

New species and new records of Dolichopodidae (Diptera) from Astrakhan Region of Russia

Новые виды и новые указания Dolichopodidae (Diptera) из Астраханской области России

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KEY WORDS: Diptera, Dolichopodidae, Palearctic Region, Russia, Astrakhan Region, new records, *Campsicnemus*, *Vetimicrotes*, new species, key.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Dolichopodidae, Палеарктика, Россия, Астраханская область, новые указания, *Campsicnemus*, *Vetimicrotes*, новые виды, определитель.

ABSTRACT. The faunistic data of the results of collecting dolichopodids (12 species) in the Astrakhan Region in May, 2010 are presented. Most species are firstly recorded for the Region. Two new species are described and illustrated, *Campsicnemus konstantini* Grichanov **sp.n.** and *Vetimicrotes baskunchakensis* Grichanov **sp.n.**

РЕЗЮМЕ. Представлены результаты сборов до-
лихоподид (12 видов) в Астраханской области в мае
2010 г. Большинство видов впервые отмечаются
для области. Даны описания и иллюстрации
Campsicnemus konstantini Grichanov **sp.n.** и
Vetimicrotes baskunchakensis Grichanov **sp.n.**, собран-
ных на берегах озера Баскунчак.

Introduction

The Astrakhan Region lies in the North Caspian depression that is part of the continental or semi-arid desert biome. Regarding long-legged flies (Dolichopodidae), the region is largely undercollected. When studying recent Diptera catalogs, I have found that the dolichopodid fauna of the Astrakhan Region remained practically unstudied [Grichanov & Negrobov, 1979; Negrobov, 1991; Grichanov, 2003–2010]. Only two species, *Dolichopus zernyi* Parent, 1927 and *Hydrophorus praecox* (Lehmann, 1822), were previously found on the territory of the Region. *Dolichopus austriacus* Parent was mentioned in the “Lower Volga” region.

Treating recent collections of the Zoological Museum of Moscow University (ZMU), I have found 10 known and two new peculiar species of Dolichopodidae. This paper confirms the old records and presents the new records in detail. Most species are widespread across the Palearctic Region, being often recorded in the neighboring territories. The easternmost finds of *Rhaphium an-*

tennatum (Carlier, 1835) and *Syntormon filiger* Verrall, 1912 are worth noting. The collector of all specimens is Konstantin Tomkovich; his name and the name of the Region are omitted. Descriptions of two new species from environs of Baskunchak Lake are also given in this paper. Their paratypes are housed in the collection of the Zoological Institute, St. Petersburg (ZIN). The specimens were studied and illustrated with ZEISS Discovery V-12 stereomicroscope and AxioCam MRc5 camera. Morphological terminology follows Grichanov [2007] and Cumming & Wood [2009]. The relative lengths of the podomeres should be regarded as representative ratios and not measurements. Body length is measured from the base of the antenna to the tip of epandrium. Wing length is measured from the base to the wing apex. Male genitalia were macerated in 10% KOH. Figures showing the male genitalia in lateral view are oriented as they appear on the intact specimen (rotated 180° and lateroflexed to the right), with the morphologically ventral surface of the genitalia facing up, dorsal surface down, anterior end facing right and posterior end facing left. Distribution of known species follows those of Negrobov [1991] and Grichanov [2006, 2007].

Descriptions and new records

Campsicnemus konstantini Grichanov, **sp.n.** Figs 1–6

TYPE MATERIAL. Holotype ♂, Baskunchak salt-lake, 48.167°N, 46.830°E, 3–6.V.2010, near lake, coll. K. Tomkovich [ZMU]. Paratypes: 1♂, 1♀, Baskunchak salt-lake, 48.193°N, 46.813°E, 2–4.V.2010, YPT, coll. K. Tomkovich [ZIN].

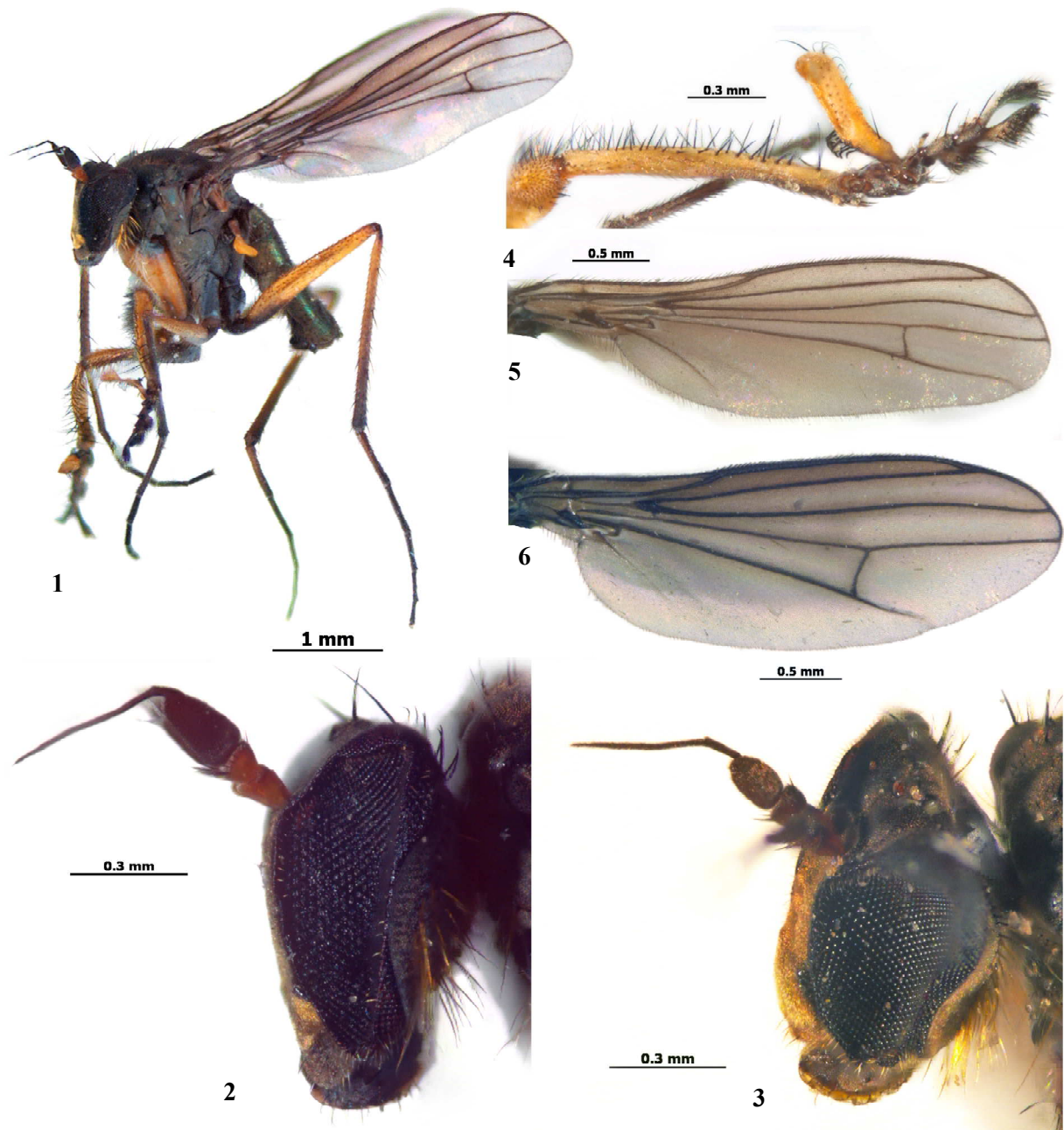
DESCRIPTION. **Male.** Length (mm): body 3.7, wing 3.7/1.0, antenna 0.9, hypopygium 0.4.

Head (Fig. 2). Frons shining blue-violet; ocellar and vertical bristles black, slightly more than half length of antennal stylus; occiput and vertex metallic, densely brown-

ish-grey pollinose; face with black background, yellowish-grey pollinose, constricted at middle, in upper part about as wide as height of postpedicel, in middle half as latter, in lower part 1.5 times as wide as height of postpedicel; palpus small, oval, black, covered with white hairs and one black seta; proboscis black, extending below eye in lateral view; antennal segments elongate; scape and pedicel orange-yellow; postpedicel black, shortly haired, ovate, more than 2 times longer than high; stylus black, subapical, thickened at base, glabrous; length ratio of scape to pedicel to postpedicel to stylus (1st and 2nd segments), 9/6/17/6/30; lateral and lower postoculars long, yellow.

Thorax: Mesonotum and scutellum metallic, black, weakly brownish pollinose; pleura grey pollinose; thoracic setae black: 6–7 pairs of dorsocentrals in irregular rows (with penultimate dorsocentral distinctly shortened and offset medially); 2 notopleurals; 1 pair of strong scutellars with 2 lateral and 4 median marginal hairs; acrostichals very small, irregularly uniseriate; halter with yellow knob.

Legs: Fore coxa mainly yellow, black at base, with light hairs; mid and hind coxae black, grey pollinose; legs mainly dirty yellow; fore femur broadly black posteriorly; mid and hind femora black at base ventrally; tibiae blackish distally; tarsi mainly black except light base; process on fore tarsomere



Figs 1–6. *Campsicnemus konstantini* Grichanov, **sp.n.**: 1 — habitus; 2–3 — head; 4 — fore tibia and tarsus; 5–6 — wing; 2, 4–5 — male; 3, 6 — female.

Рис. 1–6. *Campsicnemus konstantini* Grichanov, **sp.n.**: 1 — внешний вид; 2–3 — голова; 4 — передняя голень и лапка; 5–6 — крыло; 2, 4–5 — самец; 3, 6 — самка.

2 yellow; fore femur thickened on basal half, with long black posterior cilia, with some yellow posteroventral hairs at base; fore tibia evenly thickened along entire length, with black dorsal and posterior setae, longish on distal third; fore tarsomeres 1–4 short (Fig. 4); 2nd segment with short narrow apical process and with long thick flat process, glabrous on one side, covered with long hooked hairs on another side, with row of 7 hooked blunt setae on basal half; 3rd segment with short and flat lobe covered with black cilia; 4th segment with long narrow process covered with black cilia; 5th segment elongate, slightly thickened at apex, with several apical setae, with 1 claw and 1 pulvillus; empodium reduced; mid and hind legs simple, with simple setae; mid and hind femora with single preapical bristle; mid tibia with 4–5 dorsals and 2–3 ventrals; hind tibia with 8–9 dorsals and 2 ventrals. Fore leg length ratio (from tibia to tarsomere 5): 83/15/10/10/8/15, mid leg: 130/48/26/24/20/17, hind leg: 158/40/35/25/21/17.

Wing (Fig. 5) pale smoky throughout; R_{4+5} and M_{1+2} almost straight and parallel behind level of $dm-cu$; ratio of cross-vein $dm-cu$ to distal part of CuA_1 , 15/55; calypter yellowish, with black cilia.

Abdomen. Blackish-bronze, shining, weakly grey pollinose; with short black hairs dorsally on each tergite; tergites 1–2 with white hairs laterally; hypopygium black, with small black cercus covered with white hairs and with simple black surstylus, not dissected.

Female. Body length 3.4 mm, wing 3.5/1.1 mm, antenna 0.8 mm. Similar to male except lacking male secondary sexual characters. Eyes wider separated on face; face in middle about 2 times as wide as postpedicel height. Scape orange and pedicel mainly brown; postpedicel (Fig. 3) 1.5 times longer than high; length ratio of scape to pedicel to postpedicel to stylus (1st and 2nd segments), 8/6/12/7/27. Wing (Fig. 6) simple, smokier; ratio of cross-vein $dm-cu$ to distal part of CuA_1 , 20/38.

DIAGNOSIS. The new species belongs to a group of species related to *Campsicnemus magius* (Loew). They are quite distinct in at least two basal segments of fore tarsus shortened and at least one segment of the same tarsus bearing very long process. The species of the group may be diagnosed by use of the following key [after Grichanov, 1998, 2009].

1. Fore tibia strongly dilated; tarsal segments 1, 2 and 4 shortened, and 1st–3rd segments of fore tarsus bearing very long processes covered with long hairs; face golden-yellow; body length 3.0 mm *magius* (Loew, 1845)
- Fore tibia slightly dilated; face white or grey; tarsal segments variously ornamented 2
2. 1st–4th segments of fore tarsus shortened; process on 2nd segment broad, bandlike; 5th segment with only one claw; body length 3.4–3.7 mm *konstantini* Grichanov, **sp.n.**
- Two basal segments of fore tarsus shortened; process on 2nd segment narrow 3
3. 3rd segment of fore tarsus elongate, longer than next two segments combined; 4th segment without lobe; 5th segment with only one claw; body length 1.85–2.5 mm *yangi* Grichanov, 1998
- 3rd segment of fore tarsus shorter than next two segments combined; 4th segment with apical lobe; 5th segment with 2 claws 4
3. Antenna entirely and legs mainly black; process on 2nd segment of fore tarsus covered with long hairs at apex only; claws on same tarsus asymmetrical; body length 3.2–4.3 mm *bagachanovae* Grichanov et Volf, 2009
- Antennal scape and pedicel yellow ventrally; legs mainly yellow-brownish; process on 2nd segment of fore tarsus covered with long hairs along entire length; claws on same

tarsus symmetrical; body length 2.25–2.5 mm

..... *compeditus* Loew, 1857

ETYMOLOGY. The species is named for Konstantin Tomkovich (Moscow) who collected flies.

Vetimicrotes baskunchakensis Grichanov, **sp.n.**

Figs 7–11

TYPE MATERIAL. Holotype ♂, Baskunchak salt-lake, 48.193°N, 46.813°E, 2–4.V.2010, YPT, coll. K. Tomkovich [ZMU]. Paratypes: 2♂, 1♀, same label [ZIN].

DESCRIPTION. **Male.** Length (mm): body 1.6, wing 1.6/1.0, antenna 0.6, hypopygium 0.4.

Head (Fig. 8). Vertex and frons dark metallic blue-green; face black, densely grey pollinose, under antenna as wide as postpedicel height; clypeus bulging; palpi brown, with 3 black apical seta; proboscis brown, projecting anteriorly, keel-like; single row of strong postoculars; lateral and lower ones light; antenna black; pedicel with large inner projection, with apical setae on dorsal and outer sides; postpedicel large, pointed, 2 times as long as basal height, densely pubescent; stylus subapical, short, bare; length ratio of scape to pedicel to postpedicel to stylus (1st and 2nd segments), 6/9/15/2/6.

Thorax: Metallic, dark blue-green, weakly pollinose; posterior third of mesonotum flattened; thoracic setae black; 5–6 pairs of acrostichals of equal length in 2 irregular rows; 6 pairs of strong dorsocentrals, decreasing in size anteriorly; posterior two pairs offset laterad; 2 pairs of scutellars, laterals microscopic, at base of medians; 2 unequal proepisternals just above fore coxa.

Legs: mainly dirty yellow, fore coxa blackish anteriorly, mid and hind coxae black, all femora black except basal and distal apices (holotype) or blackish in middle half (paratypes); hind tibia gradually darkened towards distal apex; anterior four tarsi brown from tip of basitarsus, hind tarsus blackish; fore and mid coxae with black anterior setae; hind coxa with 1 strong black lateral bristle; major leg setae black; mid and hind femora each with strong preapical bristle; fore tibia with anterodorsal seta; mid tibia with strong anterodorsal and posterodorsal at 1/5, weaker anterodorsal and posterodorsal at 2/3, an apical ring of 4 bristles; hind tibia with 2 anterodorsal and 4 posterodorsal setae. Fore leg length ratio (from tibia to tarsomere 5): 35/13/7/5/5/6, mid leg: 46/19/10/7/6/6, hind leg: 50/12/12/8/6/7.

Wing (Fig. 9) simple, hyaline: R_{2+3} and R_{4+5} straight, diverging to wing apex; M_{1+2} with inconspicuous curvature in distal part; M_{1+2} and R_{4+5} almost parallel. M_{1+2} joining costa right before wing apex. Ratio of part of costa between R_{2+3} and R_{4+5} to this between R_{4+5} and M_{1+2} to $dm-cu$ to distal part of CuA_1 , 14/8/6/38. Crossvein $dm-cu$ straight, forming right angle with CuA_1 and with M_{1+2} longitudinal veins. Anal vein fold-like; anal lobe present; alula absent. Lower calypter yellow, with pale setae. Halter yellow.

Abdomen: metallic, dark blue-green, covered with black setae (including terga 6 to 8); 4th to 7th sterna weakly sclerotised, somewhat recessed; segment 7 black, about as large as 6th one, with well developed symmetrical tergum and sternum; segment 8 black, with setae. Hypopygium (Fig. 10) black; epandrium with left lateral foramen; hypandrium fused with epandrium at base, with 2 basal arms, asymmetrical; hypandrium (Fig. 11) broad at base, narrowed at middle, broadly rounded at apex, with triangular projection right laterally (ventral view); phallus mainly concealed, with apical part as narrow sclerotised hook projecting above hypandrium (lateral view); 1 strong and 2 short epandrial setae at base of hypandrium; surstylus yellow, simple, broad, flat, half as long as cercus, with a few short subapical setae; cercus

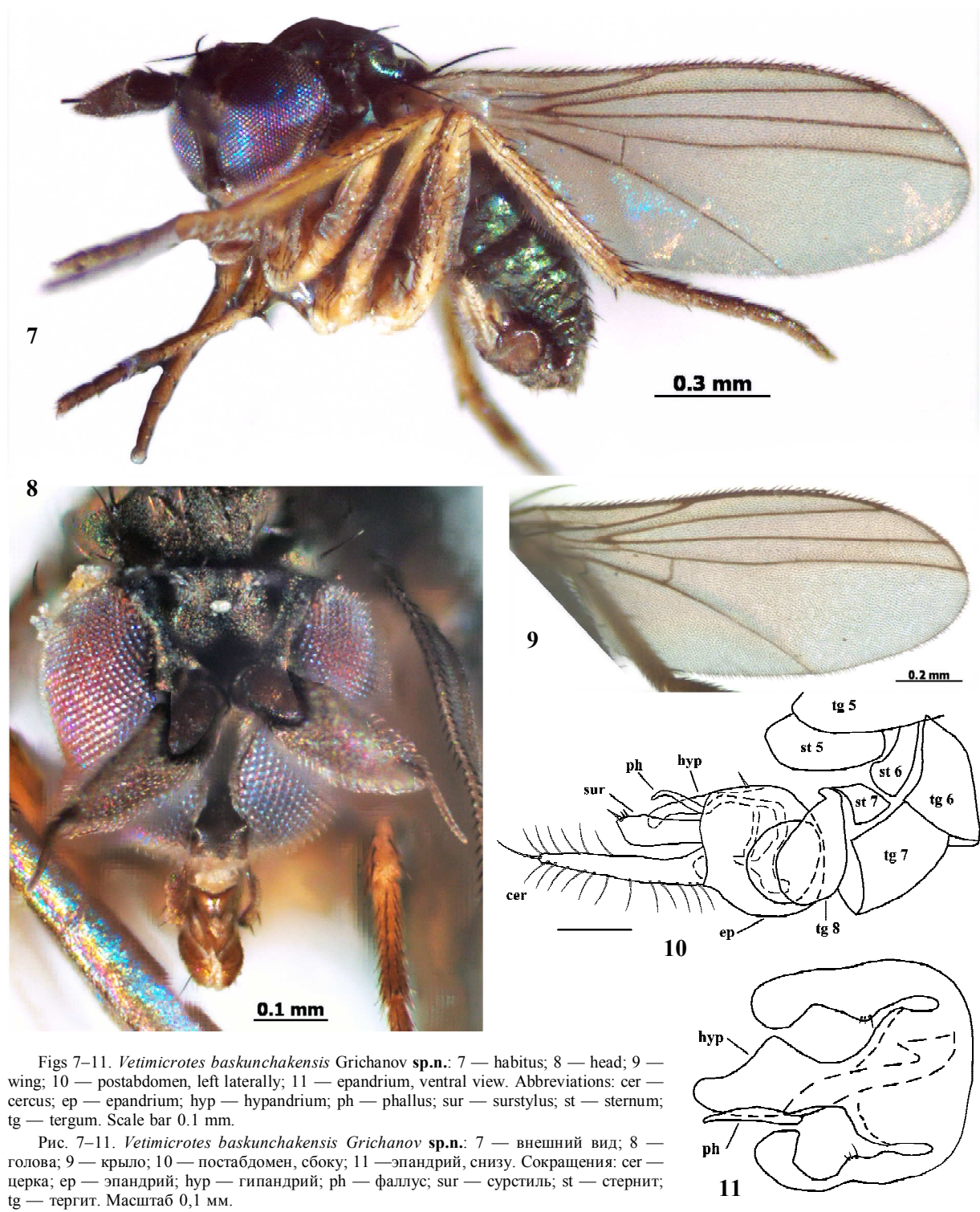
yellow, long and slender, inconspicuously longer than epan-drium, regularly covered with short setae, with one stronger apical seta; cerci fused at base, with small median projection.

Female. Body length 1.8 mm, wing length 1.9 mm. Similar to male except lacking male secondary sexual characters. Eyes wider separated on face; pedicel with smaller inner projection; postpedicel as long as high; arista-like stylus as long as 3 antennal segments combined; all femora brown in middle half; each hemitergite with 5 short thick setae; cercus

long and thin, with long yellow setae.

DIAGNOSIS. The new species may be distinguished from other known *Vetimicrotes* species by use of the following key [see Beschovski, 1972 and Negrobov, 1976].

1. Femora entirely yellow; fore coxa with light hairs; male antenna with stylus about half as long as postpedicel; male surstylus reaching $3/4$ the length of cercus; body length 1.4–1.5 mm (female unknown) *nartshukae* (Negrobov, 1976)



Figs 7–11. *Vetimicrotes baskunchakensis* Grichanov sp.n.: 7 — habitus; 8 — head; 9 — wing; 10 — postabdomen, left laterally; 11 — epandrium, ventral view. Abbreviations: cer — cercus; ep — epandrium; hyp — hypandrium; ph — phallus; sur — surstylus; st — sternum; tg — tergum. Scale bar 0.1 mm.

Рис. 7–11. *Vetimicrotes baskunchakensis* Grichanov sp.n.: 7 — внешний вид; 8 — голова; 9 — крыло; 10 — постабдомен, сбоку; 11 — эпандрий, снизу. Сокращения: cer — церка; ep — эпандрий; hyp — гипандрий; ph — фаллус; sur — сурстиль; st — стернит; tg — тергит. Масштаб 0,1 мм.

- Femora black or brown in at least middle half; fore coxa with black setae (females indistinguishable) 2
2. Male antenna with stylus about half as long as postpedicel; male surstylus half as long as cercus; body length 1.6–1.8 mm *baskunchakensis* Grichanov, **sp.n.**
- Male antenna with stylus slightly longer than postpedicel; male surstylus reaching 3/4 the length of cercus; body length 1–2 mm *mediterraneus* (Becker, 1918)
- ETYMOLOGY. The species is named for the Baskunchak Lake, where it was collected.

Campsicnemus magius (Loew, 1845)

MATERIAL EXAMINED: 2♂, Baskunchak salt-lake, 48.193°N, 46.813°E, 2–4.V.2010, fresh pond silt.
TYPE LOCALITY: Italy: Sicily.

DISTRIBUTION: Algeria, Austria, Azerbaijan, Belgium, Bulgaria, Czech, France, Germany, Hungary, Italy, Israel, Netherlands, ?Slovenia, Spain, Romania, Russia (Astrakhan, Kabardino-Balkaria, Krasnodar, Rostov, Sverdlovsk), Tajikistan, Turkmenistan, UK, Ukraine (Odessa), Uzbekistan, “Yugoslavia”; Afrotropical: St. Helena (?introduced).

Chrysotus suavis Loew, 1857

MATERIAL EXAMINED: 4♂, Ikryanoe district, Zyuzino, 45.751°N, 47.678°E, 8–9.V.2010, water, pastures.
TYPE LOCALITY: Germany: “Coin”; Austria: “Neusiedler See in Ungarn”.

DISTRIBUTION: Armenia; Azerbaijan; Bulgaria; Egypt; Georgia; Greece (North Aegean); Iraq; Iran, Israel; Romania; S Russia (Adygea, Alania, Astrakhan, Kabardino-Balkaria, Krasnodar, Rostov), Turkey; Ukraine (Cherkasy, Kherson, Odessa), Transpalearctic species.

Dolichopus austriacus Parent, 1927

MATERIAL EXAMINED: 4♂, Ikryanoe, river bank, 46.112°N, 47.767°E, 10.V.2010, Ulmus-Salix.
TYPE LOCALITY: Austria: Gmunden.
DISTRIBUTION: Austria, Estonia, Germany, Romania, Russia (Astrakhan), Sweden, Uzbekistan.

Dolichopus zernyi Parent, 1927

MATERIAL EXAMINED: 4♂, Ikryanoe, river bank, 46.112°N, 47.767°E, 10.V.2010, Ulmus-Salix.
TYPE LOCALITY: Russia: “Sarepta” [=Krasnoarmeysk, near Volgograd].
DISTRIBUTION: China (Xinjiang), Kazakhstan, Russia (Astrakhan, Volgograd, Voronezh).

Hydrophorus praecox (Lehmann, 1822)

MATERIAL EXAMINED: 3♂, 3♀, Baskunchak salt-lake, 48.193°N, 46.813°E, 2–4.V.2010, fresh pond silt.
TYPE LOCALITY: Germany: Hamburg.
DISTRIBUTION: Abkhazia, Azerbaijan, Bulgaria, Cyprus, Egypt, Georgia, Greece (Crete, North Aegean), Iraq, Iran, Israel, Romania, S Russia (Astrakhan, Kabardino-Balkaria, Krasnodar, Stavropol’), Turkey, Ukraine (Crimea, Kherson, Odessa), Palaearctic, Afrotropical, Oriental Regions, Australia, Oceania, New Zealand.

Rhaphium antennatum (Carlier, 1835)

MATERIAL EXAMINED: 1♂, Baskunchak salt-lake, 48.193°N, 46.813°E, 2–4.V.2010, YPT.
TYPE LOCALITY: Belgium: “Kimkempois pres de liege”.
DISTRIBUTION: Austria, Belgium, Czech, Estonia, Finland, Germany, Hungary, Moldova, Netherlands, Norway, Poland, Romania, Russia (Arkhangelsk, Astrakhan, Karelia, Krasnodar, Leningrad, Lipetsk, Moscow, Murmansk, Voronezh), Slovakia, UK, Ukraine (Odessa).

Rhaphium micans (Meigen, 1824)

MATERIAL EXAMINED: 2♂, Ikryanoe district, Zyuzino, 45.751°N, 47.678°E, 8–9.V.2010, water, pastures; 1♂, Ikryanoe, river bank, 46.112°N, 47.767°E, 10.V.2010, Ulmus-Salix.
TYPE LOCALITY: Germany: Hamburg.

DISTRIBUTION: Abkhazia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, China, Czech, Finland, France, Germany, Hungary, Italy, Latvia, Netherlands, Norway, Poland, Romania, Russia (Astrakhan, Kabardino-Balkaria, Karelia, Karachai-Cherkessia, Krasnodar, Leningrad, Pskov, Rostov, Ryazan, Voronezh, Krasnoyarsk, Primorskii Terr.), Slovakia, Spain, Sweden, Switzerland, Tajikistan, Turkey, UK, “Yugoslavia”.

Syntormon filiger Verrall, 1912

MATERIAL EXAMINED: 1♂, 2♀, Ikryanoe district, Zyuzino, 45.751°N, 47.678°E, 8–9.V.2010, water, pastures.
TYPE LOCALITY: England: Walton-on Naze, Woolbridge, Aldeburgh.

DISTRIBUTION: Austria, Belgium, Bulgaria, Czech, Denmark, Finland, France, Germany, Greece (North Aegean), Russia (Astrakhan, Rostov), Hungary, Netherlands, Poland, Sweden, UK, Ukraine (Crimea).

Syntormon pumilus (Meigen, 1824)

MATERIAL EXAMINED: 1♀, Baskunchak salt-lake, 48.193°N, 46.813°E, 2–4.V.2010, YPT.
TYPE LOCALITY: not given.

DISTRIBUTION: Afghanistan, Armenia, Austria, Belarus, Belgium, Bulgaria, Czech, Denmark, ?Egypt; Estonia, Finland, France, Germany, Great Britain, ?Greece, Hungary, Ireland, ?Israel, Italy, Latvia, Morocco, Norway, Poland, Romania, Russia (Astrakhan, Kabardino-Balkaria, Karelia, Krasnodar, Leningrad, Murmansk, Pskov, Stavropol’), Slovakia, ?Slovenia, Sweden, Spain (Canary Is.), Tunisia, Ukraine (Kherson, Odessa), “Yugoslavia”; Middle Asia [Some records may belong to *Syntormon denticulatus* (Zetterstedt, 1843) and should be confirmed].

Thinophilus flavipalpis (Zetterstedt, 1843)

MATERIAL EXAMINED: 1♂, Baskunchak salt-lake, 48.167°N, 46.830°E, 3–6.V.2010, near lake.
TYPE LOCALITY: Sweden: Gottlandia, Bursviken.
DISTRIBUTION: Austria, Azerbaijan, Belgium, Bulgaria, Czech, Denmark, Egypt, Estonia, Finland, France, Germany, Greece (Crete, North Aegean), Hungary, Israel, Italy, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Netherlands, Poland, Portugal, Romania, S Russia (Krasnodar, Rostov), Spain, Sweden, Syria, UK, Ukraine (Crimea, Kherson, Odessa), “Yugoslavia”, N China; Oriental China.

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