First record of the genus Paraxylobates from Peru, with description of a new species

(Acar, Oribatida, Haplozetidae)

Sergey G. Ermilov & Stefan Friedrich


The oribatid mite genus Paraxylobates (Oribatida, Haplozetidae) is recorded in Peru for the first time. A revised generic diagnosis is proposed. A new species is described from upper soil and leaf litter in a primary evergreen lowland rainforest. Paraxylobates burii Ermilov spec. nov. differs from the single known species, P. imitans Balogh & Mahunka, 1969 by the short interlamellar and adanal setae and the presence of one pair of notogastral setae.

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Introduction

The oribatid mite genus Paraxylobates (Acar, Oribatida, Haplozetidae) was proposed by Balogh & Mahunka (1969) with Paraxylobates imitans Balogh & Mahunka, 1969 as type species. At present, this genus comprises only one species, which is distributed in the Neotropical region and India (e.g. Balogh & Mahunka 1969, Sanyal & Bhattacharyya 2004, de Moraes et al. 2011). Also, the unidentified species of Paraxylobates are recorded from Brazil and India (Sanyal 2010, de Moraes et al. 2011).

During taxonomic survey of the new material from Peru (Ermilov & Friedrich 2017), we found one new species of Paraxylobates. It is the first record of this genus in the Peruvian fauna. The main goal of this paper is to revise generic diagnosis and to describe and illustrate a new species.

Material and methods

Material examined. Holotype (female) and six paratypes (three females and three males) were collected from: South America, Amazonian Peru, 09°37' S, 74°56' W, Huánuco Department, Puerto Inca Province, Yuyapichis District, Área de Conservación Privada, Panguana (biological field station), near Rio Yuyapichis (river), 230 m a.s.l., upper soil and leaf litter in a primary evergreen lowland rainforest, Winkler extraction, 1.V.2015–21.V.2015 (collected by S. Friedrich & F. Wachtel).

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 ventral plate. Notogastral width refers to the maximum width behind pteromorphs in dorsal aspect. 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. Morphological terminology used in this paper follows that of F. Grandjean: see Travé & Vachon (1975) for references, Norton (1977) for leg setal nomenclature, and Norton & Behan-Pelletier (2009), for overview. Drawings were made with a camera lucida using a Leica transmission light microscope “Leica DM 2500”.

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Systematics

Genus *Paraxylobates* Balogh & Mahunka, 1969

Type species: *Paraxylobates imitans* Balogh & Mahunka, 1969, p. 20.


Juveniles. Unknown.
**Paraxylobates burii** Ermilov spec. nov.

**Diagnosis.** Body size: 547–630 × 332–415. Latero-distal teeth of lamellae well-developed. Prolamellae complete. Rostral and lamellar setae thickened, barbed. Interlamellar setae thin, slightly barbed. Bothridial setae clavate, rarely fusiform, barbed. Notogaster with one pair of minute setae (p₁) and nine pairs of setal alveoli. Subcapitular setae h longer than a and m. Circumpedal carinae reaching the anterior border of ventral plate. Epimeral and anogenital setae short, setiform, slightly barbed. Leg tarsi I with 19 setae (l" absent).

**Description**


Integument. Body colour brown. Surface densely microporose (visible under high magnification), lateral side of body distinctly microgranulate.

Prodorsum (Figs 1, 2, 4). Rostrum with small, semi-oval protruding (visible in dorso-frontal view). Lamellae (lam) longer than half of prodorsum, their latero-distal teeth (t) well-developed. Prolamellae (plam) complete, lineate, curving backwards distally and fused with lateral prodorsal ridges (prl).
Sublamellae (slam) thin, as long as half of lamellae. Sublamellar porose areas (Al) oval (20 × 12). Tutoria (tu) ridge-like. Distinct ridges (r) located ventral and parallel to tutoria. Rostral (ro, 65–69) and lamellar (le, 90–98) setae thickened, barbed. Interlamellar (in, 20–24) and exobothridial (ex, 12–16) setae thin, slightly barbed. Bothridial setae (bs, 73–82) clavate, rarely fusiform, with longer stalks and shorter, barbed heads. Sejugal porose areas (Ad) elongate oval (16–20 × 4–8).

Notogaster (Figs 1–3, 5). Anterior notogastral margin convex medially. Dorsophragmata (D) slightly elongated longitudinally. One pair of notogastral setae present (p, 8), other setae represented by their alveoli. Four pairs of sacculi (Sa, S1, S2, S3) with small openings and channels, mutual distance between S1–S1 longer than that of S2–S2. Setae lp inserted close and medially to S1. Lyrifissures (ia, im, ip, ih, ips) and opisthontotal gland openings (gla) clearly visible.

two barbed setae, cha (41–45) longer than chb (24–28). Trágárdh’s organ (Tg) of chelicerae elongate triangular.

Epimeral and podosomal regions (Figs 2–4, 9). Pedotecta I (Pd I) and II (Pd II) represented by small laminae, Pd II slightly bifurcate distally in ventral view. Discidia (dis) triangular. Circumpedal carinae (cp) very long, reaching anterior border of ventral plate. Epimeral setae setiform, 3c (32–36) longer than other setae (20–24), 3b and 3c thickest. Ovipositor elongated (220 × 49), blades (106) shorter than length of distal section (beyond middle fold; 114). Each blade with four smooth setae; ψ₁ = τ₁ (49–53) setiform. Preanal organ (p.a.) distinct. Adanal lyrifissures (iad) distinct. Marginoventral porose area (Amur) represented by numerous oval and elongate parts.

Legs (Figs 10–13). Median claw thicker than laterals, all serrate on dorsal side, lateral claws each with one small tooth ventrodistally. All femora rounded ventroanteriorly. Dorso-paraxial porose areas (p.a.) on femora I–IV and trochanters III, IV and ventral porose areas in basal parts of tarsi and distal parts of tibiae well visible. Formulas of leg setation and solenidia: I (1–5–3–4–19) [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. Solenidia ω₁ on tarsi I, ω₂ and ω₃ on tarsi II and σ on genua III thickened, blunt-ended, other solenidia setiform. Famuli minute, slightly swollen distally, inserted posterior to ω₂.

**Type deposition.** The holotype is deposited in the collection of the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru; one paratype is deposited in the collection of the Bavarian State Collection of Zoology, Munich, Germany; one paratype is deposited in the collection of the Senckenberg Institute, Görlitz, Germany; four paratypes are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia.

**Etymology.** The specific name is given in honour of Prof. Dr. Ernst-Gerhard Burmeister (called “Buri” by all colleagues and friends), former Vice Director of the Bavarian State Collection of Zoology, for his invaluable contributions to the collecting of soil arthropods in Panguana since decades.

**Remarks.** Paraxylobates burii Ermilov spec. nov. differs from the type species, P. imitans Balogh & Mahunka, 1969, by the interlamellar and adanal setae shorter than lamellar and anal setae, respectively (vs. longer in P. imitans), and the presence of one pair of notogastral setae, p₁ (vs. all notogastral setae developed).

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**References**


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**Table 1.** Leg setation and solenidia of adult Paraxylobates burii Ermilov spec. nov. [Roman letters refer to normal setae, Greek letters refer to solenidia (except ε = famulus). Single prime (′) marks setae on the anterior and double prime (″) setae on the posterior side of a given leg segment. Parentheses refer to a pair of setae].

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