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A new species of *Folsomia* from the Eastern Carpathians (Ukraine and Poland) (*Collembola: Isotomidae*)

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ABSTRACT. *Folsomia albens* n. sp. is described and illustrated from mountain forests of the Eastern Bieszczady Mts (Carpathians). It is characterised by reduction of ommatidia, 1+1 anterior chaetae and 15-16 posterior chaetae on manubrium, 3+3 chaetae on la-teral flaps of ventral tube and sensillar formula for Th.II – Abd.V: 4, 3/2,2,2,3,5 (s), 1,0/0,0,0,0,0 (ms).

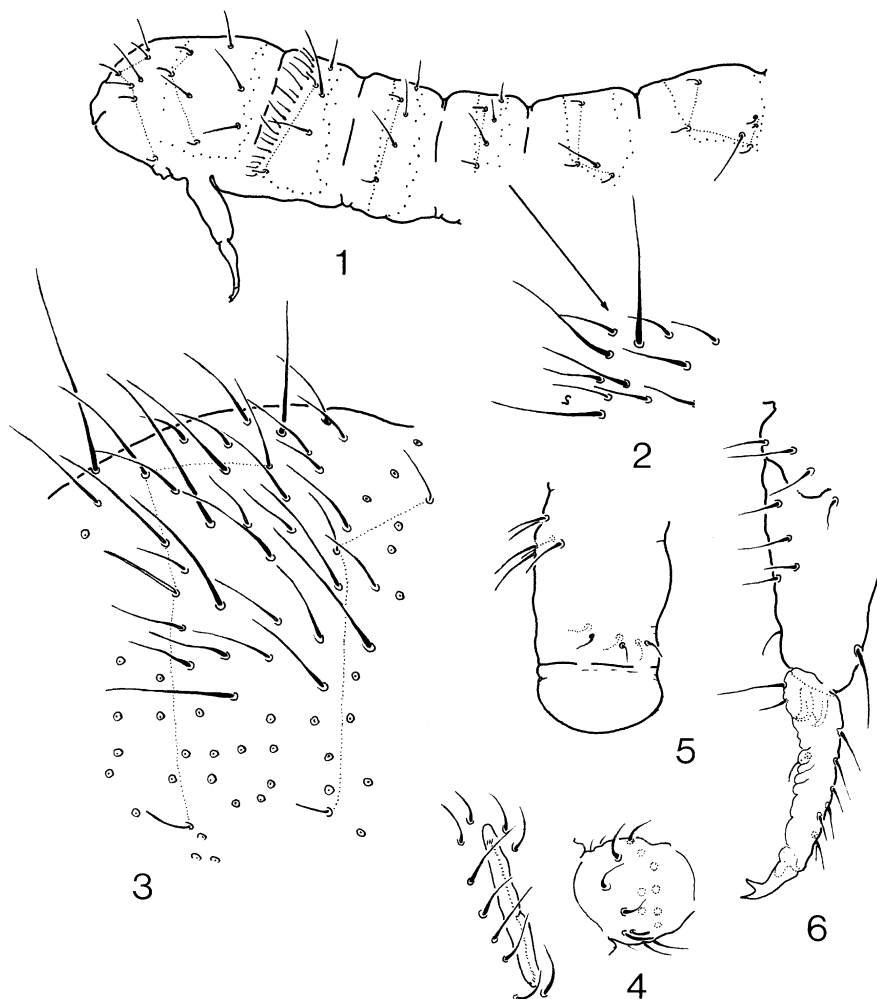
Key words: Entomology, taxonomy, *Collembola*, *Isotomidae*, *Folsomia* new species, Ukraine, Poland.

***Folsomia albens* sp. n.**

TYPE MATERIAL

Holotype – female on slide, litter and soil in *Fagaeto-Piceeto-Abietum* near Skole, ca. 550 m a.s.l., Ukraine, 25. 10. 1989, leg. I. J. KAPRUS¹ (preserved in State Museum of Natural History of NASU's collection); paratypes – 48 females and males on slides, litter and soil in *Piceetum*, *Fagaeto-Piceetum*, *Fagaeto-Abietum*, ca. 700 m a.s.l., neighbourhood of Skole, 22. 05. 1990, moss on ground in *Fagetum*, ca. 600 m a.s.l., Klymec' near Skole, 22. 05. 1990, litter in *Piceetum*,

ca. 750 m a.s.l., Grebeniv near Skole, 25. 05. 1990, litter in *Fagaetum*, ca. 900 m a.s.l., Kamianka near Skole, 25. 05. 1990 and soil, litter in *Fagaeto-Piceetum*, ca. 700 m a.s.l., Lybochora near Volovec', 6. 06. 1991 (Ukraine), soil, litter in *Abieto-Fagaetum*, ca. 600 m a.s.l., Pszczeliny, Sękowiec and Muczne near Ustrzyki Dolne, 1.10.1996 (Poland), leg. I. J. KAPRUS' (33 spp. preserved in State Museum of Natural History of NASU's collection and 15 spp. – Zoology Department, Moscow State Pedagogical University's collection).



1-6. *F. albens* sp. n.: 1 - arrangement of sensilla, microsensilla and macrochaetae on body segments, 2 - chaetotaxy of lateral part of abdominal tergite I, 3 - dorsal chaetotaxy of the end of abdomen (sensilla connected by dotted line), 4 - postantennal organ and antennal segment I, 5 - ventral tube, 6 - furca laterally (central chaetae traced)

Table. The comparative morphological characteristics of some similar *Folsomia* species

Species	Body length, mm	Ommatidia	Ventral tube		Microsensillar formula for Th. II-Abd. III	Dens		Posterior chaetae of manubrium	Distribution
			laterodistal chaetae	posterior chaetae		anterior chaetae	posterior chaetae		
<i>F. bidentata</i> Lee, 1974	0.8	absent	4+4	6	—	8	3	21	S. Korea
<i>F. dovrensis</i> Fjellberg, 1976	0.5	absent	4+4	4	1,0/0,0,0	8	2	24	Norway, Czech Republic
<i>F. hrabei</i> Rusek, 1984	0.4 -0.5	absent	4+4	5	-	8	2	20	Czech Republic
<i>F. taimyrica</i> Martynova, 1973	< 1.3	0+0 (rarely 1+1)	4+4	7-9	1,1/1,1,1	8	3	20	Circumpolar
<i>F. vitorovi</i> Martynova, 1971	1.3	absent	4+4	6	1,0/1,0,0	8	3	20	Kazakhstan (Tian-Shan Mts)
<i>F. albens</i> sp. nov.	0.8	absent	3+3	6	1,0/0,0,0	7	3	15-16	Ukraine, Poland (East Bieszczady)

DESCRIPTION

Body length up to 0.8 mm. White, sometimes with sparse scattered grains of pigment. Most of cuticle with rudimentary granules only. Fragments of coarse granulation concentrated on various parts of body forming distinct stripes on posterior part of head and along axial line of body tergites. On Abd.V they form large medial band. No ommatidia. PAO long and narrow, with distinct constriction and small "inner denticles", 1.4-1.6 as long as Ant. I width and 2.1-2.5 as long as inner edge of claw III (fig. 4). Maxillary palp bifurcated, outer maxillary lobe with 4 sublobal hairs. Labral formula 4/554. Ventral side of head with 4+4 chaetae along linea ventralis, labium with 4+4 chaetae. Sensorial set of antenna as usual for the genus: 2,1,5 in number on Ant.I, II, III respectively. Ant. I with three basal ms: two dorsal and one ventral. Ant. II with 3 ms, Ant. III with one basal ms. Sensilla on Ant. IV weakly thickened. Subapical organite stick-like, slightly curved.

Body sensilla equal to common chaetae. Sensillar formula for Th. II-Abd. V: 4,3/2,2,2,3,5 (s), 1,0/0,0,0,0,0 (ms) (figs 1,2). On Th. II - Abd. IV medial accp-sensilla are situated in front of p-row. Sensorial set of Abd. V as follow: 3+3 long and thin (2+2 medial and 1+1 in more lateral position), 1+1 shorter and broader lateral, and 1+1 ventral chaeta-like (fig. 3). The hind medial sensilla situated at the border with Abd. VI (fig. 3). Number of macrochaetae on Th. II-Abd. IV: 1, 1/3,3,3,4 (fig. 1). The largest macrochaetae on the last abdominal segments 2.9-3.5 times longer than mucro. Axial chaetom of Th. II-Abd. III normally is: 9, 7/4,3,3. Th. III with 30-31 in p-row. Thorax without ventral chaetae.

Claw without teth. Tibiotarsus of leg I with 1-3 additional chaetae, 22-24 in all. Upper and lower subcoxa with 2 (rarely 1) and 7-8 (leg II), 4 and 7 (leg III) chaetae, respectively. Retinaculum with 4+4 teeth and one chaeta. Ventral tube with 3+3 latero-distal chaetae and 6 posterior ones (fig. 5). Anterior furcal subcoxa with 3 (rarely 2 or 4), posterior one with 3 chaetae. Manubrium with 1+1 anterior chaetae. and dorsally with 15-16 chaetae (3+3 latero-basal, 2+2 central, 2+2 distal, and 1 or 2 apical) (fig. 6). Besides, there is 1+1 chaetae on lateral sides of manubrium. Dens rather short, normally with 7 (1+1+2+3) anterior and 3 posterior (2 - in basal and 1 - in middle part) chaetae, crenulated (fig. 6). Mucro bidentate. Ratio manubrium : dens : mucro as 3.8-4.2 : 2.4-2.8 : 1.

DISCUSSION

In anterior chaetotaxy of furca (1+1 on manubrium and 7 chaetae on dens) and the absence of ommatidia *F. albens* sp. nov. is similar to five Holarctic species, which are listed in the table. All these forms differ from it 4+4 chaetae on lateral flaps of ventral tube and more numerous chaetae on posterior side of manubrium. The new species is more similar to the Asian members of the genus, since two European species display some additional differences: 2 posterior chaetae on dens, rather short PAO, specific sensilla on Abd. V and others. *F. manolachei* BAGNALL, 1939, a widespread species with 2+2 ommatidia, has

nearly the same morphology, it differs in presence of microsensillum on Abd. I and PAO of moderate length. Microsensillum on Abd.I missing is characteristic of the new species. Among related forms the same was found in *dovrensis* and *hrabei* (according to the descriptions of RUSEK 1980, 1984).

DISTRIBUTION

Known only from the Estern Carpathians (Skolivs'ki Beskydy, Stryjs'ko-Sans'ka Verchovyna, Bieszczady Mts.).

ETYMOLOGY

The name of the new species is Latin word "*albens*" – whitish, according to its external appearance.

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