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NEW FAUNISTIC AND TAXONOMIC DATA ON ORIBATID MITES (ACARI: ORIBATIDA) OF MEXICO

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This study is based on oribatid mite materials collected from leaf litter in secondary semi-evergreen tropical forests in Mexico; 85 species from 64 genera and 37 families are found; of these, 15 species are recorded for the first time in Mexico, and three species are recorded for the first time in the Neotropical region. A new species of the genus *Mucrobates* (Scheloribatidae) – *Mucrobates solidarensis* sp. n. – is described. An identification key to the known representatives of *Mucrobates* is presented.

Key words: mite fauna, new species, record; taxonomy, morphology, *Mucrobates*, identification key, Neotropical region.

INTRODUCTION

The oribatid mite (Acari: Oribatida) fauna of Mexico are insufficiently studied (Palacios-Vargas & Iglesias 2004, Vázquez-González *et al*. 2016), however, in recent years the taxonomic mite composition has been actively supplemented by Ojeda *et al*. (2020), Subías and Shtanchaeva (2021), Villagomez *et al*. (2021), Ermilov (2023), and Ermilov and Kontschán (2023).

The primary goal of our paper is to present a list of the identified taxa including new records from four forest localities in Mexico; the secondary goal is to describe a new species belonging to the genus *Mucrobates* Balogh et Mahunka, 1979 (family Scheloribatidae). Also, an identification key to the known representatives of *Mucrobates* is presented.

The oribatid mite genus *Mucrobates* was proposed by Balogh and Mahunka (1979), with *Mucrobates fissuratus* Balogh et Mahunka, 1979 from Cuba as type species. Ermilov and Kalúz (2012) described *Mucrobates microsetosus* Ermilov et Kalúz, 2012 from Ecuador. However, Ermilov and Kontschán (2021) reconsidered the systematic placement of this species and included it in *Scheloribates* (*Hemileius*) Berlese, 1916. Ermilov and Kontschán (2021) described *Mucrobates cayoaguaensis* Ermilov et Kontschán, 2021 from Panama and revised the genus *Mucrobates*. Thus, the genus comprises only two species, which are distributed in the Neotropical region.

Presently, one species of *Mucrobates* has been registered in Mexico – *M. fissuratus* (Ermilov & Kontschán 2023).

MATERIAL AND METHODS

Material. Our work is based on material from the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia (data and collector unknown; collection of the Tyumen State University Museum of Zoology, Tyumen, Russia; Gashev *et al*. 2005). Samples were collected from four localities in Mexico, Quintana Roo, Municipio de Solidaridad, vicinities of Playa del Carmen, leaf litter under trees and bushes in secondary semi-evergreen tropical forest: (0) 20°33′N, 87°13′W; (1) 20°41′N, 87°02′W, in large karst pit; (2) 20°41′N, 87°03′W, in small karst pit; (3) 20°40′N, 87°03′W, near cave.

Observation and documentation. For measurement and illustration, specimens were mounted in lactic acid on temporary cavity slides. All measurements are in micrometers. Body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the notogaster; other structures were oriented to avoid parallax errors. Notogastral width refers to the maximum width in dorsal aspect. Setal lengths were measured perpendicular to their long axes, accounting for curvature. 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 DM 2500 light microscope.

Terminology. Morphological terminology used in this paper mostly follows that of papers on *Mucrobates* (Ermilov & Kontschán 2021); also, see Norton (1977) for leg setal nomenclature and Norton and Behan–Pelletier (2009) for overview.

Abbreviations – The following morphological abbreviations are used: *Prodorsum*: *lam* = lamella; *plam* = prolamella; *tlam* = translamella; *Al* = sublamellar porose area; *kf* = keel-shaped ridge; *ro*, *le*, *in*, *bs*, *ex* = rostral, lamellar, interlamellar, bothridial, and exobothridial setae, respectively; *D* = dorsophragma; *P* = pleurophragma. *Notogaster*: *c*, *la*, *lm*, *lp*, *h*, *p* = notogastral setae; *Sa*, *S1*, *S2*, *S3* = sacculi; *ia*, *im*, *ip*, *ih*, *ips* = lyrifissures; *gla* = opisthonotal gland opening. *Gnathosoma*: *a*, *m*, *h* = subcapitular setae; *or* = adoral seta; *d*, *l*, *cm*, *acm*, *ul*, *su*, *lt*, *vt*, *sup*, *inf* = palp setae; ω = palp solenidion; *cha*, *chb* = cheliceral setae; *Tg* = Trägårdh's organ. *Epimeral and lateral podosomal regions*: *car* = carina; *1a*, *1b*, *1c*, *2a*, *3a*, *3b*, *3c*, *4a*, *4b*, *4c* = epimeral setae; *z* = aperture of supracoxal gland; *PdI*, *PdII* = pedotecta I, II, respectively; *dis* = discidium. *Anogenital region*: *g*, *ag*, *an*, *ad* = genital, aggenital, anal, and adanal setae, respectively; *iad* = adanal lyrifissure; *Amar* = marginal porose area; *po* = preanal organ. *Legs*: *Tr*, *Fe*, *Ge*, *Ti*, *Ta* = trochanter, femur, genu, tibia, and tarsus, respectively; *tip* = tibial process; *fet* = femoral tooth; *pa* = porose area; ω, σ, φ = solenidia; ε = famulus; *d*, *l*, *v*, *ev*, *bv*, *ft*, *tc*, *it*, *p*, *u*, *a*, *s*, *pv*, *pl* = leg setae.

List of identified oribatid mite taxa

The data on Scheloribatidae and Galumnidae from the Locality 0 are excluded because they were presented earlier in Ermilov (2023) and Ermilov and Kontschán (2023), respectively. Distribution: mostly from Subías (2022, online version 2023). Ptyctimous mites: not included. All examined specimens (except the holotype) are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia. References to the original descriptions of species are not included in the *References* section.

Ctenacaridae

Ctenacarus araneola (Grandjean, 1932): 2 (27 ex.). Distribution: Tropical, Subtropical.

Brachychthoniidae

Sellnickochthonius sp.: 0 (1 ex.), 1 (1 ex.).

Cosmochthoniidae

Cosmochthonius lanatus (Michael, 1885): 2 (37 ex.). Distribution: Cosmopolitan.

Hypochthoniidae

Eohypochthonius crassisetiger Aoki, 1959: 0 (18 ex.), 2 (3 ex.), 3 (13 ex.). Distribution: southern Palaearctic, Australasian, Cuba. First record of the species in Mexico.

Sphaerochthoniidae

Sphaerochthonius splendidus (Berlese, 1904): 0 (19 ex.). Distribution: Tropical, Subtropical.

Lohmanniidae

Annectacarus mucronatus Grandjean, 1950: 1 (2 ex.), 3 (3 ex.). Distribution: Neotropical.
Lohmannia jornoti Mahunka, 1985: 1 (6 ex.), 3 (2 ex.). Distribution: Neotropical.
Torpacarus omittens Grandjean, 1950: 3 (5 ex.). Distribution: Neotropical, Afrotropical.

Epilohmanniidae

Epilohmannia minuta Berlese, 1920: 0 (7 ex.), 1 (2 ex.), 2 (1 ex.), 3 (1 ex.). Distribution: Afrotropical, Oriental, Neotropical, central and eastern U.S.A.
Epilohmannia mexicana Ermilov, 2023: 1 (2 ex.). Distribution: Mexico.

Trhypochthoniidae

Allonothrus tuxtlasensis Palacios-Vargas et Iglesias, 1997: 3 (1 ex.). Distribution: northern Neotropical.
Archegozetes longisetosus Aoki, 1965: 3 (2 ex.). Distribution: Oriental, Neotropical.

Malaconothridae

Tyrphonothrus hauseri (Mahunka, 1984): 0 (2 ex.), 3 (1 ex.). Distribution: Neotropical and Afrotropical.

Nothridae

Nothrus becki Balogh et Mahunka, 1981: 2 (6 ex.). Distribution: Neotropical.
Nothrus gracilis Hammer, 1961: 0 (7 ex.). Distribution: Neotropical, Oriental.

Nanhermanniidae

Cyrthermannia simplex Mahunka, 1985: 3 (2 ex.). Distribution: Neotropical.

Hermanniellidae

Baloghacarus hauseri Mahunka, 1983: 0 (1 ex.). Distribution: Neotropical.
Sacculobates horologiorum Grandjean, 1962: 0 (34 ex.), 1 (1 ex.), 2 (2 ex.), 3 (4 ex.). Distribution: Neotropical.

Plasmobatidae

Orbiculobates bicornutus Ermilov, 2023: 0 (15 ex.), 1 (1 ex.). Distribution: Mexico.

Neoliodidae

Teleioliodes zikani (Sellnick, 1930): 0 (16 ex.), 1 (3 ex.). Distribution: Neotropical.

Plateremaeidae

Plateremaeus bifurcatus Ermilov, 2023: 2 (7 ex.). Distribution: Mexico.
Plateremaeus sedovi Ermilov et Yurtaev, 2023: 0 (15 ex.). Distribution: Mexico.

Gymnodamaeidae

Jacotella alexandrovskiyi Ermilov et Yurtaev, 2023: 0 (27 ex.). Distribution: Mexico.

Licnobelbidae

Makaroviella exigua Ermilov, 2023: 3 (1 ex.). Distribution: Cuba. First record of the species in Mexico.

Liacaridae

Xenillus lawrencei Balogh et Mahunka, 1968: 0 (15 ex.), 3 (1 ex.). Distribution: Neotropical.

Eremulidae

Eremulus avenifer Berlese, 1913: 2 (9 ex.). Distribution: southern Palaearctic, Oriental, Tahiti. First record of the species in the Neotropical region.
Eremulus translamellatus Balogh et Mahunka, 1969: 0 (9 ex.). Distribution: Neotropical.
Eremulus truncatus Hammer, 1971: 0 (18 ex.), 1 (17 ex.), 2 (3 ex.). Distribution: Oriental, Australian, northern Neotropical.

Damaeolidae

Fosseremus laciniatus (Berlese, 1905): 0 (10 ex.), 1 (3 ex.). Distribution: Cosmopolitan.

Eremobelbidae

Eremobelba piffli Mahunka, 1985: 0 (4 ex.), 1 (20 ex.), 2 (8 ex.). Distribution: Neotropical.

Oppiidae

Acroppia processigera (Balogh et Mahunka, 1967): 0 (20 ex.), 1 (39 ex.), 3 (5 ex.). Distribution: Tropical, Subtropical.
Aeroppia magnipilosa (Ewing, 1909): 1 (1 ex.), 2 (12 ex.). Distribution: U.S.A. First record of the species in Mexico.
Amboroppia (*Quintanoppia*) *defectofossulata* Ermilov et Kontschán, 2023: 0 (8 ex.), 1 (2 ex.), 2 (1 ex.). Distribution: Mexico.
Graptoppia (*Apograptoppia*) *rooensis* Ermilov et Kontschán, 2023: 0 (3 ex.), 1 (7 ex.). Distribution: Mexico.
Moritzoppia volcanensis (Hammer, 1962): 3 (1 ex.). Distribution: Chile. First record of the species in Mexico.
Multioppia insularis Mahunka, 1985: 3 (14 ex.). Distribution: Neotropical. First record of the species in Mexico.
Neoamerioppia mexicoensis Ermilov et Kontschán, 2023: 1 (29 ex.), 3 (1 ex.). Distribution: Mexico.
Oxyoppia (*Oxyoppiella*) *antillensis* Mahunka, 1998: 0 (10 ex.). Distribution: Neotropical. First record of the species in Mexico.
Ramusella (*Insculptoppia*) *quintanaensis* Ermilov et Kontschán, 2023: 0 (1 ex.), 1 (17 ex.). Distribution: Mexico.

Teratoppiidae

Teratoppia (*Teratoppiella*) *regalis* Mahunka, 1983: 0 (2 ex.), 1 (2 ex.), 2 (1 ex.). Distribution: Neotropical.

Machuellidae

Machuella ventrisetosa Hammer, 1961: 1 (3 ex.). Distribution: Tropical, Subtropical. First record of the species in Mexico.

Suctobelbidae

Parasuctobelba subcomplexa (Balogh et Mahunka, 1968): 1 (1 ex.). Distribution: Afrotropical, Neotropical.

Suctobelbella (*Flagrosuctobelba*) *peracuta* (Balogh et Mahunka, 1980): 0 (21 ex.), 1 (7 ex.). Distribution: Neotropical Oriental, Afrotropical, Hawaii.

Suctobelbella (*Flagrosuctobelba*) sp.: 0 (19 ex.), 1 (16 ex.).

Suctobelbella sp. A: 0 (2 ex.).

Suctobelbella sp. B: 0 (1 ex.).

Suctobelbella sp. C: 1 (1 ex.).

Suctobelbella sp. D: 1 (1 ex.).

Suctobelbila peruensis Woas, 1986: 1 (1 ex.). Distribution: Neotropical, Kenya. First record of the species in Mexico.

Suctobelbila sp.: 0 (3 ex.), 1 (6 ex.).

Dampfiellidae

Beckiella reticulofemorata Balogh et Mahunka, 1979: 0 (6 ex.), 2 (1 ex.). Distribution: Cuba. First record of the species in Mexico.

Carabodidae

Austrocarabodes sp.: 0 (1 ex.).

Carabodes (*Klapperiches*) *venezolanus* Subías et Arillo, 2004: 0 (39 ex.), 2 (8 ex.). Distribution: Neotropical.

Costacarabodes turrialbai Fernández, Theron, Leiva et Jordaan, 2018: 0 (19 ex.), 1 (2 ex.), 2 (1 ex.), 3 (1 ex.). Distribution: Neotropical.

Gymnobodes paraminimus Ermilov et Yurtaev, 2023: 0 (7 ex.), 1 (1 ex.), 3 (1 ex.). Distribution: Mexico.

Kalloia simpliseta Mahunka, 1985: 0 (14 ex.), 3 (2 ex.). Distribution: Neotropical, Côte d'Ivoire**.**

Yoshiobodes irmayi (Balogh et Mahunka, 1969): 0 (6 ex.). Distribution: Neotropical.

Charassobatidae

Charassobates cavernosus Grandjean, 1929: 0 (27 ex.), 3 (1 ex.). Distribution: Neotropical.

Microtegeidae

Microtegeus mexicanus Mahunka, 1983: 0 (8 ex.), 1 (6 ex.). Distribution: Neotropical.

Licneremaeidae

Licneremaeus discoidalis Willmann, 1930: 0 (31 ex.), 3 (1 ex.). Distribution: Neotropical.

Microzetidae

Acaroceras galapagoensis Schatz et Palacios-Vargas, 1999: 1 (2 ex.). Distribution: Galapagos. First record of the species in Mexico.

Berlesezetes ornatissimus (Berlese, 1913): 0 (13 ex.), 1 (7 ex.), 3 (1 ex.). Distribution: Tropical, Subtropical.

Oribatellidae

Cultrobates heterodactylus Willmann, 1930: 3 (1 ex.). Distribution: Neotropical.

Punctoribatidae

Lamellobates botari Balogh et Mahunka, 1977: 3 (38 ex.). Distribution: Neotropical.

Lamellobates molecula (Berlese, 1916): 0 (1 ex.), 1 (49 ex.), 2 (14 ex.), 3 (41 ex.). Distribution: Tropical, Subtropical.

Mochlozetidae

Unguizetes (*Knorozovia*) *ershovae* Ermilov et Yurtaev, 2023: 2 (6 ex.).

Scheloribatidae

Mucrobates solidarensis sp. n.: 1 (11 ex.).

Muliercula bilineata Mahunka, 1986: 2 (11 ex.). Distribution: Afrotropical**.** First record of the species in the Neotropical region.

Scheloribates milleri Jacot, 1936: 1 (4 ex.). Distribution: Eastern U.S.A., Lesser Antilles, Mexico.

Scheloribates (*Topobates*) *moskovchenkoi* Ermilov et Yurtaev, 2023: 1 (9 ex.), 2 (19 ex.), 3 (4 ex.). Distribution: Mexico.

Scheloribates (*Topobates*) *paramoskovchenkoi* Ermilov et Yurtaev, 2023: 1 (4 ex.), 2 (3 ex.). Distribution: Mexico.

Scheloribates (*Perscheloribates*) *curiosus* (Ermilov, 2016): 1 (2 ex.), 2 (12 ex.), 3 (1 ex.). Distribution: Antillas**.** First record of the species in Mexico.

Scheloribates (*Perscheloribates*) *mexicoensis* Ermilov et Kontschán, 2023: 1 (18 ex.), 2 (15 ex.). Distribution: Mexico.

Haplozetidae

Incabates nuda Hammer, 1961: 1 (2 ex.). Distribution: Neotropical, Oriental**.** First record of the species in Mexico.

Protoribates paracapucinus (Mahunka, 1988): 1 (18 ex.), 3 (4 ex.). Distribution: Tropical, Subtropical.

Protoribates paramadagascarensis Ermilov, 2016: 1 (4 ex.), 2 (1 ex.), 3 (1 ex.). Distribution: northern Neotropical. First record of the species in Mexico.

Rostrozetes ovulum (Berlese, 1908): 1 (20 ex.), 2 (4 ex.), 3 (2 ex.). Distribution: Tropical, Subtropical.

Setoxylobates palaciosvargasi Ermilov et Kontschán, 2023: 3 (9 ex.). Distribution: Mexico.

Galumnidae

Allogalumna antillensis (Mahunka, 1998): 1 (2 ex.). Distribution: Neotropical. First record of the species in Mexico.

Galumna divergens Mahunka, 1995: 1 (94 ex.). Distribution: Borneo, Iran. First record of the species in the Neotropical region.

Galumna flabellifera Hammer, 1958: 1 (14 ex.), 2 (22 ex.), 3 (7 ex.). Distribution: Tropical, Subtropical.

Galumna parazeucta Ermilov et Friedrich, 2016: 1 (1) ex. Distribution: Peru. First record of the species in Mexico.

Pergalumna rooensis Ermilov, 2023: 2 (1 ex.). Distribution: Mexico.
Pergalumna ekaterinae Páez, Villagómez et Palacios-Vargas, 2019: 1 (1 ex.). Distribution: Mexico.
Pergalumna silvatica Hammer, 1961: 1 (6 ex.), 2 (18 ex.), 3 (2 ex.). Distribution: Neotropical.

Thus, we found 85 species from 64 genera and 37 families; of these, 15 species are recorded for the first time for Mexico (*Eohypochthonius crassisetiger*, *Makaroviella exigua*, *Aeroppia magnipilosa*, *Moritzoppia volcanensis*, *Multioppia insularis*, *Oxyoppia* (*Oxyoppiella*) *antillensis*, *Machuella ventrisetosa*, *Suctobelbila peruensis*, *Beckiella reticulofemorata*, *Acaroceras galapagoensis*, *Scheloribates* (*Perscheloribates*) *curiosus*, *Incabates nuda*, *Protoribates paramadagascarensis*, *Allogalumna antillensis*, *Galumna parazeucta*), and three species are recorded for the first time in the Neotropical region (*Eremulus avenifer*, *Muliercula bilineata*, *Galumna divergens*). According to distribution of taxa (excluding a new species and unknown species), two species are Cosmopolitan/Semicosmopolitan; 16 species are recorded from two or more geographic regions; nine species are Tropical/Subtropical; 32 species are Neotropical; and 16 species are known only from Mexico.

TAXONOMY

Family Scheloribatidae
Genus *Mucrobates* Balogh et Mahunka, 1979

Mucrobates Balogh et Mahunka, 1979: 47.
Type species: *Mucrobates fissuratus* Balogh et Mahunka, 1979, by original designation.

Mucrobates solidarensis sp. n.
http://zoobank.org/F6BABBB6-5651-4DAB-A132-86036E2E735A
(Figs 1, 2)

Material examined – Holotype (female) and 10 paratypes (five males and five females): Mexico, 20°41′N, 87°02′W, Quintana Roo, Municipio de Solidaridad, vicinities of Playa del Carmen, leaf litter in large karst pit under trees and bushes in secondary semi-evergreen tropical forest.

Type deposition. – The holotype is deposited in the collection of the Senckenberg Museum of Natural History, Görlitz, Germany; 10 paratypes are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia. All specimens are preserved in 70% solution of ethanol with a drop of glycerol.

Etymology – The species name *solidarensis* refers to the place of origin, vicinities of Municipio de Solidaridad.

Diagnosis – Body length: 450–495. Prolamella directed to lateral side of prodorsum, lateral to insertion of rostral seta; translamella represented by two

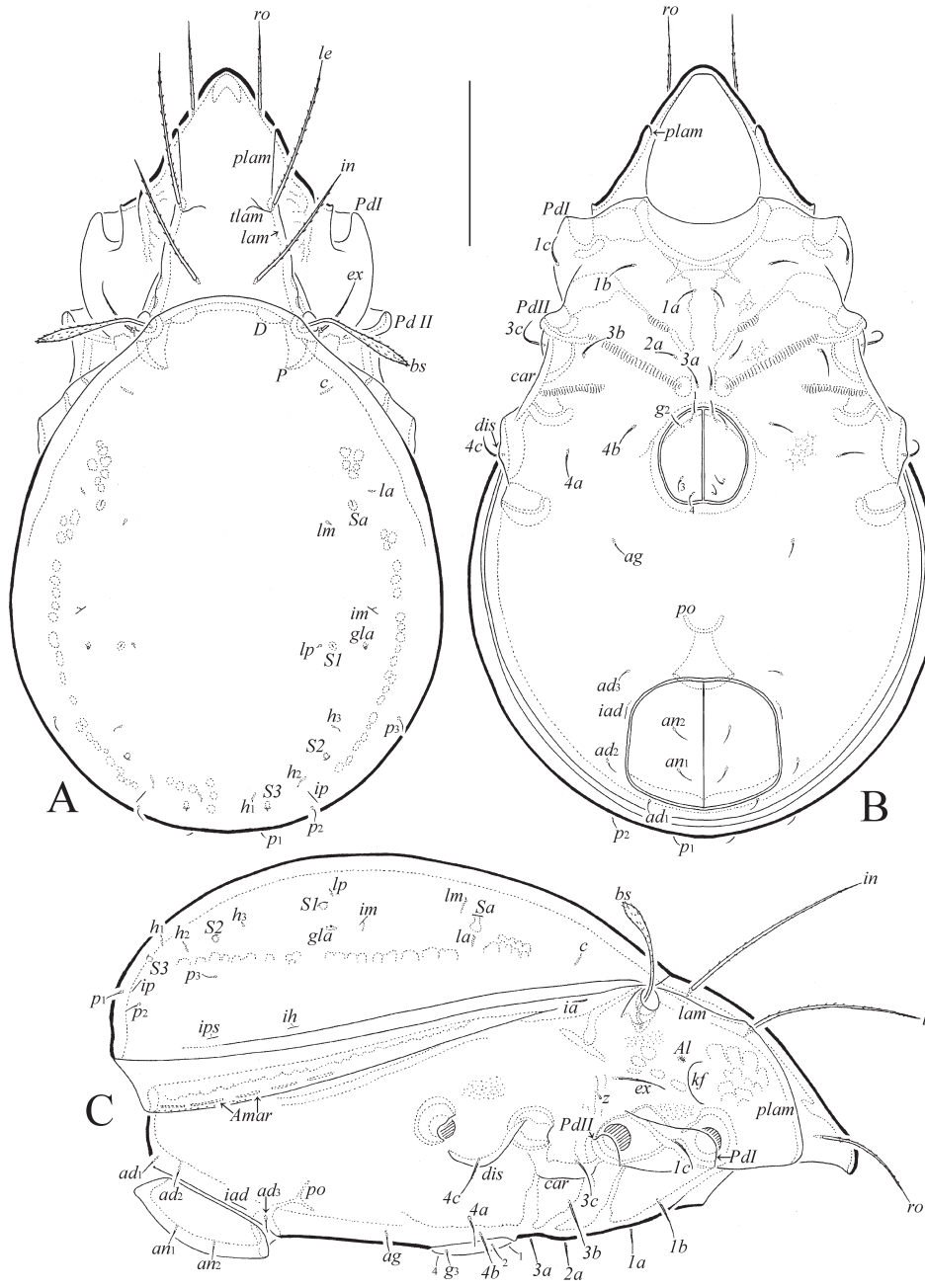

Fig. 1. *Mucrobates solidarensis* sp. n., adult (not shown: legs): A = dorsal view; B = ventral view; C = right lateral view. Scale bar: 100 μm

parts near lamellae; keel-shaped ridge present. Rostral, lamellar and interlamellar setae long, setiform, barbed; bothridial seta long, fusiform, barbed; exobothridial seta medium-sized, setiform, slightly barbed. Notogastral setae p_1–p_3 short, setiform, thin, roughened; other setae vestigial. Posterolateral and posterior parts of notogaster with small sparse tubercles. Carina at the lateral margin of the coxisternum simple. Pedotectum II rounded distally. Epimeral and anogenital setae short, setiform, roughened. Leg femora III and IV pointed distoventrally; some segments with thick, heavily barbed setae.

Description of adult – *Measurements*. Body length: 495 (holotype), 450–495 (paratypes); notogaster width: 285 (holotype), 270–307 (paratypes). No difference between males in females in body size.

Integument. Body color brown. Cuticle densely microporose (visible under high magnification in dissected specimens). Lateral side of body partially densely microgranulate. Posterolateral and posterior parts of notogaster with small sparse tubercles.

Prodorsum (Figs 1A, 1C). Rostrum rounded. Lamella slightly shorter than half of prodorsum; prolamella directed to lateral side of prodorsum, lateral to insertion of rostral seta; translamella represented by two distinct parts near lamellae, each part slightly convex, often bifurcate (sometimes asymmetrically); sublamella absent; sublamellar porose area (4–6) rounded; keel-shaped ridge slightly developed. Rostral (67–75), lamellar (101–109) and interlamellar (112–127) setae setiform, barbed; bothridial seta (77–86) with long, roughened stalk and fusiform (narrowed distally), barbed head; exobothridial seta (30–41) setiform, slightly barbed. Dorsosejugal porose area not observed. Dorsophragma semi-oval.

Notogaster (Figs 1A, 1C). Posterior notogastral setae (p_1–p_3: 9–11) setiform, thin, roughened; other setae vestigial. Four pairs of sacculi drop-like (in lateral view). Opisthonotal gland opening and all lyrifissures distinct.

Gnathosoma (Figs 2A–C). Subcapitulum size: 101–109 × 75–82; all subcapitular setae (*a*: 15–17; *m*: 13–15; *h*: 22–30) setiform, barbed; *m* thinnest; both adoral setae (*7*) setiform, bent distally, barbed. Palp length: 71–79; setation: 0–2–1–3–9(+ω); postpalpal seta (5–7) spiniform, roughened. Chelicera length: 111–116; setae (*cha*: 30–32; *chb*: 19–22) setiform, barbed.

Epimeral and lateral podosomal regions (Figs 1B, 1C). Epimeral setal formula: 3–1–3–3; all setae (*1b*, *1c*, *3b*, *3c*: 26–34; others: 17–19) setiform, thin, roughened. Humeral porose areas *Am* and *Ah* not observed. Carina at the lateral margin of the coxisternum simple. Pedotectum II rounded distally. Discidium slightly developed.

Anogenital region (Figs 1B, 1C). Genital, aggenital, anal, and adanal setae (9–11) setae setiform, thin, roughened. Adanal lyrifissure distinct. Marginal porose area represented by some band-like parts.

Legs (Figs 2D–G). Median claw distinctly thicker than lateral claws; all claws barbed on dorsal side; lateral claw with minute tubercle ventrodistally. Anterodorsal process on tibiae III and IV well developed; tibiae I and II with small proximoventral tubercle; trochanter of all legs with posterior collar-like tectum; femora III and IV pointed distoventrally. Porose area on tarsi I–IV, tibiae I–IV, femora I–IV, and trochanters III, IV well visible. Formulas of leg setation and solenidia: I (1–5–3–4–19) [1–2–2], II (1–5–2–4–15) [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 tarsi I short, erect, slightly dilated and blunted distally, inserted posterior to solenidion ω_2; solenidion ω_1 on tarsus I, ω_1 and ω_2 on tarsus II and σ on genu III thickened, rounded distally versus other solenidia setiform, pointed; some segments with thick, heavily barbed setae.

Remarks – *Mucrobates solidarensis* sp. n. differs from both known species of the genus (*M. cayoaguaensis*, *M. fissuratus*) by the presence of translamellar line (versus absent in *M. cayoaguaensis*, *M. fissuratus*) and rounded pedotectum II (versus absent in *M. cayoaguaensis*; bifurcate in *M. fissuratus*). The other

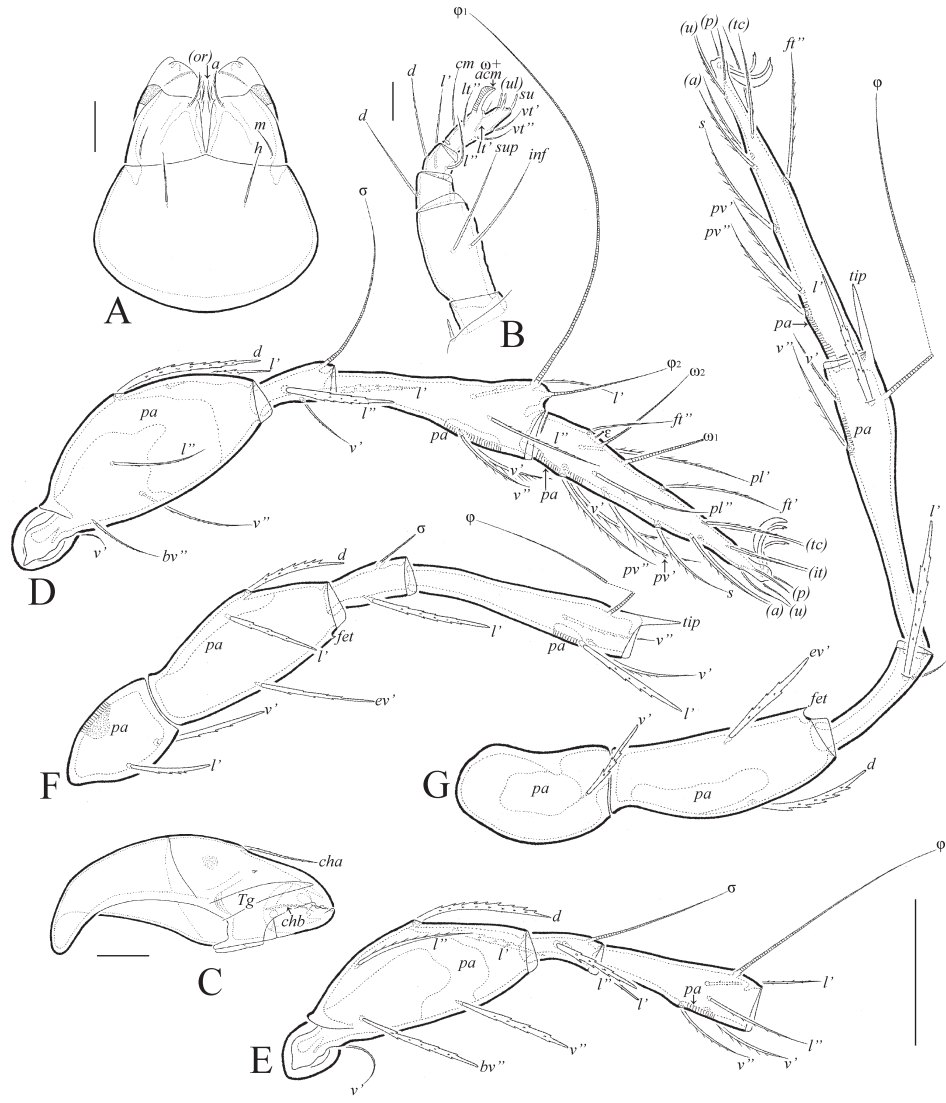

Fig. 2. *Mucrobates solidarensis* sp. n., adult: A = subcapitulum, ventral view; B = palp, right, antiaxial view; C= chelicera, left, paraxial view; D = leg I, right, antiaxial view; E = leg II (not shown: tarsus), right, antiaxial view; F = leg III (not shown: tarsus), left, antiaxial view; G = leg IV, right, antiaxial view. Scale bars: 10 μm (B), 20 μm (A, C), 50 μm (D–G)

Table 1. Leg setation and solenidia of adult *Mucrobates solidarensis* sp. n.

Leg	*Tr*	*Fe*	*Ge*	*Ti*	*Ta*
I	*v′*	*d, (l), bv″, v″*	*(l), v′,* σ	*(l), (v),* φ_1, φ_2	*(ft), (tc), (it), (p), (u), (a), s, (pv), v′, (pl),* ε, ω_1, ω_2
II	*v′*	*d, (l), bv″, v″*	*(l),* σ	*(l), (v),* φ	*(ft), (tc), (it), (p), (u), (a), s, (pv),* ω_1, ω_2
III	*v′, l′*	*d, l′, ev′*	*l′,* σ	*l′, (v),* φ	*(ft), (tc), (it), (p), (u), (a), s, (pv)*
IV	*v′*	*d, ev′*	*d, l′*	*l′, (v),* φ	*ft″, (tc), (p), (u), (a), s, (pv)*

Note: Roman letters refer to normal setae; Greek letters to solenidia (except ε = famulus); single quotation mark (′) designates seta on the anterior and double quotation mark (″) seta on the posterior side of a given leg segment; parentheses refer to a pair of setae.

distinctive characters of the new species compared with other members of *Mucrobates* can be found in the identification key below.

Key to the known species of *Mucrobates*

1. Pedotectum II absent; prolamella directed to insertion of rostral seta and almost reaching it; bothridial seta clavate, rounded distally; exobothridial seta minute; longitudinal carina at the lateral margin of the coxisternum triangular (highest in the middle); leg segments without thick setae; body length: 423–481 *M. cayoaguaensis* Ermilov et Kontschán, 2021.

   Distribution and habitat: Panama, in leaf litter (Ermilov & Kontschán 2021).

– Pedotectum II present; prolamella directed to lateral side of prodorsum, clearly lateral to insertion of rostral seta; bothridial seta fusiform, narrowed distally; exobothridial seta comparatively long; longitudinal carina at the lateral margin of the coxisternum simple (not highest in the middle); some leg segments with thick setae 2

2. Pedotectum II rounded distally; translamella present, represented by two distinct parts near lamellae; body medium-sized, length: 450–495 *M. solidarensis* sp. n.

   Distribution and habitat: Mexico, leaf litter in secondary semi-evergreen tropical forest (data of this paper).

– Pedotectum II strongly bifurcate distally; translamella absent; body large, length: 656–696 *M. fissuratus* Balogh et Mahunka, 1979.

   Distribution and habitat: Cuba, montane tropical karst forest (Balogh & Mahunka 1979); Mexico, leaf litter in secondary semi-evergreen tropical forest (Ermilov & Kontschán 2023).

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