

New species of oribatid mites (Acari: Oribatida) of the genera *Suctobelbella* (Suctobelbidae) and *Neoribates* (Parakalummidae) from Vietnam

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Abstract: Two new species of oribatid mites, *Suctobelbella* (*Ussuribata*) *phylliformis* sp. n. (Suctobelbidae) and *Neoribates* (*Neoribates*) *paratuberculatus* sp. n. (Parakalummidae), are described from ferralitic soil of polydominant forest in Dong Nai Culture and Nature Reserve, southern Vietnam. *Suctobelbella* (*Ussuribata*) *phylliformis* sp. n. is similar morphologically to *S. (U.) separata* Mahunka, 2001, however, the new species differs from the latter by the number of genital and adanal setae, the morphology of the knob-like tubercle and the number of lateral prodorsal teeth. *Neoribates* (*Neoribates*) *paratuberculatus* sp. n. is similar morphologically to *N. (N.) tuberculatus* Willmann, 1956, however, the new species differs from the latter by the smaller body size, density of tubercles on pteromorphs and the morphology of bothridial setae. The validity of *Suctobelbella* (*Ussuribata*) is discussed; an identification key to all species of this subgenus is given.

Key words: oribatid mites; *Suctobelbella* (*Ussuribata*); *Neoribates* (*Neoribates*); taxonomy; new species; validity; key; Vietnam

Introduction

During taxonomic identification of oribatid mites from polydominant forest of Dong Nai Culture and Nature Reserve, southern Vietnam, we found two new species; one belonging to the subgenus *Suctobelbella* (*Ussuribata*) Ryabinin, 1975, the other to *Neoribates* (*Neoribates*) Berlese, 1914. The main goal of this paper is to describe these species.

Suctobelbella (*Ussuribata*) comprises 25 species, which are distributed in the Pantropical and Subtropical regions (Subías 2004, updated 2014). The main generic characters of this subgenus are summarized by Hammer (1979; as for the genus *Discosuctobelba* Hammer, 1979), Balogh & Balogh (1992; as for the genus *Discosuctobelba*) and Mahunka (2001; as for the genus *Bruneibelba* Mahunka, 2001). Below, we present an identification key to all known species of *Suctobelbella* (*Ussuribata*).

Neoribates (*Neoribates*) comprises about 40 species, which have a cosmopolitan distribution except the Ethiopian and Antarctic regions (Subías 2004, updated 2014). The main generic characters of this subgenus are summarized by Ermilov & Kalúz (2013). The identification keys to some species of *Neoribates* (*Neoribates*) are given earlier (Balogh & Balogh 2002; Grishina & Vladimirova 2009; Ermilov & Kalúz 2013).

Material and methods

Holotype and four paratypes (all males) of *Suctobelbella* (*Ussuribata*) *phylliformis* sp. n. and holotype and paratype

(both males) of *Neoribates* (*Neoribates*) *paratuberculatus* sp. n. were collected in southern Vietnam, Dong Nai Province, Dong Nai Culture and Nature Reserve, 11°22' N, 107°03' E, polydominant forest, ferralitic soil, 20–21.XII.2013 (A.E. Anichkin & S.G. Ermilov).

Soil samples were collected by taking 10 soil-cores (diameter: 7.8 cm; depth: 10 cm). Samples were left in the metal cores to minimize disturbance during transport from the field to the laboratory. Mites were extracted into 75% ethanol using Berlese's funnels with electric lamps (40 W) for ten days.

Specimens were mounted in lactic acid on temporary cavity slides for measurement and illustration. The body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the ventral plate. The notogastral width refers to the maximum width in dorsal aspect. Lengths of body setae were measured in lateral aspect. All body measurements are presented in micrometers. Formulae for leg setation are given in parentheses according to the sequence trochanter–femur–genu–tibia–tarsus (femulus included). Formulae for leg solenidia are given in square brackets according to the sequence genu–tibia–tarsus. General terminology used in this paper follows that of Grandjean (summarized by Norton & Behan-Pelletier 2009).

Validity of *Suctobelbella* (*Ussuribata*) Ryabinin, 1975

Ryabinin (1975) described a new species, *Ussuribata clavata* Ryabinin, 1975. He compared it to the type species of *Ussuribata*, *U. sensillata*, referring to the paper of Golosova & Tarba (1974). However, Golosova & Tarba never described *Ussuribata sensillata*. This species is unknown to science (*nomen nudum*). Several

publications (Golosoova et al. 1983; Balogh & Balogh 1992; Krivolutsky 1995) showed that Golosoova & Krivolutsky described the genus *Ussuribata*, however, this information was erroneous, because there is no paper of Golosoova & Krivolutsky (1970) in the complete list of L.D. Golosoova's publications.

Later, Hammer (1979) described the genus *Discosuctobelba*, which is morphologically identical to *Ussuribata*. Ryabiniin & Pankov (2002) included *Ussuribata clavata* in the genus *Discosuctobelba*, automatically considering *Ussuribata* to be a junior synonym of *Discosuctobelba*. Despite lacking the description of the genus *Ussuribata*, Subías (2004) specified that Ryabiniin is the author of *Ussuribata*'s name, and *Ussuribata clavata* is the type species of this genus, and *Discosuctobelba* is a junior synonym of *Ussuribata*.

Thus, Ryabiniin (1975) used for the first time the generic name *Ussuribata* and described a first representative of this genus, *U. clavata*. According to ICZN (see Article 13.1), it is enough to have a description of a species for the generic diagnosis on monotypy; the requirement to specify a taxon as new for the science has appeared only after 1999 (see ICZN, Article 16.1). Hence, the genus *Ussuribata* Ryabiniin, 1975 is a valid genus with *U. clavata* Ryabiniin, 1975 as type species, and *Discosuctobelba* is a junior synonym of *Ussuribata*.

Key to known species of *Suctobelbella* (*Ussuribata*)¹

- 1 Notogastral setae simple, setiform, rarely all or some setae flagellate or slightly thickened 2
 - All or some notogastral setae phylliform (dilated distally or in medial part).....17
- 2 Head of bothridial setae smooth or indistinctly barbed3
 - Head of bothridial setae clearly barbed or ciliate . 11
- 3 Rostrum with medial indentation, U-shaped 4
- 4 Rostrum without medial indentation 5
- 5 Surface of notogaster punctate; notogaster without lenticulus; body length: 240.... *cornuta* (Hammer, 1962). Distribution: Neotropical region
 - Surface of notogaster not punctate; notogaster with lenticulus; body size: 208–215 × 112–116 *andrassyi* (Balogh & Mahunka, 1981). Distribution: Neotropical region
- 6 Posterior part of medial pair of notogastral tubercles forming a complicated network of ridges; body length: 165..... *complexa* (Hammer, 1958). Distribution: Neotropical and Oriental regions
 - Posterior part of medial pair of notogastral tubercles not forming a complicated network 6
- 7 Rostrum without or with two pairs of lateral teeth; bothridial setae long, reaching the anterior margin of tectopedial fields 7
 - Rostrum with three (or more) pairs of lateral teeth; bothridial setae shorter, not reaching the anterior

- margin of tectopedial fields 8
- 8 Rostrum without lateral teeth; lamellar knob with a pair of additional lateral tubercles; body size: 164–188 × 104–108 *tricornuta* Mahunka, 1989. Distribution: Nigeria
 - Rostrum with two pairs of lateral teeth; lamellar knob without additional lateral tubercles; body length: 240 *longiclava* (Hammer, 1958). Distribution: Neotropical region
 - Notogastral setae *lp*, *h*₂, *h*₃ longer than the other setae, curving distally; body length: 210 . *baliensis* Hammer, 1982. Distribution: Bali
 - Notogastral setae *lp*, *h*₂, *h*₃ similar in length to the other dorsal setae, simple 9
- 9 Rostrum with three pairs of lateral teeth; lateral anterior tooth tubercle-like; body length: 270 *bifoveolata* (Hammer, 1958). Distribution: Bolivia
 - Rostrum with five pairs of lateral teeth; lateral anterior tooth pointed 10
- 10 Interlamellar setae represented by alveoli; six pairs of genital setae present; body length: 255 *acutodentata* (Hammer, 1979). Distribution: Java
 - Interlamellar setae short, but well visible; five pairs of genital setae present; body size: 260–283 × 150–155 *tamurai* Chinone, 2003. Distribution: Japan
- 11 Centrodorsal notogastral setae short, *c* and *lm* not reaching the insertions of *lm* and *lp*, accordingly; all notogastral setae simple, setiform 12
 - Centrodorsal notogastral setae longer, *c* and *lm* reaching the insertions of *lm* and *lp*, accordingly; all or some notogastral thickened or flagellate 14
- 12 Notogastral setae (except *p*₁, *p*₂) longer than bothridial setae; rostrum with four pairs of lateral teeth; body size: 261 × 140 *clavata* (Ryabiniin, 1975). Distribution: eastern Russia
 - Notogastral setae shorter than bothridial setae; rostrum with three pairs of lateral teeth 13
- 13 Bothridial head heavily barbed unilaterally; body size: 230 × 123 *papuaana* (Balogh, 1968). Distribution: Nueva Guinea
 - Bothridial head barbed in distal part; body size: 250 *latodentata* (Hammer, 1979). Distribution: Java
- 14 Notogastral setae thickened, unilaterally barbed; body length: 220 *bivittata* (Hammer, 1979). Distribution: Java and Vietnam
 - Notogastral setae flexible, with flagellate tip, smooth 15
- 15 Prodorsum with conspicuous reticulation; notogastral setae *lp* longest; body length: 230... *reticulata* (Hammer, 1982). Distribution: Bali and Japan
 - Prodorsum without reticulation; notogastral setae *lp* not longest 16
- 16 Interlamellar setae present; body size: 246–265 × 135–148 *spirochaeta* Mahunka, 1983. Distribution: Ethiopian region and Japan
 - Interlamellar setae represented by alveoli; body length: 250 *magnodentata* Hammer, 1982. Distribution: Bali
- 17 Head of bothridial setae smooth or indistinctly

¹ Distributions of species after Subías (2004, updated 2014).

- barbed. 18
- Head of bothridial setae clearly barbed or ciliate. 21
- 18 Anterior part of notogaster with medial ridge bifurcate posteriorly; notogastral setae *la*, *lm*, *lp*, *h₂* and *h₃* dilated distally; body size: 200 × 114. *medialis* (Balogh & Mahunka, 1974). Distribution: Oriental region
- Anterior part of notogaster without medial ridge; notogastral setae *la*, *lm*, *lp*, *h₂* and *h₃* dilated in medial part. 19
- 19 Dorsal notogastral setae ciliate; body size: 210 × 113. *multituberculata* (Balogh & Mahunka, 1967). Distribution: Oriental region
- Dorsal notogastral setae smooth or slightly serrate. 20
- 20 Prodorsal knob divided in two parts; four pairs of genital and three pairs of adanal setae present; body size: 198–209 × 106–117. *separata* (Mahunka, 2001). Distribution: Borneo
- Prodorsal knob pentagonal; six pairs of genital and two pairs of adanal setae present; body size: 250–266 × 131–143. *phylliformis* sp. n. Distribution: Vietnam
- 21 Lenticulus present. 22
- Lenticulus absent. 24
- 22 Notogastral setae *c* simple, *la*, *lm*, *lp*, *h₂* and *h₃* slightly dilated distally, heavily barbed; lamellar knob not divided; body size: 263 × 145. *womersleyi* (Balogh, 1968). Distribution: Nueva Guinea and Philippines
- Notogastral setae *c*, *la*, *lm*, *lp*, *h₂* and *h₃* dilated in medial part, smooth or slightly serrate; lamellar knob divided in two parts. 23
- 23 Head of bothridial setae ciliate; four pairs of genital setae present; body size: 173–184 × 96–106. *tuberosa* (Mahunka, 2001). Distribution: Borneo
- Head of bothridial setae barbed; five pairs of genital setae present; body size: 193–195 × 111–113. *foliosa* Mahunka, 1988. Distribution: Borneo
- 24 Notogastral setae *la*, *lm* and *lp* ensiform; six pairs of genital setae present; body length: 250. *sexsetosa* (Hammer, 1979). Distribution: Oriental region
- Notogastral setae *la*, *lm* and *lp* dilated distally; five pairs of genital setae present. 25
- 25 Notogastral setae *c* simple; rostrum with three to four pairs of lateral teeth; body length: 190–210. *variosetosa* (Hammer, 1961). Distribution: Pantropical region and Japan
- Notogastral setae *c* dilated distally; rostrum with two pairs of lateral teeth; body size: 172–174 × 106–116. *sinica* Wen, 1997. Distribution: southern China

Descriptions of new species

Suctobelbella (Ussuribata) phylliformis sp. n. (Figs 1A–F)

Diagnosis. Body size 250–266 × 131–143. Rostrum bidentate. Lateral sides of prodorsum with with one

strong tooth. Knob-like tubercle pentagonal. Lamellar setae longer than rostral setae. Bothridial setae smooth. Lenticulus present. Seven pairs of notogastral setae phylliform, two posterior pairs setiform. Anogenital setae short, thin, smooth. Six pairs of genital and two pairs of adanal setae present.

Description. *Measurements.* Body length: 258 (holotype: male), 250–266 (four paratypes: all males); notogaster width: 139 (holotype), 131–143 (four paratypes).

Integument. Body color light brown. Body surface smooth, only anterior part of prodorsum and regions near to tectopedial fields with tubercles (diameter up to 6). Lateral sides of prodorsum and notogaster partially covered by granular cerotegument (diameter less than 1).

Prodorsum. Rostrum with two teeth (*t₁*) and rectangular indentation between them (visible in dorso-anterior view). Lateral sides of prodorsum with one strong tooth (*t₂*), directed anteriorly. Tectopedial fields large, elongate oval. Knob-like tubercle pentagonal. Rostral setae (*ro*, 28–32) geniculate, ciliate unilaterally in medial part, inserted dorso-laterally. Lamellar setae (*le*, 45–49) setiform, smooth, inserted on knob-like tubercle. Interlamellar (*in*) and exobothridial (*ex*) setae (both 6) thin, smooth. Bothridial setae (*ss*, 49–53) clavate, with long stalk and oval, smooth head. One pair of interbothridial and one pair of postbothridial tubercles present.

Notogaster. Anterior margin straight. Two pairs of humeral tubercles well developed, rounded anteriorly, directed towards to the interbothridial and postbothridial tubercles. Lenticulus (*len*) distinct, weakly elongate longitudinally, oval (12–16 × 8–12). Nine pairs of notogastral setae present: setae *c*, *la*, *lm*, *lp*, *h₁*, *h₂*, *h₃* (all 32–36) phylliform, with serrate margins; setae *p₁*, *p₂* (all 20–24) setiform, smooth. Lyrifissures (*ia*, *im*, *ip*, *ih*, *ips*) and opisthonotal gland openings (*gla*) clearly visible.

Gnathosoma. Morphology of subcapitulum, palps and chelicerae typical for most Suctobelbidae (see for example: Woas 1986; Ermilov & Anichkin 2013). Subcapitulum longer than wide (86 × 41). Subcapitular setae setiform, smooth; *a* and *h* (both 28–32) longer than *m* (10–12). Palps (49) with setation 0–1–0–2–6(+ ω). Solenidion long, thickened, pressed to the palptarsus surface in medio-basal part, connected with two setae in distal part. Chelicerae (82) without setae. Trägårdh's organ indistinctly visible.

Epimeral and lateral podosomal regions. Epimeral setal formula 3–1–3–3. Epimeral setae (*1a*, *2a*, *3a*, 6–8; *1b*, *1c*, *3b*, *3c*, *4a*, *4b*, *4c*, 12–16) setiform, smooth. A pair of weakly developed triangular tubercles present posteriorly to setae *4a*, *4b*. Discidia (*dis*) triangular, widely rounded distally.

Anogenital region. Six pairs of genital (*g₁*, 12–16; *g₂*–*g₆*, 12–18), one pair of aggenital (*ag*, 6), two pairs of adanal (*ad₁*, *ad₂*, 6) and two pairs of anal (*an₁*, *an₂*, 4) setae thin, smooth. Both adanal setae inserted an-

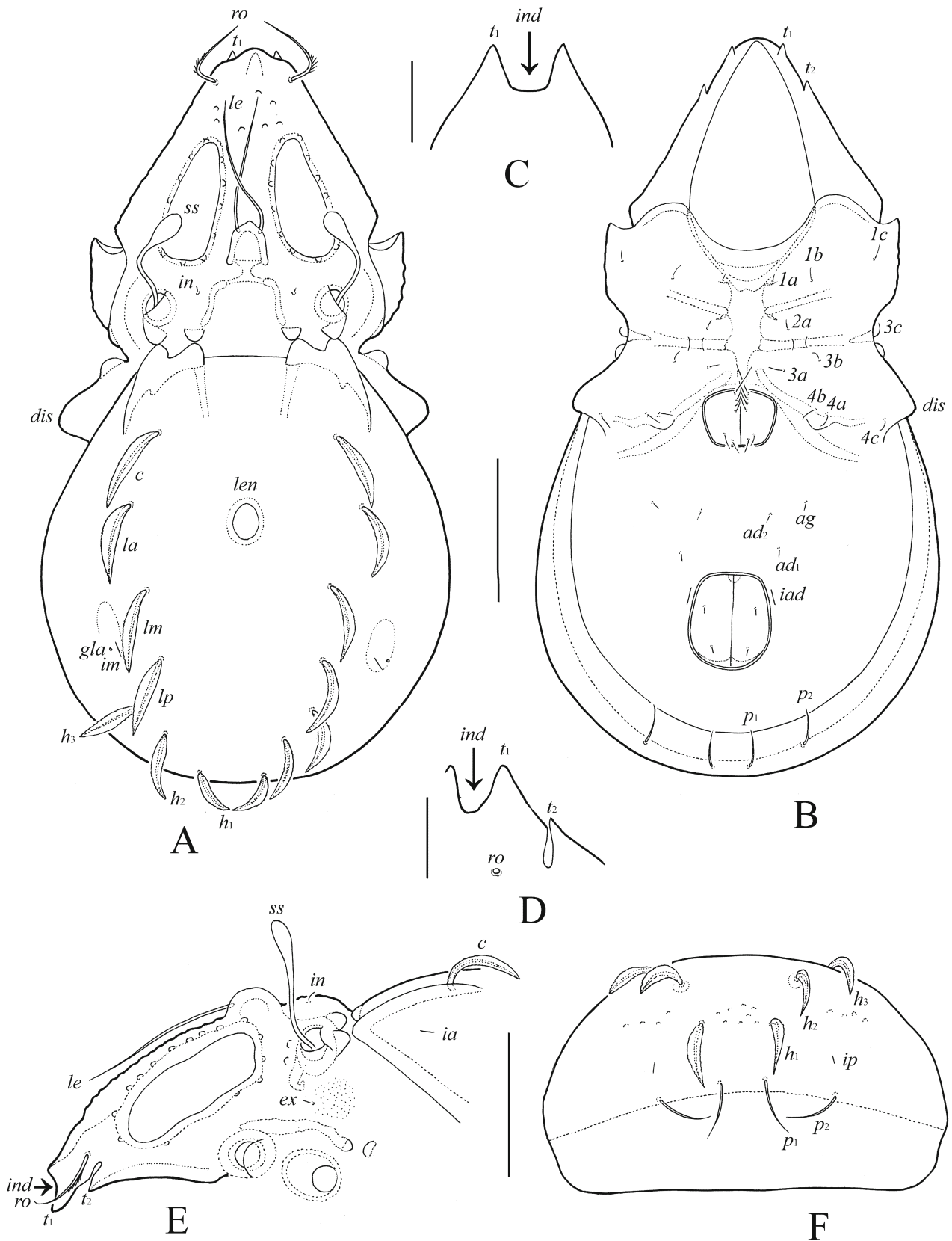


Fig. 1. *Suctobellella (Ussuribata) phylliformis* sp. n., adult: A – dorsal view (legs not illustrated); B – ventral view (gnathosoma and legs not illustrated); C – rostrum, dorso-anterior view; D – lateral tooth of prodorsum, dorso-lateral view; E – prodorsum and anterior part of notogaster, lateral view; F – notogaster, posterior view. Scales 50 μ m (A, B, E, F), 20 μ m (C, D).

teriorly to the anal plates. Lyrifissures *iad* located in paraanal position.

Legs. Morphology of leg segments, setae and solenidia typical for Suctobelbidae (see for example: Woas

Table 1. Leg setae and solenidia of *Suctobelbella (Ussuribata) phylliformis* sp. n.

Leg	Trochanter	Femur	Genu	Tibia	Tarsus
I	<i>v'</i>	<i>d, (l), bv'', v''</i>	<i>(l), σ</i>	<i>(l), (v), φ₁, φ₂</i>	<i>(ft), (tc), (it), (p), (u), (a), s, (pv), (pl), (v), e, ω₁, ω₂</i>
II	<i>v'</i>	<i>d, (l), bv'', v''</i>	<i>(l), σ</i>	<i>(l), (v), φ</i>	<i>(ft), (tc), (it), (u), (a), s, (pv), ω₁, ω₂</i>
III	<i>l', v'</i>	<i>d, l', ev'</i>	<i>l', σ</i>	<i>l', (v), φ</i>	<i>(ft), (tc), (it), (u), (a), s, (pv)</i>
IV	<i>v'</i>	<i>d, ev'</i>	<i>d, l'</i>	<i>l', (v), φ</i>	<i>ft'', (tc), (u), (a), s, (pv)</i>

Explanations: Roman letters refer to normal setae (*e* – famulus), Greek letters refer to solenidia. One apostrophe (') marks setae on anterior and double apostrophe (") setae on posterior side of the given leg segment. Parentheses refer to a pair of setae.

Table 2. *Neoribates (Neoribates) paratuberculatus* sp. n.

Leg	Trochanter	Femur	Genu	Tibia	Tarsus
I	<i>v'</i>	<i>d, (l), bv'', v''</i>	<i>(l), v', σ</i>	<i>(l), (v), φ₁, φ₂</i>	<i>(ft), (tc), (it), (p), (u), (a), s, (pv), v', (pl), l'', e, ω₁, ω₂</i>
II	<i>v'</i>	<i>d, (l), bv'', v''</i>	<i>(l), v', σ</i>	<i>(l), (v), φ</i>	<i>(ft), (tc), (it), (p), (u), (a), s, (pv), ω₁, ω₂</i>
III	<i>l', v'</i>	<i>d, l', ev'</i>	<i>l', σ</i>	<i>l', (v), φ</i>	<i>(ft), (tc), (it), (p), (u), (a), s, (pv)</i>
IV	<i>v'</i>	<i>d, ev'</i>	<i>d, l'</i>	<i>d, l', (v)</i>	<i>ft'', (tc), (p), (u), (a), s, (pv)</i>

See Table 1 for explanations.

1986; Ermilov & Anichkin 2013). Tarsi with smooth claw. Formulae of leg setation and solenidia: I (1–5–2–4–20) [1–2–2], II (1–5–2–4–13) [1–1–2], III (2–3–1–3–13) [1–1–0], IV (1–2–2–3–10) [0–1–0]; homology of setae and solenidia indicated in Table 1.

Type deposition. The holotype is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; two paratypes are deposited in the collection of the Siberian Zoological Museum, Novosibirsk, Russia; two paratypes are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia.

Etymology. The specific name “*phylliformis*” refers to the phylliform notogastral setae.

Remarks. *Suctobelbella (Ussuribata) phylliformis* sp. n. is similar to *S. (U.) separata* Mahunka, 2001 from Borneo (see Mahunka 2001) in having the lenticulus, long lamellar setae, phylliform dorsal notogastral setae and smooth bothridial setae. However, the new species differs clearly from the latter by the presence of six pairs of genital setae (versus four in *S. (U.) separata*), two pairs of adanal setae (versus three pairs in *S. (U.) separata*), pentagonal knobe-like tubercle (versus divided in two parts in *S. (U.) separata*) and the prodorsum with one lateral tooth (versus two to three in *S. (U.) separata*).

***Neoribates (Neoribates) paratuberculatus* sp. n.** (Figs 2A–F)

Diagnosis. Body size 597–614 × 431–464. Body surface microfoveolate. Pteromorphs densely tuberculate. Prodorsal setae long, setiform, barbed. Bothridial setae spindle-form. Openings of sacculi elongate. Five pairs of genital setae present. Adanal setae clearly longer than anal setae; *ad*₃ inserted anteriorly to the anal plates. Tridactylous.

Description. Measurements. Body length: 597 (holotype: male), 614 (paratype: male); notogaster width: 431 (holotype), 464 (paratype).

Integument. Body color brown. Body surface microfoveolate. Pteromorphs with thin, radiate wrinkles and dense tubercles (diameter up to 6).

Prodorsum. Rostrum indistinctly protruding, narrowly rounded. Lamellae reaching the insertions of lamellar setae. Rostral (73–82), lamellar (135–143) and interlamellar (184–200) setae setiform, barbed. Exobothridial setae absent. Bothridial setae (155–164) spindle-form, with long stalk, weakly lanceolate, barbed head and thin apex (not shorter than head).

Notogaster. Anterior notogastral margin developed, convex. Notogastral setae represented by 10 pairs of alveoli. Four pairs of sacculi (*Sa*, *S1–S3*), lyrifissures and opisthotal gland openings distinct. Openings of sacculi elongate.

Gnathosoma. Morphology of subcapitulum, palps and chelicerae typical as for most *Neoribates* (see for example: Grishina & Vladimirova 2009; Ermilov & Kalúz 2013). Subcapitulum longer than wide (127 × 98). Subcapitular setae *h* (18) setiform, smooth; *a* slightly longer (22), thicker, barbed; *m* represented by alveolus. Two pairs of adoral setae (12) setiform, hook-like distally, barbed. Palps (73) with setation 0–2–1–3–9(+ω). Solenidion attached to eupathidium. Chelicerae (139) with two barbed setae; *cha* (45) longer, than *chb* (28). Trägårdh’s organ distinct. Circumpedal carinae (*cp*) distinct.

Epimeral and lateral podosomal regions. Epimeral setal formula: 3–1–3–3. All setae setiform; *4a*, *4b* smooth, other setae slightly barbed; *1a*, *2a*, *3a*, *4a*, *4b* (18–20) shorter than *1b*, *1c*, *3b*, *3c*, *4c* (22–28). Setae *3c* inserted on pedotecta II, *4c* inserted on discidia.

Anogenital region. Five pairs of genital (*g*₁, 16; *g*_{2–g}₅, 12–14), one pair of aggenital (20), three pairs of adanal (*ad*₁, *ad*₂, 57–61; *ad*₃, 36–41) and two pairs of anal (20–22) setae setiform, smooth. Lyrifissures *iad* lo-

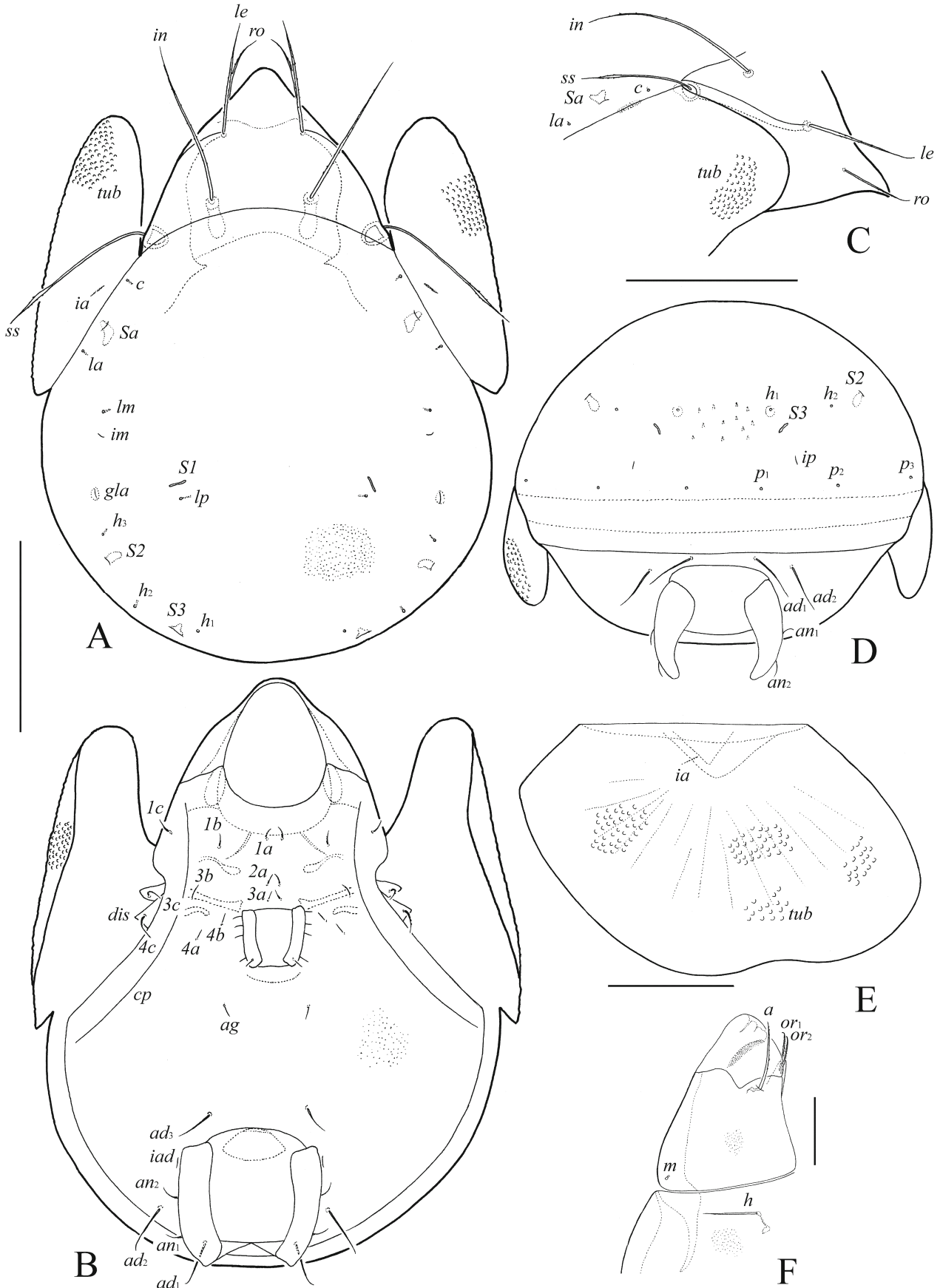


Fig. 2. *Neoribates (Neoribates) paratuberculatus* sp. n., adult: A – dorsal view (legs not illustrated); B – ventral view (gnathosoma and legs not illustrated); C – prodorsum and anterior part of notogaster, dorso-lateral view; D – posterior view; E – pteromorph; F – anterior part of subcapitulum, right half, ventral view. Scales 200 μ m (A–D), 100 μ m (E), 20 μ m (F).

cated in paraanal position. Adanal setae ad_3 inserted anteriorly to the anal plates.

Legs. Morphology of leg segments, setae and solenidia typical for *Neoribates* (see for example: Grishina & Vladimirova 2009; Ermilov & Kalúz 2013). Leg tarsi with three smooth claws. Formulae 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 (1–2–2–4–12) [0–0–0]; homology of setae and solenidia indicated in Table 2.

Type deposition. The holotype is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; one paratype is deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia.

Etymology. The prefix *para* is Latin meaning “near” and refers the similarity between the new species and the species *Neoribates (N.) tuberculatus* Willmann, 1956.

Remarks. *Neoribates (Neoribates) paratuberculatus* sp. n. is similar to *N. (N.) tuberculatus* Willmann, 1956 from Czechoslovakia (see Willmann 1956) in having the tuberculate pteromorphs, five pairs of genital setae and spindle-form bothridial setae. However, the new species differs clearly from the latter by the smaller body size (597–614 × 431–464 versus 690 × 480 in *N. (N.) tuberculatus*), tubercles densely inserted on pteromorphs (versus sparsely in *N. (N.) tuberculatus*) and slightly developed head of bothridial setae with long apex (versus well developed, with short apex in *N. (N.) tuberculatus*).

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References

Balogh J. 1968. New oribatids (Acari) from New Guinea. *Acta Zool. Acad. Sci. Hung.* **14** (3–4): 259–285.
 Balogh J. & Balogh P. 1992. The oribatid mites genera of the world. Vol. 1. Budapest, Hungarian National Museum Press, 263 pp.
 Balogh J. & Balogh P. 2002. Identification Keys to the Oribatid Mites of the Extra-Holarctic Regions. Vol. 1. Miskolc, Well-Press Publishing Limited, 453 pp. ISBN: 963862518x
 Balogh J. & Mahunka S. 1967. New oribatids (Acari) from Vietnam. *Acta Zool. Acad. Sci. Hung.* **13** (1–2): 39–74.

Balogh J. & Mahunka S. 1974. Oribatid species (Acari) from Malaysian soils. *Acta Zool. Acad. Sci. Hung.* **20** (3–4): 243–264.
 Balogh J. & Mahunka S. 1981. New data to the knowledge of the oribatid fauna of the Neogaea, VI. (Acari). *Acta Zool. Acad. Sci. Hung.* **27** (1–2): 49–102.
 Berlese A. 1914. Acari nuovi. Manipulus IX. *Redia* **10**: 113–150. <http://www.redia.it/>
 Chinone S. 2003. Classification of the soil mites of the family Suctobelbidae (Oribatida) of Japan. *Edaphologia* **72**: 1–110.
 Ermilov S.G. & Anichkin A.E. 2013. Checklist of oribatid mites (Acari: Oribatida) from two forest plantations of Southern Vietnam, including new records and description of a new species of the genus *Suctobelbata* (Suctobelbidae). *Syst. Appl. Acarol.* **18** (3): 225–232. DOI: <http://dx.doi.org/10.11158/saa.18.3.4>
 Ermilov S.G. & Kalúz S. 2013. Two new species of *Neoribates (Neoribates)* (Acari, Oribatida, Parakalummidae) from India. *Int. J. Acarol.* **39** (5): 408–413. DOI: 10.1080/01647954.2013.792392
 Golosova L.D., Karppinen, E. & Krivolutsky, D.A. 1983. List of oribatid mites (Acarina, Oribatei) of northern Palaearctic region. *Acta Entomol. Fenn.* **43**: 1–14.
 Golosova L.D. & Tarba Z. 1974. Novie vidi i rodi nadsemejtva Oppioidea (Acariformes, Oribatei) iz Abchazii i primorskogo kraja [New and genera of the superfamily Oppioidea from Abkhazia and Marine Territory (Acariformes, Oribatei)]. *Zool. Zh.* **53** (12): 1885–1887.
 Grishina L.G. & Vladimirova N.V. 2009. New species of the genus *Neoribates* (Berlese, 1914) (Acariformes: Oribatida) from Russia and adjacent countries. *Acarina* **17** (2): 211–222.
 Hammer M. 1958. Investigations on the oribatid fauna of the Andes Mountains. I. The Argentine and Bolivia. *Det Kongelige Danske Videnskabernes Selskab Biologiske Skrifter* **10** (1): 1–129.
 Hammer M. 1961. Investigations on the oribatid fauna of the Andes Mountains. II. Peru. *Det Kongelige Danske Videnskabernes Selskab Biologiske Skrifter* **13** (1): 1–157.
 Hammer M. 1962. Investigations on the oribatid fauna of the Andes Mountains. III. Chile. *Det Kongelige Danske Videnskabernes Selskab Biologiske Skrifter* **13** (2): 1–96.
 Hammer M. 1979. Investigations on the oribatid fauna of Java. *Det Kongelige Danske Videnskabernes Selskab Biologiske Skrifter* **22** (9): 1–78.
 Hammer M. 1982. On a collection of oribatid mites from Bali, Indonesia (Acari: Cryptostigmata). *Entomol. Scand.* **13** (4): 445–464. DOI: 10.1163/187631282X00291
 Krivolutsky D.A. (ed.) 1995. Pancirnie kleshchi. Oribatid mites: Morfologiya, razvitie, filogeniya, ekologiya, metodi issledovaniya, kharakteristika modelnogo vida *Nothrus palustris* C. L. Koch, 1839 [Oribatid mites: Morphology, development, phylogeny, ecology, methods of study and characteristics of the model species *Nothrus palustris* C.L. Koch, 1839]. *Russ. Akad. Nauk, Inst. Evol. Morfol. Ekol. Zhivot. A. N. Severcova, Rossijskij Komitet po Programme UNESCO “Chelovek i biosfera”* 220 (3), Nauka, 224 pp.
 Mahunka S. 1983. Oribatids from the Eastern Part of the Ethiopian Region (Acari) III. *Acta Zool. Acad. Sci. Hung.* **29** (4): 397–440.
 Mahunka S. 1988. New and interesting mites from the Geneva Museum LXI. Oribatids from Sabah (East Malaysia) III (Acari: Oribatida). *Rev. Suisse Zool.* **95** (3): 817–888.
 Mahunka S. 1989. Oribatids from the southern Hemisphere (Acari: Oribatida). *Acta Zool. Acad. Sci. Hung.* **35**: 41–79.
 Mahunka S. 2001. Oribatids from Brunei III (Acari: Oribatida). *Rev. Suisse Zool.* **108** (2): 317–349.
 Norton R.A. & Behan-Pelletier V.M. 2009. Oribatida. Chapter 15, pp. 430–564. In: Krantz G.W. & Walter D.E. (eds), *A Manual of Acarology*, 3rd ed., Texas Tech University Press, Lubbock, 816 pp. ISBN-13: 978-0896726208 ISBN-10: 0896726207
 Ryabinin N.A. 1975. Novie i maloizvestnie vidi pantsirnikh kleshchey iz Chabarovskogo kraja i Amurskoj oblasti [New

- and little known species of oribatid mites from the Khabarovsk Territory and the Amur Region]. *Zool. Zh.* **54** (4): 533–542.
- Ryabinin N.A. & Pankov A.N. 2002. Katalog pantsirnikh kleshchej Dalnego Vostoka Rossii, chast' II. Kontinental'naya chast' Dalnego Vostoka [Catalogue of oribatid mites of the Russian Far East. Part II. Continental part of the Far East]. Vladivostok – Khabarovsk, DVO RAN / FEB RAS, 92 pp. ISBN: 5-7442-13333-3
- Subias L.S. 2004. Listado sistemático, sinonímico y biogeográfico de los ácaros oribátidos (Acariformes: Oribatida) del mundo (excepto fósiles). *Graellsia* **60** (número extraordinario), 557 pp.
- Wen Z. 1997. Two new species of suctobelbid mites from China (Acari, Oribatida: Suctobelbidae). *J. Norman Bethune Univ. Med. Sci.* **23** (2): 125–127. [in Chinese]
- Willmann C. 1956. Milben aus Naturschutzgebiet auf dem Spiegeltzer (Glatzer) Schneeberg. *Českoslov. Parasit.* **3**: 211–273. ISSN: 0366-578X
- Woas S. 1986. Beitrag zur Revision der Oppioidea sensu Balogh, 1972 (Acari, Oribatei). *Andrias* **5**: 21–224.

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