holotype. Female, taken from the litter layer of the top of a low hill, 550 m alt., covered by trees of which the dominant species are *Pometia tomentosa* and *Cryptcarpa yunnanensis,* Xishuangbanna Tropical Botanical Garden, Mengla, Yunnan Province, southwest China, 29–X–1992, H. TAMURA and L. ZHAO leg. *Paratypes.* Nine specimens, data same as for holotype. The holotype and paratypes are deposited in Shanghai Institute of Entomology, Academia Sinica, but one paratype is in the collection of the senior author.

Remarks. This species is similar to *O. similis* YOSII, 1954, from Japan. But the former is separable from the latter by the body length and the number of chaetal rows on Abd. IV (1500 μm long and 2 rows in *similis*).

Etymology. This species is dedicated to Prof. W.-y. YIN, Shanghai Insti-



Figs. 16–25. *Odontella yinae* ZHAO, sp. nov. 16, Habitus; 17, chaetotaxy on head and Th. I; 18, ditto on Th. II–Abd. I; 19, ditto on Abd. II–VI; 20, enlargement of Abd. III–VI; 21, setae and granules on Abd. VI; 22, Ant. III·IV (dorsal view); 23, ditto (ventral view); 24, PAO and eyes; 25, buccal cone and labial triangle.



Figs. 26–32. *Odontella yinae* ZHAO, sp. nov. 26, Hind leg; 27, ventral tube; 28, furca and anal lobes; 29, dentes and mucro; 30, tenaculum; 31, male genital aperture; 32, enlargement of anal lobes.

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