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**New species of bristletails of the genus  
*Trigoniophthalmus* Verhoeff, 1910 (Archaeognatha: Machilidae)  
from North Ossetia – Alania (Russia)**

**Новые виды щетинохвосток рода  
*Trigoniophthalmus* Verhoeff, 1910 (Archaeognatha, Machilidae)  
из Северной Осетии – Алании (Россия)**

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**Key words:** Archaeognatha, Machilidae, *Trigoniophthalmus*, new species, taxonomy, Caucasus.

**Ключевые слова:** Archaeognatha, Machilidae, *Trigoniophthalmus*, новые виды, систематика, Кавказ.

**Abstract.** Two new bristletail species, *Trigoniophthalmus kobani* sp. n. and *T. tseyi* sp. n., are described from the North Ossetia – Alania. The new species with 2 + 2 eversible vesicles on urites II–IV belongs to a group of small species of the subgenus *Trigoniocellus* Kaplin, 2010. *Trigoniophthalmus kobani* sp. n. differs from other species of this group by the color of paired ocelli, ratio of lengths of apical article and preceding one of maxillary palp, posterior angle of urosternites II–V. The main differences of *T. tseyi* sp. n. are the ratio of distance between inner margins of paired ocelli to total width of eyes, presence of spine-like setae on legs, small posterior angle of urosternites II–V, large number of inner sublateral spines on urocoxite IX.

**Резюме.** Описаны 2 новых вида щетинохвосток, *Trigoniophthalmus kobani* sp. n. и *T. tseyi* sp. n., из Северной Осетии – Алании. Новые виды с двумя парами выпячивающихся мешочков на II–IV сегментах брюшка относятся к группе небольших по размерам тела видов подрода *Trigoniocellus* Kaplin, 2010. *Trigoniophthalmus kobani* sp. n. отличается от других видов этой группы цветом парных глазков, соотношением длин апикального и предшествующего ему члеников нижнечелюстного щупика, вершинным углом II–V стернитов брюшка. Основные отличия *T. tseyi* sp. n. – отношение расстояния между внутренними краями парных глазков к общей ширине глаз, наличие игловидных щетинок на ногах, небольшой вершинный угол II–V стернитов брюшка, значительное количество внутренних сублатеральных игл на кокситов IX сегмента брюшка.

The Western Palaearctic genus *Trigoniophthalmus* Verhoeff, 1910 includes 31 species belonging to two subgenera: *Trigoniophthalmus* s. str. (4 species) and *Trigoniocellus* Kaplin, 2010 (27 species). These subgenera have two pairs of eversible vesicles on the abdominal coxites II–V and II–IV, respectively [Kaplin, 2010]. One

species of the subgenus *Trigoniophthalmus* s. str. and 19 species of the subgenus *Trigoniocellus* are known from the Caucasus, [Kaplin, 1999, 2007, 2010, 2012, 2015a, b, 2017; Kaplin, Alborova, 2018].

### Material and methods

Examination of the bristletails collected by the author in environs of Koban and Tsey settlements (North Ossetia – Alania) has revealed two new species of the genus *Trigoniophthalmus*; their descriptions are given below. Holotypes (males) and two paratypes (females) were dissected and mounted on glass microscope slides in the Berlese Fluid. Figures were made using microscope and drawing tool. The types of new species are deposited in the collection of the All-Russian Institute of Plant Protection (VIZR, St Petersburg, Pushkin, Russia).

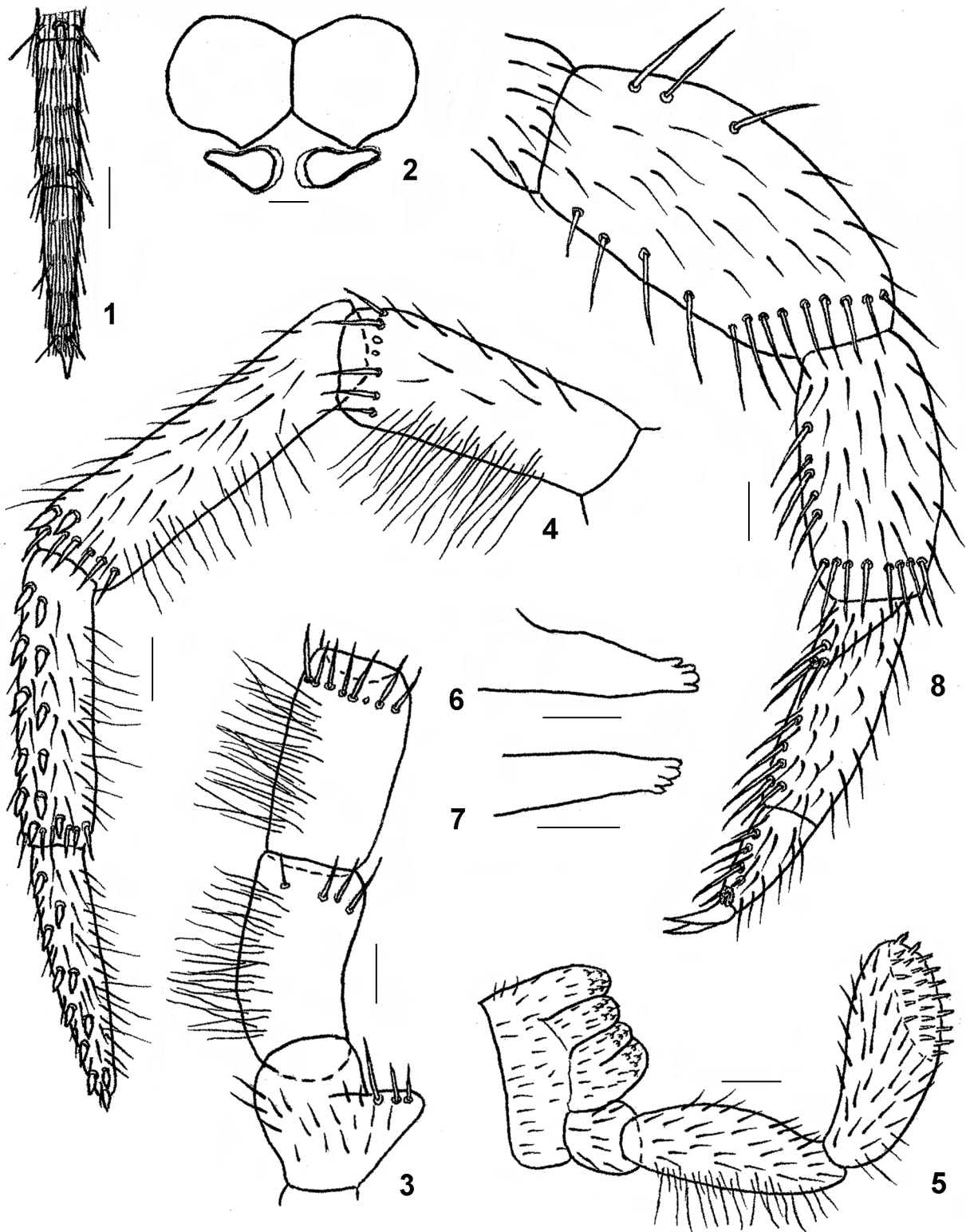
**Order Archaeognatha  
Family Machilidae Grassi, 1888  
Genus *Trigoniophthalmus* Verhoeff, 1910**

Type species *Machilis alternatus* Silvestri, 1904.

***Trigoniophthalmus kobani* Kaplin, sp. n.  
(Figs 1–15)**

**Material.** Holotype, ♂ (in slides): Russia, North Ossetia – Alania, Prigorodny Distr., environs of Koban settl., 42°55'N / 44°30'E, 1100 m, 29.04.2018 (V.G. Kaplin). Paratype: 1 ♀ (in slides), same data as for holotype.

**Description.** Body length: male 7 mm, female 7.5 mm. Body width: male and female 2.1–2.2 mm. General body color whitish. Antennal base, frons, clypeus, maxillae, mandibles, submentum, mentum, hypopharynx, thoracic sternites and coxae of all legs with purple hypodermal pigment of medium intensity. Color of scales on surface of body brownish. Antennae slightly shorter than body. Distal chains of flagellum divided into 7–9 articles in male and female. Clypeus of male with long thin bristles. Cercus approximately 0.37 (male) or 0.43 (female) body length,



Figs 1–8. *Trigoniphthalmus kobani* sp. n.  
 1–6, 8 – male, holotype; 7 – female, paratype; 1 – apex of cercus; 2 – eyes and paired ocelli; 3 – maxillary palp (1<sup>st</sup>–3<sup>rd</sup> articles); 4 – maxillary palp (4<sup>th</sup>–7<sup>th</sup> articles); 5 – labial palp; 6–7 – distal part of mandible; 8 – fore leg (part). Scale bars 0.1 mm.

Рис. 1–8. *Trigoniphthalmus kobani* sp. n.  
 1–6, 8 – самец, голотип; 7 – самка, паратип; 1 – вершина церки; 2 – глаза и парные глазки; 3 – нижнечелюстной щупик (1-й–3-й членики); 4 – нижнечелюстной щупик (4-й–7-й членики); 5 – нижнегубной щупик; 6–7 – дистальная часть верхней челюсти; 8 – передняя нога (часть). Масштабные линейки 0.1 мм.

Table 1. Ratios of length to width of leg segments of *Trigoniophthalmus kobani* sp. n.  
Таблица 1. Отношения длины к ширине сегментов ног *Trigoniophthalmus kobani* sp. n.

Segments Сегменты	Sex, pair of legs / Пол, пара ног					
	male / самец			female / самка		
	fore передняя	middle средняя	hind задняя	fore передняя	middle средняя	hind задняя
Tarsa / Лапка	4.32	4.1	5.71	4.34	4.24	5.29
Tibia / Голень	2.01	1.83	2.81	1.88	1.9	2.4
Femur / Бедро	2.00	2.12	2.41	1.86	1.95	2.05
Coxa / Тазик	2.21	2.38	2.5	2.46	2.27	2.59

including about 25 articles. Apex of cercus with one spike (Fig. 1). Every second articles of cerci with 2 or 3 colorless supporting macrochaetae on the distal inner side.

Compound eyes black (in ethanol). Ratio of length to width of compound eye about 1.02 in male and 1.05 in female; ratio of length of contact line to length of eye 0.52 in male and 0.48 in female. Paired ocelli submedian, pear-shaped, reddish-brown with very narrow white border, 1.8 times as wide as long in both sexes. Distance between inner margins of ocelli about 0.14 and between their outer margins 0.65–0.69 of total width of compound eyes in both sexes (Fig. 2).

Apical article of maxillary palp 0.86–0.92 (male) or 1.01–1.02 (female) times as long as preceding one. Dorsal surface of 7<sup>th</sup>, 6<sup>th</sup> and 5<sup>th</sup> articles of maxillary palp with 11 or 12, 12–14 and 2 or 3 hyaline spines, respectively, in both sexes. Ventral surface of 2–7<sup>th</sup> articles of male maxillary palp with relatively numerous and long thin chaetae, on 6<sup>th</sup> and 7<sup>th</sup> articles such chaetae distributed more sparse (Figs 3, 4). Same long thin chaetae also present on dorsal surface of 2<sup>nd</sup> articles of male labial palp (Fig. 5). Apical article of labial palp triangularly oval, 2.5 times as long as wide in both sexes. Mandibles with four distal teeth (Figs 6, 7).

Fore femur and tibia of male and female widened. Fore femur of male without sensory field (Fig. 8). Ratios of length to width of femur, tibia and tarsus as shown in Table 1. Ratio of length of 3<sup>rd</sup> tarsomere of tarsus to total length of tarsus about 0.35 in both sexes. Legs of male without long, thin bristles. Ventral surface of femora, tibiae and tarsi without spine-like setae. Middle and hind legs with coxal styli. Length of styli 0.5 mm (female) and 0.6 mm (male). Ratio of styli length to width of middle and hind coxae about 1.4–1.5 in female and 1.6–1.7 in male. Praetarsus with two claws and apically rounded cylindrical supporting projection between them. Ratio of length to width of projection about 1.6–1.7.

Posterior margin of pronotum with a deep notch (Fig. 9). In both sexes, urites I and V–VII with 1 + 1 eversible vesicles, urites II–IV with 2 + 2 such vesicles (Figs 10, 11). In male, posterior angle of urosternites II–VII and VIII approximately 76–78° and 84°, respectively; but in female, anterior angle of urosternites II–VII

about 86–89°. Ratios of lengths of styli (without apical spine) and urocoxites II–IX as shown in Table 2. Inner posterior lobes of urocoxites VII between eversible vesicles of female slightly protruding (Fig. 11); ratio of length to total width of these lobes about 0.43. Thoracic tergites, urotergites I–IV, urosternites and urocoxites I–VI without macrochaetae in both sexes. Distribution of sublateral macrochaetae on urotergites V–X and spines on urocoxites VII–IX as shown in Table 3. Urocoxites IX with 2–3 and 5–6 (male) or 2 and 4 (female) outer and inner sublateral spines, respectively (Figs 12, 13).

Ovipositor slender, elongate (2.3 mm), slightly surpassing apex of styli IX (Fig. 13). Anterior and posterior gonapophyses with approximately 40 and 41 divisions, respectively. One or two basal divisions of anterior gonapophyses and about 22 or 23 basal divisions of posterior gonapophyses glabrous. Apical macrochaetae of gonapophyses as long as three or four apical divisions combined. Distal divisions of anterior gonapophyses with 5–7, posterior gonapophyses with 3 or 4 setae (not counting sensory setae and apical macrochaetae) (Figs 14, 15). Ovarioles with 10 large eggs.

Male genitalia with one pair of parameres on abdominal segment IX. Parameres with 1 + 6 divisions, slightly not attaining apex of penis (Fig 12). Penis and parameres not attaining of apex of urocoxites IX for 4.8 of width of aedeagus of penis. Phallobasis of penis 1.6 times as long as aedeagus.

**Differential diagnosis.** Between species of the subgenera *Trigoniocellus* with 2 + 2 eversible vesicles on urites II–IV *T. kobani* sp. n. belongs to a group of small congeners with a body length of 7–9.5 mm, black or dark eyes, reddish-brown paired ocelli, ratio of length to width of compound eye more than 1, the length of the contact line between compound eyes about 0.5–0.6 of eye length. This group includes 6 known species: *T. kobani* sp. n., *T. tseyi* sp. n., *T. minor* Kaplin, 2015, *T. borgustani* Kaplin, 2015, *T. subalpinus* Kaplin, 2017 and *T. abchasicus* Kaplin, 2017. *Trigoniophthalmus kobani* sp. n. differs from

Table 2. Length ratios of urosternites and urocoxites of *Trigoniophthalmus kobani* sp. n.  
Таблица 2. Отношения длины стернитов и кокситов брюшка *Trigoniophthalmus kobani* sp. n.

Urites / Сегменты брюшка	Urosternite : urocoxites Стернит : кокситы брюшка		Urostyli (not including apical spines) : urocoxites / Грифельки (не включая апикальные иглы) : кокситы брюшка		Apical spines : styli Апикальные иглы : грифельки	
	male / самец	female / самка	male / самец	female / самка	male / самец	female / самка
	II	0.49	0.5	0.57	0.52	0.4
III–V	0.64–0.65	0.61–0.62	0.53	0.48–0.5	0.41	0.37
VI	0.61	0.61	0.52	0.47	0.42	0.38
VII	0.6	0.6	0.51	0.48	0.42	0.38
VIII	0.42	–	0.59	0.59	0.41	0.36
IX	–	–	0.7	0.61	0.31	0.29



Table 3. Distribution of sublateral macrochaetae on urotergites and spines on urocoxites of *Trigoniophthalmus kobani* sp. n.  
Таблица 3. Распределение сублатеральных макрохет на тергитах и игл на кокситях брюшка *Trigoniophthalmus kobani* sp. n.

Urites Сегменты брюшка	Urotergite / Тергит брюшка		Urocoxites / Кокситы брюшка	
	male / самец	female / самка	male / самец	female / самка
I–IV	0	0	0	0
V–VI	2 + 2	1 + 1	0	0
VII	3 + 4	3 + 3	2 + 2	2 + 1
VIII	3 + 3	3 + 3	4 + 4	3 + 3
IX	3 + 3	3 + 3	3/6 + 5/2	2/4 + 4/2
X	2 + 2	2 + 2	–	–

other species of this group by the color of paired ocelli, distribution of long thin chaetae on male labial palp, by the ratio of lengths of apical article and preceding one of maxillary palp, posterior angle of urosternites II–V, the number of outer and inner sublateral macrochaetae on urocoxites IX. The main differences between species of this group are summarized in Table 8.

**Habitats.** Specimens of *Trigoniophthalmus kobani* sp. n. were collected in mountain forest (*Quercus*, *Carpinus*, shrubs) under stones, 1100 m above sea level.

**Etymology.** The new species takes its name from the type locality: Koban, North Ossetia – Alania.

*Trigoniophthalmus tseyi* Kaplin, sp. n.  
(Figs 16–28)

**Material.** Holotype, ♂ (in slides): Russia, North Ossetia – Alania, Alagir Distr., Verkhniy Tsey settl., environs of Recom sanctuary, 42°47'31"N / 43°54'14"E, 1950 m, 28.04.2018 (V.G. Kaplin). Paratypes: 1♂, 2♀ (1♀ in slides), same data as for holotype.

**Description.** Body length: male 7–7.5 mm, female 7.3–8 mm. Body width: males and females 1.8–2.1 mm. General body color whitish. Antennal base, frons, maxillae, mandibles, hypopharynx with brown hypodermal pigment of weak and medium intensity. Color of scales on surface of body brownish. Antennae slightly shorter than body. Distal chains of flagellum divided into 9–12 articles in male and female (Fig. 16). Clypeus of male with long thin bristles. Cercus approximately 0.41–0.46 body length, including about 17 articles in both sexes. Apex of cercus with one spike (Fig. 17). Articles of cerci, except apical one in female and two distal ones in male, with 1 or 2 colorless supporting macrochaetae on the inner side. Cerci of female also with 3 or 4 macrochaetae on outer side, male with only 1 macrochaeta in such position. Supporting macrochaetae also present on lateral sides of articles of caudal filament.

Compound eyes black (in ethanol). Ratio of length to width of compound eye about 1.02–1.04 in males and 1.04–1.06 in females;

ratio of length of contact line to length of eye 0.50–0.54 in both sexes. Paired ocelli submedian, pear-shaped, brown with a well-defined white border, 1.4–1.6 times as wide as long in both sexes. Distance between inner margins of ocelli about 0.16–0.18 and between their outer margins 0.60–0.65 total width of compound eyes in both sexes (Fig. 18).

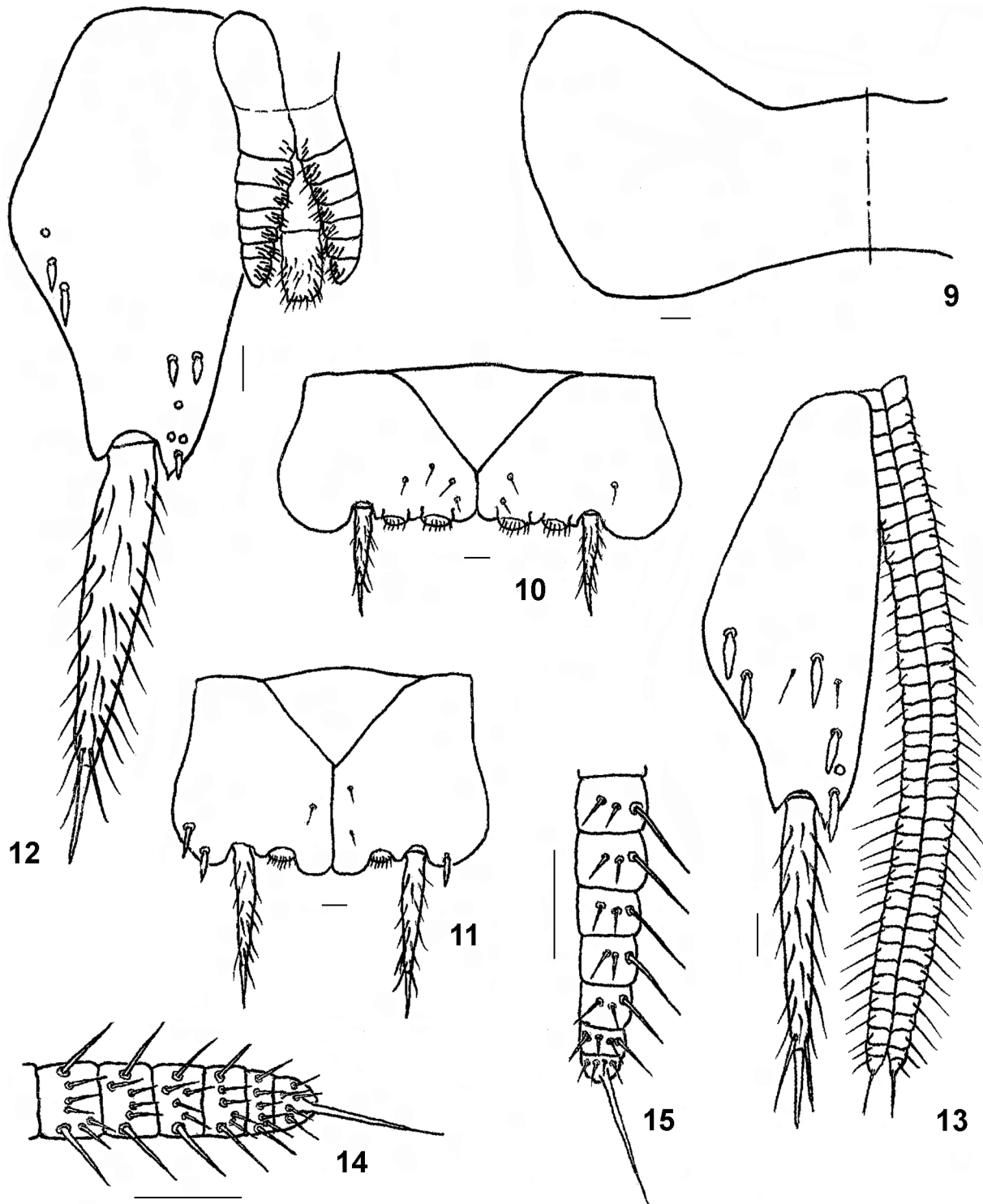
Apical article of maxillary palp 0.77 (male) or 0.82 (female) times as long as preceding one. Dorsal surface of 7<sup>th</sup>, 6<sup>th</sup> and 5<sup>th</sup> articles of maxillary palp in both sexes with 11–13, 11–13 and 4 hyaline spines, respectively. Ventral surface of 2–7<sup>th</sup> articles of male maxillary palp with relatively numerous and long thin chaetae, on sixth and especially seventh articles such chaetae distributed more sparse (Fig. 19). Similar long thin chaetae also present on dorsal surface of 2<sup>nd</sup> and 3<sup>rd</sup> articles of male labial palp. Apical article of labial palp triangularly oval, 2.2 (male) or 2.3 (female) times as long as wide (Fig. 20). Mandibles with 4 distal teeth (Fig. 21).

Fore femur and tibia of male and female widened, without sensory field (Fig. 22). Ratios of length to width of femur, tibia and tarsus as shown in Table 4. Ratio of length of 3<sup>rd</sup> tarsomere of tarsus to total length of tarsus 0.33–0.35 in both sexes. Coxa of male with long, thin bristles, missing from the femur, tibia and tarsus. Ventral surface of femur, tibia and tarsus with colorless spine-like chaetae (Table 5). Middle and hind legs with coxal styli. Length of styli 0.5 mm (female) or 0.6 mm (male). Ratio of length of styli to width of middle and hind coxae about 1.4–1.5 in both sexes. Praetarsus with 2 claws and support cone-shaped projection between them. Ratios of length to width of projection 1.9–2.1, widths of projection and pretarsus about 0.3.

Posterior margin of pronotum with a deep notch. In both sexes, urites I and V–VII with 1 + 1 eversible vesicles, but urites II–IV with 2 + 2 eversible vesicles (Figs 24, 25). In male, posterior angle of urosternites II, III–VI, VII approximately 78°, 71–73° and 68°; but in female, 84°, 73–75° and 65°, respectively. In male, posterior angle of urosternite VIII about 84°. Ratios of lengths of styli (without apical spines) and urocoxites II–IX as shown in Table 6. Inner posterior lobes of urocoxites VII between eversible vesicles of female protruding (Fig. 25); ratio of length to total

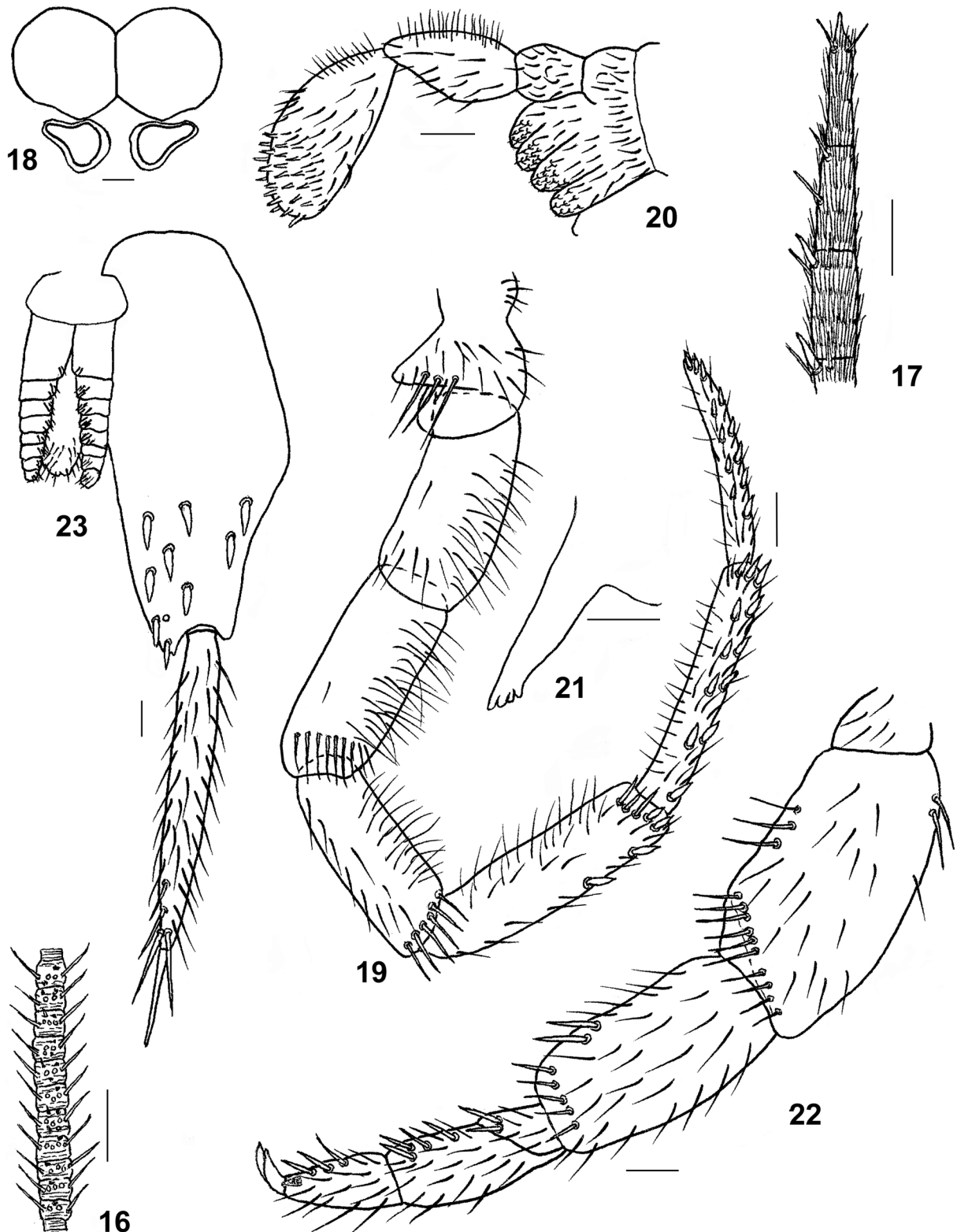
Table 4. Ratios of length to width of leg segments of *Trigoniophthalmus tseyi* sp. n.  
Таблица 4. Отношения длины к ширине сегментов ног *Trigoniophthalmus tseyi* sp. n.

Segments Сегменты	Sex, pair of legs / Пол, пара ног					
	male / самец			female / самка		
	fore передняя	middle средняя	hind задняя	fore передняя	middle средняя	hind задняя
Tarsa / Лапка	4.47	4.51	6.36	4.12	4.91	6.30
Tibia / Голень	2.06	2.05	2.95	2.08	2.02	2.69
Femur / Бедро	1.99	1.99	2.42	1.83	2.05	2.24
Сoxa / Тазик	2.22	2.32	2.44	2.23	2.50	2.62



Figs 9–15. *Trigoniophthalmus kobani* sp. n.  
 12 – male, holotype; 9–11, 13–15 – female, paratype; 9 – pronotum; 10 – urosternite and urocoxites IV; 11 – urosternite and urocoxites VII; 12 – male genitalia with urocoxite IX; 13 – ovipositor with urocoxite IX; 14 – apex of anterior gonapophysis of ovipositor; 15 – apex of posterior gonapophysis of ovipositor. Scale bars 0.1 mm.

Рис. 9–15. *Trigoniophthalmus kobani* sp. n.  
 12 – самец, голотип; 9–11, 13–15 – самка, паратип; 9 – переднеспинка; 10 – стернит и кокситы IV сегмента брюшка; 11 – стернит и кокситы VII сегмента брюшка; 12 – половой аппарат самца с кокситом IX сегмента брюшка; 13 – яйцеклад с кокситом IX сегмента брюшка; 14 – вершина передней створки яйцеклада; 15 – вершина задней створки яйцеклада. Масштабные линейки 0.1 мм.



Figs 16–23. *Trigoniphthalmus tseyi* sp. n., male, holotype.  
 16 – distal chain of antennal flagellum; 17 – apex of cercus; 18 – eyes and paired ocelli; 19 – maxillary palp; 20 – labial palp; 21 – distal part of mandible;  
 22 – fore leg (part); 23 – male genitalia with urocoxite IX. Scale bars 0.1 mm.

Рис. 16–23. *Trigoniphthalmus tseyi* sp. n., самец, голотип.

16 – цепочка дистальной части жгутика усиков; 17 – вершина церки; 18 – глаза и парные глазки; 19 – нижнечелюстной щупик; 20 – нижнегубной щупик; 21 – дистальная часть верхней челюсти; 22 – передняя нога (часть); 23 – половой аппарат самца с кокситом IX сегмента брюшка. Масштабные линейки 0.1 мм.

width of these lobes about 0.7. Thoracic tergites, urotergites I–IV, urosternites and urocoxites I–VI without macrochaetae in both sexes. Distribution of sublateral macrochaetae on urotergites V–X and spines on urocoxites VII–IX as shown in Table 7. Urocoxites IX, respectively, with 2 and 7–8 (male) or 1 and 7–11 (female) outer and inner sublateral spines (Figs 23, 26).

Ovipositor slender, elongate (1.6–2.1 mm), slightly not surpassing apex of styli IX (Fig. 26). Anterior and posterior gonapophyses with approximately 47 and 50 divisions, respectively. Two basal divisions of anterior gonapophyses and about 27 basal divisions of posterior gonapophyses glabrous. Apical macrochaetae of gonapophyses as long as four apical divisions combined. Distal divisions of anterior gonapophyses with 4–6, posterior gonapophyses with 2–5 setae (not counting sensory setae and apical macrochaetae) (Figs 27, 28).

Male genitalia with one pair of parameres on abdominal segment IX. Parameres with 1 + 7 divisions, penis slightly not attaining apex of parameres (Fig. 23). Penis and parameres

not attaining of apex of coxites IX for 4.6 of width of aedeagus. Phallobasis of penis 1.3 times as long as aedeagus.

**Differential diagnosis.** *Trigoniophthalmus tseyi* sp. n. belongs to the same species group as *T. kobani* sp. n. described above. *Trigoniophthalmus tseyi* sp. n. differs from other species of this group by ratio of distance between inner margins of paired ocelli to total width of eyes, presence of spine-like setae on legs, small posterior angle of urosternites II–V, large number of inner sublateral spines on urocoxite IX. Main differences between these species of this group are in Table 8.

**Habitats.** Specimens of *Trigoniophthalmus tseyi* sp. n. were collected in mountain forest (Pinus, Fagus, shrubs) under stones, 1950 m above sea level.

**Etymology.** The new species takes its name from the type locality: Verkhniy Tsey, North Ossetia – Alania.

Table 5. Number of spine-like setae on the legs of *Trigoniophthalmus tseyi* sp. n.  
Таблица 5. Количество игловидных щетинок на ногах *Trigoniophthalmus tseyi* sp. n.

Segments Сегменты		Sex, pair of legs / Пол, пара ног					
		male / самец			female / самка		
		fore передняя	middle средняя	hind задняя	fore передняя	middle средняя	hind задняя
Tarsomeres Членики лапки	1	2	3	2	2	2	4
	2	4	6	6	4	4	6
	3	2	2	2	0	1	4
Tibia / Голень		2	3	3	2	3	4
Femur / Бедро		0	1	1	1	1	2

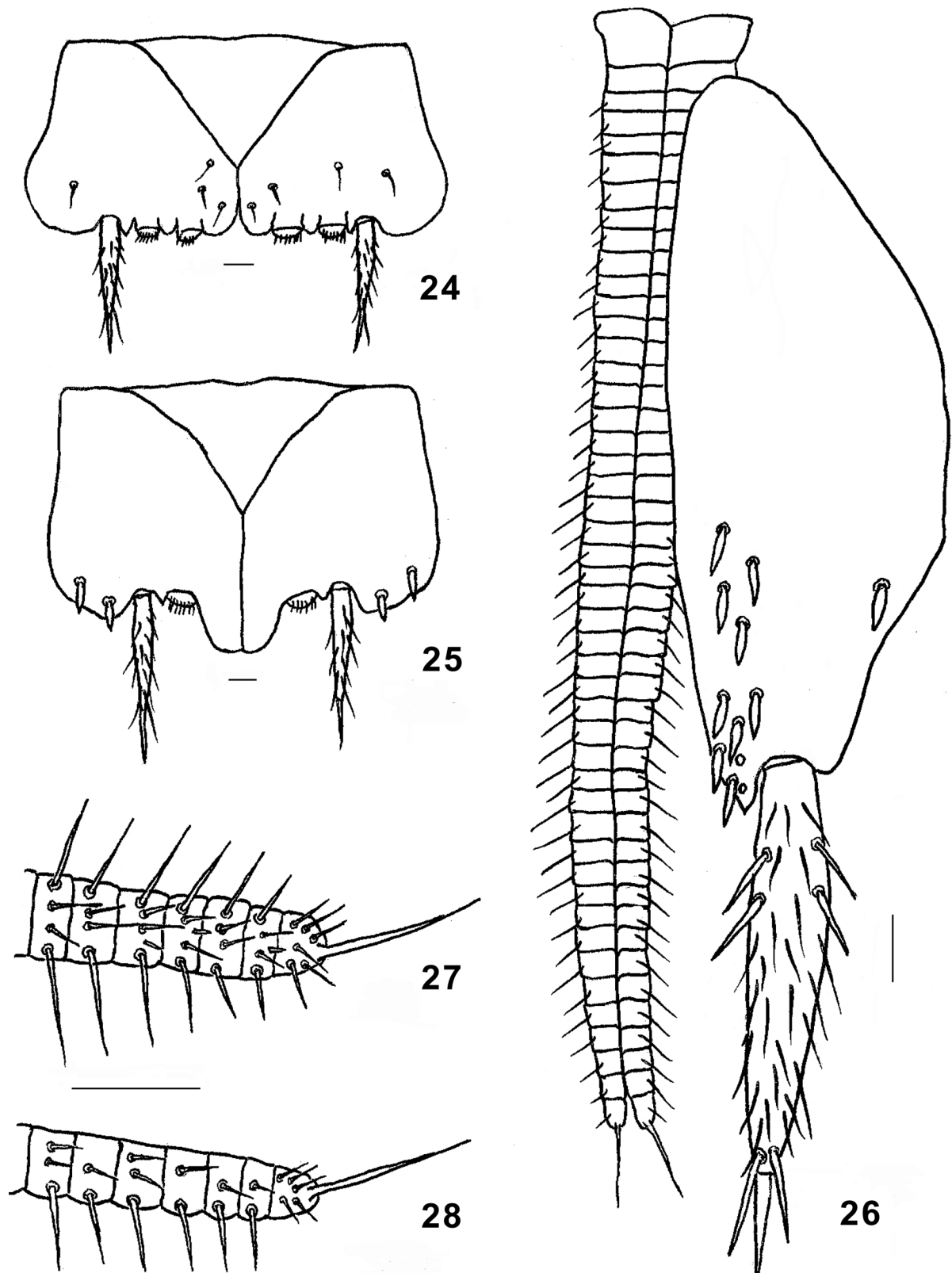
Table 6. Length ratios of urosternites and urocoxites of *Trigoniophthalmus tseyi* sp. n.  
Таблица 6. Отношения длины стернитов и кокситов брюшка *Trigoniophthalmus tseyi* sp. n.

Urites / Сегменты брюшка	Urosternite: urocoxites Стернит: кокситы брюшка		Urostyli (not including apical spines): urocoxites / Грифельки (не включая апикальные иглы): кокситы брюшка		Apical spines: styli Апикальные иглы: грифельки	
	male / самец	female / самка	male / самец	female / самка	male / самец	female / самка
II	0.6	0.61	0.48	0.5	0.41	0.44
III–V	0.61–0.62	0.66–0.68	0.46–0.47	0.47–0.49	0.42–0.46	0.45–0.48
VI	0.6	0.62	0.43	0.5	0.48	0.45
VII	0.53	0.58	0.45	0.49	0.46	0.48
VIII	0.42	–	0.59	0.64	0.39	0.41
IX	–	–	0.76	0.61	0.3	0.3

Table 7. Distribution of sublateral macrochaetae on urotergites and spines on urocoxites of *Trigoniophthalmus tseyi* sp. n.  
Таблица 7. Распределение сублатеральных макрохет на тергитах и игл на кокситах брюшка *Trigoniophthalmus tseyi* sp. n.

Urites Сегменты брюшка	Urotergite / Тергит брюшка		Urocoxites / Кокситы брюшка	
	male / самец	female / самка	male / самец	female / самка
I–IV	0	0	0	0
V–VI	2 + 2	3 + 2	0	0
VII	3 + 3	2 + 2	0	0
VIII	4 + 4	3 + 3	2 + 2	2 + 2
IX	4 + 4	3 + 3	3 + 3	2 + 3
X	4 + 4	4 + 4	2/7 + 8/2	1/11 + 7/1





Figs 24–28. *Trigoniphthalmus tseyi* sp. n., female, paratype.  
 24 – urosternite and urocoxites IV; 25 – urosternite and urocoxites VII; 26 – ovipositor with urocoxite IX; 27 – apex of anterior gonapophysis of ovipositor; 28 – apex of posterior gonapophysis of ovipositor. Scale bars 0.1 mm.

Рис. 24–28. *Trigoniphthalmus tseyi* sp. n., самка, паратип.

24 – стернит и кокситы IV сегмента брюшка; 25 – стернит и кокситы VII сегмента брюшка; 26 – яйцеклад с кокситом IX сегмента брюшка; 27 – вершина передних створок яйцеклада; 28 – вершина задних створок яйцеклада. Масштабные линейки 0.1 мм.

Table 8. The main morphological differences between *Trigoniophthalmus kobani* sp. n., *T. tseyi* sp. n. and their closest congeners.  
Таблица 8. Основные морфологические отличия между *Trigoniophthalmus kobani* sp. n., *T. tseyi* sp. n. и сходными с ними видами.

Characters Признаки	<i>T. kobani</i>	<i>T. tseyi</i>	<i>T. minor</i>	<i>T. borgusyani</i>	<i>T. subalpinus</i>	<i>T. abchasicus</i>
Body length, mm Длина тела, мм	7–7.5	7–8	7.3–8.5	7.1–9.5	7.2–9.5	7.1–9.5
Ratio of length of cercus and body / Отношение длины церки к длине тела	0.37–0.43	0.41–0.46	0.3–0.35	0.34–0.45	0.36–0.39	0.36–0.42
Number of articles in the distal chains of flagellum / Количество члеников в дистальных цепочках жгутика усиков	7–9	9–12	7–10	9–11	7–13	8–13
Paired ocelli color (in ethanol) / Цвет парных глазков (в спирте)	redish-brown / красновато- коричневые	brown коричневые	dark brown / темно- коричневые	light brown / светло- коричневые	brown коричневые	dark brown / темно- коричневые
Ratio of length to width of compound eye / Отношение длины к ширине глаза	1.02–1.05	1.02–1.06	1.05–1.17	0.97–1.03	1.08–1.15	1.08–1.1
Ratio of length of contact line to length of eye / Отношение длины линии контакта к длине глаза	0.48–0.52	0.50–0.54	0.53–0.6	0.5–0.6	0.54–0.58	0.55–0.6
Ratio of width to length of paired ocellus / Отношение ширины к длине парного глазка	1.8	1.4–1.6	1.2–1.4	1.4–1.8	1.6–2.1	1.7–1.8
Ratio of distance between inner margins of paired ocelli to total width of eyes / Отношение расстояния между внутренними краями парных глазков к общей ширине глаз	0.14	0.16–0.18	0.12–0.14	0.13–0.15	0.14–0.16	0.18–0.21
Ratio of distance between outer margins of ocelli to total width of eyes / Отношение расстояния между наружными краями парных глазков к общей ширине глаз	0.65–0.69	0.60–0.65	0.62–0.67	0.66–0.72	0.75–0.8	0.60–0.66
Ratio of lengths of apical article and preceding one of maxillary palp / Отношение длин апикального и предыдущего члеников нижнечелюстного щупика	0.86–1.02	0.77–0.82	0.78–0.89	0.65–0.79	0.7–0.74	0.85–0.9
Ratio of length to width of apical article of labial palp / Отношение длины к ширине апикального членика нижнегубного щупика	2.5	2.2–2.3	2.4–2.6	2.2–2.4	1.8–2.2	2.6–2.9
Spine-like setae on legs Игловидные щетинки на ногах	–	+	–	–	–	–
Long thin setae on articles of male maxillary palp / Длинные тонкие щетинки на члениках нижнечелюстного щупика самца	2–7	2–7	2–4	2–7	2–4	2–4

Таблица 1 (окончание).  
Table 1 (completion).

Characters Признаки	<i>T. kobani</i>	<i>T. tseyi</i>	<i>T. minor</i>	<i>T. borgusyani</i>	<i>T. subalpinus</i>	<i>T. abchasicus</i>
Long thin setae on articles of male labial palp / Длинные тонкие щетинки на члениках нижнегубного щупика самца	2	2–3	absent отсутствуют	2–3	absent отсутствуют	absent отсутствуют
Posterior angle of urosternites II–V, degrees / Задний угол II–V стернитов брюшка, градусы	78–88	73–75	86–90	67–69	76–82	78–82
Number of outer/inner sublateral spines on urosomite IX / Количество наружных/внутренних сублатеральных игл на кокситах IX сегмента брюшка	2–3/4–6	1–2/7–11	1–2/4–6	1–5/5–7	3/6–7	0/4–6
Number of divisions male parameres / Количество члеников в парамерах самца	1 + 6	1 + 7	1 + 7	1 + 6	1 + 6	1 + 7
Number of divisions ovipositor / Количество члеников яйцеклада	40–41	47–50	44–48	36–44	37–39	47–48

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