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Further studies on harvestmen of the genus *Opilio* Herbst, 1798 (Arachnida: Opiliones: Phalangiidae) from the Caucasus

Дальнейшие исследования сенокосцев рода *Opilio* Herbst, 1798 (Arachnida: Opiliones: Phalangiidae) на Кавказе

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Key words: Opiliones, *Opilio*, harvestmen, the Caucasus.

Ключевые слова: Opiliones, *Opilio*, сенокосцы, Кавказ.

Abstract. Faunistic, distributional, and taxonomic data on the genus *Opilio* Herbst, 1798 from the Caucasus are presented. Four new species (*Opilio silvestris* sp. n., *Opilio arborphilus* sp. n., *Opilio nabozhenkoi* sp. n., *Opilio caucasicus* sp. n.) are described. Six species (*Opilio lederi* Roewer, 1911, *Opilio hemseni* Roewer, 1952, *Opilio parietinus* De Geer, 1778, *Opilio apsheronicus* Snegovaya, 2005, *Opilio shirvanicus* Snegovaya, 2004, *Opilio saxatilis* C.L. Koch, 1839) are figured and partly redescribed.

Резюме. Приводятся фаунистические и таксономические данные по роду *Opilio* Herbst, 1798 с территории Кавказа. Даются описания 4 новых видов сенокосцев (*Opilio silvestris* sp. n., *Opilio arborphilus* sp. n., *Opilio nabozhenkoi* sp. n., *Opilio caucasicus* sp. n.). Для 6 видов (*Opilio lederi* Roewer, 1911, *Opilio hemseni* Roewer, 1952, *Opilio parietinus* De Geer, 1778, *Opilio apsheronicus* Snegovaya, 2005, *Opilio shirvanicus* Snegovaya, 2004, *Opilio saxatilis* C.L. Koch, 1839) приводятся диагностические рисунки и частично переописания.

The species of the genus *Opilio* Herbst, 1798 from the Caucasus are recorded and described by Roewer [1911, 1912, 1923, 1952, 1956], Redikorzev [1936], Starega [1966, 1978, 2003], Bogachev [1951], Morin [1937], Snegovaya [1999, 2004a, b, 2005, 2006]. 15 species of the genus are known now from the Caucasus: *O. apsheronicus* Snegovaya, 2005, *O. arborphilus* sp. n., *O. caucasicus* sp. n., *O. consputus* (Simon, 1895), *O. coxipunctus* (Sørensen, 1912), *O. ejuncidus* (Thorell, 1876), *O. hemseni* Roewer, 1952 (= *O. reginae* Starega, 1966), *O. lederi* Roewer, 1911 (= *Phalangium coronatum* Redikorzev, 1936 = *O. redikorzevi* Roewer, 1956), *O. nabozhenkoi* sp. n., *O. pallens* Kulczycki, 1901, *O. parietinus* (De Geer, 1778), *O. saxatilis* C.L. Koch, 1839, *O. shirvanicus* Snegovaya, 2004, *O. silvestris* sp. n., *O. lepidus* (L. Koch, 1878).

As a result of study of new material four new harvestman species are described from the Caucasian territory.

Abbreviations used:

IZB (+ catalogue number) – Zoological Institute NAS of Azerbaijan, Baku;

ZIN – Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia;

ZMMU – Zoological Museum of Moscow State University, Moscow, Russia;

RCNS – Reference collection of Nataly Snegovaya, Baku, Azerbaijan;

BLI – index of legs length (proportion of femur I length to width of carapace [Starega, 1972]).

Opilio lederi Roewer, 1911

(Fig. 1–9)

Opilio lederi Roewer, 1911: 130.

Opilio lederi: Roewer, 1923: 773, fig. 946.

Opilio lederi: Starega, 1978: 30.

Opilio lederi: Chevrizov, 1979: 23, fig. 152.

Opilio redikorzevi: Snegovaya, 1999: 455, fig. 19–23 (misidentified).

Opilio lederi: Snegovaya, 2004a: 313.

Male (measurement: 1♂ (IZB N5). Body length 6.2 mm, width 3.5 mm. Body solid, light-brown. Transverse rows of denticles single or double. Eye tubercle wide, with 4–5 small denticles, distant on two diameters from frontal margin. Large black-tipped denticles grouped into crown are situated in front of eye tubercle.

Legs short, first pair thickened (BLI 0.857). Femora I spindle-shaped, thickened, strong. All femora with large denticles, other parts with smaller denticles, appearing as granules. Length of legs (mm): I – 3+1.3+2.5+2.5+5=14.3, II – 4+1.3+4.1+3.2+10.2=22.8, III – 3.3+1.4+2.7+3+5=15.4, IV – 4.4+1.4+7.5+4.4+7=20.7.

Pedipalps strong. Femora ventrally with large spine-tipped denticles, dorsally with large denticles; patella dorsally with large denticles; tibia ventrally with small denticles, dorsally with denticles; tarsus ventrally with microgranules. Length of palpal segments: femur 1.65 mm, patella 0.8 mm, tibia 1 mm, tarsus 1.7 mm; total length 5.5 mm.

Chelicera large and strong. Basal segment dorsally with some denticles, distal segment dorsally with some big granules. Pedipalps and chelicera light-brown with dark-brown spots. Length of basal segment of chelicera 2.25 mm, distal segment – 2.7 mm.

Penis slightly narrowed to base, with small “wings”. Length of penis 3.35 mm, stylus 0.38 mm, glans 0.13 mm.

Female differs from male by larger size of body and more rounded body form.

Material. Russia: Daghestan: 4♂, 3♀ (IZB N5), Kurush Biostation of Dagestan Pedagogical Institute, 2400 m, under stones, 3.07.1991, leg. S. Dashdamirov; 1♂, 1♀, 3 juv. (IZB N13), the same place, 2500–2700 m, under stones, 6.07.1991, leg. S. Dashdamirov; 4♂, 5♀, 1 juv. (RCNS), Akhty Distr., Kurush village, 06–07.1991, leg. G. Abdurakhmanov; 8♂, 4♀, 2 juv. (RCNS), Charoda Distr., Archib village, 06–07.1991, leg. G. Abdurakhmanov; 1♀ (RCNS), Khiv Distr., Kandik, Chuvek, Tsundik village, 07.2004, leg. G. Abdurakhmanov; 1♀ (RCNS), Buynaksk Distr., Verhniy Karanay settlement,

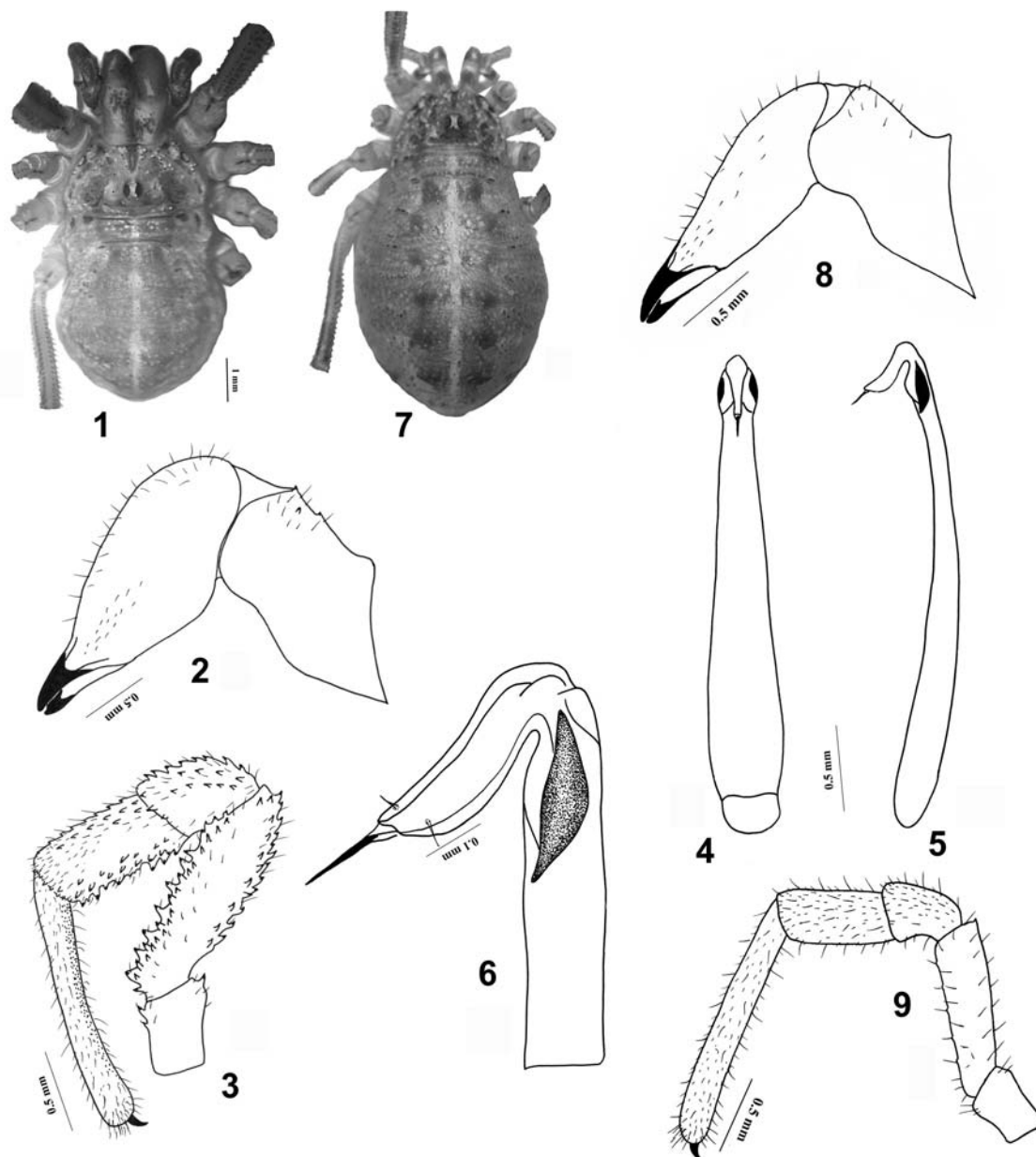


Fig. 1-9. *Opilio lederi* Roewer, 1911.

Male: 1 – body, dorsal view; 2 – right chelicera, prolateral view; 3 – right pedipalpus, prolateral view; 4 – ventral view of penis; 5 – lateral view of penis; 6 – glans of penis lateral view. Female: 7 – body, dorsal view; 8 – right chelicera, prolateral view; 9 – right pedipalpus, prolateral view.

Рис. 1-9. *Opilio lederi* Roewer, 1911.

Самец: 1 – тело дорсально; 2 – правая хелицера, пролатерально; 3 – правая педипальпа, пролатерально; 4 – пенис вентрально; 5 – пенис латерально; 6 – головка пениса латерально. Самка: 7 – тело дорсально; 8 – правая хелицера, пролатерально; 9 – правая педипальпа, пролатерально.

slope of mountain, beechen wood, 22.06.2006, leg. A. Khalidov; 1♀ (RCNS), Buynaksk Distr., Summer 2007, leg. A. Khalidov. Azerbaijan: Apsheron Peninsula: 3♂ (RCNS), Mashtaga settlement, 24.04.1946, under stones, on grape, leg. A. Bogachev; 8♂, 4♀, 2 juv. (IZB N17), Balakhani-Zabrat-I settlements, under stones, 26.04.1995, leg. N. Snegovaya; 1♂, 7♀, 3 juv. (IZB N19), near Ganly-Gol lake, under stones, 15.05.1995, leg. N. Snegovaya, S. Dashdamirov; 22♂, 15♀, 4 juv. (IZB N39), Bailov settlement, under stones, 29.04.1996, leg. N. Snegovaya; 1♂ (RCNS), Bakinskies Ushki Mt., 19.04.2001, leg. E. Guseinov; 1♀ (RCNS), 05.2003, leg. N. Snegovaya; 1♂, 2♀, (IZB N191), Ganly-Gol lake, 40°21.46'N / 49°48.36'E, 20.05–6.06.2003, leg. Yu. Marusik; 2♀ (IZB N193), Baku environs, Dyubendy, 40°29'N / 50°13'E, –9 m, 18.05–8.06.2003, leg. Yu. Marusik; 1♀ (IZB N195), Baku, Bailov, 40°21'N / 49°48.36'E, 6.06.2003, leg. Yu. Marusik; 6♂, 4♀ (IZB N217), near Ganly-Gol lake, 6.05.2004, leg. Kh. Aliyev; 1♂ (IZB N224), 5–9.05.2004, leg. Kh. Aliyev; 1♂, 1♀, 2 juv. (IZB N234), Gyurgyan settlement, 17.05.2004, leg. Kh. Aliyev; 1♂, 2♀ (RCNS), near Ganly-Gol lake, under stones, 3.05.2005, leg. E. Guseinov; 11♂, 43♀ (IZB N277), Baku environs, Volch'i Vorota, 7–12.05.2005, leg. N. Snegovaya; 2♂, 2♀, 15 juv. (IZB N306), Baku environs, Volch'i Vorota, 12.04.2006, leg. N. Snegovaya; 1♂, 1♀ (IZB N307), Baku environs, Volch'i Vorota, 12.04.2006, leg. N. Snegovaya; 1♂, 5♀ (IZB N312), Baku environs, Volch'i Vorota, 10.05.2006, leg. N. Snegovaya; 7♂, 8♀ (IZB N315), Baku environs, Volch'i Vorota, 05.2007, leg. N. Snegovaya; 7♂ (RCNS), Surakhani settlement, in steppe, 1.05.2009, leg. N. Snegovaya; 2♀ (RCNS), in litter in the yard of Zoological Institute, Baku, 15.05.2009, leg. Kh. Aliyev. Gusa District: 7♂, 3♀ (IZB N79), near Shakhdag Mt., 3000 m, under stones, 8.08.2001, leg. Kh. Aliyev, E. Guseinov, N. Snegovaya; 1♀, 8 juv. (IZB N83), Laza village, under stones, 6.08.2001, leg. N. Snegovaya; 8♂, 1♀ (IZB N87), the same place and date; 1♀ (IZB N86), the same place, 6.08.2001, leg. N. Snegovaya; 8♂, 7♀, 2 juv. (IZB N92), Alty-Agach, 06–07.1998, leg. N. Snegovaya; Lenkoran, Yardimli Distr., 1♂, 2♀, (IZB N191), environs of Kyurekchi village, 1700 m, 25.05.2008, leg. N. Snegovaya, D. Kasatkin; 1♂ (IZB N371), Uzyubashi Mt. environs, 2000–2500 m, 29.05.2008, leg. N. Snegovaya, D. Kasatkin.

Opilio hemseni Roewer, 1952

(Fig. 10–19)

Opilio hemseni Roewer, 1952: 512–513, fig. 1a, b.

Opilio reginae: Starega, 1966: 404–406, fig. 19–21.

Opilio reginae: Starega, 1978: 227.

Male (measurement: 1♂, Abkhazia, Gumista State Reserve, confluence of Tsumur river and East Gumista river, 14.08.2005, leg. M. Nabozhenko). Body length 3.75 mm, width 2.25 mm. Body light-brown, with double or triple transverse rows of denticles. Eye tubercle normal size, distant on 1 its diameter from edge, with 4–6 small denticles on each side. Front of eye mound on sides with small denticles.

Legs normal size, I and III pairs slightly thickened (BLI 1.778). Femora I spindle-shaped. All femora with thin transverse rows of denticles. Length of legs (mm): I – 4+1.2+3.75+4.1+8=21.05, II – 3.25+0.75+3.3+2.2+8.6=18.1, III – 1.75+0.75+1.8+2.3+4=10.6, IV – 2.6+0.6+2.4+2.9+5.6=14.1.

Chelicerae small, dorsally on both basal and distal segments with some small denticles. Basal segment of chelicera 1.13 mm, distal 1.4 mm.

Pedipalps small. Femora ventrally with small denticles, dorsally with some denticles; patella dorsally with some small denticles; tibia ventrally with small spine-tipped denticles; tarsus ventrally with granules. Length of palpal segments: femur 1.13 mm, patella 0.53 mm, tibia 0.75 mm, tarsus 1.4 mm, total length 3.81 mm.

Chelicerae and pedipalp light-brown.

Penis wide at basis, narrowed to top. Length of penis 2 mm, stylus 0.35 mm, glans 0.08 mm.

Material. Armenia: 1♂ (RCNS), Dilijan, 08.1927, leg. A. Dyakonov. Azerbaijan: 1♂, 4♀ (RCNS), Kedabek, 08.1947, in herb, leg. A. Bogachev. Georgia: 1♂ (RCNS), Tsalsk Distr., environs of Khram GES, oak-hornbeam-beech forest, in 10 traps, 12–19.08.1989, leg. D. Mikhailov, B. Kozminykh. Abkhazia: 5♂, 7♀ (RCNS), Sukhum Distr., Gumista State Reserve, confluence of Tsumur and East Gumista rivers, 14.08.2005, leg. M. Nabozhenko; 4♂, 3♀, 3 juv. (RCN), Gumista State Reserve, south slope of Dzykhva Mt., beech zone, 1500 m, 16–17.08.2005, leg. M. Nabozhenko. Russia: 1♂, 1♀ (RCNS),

North Ossetia: Alagir Distr., canyon of Baddon River, h~2000 m, 30.07–1.08.2006, leg. M. Nabozhenko, A. Shumeev.

Opilio parietinus De Geer, 1778

(Fig. 20–37)

Opilio parietinus: Roewer, 1923: 770.

Opilio parietinus: Martens, 1978: 240–243, fig. 423–428).

Opilio parietinus: Starega, 1978: 30.

Opilio parietinus: Chevrizov, 1979: 26, fig. 141–143.

Opilio parietinus: Tchemeris et al., 1998: 197–198, fig. 43–48.

Opilio parietinus: Snegovaya, 1999: 455.

Opilio parietinus: Starega, 2003: 96.

Opilio parietinus: Snegovaya, 2004a: 313–316.

Material. Azerbaijan: Lerik Distr.: 1♂, 1♀ (IZB N28), near Lyulya-Keran, 1600 m, under stones, leg. E. Guseinov, Kh. Aliyev; 1♂, 1 juv. (IZB N33), near Mistan, 24.08.1995, under stones, leg. E. Guseinov, Kh. Aliyev; 1 juv. (RCNS), near Gili-Darya, 21.08.1995, leg. E. Guseinov, Kh. Aliyev; 3♂, 6♀, 3 juv. (IZB N34), near Gili-Darya, 21.08.1995, under stones, leg. E. Guseinov, Kh. Aliyev; 1♂ (IZB N27), the same place, 22.08.1995, leg. E. Guseynov, Kh. Aliyev; 4♂, 2♀, 3 juv. (IZB N35), near Mistan, 24.08.1995, under stones, leg. E. Guseinov, Kh. Aliyev; 1♀, 2 juv. (IZB N37), near Lyulya-Keran, 1600 m, 25.08.1995, under stones, leg. E. Guseynov, Kh. Aliyev; 1♂, 1♀ (IZB N38), near Gili-Darya, under stones, 22.08.1995, leg. E. Guseinov, Kh. Aliyev; 1♂, 1♀, 12 juv. (IZB N41), near Gosmalyan, 11.08.1996, under stones, leg. N. Snegovaya; 1♂, 4♀, 17 juv. (IZB N300), Gosmalyan village, 28.05.2005, leg. N. Snegovaya; 2♂, 1 juv. (RCNS), vicinities of Gosmalyan settlement, 11.06.2007, leg. N. Snegovaya, D. Kasatkin; 2♀, 8 juv. (IZB N333), vicinity of Gosmalyan, 12.06.2007, leg. N. Snegovaya, D. Kasatkin; 1♂ (IZB N342), vicinities of Peshtatyuk village, 14–16.06.2007, leg. N. Snegovaya, D. Kasatkin; 1♀, 2 juv. (IZB N344), vicinities of Gosmalyan, 11.06.2007, leg. N. Snegovaya, D. Kasatkin; 8♂, 4♀ (IZB N346), vicinities of Gosmalyan, 12.06.2007, leg. N. Snegovaya, D. Kasatkin; Yardimli Distr.: 2♀, 2 juv. (IZB N31), Talysh Mt. Ridge, 2000 m, under stones, 15.08.1995, leg. E. Guseynov, Kh. Aliyev; 1♂, 1♀, 3 juv. (IZB N30), near Kyurekchi village, 1500 m, 15.08.1995, leg. E. Guseynov, Kh. Aliyev; 1♀ (IZB N32), Talysh Mt. Ridge, 1900 m, near stream, 16.08.1995, leg. E. Guseynov, Kh. Aliyev; 2♂, 2♀, 2 juv. (IZB N184), Talysh Mt. Ridge, 2000 m, under stones, 16.08.1995, leg. E. Guseynov, Kh. Aliyev; 1♀ (IZB N29), Talysh Mt. Ridge, 2000 m, 18.08.1995, leg. E. Guseynov, Kh. Aliyev; Astara Distr.: 2♂, 2♀, 4 juv. (IZB N291), Motlayatag village, 2–5.06.2006, leg. N. Snegovaya; Ismaily Distr.: 1♂, 2♀, 3 juv. (IZB N36), Khanagah settlement, along Ah-Oh-chay river, 30.09.2003, leg. N. Snegovaya; 2♂, 4 juv. (IZB N188), Gurbaneffendi, 2.10.2003, leg. N. Snegovaya; Gabala Distr.: 1♂, 2 juv. (IZB N82), Dolama, 10.08.2001, leg. N. Snegovaya; 2♂, 2♀, 4 juv. (IZB N85), Gusa District, Laza village, under stones, 6.08.2001, leg. N. Snegovaya; 2♂, 1♀, 4 juv. (IZB N81), Laza village, 800 m, near Kusarchay river, 7.08.2001, leg. N. Snegovaya; 1♂, 1♀, 7 juv. (IZB N78), way to Laza village, 4.08.2001, leg. N. Snegovaya; 7♂, 6♀ (RCNS), Nakhichevan, Djulfa, 19.06.2009, leg. Kh. Aliyev; 6♂, 1♀ (IZB N393), Khachmaz Distr., Nabran village, 17–18.10.2009, leg. N. Snegovaya; 5♂, 1♀, 3 juv. (RCNS), Alty-Agach, Yirimja, 1300 m, 11–12.10.1997, leg. S. Dashdamirov. Georgia: 3♂, 4♀ (RCNS), Tsalka Distr., environs of Khram GES, oak-hornbeam-beech forest, in 10 traps, 12–19.08.1989, leg. D. Mikhailov, B. Kozminykh.

Opilio apsheronicus Snegovaya, 2005

(Fig. 38–46)

Opilio apsheronicus Snegovaya, 2005: 19–22, fig. 1–16.

Material. Azerbaijan: 1♀ (RCNS), Gobustan, under stones, 20.05.2000, leg. E. Guseynov; 1♀, 1 juv. (IZB N268), 12 km of Kilyazi, 05.2003, leg. Kh. Aliyev; 4♀, 1 juv. (IZB 205), 75 km N from Baku, W of Kilyazi village, 40°51.5'N / 49°11.5'E, 260 m, semi-desert, 7.06.2003, leg. Yu. Marusik; 1♂, 3♀ (IZB N206), Gobustan, 40°07'N / 49°23'E, 150 m, stony semidesert, 17–31.05.2003, leg. Yu. Marusik; 2♂, 1♀ (IZB N215), Apsheron, near Ganly-Gol lake, 6.05.2004, leg. Kh. Aliyev; 1♂, 1♀ (IZB N215), Apsheron, Karakush Mt., 5.05.2004, leg. N. Snegovaya; 1♂, 5♀, 3 juv. (IZB N271), Gobustan, Chingildag, 11–16.04.2005, leg. Kh. Aliyev; 1♂, 2♀ (RCNS), the same place and date; 1♀ (IZB N273), the same place and date, leg. E. Guseynov; 3♀ (IZB N275), Gobustan, Boyuk Dash, 15.04.2005, leg. E. Guseynov; 4♂, 6♀ (RCNS), the same place and date, leg. T. Aliyeva, F. Amin-Zadekh.

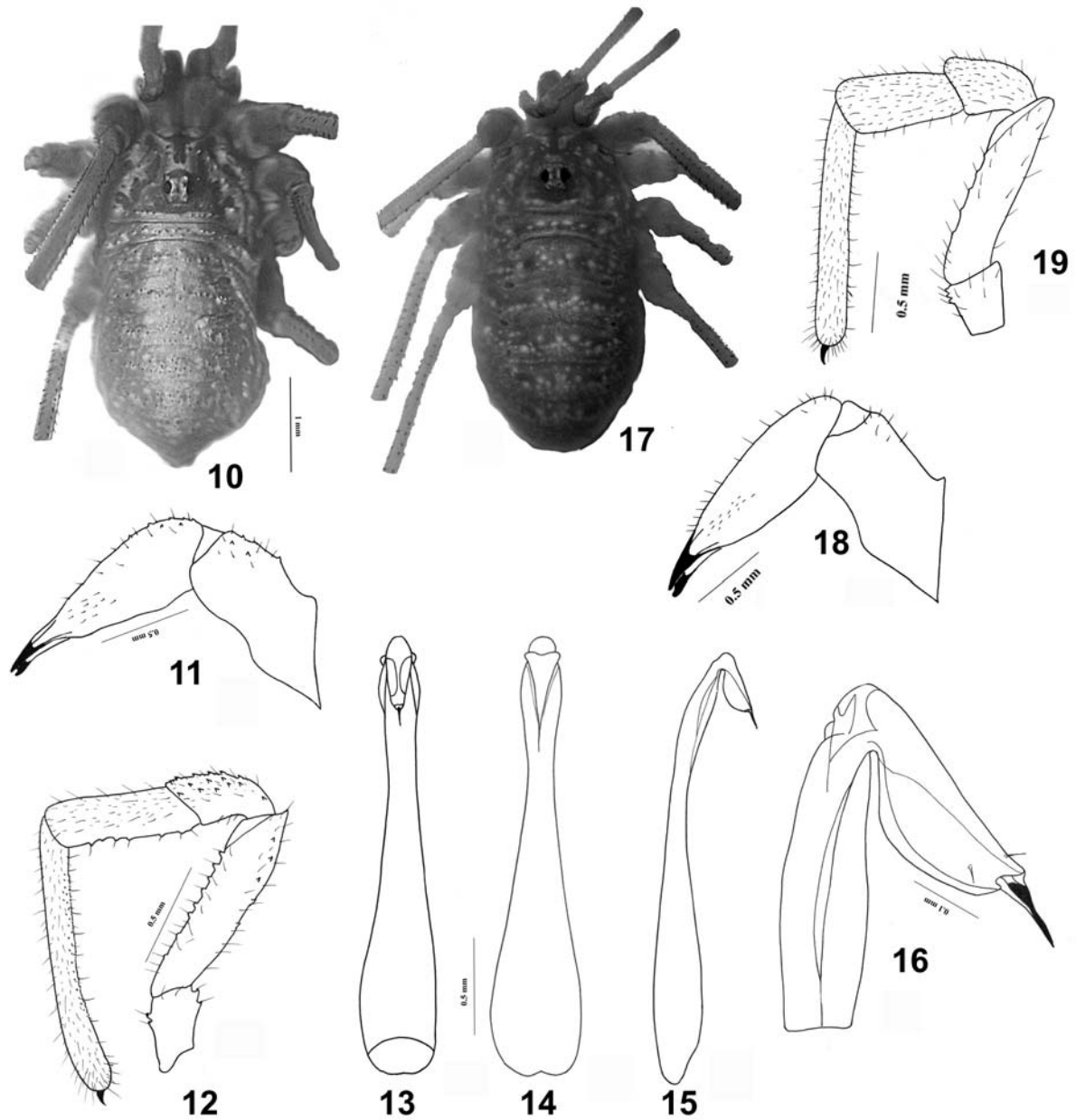


Fig. 10–19. *Opilio hemseni* Roewer, 1952.

Male: 10 – body, dorsal view; 11 – right chelicera, prolateral view; 12 – right pedipalpus, prolateral view; 13 – ventral view of penis; 14 – dorsal view of penis; 15 – lateral view of penis; 16 – glans of penis lateral view. Female: 17 – body, dorsal view; 18 – right chelicera, prolateral view; 19 – right pedipalpus, prolateral view.

Fig. 10–19. *Opilio hemseni* Roewer, 1952.

Самец: 10 – тело дорсально; 11 – правая хелицера, пролатерально; 12 – правая педипальпа, пролатерально; 13 – пенис вентрально; 14 – пенис дорсально; 15 – пенис латерально; 16 – головка пениса латерально. Самка: 17 – тело дорсально; 18 – правая хелицера, пролатерально; 19 – правая педипальпа, пролатерально.

Opilio shirvanicus Snegovaya, 2004
(Fig. 47–55)*Opilio shirvanicus* Snegovaya, 2004b: 129–134, fig. 1–22.
Opilio afghanus: Snegovaya, 2006: 95 (misidentification).**Material.** Azerbaijan: 2♂, 5♀, 1 juv. (IZB N90), Shirvan State Reserve, under wormwood bush, 29.05.2000, leg. N. Snegovaya, E. Guseynov; 2♂, 4♀, 2 juv. (IZB N89), Shirvan State Reserve, under stones, 30.05.2000, leg. N. Snegovaya, E. Guseynov, Kh. Aliyev; 1♂, 4♀, 2 juv. (IZB N214), Apsheron, Karakush Mt., 5.05.2004, leg. N. Snegovaya; 1♂, 2♀, 2 juv. (IZB N263), Gobustan, in dry grass, 10–15.06.2004, leg. E. Guseynov, Kh. Aliyev.*Opilio saxatilis* C.L. Koch, 1839
(Fig. 56–64)*Opilio saxatilis*: Martens, 1978: 243–247, fig. 429–434, 436.**Material.** Russia: 1♂, 3♀ (RCNS), Rostov Region, Sholokhov Distr., Elanskoe village, 1–7.09.2004, leg. E. Khachikov.*Opilio silvestris* Snegovaya, sp. n.
(Fig. 65–73)*Opilio lederi*: Snegovaya, 2006: 123–124 (misidentification).**Description.** Male (measurement of the holotype). Body length 6.5 mm, width 3.8 mm. Body brown with numerous light spots. Saddle more dark, transverse stripe interrupting as light spots. Transverse rows of denticles single or double. Eye tubercle low, its distance from frontal margin of cephalothorax equal to 2 eye mound diameters. A group of black-tipped denticles is situated in front of eye mound.

Legs short (BLI 1.053), I pair thickened. Femora of first pair spindle-shaped, all femora with more large denticles, other segments with smaller denticles. Length of legs (mm): I – 4+1.5+3.2+3.4+6=18.1, II – 6+1.6+5.4+5+11=29, III – 3.6+1.2+3.2+4+6=18, IV – 5.6+1.7+4.3+5.3+11=27.9.

Chelicera robust, basal segment dorsally with denticles, distally with granules and setae, light-brown with dark-brown spots. Basal segment of chelicera 2.25 mm, distal 2.63 mm.

Pedipalps short and robust, light-brown. Femora dorsally with denticles and setae, ventrally with spine-tipped tubercles, patella dorsally with denticles and setae, other parts with setae. Length of palpal segments: femur 1.8 mm, patella 0.85 mm, tibia 1 mm, tarsus 2.13 mm, total length 5.78 mm.

Penis long, basal 1/3 is extended and then narrowed, with small “wings”. Glans long, banana-shaped. Length of penis 3.75 mm, stylus 0.38 mm, glans 0.15 mm.

Female (paratype). Body 8.5 mm, width 3.5 mm. Female differs from male by more big and wide body.

Basal segment of chelicera 1.2 mm, distal 2.0 mm. Length of palpal segments: femur 1.1 mm, patella 0.5 mm, tibia 0.75 mm, tarsus 2 mm, total length 4.35 mm.

Length of legs (mm): I – 3+1.3+2.75+3+6.5=16.55, II – 6.5+1.5+4.7+3.8+11=27.5, III – 3.5+1.3+2.8+3.5+6=17.1, IV – 6.5+1.5+4.1+6.5+9=27.6.

Material. Holotype: ♂ (ZMMU), Azerbaijan: Shemakha Distr., Pirgulu, environs of Sis village, 19–22.05.2004, leg. N. Snegovaya, Kh. Aliyev.

Paratypes: 1♀ (ZMMU), 4♂, 2♀, 4 juv. (IZB N232, RCNS): Azerbaijan: Shemakha Distr., Pirgulu, environs of Sis village, 19–22.05.2004, leg. N. Snegovaya, Kh. Aliyev; 2♂, 2♀ (IZB N283, RCNS), Pirgulu State Reserve, environs of Sis village, 20–26.06.2005, leg. N. Snegovaya; 1♂, 1♀ (ZIN), 4♂, 1♀ (IZB N284, RCNS), Pirgulu State Reserve, Dedegunesh, 20–26.06.2005, leg. N. Snegovaya.

Etymology. The species is named after its habitat – in forest.**Diagnosis.** The new species is closely related to *Opilio lederi*, but differs from it by the following characters: *O. silvestris* sp. n. has more poorly developed group of denticles in front of eye tubercle; eye tubercle is more strongly armed with denticles; pedipalps are shorter and more strongly armed; legs are shorter and thicker; *O. silvestris* sp. n. has another structure and size of penis.*Opilio arborphilus* Snegovaya, sp. n.
(Fig. 74–82)*Opilio cf. dinaricus*: Snegovaya, 2004a: 313, fig. 26–31 (misidentification).**Description.** Male (measurement of the holotype). Body length 4.35 mm, width 2.3 mm. Body yellow with light and dark spots; transverse row on carapace single or double. Eye mound low, with 4–6 denticles, distance from edge of carapace equal to diameter of mound. There is a group of black-tipped denticles in front of eye mound.

Legs thin and slender (BLI 1.913), femora cylindrical form; all femora with transverse denticle rows. Length of legs (mm): I – 4.4+1.1+3.6+4.25+7=20.35, II – 7.7+1.5+6.9+5+15.5=36.6, III – 4.5+1.5+3.7+5+7.75=22.45, IV – 5.7+1.3+3.5+6.6+11.7=27.8.

Pedipalps normal size. Femora and tibia dorsally with denticles, ventrally with small denticles; patella dorsally with denticles; tarsus ventrally with granules. Length of palpal segments: femur 1.3 mm, patella 0.6 mm, tibia 0.8 mm, tarsus 1.6 mm, total length 4.3 mm.

Chelicera normal size, not enlarged. Basal and dorsal segments dorsally with some denticles. Basal segment of chelicera 1.4 mm, distal 1.75 mm. Pedipalps and chelicera yellow.

Penis relatively long, fine, slightly narrowed to the base, with small “wings”. Length of penis 3.35 mm, stylus 0.38 mm, glans 0.1 mm.

Female (paratype). Body 7.4 mm, width 3 mm. Female differs from male by large size and rounded and more wide body.

Basal segment of chelicera 1 mm, distal 1.5 mm. Length of palpal segments: femur 1.25 mm, patella 0.5 mm, tibia 0.75 mm, tarsus 1.6 mm, total length 4.1 mm.

Length of legs (mm): I – 4+1.2+3.5+4.5+7.6=20.8, II – 8+1.3+6.9+6+16.6=38.8, III – 4+1.4+3.2+4.5+8=21.1, IV – 6.5+1.5+4.7+7+12=31.7.

Material. Holotype: ♂, Azerbaijan: Ismailly Distr., Chaygovshan, 23.07.2004, leg. N. Snegovaya.

Paratypes: 1♀ (ZMMU), 1♂, 1♀ (ZIN), 3♂, 6♀, 5 juv. (IZB N179, RCNS), Azerbaijan: Ismailly Distr., Chaygovshan, 23.07.2004, leg. N. Snegovaya; Khachmaz Distr., 4♂ (IZB N69), Sabiroba, on tree, 8.11.1987; 2♂ (IZB N70), the same place and date; 1♀ (IZB N71), the same place and date; 2♀ (IZB N72), the same place and date; 1♀ (IZB N73), Murshudoba, on tree, 12.10.1987; 1♀, 3 juv. (IZB N74), Sabiroba, on tree, 8.11.1987; 1♂ (IZB N75), Murshudoba, on tree, 12.10.1987; 1♂ (IZB N76), the same place and date; 1♀ (IZB N77), Sabiroba, on tree, 8.11.1987; 1♂, 1♀ (IZB N14), Apsheron, Gara-Chukhur settlement, 14–23.06.1994, leg. N. Snegovaya; 1♂, 6 juv. (RCNS), Summer 2005, leg. N. Snegovaya; 9♂, 8♀, 12 juv. (IZB N43, RCNS), Salyan Distr., on tree, 20.06.1996, leg. N. Snegovaya, O. Gorbunov; 4♀ (IZB N172), Ismailly Distr., Khanagah settlement, 20–22.06.2007, leg. N. Snegovaya; 2♂, 1 juv. (IZB N180), Khanagah settlement, forest near Reserve office, in field, 25.06.2003, leg. N. Snegovaya; 1♂, 4♀, 11 juv. (IZB N182), Khanagah settlement, forest near Reserve office, 29.05.2003, leg. N. Snegovaya; 2♀, 2 juv. (IZB N240), Shemakha Distr., Pirgulu, environs of Sis village, 30.06.2004, leg. N. Snegovaya; 2♀ (IZB N261), environs of Sis village, 22.10.2004, leg. Kh. Aliyev; 1♂, 2♀, 1 juv. (IZB N285), Pirgulu, environs of Sis village, 20–26.06.2005, leg. N. Snegovaya; 5♂, 1♀, 3 juv. (RCNS), Alty-Agach, Yarimja, 1900 m, 11–12.10.1997, leg. S. Dashdamirov; 2♂, 1♀, 1 juv. (RCNS), Mingechevir, littoral forest, on bark of poplar, 29.10.1946, leg. A. Bogachev; 4♂, 4♀ (RCNS), Eldar, in mountain forest, 17.06.1947, leg. A. Bogachev; 1♂, 2♀ (RCNS), Kedabek, in mountain forest, on grass, 08.1947,

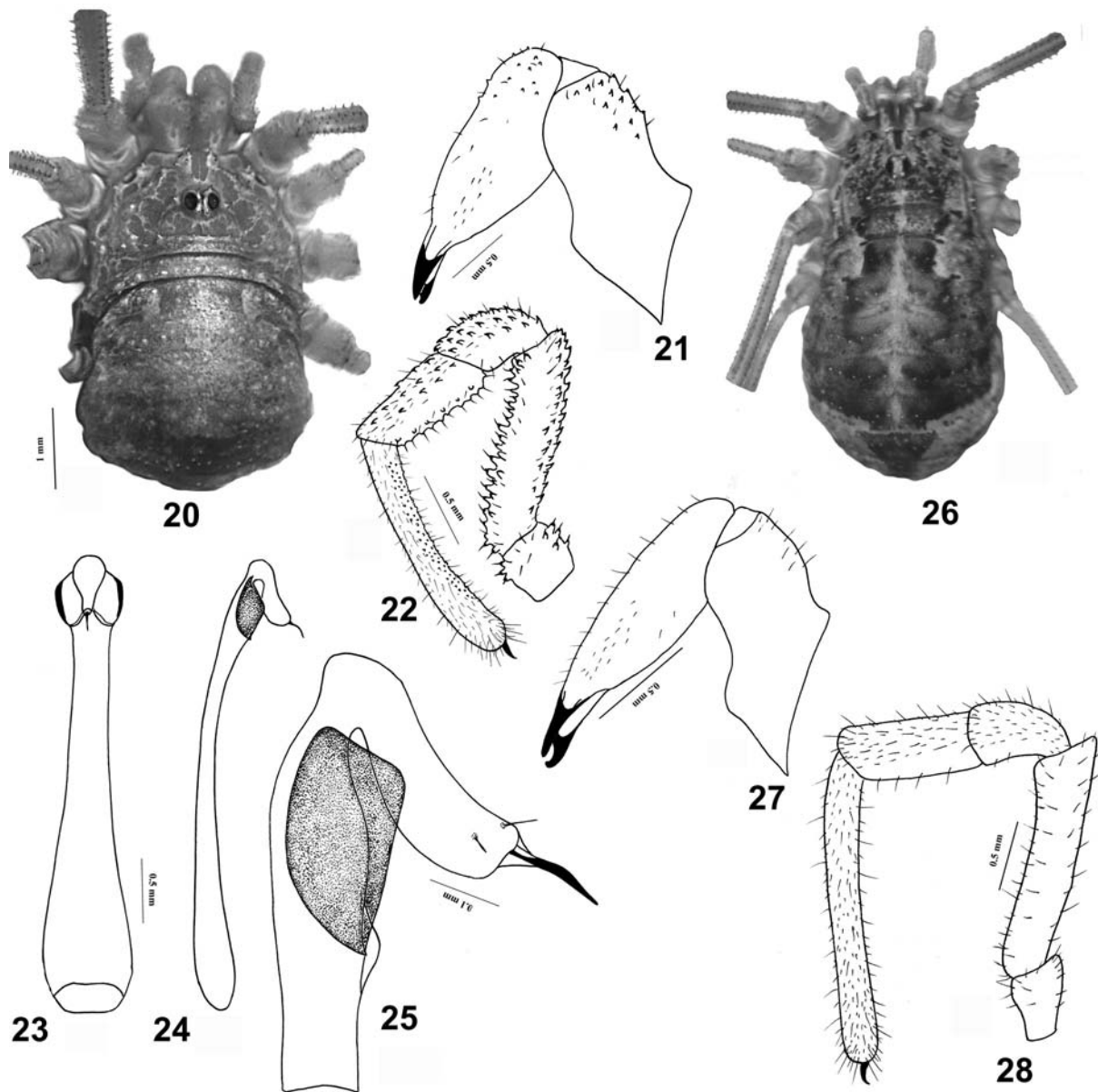


Fig. 20–28. *Opilio parietinus* De Geer, 1778 (specimens from Lenkoran Distr., Azerbaijan).

Male: 20 – body, dorsal view; 21 – right chelicera, prolateral view; 22 – right pedipalpus, prolateral view; 23 – ventral view of penis; 24 – lateral view of penis; 25 – glans of penis lateral view. Female: 26 – body, dorsal view; 27 – right chelicera, prolateral view; 28 – right pedipalpus, prolateral view.

Fig. 20–28. *Opilio parietinus* De Geer, 1778 (экземпляры из Ленкоранского района, Азербайджан).

Самец: 20 – тело дорсально; 21 – правая хелицера, пролатерально; 22 – правая педипальпа, пролатерально; 23 – пенис вентрально; 24 – пенис латерально; 25 – головка пениса латерально. Самка: 26 – тело дорсально; 27 – правая хелицера, пролатерально; 28 – правая педипальпа, пролатерально.

leg. A. Bogachev. Georgia: 1♂ (RCNS), environs of Tbilisi, 1972–1974, leg. T. Mcheidze; 2♂, 3♀ (RCNS), Tsalsk Distr., environs of Khram GES, oak-hornbeam-beech forest, in 10 traps, 12–19.08.1989, leg. D. Mikhailov, B. Kozminykh.

Etymology. The species is named after its habitat – on trees.

Diagnosis. The new species is most similar to *Opilio parietinus*, but differs from it by the following characters: *O. arborphilus* **sp. n.** has more thin legs; I pair of legs is not thickened, cylindrical form, in *O. parietinus* thickened, spindle-shaped form; *O. arborphilus* **sp. n.** penis is longer and “wings” is not so developed.

Opilio nabozhenkoi Snegovaya, **sp. n.**
(Fig. 83–91)

Description. Male (measurement of the holotype). Body length 4.25 mm, width 2.7 mm. Body dark-brown contrasting with light coxae. Small denticles situated by single rows along tergite borders. Eye mound low with 5–6 denticles, located on distance of 1–1.5 diameter from edge. A group of black-tipped denticles is situated in front of eye mound.

Legs normal size, I pair slightly thickened (BLI 1.759). Femora I spindle-shaped. All femora with transverse rows of large denticles. Patella with small denticles, other segments only with setae. Legs dark-brown. Length of legs (mm): I – 4.75+1.5+3.75+4.25+8.25=22.55, II – 8.1+1.75+6.1+5.75+17.25=47.05, III – 9.8+1.3+3.75+5+8.25=23.1, IV – 6.85+1.6+5.25+3.9+15.25=32.85.

Chelicera normal size, basal segment dorsally with setae; distal segment dorsally with some small granules and setae. Basal segment of chelicera 1.63 mm, distal 1.78 mm.

Pedipalps normal, femora dorsally with denticles and setae, ventrally with hair-tipped denticles; patella dorsally with denticles, other surface with setae; tibia ventrally with small granules; tarsus dorsally with granules. Length of palpal segments: femur 1.3 mm, patella 0.55 mm, tibia 0.8 mm, tarsus 1.7 mm, total length 4.35 mm. Chelicera and pedipalp light-brown.

Penis wide in the basal 1/3, then narrowed to the basis, with small “wings”. Glans banana-shaped, long. Length of penis 3 mm, stylus 0.38 mm, glans 0.13 mm.

Female (paratype). Body 6 mm, width 3.5 mm. It differs from male by more big and wide body.

Basal segment of chelicera 1.25 mm, distal 1.5. Length of palpal segments: femur 1.2 mm, patella 0.5 mm, tibia 0.7 mm, tarsus 1.6 mm, total length 4 mm.

Length of legs (mm): I – 3.75+1.25+3.25+3.8+7.5=19.55, II – 7+1.7+5.6+5+17.5=43.8, III – 3.8+1.25+3+4.5+7=19.55, IV – 6+1.25+4.4+6.6+11=29.25.

Material. Holotype: ♂ (ZMMU), Russia: North Ossetia, 25.07.2006, leg. M. Nabozhenko.

Paratypes: 1♀ (ZMMU), Russia: North Ossetia, 25.07.2006, leg. M. Nabozhenko; 1♂ (ZIN), 3♂ (RCNS), North Ossetia, Alagir Distr., 3 km E of Biragzang, 25.07.2006, leg. M. Nabozhenko, A. Shumeev, A. Terskov; 1♀ (RCNS), North Ossetia, leg. M. Nabozhenko. Azerbaijan: 1♂ (IZB N248), Zakatala State Reserve, between 1 and 2 cordon, in forest, 5.07.2004, leg. N. Snegovaya; 1♀ (IZB N249), the same place, road to waterfall, 6.07.2004, leg. N. Snegovaya; 1♀ (IZB N250), the same place and date, leg. N. Snegovaya.

Etymology. The species named in honour of the Russian entomologist, Dr. Maxim Nabozhenko (Rostov-on-Don), who kindly provided material for identification.

Diagnosis. The new species is most similar to *Opilio lederi*, but differs from it by the following characters: *O. nabozhenkoi* **sp. n.** has dark-brown body, *O. lederi* – light-brown; *O. nabozhenkoi* **sp. n.** chelicerae and pedipalps more poorly developed; legs more long, femora I is longer

and not thickened; penis is longer and “wings” are more wide.

Opilio caucasicus Snegovaya, **sp. n.**
(Fig. 92–100)

Description. Male (measurement of the holotype). Body length 5 mm, width 3 mm. Body yellow, with more dark and light spots. Transverse denticles rows single. Eye mound normal, circular with 5–7 denticles on each side, located on 1–1.5 its diameter from edge of carapace. A group of some black-tipped denticles is located ahead of eye mound.

Legs long with transverse rows of denticles (BLI 2.333), dark-brown. Length of legs (mm): I – 7+2+5+6.5+9.6=30.1, II – 10.5+2.1+9.5+8+22.5=52.6, III – 6.5+1.7+5+7+10.2=30.4, IV – 7.5+1.6+5.7+8.5+15=38.3.

Chelicera normal size, segments only with setae. Basal segment of chelicera 1.4 mm, distal 1.75 mm.

Pedipalps normal size, femora dorsally and ventrally with small denticles; patella and tibia dorsally and laterally with some small denticles; tarsus ventrally with small granules. Length of palpal segments: femur 1.3 mm, patella 0.63 mm, tibia 0.93 mm, tarsus 1.9 mm, total length 4.76 mm. Chelicera and pedipalps yellow.

Penis short with wide base, then narrowed to the top, with small “wings”, yellow. Length of penis 2 mm, stylus 0.3 mm, glans 0.05 mm.

Female. Body 6.6 mm, width 2.3 mm. It differs from male by large size and rounded and more wide body.

Basal segment of chelicera 1.25 mm, distal 1.5. Length of palpal segments: femur 1.2 mm, patella 0.5 mm, tibia 0.6 mm, tarsus 1.6 mm, total length 3.9 mm.

Length of legs (mm): I – 4.1+1.2+3.7+4.1+8.3=21.4, II – 7.6+1.5+7.2+5.25+11.5=33.05, III – 3.8+1.3+3.7+4.5+8.7=22, IV – 6+1.3+5+6+12.8=31.1.

Material. Holotype: ♂, 1♀ (paratype) (ZMMU), Russia: the Northern Caucasus, 2003, leg. P. Kiyashko.

Paratypes: 1♀ (ZMMU), Russia: the Northern Caucasus, Lagonaki, 2003, leg. P. Kiyashko; 1♂ (RCNS), Rostov Region, 5.05–26.07.2003, leg. A. Ponomarev; 1♂ (RCNS), the Western Caucasus, Adygeya, N-E Lagonaki plateau, “Kamennoye more” ridge, 1700 m, under stones, 16.09.2003, leg. P. Kiyashko.

Etymology. The species is named after its type locality – the Caucasus.

Diagnosis. The new species is closely related to *Opilio parietinus*, but differs from it by the following characters: *O. caucasicus* **sp. n.** has legs are thinner and longer; first pair of legs is longer but not thickened; chelicerae are thinner and more slender; penis short, its bases is wider and “wings” poorly developed.

Acknowledgements

I thank all persons who kindly provided specimens for study: Drs. Kh. Aliyev, E. Guseinov (Baku, Azerbaijan), Dr. S. Dashdamirov (Dusseldorf, Germany), Drs. D. Kasatkin, M. Nabozhenko, P. Kiyashko, A. Ponomarev (Rostov-on-Don, Russia), Drs. G. Abdurakhmanov,

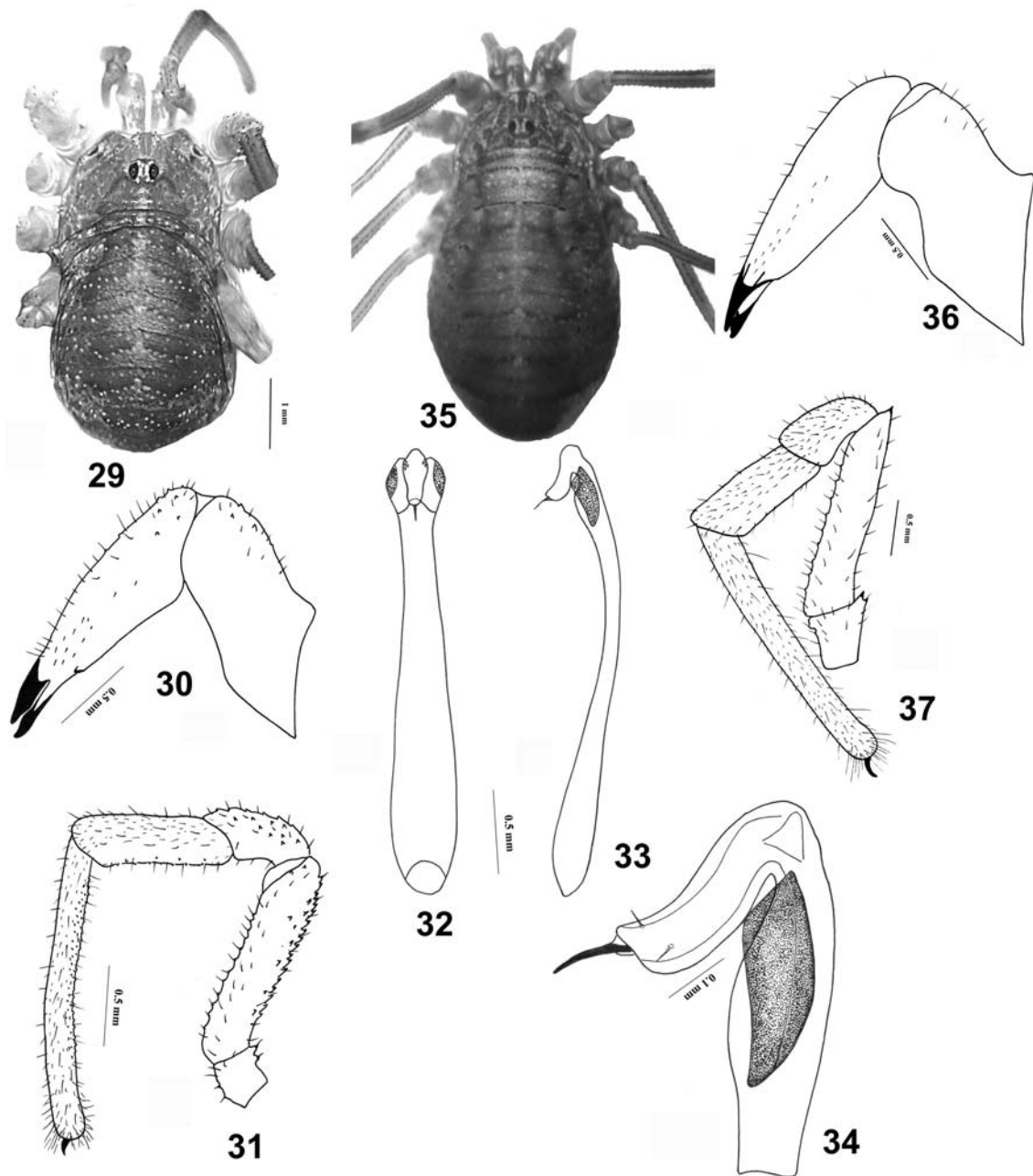


Fig. 29–37. *Opilio parietinus* De Geer, 1778 (specimens from Ismailly Distr., Azerbaijan).

Male: 29 – body, dorsal view; 30 – right chelicera, prolateral view; 31 – right pedipalpus, prolateral view; 32 – ventral view of penis; 33 – lateral view of penis; 34 – glans of penis lateral view. Female: 35 – body, dorsal view; 36 – right chelicera, prolateral view; 37 – right pedipalpus, prolateral view.

Fig. 29–37. *Opilio parietinus* De Geer, 1778 (экземпляры из Исмаиллинского района, Азербайджан).

Самец: 29 – тело дорсально; 30 – правая хелицера, пролатерально; 31 – правая педипальпа, пролатерально; 32 – пенис вентрально; 33 – пенис латерально; 34 – головка пениса латерально. Самка: 35 – тело дорсально; 36 – правая хелицера, пролатерально; 37 – правая педипальпа, пролатерально.

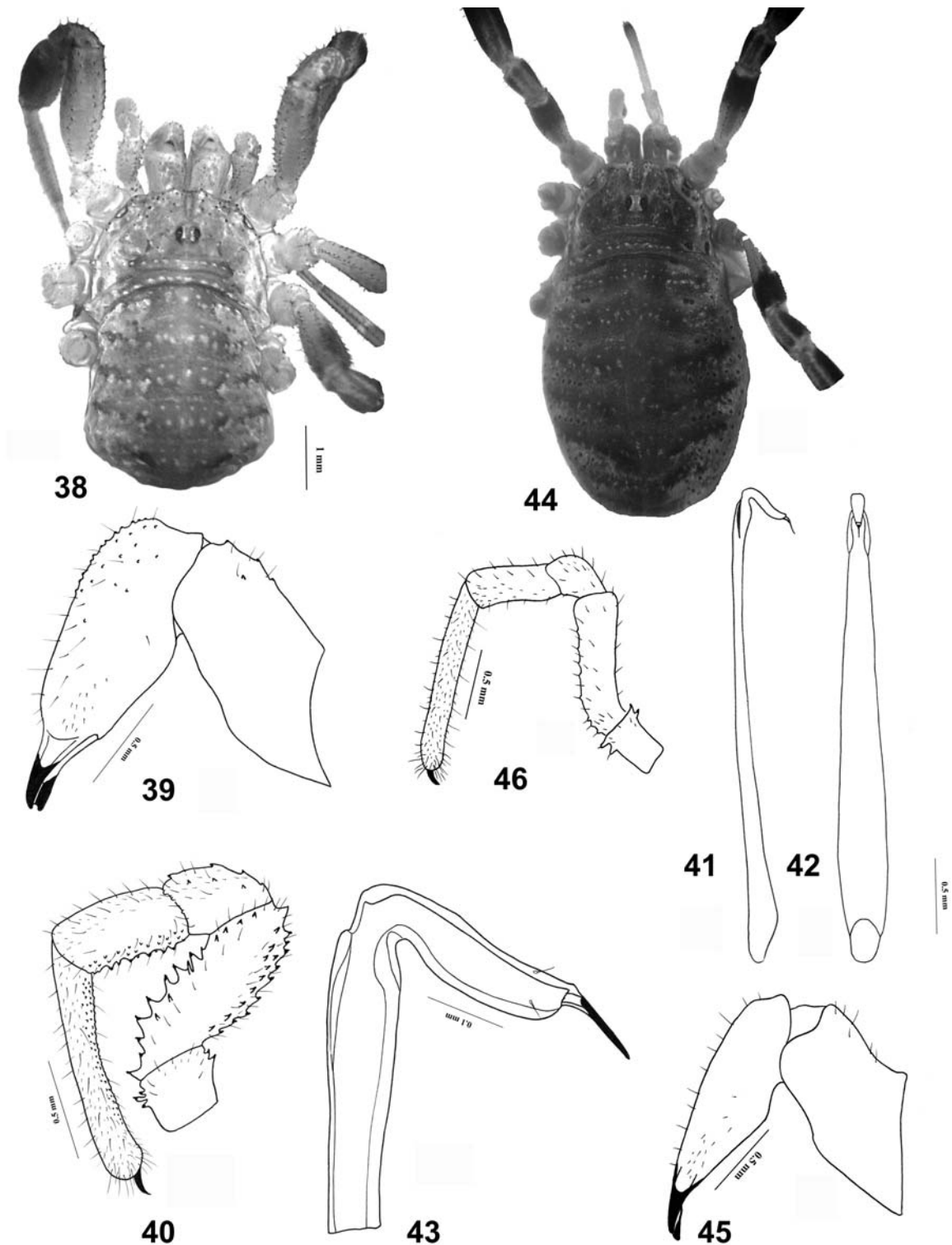


Fig. 38–46. *Opilio apsheronicus* Snegovaya, 2005.

Male: 38 – body, dorsal view; 39 – right chelicera, prolateral view; 40 – right pedipalpus, prolateral view; 41 – ventral view of penis; 42 – lateral view of penis; 43 – glans of penis lateral view. Female: 44 – body, dorsal view; 45 – right chelicera, prolateral view; 46 – right pedipalpus, prolateral view.

Fig. 38–46. *Opilio apsheronicus* Snegovaya, 2005.

Самец: 38 – тело дорсально; 39 – правая хелицера, пролатерально; 40 – правая педипальпа, пролатерально; 41 – пенис вентрально; 42 – пенис латерально; 43 – головка пениса латерально. Самка: 44 – тело дорсально; 45 – правая хелицера, пролатерально; 46 – правая педипальпа, пролатерально.

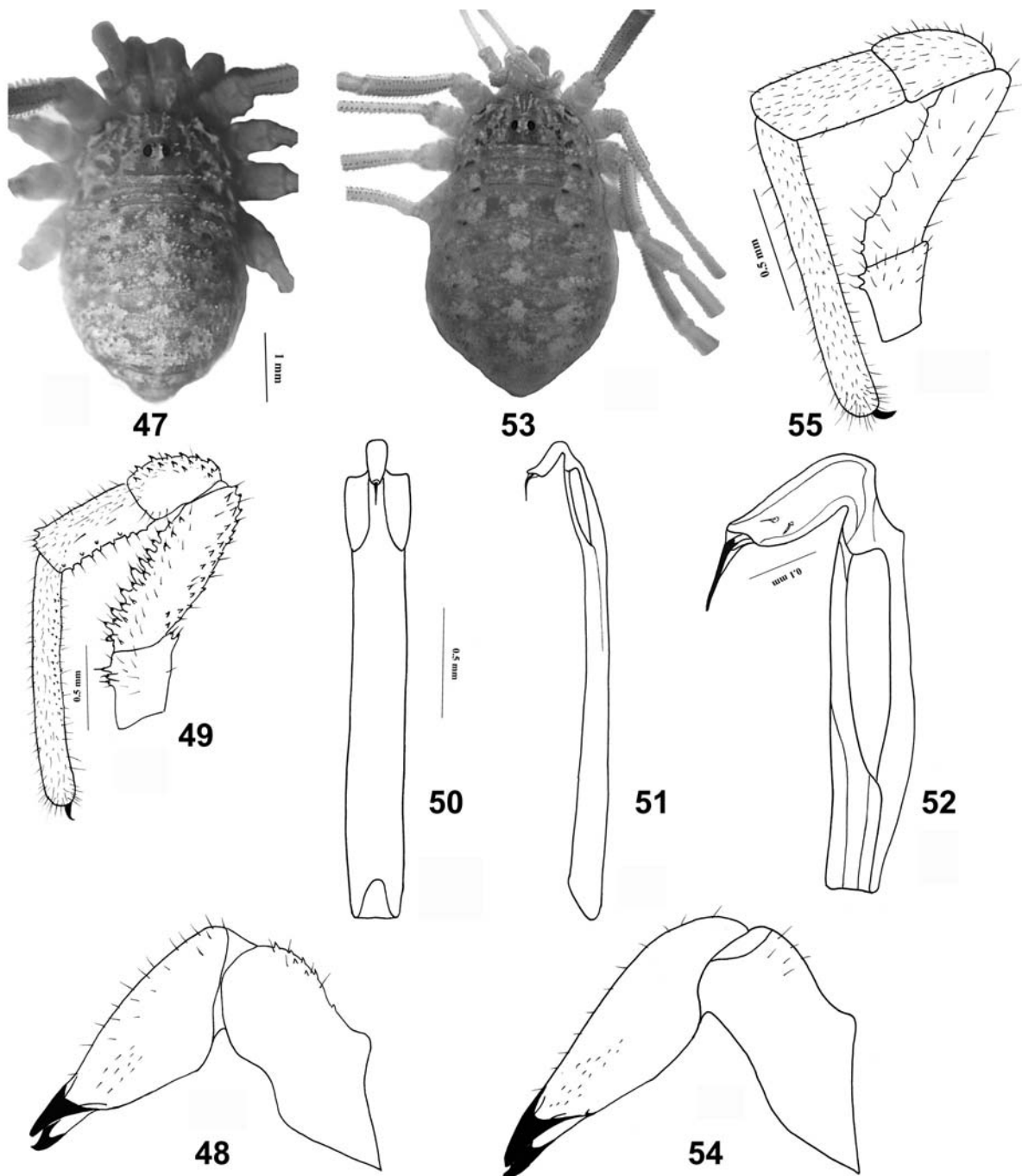


Fig. 47–55. *Opilio shirvanicus* Snegovaya, 2004.

Male: 47 – body, dorsal view; 48 – right chelicera, prolateral view; 49 – right pedipalpus, prolateral view; 50 – ventral view of penis; 51 – lateral view of penis; 52 – glans of penis lateral view. Female: 53 – body, dorsal view; 54 – right chelicera, prolateral view; 55 – right pedipalpus, prolateral view.

Fig. 47–55. *Opilio shirvanicus* Snegovaya, 2004.

Самец: 47 – тело дорсально; 48 – правая хелицера, пролатерально; 49 – правая педипальпа, пролатерально; 50 – пенис вентрально; 51 – пенис латерально; 52 – головка пениса латерально. Самка: 53 – тело дорсально; 54 – правая хелицера, пролатерально; 55 – правая педипальпа, пролатерально.

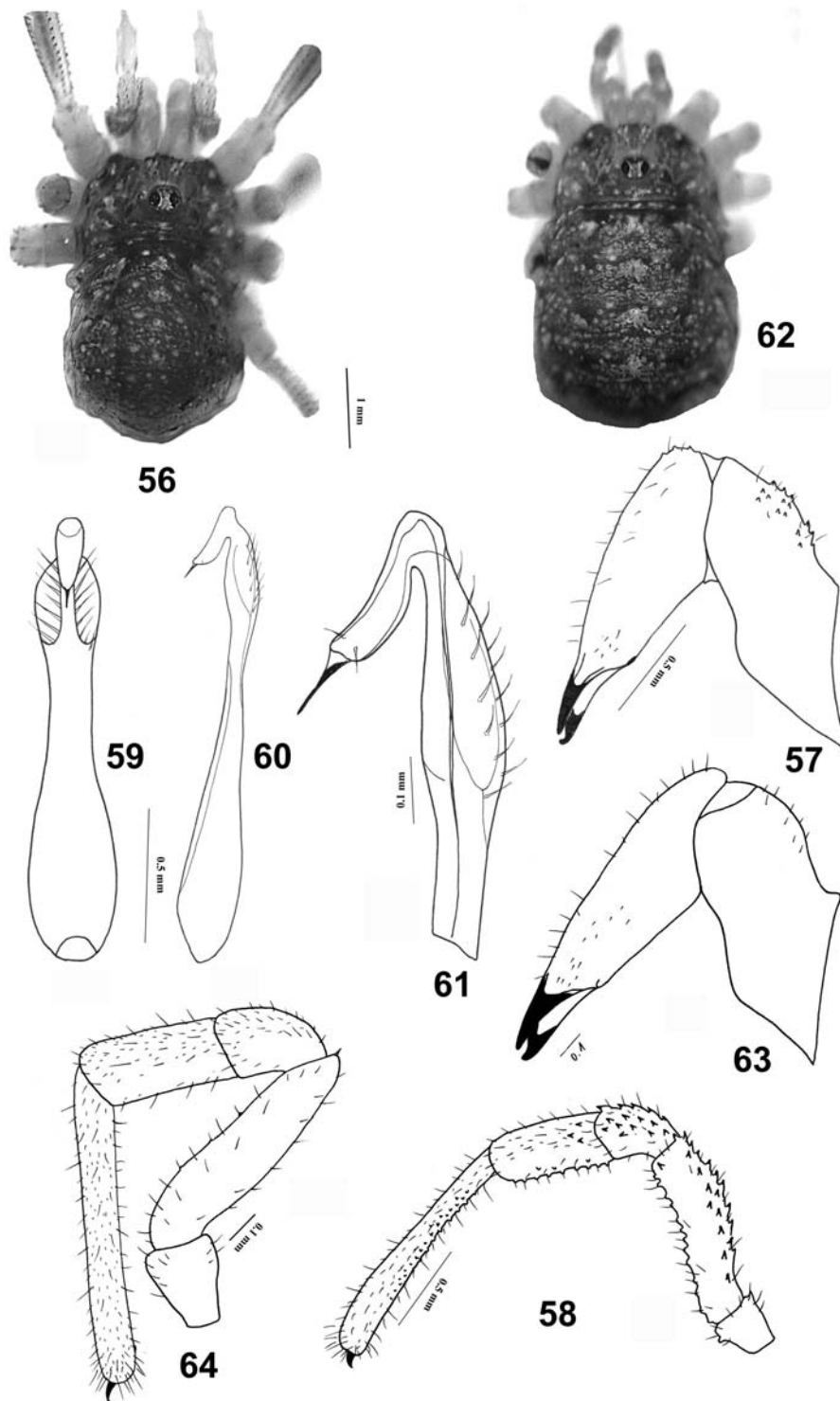


Fig. 56–64. *Opilio saxatilis* C.L. Koch, 1839.

Male: 56 – body, dorsal view; 57 – right chelicera, prolateral view; 58 – right pedipalpus, prolateral view; 59 – ventral view of penis; 60 – lateral view of penis; 61 – glans of penis lateral view. Female: 62 – body, dorsal view; 63 – right chelicera, prolateral view; 64 – right pedipalpus, prolateral view.

Fig. 56–64. *Opilio saxatilis* C.L. Koch, 1839.

Самец: 56 – тело дорсально; 57 – правая хелицера, пролатерально; 58 – правая педипальпа, пролатерально; 59 – пенис вентрально; 60 – пенис латерально; 61 – головка пениса латерально. Самка: 62 – тело дорсально; 63 – правая хелицера, пролатерально; 64 – правая педипальпа, пролатерально.

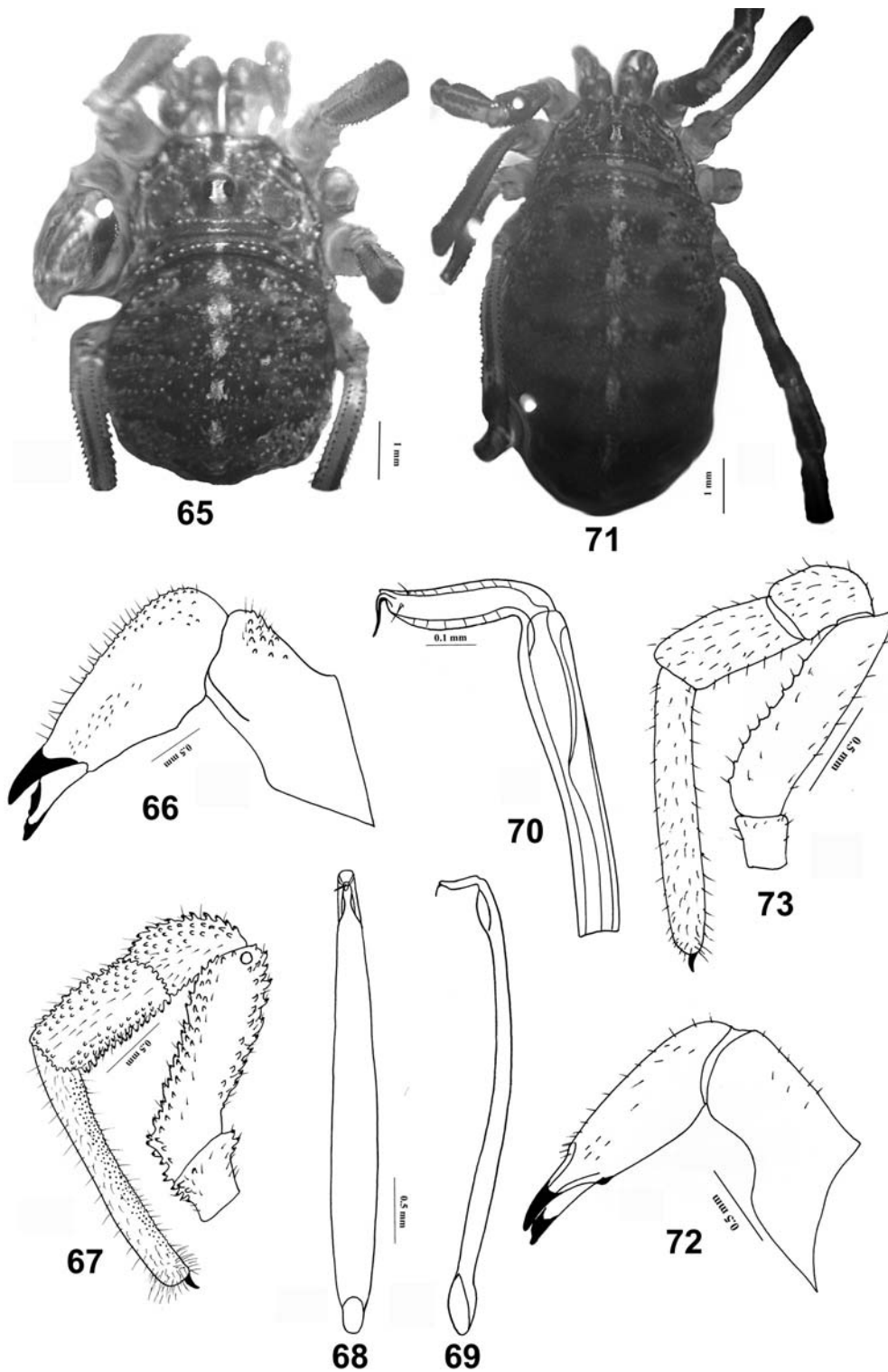


Fig. 65–73. *Opilio silvestris* Snegovaya **sp. n.**

Male: 65 – body, dorsal view; 66 – right chelicera, prolateral view; 67 – right pedipalpus, prolateral view; 68 – ventral view of penis; 69 – lateral view of penis; 70 – glans of penis lateral view. Female: 71 – body, dorsal view; 72 – right chelicera, prolateral view; 73 – right pedipalpus, prolateral view.

Fig. 65–73. *Opilio silvestris* Snegovaya **sp. n.**

Самец: 65 – тело дорсально; 66 – правая хелицера, пролатерально; 67 – правая педипальпа, пролатерально; 68 – пенис вентрально; 69 – пенис латерально; 70 – головка пениса латерально. Самка: 71 – тело дорсально; 72 – правая хелицера, пролатерально; 73 – правая педипальпа, пролатерально.

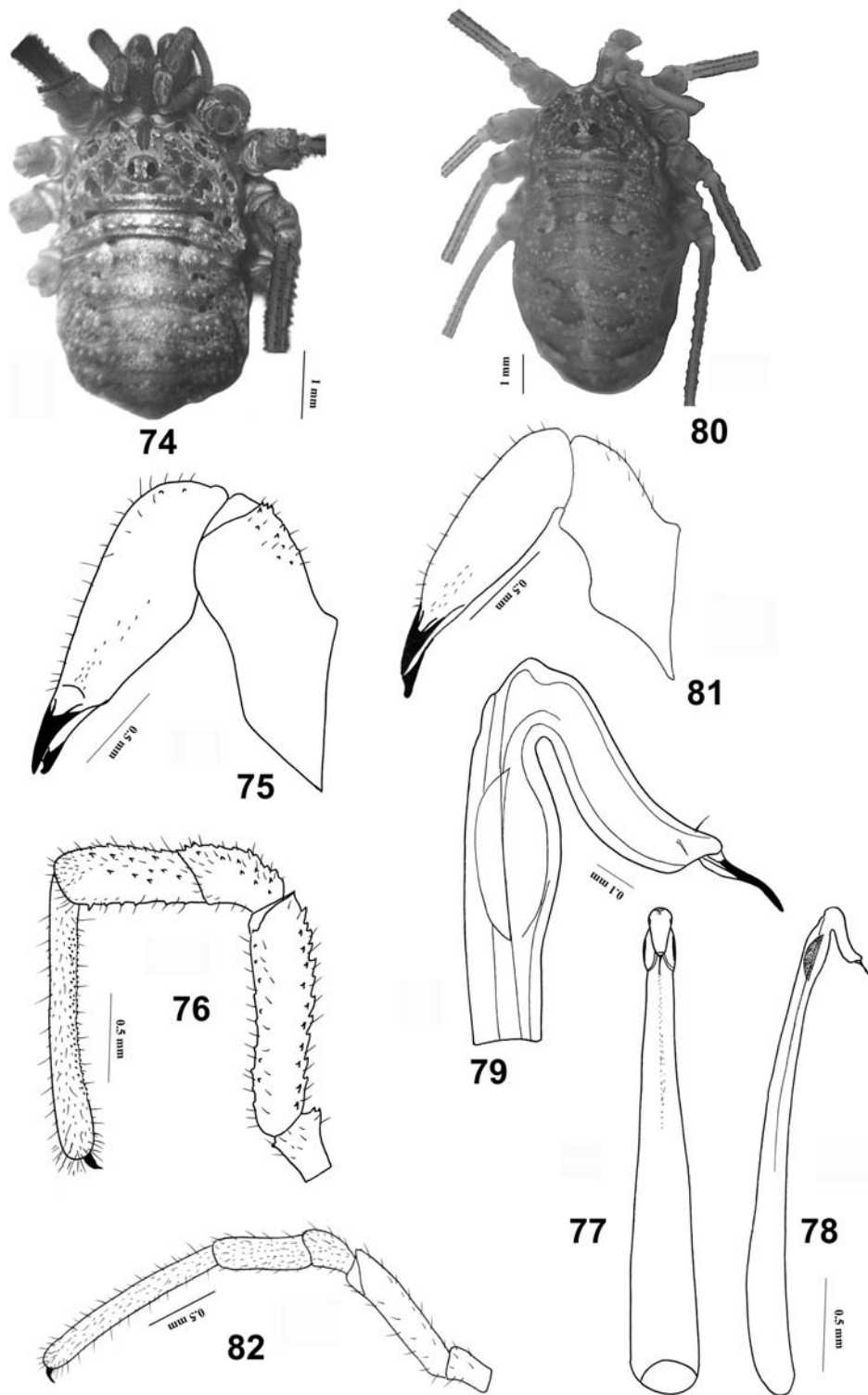


Fig. 74–82. *Opilio arborphilus* Snegovaya sp. n.

Male: 74 – body, dorsal view; 75 – right chelicera, prolateral view; 76 – right pedipalpus, prolateral view; 77 – ventral view of penis; 78 – lateral view of penis; 79 – glans of penis lateral view. Female: 80 – body, dorsal view; 81 – right chelicera, prolateral view; 82 – right pedipalpus, prolateral view.

Fig. 74–82. *Opilio arborphilus* Snegovaya sp. n.

Самец: 74 – тело дорсально; 75 – правая хелицера, пролатерально; 76 – правая педипальпа, пролатерально; 77 – пенис вентрально; 78 – пенис латерально; 79 – головка пениса латерально. Самка: 80 – тело дорсально; 81 – правая хелицера, пролатерально; 82 – правая педипальпа, пролатерально.

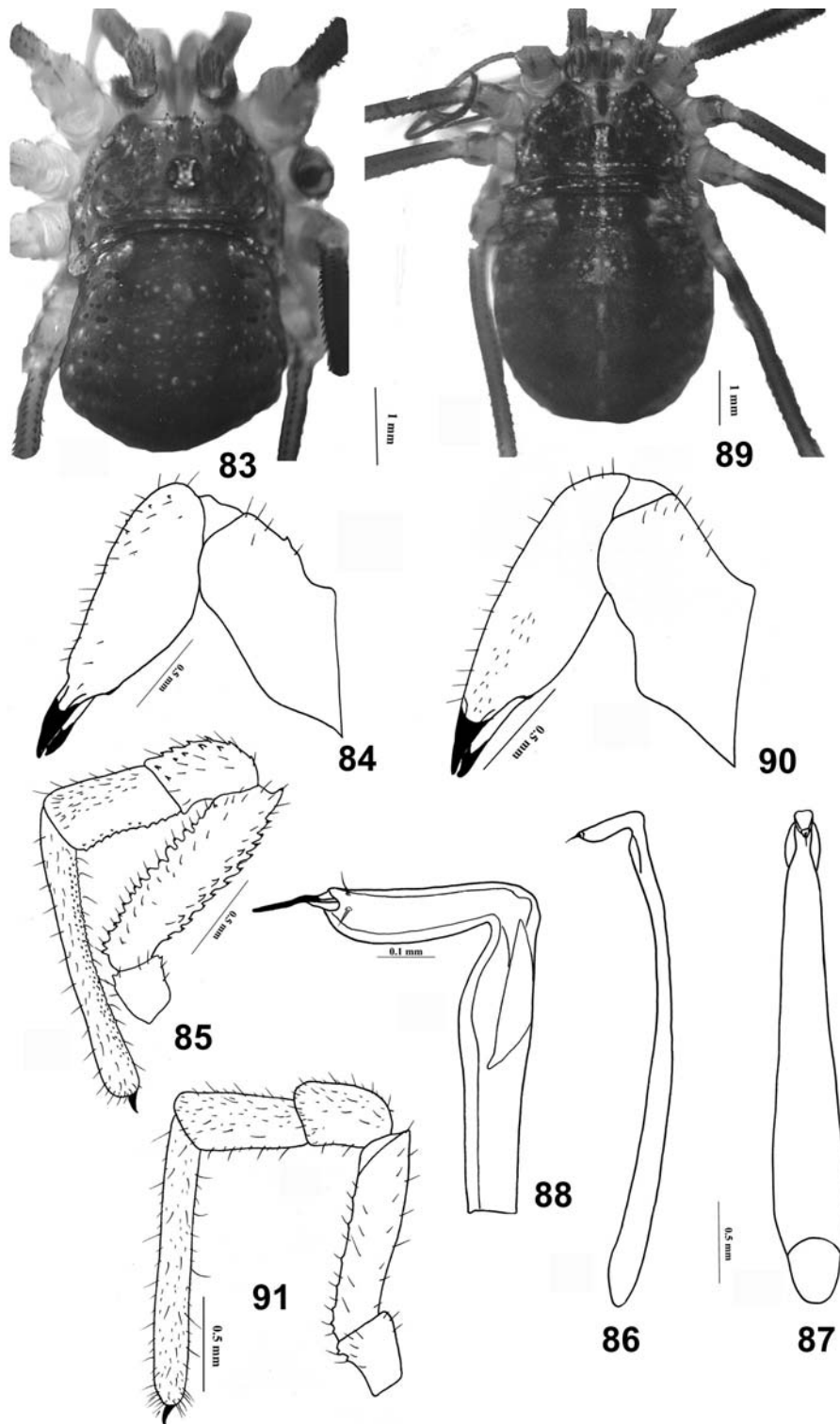


Fig. 83–91. *Opilio nabozhenkoi* Snegovaya **sp. n.**

Male: 83 – body, dorsal view; 84 – right chelicera, prolateral view; 85 – right pedipalpus, prolateral view; 86 – ventral view of penis; 87 – lateral view of penis; 88 – glans of penis lateral view. Female: 89 – body, dorsal view; 90 – right chelicera, prolateral view; 91 – right pedipalpus, prolateral view.

Fig. 83–91. *Opilio nabozhenkoi* Snegovaya **sp. n.**

Самец: 83 – тело дорсально; 84 – правая хелицера, пролатерально; 85 – правая педипальпа, пролатерально; 86 – пенис вентрально; 87 – пенис латерально; 88 – головка пениса латерально. Самка: 89 – тело дорсально; 90 – правая хелицера, пролатерально; 91 – правая педипальпа, пролатерально.

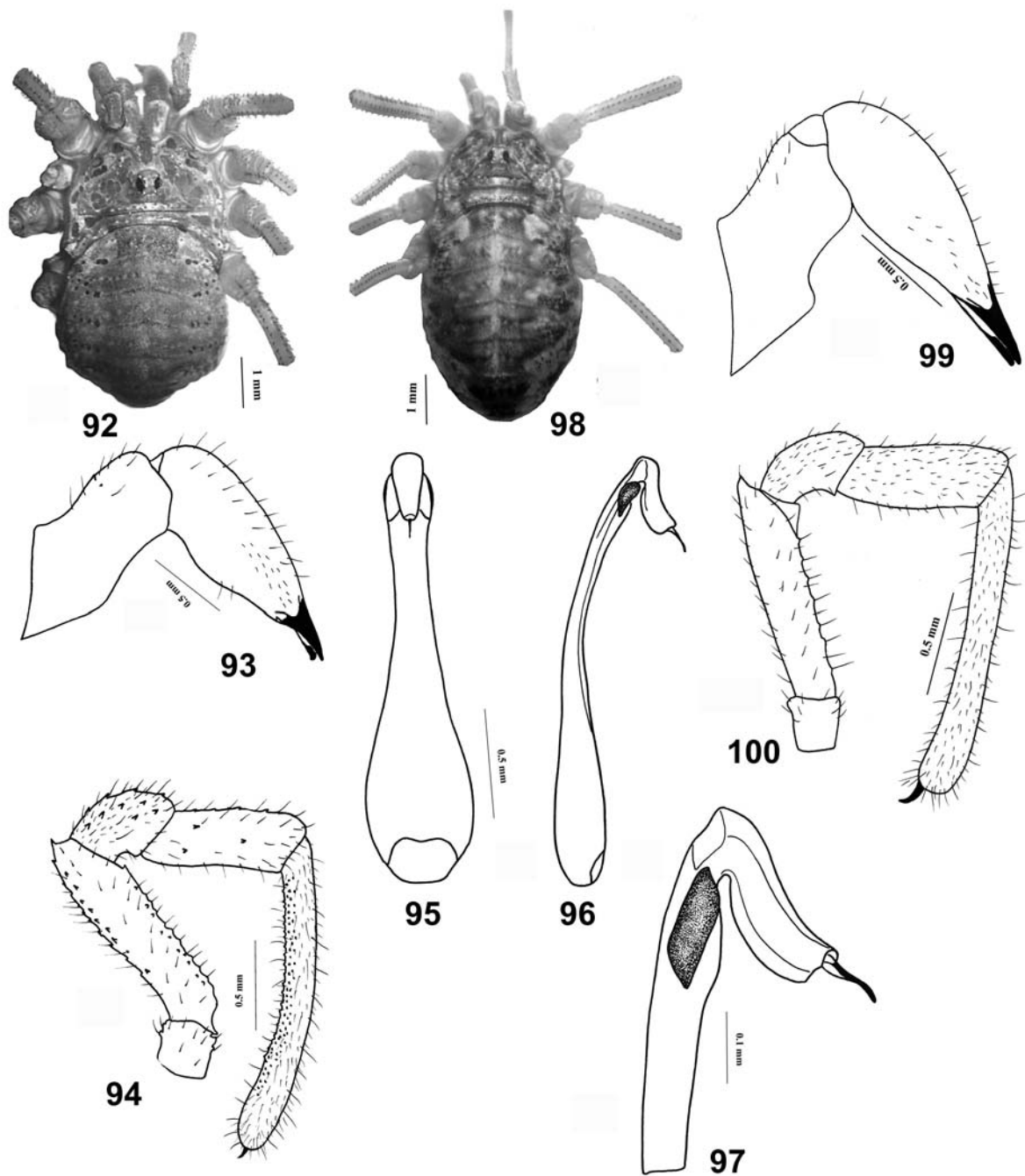


Fig. 92–100. *Opilio caucasicus* Snegovaya **sp. n.**

Male: 92 – body, dorsal view; 93 – right chelicera, prolateral view; 94 – right pedipalpus, prolateral view; 95 – ventral view of penis; 96 – lateral view of penis; 97 – glans of penis lateral view. Female: 98 – body, dorsal view; 99 – right chelicera, prolateral view; 100 – right pedipalpus, prolateral view.

Fig. 92–100. *Opilio caucasicus* Snegovaya **sp. n.**

Самец: 92 – тело дорсально; 93 – правая хелицера, пролатерально; 94 – правая педипальпа, пролатерально; 95 – пенис вентрально; 96 – пенис латерально; 97 – головка пениса латерально. Самка: 98 – тело дорсально; 99 – правая хелицера, пролатерально; 100 – правая педипальпа, пролатерально.

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