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NEW SPECIES OF MITES OF THE GENUS *KERDABANIA* (ACARI: HETEROSTIGMATA: NEOPYGMEPHORIDAE) FROM WESTERN SIBERIA, RUSSIA

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ABSTRACT: A new species, *Kerdabania sibiriensis* Khaustov sp. n., collected from soil in Western Siberia is described. A key to world species of the genus *Kerdabania* is provided.

KEY WORDS: Neopygmephoridae, *Kerdabania*, new species, Western Siberia, soil

INTRODUCTION

The mite genus *Kerdabania* Khaustov, 2009 (Acari: Pygmephoroidea: Neopygmephoridae) includes 12 described species*: K. inconspicuus* (Berlese, 1904), *K. quadrata* (Ewing, 1917), *K. kochi* (Krczal, 1959), *K. longiclavata* (Savulkina, 1977), *K. arctica* (Thor, 1934), *K. dracenae* (Rack et Kaliszewski, 1985), *K. madagassica* (Mahunka et Mahunka-Papp, 1994), *K. fatmae* (Sevastianov et Abo-Korah, 1985), *K. magnifica* Khaustov, 2009, *K. elongata* Khaustov, 2009, *K. minima* Khaustov, 2009, and *K. variabilis* Khaustov, 2009 (Khaustov 2009). Mites of the genus *Kerdabania* are distributed worldwide and inhabit soils, forest litter, nests of small mammals, and other similar habitats. During my study of soil mites of Western Siberia, a new species of the genus *Kerdabania* was found, *Kerdabania sibiriensis*, sp. n. I describe this new species and give a key to species of this genus.

MATERIALS AND METHODS

Mites were collected from soil using Berlese's funnels and mounted in Hoyer's medium. In the taxonomic section, the terminology of the idiosoma and legs follows Lindquist (1986); the nomenclature of subcapitular setae and the designation of cheliceral setae follow Grandjean (1944, 1947), respectively. The system of Pygmephoroidea follows Khaustov (2004, 2008). All measurements are given in micrometers (μm). For leg chaetotaxy the number of solenidia is given in parenthesis.

SYSTEMATICS

Family Neopygmephoridae Cross, 1965
Genus *Kerdabania* Khaustov, 2009

Type species: *Kerdabania magnifica* Khaustov, 2009, by original designation.

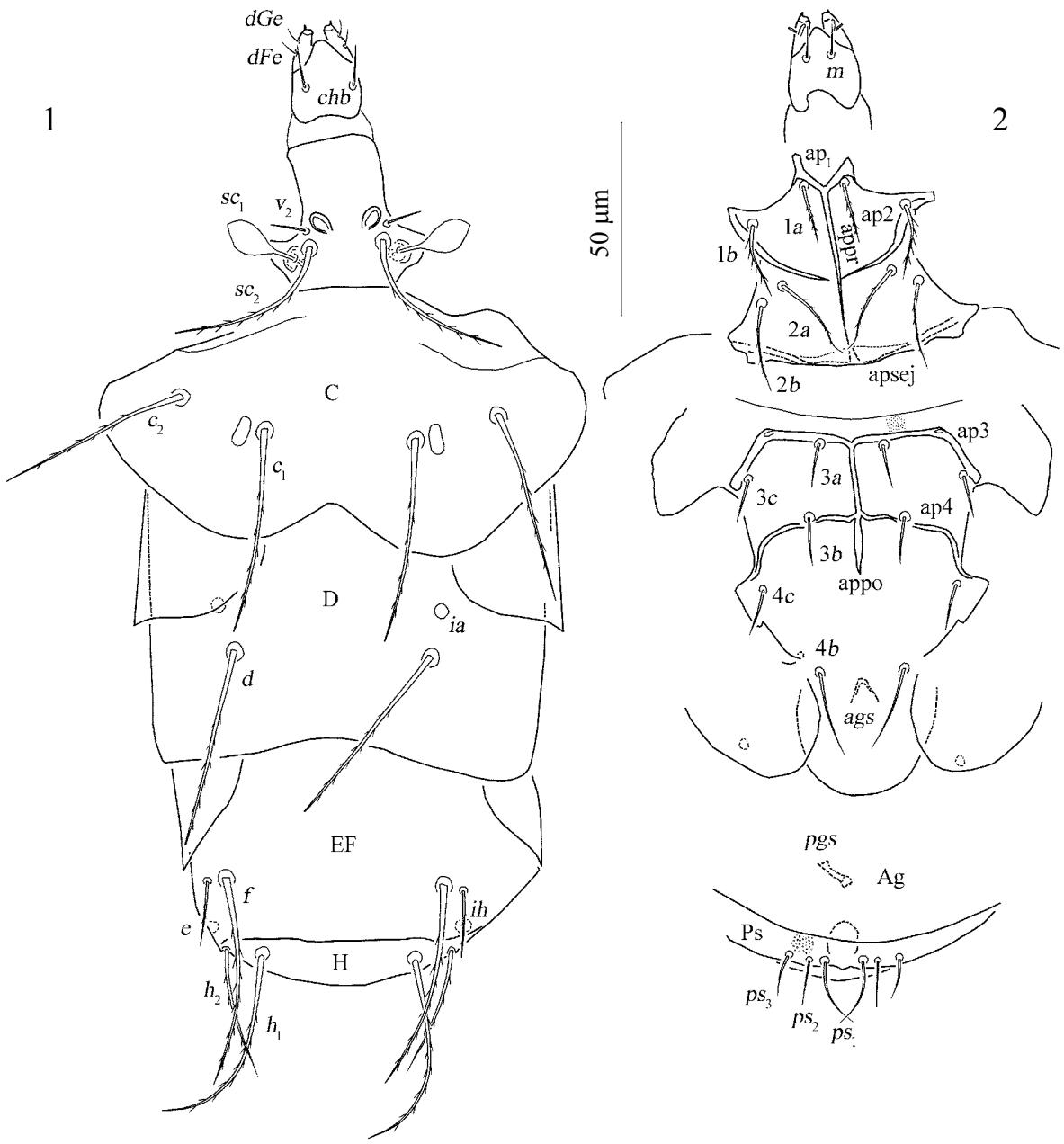
Kerdabania sibiriensis Khaustov sp. n.

Figs 1–6

Description. Female. Gnathosoma (Figs 1–2). Gnathosomal capsule semioval, slightly longer than its width. Dorsally with 1 pair of smooth setae, *chb* 14 (12–14). Dorsal medial apodeme inconspicuous. Ventral gnathosoma with 1 pair of subcapitular setae, *m* 8 (7–9). Palps freely articulated to gnathosomal capsule with subequal setae *dFe* and *dGe* dorsolaterally, 1 small solenidion, accessory setigenous structure ventrally, and small claw at tip.

Idiosomal dorsum (Fig. 1). Idiosomal length 224 (219–229), width 120 (118–125). Prodorsum with 2 pairs of setae (v_2, sc_2), 1 pair of clavate smooth trichobothria (sc_1) and 1 pair of oval stigmata. All dorsal plates with very small dimples. Setae v_2 smooth, other dorsal setae sparsely barbed. Setae sc_2, c_1, *d*, *f*, and h_1 indistinctly blunt-ended; other dorsal setae pointed. Posterior margins of tergites C and D distinctly concave. Cupules *ia* and *ih* large, round. A pair of oval porous fields situated laterally to bases of setae c_1. Length of dorsal setae: v_2 10 (9–10), sc_2 48 (46–53), c_1 57 (55–62), c_2 52 (50–55), *d* 53 (52–57), *e* 19 (18–19), *f* 59 (57–63), h_1 56 (53–58), h_2 44 (40–45). Distances between dorsal setae: v_2–v_2 21 (20–21), sc_2–sc_2 19 (18–20), c_1–c_1 40 (40–43), c_1–c_2 24 (21–25), *d*–*d* 51 (50–55), *e*–*f* 5 (5–6), *f*–*f* 57 (55–59), h_1–h_1 40 (39–42), h_1–h_2 9 (8–9).

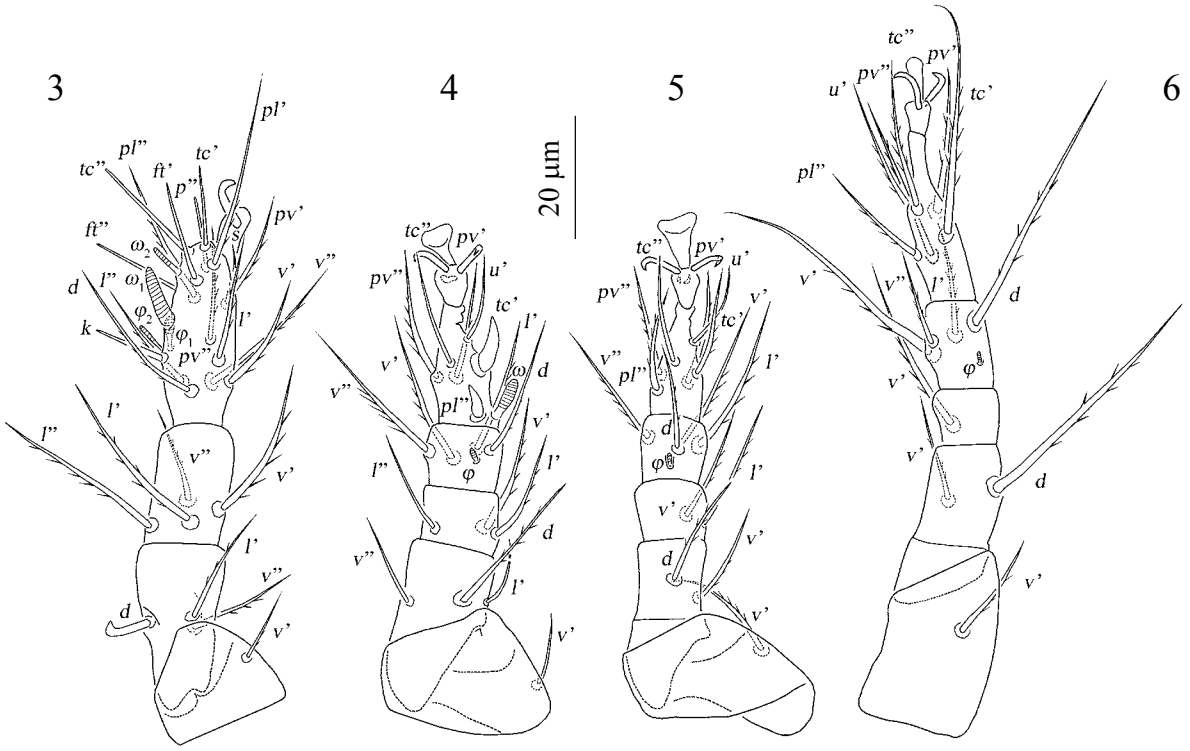
Idiosomal venter (Fig. 2). All setae on anterior sternal plates barbed, setae 1*b* strongly barbed, not bifurcate. Other ventral setae smooth. All ventral plates with very small dimples. Dimples on pseudanal plate larger than on other ventral plates. Apodemes 1 (ap1) well developed and joined with presternal apodeme (appr); apodemes 2 (ap2) thin, usually not joined with appr, but in some specimens one of ap2 joined with appr. Presternal and



Figs 1–2. *Kerdabania sibiriensis* Khaustov sp. n., female: 1 — dorsum, 2 — venter.

sejugal (apsej) apodemes well developed; apodemes 3 (ap3) well sclerotized, arch-like. Apodemes 4 (ap4) well sclerotized and long, apodemes 5 absent. Posterior margin of posterior sternal plate tripartite. Posterior margin of aggenital plate rounded. Anterior genital sclerite (ags) bell-like, posterior genital sclerite (pgs) small, baculiform. Setae 4a absent, but in one specimen an unpaired setae 4*a* present. Pseudanal setae ps_1 distinctly longer than subequal ps_2–ps_3. Length of ventral setae: 1*a* 17 (16–19), 1*b* 24 (22–26), 2*a* 28 (26–29), 2*b* 28 (26–29), 3*a* 14 (13–14), 3*b* 14 (13–14), 3*c* 15 (13–15), 4*b* 25 (21–25), 4*c* 14 (12–14), ps_1 23 (21–24), ps_2 12 (11–12), ps_3 12 (11–12).

Legs (Figs 3–6). Leg I (Fig. 3) Setal formula: 1–3–4–16(4). Tibiotarsus not thickened, cylindrical, with simple terminal claw situated on distinct pretarsus. Structure opposing to claw (modified setae *u'–u"*) absent. Setae *k* blunt-ended, smooth. Length of solenidia ω_1 10 (10–11) > ω_2 6 (5–6) < φ_1 8 (7–8) > φ_2 5 (5–6); ω_2 and φ_2 baculiform, φ_1 clavate, ω_1 finger-shaped. Setae *dFe* broadened, hook-like. All setae, except eupathidia barbed. Leg II (Fig. 4). Setal formula: 1–3–3–4(1)–6(1). Tarsus with pair of simple claws and large empodium. So-



Figs 3–6. *Kerdabania sibiriensis* Khaustov sp. n., female: 3–6 — legs I–IV, respectively.

lenidion ω 7 (7–8), finger-shaped, solenidion φ 3 (3–4) weakly clavate. Setae *pl"* and *tc'* spine-like and curved. Leg III (Fig. 5). Setal formula: 1–2–2–4(1)–6. Claws of same shape as on tarsus II. Solenidion φ 3 (3–4) weakly clavate. Setae *dFeIII* blunt-ended. Leg IV (Fig. 6). Setal formula: 1–2–1–4(1)–6. All setae barbed. Solenidion φ 3 (3–4) weakly clavate. Setae *dFeIV* blunt-ended.

Male and **larva** unknown.

Type material. Female holotype, slide AA160414, Russia, Tyumen Prov., Tyumen, soil on meadow, 57°09′30.6″ N, 65°31′18.8″ E, 16 April 2014, coll. A.A. Khaustov. Paratypes: 7 females same data.

Type depositories. The type material of new species is deposited in the acarological collection of the Tyumen State University Museum of Zoology, Tyumen, Russia.

Differential diagnosis. The new species is most similar to *K. variabilis* Khaustov, 2009 by the spine-like setae *pl"* and *tc'* on tarsus II, the absence of modified setae on tarsus III, the short distance between bases of setae h_1–h_2, and relatively short setae on posterior sternal plate. It differs from *K. variabilis* by the non-bifurcate setae 1*b* (bifurcate in *K. variabilis*) and by the presence of oval porous fields laterally to bases of setae c_1 (absent in *K. variabilis*).

Etymology. The species name, *sibiriensis,* refers to distribution of the new species in Siberia.

Key to females of the genus *Kerdabania* of the world

inadequately described *K. arctica* (Thor, 1934)
not included

1. Setae 1*b* bifurcate 2
— Setae 1*b* not bifurcate 4
2. Setae *pl"* and *tc'* on tarsus II spiniform 3
— Setae *pl"* and *tc'* on tarsus II not modified .... *K. longiclavata* (Savulkina, 1977). Bulgaria.
3. Apodemes 3 absent ..... *K. fatmae* (Sevastianov et Abo-Korah, 1985). Egypt.
— Apodemes 3 well-developed, arch-like .... *K. variabilis* Khaustov, 2009. Crimea.
4. Setae *pl"* on tarsus III spiniform 5
— Setae *pl"* on tarsus III not modified 7
5. Setae h_1 blunt-ended, about 2 times shorter than h_2 6
— Setae h_1 pointed and little longer than h_2 .... *K. inconspicuus* (Berlese, 1904). Holarctic.
6. Eupathidia *ft'* and *ft"* subequal on tarsus I, setae 3*a*, 3*b*, 4*b* and pseudanal setae smooth .... *K. dracenae* (Rack et Kaliszewski, 1985). Belgium.
— Eupathidion *ft'* much shorter than *ft"* on tarsus I, setae 3*a*, 3*b*, 4*b* and pseudanal setae barbed .....

..... *K. madagassica* (Mahunka et Mahunka-Papp, 1994). Madagascar.

7. Distance between bases of setae ps_1 and ps_2 subequal with distance between ps_2 and ps_3, eupathidion *tc'* on tarsus I much shorter than tibiotarsus I 8

— Distance between bases of setae ps_1 and ps_2 much shorter than distance between ps_2 and ps_3, eupathidion *tc'* on tarsus I subequal with length of tibiotarsus I ..... *K. kochi* (Krczal, 1959). Germany, Ukraine.

8. At least some of dorsal hysterosomal setae pointed 9

— All dorsal hysterosomal setae blunt-ended .... *K. quadrata* (Ewing, 1917). North America.

9. Setae *pl"* on tarsus II modified, spiniform ... 10

— Setae *pl"* on tarsus II not modified .... *K. elongata* Khaustov, 2009. Crimea.

10. Setae *tc'* on tarsus II spiniform, relatively short, reaching top of tarsus II 11

— Setae *tc'* on tarsus II weakly incrassate, relatively long, reaching bases of claws of tarsus II ..... *K. minuta* Khaustov, 2009. Crimea.

11. Distance between setae h_1–h_1 subequal to h_1–h_2, setae 3*a* extending beyond apodemes 4 .... *K. magnifica* Khaustov, 2009. Crimea.

— Distance between setae h_1–h_1 much longer than h_1–h_2, setae 3*a* not extending apodemes 4 ..... *K. sibiriensis* sp. n. Western Siberia.

REFERENCES

Grandjean, F. 1944. Observations sure les Acariens de la famille des Stigmaeidae. *Archives des Sciences physiques et naturelles*, 26: 103–131.

Grandjean, F. 1947. L'origine pileuse des mors et la chaetotaxie de la mandibule chez les Acariens actinochitineux. *Comptes rendus des séances de l'Academie des Sciences*, 224: 1251–1254.

Khaustov, A.A. 2004. [Mites of the family Neopygmephoridae Cross, 1965 stat. n. and their position in Heterostigmata]. *In*: Y.S. Balashov (Ed.). VIII Russian Acarological Conference, St.-Petersburg. Zoological Institute of RAS, St.-Petersburg, p. 137. [in Russian]

Khaustov, A.A. (2008). *Mites of the family Scutacaridae of Eastern Palaearctic*. Akademperiodyka, Kiev, 291 pp.

Khaustov, A.A. 2009. A description of new genus, *Kerdabania* gen. n. with four new species (Acari: Heterostigmata: Neopygmephoridae). *Acarina*, 17 (2): 171–188.

Lindquist, E.E. 1986. The world genera of Tarsonemidae (Acari: Heterostigmata): a morphological, phylogenetic, and systematic revision, with a reclassification of family-group taxa in Heterostigmata. *Memoirs of Entomological Society of Canada*, 136: 1–517.