

Two new species of the genus *Neoribates* (Acari, Oribatida, Parakalummidae) from China

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Abstract

Two new species of the genus *Neoribates*, *N. (Neoribates) conflatus* sp. nov. and *N. (N.) fusiformis* sp. nov., are proposed and described based on adult material collected from central China, and *N. (N.) similis* Fujikawa, 2007 is reported in China for the first time. A key to the known members of *Neoribates* from China is provided.

Key words: morphology, oribatid mites, new record, taxonomy, Asia

Introduction

This work is based on the material collected from Dabie Mountain areas in central China. It's part of our continuing study of oribatid mites (Acari, Oribatida) in this area. During taxonomic identification of mite material, we found two new species of the genus *Neoribates* Berlese, 1914 (Parakalummidae). Before this study, ten species of this genus were recorded in China (Chen *et al.* 2010; Liang & Yang 2013; Liang *et al.* 2014; Ermilov 2019; Pan & Liu 2022; Subías 2022, online version 2023).

The genus *Neoribates* was proposed by Berlese in 1914, comprises four subgenera: *Neoribates (Neoribates)* Berlese, 1914, *Neoribates (Parakalumma)* Jacot, 1929, *Neoribates (Perezinigokalumma)* Subías, 2004, and *Neoribates (Pseudoneoribates)* Ermilov & Corpuz-Raros, 2015. Currently, 67 species (Subías 2022, online version 2023) around the world are included in this genus. The main generic characters were newly summarized by Ermilov & Starý (2021). Identification keys to selective representatives of *Neoribates* were presented in several modern papers, e.g.: Grishina & Vladimirova (2009—Russia), Ermilov & Starý (2020—Afrotropical region; 2021—Neotropical region), Ermilov *et al.* (2023—Oriental region).

The main goal of the paper is to describe and illustrate two new species of *Neoribates* from Dabie Mountain area in central China, and expanded descriptions and illustrations of the firstly recorded species, *N. (N.) similis* Fujikawa, 2007, based in part on new information are provided. Also, an identification key to the known species of *Neoribates* from China is presented.

Materials and methods

The collection locality and habitat for each species are given in the “*Material examined*” sections.

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 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. All specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing (IZAS).

Morphological terminology used in this paper mostly follows that of papers on *Neoribates* (e.g., Ermilov 2019; Ermilov & Starý 2020, 2021; Ermilov *et al.* 2023); also, Norton (1977) for leg setal nomenclature and Norton & Behan-Pelletier (2009) for overview are used.

Abbreviations and notations

Prodorsum: *ro*, *le*, *in*, *bs*—rostral, lamellar, interlamellar, bothridial and setae, respectively; *lam*—lamella; *slam*—sublamella; *Al*—sublamellar porose area; *ar*, *pr*, *lr*—anterior, posterior and lateral prodorsal ridge, respectively; *Ad*—dorsosejugal porose area; *P*—pleurophragma.

Notogaster: *c*, *la*, *lm*, *lp*, *h*-row, *p*-row—setae; *Sa*, *S1*, *S2*, *S3*—sacculi; *ia*, *im*, *ip*—anterior, middle, posterior lyrifissures, respectively; *ih*, *ips*—lyrifissures associated with setal rows *h* and *p* respectively; *gla*—opisthonotal gland opening.

Coxisternum and lateral podosoma: *1a*, *1b*, *1c*, *2a*, *3a*, *3b*, *3c*, *4a*, *4b*, *4c*—setae of epimeres I–IV; *Pd I*, *Pd II*—pedotecta I, II respectively; *dis*—discidia; *cpc*—circumpedal carina.

Anogenital region: *g*, *ag*, *an*, *ad*—genital, aggenital, anal and adanal setae, respectively; *iad*—adanal lyrifissure; *po*—preanal organ.

Gnathosoma: *a*, *m*—anterior, middle setae of gena; *h*—hypostomal seta of mentum; *or*₁, *or*₂—adoral setae; *v*, *l*, *d*, *cm*, *acm*, *ul*, *sul*, *vt*, *lt*, *sup*, *inf*—palp setae; ω —palp tarsal solenidion; *ep*—postpalpal seta; *cha*, *chb*—cheliceral setae; *Tg*—Trägårdh's organ.

Legs: σ , ϕ , ω —solenidia of genu, tibia and tarsus, respectively; ϵ —famulus of tarsus I; *d*, *l*, *v*—dorsal, lateral, ventral setae, respectively; *ev*, *bv*—basal trochanteral setae; *ft*, *tc*, *it*, *p*, *u*, *a*, *s*, *pl*, *pv*—tarsal setae; *Tr*, *Fe*, *Ge*, *Ti*, *Ta*—trochanter, femur, genu, tibia, tarsus of legs, respectively; *pa*—porose area.

Taxonomy

***Neoribates (Neoribates) conflatus* sp. nov.** (Figs 1–4)

Diagnosis

Body size: 630 × 350. Body without heavy sculpturing and ornamentation, but leg femora III–IV lineolate axially, trochanters III lineolate dorsally. Rostrum rounded, with protruded tip. Lamellae fused anteriorly, parabolic in shape. Setae *le* close to each other, inserted ahead of lamellar tip. Two transverse ridges presented between setae *ro* and *le*. Bothridial setae long, lanceolate. Epimeral setae *1a*, *1b*, *2a*, *3a*, *3c* and *4c* thicker than others (*1c*, *3b*, *4a*, *4b*). Four pairs of genital setae. Adanal setae *ad*₃ anterior to anal aperture. Adanal lyrifissures located longitudinal and close to anal aperture, below level of anterior margin of anal opening. Legs tridactylous; setae *l'* on tibiae III inserted in posterior part of the segments.

Description

Measurements (holotype, female). Body length: 630, notogaster width: 350.

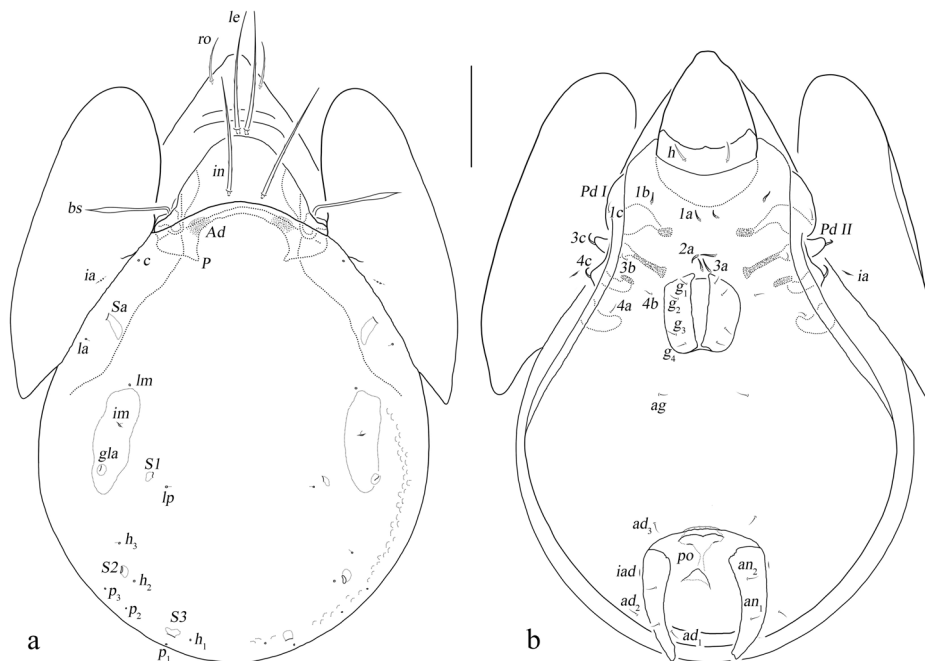


FIGURE 1. *Neoribates (Neoribates) conflatus* sp. nov., adult: a—dorsal view (legs not shown); b—ventral view (legs and gnathosoma except subcapitular mentum not shown). Scale bar = 100 μ m.

Integument. Body color light brownish. Body surface smooth under low magnification, densely microfoveolate under high magnification (10 \times 100). Leg femora III–IV lineolate axially, trochanters III lineolate dorsally.

Prodorsum (Figs 1a; 2; 3a, c). Prodorsum with two transverse ridges between setae *ro* and *le*. Rostrum rounded, with protruded tip. Lamellae fused anteriorly, parabolic in shape. Sublamellae nearly equal with lamellae in length. Sublamellar porose areas oval, partially covered by sublamellae. All prodorsal setae long, slightly barbed, setae *ro* (50) nearly half length of setae *le* (100) and *in* (110). Setae *le* close to each other, inserted ahead of lamellar tip. Exobothridial setae not observed. Bothridial setae (100) nearly smooth, straight, with lanceolate head. Dorsosejugal porose areas diffuse, transversely oriented. Anterior, posterior and lateral ridges simple.

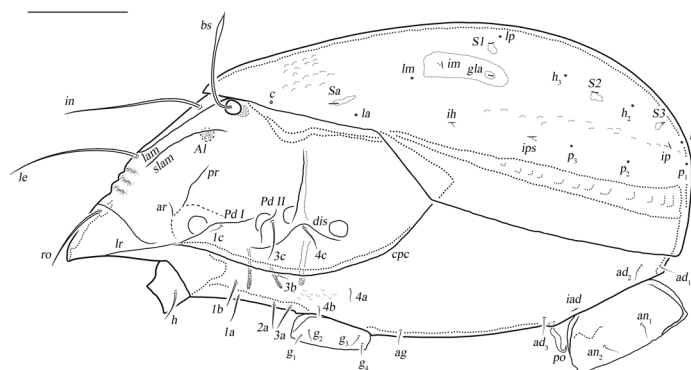


FIGURE 2. *Neoribates (Neoribates) conflatus* sp. nov., adult: lateral view (pteromorph and legs not shown). Scale bar = 100 μ m.

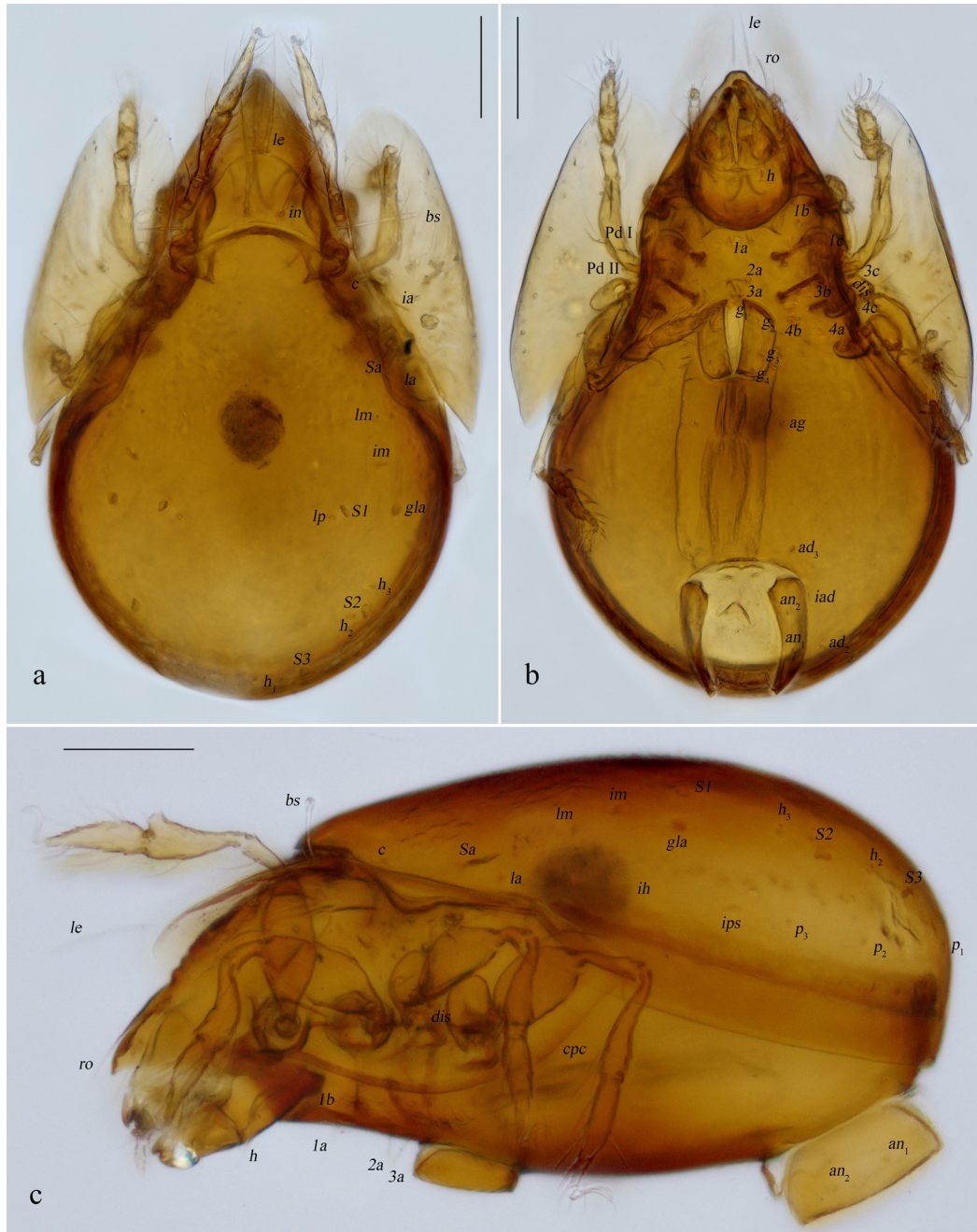


FIGURE 3. *Neoribates (Neoribates) conflatus* sp. nov., adult: a—dorsal view; b—ventral view; c—lateral view. Scale bar = 100 μ m.

Notogaster (Figs 1a; 2; 3a, c). Anterior notogastral margin convex medially. Ten pairs of notogastral setae represented by alveoli. Four pairs of sacculi with small openings. Setae *lp* inserted posteromedially to *S1*. All lyrifissures and opisthonotal gland openings clearly visible.

Epimeral and lateral podosomal regions (Figs 1b; 2; 3b, c). Epimeral setal formula: 3-1-3-3, setae glabrous. Setae *1a*, *1b*, *2a*, *3a* (23–30), *3c* (38) and *4c* (25) thickened, pointed apically; others

(1c, 3b, 4a, 4b (10–15)), thin, slender. Pedotecta II rounded distally. Discidia triangular, broadly rounded distally. Circumpedal carinae long, reaching anterior margin of ventral plate.

Anogenital region (Figs 1b; 2; 3b, c). Four pairs of genital (13–16), one pair of aggenital (18), two pairs of anal (mutual distances $an_1-an_1 \approx an_2-an_2$) (16–18), and three pairs of adanal (17–20) setae thin, slender. Setae ad_1 posterior, ad_2 posterolateral and ad_3 anterior to anal aperture. Adanal lyrifissures located longitudinal and close to anal aperture, below level of anterior margin of anal opening.

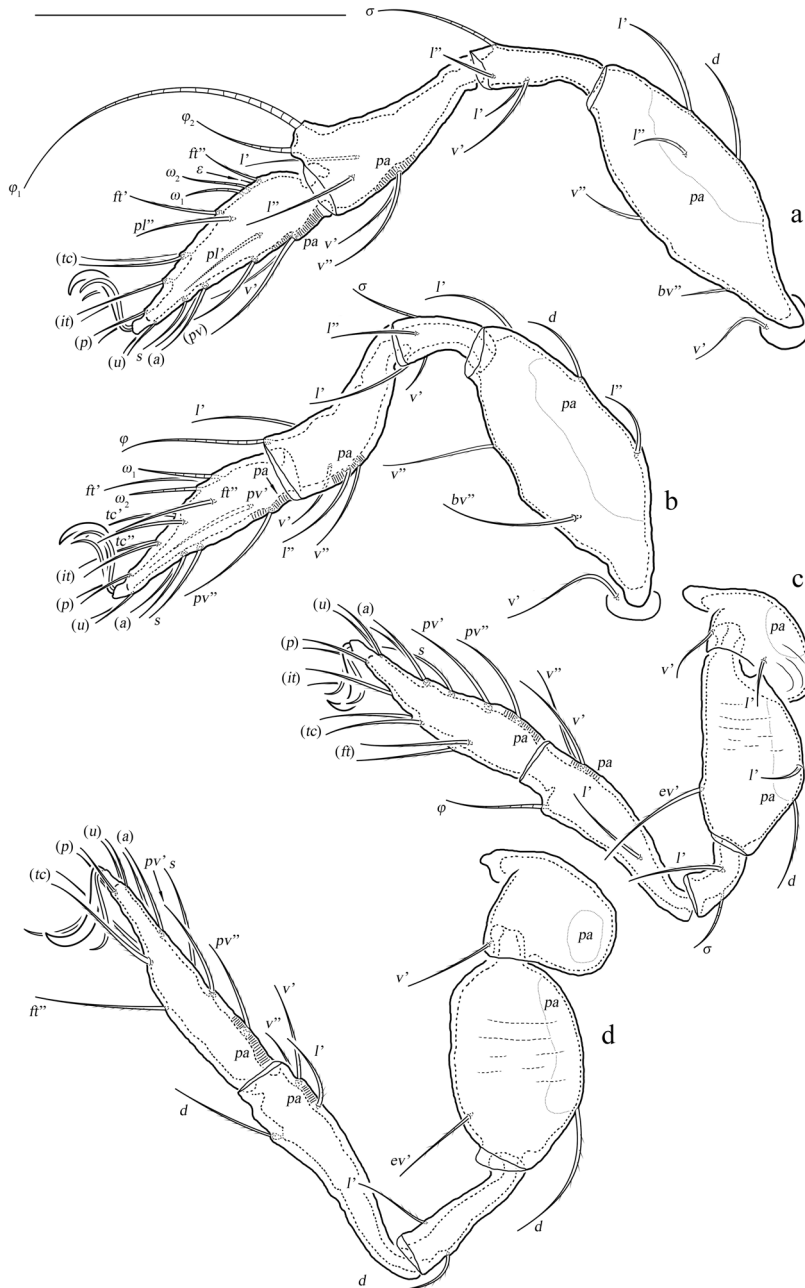


FIGURE 4. *Neoribates (Neoribates) conflatus* sp. nov., legs of adult, left, antiaxial view: a—leg I; b—leg II; c—leg III; d—leg IV. Scale bar = 100 μ m.

Gnathosoma. Typical for *Neoribates* (Ermilov *et al.* 2023). Subcapitulum longer than wide. Subcapitular setae glabrous, *m* and *a* similar in length (24–26), shorter than *h* (30). Two pairs of adoral setae setiform, barbed. Palps with setation 0-2-1-3-9(+ ω). Postpalpal setae spiniform, smooth. Chelicerae with two barbed setae, *cha* longer than *chb*.

Legs (Fig. 4). Tridactylous. Porose areas on tarsi I–IV, tibiae I–IV, femora I–IV, trochanters III–IV visible. Formulae 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 (1-2-2-4-12) [0-0-0]. Homology of setae and solenidia indicated in Table 1. Setae *l'* on tibia III inserted in posterior part of the segment. Setae *l''* absent on tarsus I.

TABLE 1. Leg setation and solenidia of adult *Neoribates* (*Neoribates*) *conflatus* **sp. nov.** (same data for *N. (N.) fusiformis* **sp. nov.** and *N. (N.) similis* Fujikawa, 2007)

Leg	Tr	Fe	Ge	Ti	Ta
I	<i>v'</i>	<i>d, (l), v'', bv''</i>	<i>(l), v', σ</i>	<i>(l), (v), ϕ_1, ϕ_2</i>	<i>(ft), (tc), (it), (p), (u), (a), s, (pl), (pv), v', $\epsilon, \omega_1, \omega_2$</i>
II	<i>v'</i>	<i>d, (l), v'', bv''</i>	<i>(l), v', σ</i>	<i>(l), (v), ϕ</i>	<i>(ft), (tc), (it), (p), (u), (a), s, (pv), ω_1, ω_2</i>
III	<i>v', l'</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>

Note: Roman letters refer to normal setae, Greek letters 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.

Material examined

Holotype: female (ZLH-20-177): China, Henan Province, Shangcheng County, Suxianshi Town, Xihe Village, Dabieshan Nature Reserve, 31°43'28"N, 115°32'24"E, 470m a.s.l., in soil under coniferous forest, 17.VII.2020, collected by Lihao Zheng.

Type deposition

The type specimen is deposited in the collection of IZAS.

Etymology

The specific name “*conflatus*” is from Latin, for “fused”, refers to the fused lamellae.

Remarks

The new species can be easily distinguished from other known species of *Neoribates* by the presence of lamellae fused anteriorly, parabolic in shape and lamellar setae located very close to each other, inserted ahead of lamellar tip.

Neoribates (*Neoribates*) *fusiformis* **sp. nov.** (Figs 5–8)

Diagnosis

Body size: 450–480 × 280–290 (male, n=14), 510–530 × 320–350 (female, n=10). Body without heavy sculpturing and ornamentation, but leg femora III–IV lineolate axially, trochanters III lineolate dorsally. Rostrum triangular, with rounded tip. Bothridial setae fusiform, nearly smooth, with short stalk (shorter than or equal with inflated head) and pointed tip, but never narrowly lanceolate. Epimeral setae short, slender, similar in shape. Five pairs of genital setae. Anal setae thicker and longer than the other ventral setae. Adanal setae *ad*₃ inserted laterally to and distant from anal aperture. Adanal lyrifissures located longitudinal and close to anal aperture, below level of anterior margin of anal opening. Legs tridactylous.

Description

Female. Measurements (holotype). Body length: 530, body width: 330.

Integument. Body color light brownish. Body surface smooth under low magnification, densely foveolate under high magnification (10×100). Leg femora III-IV lineolate axially, trochanters IV lineolate dorsally.

Prodorsum (Figs 5a; 6; 7a, c). Rostrum triangular, with rounded tip. Lamellae nearly half of prodorsum, curving anteromedially to insertion of lamellar setae. Translamella absent. Sublamellae vaulted. Sublamellar porose areas oval, partially covered by sublamellae. Prodorsal setae long, slightly barbed, setae *ro* (55) nearly half length of setae *le* (100) and *in* (100). Setae *le* inserted at tip of lamellae. Mutual distances setae *le-le* > *in-in*. Bothridial setae (70) fusiform, nearly smooth, with short stalk (shorter than or equal with inflated head) and pointed tip, but never narrowly lanceolate. Exobothridial setae not observed. Anterior, posterior and lateral ridges simple.

Notogaster (Figs 5a; 6; 7a, c). Anterior notogastral margin rounded, convex medially. Ten pairs of notogastral setae represented by alveoli. Four pairs of sacculi with small openings. Setae *lp* inserted posteromedially to *S1*. Lyrifissures and opisthotal gland openings clearly visible.

Epimeral and lateral podosomal regions (Figs 5b; 6; 7b, c). Epimeral setal formula: 3-1-3-3. Epimeral setae short (7–12), slender, similar in shape. Pedotecta II rounded distally. Discidia triangular, broadly rounded distally. Circumpedal carinae long, reaching anterior margin of ventral plate.

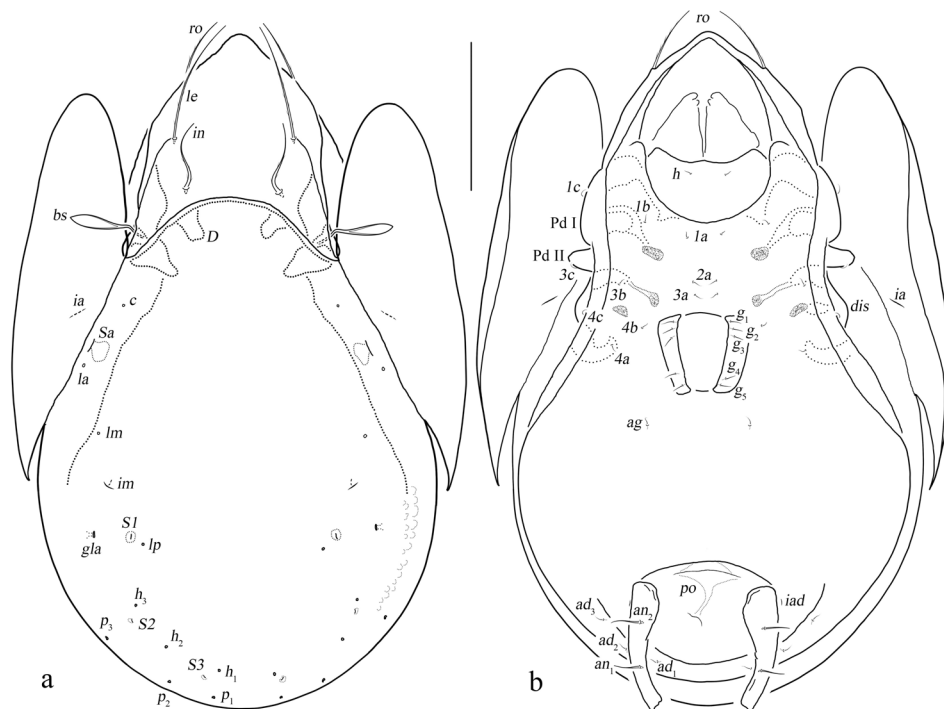


FIGURE 5. *Neoribates (Neoribates) fusiformis* sp. nov., adult: a—dorsal view (legs not shown); b—ventral view (legs and gnathosoma except subcapitular mentum not shown). Scale bar = 100 μ m.

Anogenital region (Figs 5b; 6; 7b, c). Five pairs of genital (8–10), one pair of aggenital (9–12), two pairs of anal (16–21, mutual distances $an_1-an_1 \approx an_2-an_2$), and three pairs of adanal (8–12) setae slender. Anal setae thicker and longer than the other ventral setae. Setae ad_1-ad_2 postanal, ad_3 inserted laterally to and distant from anal aperture (mutual distances $ad_1-ad_2 \approx ad_2-ad_3$). Adanal

lyrifissures located longitudinal and close to anal aperture, below level of anterior margin of anal opening. A parabolic ridge extended along insertions of adanal setae present.

Gnathosoma (Fig. 8). Subcapitulum longer than wide (150×130). Subcapitular setae glabrous, *m* and *a* similar in length (18), thicker and longer than *h* (10). Two pairs of adoral setae setiform, barbed. Palps with setation 0-2-1-3-9(+ω), seta *acm* attached to solenidium ω. Postpalpal setae spiniform, smooth. Chelicerae with two barbed setae, *cha* (25) longer than *chb* (19).

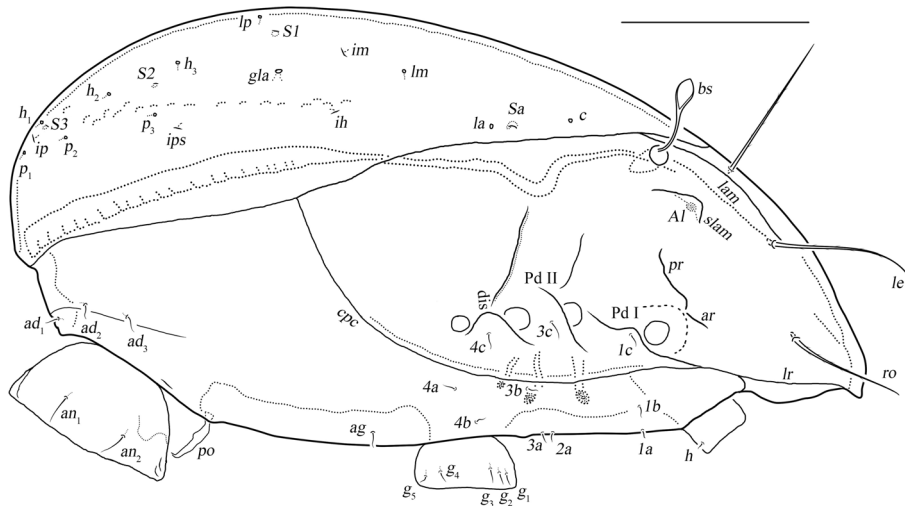


FIGURE 6. *Neoribates (Neoribates) fusiformis* sp. nov., adult: lateral view (pteromorph and legs not shown). Scale bar = 100 μm.

Legs. Features similar as *conflatus* sp. nov. Tridactylous. Porose areas on tarsi I–IV, tibiae I–IV, femora I–IV, trochanters III–IV visible. Formulae 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 (1-2-2-4-12) [0-0-0]. Homology of setae and solenidia indicated in Table 1. Setae *l''* absent on tarsus I.

Male. Measurements (n=14). Body length: 450–480, body width: 280–290. Other features: Same as female.

Material examined

Holotype: female (ZLH-20-245): China, Henan Province, Neixiang County, Baotianman National Nature Reserve, 33°29'59"N, 111°55'28"E, 1133m a.s.l., in soil and under tree in mixed forest, 30.VII.2020. Paratypes: seven males and five females (ZLH-20-245): same data as holotype; one male and one female (ZLH-20-244): same data as holotype, 33°30'0"N, 111°55'34"E, 1190m a.s.l., in soil and under grass in hardwood forest, 30.VII.2020; six males and three females (ZLH-20-246): same data as holotype, in soil under bush in hardwood forest. All specimens were collected by Lihao Zheng.

Type deposition

The type specimens are deposited in the collection of IZAS.

Etymology

The specific name “*fusiformis*” refers to the fusiform bothridial setae.

Remarks

The new species is most similar to *N. (N.) aurantiacus* (Oudemans, 1914) (see illustrations and supplementary descriptions in Mahunka 1996, Bayartogtokh & Weigmann 2005) in having five pairs of genital setae, adanal setae ad_3 inserted laterally to and distant from anal aperture, bothridial setae fusiform. However, it distinguished from *N. (N.) aurantiacus* by: anal setae thicker and longer than the other ventral setae (vs character like this not exist), setae mutual distances $ad_1-ad_2 \approx ad_2-ad_3$ (vs $ad_1-ad_2 < ad_2-ad_3$), stalk of bothridial setae shorter than or equal with head (vs stalk longer than head).

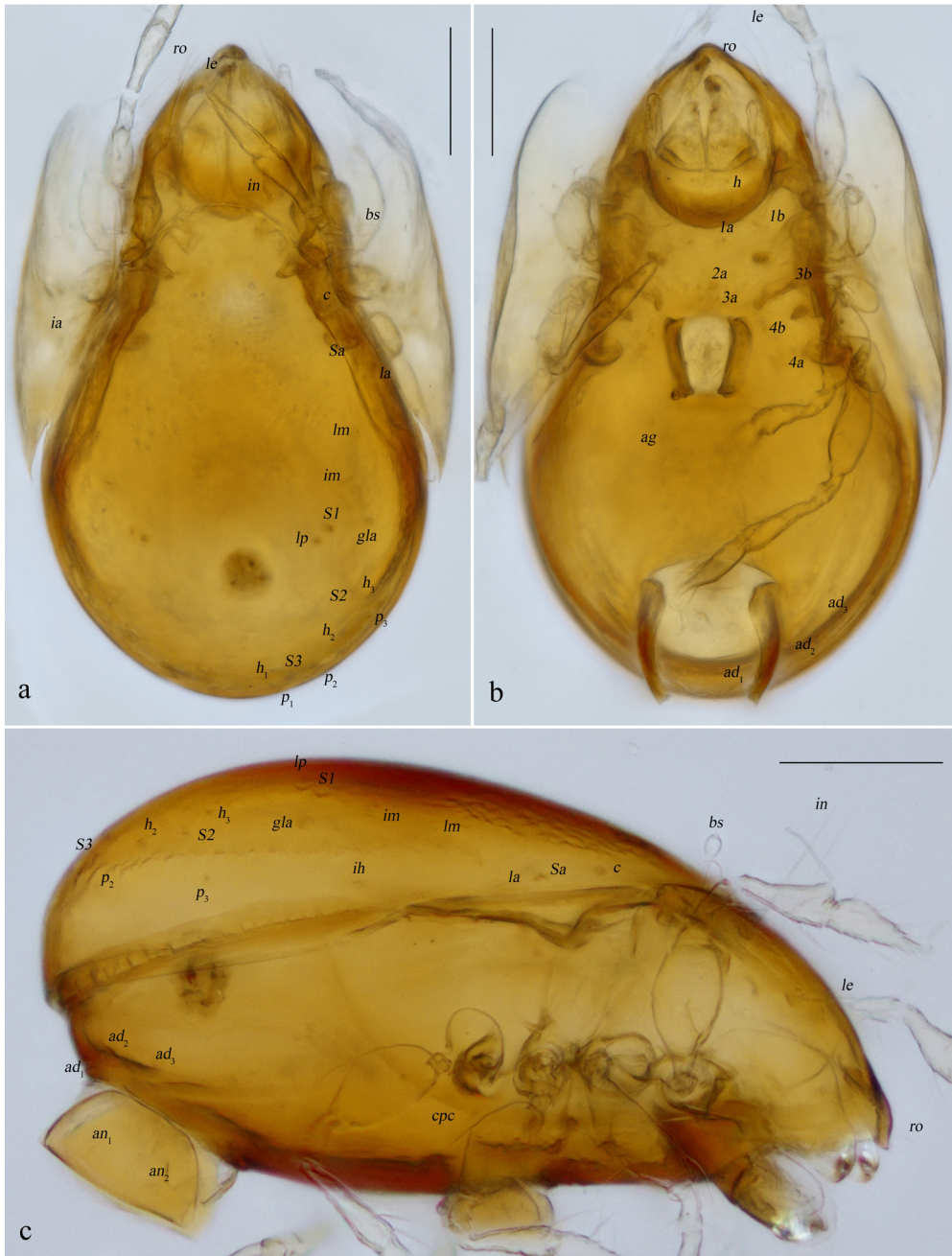


FIGURE 7. *Neoribates (Neoribates) fusiformis* sp. nov., adult: a—dorsal view; b—ventral view; c—lateral view. Scale bars = 100 μ m.

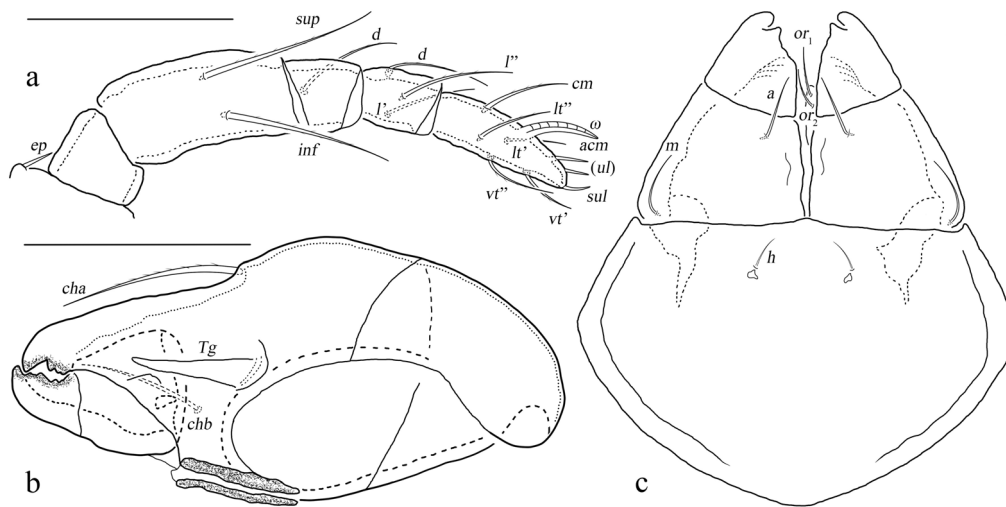


FIGURE 8. *Neoribates (Neoribates) fusiformis* sp. nov., adult: a—right palp, abaxial view; b—right chelicera, adaxial view; c—subcapitulum, ventral view. Scale bars: a, c = 50 μm; b = 30 μm.

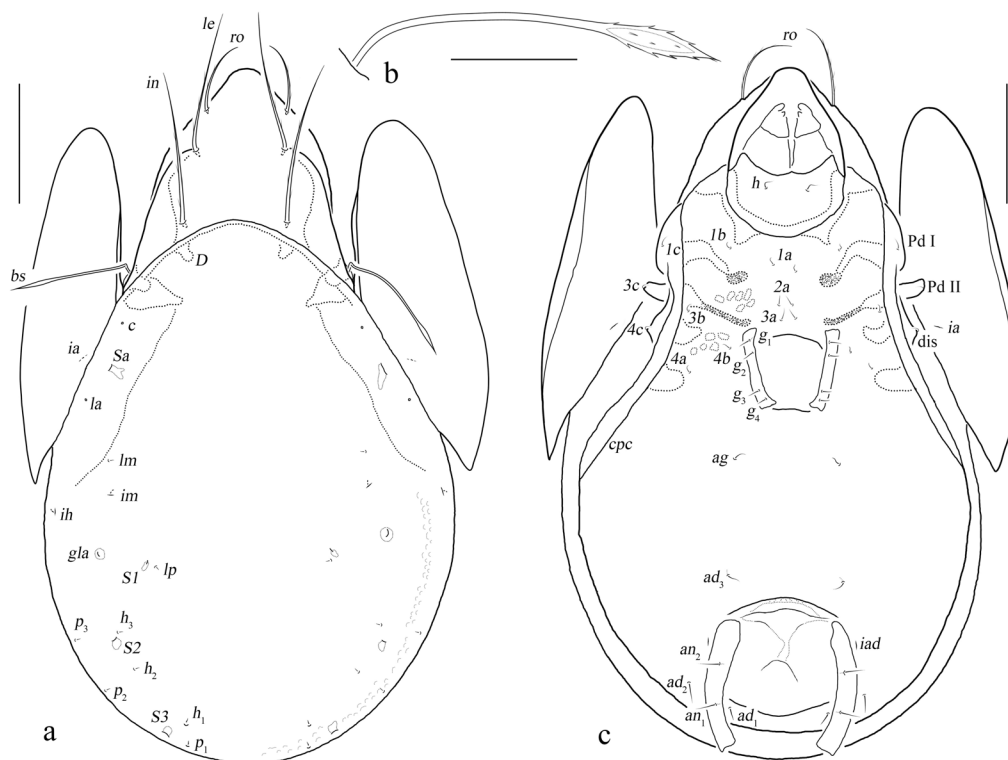


FIGURE 9. *Neoribates (Neoribates) similis* Fujikawa, 2007, adult: a—dorsal view (legs not shown); b—bothridial setae; c—ventral view (legs and gnathosoma except subcapitular mentum not shown). Scale bars: a, c=100 μm; b=30 μm.

***Neoribates (Neoribates) similis* Fujikawa, 2007 (Figs 9–13)**

Neoribates (Neoribates) similis Fujikawa, 2007: p. 4, fig 3.

Diagnosis

Body size (n=6): 450–580 × 300–370. Body without heavy sculpturing and ornamentation. Leg femora III–IV lineolate axially. Rostrum triangular, with rounded tip. Bothridial setae long, lanceolate. Prodorsal setae long, slightly barbed, slender distally, *ro* shortest. Four pairs of genital setae. Adanal setae *ad*₃ anterior to anal aperture. Adanal lyrifissures located longitudinal and close to anal aperture, below level of anterior margin of anal opening. Legs tridactylous.

Description

Measurements (one female, ZLH-20-243). Body length: 580, notogaster width: 370.

Integument. Body color light brownish. Body surface relatively smooth. Femora II–IV lineolate axially.

Prodorsum (Figs 9a; 10; 11a, c). Rostrum triangular, with rounded tip. Lamellae curving anteromedially to or slightly exceed insertion of lamellar seta. Translamella absent. Sublamellae vaulted. Sublamellar porose areas oval, partially covered by sublamellae. Prodorsal setae long, slightly barbed, slender or pointed distally, setae *ro* (70) shortest in length. Setae *le* (120) inserted at tip of lamellae. Setae *in* (140) inserted near anterior border of notogaster. Mutual distances setae *le*–*le* < *in*–*in*. Bothridial setae (120) lanceolate (slightly barbed outside). Exobothridial seta not observed. Anterior, posterior and lateral ridges simple.

Notogaster (Figs 9a; 10; 11a, c). Anterior notogastral margin convex medially. Ten pairs of notogastral setae represented by alveoli. Four pairs of sacculi with small openings. Setae *lp* inserted posteromedially to *Sl*. Lyrifissures and opisthotal gland openings clearly visible.

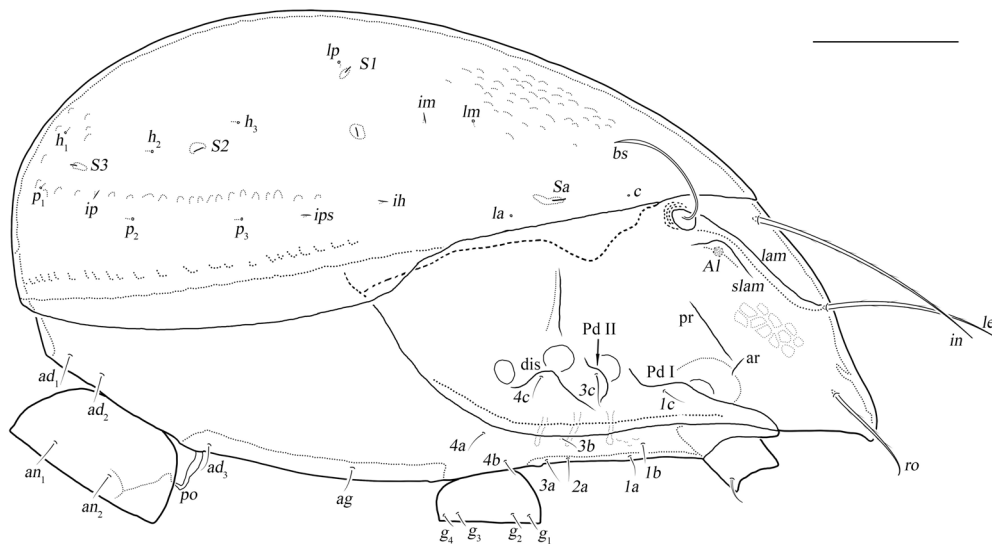


FIGURE 10. *Neoribates (Neoribates) similis* Fujikawa, 2007, adult: lateral view (pteromorph and legs not shown). Scale bar = 100 μ m.

Epimeral and lateral podosomal regions (Figs 9b; 10; 11b, c). Epimeral setal formula: 3-1-3-3. Epimeral setae short (16–24), slender. Pedotecta II rounded distally in ventral view. Discidia

triangular. Circumpedal carinae long, reaching anterior margin of ventral plate. A long ridge extended from bottom between legs III and IV, and pointed to notogastral ridge.

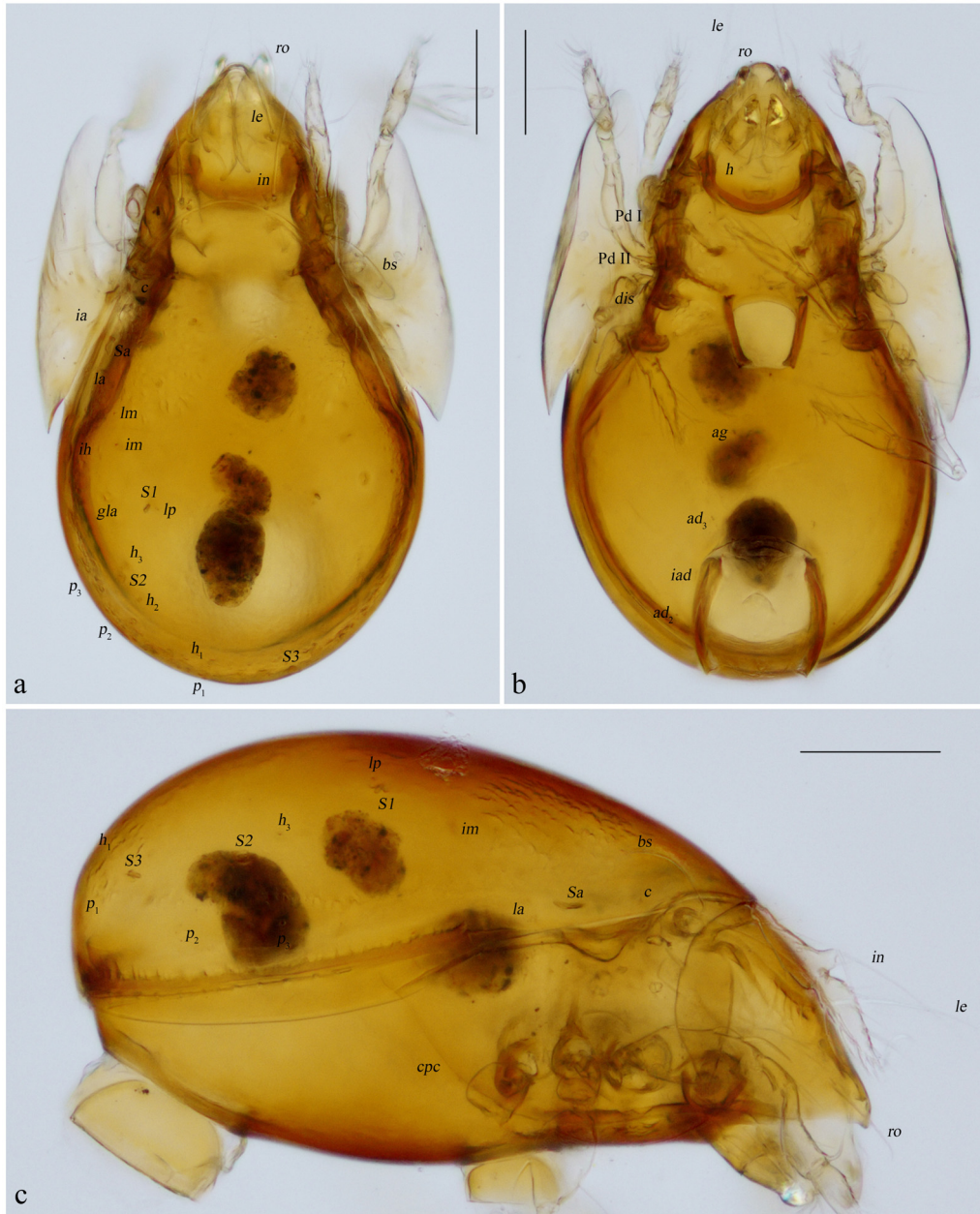


FIGURE 11. *Neoribates (Neoribates) similis* Fujikawa, 2007, adult: a—dorsal view; b—ventral view; c—lateral view. Scale bar = 100 μm .

Anogenital region (Figs 9b; 10; 11b, c). Four pairs of genital (10–12), one pair of aggenital (17), two pairs of anal (20–21, mutual distances $an_1-an_1 \approx an_2-an_2$), and three pairs of adanal (21–23) setae thin, slender. Setae ad_1 posterior, ad_2 posterolateral and ad_3 anterior to anal aperture. Adanal

lyrifissures located longitudinal and close to anal aperture, below level of anterior margin of anal opening.

Gnathosoma (fig. 12). Subcapitulum longer than wide. Subcapitular setae glabrous, *m* and *a* similar in length (15–17), thinner and shorter than *h* (30). Two pairs of adoral setae setiform, barbed. Palps with setation 0-2-1-3-9(+ ω). Postpalpal setae spiniform, smooth. Chelicerae with two barbed setae, *cha* (30) longer than *chb* (20).

Legs (fig. 13). Tridactylous, median claw thicker than laterals. Dorsoparaxial porose areas on femora, posteroventral porose areas on tarsi and anteroventral porose areas on tibiae well visible. Formulae 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 (1-2-2-4-12) [0-0-0]. Homology of setae and solenidia indicated in Table 1. Setae *l''* absent on tarsus I.

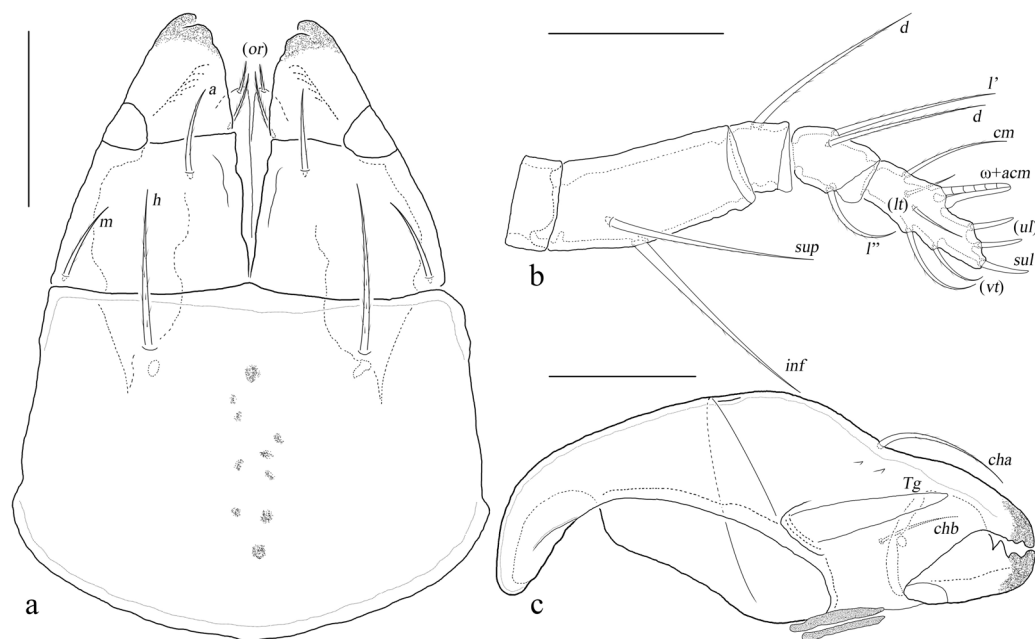


FIGURE 12. *Neoribates (Neoribates) similis* Fujikawa, 2007, adult: a—right palp, abaxial view; b—left chelicera, adaxial view; c—subcapitulum, ventral view. Scale bars: = 30 μ m.

Material examined

Four males (ZLH-20-180): China, Henan Province, Shangcheng County, Suxianshi Town, Xihe Village, Dabieshan Nature Reserve, 31°43'28"N, 115°32'24"E, 600m a.s.l., in soil under hardwood forest, 17.VII.2020. One male (ZLH-21-191): China, Henan Province, Xinyang City, Shihe District, Shihegang Town, 31°58'43"N, 113°58'43"E, 119m a.s.l., in soil under bush, 20.VII.2020. One female (ZLH-20-243): China, Henan Province, Neixiang County, Baotianman National Nature Reserve, 33°30'20"N, 111°55'42"E, 1257m a.s.l., in soil under hardwood forest, 30.VII.2020. All specimens were collected by Lihao Zheng.

Distribution

The known representatives of the *N. (N.) similis* were recorded in China for the first time from Henan.

Specimens deposition

Specimens are deposited in the collection of IZAS.

Remarks

Generally, specimens of this species are similar with two species: *N. (N.) similis* Fujikawa, 2007 and *N. (N.) roubali* (Berlese, 1910) (see Berlese 1914, Aoki 1966, Suzuki 1979, Wen 1987, Mahunka 1992) by four pairs of genital setae, bothridial setae fusiform with long stalk, *etc.* By comparing our specimens with descriptions of these two species, we think the morphological characters of specimens here (interlamellar and lamellar setae without flagellate tip) are more coincident with *N. (N.) similis* described and illustrated originally by Fujikawa (2007).

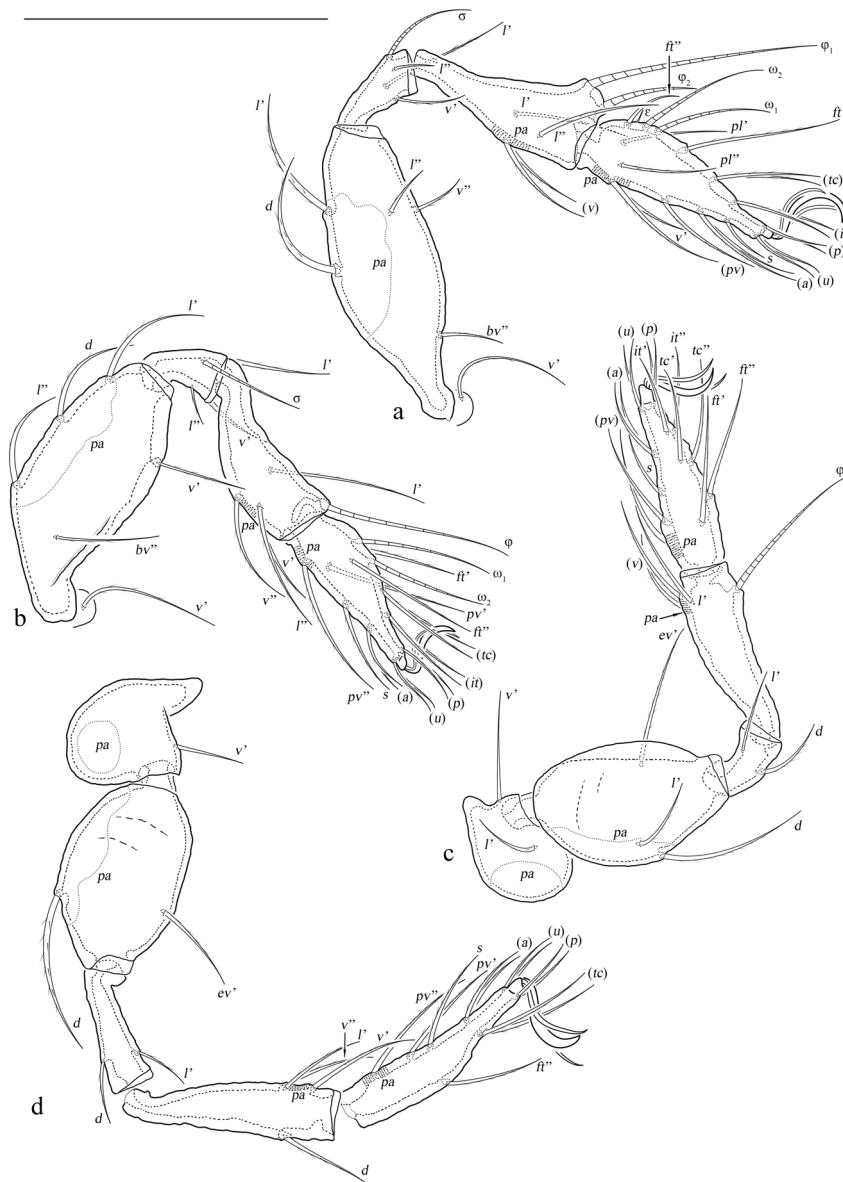


FIGURE 13. *Neoribates (Neoribates) similis* Fujikawa, 2007, legs of adult, right, antiaxial view: a—leg I; b—leg II; c—leg III; d—leg IV. Scale bar = 100 μ m.

Considering previous descriptions and illustrations of this species are brief, records of gnathosoma and legs are missing, we made this supplementary description, added new figures and information about morphological characters of this species.

In the process of compare specimens with known species, we found that differences between *N. (N.) similis* Fujikawa, 2007 and *N. (N.) roubali* (Berlese, 1910) are subtle. The main difference between these two species lies in tip of prodorsal setae flagellate or not. So, we suggest further study within these two species are needed.

Key to known species of *Neoribates* from China

1. Anterior margin of pteromorphs pointed (body length: 680). *N. (Parakalumma) lydia* Jacot, 1923 (*N.*)
 - Anterior margin of pteromorphs rounded 2
2. Bothridial setae setiform (body length: 796–946) *N. (N.) rotundus* Aoki, 1982
 - Bothridial setae rod-like or with developed heads 3
3. Four pairs of genital setae 4
 - Five pairs of genital setae 10
4. Lamellae fused anteriorly (body length: 630) *N. (N.) conflatus* **sp. nov.**
 - Lamellae not fused anteriorly 5
5. Rostrum with sharply pointed tip, bothridial setae rod-like (body length: 910–1045)
 *N. (N.) incisus* Hagino, Shimano & Aoki, 2016
 - Rostrum with rounded tip, bothridial setae with developed head 6
6. Pteromorphs foveolate and lineolate (body length: unknown) *N. (N.) pyramidalis* (Tseng 1984)
 - Pteromorphs smooth 7
7. Body surface lineolate (body length: 464–564) *N. (N.) yangensis* Ermilov, 2019
 - Body surface smooth 8
8. Bothridial setae fusiform 9
 - Bothridial setae lanceolate (body length: 475–570) *N. (N.) cheni* Liang & Yang, 2013
9. Interlamellar setae with flagellate tip (body length: 430–730) *N. (N.) roubali* (Berlese, 1910)
 - Interlamellar setae without flagellate tip (body length: 450–580) *N. (N.) similis* Fujikawa, 2007
10. Surface of notogaster smooth 11
 - Surface of notogaster rough, with particles or striate 12
11. Bothridial setae cupped, with clavate head (body length: 480–490)
 *N. (N.) cupulatus* Liang, Yang & Tang, 2014
 - Bothridial setae not cupped, with fusiform head (body length: 470–530) *N. (N.) fusiformis* **sp. nov.**
12. Surface of notogaster striate, setae *ad*₃ inserted anterior to anal aperture (body length: 514–531)
 *N. (N.) striatissimus* Ermilov & Starý, 2017
 - Surface of notogaster not striate, setae *ad*₃ inserted lateral to anal aperture (body length: 475–570)
 *N. (N.) particular* Liang & Yang, 2013

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