

Water mites of the genus *Atractides* Koch, 1837 from Kyrgyzstan (Acari: Hydrachnidia: Hygrobatidae) with the description of six new species

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Original research

ABSTRACT

Water mites of the genus *Atractides* Koch, 1837 are among the most frequently found mites in running waters of the Western Palearctic. In the present study, new records are given for two previously described species, and six species new to science are described from Kyrgyzstan, i.e., *Atractides bellus* n. sp., *A. karakali* n. sp., *A. kyrgyzicus* n. sp., *A. tienshanensis* n. sp., *A. ivanae* n. sp. and *A. yunusi* n. sp. All material was collected in August 2013 during a collecting trip of the authors.

Keywords Acari; new species; running waters; springs; Kyrgyzstan

Zoobank <http://zoobank.org/38F030A2-BAC0-4AB8-BC81-F03F66E6804A>

Introduction

Water mites of the genus *Atractides* Koch, 1837 have been found in all biogeographical regions except Antarctica and Australasia. The most recent checklist of species of the genus was published by Pešić & Smit (2011), listing 297 species worldwide, most of them reported from the Palearctic (138 spp., around 46%), mostly from the Western Palearctic and the countries surrounding the Mediterranean Sea. Since then a plethora of publications with descriptions of new *Atractides* species from the Palearctic has been published (Cichocka and Biesadka 2013; Gerecke and Di Sabatino 2013; Gülle *et al.* 2015; Pešić *et al.* 2012a, b, 2014, 2015, 2016, 2020; Pešić and Smit 2018, Tuzovskij 2011, 2013, 2014) increasing the number of known species from the latter region to 164.

In the Palearctic, the species of the genus *Atractides* are among the most frequently collected mites in running waters, as well as in springs and interstitial waters. In the latter region, the genus comprises three subgenera, i.e. *Atractides* s. s., *Tympanomegapus* Thor, 1923, and *Polymegapus* K. Viets, 1926. So far only four species, *Atractides (Polymegapus) grigorievka* Pešić & Smit, 2018, *A. (Atractides) alaarchaensis* Pešić & Smit, 2018, *A. (A.) sonkulensis* Pešić & Smit, 2018, and *A. (A.) manasi* Pešić & Smit, 2018 were known from Kyrgyzstan, all described on the basis of material collected by the authors during a collecting trip from 1 to 15 August 2013 to Kyrgyzstan.

In this paper, six further new species of the genus are described. The number of water mites species of Kyrgyzstan now tallies 43 species (Pešić and Smit 2018, 2020, 2021).

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Material and methods

Water mites were collected by hand netting, sorted live in the field, and immediately preserved in Koenike's fluid and/or 96% ethanol. Some specimens were dissected, and slide mounted in Faure's medium. Morphological nomenclature follows Gerecke *et al.* (2016). The holotype and paratypes of the new species are deposited in Naturalis Biodiversity Center in Leiden (RMNH). In the section 'Material examined', collecting site abbreviations derive from the geographical database Pešić.

All measurements are in μm . The photographs of ejaculatory complexes were made using a camera on Samsung Galaxy smartphone. The following abbreviations are used: Ac-1 = first acetabulum; Cx-I = first coxae; dL = dorsal length; H = height; I-L-4-6 = fourth-sixth segments of first leg; L = length; IL = lateral length; mL = medial length; NP = National park; P-1-P-5 = palp segment 1-5; RMNH = Naturalis Biodiversity Center, Leiden; W = width.

Taxonomy

Family Hygrobatidae

Genus *Atractides* Koch, 1837

Subgenus *Atractides* s. s.

Atractides (Atractides) alaarchaensis Pešić & Smit, 2018

New records — Kyrgyzstan: KR3 Ala Archa NP, rheocrenic spring, 42°36.202' N, 074°28.837' E, 1899 m a.s.l., 9 Aug. 2013, leg. Pešić & Smit, 2♀; KR8 Chon-Kemin NP, upper part of stream near Ashu resort, Kalman Ashu village, 42°42.276' N, 76°05.101' E, 1644 m a.s.l., 10 Aug. 2013, leg. Pešić & Smit, 3♂, 10♀; KR7 Chon-Kemin NP, stream near Ashu resort, Kalman Ashu village, 42°42.906' N, 76°04.767' E, 1542 m a.s.l., 10 Aug. 2013, leg. Pešić & Smit, 4♂, 11♀, 1 deutonymph; KR15 Karakal region, road to May Saz pass, fast flowing river, 42°25.004' N, 78°58.100' E, 2981 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit, 1♀; KR25 Karakal region, Barskoon valley, Barskaun river, 42°00.370' N, 77°37.006' E, 2261 m a.s.l., 14 Aug. 2013, leg. Pešić & Smit, 1♂; KR28 small stream on the road to to Son Kol Lake, 41°57.259' N, 75°25.889' E, 2789 m a.s.l., 15 Aug. 2013, leg. Pešić & Smit, 1♂, 2♀; KR37 upper part of stream KR32 on the road to Son Kol Lake, 41°54.819' N, 75°25.697' E, 3412 m a.s.l., 17 Aug. 2013, leg. Pešić & Smit, 1♂, 3♀.

Distribution — Kyrgyzstan (Pešić and Smit 2018; this study).

Atractides (Atractides) sonkulensis Pešić & Smit, 2018

New records — Kyrgyzstan: KR8 Chon-Kemin NP, upper part of stream near Ashu resort, Kalman Ashu village, 42°42.276' N, 76°05.101' E, 1644 m a.s.l., 10. Aug. 2013, leg. Pešić & Smit, 3♂, 6♀.

Distribution — Kyrgyzstan (Pešić and Smit 2018; this study).

Atractides (Atractides) bellus n. sp.

Zoobank: 796A37C3-40DB-4E14-983D-04CFCF4CA899

Figures 1-3

Type material — Kyrgyzstan: Holotype ♂, dissected and slide mounted (RMNH), KR14 Karakal region, road to May Saz pass, spring, 42°25.033' N, 79°02.657' E, 3348 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit. Paratypes: 1♀, same site and data as the holotype, leg. Pešić & Smit, dissected and slide mounted (RMNH).

Diagnosis — Integument striated; Cx-I+II plate caudally protruding forming a large and irregular, mace-like mediocaudal extension; acetabula in an obtuse triangle; excretory pore

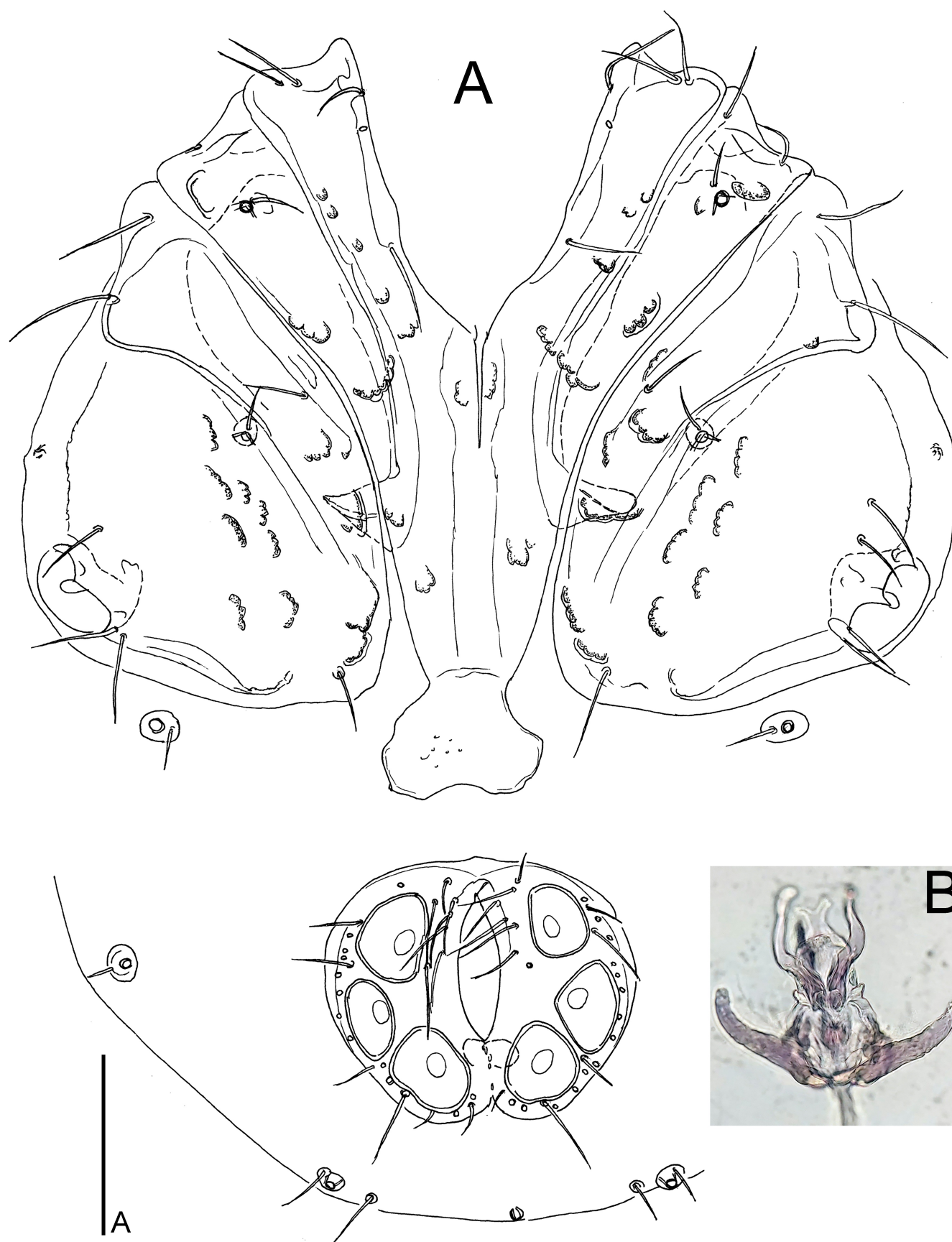


Figure 1 *Atractides bellus* n. sp., ♂ holotype, KR14 May Saz, Kyrgyzstan. A, idiosoma, ventral view. B, photograph of ejaculatory complex. Scale bar = 100 μ m.

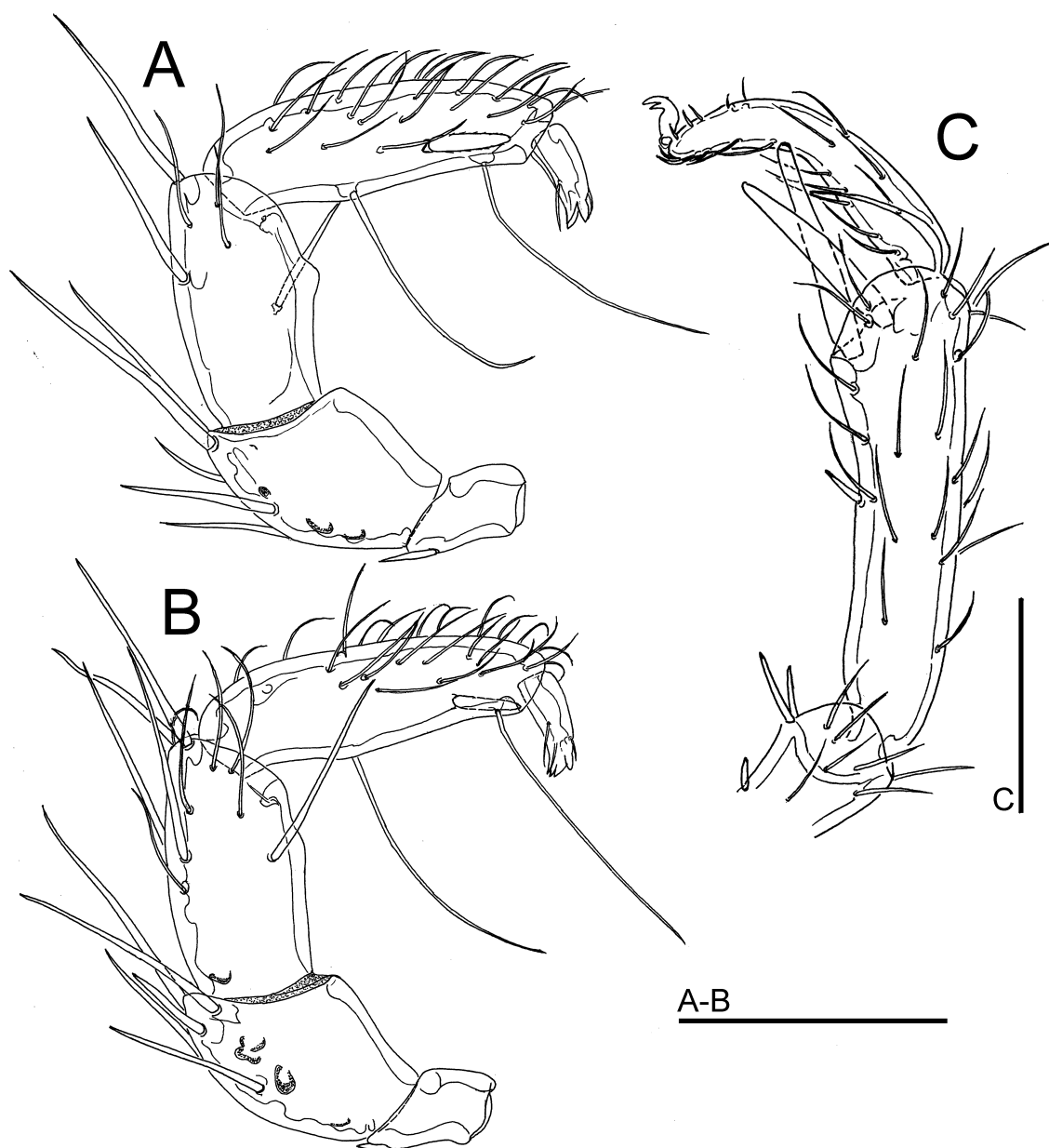


Figure 2 *Atractides bellus* n. sp., ♂ holotype, KR14 May Saz, Kyrgyzstan. A – palp, medial view; B – palp, lateral view; C – I-L-5 and -6. Scale bars = 100 μ m.

smooth; Vgl-1 not fused to Vgl-2; P-3 with one seta on medial surface; male P-2 ventral margin without a projection, P-3 with a small, lamellar extension in the centre.

Description — *General features* — Integument striated, muscle insertions unsclerotized. Cx-I+II plate caudally protruding, mediocaudal margin forming a large and irregular subcuticular extension, apodemes of Cx-II directed laterally (Figures 1A, 3A). Acetabula in an obtuse triangle. Excretory pore smooth; Vgl-1 not fused to Vgl-2. Palp with sexual dimorphism, P-2 ventral margin straight or slightly convex, without projection, P-3 with one seta on medial surface, P-4 sword seta nearer to distoventral seta. I-L-5: S-1 longish and blunt, S-2 bluntly pointed and thicker than S-1; I-L-6 curved, proximally thickened, from the centre to the claw furrow with subparallel dorsal and ventral margins (Figures 2C, 3D). *Male* — Mediocaudal margin of Cx-I+II extending beyond the posterior margin of Cx-IV; genital plate anterior

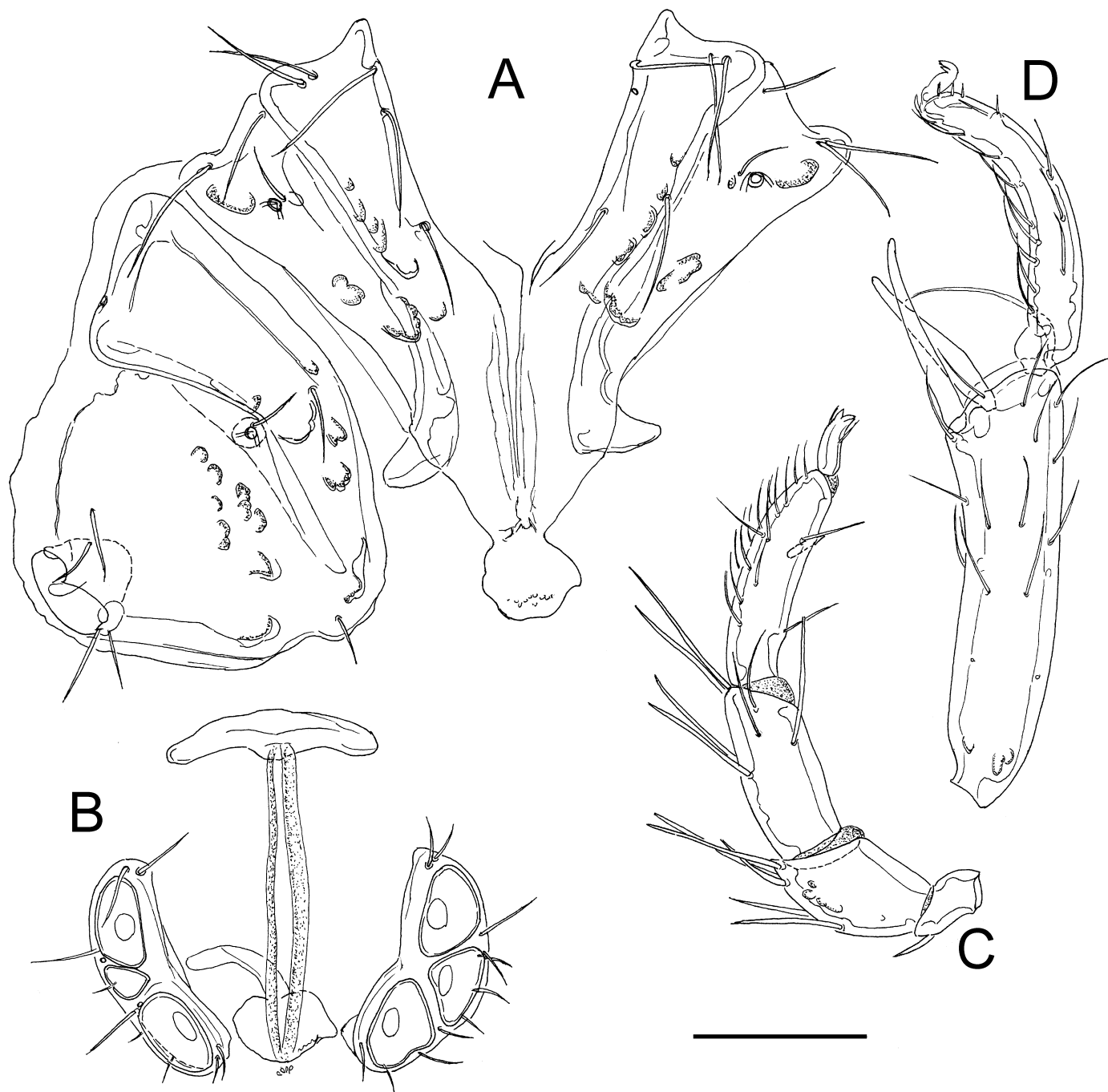


Figure 3 *Atractides bellus* n. sp., ♀ paratype, KR14 May Saz, Kyrgyzstan. A – coxal field, partial view; B – genital field; C – palp, lateral view; D – I-L-5 and -6. Scale bar = 100 µm.

margin nearly straight, with a narrow border of secondary sclerotization, posterior margin slightly indented (Figure 1A); P-3 with a small ventral extension in distal half, P-4 ventral setae very long (Figures 2A-B). *Female* — Mediocaudal margin of Cx-I+II not extending beyond the posterior margin of Cx-IV; mediocaudal margin of Cx-IV with an indentation (Figure 3A); Ac-2 smaller than Ac-1 and -3; P-2-4 ventral margin nearly straight, P-4 slenderer than in male, ventral setae short (Figure 3C).

Measurements — *Male* — Idiosoma L 731, W 547; maximum diameter Dgl-4, 22. Coxal

shield L 378; Cx-III W 434; Cx-I+II mL 256, Cx-I+II IL 406. Genital field L/W 151/180, ratio 0.84, L Ac-1-3: 42-50, 45-51, 51-53. Ejaculatory complex (Figure 1B) L 136.

Gnathosoma — Palp total L 397; dL/H, dL/H ratio: P-1, 41/27, 1.49; P-2, 87/59, 1.46; P-3, 95/52, 1.85; P-4, 135/42, 3.2; P-5, 39/15, 2.6; length ratio P-2/P-4 0.64. Gnathosoma L 167, chelicera total L 244.

Legs — I-L-5 dL 232, vL 178, dL/vL ratio 1.3, maximum H 66, dL/maximum H 3.5, S-1 L 114, L/W ratio 9.1, S-2 L 98, L/W ratio 7.0, distance S-1-2, 16, dL ratio S-1/2 1.16; I-L-6 dL 152, central H 27, dL/central H ratio 5.7; L I-L-5/6 ratio 1.53.

Female — Idiosoma L 925, W 738; maximum diameter Dgl-4, 23. Coxal shield L 378; Cx-III W 508; Cx-I+II mL 194, Cx-I+II IL 366. Genital field L/W 213/231, genital plates L 134, gonopore L 191, pregenital sclerite W 128, maximum diameter Ac-1-3: 56, 53, 58; egg maximum diameter (n=1) 215.

Gnathosoma — Palp total L 417; dL/H, dL/H ratio: P-1, 39/31, 1.25; P-2, 94/56, 1.69; P-3, 106/46, 2.3; P-4, 136/34, 3.95; P-5, 42/16, 2.7; length ratio P-2/P-4 0.69. Chelicera total L 250.

Legs — I-L-5 dL 267, vL 205, dL/vL ratio 1.31, maximum H 72, dL/maximum H 3.7, S-1 L 127, L/W ratio 9.6, S-2 L 108, L/W ratio 7.0, distance S-1-2, 16, dL ratio S-1/2 1.18; I-L-6 dL 175, central H 27, dL/central H ratio 6.58; L I-L-5/6 ratio 1.53.

Etymology — Named for being a beautiful species.

Discussion — The combination of a characteristically shaped Cx-I+II plate (caudally protruding forming a large and irregular, a mace-like mediocaudal extension) and palp (P-3 with one seta on medial surface, in male P-3 with a small, ventral extension in distal half) is unique and separates the new species from all other members of the genus.

Distribution — Kyrgyzstan; so far only known from one spring (see Fig 18B in Pešić and Smit 2020) in Tien Shan mountains at an elevation of about 3,300 meters.

Atractides (Atractides) karakali n. sp.

Zoobank: [4E8E8D02-DAE8-4A1D-B134-538E3E1DA007](https://zoobank.org/4E8E8D02-DAE8-4A1D-B134-538E3E1DA007)

Figures 4-5

Type material — Kyrgyzstan: Holotype ♂, dissected and slide mounted (RMNH), KR8 Chon-Kemin NP, upper part of stream near Ashu resort, Kalman Ashu village, 42°42.276' N, 76°05.101' E, 1644 m a.s.l., 10 Aug. 2013, leg. Pešić & Smit. Paratypes: 2♀, same site and data as the holotype, leg. Pešić & Smit, 1♀, dissected and slide mounted (RMNH).

Diagnosis — Integument striated; glandularia enlarged (Dgl-4 50-60 µm); Vgl-3 not fused with Cx-IV; acetabula small (maximum diameter < 40 in ♂, < 50 µm in ♀) arranged in an obtuse triangle; excretory pore smooth; palp with weak sexual dimorphism, P-2 without a ventrodistal projection, P-4 sword seta near level of distoventral seta; I-L-5 ratio dL/H 3.5; S-1-2 separation short, < 15 in ♂, < 20 µm in ♀.

Description — *General features* — Integument striated, muscle insertions unsclerotized. Glandularia enlarged (Dgl-4 50-60 µm), with irregular margins due to secondary sclerotization (Figure 4A). Mediocaudal margin Cx-I truncate or slightly convex, apodemes of Cx-II in an obtuse angle in relation to idiosoma midline. Acetabula in an obtuse triangle. Excretory pore smooth; Vgl-1 generally not fused to Vgl-2 (except for older specimens, Figure 5E). Palp with a weak sexual dimorphism, ventral margins P-2 straight, slightly convex in distal part, P-3 straight or slightly concave, P-4 straight, only slightly protruding near insertion of proximoventral seta, sword seta insertions near distoventral seta (Figures 5C-D). I-L-5 with S-1 longish and bluntly pointed, S-2 thicker, proximally enlarged, distance S-1-2 short; I-L-6 proximally slightly thickened, slightly curved, from the centre to the claw furrow with parallel dorsal and ventral margins (Figures 5A-B). *Male* — Genital plate anterior margin slightly convex (Figure 4B); P-2 ventral margin slightly convex in distal part (Figure 5C). *Female* — Pregenital sclerite large, gonopore extending far over the anterior margin of the genital plates, medial margin forming an obtuse angle between Ac-1 and Ac-3 (Figure 5E).

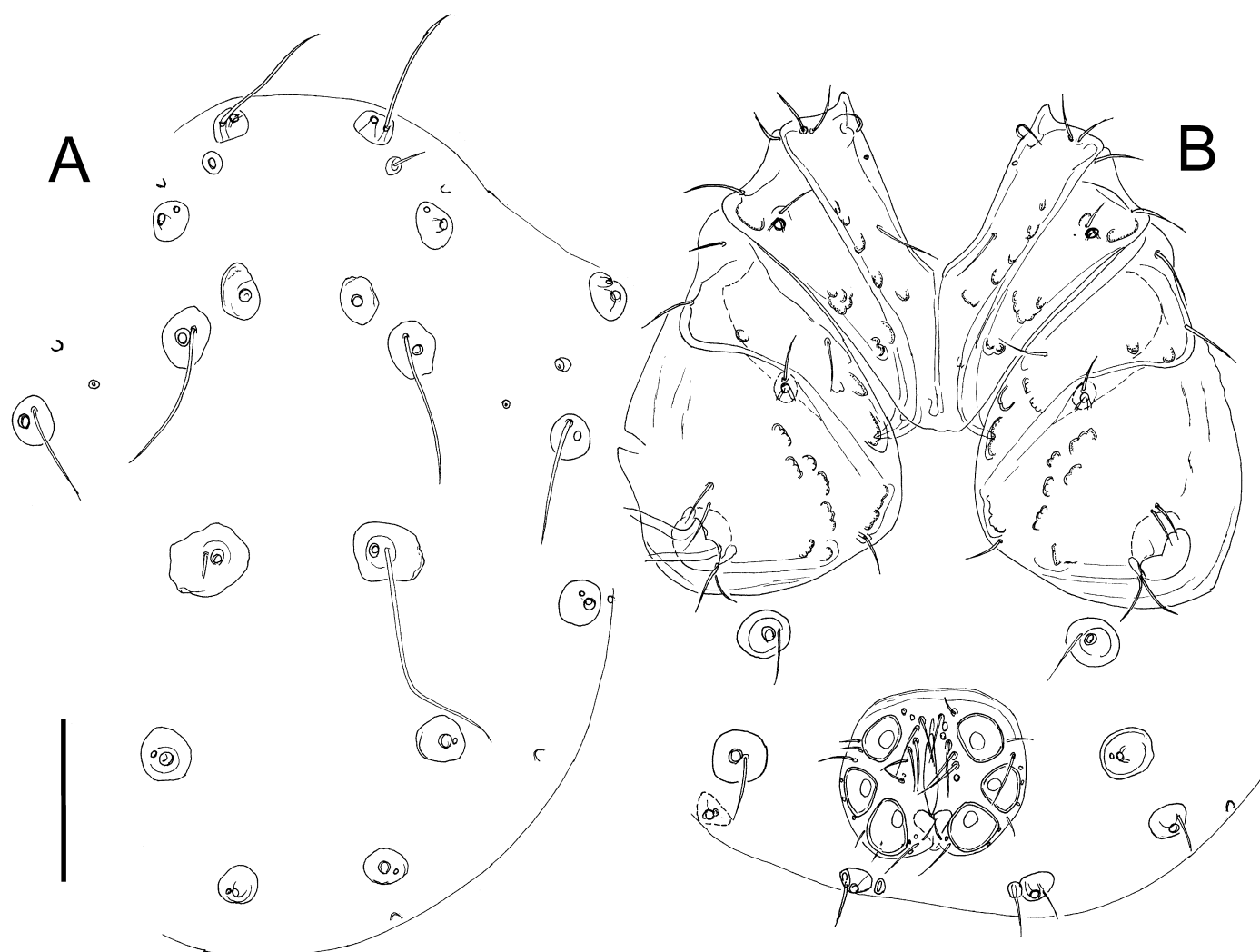


Figure 4 *Atractides karakali* n. sp., ♂ holotype, KR8 Kalman Ashu, Kyrgyzstan. A – idiosoma, dorsal view; B – idiosoma, ventral view. Scale bar = 100 μ m.

Measurements. Male — Idiosoma L 519, W 325; maximum diameter Dgl-4, 48-53. Coxal shield L 313; Cx-III W 319; Cx-I+II mL 99, Cx-I+II IL 188. Genital field L/W 110/120, ratio 0.91, L Ac-1-3: 30-31, 31-34, 33-36. Ejaculatory complex L 104.

Gnathosoma — Palp total L 283; dL/H, dL/H ratio: P-1, 28/25, 1.12; P-2, 59/44, 1.35; P-3, 67/35, 1.9; P-4, 93/31, 3.0; P-5, 36/15, 2.4; length ratio P-2/P-4 0.63. Chelicera total L 178.

Legs — I-L-5 dL 156, vL 114, dL/vL ratio 1.37, maximum H 45, dL/maximum H 3.5, S-1 L 81, L/W ratio 8.7, S-2 L 74, L/W ratio 6.2, distance S-1-2, 11, dL ratio S-1/2 1.1; I-L-6 dL 105, central H 28, dL/central H ratio 3.7; L I-L-5/6 ratio 1.49.

Female — Idiosoma L 737; maximum diameter Dgl-4, 63. Coxal shield L 333; Cx-III W 388; Cx-I+II mL 94, Cx-I+II IL 191. Genital field L/W 188/171, genital plates L 109-111, pregenital sclerite W 147, gonopore L 155, L Ac-1-3: 40-41, 39-42, 34. Egg maximum diameter (n = 2) 162-163.

Gnathosoma — Palp total L 332; dL/H, dL/H ratio: P-1, 32/30, 1.07; P-2, 70/46, 1.52; P-3, 86/38, 2.2; P-4, 106/29, 3.65; P-5, 38/14, 2.8; length ratio P-2/P-4 0.67. Gnathosoma vL 123; chelicera total L 201.

Legs — I-L-5 dL 181, vL 126, dL/vL ratio 1.43, maximum H 52, dL/maximum H 3.5, S-1

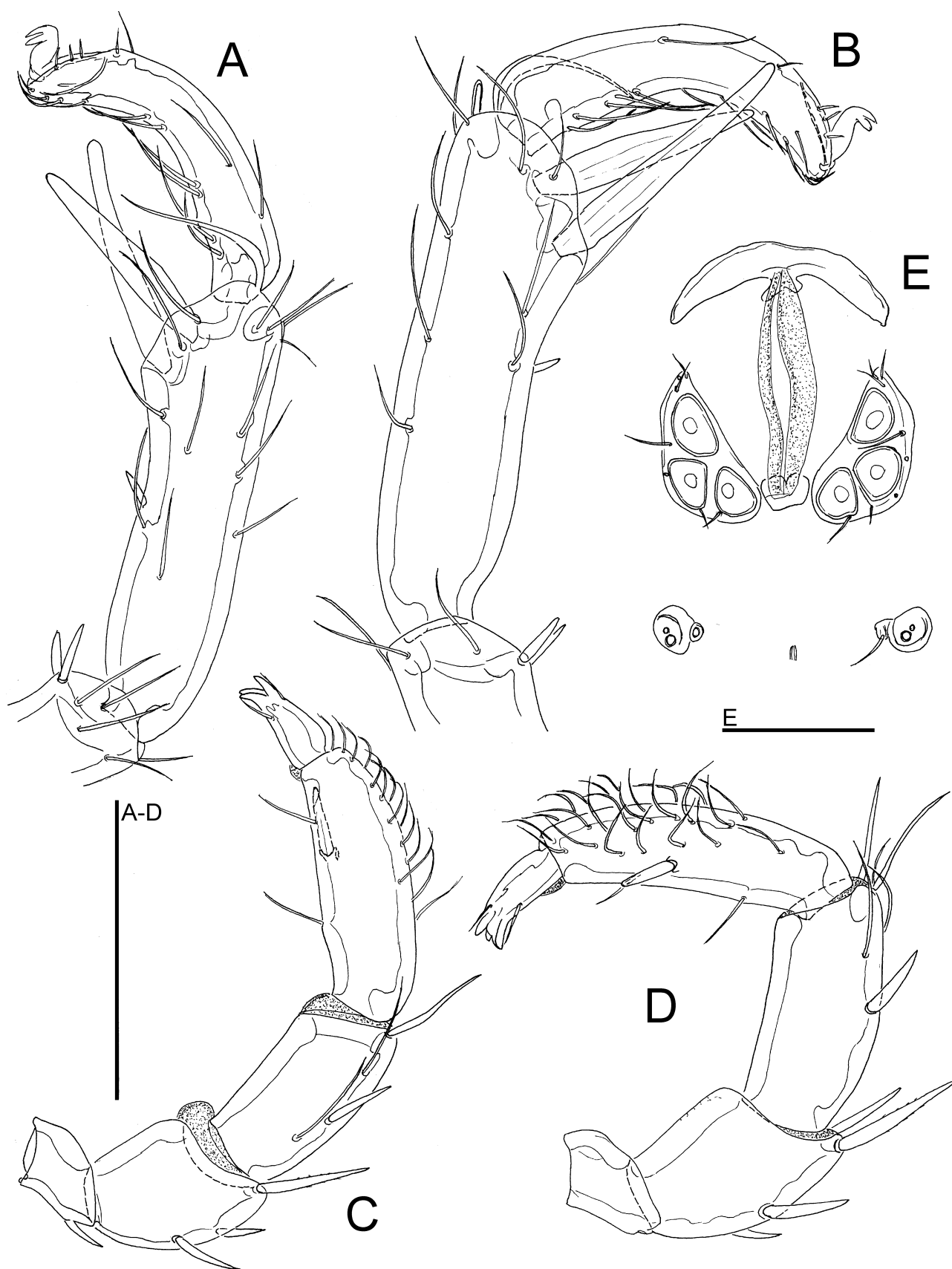


Figure 5 *Atractides karakali* n. sp., KR8 Kalman Ashu, Kyrgyzstan (A, C, ♂ holotype; B, D-E, ♀ paratype). A-B – I-L-5 and -6; C – palp, lateral view; D – palp, medial view; E – genital field. Scale bars = 100 µm.

L 96, L/W ratio 8.2, S-2 L 77, L/W ratio 5.8, distance S-1-2, 16, dL ratio S-1/2 1.24; I-L-6 dL 114, central H 29, dL/central H ratio 3.9; L I-L-5/6 ratio 1.58.

Etymology — The new species is named after the Karakal region from where it originates.

Discussion — In the combination of extended glandularia (maximum diameter > 40 µm), and the morphology of I-L, the new species is similar to *A. glandulosus* (Walter, 1918), a rhitrobiontic species known from the Alps, southern Germany and the Pyrenees (Gerecke 2003; Smit *et al.* 2015). Males of the latter species differ in Vgl-3 fused to posterior margin of Cx-IV, P-2 with distoventral projection and the P-4 sword seta inserting near the proximoventral seta, both sexes in stouter I-L-5 (ratio dL/maximum H 2.6–3.0) with wider S-1-2 setal interspace (> 15 in ♂, > 20 µm in ♀).

Distribution — Kyrgyzstan; only known from a stream (see Fig 18B in Pešić and Smit 2020) in the Tien Shan mountains at an elevation of about 1,600 meters.

***Atractides (Atractides) kyrgyzicus* n. sp.**

Zoobank: 1F31B19D-2D24-41FB-AD5C-1A565D84A4B0

Figures 6-8

Type material — Kyrgyzstan: Holotype ♂, dissected and slide mounted (RMNH), KR11 Karakal region, road to May Saz pass, stream, 42°33.491' N, 78°54.023' E, 2216 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit. Paratypes: 2♂, KR2 Ala Archa NP, rheocrenic spring, 42°36.203' N, 74°28.959' E, 2118 m a.s.l., 9 Aug. 2013, leg. Pešić & Smit, 1♂ dissected and slide mounted (RMNH).

Females found together with male of *A. kyrgyzicus* n. sp. and suspect to represent the female sex of the latter species but not included in the type series — Kyrgyzstan: 1♀, KR11 Karakal region, road to May Saz pass, stream, 42°33.491' N, 78°54.023' E, 2216 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit, dissected and slide mounted (RMNH); 2♀, KR2 Ala Archa NP, rheocrenic spring, 42°36.203' N, 74°28.959' E, 2118 m a.s.l., 9 Aug. 2013, leg. Pešić & Smit, 1♀ dissected and slide mounted (RMNH).

Other material — Kyrgyzstan: 3♂, KR8 Chon-Kemin NP, upper part of stream near Ashu resort, Kalman Ashu village, 42°42.276' N, 76°05.101' E, 1644 m a.s.l., 10.viii.2013, leg. Pešić & Smit, 1♂ dissected and slide mounted (RMNH).

Diagnosis — Integument striated; glandularia maximum diameter < 30 µm; excretory pore smooth; Vgl-1 not fused to Vgl-2. Male: genital field distinctly longer than wide, L/W ratio > 1.1, anterior margin of secondary sclerotization convexly protruding, acetabula in an obtuse triangle; P-2 ventrodiscal margin protruding convexly; P-4 ventral setae long, exceeding tip of P-5, sword seta between ventral setae; I-L-5 dL/H > 3.0, S-1-2 separation short, < 20 µm; I-L-6 slender, dL/H ratio 5.3-5.5.

Description — *General features* — Integument striated, muscle insertions unsclerotized; mediocaudal margin Cx-I nearly truncate, apodemes of Cx-II in an obtuse angle with the idiosoma midline (Figure 6A). Excretory pore smooth; Vgl-1 not fused to Vgl-2. Palp with a strong sexual dimorphism, P-4 sword seta between ventral setae. I-L-5 setae S-1 and S-2 distally narrowed, bluntly pointed, S-1 longish, S-2 slightly thicker, proximally enlarged, distance S-1-2 short; I-L-6 proximally thickened, slightly curved, from the centre to the claw furrow with parallel dorsal and ventral margins (Figure 7A). *Male* — Genital field elongated, longer than wide, anterior margin of secondary sclerotization convexly protruding, posterior margin primary of sclerotization slightly indented, acetabula in an obtuse triangle (Figures 6A-B); P-2 ventral margin distally convexly protruding, with a longitudinal line separating a medial hump from a lateral, smooth elevation, P-3 stout, P-4 slightly protruding near proximoventral seta (Figures 7B-C). *Female* — Acetabula in a weakly curved line, Ac-2 smaller than Ac-1 and -3 (Figures 8A-B); P-2 ventral margin distally slightly convex, P-3/4 straight (Figure 8D).

Measurements. *Male* (holotype; in parentheses specimen from KR2) — Idiosoma L 656 (681), W 460 (500); maximum diameter Dgl-4, 24 (26). Coxal shield L 369 (388); Cx-III W 403 (438); Cx-I+II mL 127 (128), Cx-I+II IL 250 (278). Genital field L/W 130 (137)/116 (120),

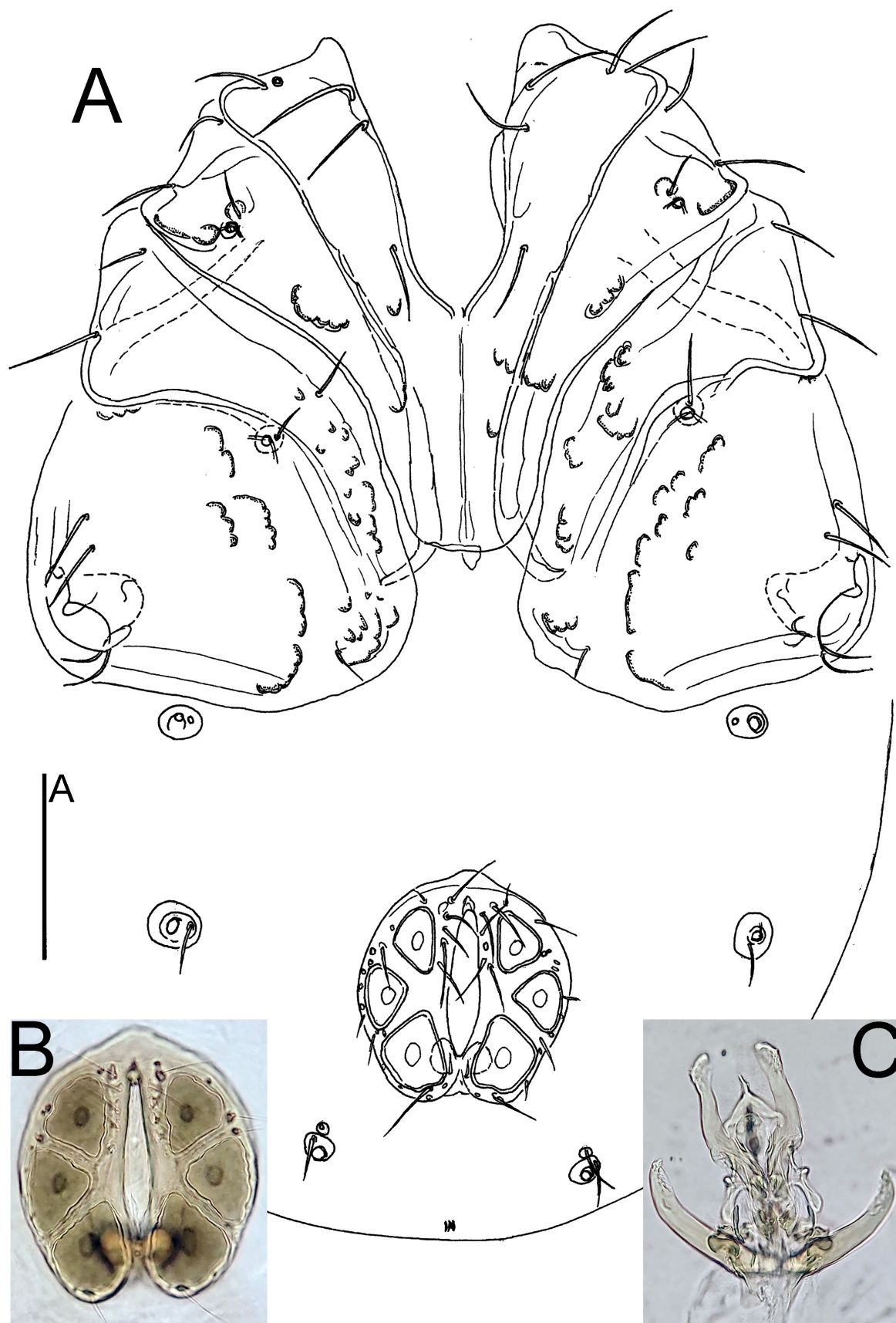


Figure 6 *Atractides kyrgyzicus* n. sp., ♂ (A, C, holotype, KR11 May Saz; B, KR8 Kalman Ashu, Kyrgyzstan). A – idiosoma, ventral view; B – photograph of genital field; C – photograph of ejaculatory complex. Scale bar = 100 μ m.

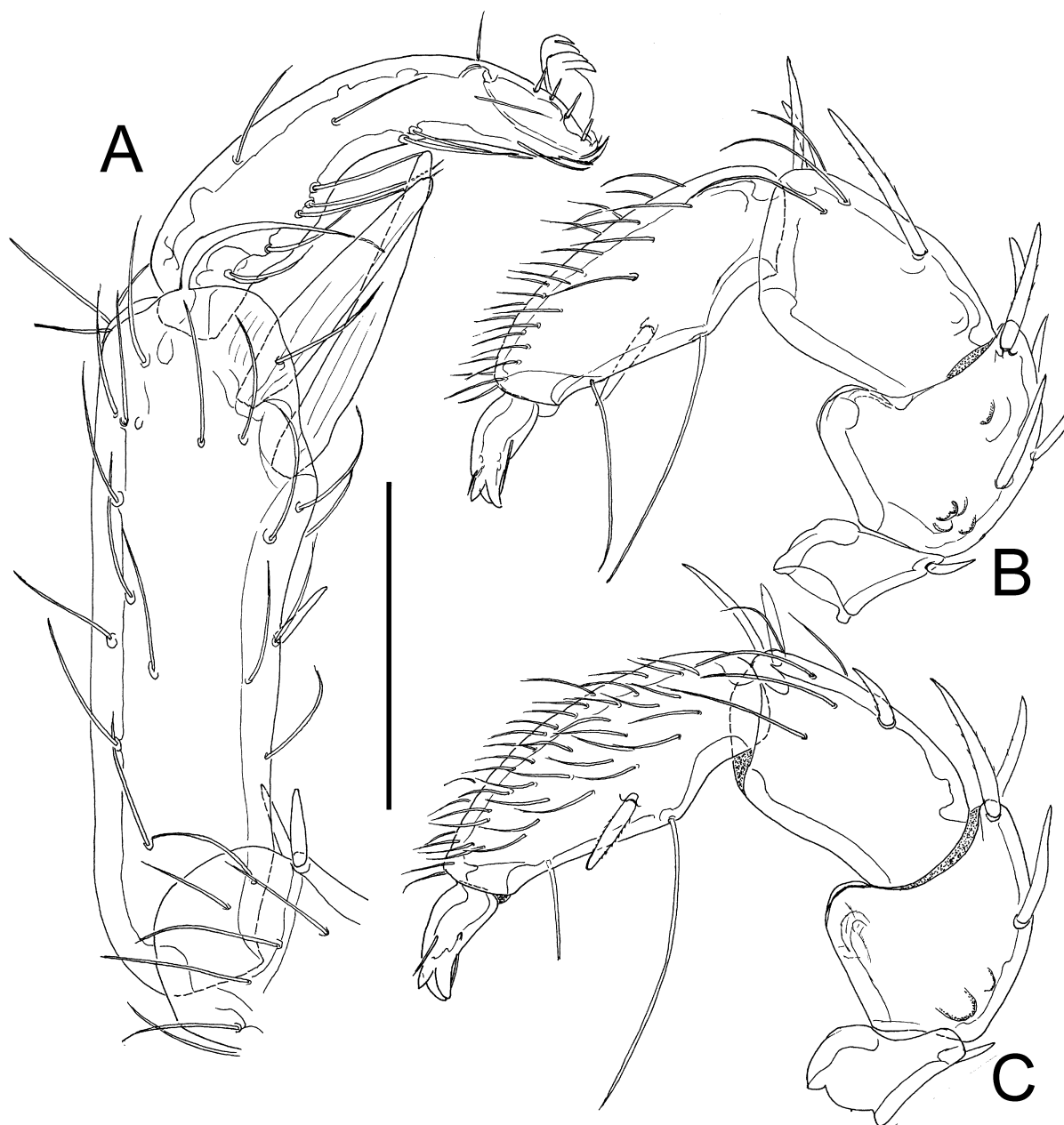


Figure 7 *Atractides kyrgyzicus* n. sp., holotype ♂, KR11 May Saz, Kyrgyzstan. A – I-L-5 and -6; B – palp, lateral view; C – palp, lateral view. Scale bar = 100 µm.

ratio 1.12 (1.14), L Ac-1-3: 34-36 (42-44), 35-36 (43-44), 45-46 (47-48). Ejaculatory complex L (169).

Gnathosoma — Palp total L 339 (348); dL/H, dL/H ratio: P-1, 34/31, 1.1 (37/30, 1.25); P-2, 75/64, 1.17 (80/66, 1.22); P-3, 83/49, 1.68 (86/53, 1.62); P-4, 113/47, 2.4 (111/42, 2.6); P-5, 34/16, 2.2 (34/15, 2.3); length ratio P-2/P-4 0.67 (0.72). Chelicera total L 263.

Legs — I-L-5 dL 217 (227), vL 148 (163), dL/vL ratio 1.46 (1.4), maximum H 69 (63), dL/maximum H 3.14 (3.6), S-1 L 109 (97), L/W ratio 8.6 (8.9), S-2 L 89 (84), L/W ratio 5.7 (6.1), distance S-1-2, 18 (15), dL ratio S-1/2 1.23 (1.15); I-L-6 dL 141 (139), central H 27 (25), dL/central H ratio 5.3 (5.5); L I-L-5/6 ratio 1.55 (1.63).

Female (paratype from KR11; in parentheses specimen from KR2) — Idiosoma L 846

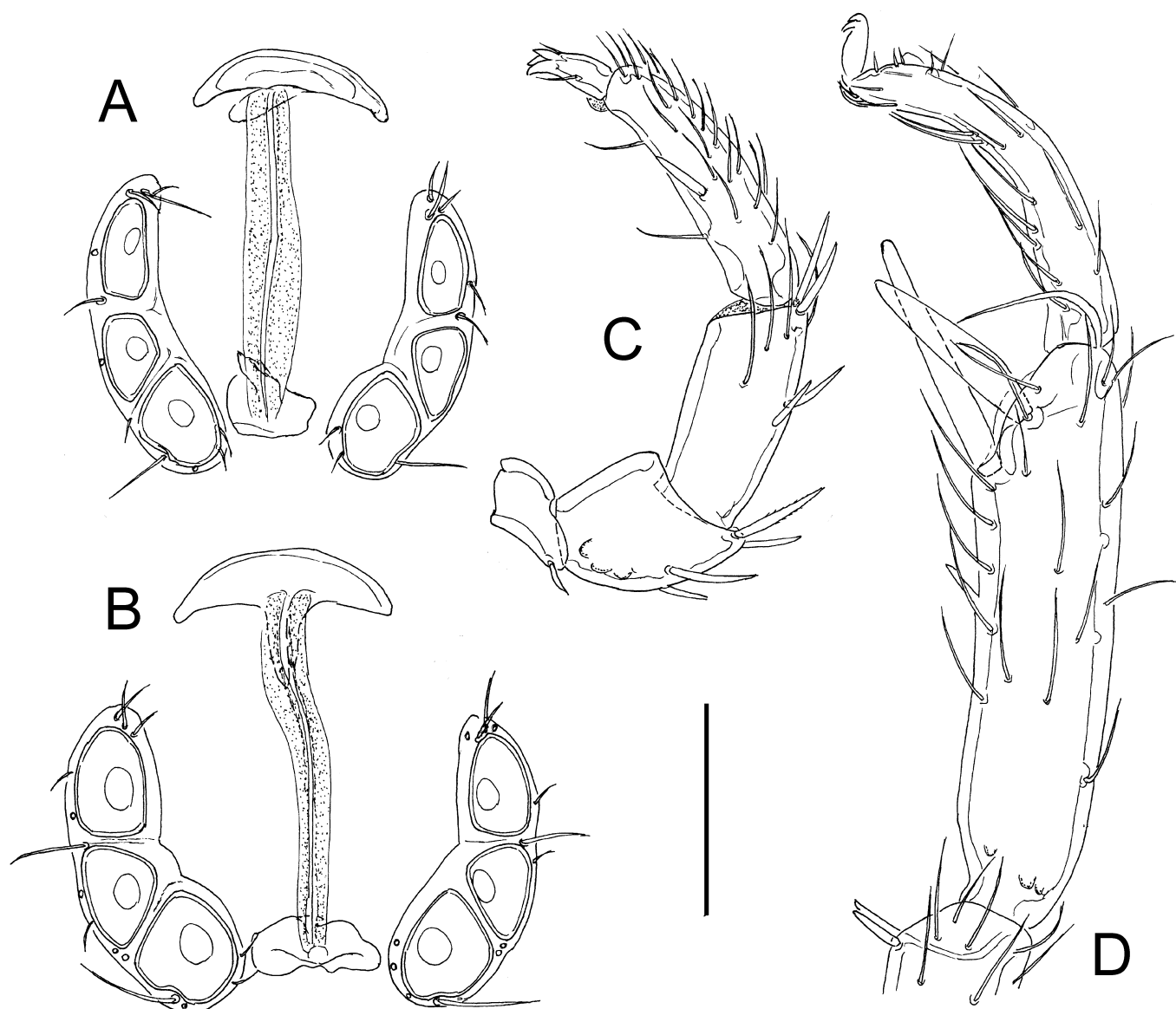


Figure 8 *Atractides kyrgyzicus* n. sp., (A, C-D, KR11 May Saz; B, KR2 Ala Archa, Kyrgyzstan). A-B – genital field; C – palp, medial view; D – I-L-5 and -6. Scale bar = 100 μ m.

(1094), W 644 (869); maximum diameter Dgl-4, 28 (30). Coxal shield L 434 (431); Cx-III W 519 (566); Cx-I+II mL 127 (133), Cx-I+II IL 295 (297). Genital field L/W 209 (221)/186 (223), genital plates L 145-146 (144-152), pregenital sclerite W 87 (106), gonopore L 177 (181), L Ac-1-3: 46-47 (51-56), 44-47 (48-53), 52 (55-59).

Gnathosoma — Palp total L 427 (417); dL/H, dL/H ratio: P-1, 41/39, 1.06 (41/36, 1.1); P-2, 93/72, 1.29 (91/68, 1.34); P-3, 119/55, 2.17 (116/54, 2.15); P-4, 134/37, 3.7 (131/38, 3.5); P-5, 40/16, 2.6 (38/17, 2.2); length ratio P-2/P-4 0.69 (0.69). Chelicera total L 316 (328).

Legs — I-L-5 dL 292 (273), vL 207 (195), dL/vL ratio 1.41 (1.4), maximum H 76 (71), dL/maximum H 3.8 (3.9), S-1 L 130 (127), L/W ratio 8.3 (9.0), S-2 L 97 (108), L/W ratio 5.2 (6.3), distance S-1-2, 22 (24), dL ratio S-1/2 1.34 (1.18); I-L-6 dL 179 (170), central H 29 (29), dL/central H ratio 6.4 (6.0); L I-L-5/6 ratio 1.63 (1.61).

Etymology — Named after the country where the new species was found.

Discussion — The new species resembles *Atractides tienshanensis* n. sp. (for similarities and differences see below in discussion of the latter species). In the key of Western Palearctic species provided by Gerecke (2003) the new species is placed close to *A. neumani* (Lundblad, 1962), a rhithrobiontic species known from Sweden and Poland (Gerecke *et al.* 2016). The latter species can easily be separated in male by a smaller dimensions of I-L and palp (L I-L-5/6 < 170/130, P-4 < 100 µm), a genital plate being wider than long, and a more slender and homiomorphic sword setae of I-L-5 (Gerecke 2003).

Distribution — Kyrgyzstan.

***Atractides (Atractides) tienshanensis* n. sp.**

Zoobank: 498450FF-44C3-40FC-8D33-E3D5CA3E77E1

Figures 9-10

Type material — Kyrgyzstan: Holotype ♂, dissected and slide mounted (RMNH), KR22 Karakal region, stream, 42°44.342' N, 78°53.681' E, 1917 m a.s.l., 13 Aug. 2013, leg. Pešić & Smit. Paratypes: 2♂, KR3 Ala Archa NP, rheocrenic spring, 42°36.202' N, 74°28.837' E, 1899 m a.s.l., 9 Aug. 2013, leg. Pešić & Smit, 2♂, dissected and slide mounted (RMNH).

Females found together with male of *A. tienshanensis* n. sp. and suspect to represent the female sex of the latter species but not included in the type series — Kyrgyzstan: 1♀, KR22 Karakal region, stream, 42°44.342' N, 78°53.681' E, 1917 m a.s.l., 13 Aug. 2013, leg. Pešić & Smit, dissected and slide mounted (RMNH); 2♀, KR3 Ala Archa NP, rheocrenic spring, 42°36.202' N, 74°28.837' E, 1899 m a.s.l., 9 Aug. 2013, leg. Pešić & Smit, 1♀ dissected and slide mounted (RMNH).

Diagnosis — Integument striated; glandularia maximum diameter < 30 µm; excretory pore smooth; Vgl-1 not fused to Vgl-2. Male: genital field with acetabula in an obtuse triangle, genital plate L/W ratio 0.9-1.0, anteriorly irregularly convex, genital setae in a dense row flanking the gonopore but in scattered arrangement at the lateral and posterior margins; P-2 ventrodiscal margin convexly protruding, here with a rugose surface; P-4 ventral setae not exceeding tip of P-5, sword seta nearer to distoventral seta; I-L-5 dL/H > 3.0, setae S-1 and S-2 more heteromorphic, S-1 longish, S-2 thicker, proximally enlarged, S-1-2 separation short, < 20 µm; I-L-6 stouter, dL/H ratio 4.4-4.7.

Description — *General features* — Integument striated, muscle insertions unsclerotized; mediocaudal margin Cx-I nearly truncate, apodemes of Cx-II in an acute angle with the median line (Figure 9A). Excretory pore smooth; Vgl-1 not fused to Vgl-2. Palp with sexual dimorphism, P-4 sword seta nearer to distoventral seta. I-L-5 setae S-1 and S-2 distally narrowed, bluntly pointed, S-1 longish, S-2 thicker, proximally enlarged, distance S-1-2 short; I-L-6 stout, slightly curved, proximally thickened (Figure 9D). *Male* — Genital field with acetabula in an obtuse triangle, anterior margin of secondary sclerotization irregularly convex, posterior margin of primary sclerotization slightly indented (Figure 9A, 10A); P-2 ventral margin distally convex, not forming a ventrodiscal projection, with an irregularly rugose surface, P-3 stout, ventral margin slightly concave, P-4 slightly protruding near proximoventral seta (Figures 9B-C). *Female* — Acetabula in a weakly curved line (Figure 10E); P-2 without projections, ventrodiscal margin rounded, P-3/4 straight (Figures 10F-G).

Measurements. Male (holotype; in parentheses specimen from KR3) — Idiosoma L 584 (666), W 431 (498); maximum diameter Dgl-4, 23 (26). Coxal shield L 319 (372); Cx-III W 353 (406); Cx-I+II mL 122 (136), Cx-I+II IL 238 (269). Genital field L/W 120 (123)/123 (142), ratio 0.97 (0.87), L Ac-1-3: 45-48 (48-52), 44-47 (41-48), 38-40 (42). Ejaculatory complex L (143).

Gnathosoma — Palp total L 273 (326); dL/H, dL/H ratio: P-1, 30/28, 1.07 (38/33, 1.14); P-2, 63/50, 1.25 (74/69, 1.1); P-3, 61/38, 1.59 (75/50, 1.5); P-4, 86/34, 2.5 (103/47, 2.2); P-5, 33/14, 2.4 (36/16, 2.3); length ratio P-2/P-4 0.73 (0.72). Gnathosoma vL 131 (152); chelicera total L 209 (253).

Legs — I-L-5 dL 163 (191), vL 110 (127), dL/vL ratio 1.48 (1.5), maximum H 50 (59), dL/maximum H 3.25 (3.21), S-1 L 89 (91), L/W ratio 8.1 (7.3), S-2 L 69 (74), L/W ratio 5.5

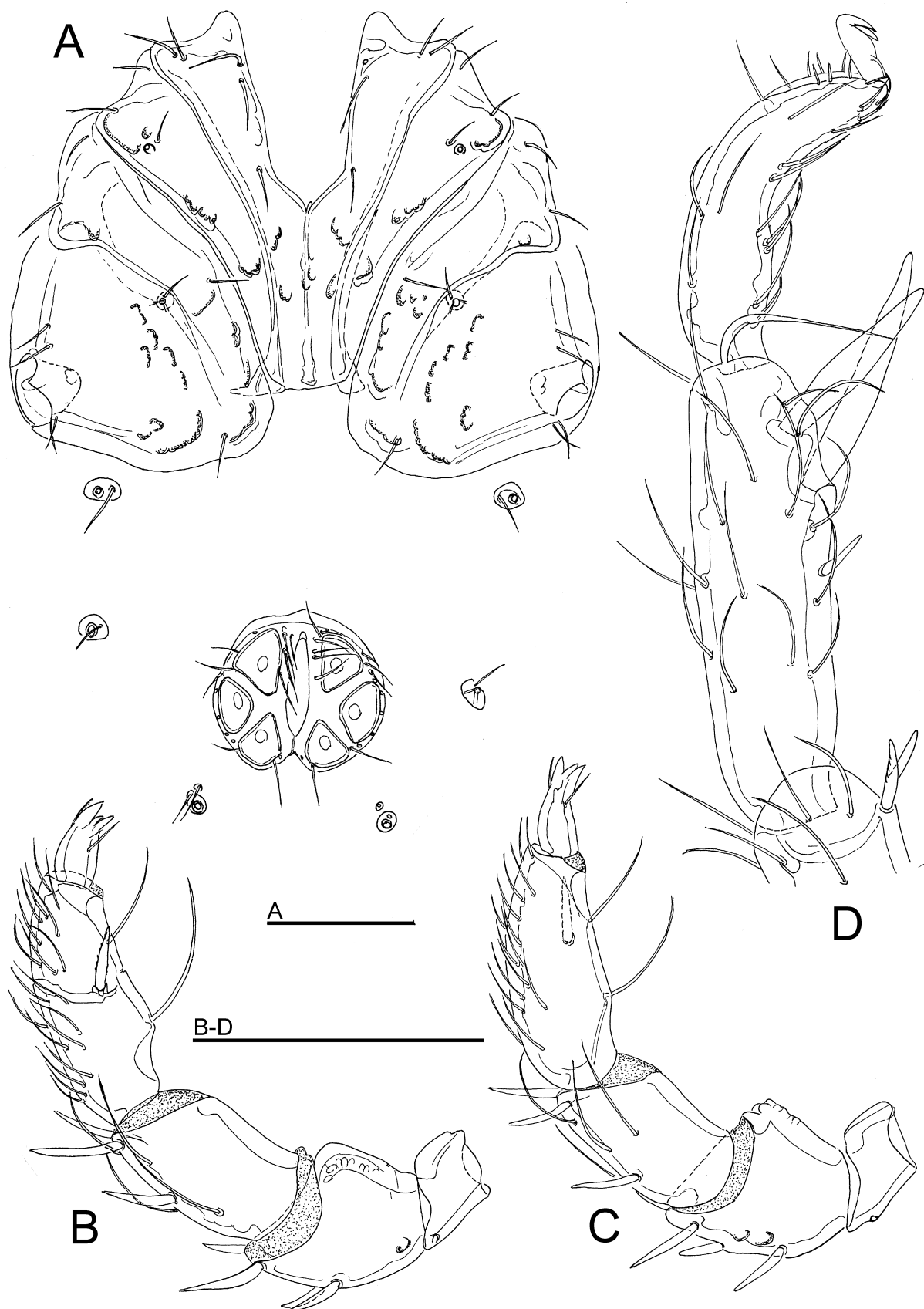


Figure 9 *Atractides tienshanensis* n. sp., ♂ holotype, KR22 Karakal, Kyrgyzstan. A – idiosoma, ventral view; B – palp, medial view; C – palp, lateral view; D – I-L-5 and -6. Scale bar = 100 µm.

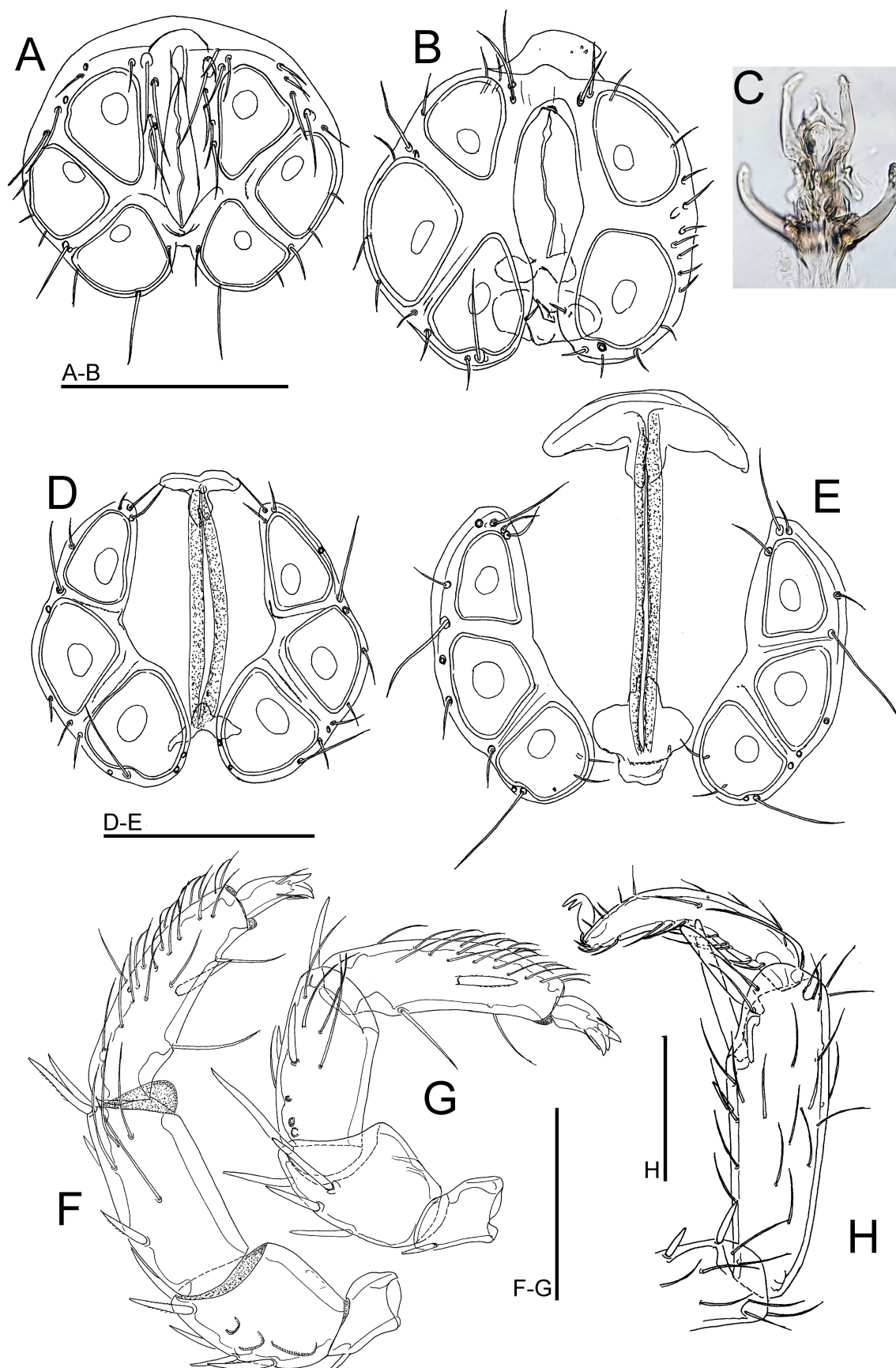


Figure 10 *Atractides tienshanensis* n. sp., (♂: A-C – KR3 Ala Archa; ♀: D, G-H – KR22 Karakal, E-F – KR3 Ala Archa, Kyrgyzstan). A-B, D-E – genital field; B – genital field with reduced left Ac-2; C – photograph of ejaculatory complex; F – palp, lateral view; G – palp, medial view; H – I-L-5 and -6. Scale bars = 100 µm.

(5.3), distance S-1-2, 16 (19), dL ratio S-1/2 1.29 (1.23); I-L-6 dL 113 (131), central H 26 (28), dL/central H ratio 4.4 (4.7); L I-L-5/6 ratio 1.44 (1.45).

Female (from KR22 [juvenile?]; in parentheses specimen from KR3) — Idiosoma L 581 (875), W 438 (613); maximum diameter Dgl-4, 30 (27). Coxal shield L 381 (409); Cx-III W 459 (488); Cx-I+II mL 106 (128), Cx-I+II IL 269 (284). Genital field L/W 151 (198)/161 (199), genital plates L 134-138 (139-145), pregenital sclerite W (99), gonopore L 117 (168), L Ac-1-3: 45-47 (47-48), 52-56 (52-53), 52-53 (48).

Gnathosoma — Palp total L 395 (403); dL/H, dL/H ratio: P-1, 41/33, 1.24 (39/34, 1.14); P-2, 86/59, 1.45 (85/64, 1.33); P-3, 103/52, 2.0 (109/53, 2.1); P-4, 125/37, 3.4 (129/38, 3.4); P-5, 40/17, 2.4 (41/16, 2.5); length ratio P-2/P-4 0.69 (0.66). Gnathosoma vL 172; chelicera total L 290 (290). Egg maximum diameter (n=1) (172).

Legs — I-L-5 dL 242 (255), vL 155 (188), dL/vL ratio 1.57 (1.36), maximum H 73 (66), dL/maximum H 3.3 (3.9), S-1 L 105 (113), L/W ratio 7.5 (8.0), S-2 L 88 (91), L/W ratio 5.2 (5.8), distance S-1-2, 28 (20), dL ratio S-1/2 1.19 (1.24); I-L-6 dL 159 (166), central H 28 (27), dL/central H ratio 5.8 (6.2); L I-L-5/6 ratio 1.52 (1.54).

Etymology — The new species is named after the Tien Shan mountain range from where the new species originates.

Discussion — Due to a similar shape of the palp (male P-2 ventrodiscal margin convexly protruding) and a moderate interspace (< 20 in ♂, < 30 µm in ♀) between the sword setae of I-L-5, the new species resembles *A. kyrgyzicus* n. sp. (see above). From the latter species *A. tienshanensis* n. sp. can be separated in the male by the genital plate being wider than long (longer than wide in *A. kyrgyzicus* n. sp.; compare figures 6A-B with figures 9A, 10A), a P-2 ventrodiscal margin with a rugose surface, a comparatively short ventral setae of P-4 and a stouter I-L-6 (dL/H < 5.0 vs. > 5.0 in *A. kyrgyzicus* n. sp.).

In the key of Western Palaearctic species provided by Gerecke (2003) the new species were placed close to *A. glandulosus* (Walter, 1918). The latter species in the both sexes differ in more enlarged dorsal glandularia (diameter > 30 µm) and I-L-5 more thickened in its distal part (ratio dL/H 2.6–3.0, data taken from Smit *et al.* 2015), and in the male by very strong and long sword seta on P-4, inserting slightly anterior to proximoventral seta (Smit *et al.* 2015).

Atractides issajewi (Sokolow, 1928) from Uzbekistan, a species known only in the male sex, is similar in having a slightly protruding ventral margin of P-2 but differs in the P-4 with the sword seta inserting near proximoventral seta, and by a higher number of setae on the lateral margin of the genital plate (Sokolow 1940).

Distribution — Kyrgyzstan.

***Atractides (Atractides) ivanae* n. sp.**

Zoobank: EB704886-6D27-4A4B-965A-16679CEF8999

Figures 11-12

Type material — Kyrgyzstan: Holotype ♂, dissected and slide mounted (RMNH), KR27 river along the road to Son Kol Lake, 41°56.487' N, 75°35.272' E, 2428 m a.s.l., 15 Aug. 2013, leg. Pešić & Smit; 1 ♀, KR14 Karakal region, road to May Saz pass, stream, 42°25.033' N, 79°02.657' E, 3348 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit, dissected and slide mounted (RMNH); KR15 Karakal region, road to May Saz pass, fast flowing river, 42°25.004' N, 78°58.100' E, 2981 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit, 2 ♀.

Diagnosis — Integument striated; genital field with acetabula in a weakly curved line, Ac subtriangular in shape; excretory pore smooth; Vgl-1 not fused to Vgl-2; seta S-1 bluntly pointed, not apically truncated; I-L-6 stout (L/H < 5.0 in ♂, < 6.0 in ♀) and relatively short, L I-L-5/6 ratio 1.5-1.9. Males: P-2 and P-3 ventrally each with a distinct protrusion; P-4 ventral setae very long, exceeding length of the segment. Genital plate anterior margin slightly convex or straight, not indented, Ac-3 subtriangular, not elongated. Female: P-3 without central thickening of its ventral margin.

Description — *General features* — Integument striated, muscle insertions unsclerotized; mediocaudal margin Cx-I convex, apodemes of Cx-II in an acute angle with the median

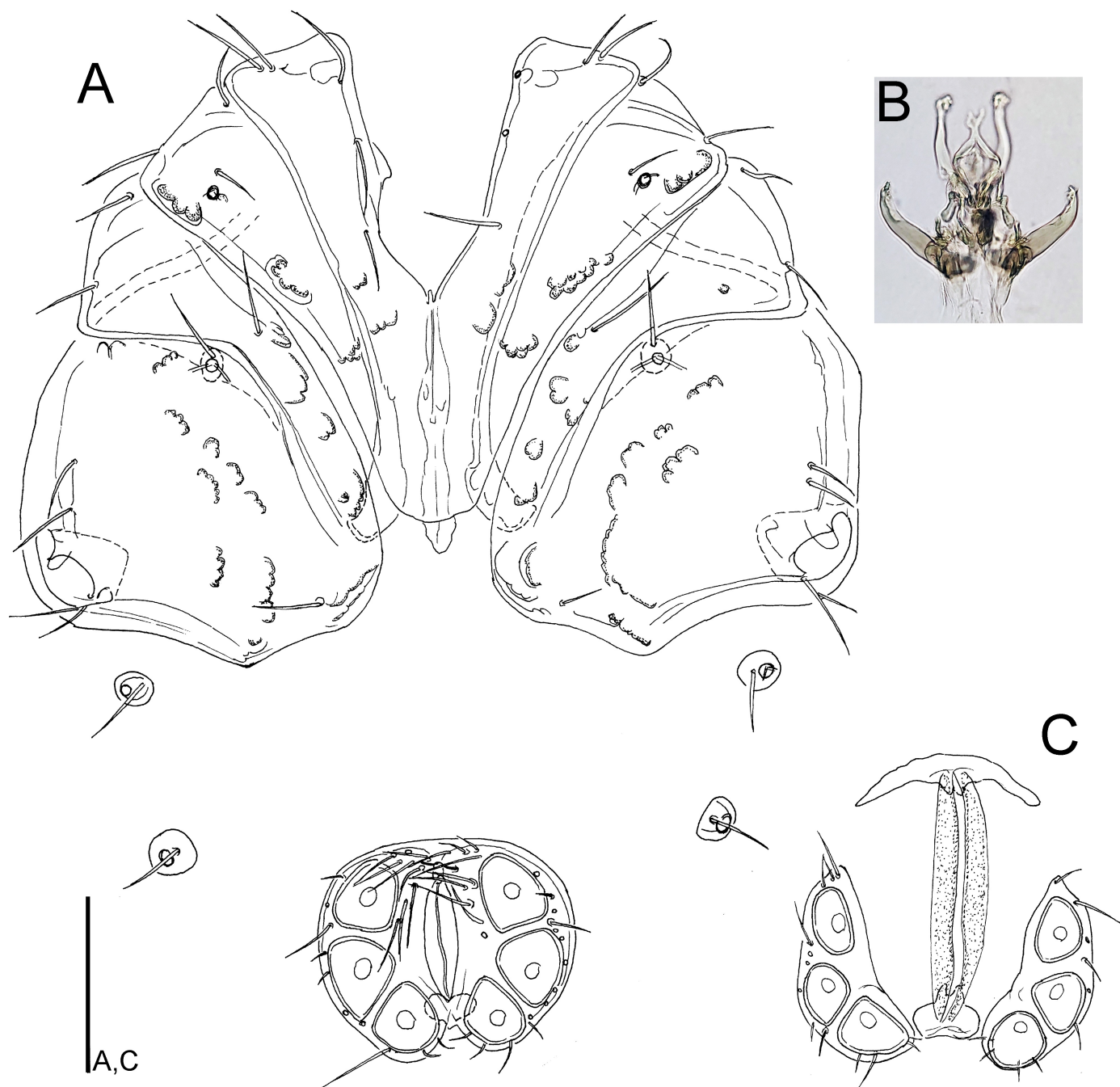


Figure 11 *Atractides ivanae* n. sp. (A-B, ♂ holotype, KR27 stream on road to Son Kul; C, ♀ KR14 stream on road to May Saz, Kyrgyzstan). A – idiosoma, ventral view; B – photograph of ejaculatory complex; C – genital field. Scale bar = 100 µm.

line; posterior margin of Cx-IV with short posterior extension (Figure 11A). Ac in a weakly curved line, subtriangular in shape. Excretory pore smooth; Vgl-1 not fused to Vgl-2. Palp with strong sexual dimorphism, P-4 sword seta near distoventral hair. I-L-5 setae S-1 and S-2 distally narrowed, bluntly pointed, S-1 longish, S-2 proximally enlarged, distance S-1-2 short; I-L-6 stout, slightly curved, proximally thickened (Figure 12C-D). *Male* — Genital plate anterior margin slightly convex or straight, posterior margin indented (Figure 11A); P-2 and P-3 each with a strong lamellar ventral extension, P-4 slightly protruding near proximoventral seta, ventral setae very long, exceeding the length of the segment (Figure 12A). *Female* — P-2

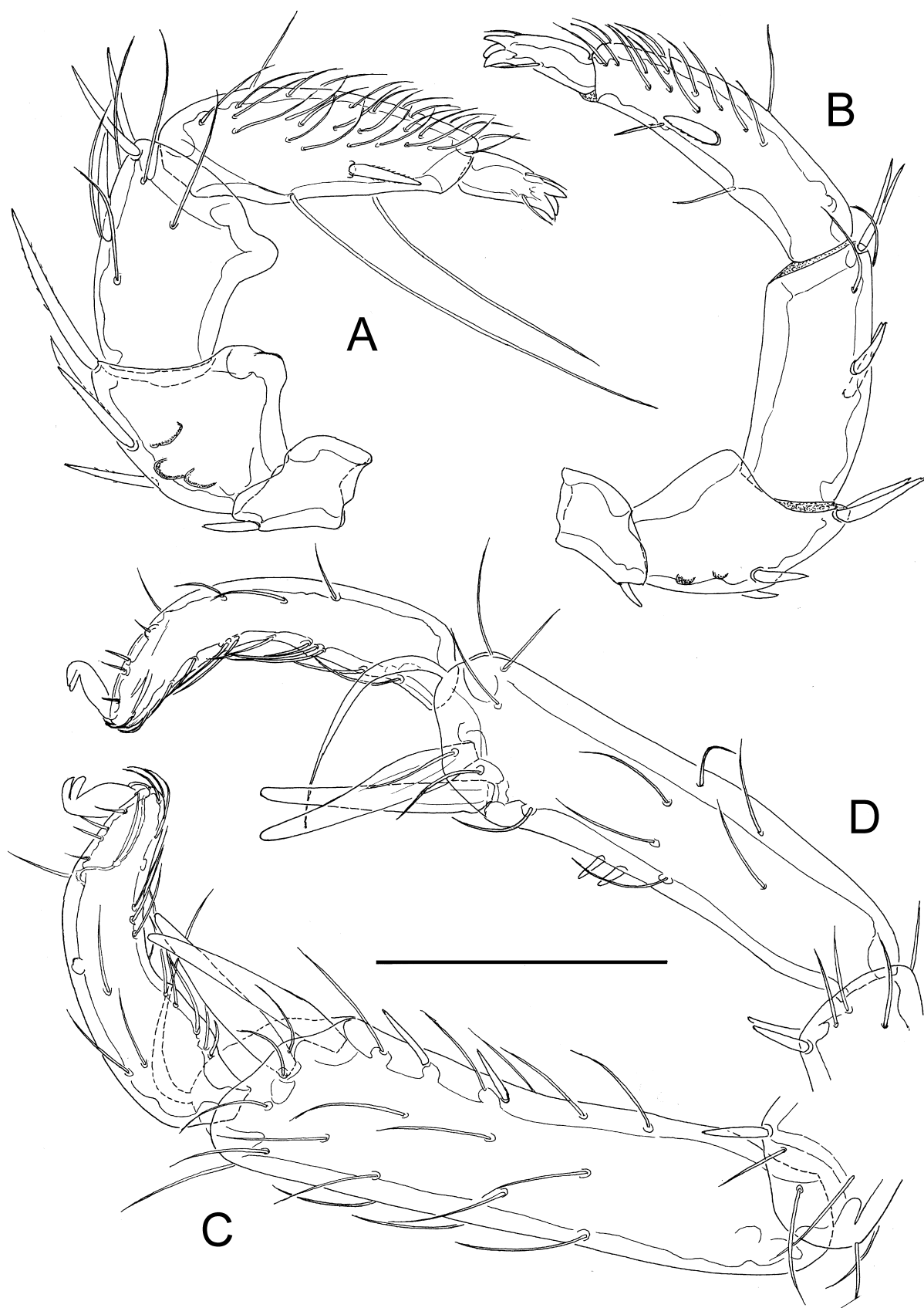


Figure 12 *Atractides ivanae* n. sp. (A, C, ♂ holotype, KR27 stream on road to Son Kul; B, D, ♀ KR14 stream on road to May Saz, Kyrgyzstan). A-B – palp, medial view; C-D – I-L-5 and -6. Scale bar = 100 µm.

without projection, ventral margin slightly protruding distally, P-3/4 nearly straight (Figure 12B).

Measurements. *Male* (holotype) — Idiosoma L 697, W 494; maximum diameter Dgl-4, 23. Coxal shield L 353; Cx-III W 413; Cx-I+II mL 125, Cx-I+II IL 266. Genital field L/W 123/145, ratio 0.85, L Ac-1-3: 43-45, 47-50, 42. Ejaculatory complex (Figure 11B) L 139.

Gnathosoma — Palp total L 335; dL/H, dL/H ratio: P-1, 38/34; 1.1; P-2, 71/58, 1.23; P-3, 80/48, 1.65; P-4, 110/41, 2.7; P-5, 36/16, 2.3; length ratio P-2/P-4 0.65. Gnathosoma vL 134; chelicera total L 259.

Legs — I-L-5 dL 225, vL 169, dL/vL ratio 1.33, maximum H 59, dL/maximum H 3.8, S-1 L 77, L/W ratio 7.0, S-2 L 70, L/W ratio 5.6, distance S-1-2, 14, dL ratio S-1/2 1.1; I-L-6 dL 119, central H 28, dL/central H ratio 4.2; L I-L-5/6 ratio 1.89.

Female (specimen from KR14, n = 1) — Idiosoma L 481, W 318; maximum diameter Dgl-4, 32. Coxal shield L 331; Cx-III W 359; Cx-I+II mL 95, Cx-I+II IL 203. Genital field L/W 178/172, genital plates L 114-116, pregenital sclerite W 109, gonopore L 148, L Ac-1-3: 40-41, 38-39, 34-36. Egg maximum diameter (n = 1) 184.

Gnathosoma — Palp total L 348; dL/H, dL/H ratio: P-1, 34/28, 1.2; P-2, 75/49, 1.52; P-3, 92/39, 2.35; P-4, 109/30, 3.7; P-5, 38/16, 2.4; length ratio P-2/P-4 0.69. Gnathosoma vL 123; chelicera total L 180.

Legs — I-L-5 dL 187, vL 139, dL/vL ratio 1.34, maximum H 52, dL/maximum H 3.6, S-1 L 80, L/W ratio 7.8, S-2 L 80, L/W ratio 5.7, distance S-1-2, 11, dL ratio S-1/2 1.0; I-L-6 dL 122, central H 22, dL/central H ratio 5.6; L I-L-5/6 ratio 1.53.

Etymology — The new species is named after Ivana Pozojević (Zagreb, Croatia) in appreciation of her work on water mites.

Discussion — The presence of a strong ventral protrusion on P-3 in males, makes the new species similar to *A. gibberipalpis* Piersig, 1898, *A. inflatus* (Walter, 1925) and *A. yunusi* n. sp. (see below). *Atractides gibberipalpis*, a rhitrobiontic species from the Palaearctic (Sokolow 1940, Gerecke 2003, Pešić *et al.* 2004, Pešić and Erman 2006) differs from both new species from Kyrgyzstan in the shape of male genital plate (Ac larger, Ac-3 elongated, drop-shaped, anterior margin more or less indented; see Figure 13D). *Atractides inflatus* differs in having lineated integument, in the both sexes I-L-6 relatively long, L I-L-5/6 ratio 1.3-1.4, in male the protrusions of P-2 and -3 more laterally flattened, and in female the both P-2 and P-3 with a gentle central thickening covered by fine denticulation (Gerecke 2003). For similarities and differences in comparison with *Atractides yunusi*, see below in discussion of the latter species.

Distribution — Kyrgyzstan; know from the high-order streams in Tien Shan mountains at an elevation from 2,400 to 3,400 meters.

***Atractides (Atractides) yunusi* n. sp.**

Zoobank: 62C22A6D-6393-4471-9EB3-A048DF6D9D39

Figures 13-14

Type material — Kyrgyzstan: Holotype ♂, dissected and slide mounted (RMNH), KR15 Karakal region, road to May Saz pass, fast flowing river, 42°25.004' N, 78°58.100' E, 2981 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit. Paratypes: 1 ♂, same data as the holotype, leg. Pešić & Smit. KR14 Karakal region, road to May Saz pass, stream, 42°25.033' N, 79°02.657' E, 3348 m a.s.l., 12 Aug. 2013, leg. Pešić & Smit, 2 ♀ (1 ♀ dissected and slide mounted, RMNH); 1 ♂, small stream along the road to Son Kol Lake, 41°57.259' N, 75°25.889' E, 2789 m a.s.l., 15 Aug. 2013, leg. Pešić & Smit.

Other material — Kyrgyzstan: 1 ♂, 4 ♀, KR37 upper part of stream KR32 on the road to Son Kol Lake, 41°54.819' N, 75°25.697' E, 3412 m a.s.l., 17. Aug. 2013, leg. Pešić & Smit.

Diagnosis — Integument striated; genital field with acetabula in a weakly curved line, Ac subtriangular in shape; excretory pore smooth; Vgl-1 not fused to Vgl-2; seta S-1 not pointed, apically truncated, I-L-6 slender (L/H > 6.0 in ♂, > 7.0 in ♀) and relatively long, L I-L-5/6 ratio 1.3-1.5. Males: P-2 and P-3 ventrally each with a distinct protrusion; P-4 ventral setae

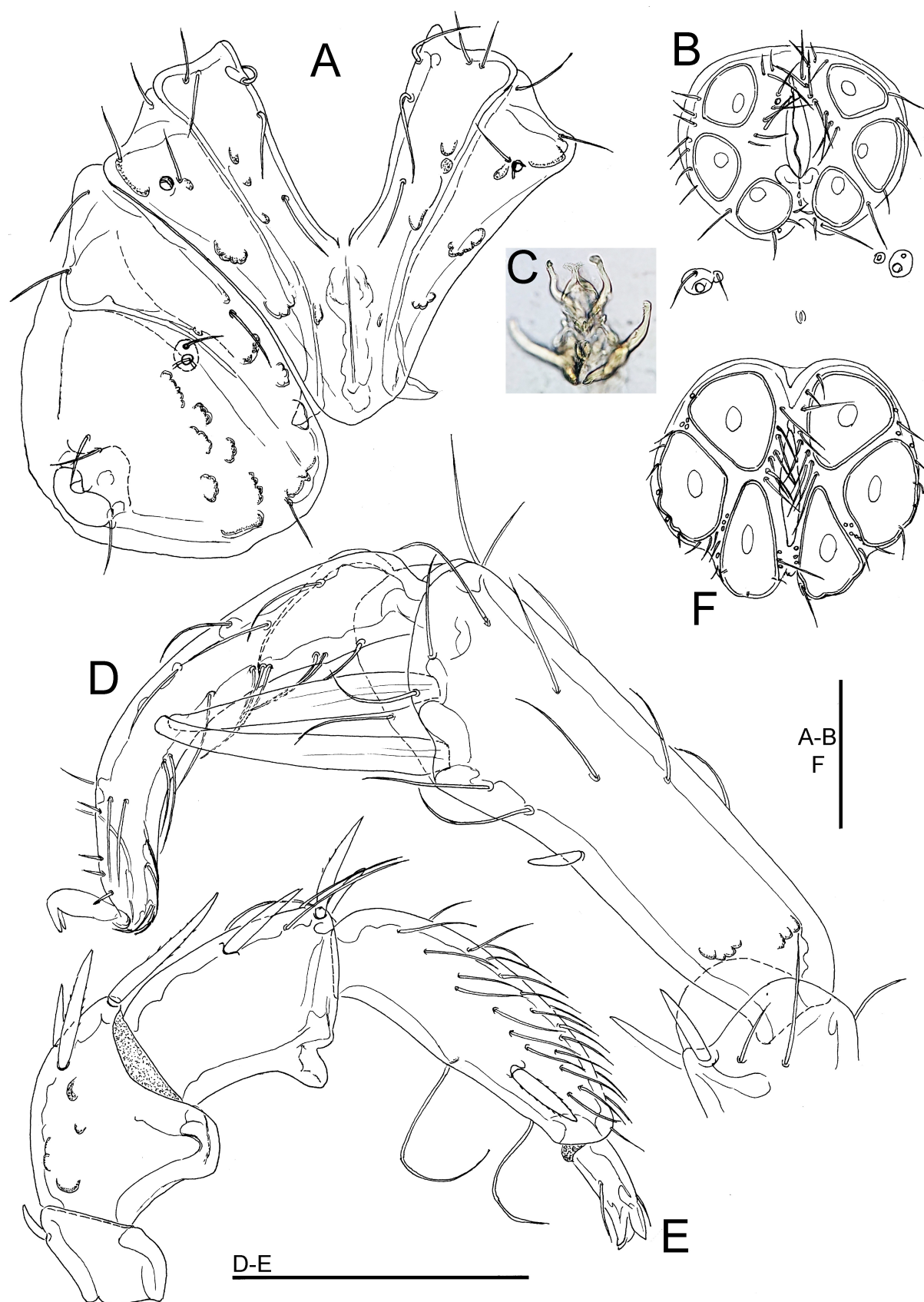


Figure 13 A-E *Atractides yunusi* n. sp., ♂ holotype, KR15 river on road to May Saz, Kyrgyzstan. A – coxal field, partial view; B – genital field; C – photograph of ejaculatory complex; D – I-L-5 and -6; E – palp, medial view. F *Atractides gibberipalpis*, ♂, Mrtvica river, Montenegro: genital field. Scale bars = 100 µm.

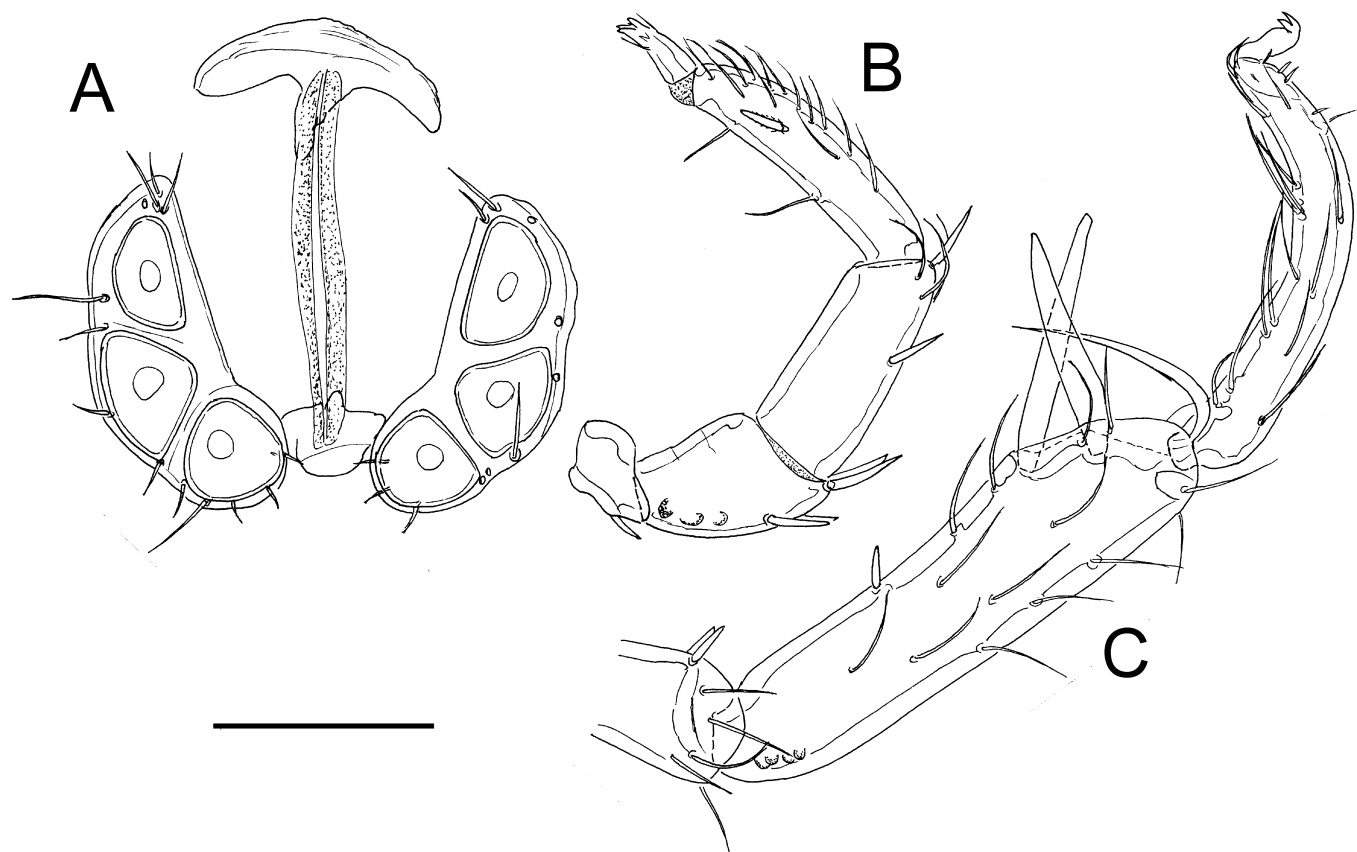


Figure 14 *Atractides yunusi* n. sp., ♀, KR14 stream on road to May Saz, Kyrgyzstan. A – genital field; B – palp, medial view; C – I-L-5 and -6. Scale bar = 100 µm.

short, not exceeding length of segment; genital plate anterior margin slightly convex or straight, not indented, Ac-3 subtriangular, not elongated. Female: P-3 without central thickening of its ventral margin.

Description — *General features* — Integument striated, muscle insertions unsclerotized; mediocaudal margin Cx-I convex, apodemes of Cx-II in an acute angle with the median line. Ac in a weakly curved line, subtriangular in shape. Excretory pore smooth; Vgl-1 not fused to Vgl-2. Palp with strong sexual dimorphism, P-4 sword seta nearer to distoventral seta. I-L-5 setae S-1 and S-2 separated, S-1 longish with truncate tip, S-2 proximally enlarged; I-L-6 long and slender, curved, proximally slightly thickened, with parallel dorsal and ventral margins from the centre to the claw pit (Figure 13D). *Male* — Genital plate anterior margin slightly convex, posterior margin indented (Figure 13B); P-2 and P-3 each with a distinct ventral extension, P-4 slightly protruding near proximoventral seta, length of ventral setae not exceeding the length of the segment (Figure 13E). *Female* — genital plates medial margin with concavity on the level of Ac-2; ventral margin of P-2 straight, slightly convex at distal edge; P-2 and P-3 without projections, ventral margins of P-3 and P-4 straight (Figure 14B).

Measurements. Male (holotype) — Idiosoma L 681, W 488; maximum diameter Dgl-4, 23. Coxal shield L 369; Cx-III W 394; Cx-I+II mL 122, Cx-I+II IL 245. Genital field L/W 136/158, ratio 0.86, L Ac-1-3: 47, 53, 39-41. Ejaculatory complex (Figure 13C) L 117.

Gnathosoma — Palp total L 344; dL/H, dL/H ratio: P-1, 36/34; 1.04; P-2, 75/61, 1.23; P-3, 78/50, 1.56; P-4, 117/39, 3.0; P-5, 38/14, 2.7; length ratio P-2/P-4 0.64. Chelicera total L 197.

Legs — I-L-5 dL 208, vL 144, dL/vL ratio 1.45, maximum H 66, dL/maximum H 3.14, S-1 L 107, L/W ratio 8.6, S-2 L 92, L/W ratio 6.5, distance S-1-2, 17, dL ratio S-1/2 1.1; I-L-6 dL

156, central H 25, dL/central H ratio 6.3; L I-L-5/6 ratio 1.33.

Female (specimen from KR14, n = 1) — Idiosoma L 678, W 418; maximum diameter Dgl-4, 29. Coxal shield L 406; Cx-III W 463; Cx-I+II mL 127, Cx-I+II IL 272. Genital field L/W 225/222, genital plates L 153-156, pregenital sclerite W 113, gonopore L 178, L Ac-1-3: 53-59, 56-63, 44-47. Egg maximum diameter (n = 2) 181-184.

Gnathosoma — Palp total L 423; dL/H, dL/H ratio: P-1, 40/39, 1.02; P-2, 93/62, 1.51; P-3, 111/46, 2.42; P-4, 134/32, 4.25; P-5, 45/16, 2.7; length ratio P-2/P-4 0.69. Gnathosoma vL 163.

Legs — I-L-5 dL 272, vL 186, dL/vL ratio 1.46, maximum H 72, dL/maximum H 3.8, S-1 L 129, L/W ratio 9.2, S-2 L 102, L/W ratio 5.9, distance S-1-2, 31, dL ratio S-1/2 1.27; I-L-6 dL 184, central H 23, dL/central H ratio 7.9; L I-L-5/6 ratio 1.48.

Etymology — The new species is named after Yunus Esen (Bingöl, Turkey) in appreciation of his scientific work on water mites.

Discussion — Due to a similar shape of the palp and genital field, the new species most closely resembles *A. ivanae* **n. sp.** (see above). From the latter species, *Atractides yunusi* **n. sp.** differs in both sexes in the more slender I-L-6 (dL/H > 6.0), S-1 apically truncated, and in males ventral setae of P-4 is shorter, not exceeding the length of the segment as in *A. ivanae* **n. sp.**

Distribution — Kyrgyzstan; known from high-order streams in Tien Shan mountains at an elevation from 2,700 to 3,400 meters.

Key to the species of the genus *Atractides* of Kyrgyzstan

1. I-L-5 setae S-1/2 closely together and heteromorphic (S-1 enlarged in the proximal part, distally narrowed, slender than S-2); I-L-6 shortened, with a swollen base, but rapidly narrowed distally; suture line Cx-III and -IV in its medial part directed posteriorly; P-3 ventral margin slightly convex with one (occasionally two) ventral seta *A. (Polymegapus) grigorievka* Pešić & Smit, 2018 (known only from a female sex) — I-L-5 setae S-1/2 various in shape, if close together, generally similar in shape and not contorted; I-L-6 various in shape – if shortened, equal in height from the base to the claw furrow; coxae and palp various 2 (Subgenus *Atractides* s.s.)
2. P-3 with at least one seta on medial surface extending beyond ventral margin of segment . 3
— P-3 without setae on medial surface extending beyond ventral margin of segment 5
3. Cx-I+II plate caudally not protruding; P-3 with one seta each on medial and lateral surface extending beyond ventral margin of segment; male P-3 without ventral extension in distal half 4
— Cx-I+II plate caudally protruding forming a large and irregular, mace-like mediocaudal extension; P-3 with one seta on medial surface extending beyond ventral margin of segment; male P-3 with a small, ventral extension in distal half *A. (Atractides) bellus* **sp. n.**
4. Male: Suture lines Cx-II/III indistinct, all coxae appearing to be fused to form a unique coxal shield including Vgl-3; P-2 ventral margin nearly straight; separation S-1-2 < 15 µm *A. (Atractides) sonkulensis* Pešić & Smit, 2018
— Male: Suture lines Cx-II/III distinct, coxae in three groups, Vgl-3 not fused with Cx-IV; P-2 ventrodistally convex; separation S-1-2 > 15 µm *A. (Atractides) alarachaensis* Pešić & Smit, 2018
5. Male: P-2 and P-3 without ventral projections 6
— Male: Both P-2 and P-3 with ventral projections 9
6. Small dimensions (< 500 µm); S-1 and -2 short (< 55 µm), S-1-2 separation small, < 5 µm; P-2 with a slightly protruding ventrodistal edge; P-4 with distinct projections near ventral setae

- *A. (Atractides) manasi* Pešić & Smit, 2018 (known only from a female sex)
 — Larger dimensions (idiosoma L > 500 µm), S-1 and -2 longer, > 70 µm, separation S-1-2 > 10 µm; palp various but P-4 without a projections near ventral setae 7
7. Glandularia enlarged (diameter > 45 µm); P-2 with a rounded ventrodistal margin; separation S-1-2 < 15 µm in male, < 20 µm in female *A. (Atractides) karakali* **n. sp.**
 — Glandularia diameter < 40 µm; P-2 ventral margin distally convex in male; separation S-1-2 > 15 µm in male, > 20 µm in female 8
8. Male: genital field longer than wide, L/W ratio > 1.1; P-4 ventral setae comparatively long; I-L-6 slender, dL/H > 5.0 *A. (Atractides) kyrgyzicus* **n. sp.**
 — Male: genital field wider than long, L/W ratio < 1.0; P-4 ventral setae comparatively shorter; I-L-6 stouter, dL/H < 5.0 *A. (Atractides) tienshanensis* **n. sp.**
9. Seta S-1 not pointed, apically truncated; I-L-6 slender, dL/H > 6.0; male P-4 ventral seta short, not exceeding the length of the segment *A. (Atractides) yunusi* **n. sp.**
 — Seta S-1 pointed, equally narrowed in the distal third; I-L-6 stouter, dL/H < 6.0; male P-4 ventral setae long, exceeding the length of the segment *A. (Atractides) ivanae* **n. sp.**

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