

New species of *Orthocephalus* and *Myrmecophyes* from Kazakhstan, Uzbekistan and Turkmenistan (Heteroptera: Miridae)

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Orthocephalus minimus sp. n. (Kazakhstan: Karatau Mts), *O. scorzonerae* sp. n. (S Kazakhstan, Uzbekistan, Turkmenistan), *Myrmecophyes trispiculus* sp. n. (Kazakhstan: Betpakdala Desert) and *M. frontosus* sp. n. (Central Kazakhstan) are described.

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Four new species of the tribe Halticini are described in this paper. The holotypes and paratypes are kept in the collection of Zoological Institute, St.Petersburg.

Orthocephalus minimus sp. n.

(Figs 1-5)

Holotype. ♂, **Kazakhstan**, *Chimkent Prov.*, Karatau Mts, 20 km N of Kentau, 27.V.1966 (Kerzhner).

Paratypes. 6 ♂, 9 ♀, 2 larvae, as holotype.

Description. Very small. Body, antennae and legs black; membrane in males smoky grey to blackish, with somewhat darker veins. Dorsal surface of body covered with long (about as long as transverse eye diameter), dense, erect, black hairs intermixed with narrow, adpressed, silvery scales. Scutellum and hind lobe of pronotum transversely rugulose. Rostrum reaching hind coxae. Antennae with short oblique and long erect hairs; longest hairs on 2nd segment 4 times as long as thickness of segment. Legs with short semierect hairs and long, erect bristles; the longest bristles on tibiae twice as long as thickness of tibia. Males macropterous; hemelytra almost parallel-sided. Females brachypterous; dorsal side moderately convex; hemelytra reaching to fore or hind margin of abdominal segment VIII; corium and clavus fused without trace of suture; hind margin of corium obliquely truncate in inner two-thirds and rounded in outer third; no trace of membrane; commissure 2.5 times as long as scutellum.

Measurements (mm). Body length: ♂ 2.85-3.1, ♀ 2.85-3.0; head width: ♂ 0.9-0.97, ♀ 1.15-1.2; vertex width: ♂ 0.5-0.52, ♀ 0.7-0.75; pronotum width at apex: ♂ 0.7, ♀ 0.9; same at base: ♂ 1.05-1.1, ♀ 1.15-1.2; pronotum length: ♂ 0.45-0.52, ♀ 0.5-0.55; length of antennal segments (I-IV): ♂ 0.25-0.27, 0.75-0.83, 0.35-0.4, 0.32-0.35, ♀ 0.25, 0.65-0.7, 0.35-0.4, 0.35.

Male genitalia as in Figs 3-5.

Bionomics. The species was collected on stony ridge from a thorn cushion plant of the family Asteraceae (probably *Cousinia* or *Scorzonera*).

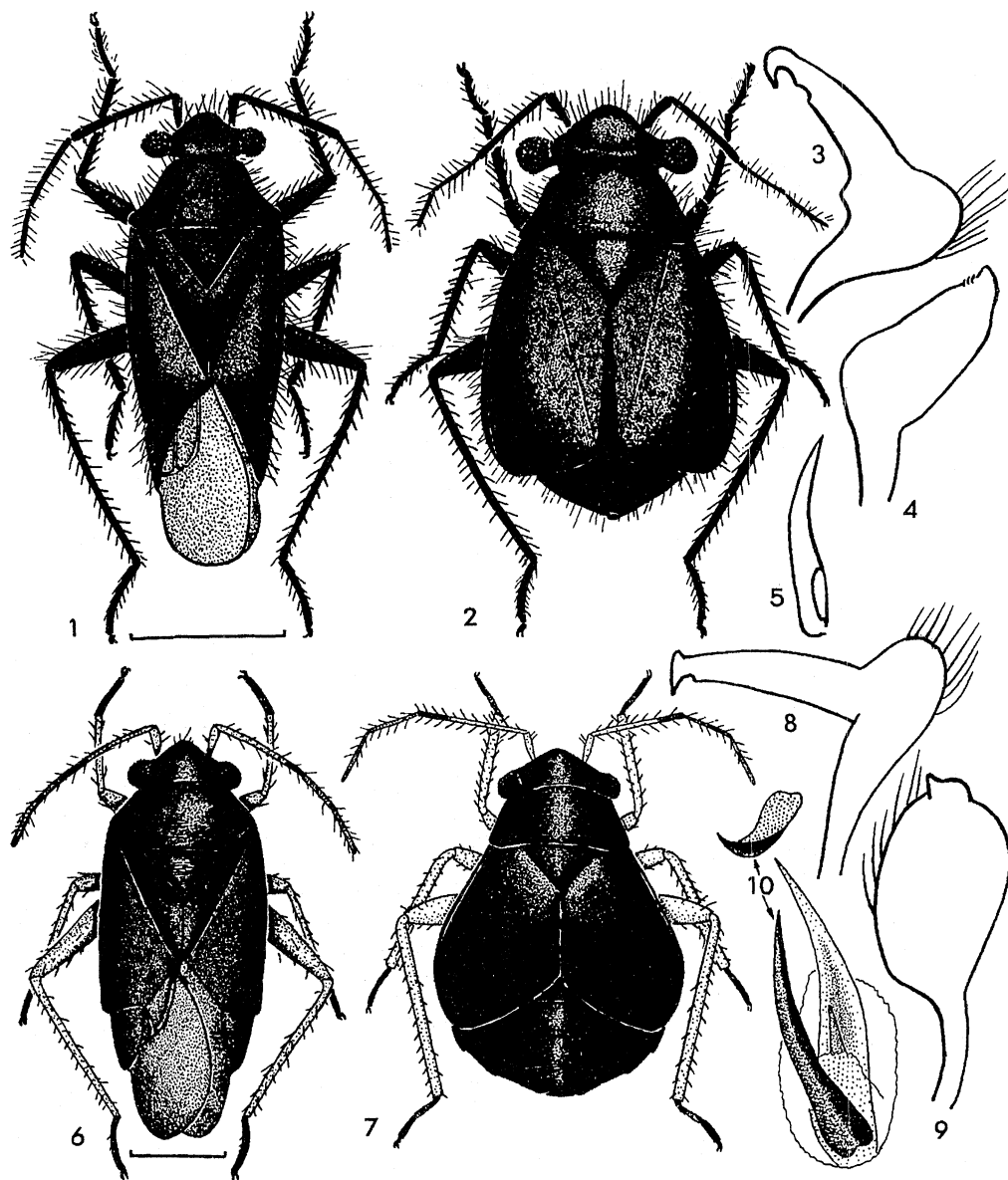
Comparison. *O. medvedevi* Kir. (steppes of East Ukraine and adjacent part of Russia) resembles the new species in the small size, but is larger (♂ 4-4.6, ♀ 2.8-3.4 mm), with shorter hairs (less than half as long as transverse eye diameter) and without silvery scales on the dorsal surface, with longest hairs on 2nd antennal segment subequal to thickness of segment, and tibiae and at least apices of femora yellow.

Orthocephalus scorzonerae sp. n.

(Figs 6-10)

Holotype. ♂, **Uzbekistan**, *Bukhara Prov.*, Kuldzhuktau Mts, Ayakguzhumdy, 40 km E of Dzhingildy, 16.IV.1965 (Kerzhner).

Paratypes. **Uzbekistan**, *Bukhara Prov.*, Kuldzhuktau Mts: 133 ♂ and ♀, Ayakguzhumdy, 40 km E of Dzhingildy, 16-26.IV.1965, 18-23.IV.1966 (Kerzhner, Loginova, Medvedev, Nartshuk); 1 ♂, 4 ♀, 20 km N of Ayakguzhumdy, 26.IV.1965 (Kerzhner); 1 ♀, be-



Figs 1-10. *Orthocephalus*. 1-5, *O. minimus* sp. n.: 1, male; 2, female; 3, left paramere; 4, right paramere; 5, spicula of the aedeagus; 6-10, *O. scorzonerae* sp. n.: 6, male; 7, female; 8, left paramere; 9, right paramere; 10, spiculae of the aedeagus. Scale: 1 mm.

tween Dzhingildy and Ayakguzhumdy, 22.IV.1966 (Kerzhner); 2 ♀, 10 km SW of Turtkuduk, 24.VI.1966 (Arnoldi); 1 ♂, Aktau Mts near Tamdy, 30.IV.1966 (Kerzhner). **Turkmenistan:** 35 km SE of Kelif, spring Hodzha-Kainar (Karlyuk), foothill slopes, 22.IV.1974 (Muminov). **Kazakhstan, Chimkent Prov.,** Karatau Mts: 1 ♂, Burnoe, Dzhusaly, 29.VII.1931 (Vodolagin); 2 ♀, Burnoe, Kainar-bostau, 5. and 12.V.1932 (Izyumskaya, Kuznetsova); 3 ♂, 1 ♀, same locality, 25, 29.V.1934 (Pravdin); 1 ♀, Shain-buzar,

9.VI.1932 (Pravdin); 1 ♀, near Kaigan-kul Lake, 26.V.1934 (Pravdin); 2 ♂, 1 ♀, Tau-tary near Kzylkul Lake, 16.V.1935 (Pravdin); 2 ♀, Karasai, Dzhangan-ata, 27-29.V.1936 (Lukjanovitsh).

Description. Small. Body black; membrane in males smoky blackish, with a spot near apex of cuneus and sometimes also the smaller cell paler, transparent. Antennae fuscous; 1st segment (except its very base)

and basal third to half of 2nd segment usually brownish yellow or yellow; rarely also 3rd and 4th segments slightly paler, especially at base. Rostrum brownish black, segments 1-3 sometimes orange-yellow. Legs yellow, orange-yellow or bright orange; coxae, trochanters and sometimes also bases of femora blackish in most males, very rarely in females; tarsi black, but in some specimens from Kazakhstan segments 1 and 2 reddish or yellow. Body covered with short, semierect and appressed, brownish and pale hairs; head, pronotum and apex of abdomen also with longer, erect, dark hairs. Hind lobe of pronotum, scutellum and less distinctly the coriaceous part of hemelytra with fine transverse rugulosity. Rostrum reaching the middle of mesonotum or middle coxae. Antennae with long, fine, erect hairs; 2nd segment slightly thickened apically. Legs with erect black bristles. Males macropterous; hemelytra almost parallel-sided. Females brachypterous, strongly convex dorsally and with strongly widened abdomen, about 1.2 times as long as wide; hemelytra reaching hind margin of abdominal segment VI; corium and clavus fused without trace of suture; hind margin of corium obliquely truncate in inner two-thirds and rounded in outer third; no trace of membrane; commissure twice as long as scutellum.

Measurements (mm). Body length: ♂ 3.9-4.1, ♀ 3.75-4.2; head width: ♂ 1.15-1.2, ♀ 1.3-1.35; vertex width: ♂ 0.7-0.72, ♀ 0.8-0.85; pronotum width at apex: ♂ 0.95, ♀ 1.2-1.25; same at base: ♂ 1.55-1.6, ♀ 1.6-1.63; pronotum length: ♂ 0.7-0.72, ♀ 0.65-0.67; length of antennal segments (I-IV): ♂ 0.27-0.3, 0.95-1.05, 0.5-0.55, 0.51-0.61, ♀ 0.3, 1-1.1, 0.5-0.55, 0.6-0.61.

Male genitalia as in Figs 8-10. Aedeagus with two large spiculae connected by membrane, directed caudad, and pointed at apex, one of these strongly sclerotized, spine-like, the other weakly sclerotized, especially on margins, and flat; a minute spicula present between these two; in addition, there is a claw-like spicula with a flattened base, which is directed obliquely cephalad.

Bionomics. The species was collected in Uzbekistan on foothill stony slopes from *Takhtajaniantha pusilla* (Pall.) Nazarova (former *Scorzonera pusilla*), Asteraceae. Judging from labels, at least two specimens were collected in Kazakhstan from *Scorzonera tau-saghyz* Lipsch. & Bosse.

Comparison. The new species is closely related to *O. solidus* (Seidenstücker, 1971),

comb. n. (= *Strongylocoris solidus*) from Turkey. The latter was described from one female and not examined by us. Judging from the figure accompanying the original description, the female of the Turkish species is less widened (1.5 times as long as wide), with less produced head and longer hemelytra (reaching hind margin of abdominal segment VIII, with commissure more than 2.5 times as long as scutellum).

Myrmecophyes (Myrmecophyes) trispiculus sp. n.
(Figs 11-14)

Holotype. ♂, **Kazakhstan, Zhezkazgan Prov.**, Sarysu River, 50 km NE of the Karakengir mouth, 24.V.1962 (Kerzhner).

Paratypes. **Kazakhstan, Zhezkazgan Prov.:** 2 ♂, 2 ♀, as holotype; 4 ♂, 3 ♀, Samen'-kum Sands, near the tomb of Sengirbay, 29.V.1962 (Kerzhner); 7 ♂, 15 ♀, locality Karazhar, 27.V.1962 (Kerzhner).

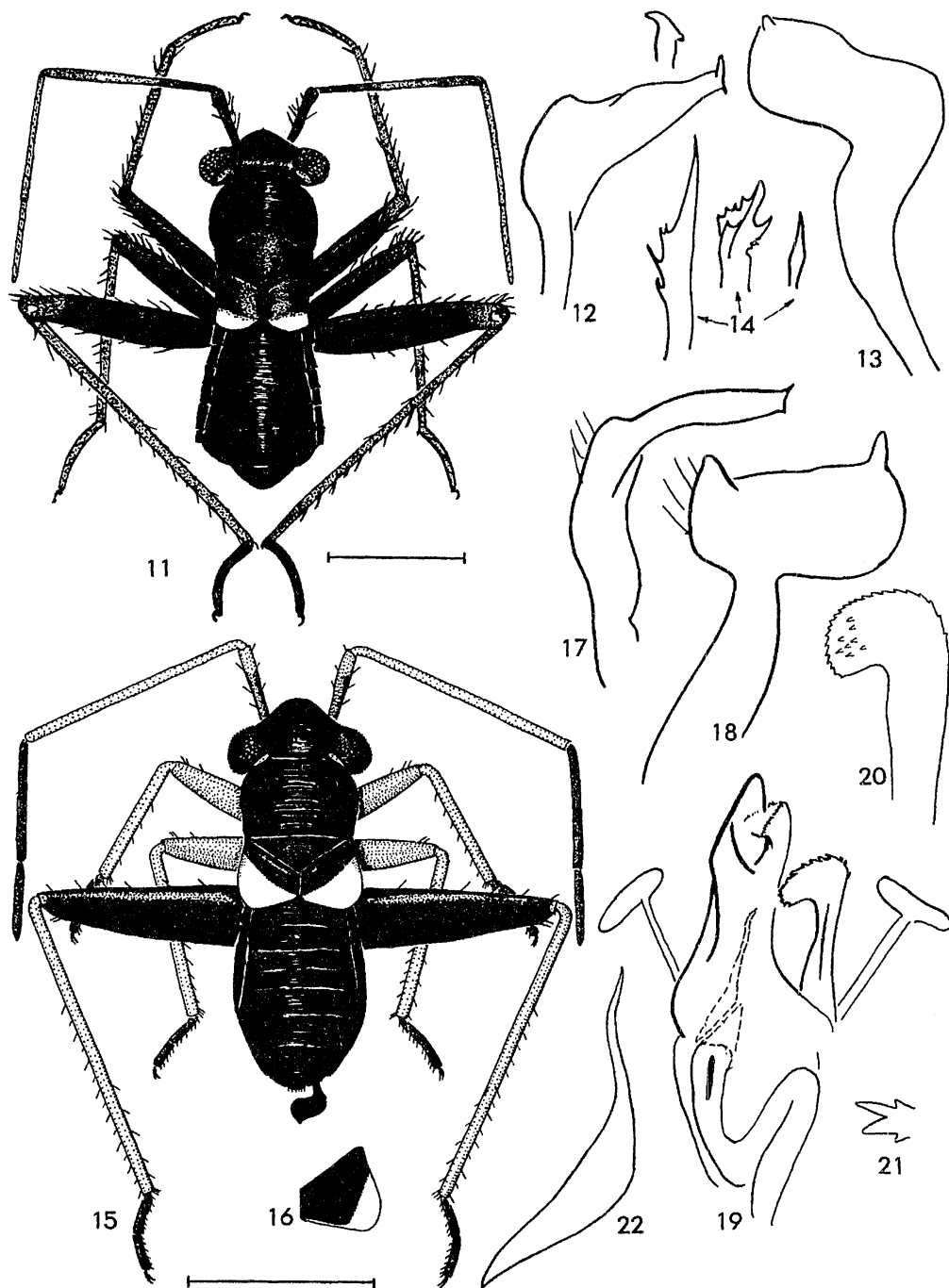
Description. Body black, shining; scutellum dull or slightly shining, with fine transverse striation; hemelytra dull, finely shagreened. Head, pronotum and scutellum with sparse, black, erect setae; hemelytra with whitish tomentum. Middle or also apical third of 2nd antennal segment, 3rd (except very base) and 4th antennal segments, tibiae and apices of femora brown. Hemelytra posteriorly with a white band occupying less than half of their surface and slightly widened externally. Inner (turned) margins of conexival segments in female narrowly white.

Vertex flat. Frons moderately convex, not protruded. Antennae not thickened; 1st segment with black bristles. Rostrum reaching hind coxae. Pronotum wider (on hind margin) than long. Scutellum (in lateral view) moderately convex or nearly flat; its apex not separated. Brachypterous, commissure of hemelytra at least half as long as scutellum.

Measurements (mm). Body length: ♂ 2.6-2.75, ♀ 3.1-3.85; head width: ♂ 1.0-1.05, ♀ 1.1-1.2; vertex width: ♂ 0.4-0.45, ♀ 0.5-0.55; pronotum width at base: ♂ 0.7-0.75, ♀ 0.85-0.9; pronotum length: ♂ 0.5-0.52, ♀ 0.55; scutellum length: ♂ 0.35-0.40, ♀ 0.4-0.45; commissure: ♂ 0.15-0.20, ♀ 0.2-0.22; length of antennal segments (I-IV): ♂ 0.5-0.55, 1.25-1.3, 0.7, 0.5, ♀ 0.5-0.55, 1.15-1.2, 0.65-0.75, 0.5.

Male genitalia as in Figs 12-14. Aedeagus (Fig. 14) with 3 spiculae: two of these toothed and one (the smallest) without teeth.

Bionomics. The species was collected in sandy areas on the western margin of the Betpakdala Desert (height about 200-300 m) from *Artemisia terrae-albae* Krasch.



Figs 11-22. *Myrmecophyes*. 11-14, *M. trispiculus* sp. n.: 11, male; 12, left paramere; 13, right paramere; 14, spiculae of the aedeagus; 15-22, *M. frontosus* sp. n.: 15, male; 16, hemelytron of female; 17, left paramere; 18, right paramere; 19, phallus; 20, thecal process; 21, thecal tooth; 22, spicula of the aedeagus. Scale: 1 mm.

Comparison. The new species is extremely close to *M. geniculatus* Reut., a common species distributed in Kirgizia and Tajikistan from Fergana and Atbashi ranges and Susamyr valley in the north to Zeravshan Range and the Pamirs in the south at the heights of 2100-4300 m and mainly collected from *Artemisia*. *M. geniculatus* is extremely variable in the coloration, length of antennal segments and form of vesical sclerites. We did not find good external characters to distinguish the two species, but the number of the aedeagal spiculae (three in *M. trispiculus*, only two in *M. geniculatus*) can be used for their separation.

Myrmecophyes (Myrmecophyes) frontosus sp. n.
(Figs 15-22)

Holotype. ♂, Kazakhstan, Tselinograd (now Astana) Prov., 8 km E of crossing Tersakkan River on the way to Mendesh, 4.VI.1972 (Kerzhner).

Paratypes. 9 ♂, 7 ♀, as holotype (Kerzhner, Loginova).

Description. Body black, strongly shining, only the white area of hemelytra dull; scutellum with fine transverse striation; hemelytra finely shagreened in their black part. Dorsal side of body without any hairs, only hemelytra with sparse whitish tomentum. Antennae yellow; 1st segment in males with brownish base or outer side; 3rd and 4th segments sometimes yellowish brown. Legs yellow; coxae black; hind femora brown to black, often pale at base; sometimes in males also fore and middle femora partially brown; tarsi brownish yellow to dark brown. Hemelytra in male with black claval and white corial part, the white area occupies slightly more than half of their surface; in female, the black area is much larger and occupies more than half of the surface, so that white-coloured are only a more or less narrow lateral triangular area and a very narrow stripe along hind margin. Connexivum of abdomen white entirely or on external margin.

Vertex flat. Frons strongly convex, protruded above the base of clypeus, especially in females. Antennae not thickened; 1st segment with black bristles. Rostrum reaching hind coxae. Pronotum wider (on hind margin) than long. Scutellum (in lateral view) flat; its apex not separated. Brachypterous,

commisure of hemelytra subequal in length to scutellum.

Male genitalia as in Figs 17-22. Theca (Fig. 19) with subbasal flat process serrate on apical margin (Fig. 20) and a small bi- or trifurcate tooth on the side opposite to the process (Fig. 21); mouth of the theca with serrate margin on one side. Aedeagus with one spicula strongly widened at base and pointed at apex (Fig. 22).

Measurements (mm). Body length: ♂ 2.1-2.2, ♀ 2.8-3.0; head width: ♂ 0.8-0.83, ♀ 0.9-0.95; vertex width: ♂ 0.3-0.32, ♀ 0.4; pronotum width at base: ♂ 0.6-0.65, ♀ 0.76-0.8; pronotum length: ♂, ♀ 0.45; scutellum length: ♂, ♀ 0.2-0.22; commissure: ♂ 0.2-0.22, ♀ 0.15-0.2; length of antennal segments (I-IV): ♂ 0.4-0.45, 1.15-1.3, 0.65-0.67, 0.42-0.45, ♀ 0.35-0.4, 1.1-1.2, 0.65-0.7, 0.42-0.45.

Bionomics. The species was collected from a grass, apparently *Psathyrostachys juncea* (Fisch.) Nevski.

Comparison. The new species is the northernmost in the genus, except for the widely distributed and often macropterous *M. alboornatus* Stål. Its occurrence in lowland steppes is unusual: most species of the genus are monticolous. The new species can be distinguished from other species of the genus by the absence of setae on head and pronotum. It is most similar in coloration to *M. limbatus* Reut. (see Bykov, 1971) from Tien Shan, but in the latter the black area of hemelytra occupies less than half of their surface in both sexes, not only in the males.

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