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## Two new species of the genus *Feltria* Koenike, 1892, with notes on the water mite fauna of Kyrgyzstan (Acari, Hydrachnidia)

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### Abstract

The knowledge of the water mite fauna of Kyrgyzstan is far from complete. In this study, two species, *i.e.* *Feltria* (*Feltria*) *kyrgyzica* sp. nov., and *F. (Feltria) tienshanensis* sp. nov., are described new to science; *F. (Feltriella) rubra* Piersig, 1898 is reported for the first time for Kyrgyzstan. An updated checklist of the water mite fauna of Kyrgyzstan is given, now including 48 species.

**Key words:** taxonomy, new record, running waters, springs, Central Asia

### Introduction

Kyrgyzstan, a landlocked country in Central Asia bordering Kazakhstan, Tajikistan, Uzbekistan and China, is the best studied Central Asian country in terms of diversity of water mites (Pešić *et al.* 2017). Water mites from Kyrgyzstan were treated by Daday (1903), Thor (1909), Sokolow (1940), Tuzovsky (2003) and Pešić & Smit (2017, 2018, 2020, 2021a, b, 2022). Nevertheless, our knowledge of the water mite fauna of Kyrgyzstan is still far from complete.

The water mite genus *Feltria* Koenike, 1892 has a Holarctic distribution (Gerecke *et al.* 2016). In the Palaearctic the genus comprises three subgenera, *i.e.*, *Azugofeltria* Motaş & Tanasachi, 1948, *Feltriella* K. Viets, 1930, and the nominate subgenus. In addition, one further subgenus *Neofeltria* Cook, 1963 is known from North America. Most species of the genus are rhitrobionts or crenobionts, often dwelling in mosses, some species have adapted to life in the hyporheic (see Gerecke *et al.* 2016).

The present study is based on material collected by the authors during a joint collecting trip from August 1 to 15, 2013 to Kyrgyzstan. In this paper, two new species of the genus *Feltria* are described.

### Material and methods

Water mites were collected by hand netting, sorted alive in the field, and immediately preserved in either Koenike-fluid or 96% ethanol. Some specimens were dissected, and slide mounted in Faure's medium. Morphological nomenclature follows Gerecke (2012). The holotypes and paratypes of the new species are deposited in Naturalis Biodiversity Center in Leiden (RMNH).

All measurements are given in µm. The lengths of palp and leg segments are dorsal lengths. Ventral idiosoma length is measured from the tip of Cx-I till the posterior idiosoma margin. Numbers are given as males/females/deutonymphs. The following abbreviations are used: Ac—acetabula; asl—above sea level; Cx-I—first coxae; Dgl-1-4—dorsoglandularia 1-4; Dl-1-4—dorsolateralia 1-4; Lgl-1-5—lateroglandularia 1-5; I-L-4-6—fourth-sixth segments of first leg; NP = National Park; P-1-P-5—palp segments 1-5; RMNH = Naturalis Biodiversity Center, Leiden; Vgl—ventroglandularia.

## Taxonomy

### Family Feltriidae K. Viets, 1926

### Genus *Feltria* Koenike, 1892

#### *Feltria (Feltria) kyrgyzica* sp. nov.

<https://zoobank.org/urn:lsid:zoobank.org:act:18EA15D1-EA00-49B3-9D2F-F57A98709797>

Figs. 1–2

**Type material**—Holotype ♂, dissected and slide mounted (RMNH), Kyrgyzstan, Karakol region, upper part of stream next to the road to May Saz pass (Fig. 5A), 42°25.029' N, 79°02.658' E, 3346 m asl., 12.viii.2013, leg. Pešić & Smit. Paratypes: 1/8/0 same data as the holotype, 1 ♀ dissected and slide mounted (RMNH); 1/1/0, stream next to the road to May Saz pass, 42°25.002' N, 78°58.097' E, 2955 m asl., 12.viii.2013, leg. Pešić & Smit.

**Other material**—Kyrgyzstan: upper part of stream crossing the road to Son-Kul Lake, 41°54.819' N, 75°25.697' E, 3412 m asl., 17.viii.2013, leg. Pešić & Smit, 1 ♂, dissected and slide mounted (RMNH).

**Diagnosis**—Both sexes: Setae associated with Dgl-1 fine, Dgl-2 accompanied by strongly thickened setae. Coxal plates in four groups. Genital field with 70 to 90 pairs of Ac. *Male*: Dorsum with large anterior shield and a pair of transverse posterior plates. Genital plate transverse. Palp robust and stout. III-L-6 with a long and pointed ventrolateral projection in the distal third. *Female*: Dorsum with rhomboid shield surrounded by four rounded platelets. Excretory pore in posterodorsal position. Palp slenderer than in male.

**Description**—*Male* (holotype, juvenile specimen; in parentheses some measurements of a mature specimen from the upper part of the stream next to the road to Son-Kul Lake): Idiosoma 450 in length (paratype from stream next to the road to May Saz pass 391 in length and 288 in width). Dorsum with a large dorsal shield, 347 in length and 252 in width, generally including D1-1-3 and Dgl-1-3 (Fig. 1C), but occasionally (in holotype, Fig. 1A) Dgl-1 on a separate paired plate; Dgl-4+Dl-4 on a pair of large, transverse platelets. Frontal area with pre-antenniform glandularia, pre-ocular setae and Lgl-1 fused to each other. Coxal plates in four groups, close to each other, occupying more than half of the idiosoma surface (Fig. 1B); anterior coxae with well-developed posterior apodemes; Cx-IV posterior margin perpendicularly to longitudinal axis.

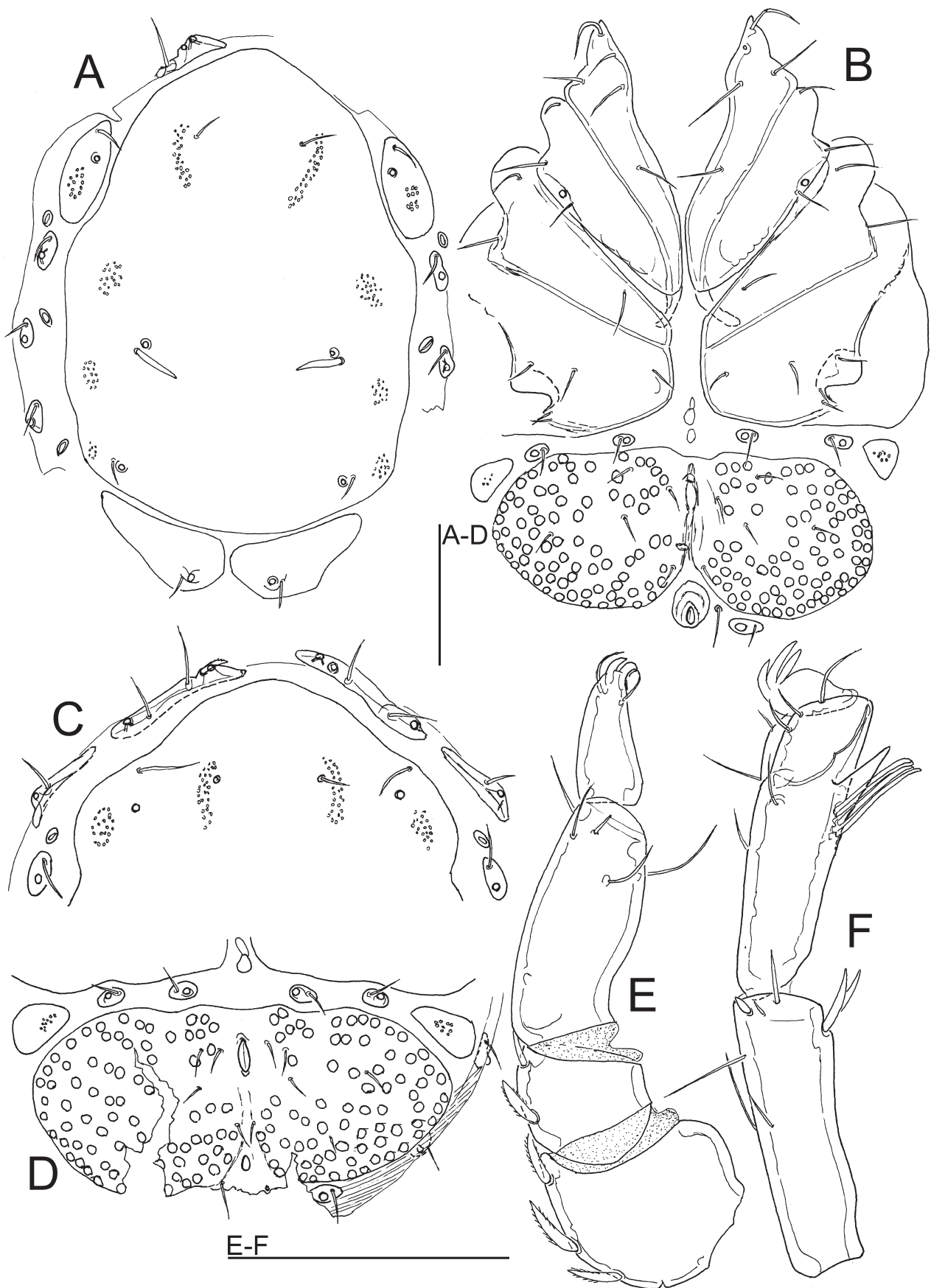
Genital plate transverse, its anterior margin a straight line, separated from Cx-IV by a narrow strip of membrane bearing the Vgl and a pair of triangular lateral platelets; 118 (128) in length and 272 (300) in width, with 72–80 pairs acetabula; gonopore short, slit-shaped, in the center (Figs. 1B, D); excretory pore on a broad platelet, laying in the posterior indentation of the genital plate margin (Fig. 1B), in a mature specimen this platelet fused to genital field (Fig. 1D), directed posteroventrally.

Palp robust and stout, P-2 ventral margin convex, P-4 with a weakly-developed ventral groove flanked by two setae (Fig. 1E, 2A); dorsal length/height of palpal segments: P-1, 23/- (23/31); P-2, 72/67 (74/65); P-3, 39/45 (42/47); P-4, 90/38 (89/41); P-5, 53/24 (51/25); length P-2/P-4 ratio 0.8 (0.83). Gnathosoma ventral length 64 (91 with apodemes); chelicera length 116.

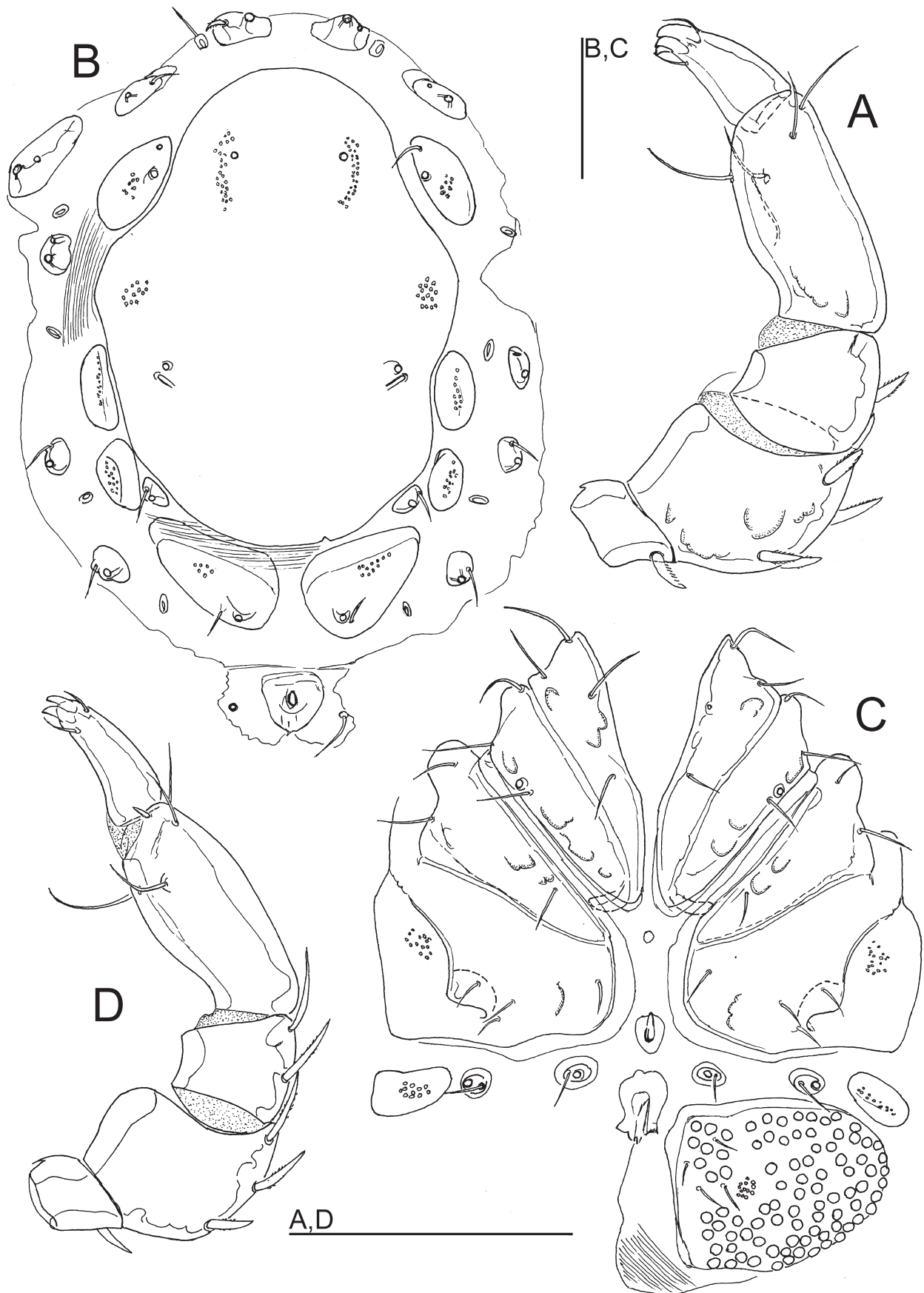
III-L-6 with a long and pointed ventrolateral projection in the distal third, bearing 4–5 long setae (Fig. 1F); dorsal lengths of III-L-2-6: 52 (52), 64 (66), 92 (91), 106 (100), 114 (121); dorsal lengths of IV-L-1-6: 84, 52 (56), 72 (82), 102 (116), 118 (123), 109 (131).

*Female* (from upper part of stream next to the road to May Saz pass; in parentheses some measurements of conserved specimens): Idiosoma length 490 (497–512, n=3) in length and (359–400, n=3) in width, length/width ratio 1.28–1.38 (n=3); dorsal shield, including Dgl-2, 338 in length and 256 in width; Dgl-1 on platelets anterolateral to dorsal shield. Dl-2 elongated, Dl-3 and Dgl-3 separate from each other, Dgl-4+Dl-4 on a pair of large, transverse platelets (Fig. 2B); excretory pore platelet broad, directed posteroventrally. Coxal field 302 in length, Cx-III 316 in width. Genital plates subtriangular, 122–125 in length and 156 in width, with about 90 pairs of acetabula.

Chaetotaxy of palp as given in Fig. 2D; dorsal length/height of palpal segments: P-1, 23/28; P-2, 64/58; P-3, 39/39; P-4, 88/38; P-5, 55/20; length P-2/P-4 ratio 0.73. Gnathosoma ventral length 103; chelicera 122 in length. III-L-6 without ventrolateral projection. Dorsal lengths of I-L-2-6: 46, 52, 67, 80, 90; I-L-6 height 32, I-L-6 dorsal length/height ratio 2.8; dorsal lengths of IV-L-1-6: 86, 50, 78, 116, 125, 131.



**FIGURE 1.** *Feltria kyrgyzica* sp. nov., ♂ (A–B, E–F holotype, upper part of stream next to the road to May Saz pass; C–D, specimen from upper part of stream crossing the road to Son-Kul Lake): A—Dorsum; A—Venter; C—Frontal area of dorsum; D—Genital field; E—Palp (segments 2–5); F—I–L-5 and -6. Scale bars = 100 μm.



**FIGURE 2.** *Feltria kyrgyzica* sp. nov. (A, ♂ from upper part of stream crossing the road to Son-Kul Lake; B–F, ♀ paratype, upper part of stream next to the road to May Saz pass): A, D—palp; B—Dorsum and excretory pore platelet; C—Venter (right genital plate lacking). Scale bars = 100  $\mu$ m.



**Etymology**—The new species is named after the country where it was collected. The name *kyrgyzica* is an adjective, gender feminine.

**Discussion**—*Feltria kyrgyzica* **sp. nov.** belongs to *F. minuta*-complex, a group rather dishomogenous in male morphology (primarily defined by genital plate with straight anterior margin and gonopore in a central position) but in females well defined by the combination of postantenniformia included into, but Dgl-1 and Dl-2 and Dl-3 separate from, dorsal shield. The new species from Kyrgyzstan is most similar to *Feltria indica* Pešić & Panesar, 2008, known from the Indian Himalayas (Pešić & Panesar 2008). The male of both species with III-L-6 bearing a long and pointed ventrolateral projection in the distal third and with a similar pattern of dorsal sclerites in both sexes. The latter species can clearly be separated by having thickened setae associated with glandularia Dgl-1 (fine in *K. kyrgyzica* **sp. nov.**) in both sexes (see Figs. 1 and 7 in Pešić & Panesar 2008).

**Distribution**—Kyrgyzstan; known from streams in the Tien Shan Mountains at an elevation of about 3000–3400 meters.

***Feltria (Feltria) tienshanensis* sp. nov.**

<https://zoobank.org/urn:lsid:zoobank.org:act:D7D4C3C9-B896-4AA7-A2F3-D3194D9CE537>

Figs. 3–4

**Type material**—Holotype ♂, dissected and slide mounted (RMNH), Kyrgyzstan, river next to the road to Son-Kul Lake (Fig. 5B), 41°56.488' N, 75°35.274' E, 2426 m asl., 15.viii.2013, leg. Pešić & Smit. Paratypes: 3/30/0, same data as the holotype, 1♀ dissected and slide mounted (RMNH).

**Other material**—Kyrgyzstan: Dzhaman-Echki stream flowing into Son-Kul Lake, 41°55.482' N, 75°11.861' E, 3065 m asl., 16.viii.2013, leg. Smit 1/2/0 (RMNH); Aktash river near Son-Kul lake, 41°51.549' N, 75°20.129' E, 3048 m asl., 16.viii.2013, leg. Pešić & Smit 0/1/0 (RMNH).

**Diagnosis**—Both sexes: Coxal plates in four groups. Genital field with 40–55 pairs of Ac. Male: Frontal area with a pair of rod-shaped frontal plates including pre-antenniform glandularia, pre-ocular setae and Lgl-1+2; excretory pore plate and flanking glandularia fused to the posterior margin of the genital plate. III-L-6 with a rounded ventrolateral projection in the distal third, bearing 5–6 setae. Female: Frontal area with pre-antenniform glandularia, pre-ocular setae and Lgl-1 fused to each other; dorsum with a dorsal shield, much longer than wider, L/W ratio 1.3, surrounded by four rounded platelets. Excretory pore in posteroventral position. Palp slender than in male.

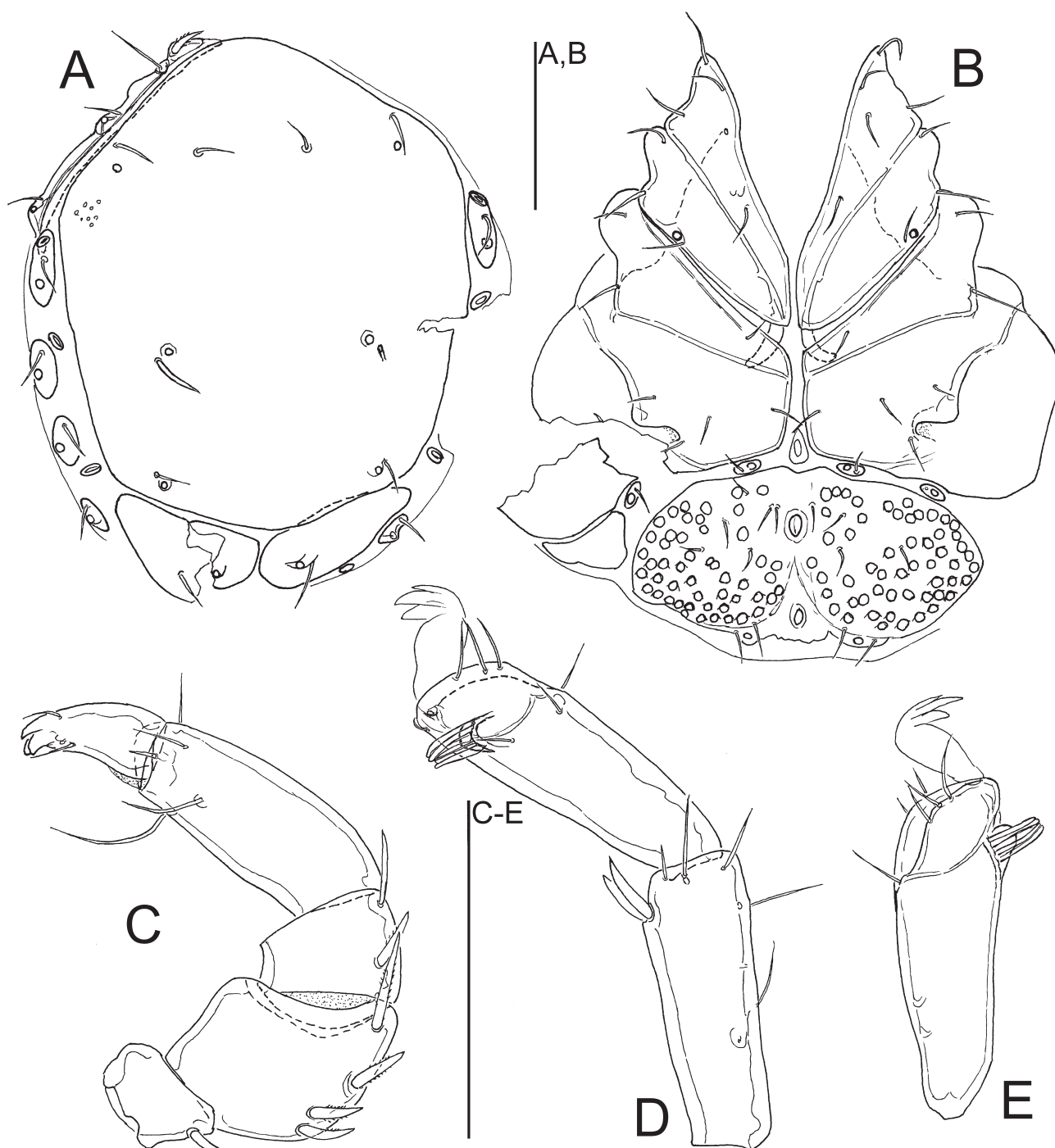
**Description**—*Male* (holotype): Idiosoma length 359 (paratypes [n=3] from river on the road to Son-Kul Lake 352–359 in length and 264–288 in width, length/width ratio 1.23–1.36). Dorsum with a large dorsal shield (including Dl-1-3 and Dgl-1-3), 291 in length and 241 width, Dgl-4+Dl-4 on a pair of large, transverse platelets (Fig. 3A). Coxal plates in four groups, close to each other, coxal field 269 in length, Cx-III 216 in width; Cx-IV posterior margin perpendicularly to longitudinal axis, (Fig. 3B).

Genital plate separated from Cx-IV by a narrow strip of membrane bearing the Vgl and a triangular lateral platelet, transverse, 100 in length and 270 in width, with 54–55 pairs of acetabula; gonopore short, length 14, in the center; platelet bearing the excretory pore broad, in the indentation of posterior margin of genital plate, fused to it (Fig. 3B).

Palp robust and stout, P-4 equally narrowed from base to tip (Fig. 3C); dorsal length/height of palpal segments: P-1, 23/31; P-2, 64/52; P-3, 33/41; P-4, 80/33; P-5, 42/20; length ratio P-2/P-4 0.8.

III-L-6 with a rounded ventrolateral projection in the distal third, bearing 5–6 setae (Figs. 3D–E); dorsal lengths of III-L-1-6: 28, 44, 54, 75, 88, 98; dorsal lengths of IV-L-1-6: 61, 45, 61, 92, 103, 113.

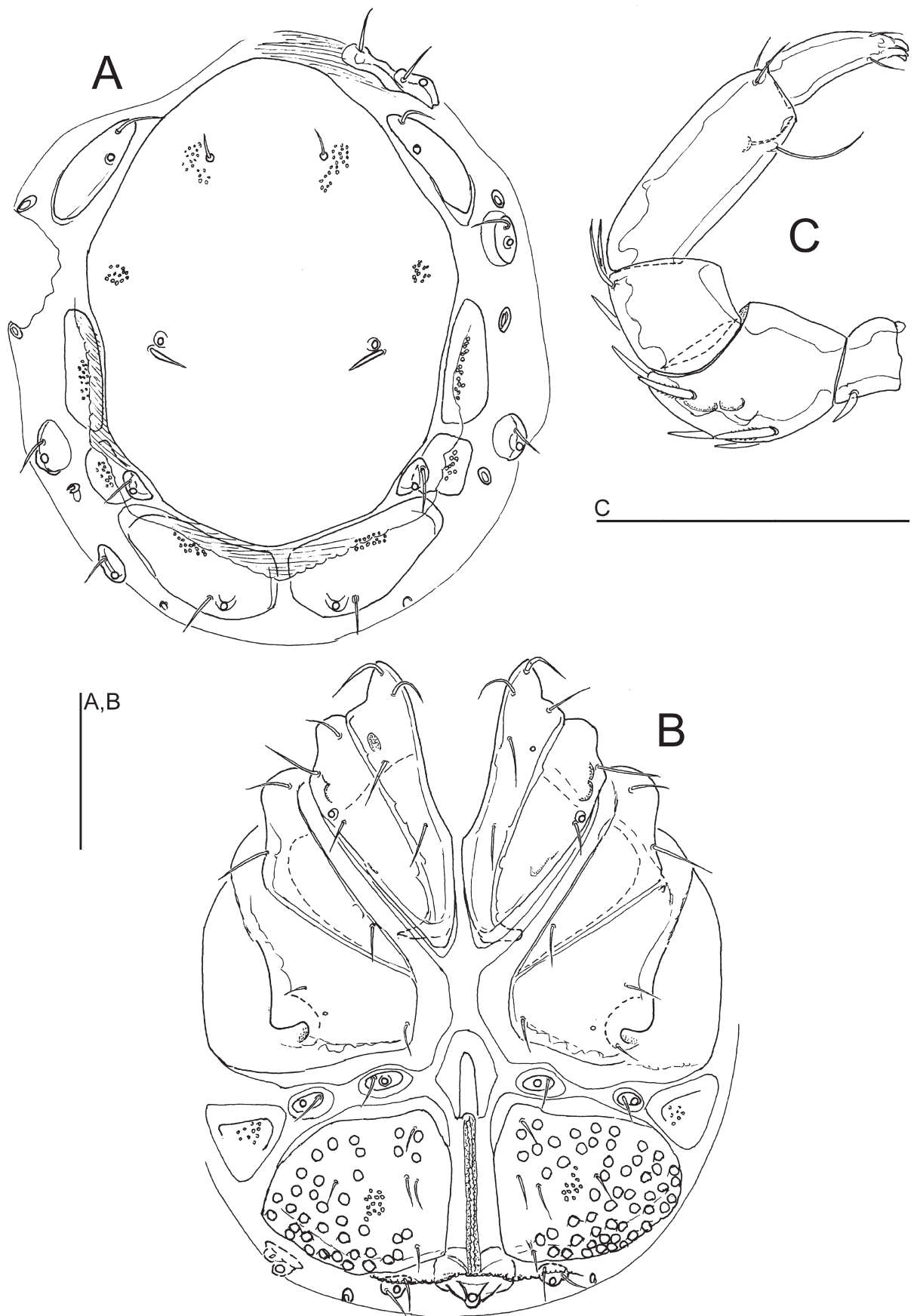
*Female* (from river next to the road to Son-Kul Lake; in parentheses some measurements of conserved specimens): Idiosoma 419 (422–466, n=5) in length and 359 (330–397, n=5) in width and 330–397 in width, length/width ratio 1.17 (1.17–1.28, n=3); dorsal shield, including Dgl-2, 313 in length and 238 in width; Dgl-1 on platelets anterolateral to dorsal shield margins. Dl-2 elongated, Dl-3 and Dgl-3 separate from each other, Dgl-4+Dl-4 on a pair of large, transverse platelets (Fig. 4A); excretory pore platelet broad, directed posteroventrally. Coxal field length 273, Cx-III width 256. Genital plates subtriangular, 116 in length and 123 in width, with about 40–52 pairs of acetabula.



**FIGURE 3.** *Feltria tienshanensis* sp. nov., ♂ holotype, river next to the road to Son-Kul Lake: A—Dorsum; B—Venter; C—Palp; D—I-L-5 and -6 (mounted); E—I-L-6 (unmounted). Scale bars = 100 µm.

Chaetotaxy of palp as given in Fig. 4C; dorsal length/height of palpal segments: P-1, 21/23; P-2, 59/47; P-3, 34/35; P-4, 81/28; P-5, 45/17; length ratio P-2/P-4 0.73. Gnathosoma ventral length 108. III-L-6 without ventrolateral projection. Dorsal lengths of I-L-1-6: 41, 39, 45, 61, 67, 83; I-L-6 height 29, I-L-6 dorsal length/height ratio 2.9; dorsal lengths of IV-L-1-6: 72, 45, 63, 86, 97, 116.

**Etymology**—The new species is named after the Tien Shan Mountain range from where the new species was collected. The name is an adjective derived from a geographical name.



**FIGURE 4.** *Feltria tienshanensis* sp. nov., ♀ paratype, river next to the road to Son-Kul Lake: A—Dorsum; B—Venter; C—Palp. Scale bars = 100 µm.



**Discussion**—*Feltria kuluensis* Tuzovskij, 1988, with a distribution from the Far East of Russia (Magadan region; Tuzovskij 1988) to South Korea (Pešić *et al.* 2015) is similar to the new species in the shape of the male III-L-5/6 and the arrangement of dorsal sclerites in both sexes. At present state of knowledge, males of the new species are separated by the rod-shaped frontal plates that include praeantenniform glandularia, praeocular setae and Lgl-1+2 (in *F. kuluensis* frontal plates do not reach Lgl-2, see Tuzovskij 1988 fig. 7/1) and the excretory pore plate and the flanking glandularia fused to the posterior genital plate margin. The female of *F. kuluensis* can be distinguished by the dorsal shield only slightly longer than wide (length/width ratio 1.14 in *F. kuluensis*, data taken from Tuzovskij 1988; 1.3 in *F. tienshahensis* **sp. nov.**) and the frontal area with praeantenniform glandularia, praeocular setae and Lgl-1 all lying on separate platelets (see Tuzovskij 1988 fig. 7/5) (in *F. tienshahensis* **sp. nov.** pre-antenniform glandularia, pre-ocular setae and Lgl-1 fused to each other).

*Feltria minuta* Koenike, 1892, differs in P-4 with both ventral setae on slightly elevated, parallel longitudinal extensions, and male IV-L-6 relatively shorter with ventrolateral extension bearing one fine seta and two enlarged, transparent setae, adpressed to each other and directed ventrally (Gerecke *et al.* 2009).

**Distribution**—Kyrgyzstan; known from streams in the Tien Shan mountains at an elevation of about 2400–3100 meters.

### *Feltria (Feltriella) rubra* Piersig, 1898

**Material examined**—Kyrgyzstan: Ala Archa NP, tributary of Archa River, 42°36.203' N, 74°28.336' E, 1877 m asl., 9.viii.2013, leg. Pešić & Smit, 1/1/0; Karakol region, upper part of the stream next to the road to May Saz pass, 42°25.029' N, 79°02.658' E, 3346 m asl., 12.viii.2013, leg. Pešić & Smit, 0/1/0; stream next to the road to May Saz pass, 42°25.002' N, 78°58.097' E, 2955 m asl., 12.viii.2013, leg. Pešić & Smit, 1/0/0.

**Remarks**—This species is most frequently recorded from many parts of Europe, but also from China (Li *et al.* 2022) and Indian Himalayas (Pešić & Panesar 2008). While males are clearly defined by the absence of a sexual dimorphism in the male III-L-6 in combination with stout palps and a large dorsal shield excluding only Dgl-4+Dl-4, the identification of the female can be difficult (Gerecke 2012). However, the presence of a tiny, rounded Dl-1 lying in the membrane facing the anterolateral edges of the dorsal shield, a character not found in any other species of the genus, allows easy identification of females of this species (Bader 1977; Gerecke 2012).

**Remarks**—Europe, Asia Minor, India, China. New for Kyrgyzstan.

### Notes on the water mite fauna of Kyrgyzstan

An updated checklist of the water mite fauna of Kyrgyzstan results in 48 species, including the three species found in this study (Table 1). The genus *Sperchon* Kramer, 1877 with twelve species is the most diverse, followed by *Atractides* Koch, 1837 with eleven known species from Kyrgyzstan. The last two genera, together with the genus *Lebertia* Neuman, 1880, are the most common genera in streams of the Tien Shan Mountains (see Gurung *et al.* 2022 for discussion).

The total number of documented species indicates that more research is needed in Kyrgyzstan to fully document the water mite fauna of the country. At the present level of the knowledge 28 water mite species are known only from Kyrgyzstan. Most of these species were described during the last decade by the authors of this paper based on the material collected during their joint trip from August 1 to 15, 2013 in Kyrgyzstan. Among all types of habitats that were sampled, most of the newly described species were collected in mountain streams. The elevated landscape of Kyrgyzstan, which lies in the Tian Shan and Pamir Mountain ranges, provides favourable conditions for water mites that live in this type of habitat.

On the other hand, the water mite fauna of standing waters is generally poorly studied (Pešić & Smit 2017). For example, no endemic water mite species is known from Issyk-Kul, one of the largest lakes in Central Asia. The water in the lake is slightly brackish (Vinarski *et al.* 2025), so it is possible that this is the reason for the probably low diversity of water mites in this lake, which has about 80 small tributaries (Vinarski *et al.* 2025), inhabited by a diverse fauna of water mites.

**TABLE 1.** List of water mites known from Kyrgyzstan.

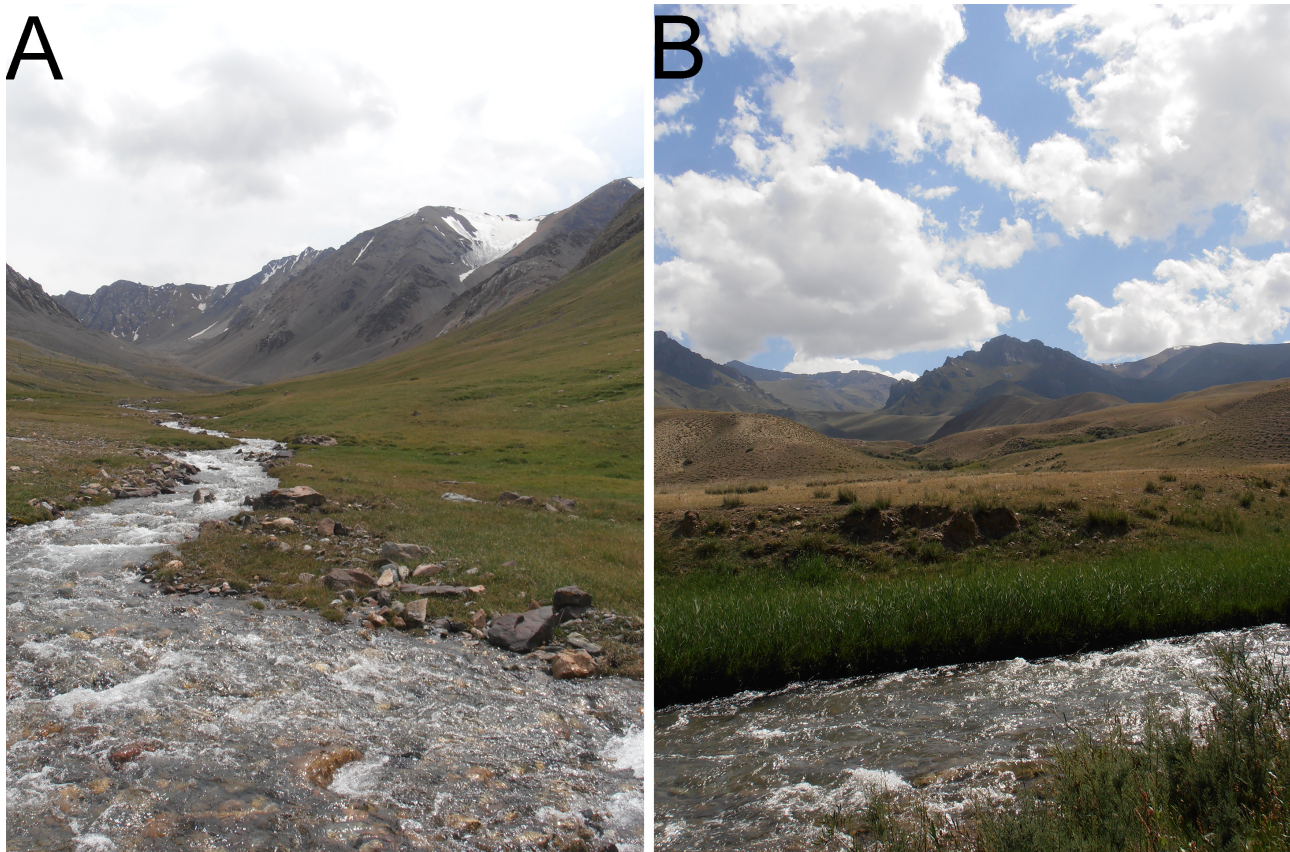
Family	Species	Reference
Eylaidae Leach, 1815	<i>Eylais pedaschenkoi</i> Thor, 1909	Thor (1909); Sokolow (1940)
Hydryphantidae Piersig, 1896	<i>Wandesia albertii</i> Pešić & Smit, 2018	Pešić & Smit (2018)
	<i>Protzia kyrgyzica</i> Pešić & Smit, 2021	Pešić <i>et al.</i> (2021)
	<i>Protzia tienshanensis</i> Pešić & Smit, 2021	Pešić <i>et al.</i> (2021)
	<i>Sperchon ampliscutatus</i> Pešić & Smit, 2020	Pešić & Smit (2020)
	<i>Sperchon asiaticus</i> Tuzovskij, 2003	Tuzovsky (2003); Pešić & Smit (2020)
	<i>Sperchon grigorievka</i> Pešić & Smit, 2020	Pešić & Smit (2020)
	<i>Sperchon karakali</i> Pešić & Smit, 2020	Pešić & Smit (2020)
	<i>Sperchon krameri</i> Pešić & Smit, 2022	Pešić & Smit (2022)
	<i>Sperchon kyrgyzicus</i> Pešić & Smit, 2020	Pešić & Smit (2020)
	<i>Sperchon minor</i> Tuzovskij, 2003	Tuzovsky (2003)
	<i>Sperchon nasutipalpis</i> Pešić & Smit, 2020	Pešić & Smit (2020)
	<i>Sperchon cf. noshaqensis</i> Imamura, 1966	Pešić & Smit (2020)
Sperchontidae Thor, 1900	<i>Sperchon cf. orbipatella</i> Zhang & Jin, 2011	Pešić & Smit (2020)
	<i>Sperchon tienshanensis</i> Pešić & Smit, 2020	Pešić & Smit (2020)
	<i>Sperchon tuzovskiji</i> Pešić & Smit, 2020	Pešić & Smit (2020)
Lebertiidae Thor, 1900	<i>Lebertia dubia</i> Thor, 1899	Daday (1903); Sokolow (1940)
	<i>Lebertia insignis</i> Neuman, 1880	Daday (1903); Sokolow (1940)
	<i>Lebertia inaequalis</i> (Koch, 1837)	Thor (1909); Sokolow (1940)
Torrenticolidae Piersig, 1902	<i>Torrenticola anomala</i> (Koch, 1837)	Daday (1903); Sokolow (1940)
	<i>Torrenticola kyrgyzica</i> Pešić & Smit, 2018	Pešić & Smit (2018)
	<i>Hygrobates kirgizicus</i> Sokolow, 1935	
	<i>Hygrobates tienshanensis</i> Pešić & Smit, 2021	Pešić & Smit (2021a)
	<i>Atractides alaarchaensis</i> Pešić & Smit, 2018	Pešić & Smit (2018); Pešić & Smit (2021b)
	<i>Atractides bellus</i> Pešić & Smit, 2021	Pešić & Smit (2021b)
	<i>Atractides grigorievka</i> Pešić & Smit, 2018	Pešić & Smit (2018)
Hygrobatidae Koch, 1842	<i>Atractides ivanae</i> Pešić & Smit, 2021	Pešić & Smit (2021b)
	<i>Atractides karakali</i> Pešić & Smit, 2021	Pešić & Smit (2021b)
	<i>Atractides kyrgyzicus</i> Pešić & Smit, 2021	Pešić & Smit (2021b)
	<i>Atractides manasi</i> Pešić & Smit, 2018	Pešić & Smit (2018)
	<i>Atractides magnisetus</i> Pešić & Smit, 2022	Pešić & Smit (2022)
	<i>Atractides sonkulensis</i> Pešić & Smit, 2018	Pešić & Smit (2018); Pešić & Smit (2021b)
	<i>Atractides tienshanensis</i> Pešić & Smit, 2021	Pešić & Smit (2021b)
	<i>Atractides yunusi</i> Pešić & Smit, 2021	Pešić & Smit (2021b)
Limnesiidae Thor, 1900	<i>Limnesia maculata</i> (Muller, 1776)	Thor (1909); Sokolow (1940)
	<i>Limnesia koenikei</i> Piersig, 1894	Pešić & Smit (2017)
Unionicolidae Oudemans, 1900	<i>Neumania kyrgyzica</i> Pešić & Smit, 2017	Pešić & Smit (2017)
Pionidae Thor, 1900	<i>Piona conglobata</i> (Koch, 1836)	Thor (1909); Sokolow (1940)

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TABLE 1. (Continued)

Family	Species	Reference
Feltriidae K. Viets, 1926	<i>Feltria kyrgyzica</i> <b>sp. nov.</b>	This study
	<i>Feltria tienshanensis</i> <b>sp. nov.</b>	This study
	<i>Feltria rubra</i> Piersig, 1898	This study
	<i>Arrenurus affinis</i> Koenike, 1887	Daday (1903); Sokolow (1940)
	<i>Arrenurus bicuspidator</i> Berlese, 1885	Daday (1903); Sokolow (1940); Tjutenkow (1956)
	<i>Arrenurus cuspidifer</i> Piersig, 1896	Daday (1903); Thor (1909); Sokolow (1940)
	<i>Arrenurus forpicatus</i> Neuman, 1880	Thor (1909); Sokolow (1940)
Arrenuridae Thor, 1900	<i>Arrenurus membranator</i> Thor, 1901	Smit <i>et al.</i> (2015)
	<i>Arrenurus rosulatus</i> Daday, 1902	Daday (1903); Sokolow (1940)
	<i>Arrenurus sinuator</i> (Müller, 1776)	Daday (1903); Sokolow (1940); Gerecke <i>et al.</i> (2016)

Only a small number of species (e.g., *Sperchon tuzovskiji*, *Hygrobatas kyrgyzicus*) known from Kyrgyzstan have been found in nearby Kazakh regions (Pešić & Smit, 2021a; Tuzovskij 2023) while common species inhabiting the Tien Shan and Himalayan ranges have not been found (Gurung *et al.* 2022). The Takla Makan Desert appears to be an effective barrier to the distribution of water mites to and from the south. Undoubtedly, a phylogeographical analysis of the Kyrgyz water mite fauna would help to explain the historical factors that could be responsible for its current distribution.



**FIGURE 5.** Photographs of sampling sites: A—Stream next to the road to May Saz pass, 2955 m asl., 12.viii.2013 (*locus typicus* of *Feltria kyrgyzica* **sp. nov.**). B—River next to the road to Son-Kul Lake, 2426 m asl., 15.viii.2013 (*locus typicus* of *Feltria tienshanensis* **sp. nov.**). Photos by V. Pešić.



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