

Contribution to the knowledge of the oribatid mite genus *Pilobatella* (Acari, Oribatida, Haplozetidae)

Sergey G. Ermilov^a, Josef Starý^b

^a Institute of Environmental and Agricultural Biology (X-BIO), Tyumen State University, Tyumen, Russia.

^b Biology Centre v.v.i., Czech Academy of Sciences, Institute of Soil Biology, České Budějovice, Czech Republic.

Original research

ABSTRACT

The genus *Pilobatella* (Oribatida, Haplozetidae) comprises 10 species, which are distributed in the Palaetropical region; this includes two new species described herein on the basis of adult specimens sampled from forest leaf litter in Andasibe-Mantadia National Park of eastern Madagascar. *Pilobatella mikoi* n. sp. is similar to *Pilobatella baloghi* Mahunka, 2003 in having long interlamellar setae and adanal setae ad_1 and ad_2 , but differs by having monodactylous legs (versus tridactylous) and a bothridial seta that is gradually expanded to a narrow head (versus setiform, without head). *Pilobatella kovaci* n. sp. is similar to *P. mikoi* n. sp. in having monodactylous legs, long interlamellar setae and adanal setae ad_1 and ad_2 , but differs by the presence of lineolate notogaster and anogenital region (versus lineolate markings absent), long tutoria (versus tutoria of medium length), rounded trochanters distodorsally (versus pointed) and clearly distanced medial ends of apodemes 2 (versus nearly touching at midline). A revised generic diagnosis and an identification key to known species of *Pilobatella* are presented.

Keywords haplozetid mites; systematics; morphology; Madagascar; Afrotropical region

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Introduction

The oribatid mite genus *Pilobatella* of the family Haplozetidae (Acari, Oribatida) was proposed by Balogh and Mahunka (1967) with *Pilobatella punctulata* Balogh and Mahunka, 1967 as type species. According to Subías (online version 2020), the genus currently comprises eight species, which are collectively distributed in the Palaetropical region. Like Subías, we exclude three other species from the genus: *P. lowmanae* Ermilov, Winchester and Wassie, 2012; *P. maurensis* Scull, 1985; *P. pseudovermiseta* Corpuz-Raros, 1979. Subías offered no justification, but these species possess only one pair of aggenital setae instead of the three pairs indicated in the original generic diagnosis. While Subías (2020) suggested recombinations of these three species, his website is not formally published, and their placement should be considered separately in the future.

We do not support the subgeneric division of *Pilobatella* proposed by Subías (2017), which was based on a single trait that is known to be variable within numerous oribatid mite groups. He recognized the subgenus *Pilobatella* (*Tripilobatella*) as including those species with tridactylous legs, contrasted with those having monodactylous legs in the nominate subgenus. In the larger context of the family Haplozetidae, several other genera include species with a different number of claws (e.g., *Haplozetes* Willmann, 1935; *Protoribates* Berlese, 1908; *Trachyoribates* Berlese, 1908).

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Corresponding author

Sergey G. Ermilov:

ermilovacari@yandex.ru

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Our main goal is to describe and illustrate two new species of *Pilobatella* that were discovered during taxonomic identification of oribatid mites from Andasibe-Mantadia National Park, Madagascar. A second goal is to summarize and update information about the genus. The main diagnostic characteristics of *Pilobatella* were summarized by Balogh and Mahunka (1967) and Balogh and Balogh (1984, 1992), and augmented by Ermilov *et al.* 2012, but many traits were not discussed in these works; we present a more complete treatment below. We also expand on the species identification key of Ermilov *et al.* (2012) to include all 10 species currently included in *Pilobatella*.

Materials and methods

Material

Substrate samples containing oribatid mites were collected in Andasibe-Mantadia National Park during long-term official cooperation between the Moravian Museum in Brno (Czech Republic) and Université d'Antananarivo (Madagascar) in 2010–2014. Mites were extracted into 75% ethanol using Winkler apparatus. See the **Material examined** section for detailed location data for each new species.

Methods

Specimens were mounted in lactic acid on temporary cavity slides for measurement and illustration. Body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the notogaster. Notogastral width refers to the maximum width of the notogaster in dorsal view (behind pteromorphs). Lengths of body setae were measured in lateral aspect. All body measurements are presented in micrometers. Formulas for leg setation are given in parentheses according to the sequence trochanter-femur-genu-tibia-tarsus (famulus included). Formulas for leg solenidia are given in square brackets according to the sequence genu-tibia-tarsus.

Drawings were made with a camera lucida using a Leica transmission light microscope “Leica DM 2500”.

Morphological terminology used in this paper follows that of F. Grandjean: see Travé and Vachon (1975) for references, Norton (1977) for leg setal nomenclature, and Norton and Behan-Pelletier (2009), for overview.

The following abbreviations are used: *lam* = lamella; *slam* = sublamella; *Al* = sublamellar porose area; *tu* = tutorium; *plr* = prodorsal lateral ridge; *ro*, *le*, *in*, *bs*, *ex* = rostral, lamellar, interlamellar, bothridial and exobothridial setae, respectively; *D* = dorsophragma; *P* = pleurophragma; *c*, *la*, *lm*, *lp*, *h*, *p* = notogastral setae; *Sa*, *S1*, *S2*, *S3* = notogastral sacculi; *ia*, *im*, *ip*, *ih*, *ips* = notogastral lyrifissures; *gla* = opisthonotal gland opening; *a*, *m*, *h* = subcapitular setae; *v*, *l*, *d*, *cm*, *acm*, *ul*, *sul*, *vt*, *lt* = palp setae; ω = palp and leg solenidium; *cha*, *chb* = cheliceral setae; *Tg* = Trägårdh's organ; *PdI*, *PdII* = pedotecta I, II, respectively; *1a*, *1b*, *1c*, *2a*, *3a*, *3b*, *3c*, *4a*, *4b*, *4c* = epimeral setae; *dis* = discidium; *cp* = circumpedal carina; *g*, *ag*, *an*, *ad* = genital, aggenital, anal and adanal setae, respectively; *iad* = adanal lyrifissure; *Amar* = marginal porose area; *po* = preanal organ; *Tr*, *Fe*, *Ge*, *Ti*, *Ta* = leg trochanter, femur, genu, tibia, tarsus, respectively; *pa* = leg porose area; σ , ϕ = leg solenidia; ϵ = leg famulus; *v*, *ev*, *bv*, *l*, *d*, *ft*, *tc*, *it*, *p*, *u*, *a*, *s*, *pv*, *pl* = leg setae.

Systematics

Generic diagnosis of *Pilobatella*

Adult — Sexual species with dimorphism absent. *Body size*: Small to medium (length 300–650). *Integument*: Color light brown to dark brown. Body surface smooth or partially

with ornamentation (foveolate or lineolate). *Prodorsum*: Rostrum rounded. Lamella long, narrow, well separated, without cusp and tooth distally. Translamella absent. Prolamella absent or very weakly developed. Sublamella linear. Sublamellar porose area present. Tutorium strong, ridge-like. Rostral, lamellar, interlamellar and exobothridial setae well developed, setiform, barbed; *ro* inserted dorsolaterally on the rostrum, *le* on end of lamella or on prodorsal surface medial to *lam*, *in* in interbothridial region. Bothridial seta long, setiform or thickened, sometimes with slightly dilated mediobasal part (head), ciliate. Bothridium cup-shaped, with anterolateral scale. Dorsophragma elongate longitudinally. *Notogaster*: Anterior margin of notogaster convex medially. Pteromorph movable, large, curved ventrally. Octotaxic system with four pairs of sacculi. With 10 pairs of short, setiform notogastral setae. Dorsosejugal porose area present or not observed. *Gnathosoma*. Subcapitulum diarthric. Palp with setation 0–2–1–3–9(+ω). Solenidion of palptarsus connected to eupathidium, located on cylindrical tubercle. Axillary sacculi absent. Trägårdh's organ of chelicera elongate triangular to tapered. *Lateral podosomal and epimeral regions*: Pedotecta I and II represented by small lamina, *PdII* trapezoid to bifurcate in ventral aspect. Genal tooth and custodium absent. Discidium and circumpedal carina present. Humeral porose areas *Am*, *Ah* and *Al* not observed. Typical epimeral setal formula 3–1–3–3. *Anogenital region*: Five or six pairs of genital, three pair of aggenital, two pairs of anal and three pairs of adanal setae. Adanal seta *ad*₁ posterior, *ad*₃ anterior or anterolateral to anal aperture. Adanal lyrifissure located close and lateral to anal plate. Marginal porose area usually present, narrowly band-like. *Legs*: All four legs similar, monodactylous (usually) or heterotridactylous. Porose area present dorsoparaxially on all femora and on trochanters III, IV. Porose area present proximoventrally on tarsi I–IV and distoventrally on tibiae I–IV.

Juvenile instars — Not known.

Pilobatella mikoi n. sp.

Zoobank: [CF211652-7361-41B6-85EB-3AA2938197B5](https://zoobank.org/CF211652-7361-41B6-85EB-3AA2938197B5)

(Figures 1–3)

Diagnosis — Body size 547–647 × 282–348. Rostral, lamellar and interlamellar setae long, setiform, barbed, *ro* shortest, *in* longest. Bothridial seta long, gradually thickening distally, beginning at mid-length, ciliate. Tutorium of medium length. All notogastral setae short, setiform, smooth. Epimeral, six pairs of genital and aggenital setae short, setiform, roughened. Medial end of each apodeme 2 close to midline. Anal and adanal setae setiform, erect, densely barbed, *ad*₁ and *ad*₂ long. All legs monodactylous. Trochanter IV pointed anterodorsally.

Description — Measurements – Body length 630 (holotype), 547–647 (seven paratypes); body width 348 (holotype), 282–348 (seven paratypes). Females larger than males: 630–647 × 315–348 versus 547–597 × 282–298.

Integument – Body light brown to dark brown. Surface of body and all legs microporose (visible under high magnification, ×1000). Antiaxial side of femur II and paraxial side of femora III and IV striate.

Prodorsum (Figs 1a, 1c) – Rostrum rounded. Lamella about 1/2 length of prodorsum, strong. Prolamella absent. Sublamella about 1/3 length of lamella. Sublamellar porose area (16–20 × 10–12) oval, located ventral to sublamella. Tutorium of medium size, about 1/2 length of lamella, ridge-like, distinctly not reaching rostral margin. Prodorsal lateral ridge distinct. Rostral (49–57), lamellar (65–77) and interlamellar (86–98) setae setiform, sparsely barbed; *le* located on lamellar end. Bothridial seta (94–98) long, narrow proximally, gradually dilating in distal half to narrow head, with short cilia bilaterally. Exobothridial seta (20–28) setiform, thin, slightly barbed. Sejugal porose area not observed.

Notogaster (Figs 1a, 1c) – Anterior notogastral margin slightly convex medially. Pteromorph triangular, rounded laterally, with slightly developed hinge. Ten pairs of notogastral setae (10–12) setiform, thin, smooth. Four pairs of sacculi present, *Sa* bipyramidal, *S1*–*S3* pyriform. Notogastral lyrifissure, opisthonotal gland opening, circumgastric scissure and circumgastric sigillar band distinct.



Figure 1 *Pilobatella mikoi* n. sp., adult: a – dorsal view (legs omitted); b – ventral view (legs omitted); c – lateral view (gnathosoma and legs omitted). Scale bar 50 μ m.

Gnathosoma (Figs 1b, 3c-e) – Subcapitulum size 131–139 × 77–86. Subcapitular setae (*a*, 20–24; *m*, 10–12; *h*, 24–28) setiform, sparsely barbed, *m* thinnest. Adoral seta (14–16) setiform, densely barbed. Palp (73–82) with typical formula. Postpalpal seta (4) spiniform, smooth. Chelicera (131–139) with two setiform, barbed setae (*cha*, 45–53; *chb*, 24–28).

Epimeral and lateral podosomal regions (Figs 1b, 1c) – Epimeral setal formula 3–1–3–3. All setae setiform, thin, roughened, *3c* (24–28) longer than *4c* (16–20), *1b*, *3b* (12–14) and others (10–12). Medial end of each apodeme 2 close to midline. Pedotectum II bifurcate apically in ventral view. Circumpedal carina long, directed to pedotectum II. Discidium triangular.

Anogenital region (Figs 1b, 1c) – Six pairs of genital (8–10) and three pairs of aggenital (8–12) setae setiform, thin, roughened. Two pairs of anal (22–24) and three pairs of adanal (*ad*₁, *ad*₂, 41–49; *ad*₃, 14–16) setae setiform, erect, barbed. Adanal setae *ad*₁ and *ad*₂ inserted on arcuate ridge. Adanal lyrifissure distinct. Marginal porose area complete, narrowly band-like. Preanal organ goblet-like.

Legs (Figs 2a, 2b, 3a, 3b) – Monodactylous. Claw of all tarsi strong, slightly barbed on dorsal side, with tubercle ventrobasally. Claw of tarsi I and II thicker than that of tarsi III and IV. Tibiae I and II with tubercle proximoventrally. Femur II with broadly rounded ledge distoventrally. Trochanter IV pointed distodorsally. Dorsoparaxial porose area on all femora and on trochanters III, IV, and proximoventral porose area on all tarsi and distoventral porose area on all tibiae well visible. Formulas of leg setation and solenidia: I (1–5–3–4–20) [1–2–2], II (1–5–3–4–15) [1–1–2], III (2–3–1–3–15) [1–1–0], IV (1–2–2–3–12) [0–1–0]; homology of setae and solenidia indicated in Table 1. Famulus of tarsus I short, erect, slightly dilated distally, inserted between solenidion ω_2 and seta *ft*". Solenidion ω_1 on tarsi I, ω_1 and ω_2 on tarsus II and σ on genu III bacilliform, other solenidia setiform. Seta *pl*" on tarsus I located dorsally on segment, posterior to seta *ft*". Seta *l*" on genu I inserted on tubercle.

Material examined — Holotype (female) and seven paratypes (three males and four females): Madagascar, Andasibe-Mantadia National Park, evergreen rain forest, 18°49'36"S, 48°26'52"E, 550 m a.s.l., Winkler apparatus extraction of sifted leaf litter, 28.I.2014 (sample MAG-290 collected by R. Ravebolun and L. Rabotenoson).

Type deposition — The holotype is deposited in the collection of the Senckenberg Institute, Görlitz, Germany. Seven paratypes are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia. Specimens are preserved in ethanol with a drop of glycerol.

Etymology — The species name is dedicated to our friend and colleague, the well-known acarologist Prof. Dr. Ladislav Miko (Slovakia, Bratislava), for his extensive contributions to our knowledge of oribatid mites.

Remarks — In having long interlamellar setae and adanal setae *ad*₁ and *ad*₂, *Pilobatella mikoi* n. sp. is morphologically most similar to *Pilobatella baloghi* Mahunka, 2003 from Kenya. It differs from the latter by having monodactylous legs (versus tridactylous legs) and a bothridial seta that is gradually expanded to a narrow head (versus setiform, without head).

Table 1 Leg setation and solenidia of adult *Pilobatella mikoi* n. sp. and *P. kovaci* n. sp..

Leg	Tr	Fe	Ge	Ti	Ta
I	<i>v</i> '	<i>d</i> , (<i>l</i>), <i>bv</i> ", <i>v</i> "	(<i>l</i>), <i>v</i> ', σ	(<i>l</i>), (<i>v</i>), ϕ_1 , ϕ_2	(<i>ft</i>), (<i>tc</i>), (<i>it</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>), <i>v</i> ', (<i>pl</i>), <i>l</i> ", ε , ω_1 , ω_2
II	<i>v</i> '	<i>d</i> , (<i>l</i>), <i>bv</i> ", <i>v</i> "	(<i>l</i>), <i>v</i> ', σ	(<i>l</i>), (<i>v</i>), ϕ	(<i>ft</i>), (<i>tc</i>), (<i>it</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>), ω_1 , ω_2
III	<i>v</i> ', <i>l</i> '	<i>d</i> , <i>l</i> ', <i>ev</i> '	<i>l</i> ', σ	<i>l</i> ', (<i>v</i>), ϕ	(<i>ft</i>), (<i>tc</i>), (<i>it</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>)
IV	<i>v</i> '	<i>d</i> , <i>ev</i> '	<i>d</i> , <i>l</i> '	<i>l</i> ', (<i>v</i>), ϕ	<i>ft</i> ", (<i>tc</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>)

Note: Roman letters refer to normal setae, Greek letters to solenidia (except ε = famulus). Single prime (') marks setae on anterior and double prime (") setae on posterior side of the given leg segment. Parentheses refer to a pair of setae.

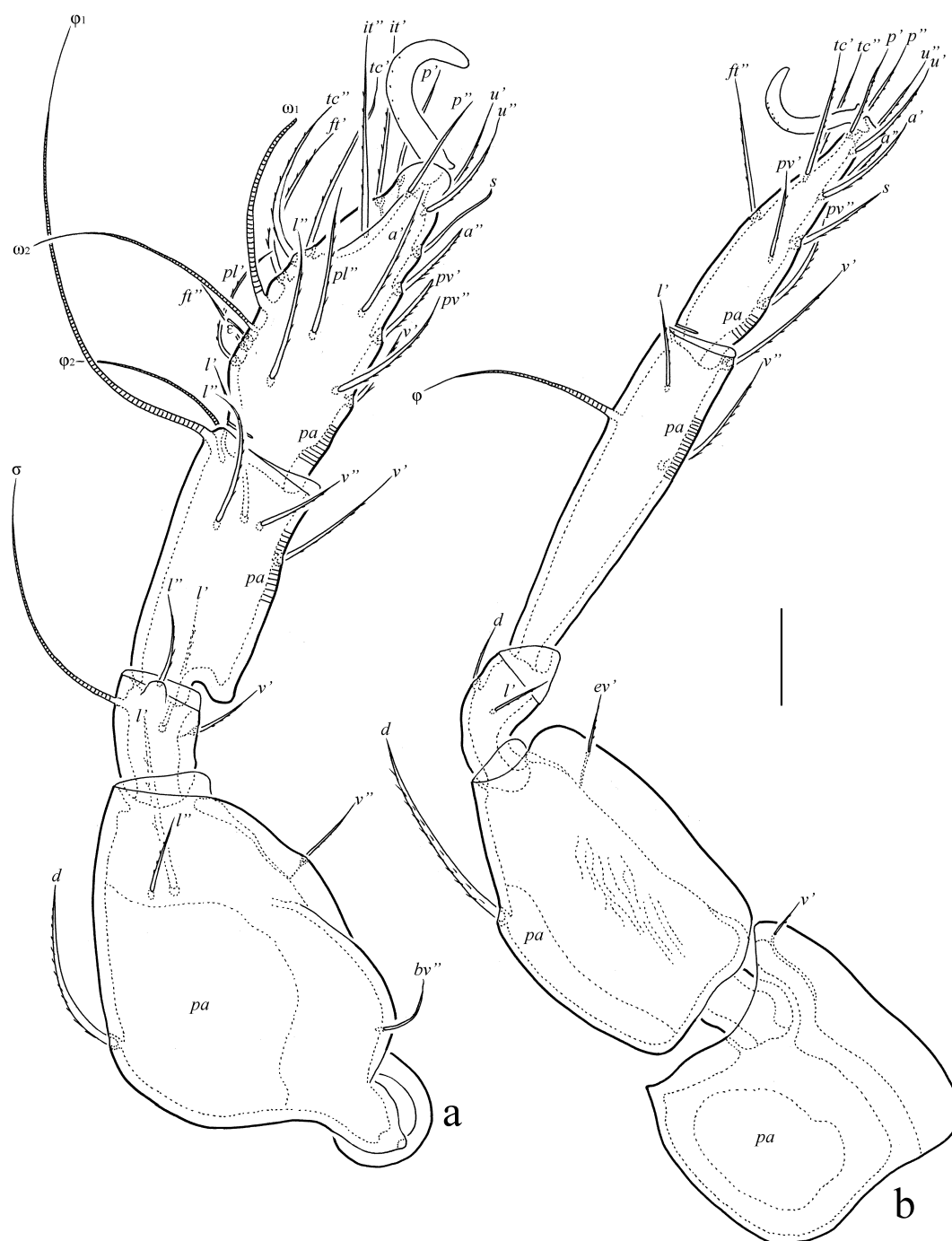


Figure 2 *Pilobatella mikoi* n. sp., adult: a – leg I, right, antiaxial view; b – leg IV, left, antiaxial view. Scale bar 20 μ m.

***Pilobatella kovaci* n. sp.**

Zoobank: [A9C8AE64-9D65-4F32-98CE-704D77A4E4D0](https://zoobank.org/A9C8AE64-9D65-4F32-98CE-704D77A4E4D0)

(Figure 4)

Diagnosis — Body size 531–581 $\times$ 249–332. Rostral, lamellar and interlamellar setae long, setiform, barbed, *ro* shortest, *in* longest. Bothridial seta long, gradually thickening distally, beginning at mid-length, ciliate. Tutorium long. All notogastral setae short, setiform, smooth.



Figure 3 *Pilobatella mikoi* n. sp., adult: a – leg II, without tarsus, right, antiaxial view; b – leg III, without tarsus, left, antiaxial view; c – subcapitulum, ventral view; d – chelicera, left, paraxial view; e – palp, left, antiaxial view. Scale bar 20 μ m (a-d), scale bar 10 μ m (e).

Epimeral, six pairs of genital and aggenital setae short, setiform, roughened. Medial end of apodeme 2 well removed from midline. Anal and adanal setae setiform, erect, densely barbed, ad_1 and ad_2 long. All legs monodactylous. Trochanter IV rounded anterodorsally.

Description — Measurements – Body length 564 (holotype), 531–581 (three paratypes); body width 282 (holotype), 249–332 (three paratypes). Females larger than males: 564–581 $\times$

282–332 versus 531–547 × 249–265.

Integument – Body light brown. Surface of body and all legs microporose (visible under high magnification, ×1000). Notogaster, anogenital region and anal plate lineolate, with short depressed, distinct lines. Epimeral region and genital plate microlineolate. Lateral part of body microgranulate. Antiaxial side of femora I, II and paraxial side of femora III and IV striate.

Prodorsum (Figs 4a, 4c) – Rostrum rounded. Lamella about 1/2 length of prodorsum, strong. Prolamella absent. Sublamella about 1/2 length of lamella. Sublamellar porose area (14–16 × 8–10) oval, located ventral to sublamella. Tutorium long, similar in length to lamella, ridge-like, almost reaching rostral margin. Prodorsal lateral ridge distinct. Rostral (53–61), lamellar (61–69) and interlamellar (73–82) setae setiform, slightly barbed; *le* located on lamellar end. Bothridial seta (86–90) gradually thickening distally, beginning at mid-length, shortly ciliate bilaterally. Exobothridial seta (28–41) setiform, thin, slightly barbed. Sejugal porose area not observed.

Notogaster (Figs 4a, 4c) – Anterior notogastral margin slightly convex medially. Pteromorph triangular, rounded laterally, with slightly developed hinge. Ten pairs of notogastral setae (6–8) setiform, thin, smooth. Four pairs of sacculi pyriform. Notogastral lyrifissure, opisthonotal gland opening, circumgastric scissure and circumgastric sigillar band distinct.

Gnathosoma – Generally, similar to those of *Pilobatella mikoi* n. sp. Subcapitulum size 131–135 × 77–86. Subcapitular setae (*a*, 16–20; *m*, 8–10; *h*, 20–24) setiform, roughened, *m* thinnest. Adoral seta (12) setiform, densely barbed. Palp (73–82) with typical formula. Postpalpal seta (4) spiniform, smooth. Chelicera (131–135) with two setiform, barbed setae (*cha*, 45–49; *chb*, 24–28).

Epimeral and lateral podosomal regions (Figs 4b, 4c) – Epimeral setal formula 3–1–3–3. All setae setiform, thin, roughened, 3c (28–41) longer than 4c (16–20) and others (10–14). Medial end of apodeme 2 well removed from midline. Pedotectum II bifurcate apically in ventral view. Circumpedal carina long, directed to pedotectum II. Discidium triangular.

Anogenital region (Figs 4b, 4c) – Six pairs of genital (6–8) and three pairs of aggenital (8–12) setae setiform, thin, roughened. Two pairs of anal (20–24) and three pairs of adanal (*ad*₁, *ad*₂, 41–49; *ad*₃, 12–16) setae setiform, erect, barbed. Adanal setae *ad*₁ inserted on arcuate ridge, *ad*₂ near this ridge. Adanal lyrifissure distinct. Marginal porose area complete, narrowly band-like. Preanal organ goblet-like.

Legs – Generally, similar to those of *Pilobatella mikoi* n. sp. Monodactylous. Claw of all tarsi strong, slightly barbed on dorsal side, with tubercle ventrobasally. Claw of tarsi I and II thicker than that of tarsi III and IV. Tibiae I and II with tubercle ventrobasally. Femur II with broadly rounded ledge distoventrally. Trochanter IV rounded distodorsally. Dorsoparaxial porose area on all femora and on trochanters III, IV, and proximoventral porose area on all tarsi and distoventral porose area on all tibiae well visible. Formulas of leg setation and solenidia: I (1–5–3–4–20) [1–2–2], II (1–5–3–4–15) [1–1–2], III (2–3–1–3–15) [1–1–0], IV (1–2–2–3–12) [0–1–0]; homology of setae and solenidia indicated in Table 1. Famulus of tarsus I short, erect, slightly dilated distally, inserted between solenidion ω_2 and seta *ft*'. Solenidion ω_1 on tarsus I, ω_1 and ω_2 on tarsus II and σ on genu III bacilliform, other solenidia setiform. Seta *pl'* on tarsus I located dorsally on segment, posterior to seta *ft*'. Seta *l''* on genu I inserted on tubercle.

Material examined — Holotype (female) and three paratypes (two males and one female): Madagascar, Andasibe-Mantadia National Park, evergreen rain forest, 18°49'36"S, 48°26'52"E, 550 m a.s.l., Winkler apparatus extraction of sifted leaf litter, 28.I.2014 (sample MAG-290 collected by R. Ravebolun and L. Rabotenoson).

Type deposition — The holotype is deposited in the collection of the Senckenberg Institute, Görlitz, Germany. Three paratypes are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia. Specimens are preserved in ethanol with a drop of glycerol.

Etymology — The species name is dedicated to our friend and colleague, the well-known soil ecologist Prof. Dr. Ľubomír Kováč (Slovakia, Košice), for his extensive contribution

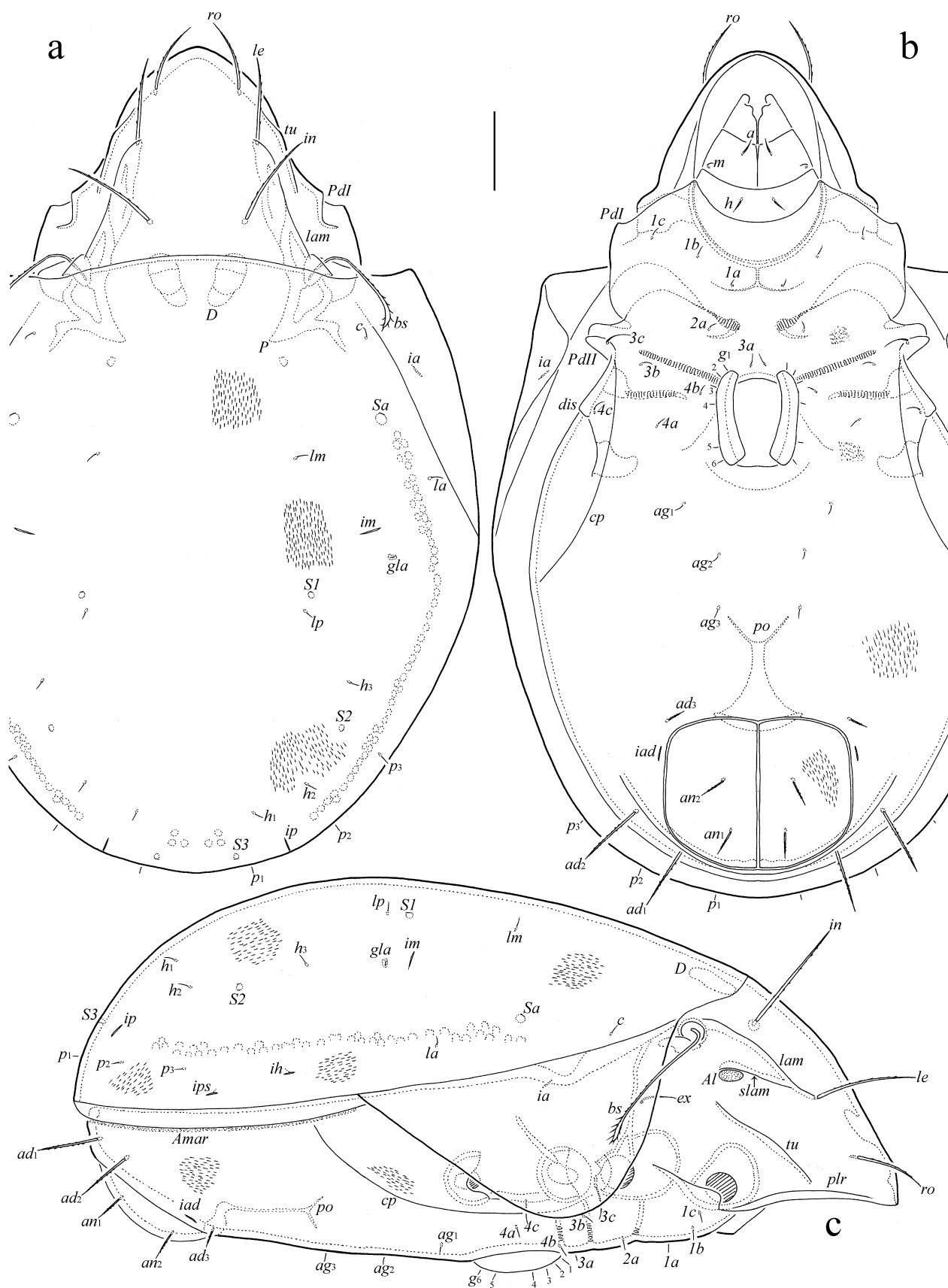


Figure 4 *Pilobatella kovaci* n. sp., adult: a – dorsal view (legs omitted); b – ventral view (legs omitted); c – lateral view (gnathosoma and legs omitted). Scale bar 50 μ m.

to our knowledge of taxonomy and ecology of soil and troglophilous species of springtails (Collembola) and other groups of cave mesofauna.

Remarks — In having monodactylous legs, long interlamellar setae and adanal setae ad_1 and ad_2 , *Pilobatella kovaci* n. sp. is morphologically most similar to *P. mikoi* n. sp. from Madagascar, but differs from the latter by the presence of its lineolate notogaster and anogenital region (versus lineolate markings absent), long tutoria (versus tutoria of medium length), rounded trochanters anterodorsally (versus pointed) and clearly distanced medial ends of apodemes 2 (versus nearly touching at midline).

Key to known species of *Pilobatella*

1. Interlamellar setae long (not shorter than lamellae) (2)
— Interlamellar setae of medium length or short (clearly shorter than lamellae) (5)
2. Adanal setae ad_1 and ad_2 short (distinctly shorter than width of one anal plate); notogastral sacculi *Sa* distinctly elongate; body size: 531–614 × 249–298
..... *Pilobatella dhatiensis* Ermilov, 2019. Distribution: Ethiopia.
— Adanal setae ad_1 and ad_2 long (not shorter than width of one anal plate); notogastral sacculi *Sa* with form of single or double drop (3)
3. Leg tarsi heterotridactylous; body size: 520–556 × 277–297
..... *Pilobatella baloghi* Mahunka, 2003. Distribution: Kenya.
— Leg tarsi monodactylous (4)
4. Notogaster and anogenital region lineolate; tutoria long (similar to length of lamellae), leg trochanters IV rounded anterodorsally; body size: 531–581 × 249–332
..... *Pilobatella kovaci* n. sp. Distribution: Madagascar.
— Notogaster and anogenital region not lineolate; tutoria of medium size (clearly shorter than lamellae), leg trochanters IV pointed anterodorsally; body size: 547–647 × 282–348
..... *Pilobatella mikoi* n. sp. Distribution: Madagascar.
5. Lamellar setae inserted on prodorsal surface between ends of lamellae and removed from them (6)
— Lamellar setae inserted on ends of lamellae or on prodorsal surface very close to them .. (7)
6. Notogaster and anogenital region distinctly foveolate; body size: 348–407 × 188–212
..... *Pilobatella schauenbergi* Mahunka, 1977(a). Distribution: Oriental region.
— Notogaster and anogenital region not distinctly foveolate; body size: 432–472 × 236–240 ..
..... *Pilobatella berlesei* Bhattacharya and Banerjee, 1980. Distribution: India.
7. One or two transverse carinae present close to ends of lamellae; ends of sejugal apodemes fused medially, located anterior to genital aperture; body size: 297–332 × 123–157
..... *Pilobatella xena* Mahunka, 1977(b). Distribution: Ethiopian region.
— Transverse prodorsal carinae absent; ends of sejugal apodemes separated medially, directed to genital aperture (8)
8. Five pairs of genital setae; epimere 3 with one pair of semi-oval ridges; median epimeral region broad, clearly bordered; body size: 295–373 × 121–183
..... *Pilobatella monstrosa* Mahunka, 1986. Distribution: Kenya.
— Six pairs of genital setae; epimere 3 without semi-oval ridges; median epimeral region not bordered (9)
9. Notogaster and anogenital region foveolate; lamellar and interlamellar setae of medium length (longer than diameter of bothridia); body size: 382–407 × 190–200

.... *Pilobatella punctulata* Balogh and Mahunka, 1967. Distribution: Ethiopian region, India. — Notogaster and anogenital region not foveolate; lamellar and interlamellar setae short (not longer than diameter of bothridia); body size: 330 × 198 *Pilobatella brevipila* Mahunka, 2011. Distribution: Madagascar.

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