Acta zoologica cracoviensia, **45**(4): 337-340, Kraków, 31 Dec., 2002

A new genus *Pongeia* from France, without mandibles: why does not belong to Brachystomellidae (Collembola)?

Judith NAJT, Wanda M. WEINER

Received: 30 Oct., 2002
Accepted for publication: 10 Nov., 2002

NAJT J., WEINER W. M. 2002. A new genus *Pongeia* from France, without mandibles: why does not belong to Brachystomellidae (Collembola)? *Acta zoologica cracoviensia*, **45**(4): 337-340.

Abstract. A new genus and a new species of Pseudachorutinae (Collembola, Neanuridae) from France is described and illustrated.

Key words: Collembola, Pseudachorutinae, new genus, new species, France.

Judith NAJT, UPRES-A 8043 CNRS, Laboratoire d'Entomologie, Muséum national d'Histoire naturelle, 45, rue Buffon, F-75005 Paris, France.
E-mail: najt@mnhn.fr
Wanda M. WEINER, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Sławkowska 17, Pl-31 016 Kraków, Poland.
E-mail: weiner@isez.pan.krakow.pl

Among Neanuridae, the genus *Paranurida*, described from Turkmenia by SKARŻYŃSKI & POMORSKI (1994), represents a special case by the absence of mandibles. All other Pseudachorutinae possess the mandibles with some teeth, without molar plate. The new genus, found in France, resembles *Paranurida* not only in the absence of mandibles but also in other characters.

A c k n o w l e d g e m e n t s. We are most grateful to Jean-François PONGE (Muséum national d'Histoire naturelle, France) and Servane GILLET, who kindly collected the material for us and Maria BIENIEK for her effective assistance. We express our sincere gratitude to Romuald Jacek POMORSKI for his fruitful remarks to the manuscript.

Pongeia gen. nov.

D i a g n o s i s. Habitus and buccal cone similar to the genus *Paranurida*. Sensory organ of antennal segment III without internal sensilla. Postantennal organ present, eyes absent. Mandible absent, globular head of maxilla with two teeth (griffe) and two small lamellae with fine teeth. Labral chaetotaxy: 0/224, labium without seta L. Head without seta a0, with setae c1 and c2. Thoracic terga II and III with m4 present, abdominal terga I-IV with setae m3. Tibiotarsi with reduced number of setae (each tibiotarsus with 11 setae only). Furca absent.

E t y m o l o g y. The new genus is cordially dedicated to Jean-François PONGE (MNHN, Brunoy, France), who kindly collected the material for us.

D i s c u s s i o n. The new genus represents a springtail without mandibles; till now, this character was considered typical for the family Brachystomellidae. However, other characters: the chaetotaxy of the labrum and labium, the absence of internal sensilla in sensory organ of antennal segment III, and the reduction of distal verticils in tibiotarsi I-III, do not allow to place *Pongeia* gen. nov. in this family. The absence of mandibles may rather be regarded a convergence, developed independently in the two families: Brachystomellidae and Neanuridae.

The new genus is most similar to *Paranurida* SKARŻYŃSKI & POMORSKI, 1994 in the labral chaetotaxy (0/224, without prelabral setae, not as in SKARŻYŃSKI & POMORSKI 1994), dorsal chaetotaxy (thoracic terga II and III with setae m4, abdominal terga I-IV with setae m3), the shape of buccal cone (slightly elongated) and the absence of furca. The new genus differs from the one mentioned above in the presence of postantennal organ (absent in *Paranurida*), the absence of eyes (presence of 2+2 eyes in *Paranurida*) and the internal sensilla in the sensory organ of antennal segment III (present in *Paranurida*), the shape of maxillar head (globular in the new genus and elongated in *Paranurida*).

T y p e s p e c i e s. *Pongeia asturianensis* sp. N.

Pongeia asturianensis sp. n.

(Figs 1-9)

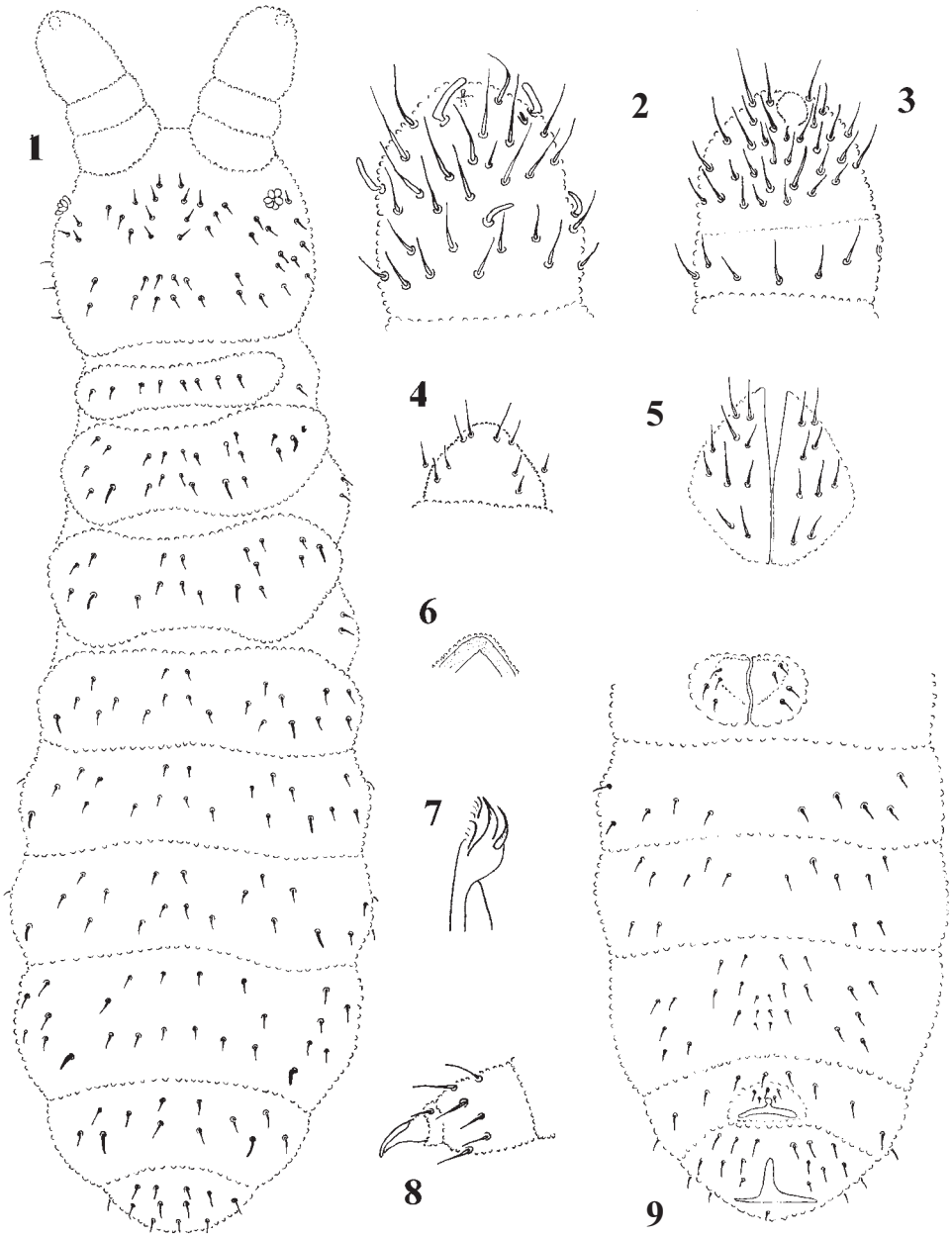
D i a g n o s i s. Habitus and buccal cone similar to the genus *Paranurida*. Antennal segment IV with three to four well distinguished sensilla, sensory organ of antennal segment III without two internal sensilla, with two subcylindrical guard sensilla (both of the same size) and two guard setae between them; ventral microsensillum present. Postantennal organ with 6-7 vesicles. Eyes absent. Mandible absent, maxilla with two teeth and two small lamellae with fine teeth. Labral chaetotaxy: 0/224, labium without papillate seta L. Formula of sensory setae s per half tergum: 022/11111. Head without seta a0, with setae c1 and c2. Thoracic tergum I with 3+3 setae. Abdominal terga I-IV with seta m3. Furca absent. Tibiotarsi I, II and III with 11 setae each. Subcoxae "2" I, II and III with 0, 2 and 2 setae, subcoxae "1" I, II and III with 1, 2 and 2 setae, respectively. Each anal valve with one seta hr.

D e s c r i p t i o n. Holotype (female) length 0.52 mm, length of paratypes females: 0.47 and 0.52 mm. Color in alcohol white.

Antennae shorter than head (about 3/4 the length of head). Antennal segment I with 6 setae, antennal segment II with 11 setae. Antennae III and IV fused dorsally, ventral separation well marked (Figs 2 and 3). Sensory organ of antennal segment III without two internal sensilla, with two subcylindrical guard sensilla (both of the same size) and two guard setae between them; ventral microsensillum present. Antennal segment IV with ordinary setae, with three - four distinct sensilla; dorsoexternal microsensillum present, truncated subapical organite present; apical vesicle simple, ventral side without truncated setae (Fig. 3).

Postantennal organ (Fig. 1) bearing 6-7 vesicles. Buccal cone slightly elongated. Labrum with ventrodistal part sclerotized (labral arch) (Fig. 6), labral chaetotaxy: 0/224 (Fig. 4), labium without papillate seta L (Fig. 5). Mandible absent, globular head of maxilla with two teeth (griffe) and two small lamellae with fine teeth (Fig. 7).

Dorsal chaetotaxy as in Fig. 1, with mesochaetae rather short and with distinguished sensory setae s. Their formula per half tergum: 022/11111. Sensilla of thoracic tergum II (setae s = m7) and abdominal tergum IV (setae s = p4) lanceolate. Microsensilla on thoracic tergum II present. Head without seta a0, with setae c1 and c2. Thoracic tergum I with 3+3 setae, thoracic tergum II with setae a2, m4 and tergum III with setae m4 present. Abdominal terga I-IV with setae m3, setae s = p4, thoracic tergum V with s = p2. Thoracic sterna without setae. Ventral tube with 4+4 setae, abdominal sternum I without setae, abdominal sternum II with 5+5 setae, abdominal sternum III with 7+7 setae (Fig. 9).



Figs 1-9. Figs 1-6 – *Pongeia asturianensis* gen. n., sp. n. 1 – dorsal chaetotaxy; 2 – antennal segments II-IV dorsally; 3 – antennal segments II-IV ventrally; 4 – labral chaetotaxy; 5 – labial chaetotaxy; 6 – labral arch; 7 – head of maxilla; 8 – tibiotarsus III; 9 – chaetotaxy of abdominal sterna I-VI.

Furca absent. Furcal area with 3+3 dental microchaetae (Fig. 9). Each anal valve with one seta hr.

Tibiotarsi I, II and III with 11 setae each (setae T, A4, A5, B6 absent). Femora I, II and III with 10, 10 and 9 setae, trochanters I, II and III with 5, 5 and 4 setae, coxae I, II and III with 4, 6 and 7 setae, subcoxae "2" I, II and III with 0, 2 and 2 setae, subcoxae "1" I, II and III with 1, 2 and 2 setae, respectively. Claw without teeth (Fig. 8). Empodial appendage absent.

T y p e m a t e r i a l. Holotype female, paratypes: two females in MNHN, Paris, France.

T y p e l o c a l i t y. France, zinc smelter at Auby (Department of Nord), hybrid poplar plantation, mull rich in organic matter (pH 6.7), covered with a dense carpet of *Arrhenaterum elatius* (Poaceae) and *Cardaminopsis halleri* (Brassiceae), 22.v.2002, lgt. J.-F. PONGE and S. GILLET.

E t y m o l o g y. The name of new species is derived from the local name of "Usine des Asturies".

REFERENCES

SKARŻYŃSKI D. & POMORSKI R. J. 1994. *Paranurida kopetdagi* a new genus and new species of Neanuridae from Turkmenia (Insecta: Collembola). *Genus*, **5** (4): 363-366.