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Eosentomon scytha n. sp., a new species from Southern Ukraine (Protura: Eosentomidae)

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ABSTRACT. *Eosentomon scytha* n. sp., most similar to *E. wanda* SZEPTYCKI, 1985 and *E. zodion* SZEPTYCKI, 1985, is described from Chornomorsky Biosphere Reserve (Southern Ukraine).

Key words: entomology, taxonomy, Protura, new species, *Eosentomon*, Ukraine.

INTRODUCTION

42 species of Protura were recorded from Ukraine till now (KAPRUS' et al. 2006). The southern part of the country remains virtually unknown. The first material of this group was collected by Dr I. KAPRUS' in the Chornomorsky Biosphere Reserve and surrounding areas. It contains – among others – the new species of the genus *Eosentomon*, described in the present paper.

Eosentomon scytha n. sp. (figs 1-21)

NAME DERIVATION

The species name is derived from the name of the ancient nation of the Scythians, who were living in the territory of South Ukraine.

DIAGNOSIS

Eosentomon scytha n. sp. belongs to the “*delicatum*” group sensu SZEPTYCKI (1985). Within the group, it shares the position of *P1a* on urotergite VII (passing hind margin of tergite), long basiperiphallar seta on the penis and body chaetotaxy with *E. wanda* SZEPTYCKI, 1985 and *E. zodion* SZEPTYCKI, 1985. In the large “head” of the female squama genitalis it is the most similar to *E. wanda*. The new species differs in the position of sensillum *t1* and long sensillum *d* on foretarsus, and relatively short lateral sensillum of maxillary palp. From *E. zodion* it differs in the shape of rostral seta, too.

DESCRIPTION

Head setae relatively short, subposterior seta 1.3 x length of posterior seta. Anterior additional seta, posterior additional seta, seta *m4* and anterior sensillum present.

Pseudoculus round, with distinct inner structure, PR 9.1-10.4. Clypeal apodeme strong. Rostral seta alate, subequal to the subrostral. Labrum with truncate apices and deep, narrow notch. Labral seta present. Mandibles with three distinct apical teeth. Digits of galea well developed, median and inner of equal length and slightly shorter than outer one. Sensilla of maxillary palp thin, lateral sensillum shorter than dorsal.

Setae on nota slightly diversified. *P1a* situated posterior to line of *P1-P2*, *P2* 1.4-1.5 times longer than *P1*. Length ratio of *P1* : *P1a* : *P2* on mesonotum as 0.8 : 1 : 1.2. *P2a* subequal to *P3a*; *P3a* on line *P3-P4*, setiform. *P4a* as long as *P3a*, close to *P5*, but not connected with it. Tracheal camerae short, distinctly dilated basally.

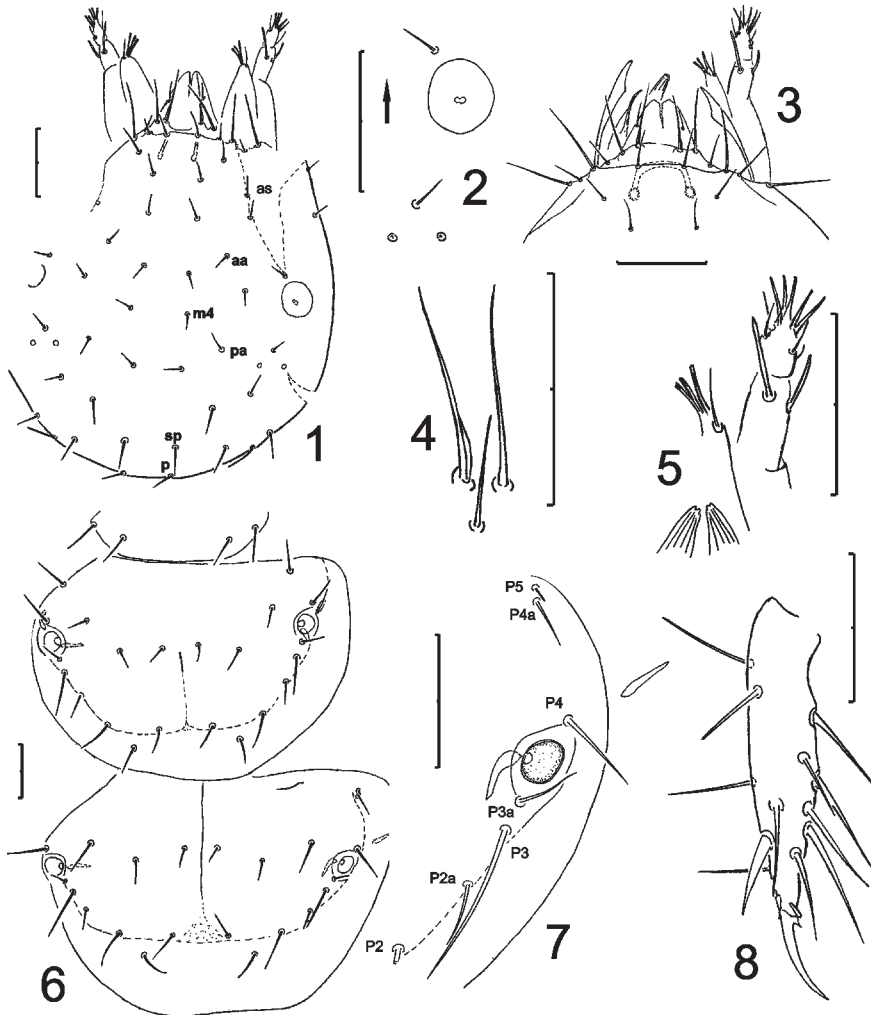
Foretarsal sensillum *a* the same shape as *c*; *c* short, not reaching base of γ_2 ; *b* nearly as long as *a'*; *d* long, reaching base of *z*; *e* and *g* long, with spatulate dilation about half of sensillum length; *fl* filiform, about the same length as sensillum *e*; *t1* situated in half way between α_3 and α_3' ; *t3* long, passing base of δ_6 ; *a'* long, longer than *t2*, situated nearly at level of base of α_3 ; *t2* and *b'2* short, subequal and filiform; *b'1* absent; *c'* long, situated on level of α_6 , passing base of δ_6 ; seta δ_4' slightly distally to level of δ_4 . BS 1.1, TR 5.2-5.5, EU 0.9.

Empodial appendage of II and III leg short; basal seta of III leg (seta *D2*) spine-like.

Chaetotaxy formula of abdomen:

I	II-III	IV-V	VI	VII	VIII	IX-X	XI	XII
4	10	10	8	4	6			
---	---	---	---	---	---	8	8	9
12	14	16	16	16	9			
4	6	6	6	6	0			
---	---	---	---	---	---	4	8	12
4	4	10	10	10	7			

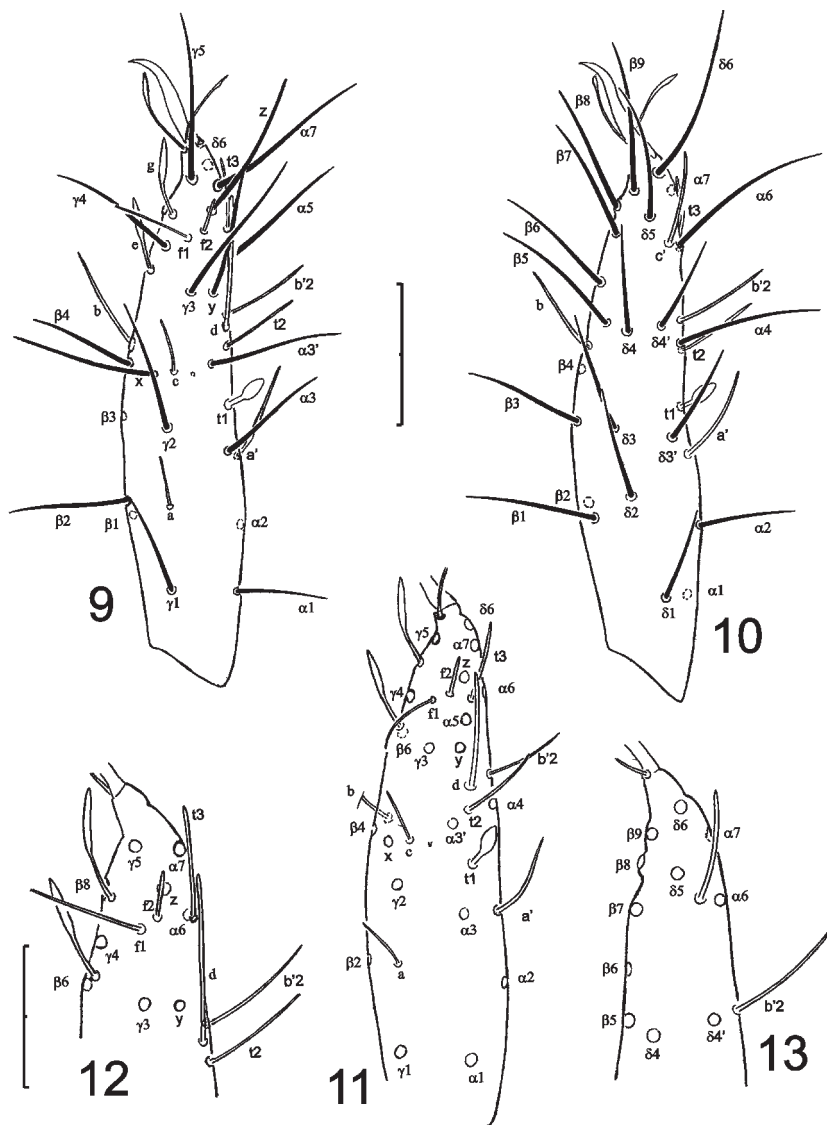
Chaetotaxy formula of urotergite I: 3, 1, 2. Seta *A3* on urotergite VI, and setae *A1* - *A3* on VII absent. Seta *P1a* urotergite I - VI long; on urotergite VII short, situated posteriorly near hind margin of tergite. *P2a* on urotergite II - VI long, situated in half distance *P2* - *P3*, on urotergite VII as on preceding ones. Seta *P4a* on urotergite II and III absent; on urotergite IV - VII setiform. *P1a'* on urotergite VIII with distinct basal dilation, situated anterior to level of *P2*. Dorsal setae on urotergite XI thin, 1.2 x length of setae on urotergite X. Seta *1* on urosternite X subequal to seta 2.



1-8. *Eosentomon scythae* n. sp.: 1 - head (holotype); 2 - pseudoculus (paratype nr 30.2); 3 - anterior part of the head, dorsal view (paratype nr 30.2); 4 - rostral seta, dorsal view (paratype nr 30.2); 5 - distal part of palpus maxillaris, galea and mandible (paratype nr 30.2); 6 - meso- and metanotum (holotype); 7 - anterolateral part of metanotum (holotype); 8 - leg III (paratype nr 30.2). Scale: 20 μ m

Antecostae with narrow, hardly visible central lobe. Laterostigma II - IV large, with no inner structure. Lateral sclerotisation of urosternite VIII absent. Dorsal lobe of telson with two central pores.

Female squama genitalis with big "head" and "beak" perpendicular to body axis. Penis with long basiperiphallar setae.



9-13. *Eosentomon scytha* n. sp.: 9 - foretarsus, exterior view (holotype); 10 - foretarsus, interior view (holotype); 11 - foretarsus, dorsal view (paratype nr 30.2) (magnification as fig. 9); 12 - distal part of foretarsus, exterior view (holotype); 13 - distal part of foretarsus, interior view (holotype) (magnification as fig. 12).

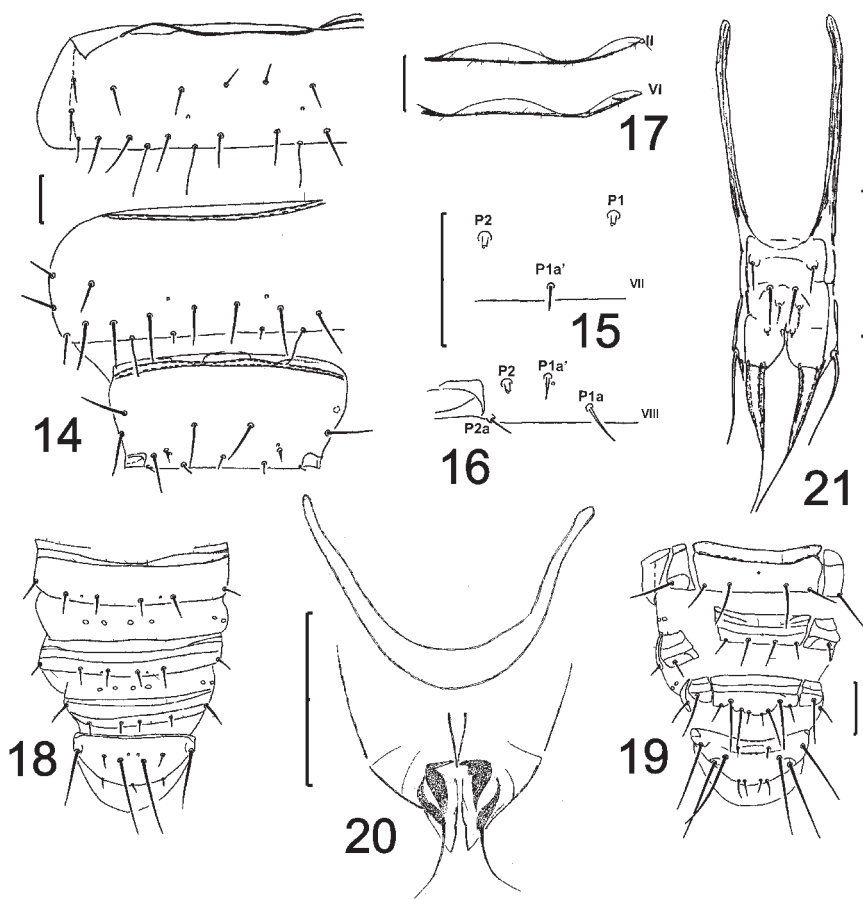
Scale: 20 μm

Measurements (in μm) - imago: Head 100-109, pseudoculus 10.5-11, subposterior head seta 9-10, posterior head seta 7-8, mesonotal seta P1 10-11, P1a 12-13, P2 14-16, foretarsus 77-80, claw 14-15, empodial appendage 12-13, maximum body length of expanded specimen about 1000.

Chaetal variability in 3 specimens not observed.

MATERIAL EXAMINED

Holotype: female (collection number 30.1): Ukraine, Khersonska district, Chornomorsky Biosphere Reserve, Solenoozerna Division, steppe near liman of the Black Sea; in soil; leg. I. Kaprus'.



14-21. *Eosentomon scytha* n. sp.: 14 - urotergite VI-VIII (holotype); 15 - seta *P1a* on urotergite VII (holotype); 16 - seta *P1a'* on urotergite VIII (holotype); 17 - antecostae II and VI (paratype nr 30.3); 18 - urotergite IX - XII (holotype) (magnification as fig. 19); 19 - urosternite IX - XII (holotype); 20 - squama genitalis (paratype nr 30.2); 21 - penis (paratype nr 30.3). Scale: 20 μm

Paratypes: 1 female and 1 male, together with the holotype.

Holotype and paratypes nr 30.1 – 30.3 in the collection of the State Museum of Natural History of the National Academy of Sciences of Ukraine, L'viv.

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