

**A NEW RECORD OF THE GENUS *SINELLA* IN INDONESIA
WITH A NEW SPECIES OF THE SUBGENUS *COECOBRYA*
(COLLEMBOLA: ENTOMOBRYIDAE)**

Jian-Xiu Chen and Louis Deharveng

ABSTRACT.- The genus *Sinella* is for the first time reported from Sulawesi (Indonesia) with a new species, *Sinella (Coecobrya) indonesiensis*. This species shares many characters with *S. (C.) boneti* Denis, 1948, of Vietnam from which it can be distinguished by the chaetotaxy of Abd. IV, the presence of dorsal smooth setae on manubrium and other chaetotaxic features.

KEY WORDS. - New record, *Sinella*, Collembola, Indonesia.

INTRODUCTION

Southeast Asia is rich in cave Entomobryidae, with numerous, mostly undescribed, species of the two cosmopolitan genera *Sinella (Coecobrya)* and *Pseudosinella*. Both genera seem to be abundant in Papua Niugini. *Sinella (Coecobrya)* is frequent in Thailand (Deharveng, 1990), Sumatra and the Philippines (Luzon), where *Pseudosinella* is rare. Conversely, *Pseudosinella* is widespread, but *Sinella (Coecobrya)* quite rare in Sulawesi, where it has been recorded once only (Deharveng, 1987). This latter material corresponds to a new species which is described in this paper.

TAXONOMY

FAMILY ENTOMOBRYIDAE TOMOSVARY, 1882

***Sinella (Coecobrya) indonesiensis*, new species**

(Figs. 1-14)

Material examined. - Holotype female, one paratype female (sample INDO 207), on bat guano. Gua [=cave] Mampu, Bone-Watampone, Propinsi [=Province] Sulawesi Selatan, Indonesia, coll. P. Leclerc, 16 July 1986. Deposited in the Museum Zoologicum Bogoriense, Bogor, Indonesia.

Jian-Xiu Chen - Department of Biology, Nanjing University, Nanjing 210093, P. R. China. **Louis Deharveng** - UMR 5552 du CNRS, Laboratoire d'Ecologie Terrestre, Université Paul Sabatier, 118 route de Narbonne, 31062 Toulouse Cedex 4, France

Description - Color white to pale yellow. Eyes 1+1 in dark blue patches. Maximum length 1.44 mm. Antennae 1.6-1.9 x length of cephalic diagonal (Figs. 1-2). Ant. III organ not clearly seen, but probably with setae 2 and 3 rod-like. Ratio head : thorax : abdomen = 250 : 325 : 675 (in μm).

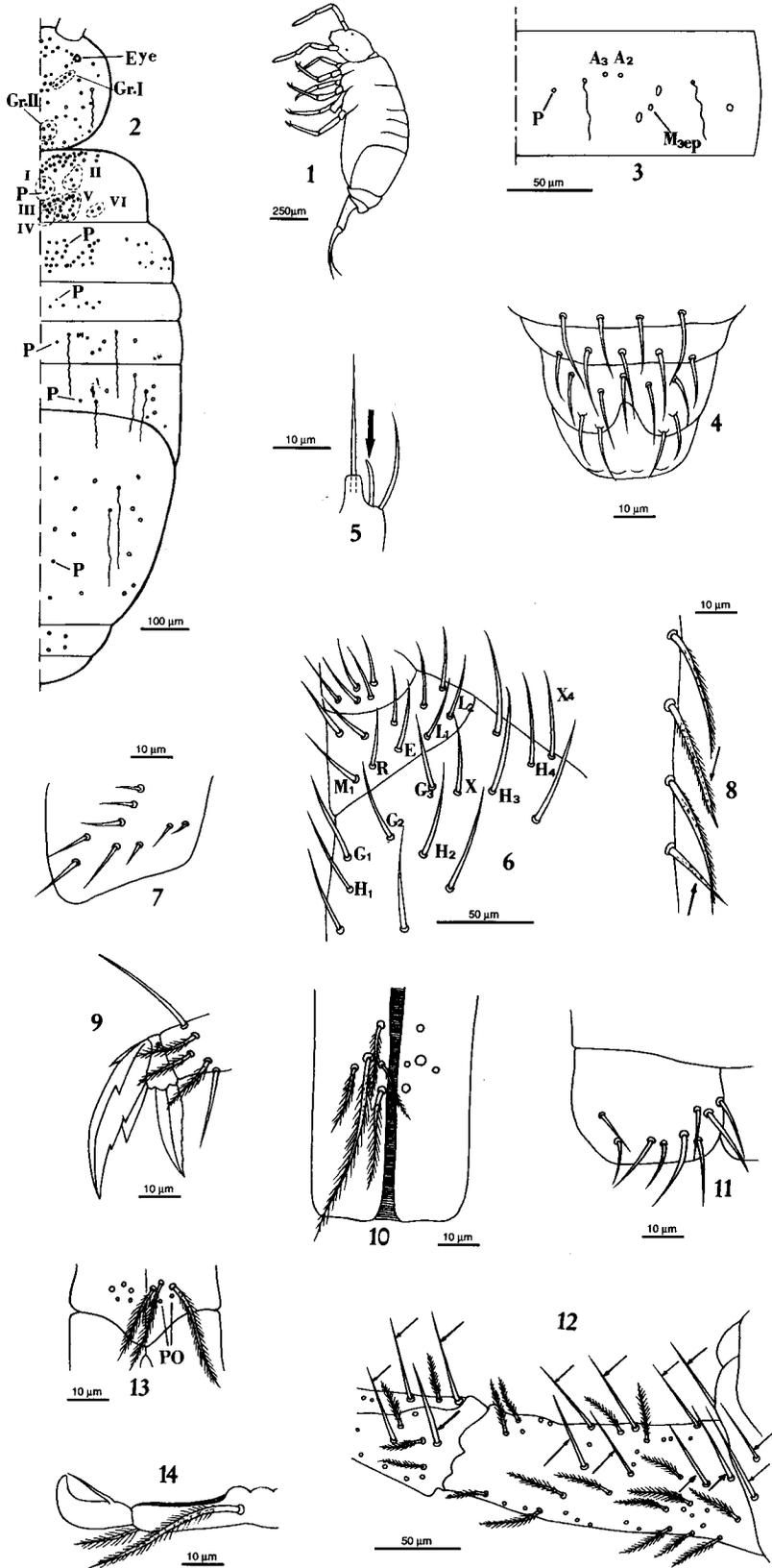
Labral setae 4/5,5,4, all smooth, each of the distal row placed on a papilla (Fig. 4). External differentiated seta of labial appendage straight or slightly curved, as thick as normal setae, with tip exceeding apex of same papilla by 0.33 of its length (Fig. 5). All setae of labial triangle smooth; seta R about 0.80-0.91 x length of seta M1. All mental setae smooth except H1 which is rarely ciliate; setae X and X4 respectively 1.08-1.53 and 1.10-1.48 x length of seta R of labial triangle; setae X2 and X3 absent (Fig. 6).

Macrochaetae and large mesochaetae: Head - group I 4, group II 5; Th. II - group I 3, group II 3, group III 4(3), group IV 4, group V 5+5 (6+1+5 one time), group VI 2; Th. III - group I 13 (holotype), group II 10 (11), group III 3, group IV 4; Abd. I - 6 on each side; Abd. II - 3 in M3 arch and 1 lateral on each side, macrochaeta A2 always present, A3 often present, A2, A3 and mid one (M3ep) in M3 arch apparently smaller; Abd. III - 1+1 dorso-central and 3 lateral on each side; Abd. IV - 14 dorso-central arranged in pattern I, and 6 lateral arranged in pattern III on each side (Figs. 2-3).

Nine trochanteral organ setae (Fig. 7). Inner differentiated setae of tibiotarsus nearly smooth with ciliations very closely appressed to setal axis. Tibiotarsus with 1 outstanding inner macrochaeta at 0.29-0.34 distance from base, its distal half gradually tapered then strongly tapered at tip (Fig. 8). Unguis with 3 inner teeth, basal pair unequal, the outer one large reaching at its tip 51-59 % of the internal crest of the claw; median tooth small at 62-71 %. Outer edge of unguiculus smooth or finely serrate without large tooth. Tenent hairs longer than unguiculi with tip acuminate to truncate (Fig. 9). Ventral tube with 10 ciliate setae on anterior face (Fig. 10), 9-10 smooth setae on each lateral flap (Fig. 11), setae on posterior face not clearly seen. Except numerous normal ciliate setae, dorsal side of manubrium with a row of 4 erect smooth setae near each lateral margin; 2 such smooth setae also respectively present on each side at end of Abd. VI and near outer margin at base of each dens (Fig. 12). Manubrial plaque with 3 ciliate setae and 2 pseudopores on each side (Fig. 13). Uncrenulate dens about 1.1-1.2 x length of mucro. Mucronal basal spine long with tip nearly reaching apex of apical tooth (Fig. 14) Ratio manubrium : dens : mucro = 180 : 250 : 20 (in μm). Male genital plate unseen.

Etymology - Named after the type country (Indonesia).

Figs. 1-14. *Sinella (Coecobrya) indonesiensis*, new species. 1. Habitus, 2. Semi-diagrammatic dorsal chaetotaxy. Roman numbers indicate the groups of macrochaetae after Chen & Christiansen (1993: 10) *P. pseudopora*, 3. Dorsal chaetotaxy of Abd. III, 4. Labral setae, 5. External differentiated seta of labial appendage, 6. Setae of labial triangle and mentum, 7. Trochanteral organ, 8. Inner outstanding macrochaeta and differentiated seta of tibiotarsus, 9. Hind foot complex, 10. Anterior face of ventral tube (holotype), 11. Lateral flap of ventral tube (holotype), 12. Manubrium showing dorsal smooth setae (dorso-lateral view), 13. Manubrial plaque, 14. Apex of dens and mucro.



DISCUSSION

Sinella (C.) indonesiensis is the second species with 1 + 1 eyes described in the subgenus *Coecobrya* (Chen & Christiansen, 1997). The senior author had the opportunity to examine the only known 1+1-eyed species, *S. (C.) boneti* described by Denis (1948: 231) from Vietnam. These two species are very close to each other, however, they could be easily distinguished by following features.

	<i>indonesiensis</i>	<i>boneti</i>
Manubrium dorsal smooth setae	present	absent
Abd.IV dorso-central macrochaetae	14, I	12, II-A
Mental seta X2	absent	present
Mental seta X3	absent	present (rarely absent)
Th. II group II seta S4	absent	present (rarely absent)

Roman number: chaetotaxy pattern (Chen & Christiansen 1993, 1997).

ACKNOWLEDGMENTS

We wish to thank Dr. Kenneth Christiansen of Grinnell College, Iowa, U.S.A. for his useful comments and suggestions. We also thank Mr. Ming Wu of Nanjing University, Nanjing, China who inked all the final drawings.

LITERATURE CITED

- Chen, J.-X. & K. Christiansen, 1993. The genus *Sinella* with special reference to *Sinella* s.s. (Collembola: Entomobryidae) of China. *Oriental Insects*, **27**: 1-54.
- Chen, J.-X. & K. Christiansen, 1997. Subgenus *Coecobrya* of the genus *Sinella* (Collembola: Entomobryidae) with special reference to the species of China. *Ann. of Ent. Soc. Amer.*, **90**(1): 1-19.
- Deharveng, L., 1987. Cave Collembola of Southeast Asia. *The Korean Journal of Systematic Zoology*, **3**(2): 165-174.
- Deharveng, L., 1990. Fauna of Thai caves, II. New Entomobryoidea Collembola from Chiang Dao Cave, Thailand. *Bishop Museum Occasional Papers*, **30**: 279-287.
- Denis, J. R., 1948. Collemboles d'Indochine, récoltes de N. C. N. Dawydoff. *Notes d'Entomologie Chinoise*, **12**: 183-311.

Received 21 Feb 1997
Accepted 20 Mar 1997