

<https://doi.org/10.25221/fee.389.2>
<http://zoobank.org/References/8D52823F-B1E2-4061-8857-BE58705FA36D>

AN ANNOTATED CHECK-LIST OF ORTHOPTERA OF TUVA
AND ADJACENT REGIONS. PART 2. SUBODER CAELIFERA.
TRIDACTYLIDAE, TETRIGIDAE, ACRIDIDAE: MELANOPLINAE,
CALLIPTAMINAE, AND GOMPHOCERINAE (EXCEPT
GOMPHOCERINI)

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Summary. The first annotated checklist of the short-horned Orthoptera (Caelifera) of Tuva and adjacent territories is presented. This list is based on numerous published and unpublished data. A total of 42 species belonging to 3 families, namely Tetrigidae (6), Tridactylidae (1), and Acrididae (35 species from the subfamilies Melanoplinae and Calliptaminae and from the gomphocerine tribes Chrysochraontini, Arcypterini, Aulacobothrini, and Stenobothrini), are known as occurring in Tuva. Seven species are recorded from the region for the first time, namely *Tetrix similans* (Bey-Bienko), *Zubovskya koeppeni* (Zubovsky), *Podismopsis poppiusi* (Miram), *P. jacuta* Miram, *Stenobothrus nigromaculatus* (Herrich-Schäfer), *S. carbonarius* (Eversmann), and *Omocestus petraeus* (Brisout de Barneville). *Zubovskya mongolica* Storozhenko, **comb. resurr.** is mentioned for the southern part of the Republic of Khakassia for the first time. The first record of *Podismopsis jacuta* Miram in Krasnoyarsk Region is also published. At least three species are known from the adjacent areas and listed as probably occurring in the region.

Key words: Caelifera, pygmy mole crickets, pygmy grasshoppers, grasshoppers, fauna, new records, Siberia, Russia.

М. Г. Сергеев, С. Ю. Стороженко, А. А. Бенедиктов. Аннотированный список прямокрылых (Orthoptera) Тувы и сопредельных регионов. Часть 2. Подотряд Caelifera. Tridactylidae, Tetrigidae, Acrididae: Melanoplinae, Calliptaminae и Gomphocerinae (кроме Gomphocerini) // Дальневосточный энтомолог. 2019. N 389. С. 7-44.

Резюме. Впервые подготовлен аннотированный каталог короткоусых прямокрылых Тувы и сопредельных регионов. В его основу положены многочисленные опубликованные и неопубликованные данные. К настоящему времени для Тувы известны находки 42 видов короткоусых прямокрылых из трех семейств: Tetrigidae (6 видов), Tridactylidae (1) и Acrididae (35 видов из подсемейств Melanoplinae, Calliptaminae и Gomphocerinae из триб Chrysochraontini, Arcypterini, Aulacobothrini и Stenobothrini). 7 видов указываются

для Тувы впервые: *Tetrix similans* (Bey-Bienko), *Zubovskya koeppeni* (Zubovsky), *Podismopsis poppiusi* (Miram), *P. jacuta* Miram, *Stenobothrus nigromaculatus* (Herrich-Schäfer), *S. carbonarius* (Eversmann), *Omocestus petraeus* (Brisout de Barneville). Впервые для Республики Хакасия указывается *Zubovskya mongolica* Storozhenko **comb. resurr.**, а для гор юга Красноярского края – *Podismopsis jacuta* Miram. Три вида также известны из сопредельных регионов, вполне возможно их обнаружение в Туве.

INTRODUCTION

General environmental peculiarities of the region, general history of its orthopterological investigations, materials and methods are described in the first part of this check-list (Sergeev *et al.*, 2018). Due to significant numbers of caeliferan taxa and huge amount of data we were compelled to divide them into two parts. The second part of the check-list includes the families Tridactylidae, Tetrigidae, and some taxa of the family Acrididae, namely the subfamilies Melanoplinae, Calliptaminae, and the tribes Chrysochraontini, Hypernephini, Arcypterini, Aulacothrini and Stenobothrini from the subfamily Gomphocerinae. All species known from Tuva were numbered (in the round brackets – continuous numbers for the entire check-list). An asterisk (*) was used to mark new species for Tuva. We have used the following abbreviations for collectors: IS – I.V. Stebaev, MS – M.G. Sergeev, SS – S.Yu. Storozhenko, AB – A.A. Benediktov.

SUBORDER CAELIFERA

Some first data concerning grasshoppers from the territory of modern Tuva were published by Miram (1907). Her list included *Terix subulata* (L.), *Podisma pedestris* (L.), *Omocestus haemorrhoidalis* (Charp.), *Chorthippus parallelus* (Zett.), *Aeropedellus variegatus* (F.d.W.), *Arcyptera fusca* (Pall.), *Celes skalozubovi* Adel., *Bryodemella tuberculata* (F.), *Bryodema gebleri* (F.d.W.), *Angaracris barabensis* (Pall.) (including *A. rhodopa* (F.d.W.)) from NW Mongolia (nowadays the western part of the Republic of Tyva). She also mentioned 22 species of Caelifera for the southern parts of the modern territories of the Republic of Khakassia and Krasnoyarsk Region. Four of them were described as the new ones, namely *Chrysochraon poppiusi* Miram (= *Podismopsis poppiusi* (Miram)), *Stenobothrus hammarstroemi* Miram (= *Chorthippus hammarstroemi* (Miram)), *Stenobothrus ehnerbergi* Miram (= *Chorthippus fallax* (Zubovsky)), and *Gomphocerus reuteri* Miram (= *Aeropedellus reuteri* (Miram)).

Berezhkov (1951) analyzed samples collected by the special entomological expeditions in 1947–1948 and published the first more or less comprehensive list of Tuvan Caelifera. He listed 40 taxa. Now some of them are recognized as the separate species (*Chorthippus dorsatus* and *Ch. dorsatus loratus* auct. (= *Ch. dichrous* (Ev.)), *Arcyptera fusca* (Pall.) and *A. albogeniculata* Ikonn.). Two mentioned species, namely *Chorthippus bicolor* (Charp.) and *Ch. albomarginatus* (Deg.), are the members of rather complicated species complexes. In Tuva, each complex includes two or more species. Sergeev (1982) also showed that specimens of *Prumna primnoides* Ikonn. from Tuva really belonged to *Prumna primnoa* (Motsch.). Besides, Benediktov (1998) synonymized *Angaracris rhodopa* (F.d.W.) and *A. barabensis* (Pall.).

In 1960^s Stebaev (1964, 1965) described two new taxa of grasshoppers from Tuva, namely *Bryodema orientale simulans* Stebaev (now *Bryodemella orientalis simulans*) and *Eremippus mistshenkoi* Stebaev, and published the first records of two species (*Glyptobothrus dubius* (Zub.) and *Sphingonotus salinus* (Pall.)). Some species were also added in the end of the 20th century: *Schmidtiacris schmidti* (Ikonn.) (Sergeev, 1982), *Eremippus simplex* (Ev.) (Sergeev, 1985), *Zubovskya mongolica* Storozhenko and *Stenobothrus newskii* Zub. (Sergeev, 1991),

Compsorhipis davidiana Sauss. (Kazakova, Sergeev, 1993), *Stenobothrus lineatus* (Panz.) and *Glyptobothrus biguttulus* (L.) (Sergeev et al., 1995), *Glyptobothrus mollis* (Charp.) (Benediktov, Korsunovskaya, 1996), *Chrysochraon dispar* (Germ.), *Gomphocerus rufus* (L.), *Chorthippus karelini* (Uv.) (Benediktov, 1997), *Glyptobothrus porphyropterus* (Vor.) (Benediktov, 1999). Five species were also added in beginning of the 21st century: *Tetrix japonica* (I. Bol.) (Benediktov, 2006), *Bruntridactylus tartarus* (Sauss.) (Storozhenko, 2016), *Tetrix tartara* (I. Bol.), *Chorthippus apricarius* (L.) (Sergeev, Baturina, 2017), and *Locusta migratoria* L. (Sergeev, 2017).

An analysis of numerous specimens from the collections of Novosibirsk State University, Institute of Systematics and Ecology of Animals (Novosibirsk), Federal Scientific Center of the East Asia Terrestrial Biodiversity (Vladivostok), and Moscow State University allows us to add some new species to the Tuva fauna, to change the taxonomic status of several grasshoppers and to describe explicitly species distribution patterns.

FAMILY TRIDACTYLIDAE

Subfamily Dentrictylinae

Genus *Bruntridactylus* K. K. Günther, 1979

1(23). *Bruntridactylus tartarus* (Saussure, 1874)

Bruntridactylus tartarus: Storozhenko, 2016: 23.

MATERIAL. **Tuva:** Uvs-Nuur Intermountain Basin, 7 km SW Erzin settlement, Tes River, 50°12'N, 95°08'E, 13.VII 2014, flood-plain, near water, 22 ♂, 21 ♀ (SS).

DISTRIBUTION. **Tuva:** UVS. – S Europe, S Siberia, including Khakassia and the southern part of Krasnoyarsk Region, Caucasus, Kazakhstan, Middle Asia, Mongolia (Bey-Bienko, 1933; Ivanova, 1967; Günther, 1980, 1991).

ECOLOGY. The species prefers very wet open plots of flood-plains with some vegetation and debris.

FAMILY TETRIGIDAE

Subfamily Tetrigininae

Genus *Tetrix* Latreille, 1802

2(24). *Tetrix subulata* (Linnaeus, 1758)

Tetrix subulata: Miram, 1907: 2; Berezhkov, 1956: 62; Podgornaya, 1983: 46; Benediktov, 1997: 118.

MATERIAL. **Tuva:** W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, lower part, low terrace and flood-plain of stream, ruderal vegetation and meadow, 16.VIII 1985, some specimens observed (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1200–1300 m, lower terrace, meadow 15.VII 1978, 1 ♀ (MS); 7 km SW Erzin settlement, Tes River, 50°12'N, 95°08'E, 13.VII 2014, 1 ♀ (SS); **Krasnoyarsk Region:** southern part, West Sayan Mts., Uvs Intermountain Basin, near abandoned Idzhim settlement, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, some specimens observed (MS).

REMARKS. The only widely distributed Holarctic species of Orthoptera.

DISTRIBUTION. **Tuva:** KHE, WTO, UVS. – Europe (except the extreme North), almost all Siberia (including the southern part of Krasnoyarsk Region) and the Far East (except the extreme North and Kurile Islands), the Caucasus, Kazakhstan, mountains of Middle Asia, Mongolia, NW, NE China, Korea, N America.

ECOLOGY. Usually associated with wet plots along river valleys.

3(25). *Tetrix tartara* (I. Bolívar, 1887)

Tetrix tartara: Sergeev & Baturina, 2017: 242–243.

MATERIAL. Tuva: W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 810 m, lower terrace and upper flood-plain, meadows, 13.VIII 2016, 3 larvae (MS).

REMARKS. The species was mentioned from NW Tuva for the first time by Sergeev and Baturina (2017).

DISTRIBUTION. Tuva: WSW, KHE. – European part of Russia (Benediktov, 2014), Kazakhstan (western and southern parts), N Tien Shan, SE Altay (Sergeev, 1982; Storozhenko *et al.*, 1994), NW Mongolia, NW and N China up to Inner Mongolia (Ma *et al.*, 1991) and Gansu (Sun *et al.*, 2015) [spp. *subacuta* Bey-Bienko, 1951]; S Kazakhstan, Middle Asia, Afghanistan [nominotypical subspecies].

ECOLOGY. Usually associated with wet plots along river valleys.

*4(26). *Tetrix simulans* (Bey-Bienko, 1929)

MATERIAL. Tuva: Sosnovka Village, 1.VII 1949 1 ♂.

DISTRIBUTION. Tuva: KKH. – S Siberia from the Altay Mts. and the southern part of Krasnoyarsk Region to the southern part of the Russian Far East, NE, N Mongolia, N China (Podgornaya, 1983).

5(27). *Tetrix tenuicornis* (Sahlberg, 1891)

Acrydium tenuicornis: Berezikov, 1951: 22.

Tetrix nutans tenuicornis: Berezikov, 1956: 64.

Tetrix tenuicornis: Ivanova, 1967: 130; Podgornaya, 1983: 56; Sergeev, 1986: 189; Benediktov, 1997: 117.

MATERIAL. Tuva: Chaa-Khol River, 51°34'N, 92°23'E, 570 m, flood-plain, meadow, 17.VII 1962, 3 ♂, 3 ♀ (IS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, near stream, 22.VII 2014, 3 ♂, 6 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°36'N, 94°09'E, 600–605 m, lower terrace and upper flood-plain, meadows, 20.VII 1995, 1 ♀ (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°15'E, 886 m, lower terrace, meadow, 8.VII 1978, 1 larva (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, middle part, lower terrace of stream, 25.VIII 1985, 1 larva (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, Mugur River, 50°46'N, 92°04'E, 1170 m, marsh, wet meadow with bushes, 17.VIII 1985, 1 ♂ (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1086 m, lower flood-plain, pebbles and sand, 11.VII 1978, 2 ♀ (MS); Uvs-Nuur, 7.VII 2013, 1 larva (M. Prostshalykin, V. Loktionov); Dytytg-Khem River, 13 km SW Samagaltai settlement, 9.VII 2013, 1 ♂, 2 ♀ (M. Prostshalykin, V. Loktionov); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 930–932 m, lower flood-plain, scarce vegetation on stones, clay and sand, 27.VI 1978 2 ♂, 3 ♀ (MS); the same locality and habitats, 13.VII 1978 1 ♀, 1 larva (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, upper flood-plain and lower terrace, meadows, 21–23.VII 1978, 1 ♂, 2 ♀, 7 larvae (MS); 7 km SW Erzin settlement, Tes River, 50°12'N, 95°08'E, 13.VII 2014, 10 ♂, 9 ♀ (SS); Tes River, 25 km SW Erzin settlement, 50°05'N, 95°21'E, 14–15.VII 2014, 2 ♂, 5 ♀ (SS); Tes-Khem River, 25 km SW Erzin settlement, 5.VII 2013, 1 ♂, 1 ♀ (M. Prostshalykin, V. Loktionov). **Krasnoyarsk Region:** southern part, W Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, some specimens observed (MS); the same locality, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 1 ♀, 1 larva (MS). **Khakassia:** W Sayan Mts., Bolshoj On River, 51°52'N, 89°48'E, 1200 m, upper terrace, opening, old gravel quarry, 15.VIII 2016, 6 ♂, 1 ♀, 29 larvae (MS).

DISTRIBUTION. **Tuva:** UKH, KKH, WTO, ETO, UVS. – Temperate Eurasia, except the extreme North.

ECOLOGY. Usually associated with wet plots along river valleys.

6(28). *Tetrix bipunctata* (Linnaeus, 1758)

Tetrix bipunctata: Miram, 1907: 2.

Tetrix kraussi: Miram, 1907: 2.

Tetrix bipunctata: Berezchkov, 1956: 65; Ivanova, 1967: 130; Sergeev, 1986: 189.

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°30'N, 90°12'E, 1250–1252 m, lower terrace and upper flood-plain, meadows, pebbles, 14.VIII 2016, 6 larvae (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 810 m, lower terrace and upper flood-plain, meadows, 13.VIII 2016, 2 larvae (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°55' N, 95°2' E, 1432 m, terraces and flood-plain, meadows, 10.VIII 2018, a specimen observed (MS); Shuurmak River near Shuurmak settlement, 50°38'N, 95°19'E, 12.VII 2013, 1 ♀ (M. Prostshalykin, V. Loktionov).

DISTRIBUTION. **Tuva:** WSW, ET, KKH. – Temperate and subarctic Eurasia.

ECOLOGY. In the southern part of its range usually associated with variable plots along river valleys.

7(29). *Tetrix japonica* (I. Bolívar, 1887)

Tetrix japonica: Benediktov, 2006: 29.

MATERIAL. **Tuva:** Chaa-Khol River, 51°34'N, 92°23'E, 570 m, flood-plain, meadow, 17.VII 1962, 3 ♀, 1 larva (IS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, upper flood-plains, dry meadows, 23.VII 1962, 1 ♀ (IS).

REMARKS. The species was mentioned from Tuva (vicinities of Erzin settlement and near the junction of the Erzin and Naryn Rivers) for the first time by Benediktov (2006).

DISTRIBUTION. **Tuva:** UKH, UVS. – S Siberia (from Tuva to Dauria), the southern part of the Russian Far East, including Sakhalin and Kurile Islands; Mongolia, China, Korea, Japan, Taiwan.

ECOLOGY. In Tuva usually associated with variable plots along river valleys.

FAMILY ACRIDIDAE

Subfamily Melanoplinae

Tribe Podismini

Genus *Zubovskya* Dovnar-Zapolskij, 1933

***8(30). *Zubovskya koeppeni* (Zubovsky, 1900)**

Podisma koeppeni: Miram, 1907: 8.

Zubovskya koeppeni: Dovnar-Zapolskij, 1933: 255–256, 261, 267.

MATERIAL. **Tuva:** Uyukskiy Range, Veselyi Pass, about 1597 m, larch forest, 25.VIII 1962, 1 ♂ (IS). **Krasnoyarsk Region:** southern part, Oya River, Ermakovskoje settlement, 52°17'N, 92°27'E, 290 m, openings of pine forest, 17.VII 1995, 3 ♂, 2 ♀ (MS); W Sayan Mts., Kazyrskiy Range, E Oyskoe Lake, 52°51'N, 93°16'E, 1470–1630 m, mountain tundra and alpine meadow, 13.VIII 2018, 1 ♂, 4 ♀ (MS); W Sayan Mts., Oyskiy Range, Olenja Rechka, 52°47'N, 93°15'E, 1540–1815 m, mountain tundra and alpine meadow, 24.VII 1995, 120 larvae (MS); W Sayan Mts., Oyskiy Range, Olenja Rechka, alpine meadow, 23.VIII 1962, 11 ♂, 6 ♀ (IS).

DISTRIBUTION (nominotypical subspecies). **Tuva:** WSE. – Altay-Sayan Mts. including W Altay (Chidebaev & Storozhenko, 2004), Transbaikalia, Sakha (Yakutia), Chukotka (Chaun Bay) (Miram, 1931). In the southern part of the Russian Far East, NE China, Japan (Hokkaido) spp. *parvula* (Ikonnikov, 1911).

ECOLOGY. In the Altay and W Sayan Mts. very common on the wet forest and alpine meadows, also in the mountain tundra. The species occurs over a wide altitudinal range. Adults and larvae prefer very often broad leaves of *Veratrum* and *Aconitum*.

9(31). *Zubovskya mongolica* Storozhenko, 1986, comb. resurr.

Zubovskya mongolica: Storozhenko, 1986: 53; Sergeev, 1991: 121; Yin *et al.*, 1996: 560; Benediktov, 1997: 118; Storozhenko, 2004: 24.

Kingdonella mongolica: Li *et al.*, 2015: 111.

MATERIAL. **Tuva:** E Tuva, Academician Obruchev Range, junction of Tumat-Tayga and Ottug-Tayga ranges, 27.VII 1962, 1 ♂, 1 ♀ (D. Berman); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°57'N, 95°33'E, 1945–2005 m, mountain tundra with *Betula* and alpine meadow, 10.VIII 2018, 2 ♂, 1 larva (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°56'N, 95°30'E, 1737–1869 m, southern slope, terraces, flood-plains, meadows, 9–10.VIII 2018, 7 ♂, 5 ♀ (MS); Khemchik Intermountain Basin, Chadan Experimental (Agricultural) Station (Teve-Khaya settlement), 1.VII 1947, 1 ♀. **Khakassia:** W Sayan Mts., source of Bolshoj On River, near Sayanskij Pass, 51°43'N, 89°53'E, 2079 m, southern slope, mountain tundra, 15.VIII 2016, 1 ♀ (MS).

REMARKS. Recently *Zubovskya mongolica* was erroneously moved to the genus *Kingdonella* Uvarov, 1933 (Catantopinae: Conophymini) (Li *et al.*, 2015). According to the reasons for separating of the tribes Podismini and Conophymini (Storozhenko *et al.*, 2015) *Z. mongolica* is a member of Podismini and must be return to the genus *Zubovskya*. The type locality of this species is in vicinities of Khövsgöl Lake in N Mongolia (Storozhenko, 1986). Later *Z. mongolica* was mentioned for the territory Tuva and the southern part of Krasnoyarsk Region (Sergeev, 1991; Storozhenko, 2004). However, all specimens from Oyskyi Range (W Sayan Mts.) had been misidentified. Now they are recognized as *Z. koeppeni*. Some females of *Z. mongolica*, especially the one from Chadan vicinities, have very weak lateral carinae, but the ventral valves of their ovipositors are with the deep excision near the middle of the lower margin. Besides, the female with the label "Chadan Experimental Station" looks like mislabeled, because this locality is near the bottom part of Khemchik Intermountain Basin with altitudes less than 1000 m and where the dry steppes and dry meadows are dominated. Here *Z. mongolica* is mentioned for the southern part of the Republic of Khakassia for the first time.

DISTRIBUTION. **Tuva:** ET, KHE. – Southern part of Khakassia; N Mongolia.

ECOLOGY. Relatively rare in the mountain tundra, alpine meadows and meadows near the local timber-lines.

Genus *Prumna* Motschulsky, 1859

***Prumna polaris* Miram, 1928**

Prumna polaris: Sergeev, 1982: 43–44.

DISTRIBUTION. E Sayan Mts.: Tunkinskij Rayon (Sergeev, 1982). E Siberia and the Russian Far East (except the southern parts).

10(32). *Prumna primnoa* (Motschulsky, 1846)

Prumna primnoides auct.: Berezchkov, 1951: 22.

Prumna primnoa: Mistshenko, 1974: 26; Sergeev, 1982: 44; Benediktov, 1997: 117.

MATERIAL. **Tuva:** SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, piedmont plain, balka, meadow between larches, 8.VII 1978, 1 ♀ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, left side, 15 km S Balgazyn settlement, 50°53'N, 95°12'E, 900–950 m, piedmont plain of E Tannu-Ola Mts., meadow, 9.VII 1978, 4 ♀ (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1360 m, lower terrace, short meadow near spruces, 1.VIII 1978, 3 ♂, 3 ♀ (MS); the same locality and habitat, 14.VIII 1978, 2 ♂, 8 ♀ (MS); E Tannu-Ola Mts., 13 km NEE Samagaltaj settlement, Kaldak-Khamar (Shuurmak) Pass, 50°38'N, 95°11'E, 1550 m, open larch forest, 19.VII 2014, 3 ♂, 2 ♀ (SS).

DISTRIBUTION. **Tuva:** KKH, WTO, ETO. – S Siberia (from Tuva and the southern part of Krasnoyarsk Region up to the southern part of Sakha (Yakutia), southern part of Russian Far East (except the southern part of Primorsky Region), including Sakhalin and Kunashir; N Mongolia.

ECOLOGY. Prefers the meadows with broad-leaf forbs on forest openings. Sometimes abundant.

Genus *Podisma* Berthold, 1827

11(33). *Podisma pedestris* (Linnaeus, 1758)

Podisma pedestris: Miram, 1907: 8; Sergeev & Vanjkova, 2003: 158.

REMARKS. The species was mentioned from W Tuva for the first and last time by Miram (1907).

DISTRIBUTION. **Tuva:** KHE. – Europe, W Siberia (forest-steppes and steppes), E Siberia (up to the central parts of Yakutia), mountains of S Siberia, N Caucasus, NW and N Kazakhstan, Dzungarian Alatau, E Tien Shan, Tarbagatai Mts., N Mongolia.

ECOLOGY. Unknown. In Khakassia and central Altay may be very abundant in some ruderal habitats with *Urtica cannabina*.

Genus *Ognevia* Ikonnikov, 1911

12(34). *Ognevia longipennis* (Shiraki, 1910)

Eirenephilus longipennis: Stebaev, 1964: 616; Benediktov, 1997: 117.

Eirenephilus (sic!) *debilis*: Berezchkov, 1951: 22.

MATERIAL. **Tuva:** Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 829 m, terrace, meadow, 12.VIII 2018, some specimens observed (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, willows near stream, 22.VII 2014, 1 ♂, 2 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°36'N, 94°08'E, 605–610 m, border of terraces with poplars, 22.VII 2003, some specimens observed (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 984 m, 29.VII 1978, lower flood-plain, pebbles and stone, scarce vegetation with *Salix* and *Nepeta*, 1 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1215 m, lower flood-plain, pebbles and stone with scarce vegetation, 11.VIII 1978, 1 ♂ (MS); Dytyg-Khem River, 12 km SW Samagaltaj settlement, 50°38' N, 95°19' E, opening of willow–poplar forest, 17.VII 2014, 1 ♂, 2 ♀ (SS). **Krasnoyarsk Region:** southern part, W Sayan Mts., Uvs Intermountain Basin, near abandoned Idzhim settlement, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, some specimens observed (MS). **Khakassia:** W Sayan Mts., Bolshoj On River, 51°52'N, 89°48'E, 1200 m, upper terrace, opening, old gravel quarry, 15.VIII 2016, 4 ♀ (MS).

DISTRIBUTION. **Tuva:** WSE, KHE, UKH, UVS. – S Siberia (mainly in mountains), southern part of Russian Far East, including Sakhalin and S Kurile Islands; E Kazakhstan, N Mongolia, N, NE China, Korea, Japan.

ECOLOGY. Adults are good flyers and commonly prefer to stay on willows and poplars. Larvae live on broad leaves of forbs.

Genus *Bohemanella* Ramme, 1951

13(35). *Bohemanella frigida* (Boheman, 1846)

Melanoplus frigidus: Berezchkov, 1951: 21–22; Sergeev *et al.*, 1995: 97–98; Benediktov, 1997: 117.

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°42'N, 89°55'E, 1900–1907 m, mountain tundra with *Betula* bushes, 15.VIII 2016, 1 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°37'N, 90°05'E, 1450 m, terraces and flood-plain, short meadows, 14.VIII 2016, 2 ♀ (MS); Shuurmak River near Shuurmak settlement, 1170 m, 12.VII 2013, 2 ♂ (M. Prostshalykin, V. Loktionov); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°53'N, 92°04'E, 2250 m, mountain tundra, 19.VIII 1985, 2 ♂, 8 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°52'N, 92°04'E, 2060 m, alpine steppe and meadow, 19.VIII 1985, 2 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 3 ♂, 5 ♀ (MS); W Tannu-Ola Mts., 5 km W Torgalyg settlement, Khandybai Mt., mountain steppe, 23.VI 1962, 1 larva (IS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1360 m, upper terrace, short meadow, 15.VII 1978, 1 ♀, 8 larvae (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, flood-plain and terraces, steppe and short meadow between shrubs and *Larix* trees, 28.VI 1978, 2 larvae (MS); the same locality and habitats, 17.VII 1978, 1 ♂, 2 ♀, 1 larva (MS); the same locality, upper terrace, short meadow, 12.VIII 1978, 2 ♂ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N – 50°45'N, 94°33'E – 94°34'E, 1200–1650 m, mountain slopes, piedmont plains, terraces, dry meadows and steppes, often with bushes and stones, 24.VI–12.VIII 1978, >30 specimens, including larvae (Myagkaya, Lee); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1400 m, mountain ridge, meadow, 18.VII 2014, 5 ♂, 5 ♀ (SS); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 1 ♂ (SS).

REMARKS. The species also occurs in NW North America.

DISTRIBUTION. **Tuva:** WSW, KKH, WTO, ETO, UVS, SAN. – N Eurasia (in the southern parts of Europe – in mountains); Alaska, N Canada.

ECOLOGY. Usually associated with the mountain steppes and short forb meadows.

Subfamily Calliptaminae

Genus *Calliptamus* Audinet Serville, 1831

14(36). *Calliptamus abbreviatus* Ikonnikov, 1913

Calliptamus ictericus: Berezchkov, 1951: 22.

Calliptamus abbreviatus: Sergeev *et al.*, 1995: 96; Benediktov, 1997: 117.

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°23'N, 90°28'E, 1208 m, southern slope, stony steppe, 13.VIII 2016, 1 larva (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°27'E, 1079–1085 m, southern slope, stony semi-desert, 13.VIII 2016, 32 ♂, 16 ♀, 6 larvae (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 800–810 m, southern slope and upper terrace, semi-deserts, 13.VII 2016, 10 ♂, 15 ♀, 1 larva (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII 2018, 78 ♂, 43 ♀, 3 larvae (MS); the same locality, 51°59'N, 94°18'E, 829 m, terrace, meadow, 12.VIII 2018, 19 ♂, 18 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 3 ♀ (MS); E Tuva, Academician

Obruchev Range, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 11 ♂, 5 ♀, 2 larvae (MS); Chaa-Khol River, 51°34'N, 92°23'E, 570–600 m, dry steppes, 14–18.VII 1962, 14 larvae (IS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 42 larvae (MS); the same locality, upper terrace, dry meadow, 17.VI 2017, 9 larvae (MS); the same locality, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 4 ♂, 362 larvae (MS); the same locality, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 3 ♂, 1 ♀, 64 larvae (MS); the same locality, 51°27'N, 92°45'E, 580–582 m, dry meadow, 23–26.VI 2017, 15 larvae (MS); the same locality, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 21 ♂, 3 ♀, 275 larvae (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 4 ♂, 2 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°09'E, 630–830 m, mountain slopes and piedmont plain, semi-deserts *Nanophyton grubovi*, 19.VII 1995, a specimen observed (MS); the same locality, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 2 ♀, 1 larva (MS); Kaa (Malyj Yenissei) River, right side, near Boyarovka settlement, 51°32'N, 95°21'E, 703 m, plain, dry steppe, 12.VIII 2018, 33 ♂, 14 ♀ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, slope of balka, dry mixed steppe, 21.VII 2014, 2 ♂, 3 ♀ (SS); Ulug-Khem Intermountain Basin, 8 km N Cheder Lake, 51°32'N, 95°21'E, 750–760 m, steppes, 12.VIII 1962, 3 ♀, 3 larvae (IS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 3 larvae (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, 50°45'N, 92°09'E, 1150–1200 m, southern slope and piedmont plain, stony semi-desert with *Nanophyton grubovii*, 24.VIII 1985, 1 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°45'N, 93°09'E, 1030–1040 m, flood plains and terraces, dry meadows and steppes, 29.VII 1978, 1 ♂ (MS); N Uvs-Nuur Intermountain Basin, 50 km E Amdaygyn-Khol, semi-desert with *Nanophyton grubovii*, 26.VII 1962, several specimens (IS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°39'N, 94°28'E, 990–995 m, flood-plain and terraces, dry steppes with *Caragana*, 28.VI 1978, 7 larvae (MS); the same locality and habitats, 18.VII 1978, 7 ♂, 9 ♀, 74 larvae (MS); the same locality and habitats, 10.VIII 1978, 28 ♂, 30 ♀, 8 larvae (MS); Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1215 m, lower terrace, dry steppe, 15.VII 1978, 6 larvae (MS); the same locality and habitats, 11.VIII 1978, 4 ♂, 1 ♀, 1 larva (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1200–1300 m, southern slopes and piedmont plain, steppes with *Caragana*, 24.VII 2003, 6 ♂, 1 ♀ (MS); the same locality, 50°43'N, 94°33'E, 1259 m, piedmont plain, dry steppe with *Caragana*, 8.VII 2017, 1 ♂, 3 ♀, 11 larvae (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N – 50°45'N, 94°33'E – 94°34'E, 1200–1650 m, mountain slopes, piedmont plains, terraces, dry meadows and steppes, often with bushes and stones, 24.VI–12.VIII 1978, >40 specimens, including larvae (MS, Myagkaya, Lee); Dyttyg-Khem River, 12 km SW Samagaltai settlement, 50°38' N, 95°19' E, 17.VII 2014, 1 ♂ (SS); 25 km SW Erzin settlement, Tes River, 50°05'N, 95°21'E, 14–15.VII 2014, 2 ♂, 4 ♀ (SS); Uvs-Nuur Intermountain Basin, E Shara-Nuur, Yamalyg farwell rocks, 50°14'N, 94°45'E, 1150 m, piedmont plain, dry steppe, 6.VII 2017, numerous specimens observed (MS).

DISTRIBUTION. **Tuva:** WSW, WSE, ET, KHE, UKH, KKH, WTO, ETO, UVS. – S Siberia (from the south-eastern part of W Siberian Plain to Dauria), southern part of the Russian Far East; NE, E Kazakhstan, N Mongolia, N, NE, E China, Korea.

ECOLOGY. One of the most common species in the dry mountain steppes.

Subfamily Gomphocerinae

Tribe Chrysochraontini

Genus *Chrysochraon* Fischer, 1853

15(37). *Chrysochraon dispar* (Germar, 1834)

Chrysochraon dispar: Miram, 1907: 3; Benediktov, 1997: 118; Vedenina & Bukhvalova, 2001: 94.

Chrysochraon dispar dispar: Berezhkov, 1956: 82.

MATERIAL. Tuva: 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 2 ♂ (MS); the same locality, 580 m, upper flood-plain, pebbles and sand, 20.VI 2017, 1 ♂ (MS); the same locality, 580–582 m, dry meadow, 23–26.VI 2017, a male observed (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, 22.VII 2014, 1 ♂ (SS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, bottom of balka with wet meadow, 21.VII 2014, 3 ♀ (SS).

DISTRIBUTION. Tuva: UKH, KKH. – N Eurasia (except the extreme North); Caucasus, mountain of Middle Asia.

ECOLOGY. Relatively rare, in typical habitats (wet meadows).

Genus *Euthystira* Fieber, 1852

16(38). *Euthystira brachyptera* (Ocskay, 1826)

Chrysochraon brachypterus: Miram, 1907: 3.

Euthystira brachyptera: Berezchkov, 1951: 17; Benediktov, 1997: 117; Vedenina & Bukhvalova, 2001: 94.

MATERIAL. Tuva: E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°52'N, 95°26'E, 1230 m, terrace, meadow, 10.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°50'N, 95°25'E, 1132–1135 m, terrace and flood-plains, meadows, 11.VIII 2018, 2 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44' N, 95°26' E, 958 m, upper terrace, steppe, 11.VIII 2018, 8 ♂, 7 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 2 ♂, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 781–784 m, lower terrace and flood-plain, meadow, 11.VIII 2018, 3 ♂, 2 ♀ (MS); 15 km N Boyarovka settlement, 15.VII 2013, 1 ♀ (M. Prostshalykin, V. Loktionov); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 24 ♂, 16 ♀, 1 larva (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580 m, upper flood-plain, pebbles and sand, 20.VI 2017, 2 ♂ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580–582 m, dry meadow, 23–26.VI 2017, 3 ♂, 2 ♀ (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 2 ♂, 4 ♀ (SS); Kaa (Malyj Yenissei) River, right side, near Boyarovka settlement, 51°32'N, 95°21'E, 703 m, plain, dry steppe, 12.VIII 2018, 1 ♀ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, plain, mixed steppe, 20.VII 2014, 4 ♂, 1 ♀ (SS); the same locality, bottom of balka with wet meadow, 21.VII 2014, 1 ♂, 1 ♀ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, piedmont plain, balka, meadow between larches, 8.VII 1978, 9 ♂, 3 ♀ (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°15'E, 886 m, lower terrace, meadow, 8.VII 1978, 2 ♂, 3 ♀ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, left side, 15 km S Balgazyn settlement, 50°53'N, 95°12'E, 900–950 m, piedmont plain of E Tannu-Ola Mts., meadow, 9.VII 1978, 15 ♂, 7 ♀, 1 larva (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1086 m, upper flood-plain, wet meadow, 11.VII 1978, 3 ♂, 3 ♀ (MS); Shuurmak River near Shuurmak settlement, 50°38'N, 95°19'E, mixed meadow (cutted), 19.VII 2014, 3 ♂, 3 ♀ (SS); Shuurmak River near Shuurmak settlement, 1170 m, 12.VII 2013, 1 ♂, 3 ♀ (M. Prostshalykin, V. Loktionov); E Tannu-Ola Mts., Shuurmak Pass, 50°38'N, 95°11'E, 1492 m, short meadow, 5.VII 2017, 2 ♂, 2 ♀ (MS); E Tannu-Ola Mts., 13 km NEE Samagaltaj settlement, Kaldak-Khamar (Shuurmak) Pass, 50°38'N, 95°11'E, 1550 m, open larch forest, 19.VII 2014 m, 3 ♂, 4 ♀ (SS). **Krasnoyarsk Region:** southern part, W Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, 3 ♂, 4 ♀ (MS). the same locality, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 3 ♂ (MS).

DISTRIBUTION. Tuva: ET, KHE, UKH, KKH, ETO. – N Eurasia (the southern part of the forest zone, the forest-steppe and steppe zones).

ECOLOGY. Usually in the grass steppes and dry meadows.

Genus *Mongolotettix* Rehn, 1928

17(39). *Mongolotettix vittatus* (Uvarov, 1914)

Chrysochraon vittatus: Uvarov, 1914: 168–169.

Mongolotettix japonicus vittatus: Berezchkov, 1951: 17; Berezchkov, 1956: 85; Benediktov, 1997: 117; Vedenina & Bukhvalova, 2001: 96; Bukhvalova, 2006: 201.

Mongolotettix japonicus: Sergeev *et al.*, 1995: 96–97; Vedenina & Bukhvalova, 2001: 96.

Euthystira japonica: Sergeev & Baturina, 2017: 214.

Mongolotettix mistshenkoi auct.: Bukhvalova & Zhantiev, 1993 (misidentification – see Benediktov, 1997: 118; Vedenina & Bukhvalova, 2001: 98).

MATERIAL. Tuva: W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°28'E, 1075–1077 m, terraces, steppe and meadow, 12.VIII 2016, a male observed (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°27'E, 1079–1085 m, southern slope, stony semi-desert, 13.VIII 2016, 3 ♂ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°23'N, 90°28'E, 1208 m, southern slope, stony steppe, 13.VIII 2016, 1 ♂ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII 2018, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 2 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 8 ♂, 3 ♀ (MS); Chaa-Khol River, 51°34'N, 92°23'E, 570–600 m, dry steppes, 14–18.VII 1962, 8 ♂ (IS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 7 ♂, 6 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, upper terrace, dry meadow, 17.VI 2017, 2 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 3 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 1 ♂ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580–582 m, dry meadow, 23–26.VI 2017, 10 ♂, 2 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 3 ♂, 2 ♀ (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 5 ♂, 4 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°09'E, 650–700 m, piedmont plain and upper terraces, dry steppes and semi-desert, 6.VII 1978, 1 ♂, 1 ♀ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 3 ♂, 1 ♀ (MS); Ulug-Khem Intermountain Basin, Elegest River, middle part, 51°22'N, 94°04'E, 695 m, upper terrace, dry steppe, 16.VI 2017, a specimen observed (MS); Kaa (Malyj Yenissei) River, right side, near Boyarovka settlement, 51°32'N, 95°21'E, 703 m, plain, dry steppe, 12.VIII 2018, 1 ♀ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, 21.VII 2014, 3 ♂, 3 ♀ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 2 ♂, 1 ♀ (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, piedmont plain, balka, meadow between larches, 8.VII 1978, 1 ♂, 2 ♀ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1030–1050 m, southern slope, steppe and meadow, 10.VII 1978, 3 ♂, 3 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°50'N, 92°05'E, 1637 m, mountain steppes, 19.VIII 1985, 1 ♂ (MS); N Uvs-Nuur Intermountain Basin, Amdaygyn-Khol, 50°42'N, 93°16'E, 783 m, meadow, 27.VII 1962, several specimens (IS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°39'N, 94°28'E, 990–995 m, flood-plain and terraces, dry steppes with *Caragana*, 28.VI 1978, 2 ♂, 1 ♀ (MS); the same locality, terraces, dry steppes, 18.VII 1978, 4 ♂, 3 ♀ (MS); the same locality and habitats, 10.VIII 1978, 1 ♂ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1215 m, lower terrace, dry steppe, 15.VII 1978, 1 ♂ (MS); Dytyg-Khem River, 13 km SW Samagaltai settlement, 8–9.VII 2013, 3 ♂, 1 ♀ (M. Prostshalykin, V. Loktionov); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 932–934 m, upper flood-plain and terraces, dry meadows and steppes, 27.VI 1978, 6 ♂, 8 ♀ (MS); Uvs-Nuur Intermountain Basin, Tes River, 50°32'N, 94°31'E, 930–932 m, upper flood-plain,

meadows, 13.VII 1978, 4 ♂, 1 ♀ (MS); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 932–934 m, terraces, steppes, 14.VII 1978, 4 ♂, 9 ♀ (MS); Uvs-Nuur Intermountain Basin, near Shara Lake, 50°13'N, 94°32'E, 902–904 m, plain and upper terrace, sands, semi-desert and grassland with *Achnatherum*, 6.VII 2017, 2 ♂ (MS); 7 km SW Erzin settlement, Tes River, 50°12'N, 95°08'E, 13.VII 2014, 1 ♀ (SS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, flood-plains, meadows, 21–22.VII 1978, 1 ♂, 3 ♀ (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace, steppes, 23.VII 1978, 1 ♂, 2 ♀ (MS); 25 km SW Erzin settlement, Tes River, 50°05'N, 95°21'E, 14–15.VII 2014, 3 ♂, 3 ♀ (SS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°02'N, 95°03'E, 1152 m, flood-plain, meadow, 7.VII 2017, 1 ♂ (MS); Uvs-Nuur Intermountain Basin, Tore Lake, 50°02'N, 95°03'E, 1150 m, 11–12.VII 2014, 7 ♂, 7 ♀ (SS); Uvs-Nuur Intermountain Basin, Tore Lake, 50°06'N, 95°06'E, 1100 m, 12.VII 2014, 2 ♂ (SS); Uvs-Nuur Intermountain Basin, near Tore Lake, 50°02'N, 95°03'E, 30.VI 2013, 1 ♂ (M. Prostshalykin, V. Loktionov); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 2 ♂, 9 ♀ (SS). **Krasnoyarsk Region:** southern part, West Sayan Mts., Uvs Intermountain Basin, near abandoned Idzhim settlement, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, some specimens observed (MS).

REMARKS. Acoustic signals of *Mongolotettix japonicus* (I. Bolívar) and *M. vittatus* (Uvarov) are quite different (Vedenina & Bukhvalova, 2001; Tishechkin & Bukhvalova, 2009).

DISTRIBUTION. **Tuva:** WSW, WSE, ET, UKH, KKH, WTO, UVS, SAN. – S Siberia from Tuva and Krasnoyarsk Region to Dauria, S Amur Region; Mongolia, NE China.

ECOLOGY. Very often associated with the dry steppes with relatively high grasses.

Genus *Podismopsis* Zubovsky, 1900

18(40). *Podismopsis altaica* Zubovsky, 1900

Podismopsis altaica: Berezhekov, 1951: 17–18.

Podismopsis altaica: Berezhekov, 1956: 87; Sergeev *et al.*, 1995: 96, 98; Benediktov, 1997: 117; Kazakova & Sergeev, 1997: 317; Benediktov, 2017: 3.

MATERIAL. **Tuva:** W Tannu-Ola Mts., between Sagly and Mugur-Aksy, 1885 m, small larch forests, 6.VII 2006 1 larva (A. Bondarenko); Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°53'N, 92°04'E, 2250 m, mountain tundra, 19.VIII 1985, 17 ♂, 5 ♀, 12 larvae (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°52'N, 92°04'E, 2060 m, alpine steppe and meadow, 19.VIII 1985, 5 ♂, 12 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 6 ♂, 3 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°04'E, 1336 m, foothills on piedmont plain, stony steppe, 21.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., 5 km W Torgalyg settlement, Khandybai Mt., near timber-line, meadows, 23.VI 1962, 12 ♂, 8 ♀, 15 larvae (IS); W Tannu-Ola Mts., 5 km W Torgalyg settlement, Khandybai Mt., mountain steppe, 23.VI 1962, 2 ♀ (IS); E Tannu-Ola Mts., Khol-Oozhu River, near Kara-Kol, 50°59'N, 94°21'E, 2100–2200 m, mountain tundra and alpine steppe, 6.VIII 1978, 14 ♂, 8 ♀ (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, flood-plain and terraces, steppe and short meadow between shrubs and *Larix* trees, 28.VI 1978, 1 ♀ (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1360 m, upper terrace, short meadow, 15.VII 1978, 1 ♀ (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°41'N, 95°19'E, 1173 m, local southern slope and piedmont plain, steppe, 10.VII 1978, 1 ♂, 2 ♀ (MS); E Tannu-Ola Mts., 7 km W Shuurmak settlement, 50°37'N, 95°14'E, 1400 m, local southern slope, stony steppe, 12.VII 1978, 2 ♂, 1 ♀ (MS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1400 m, mountain ridge, meadow, 18.VII 2014, 2 ♂ (SS).

DISTRIBUTION. **Tuva:** MT, WTO, ETO, SAN. – Altay-Sayan Mts., E Kazakhstan, N Mongolia.

ECOLOGY. More or less common in the mountain tundra, dry mountain meadows and mountain steppes in the southern part of Tuva.

***19(41). *Podismopsis poppiusi* (Miram, 1907)**

Chrysochraon poppiusi: Miram, 1907: 3–4.

Podismopsis poppiusi: Bukhvalova & Vedenina, 1998: 111; Tishechkin, 2008: 260; Benediktov, 2017: 3.

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°37'N, 90°05'E, 1450 m, southern slope, meadow with bushes, 14.VIII 2016, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°56'N, 95°30'E, 1737–1869 m, southern slope, terraces, flood-plains, meadows, 9–10.VIII 2018, 1 ♀ (MS); E Tannu-Ola Mts., Shuurmak Pass, 50°38'N, 95°11'E, 1492 m, taiga opening with forbs, 16.VIII 1978, 1 ♂ observed (MS).

REMARKS. One of the type locality is Abakansky-Zavod (Abaza) in the southern part of Khakassia (Miram, 1907).

DISTRIBUTION. **Tuva:** WSW, ET, ETO. – NE Europe, W Siberia (except the southern part), E Siberia, Altay-Sayan Mts.

ECOLOGY. Rare, usually associated with relatively wet mountain meadows with broad-leaf forbs.

***20(42). *Podismopsis jacuta* Miram, 1928**

Podismopsis jacuta: Sergeev, 1982: 44

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°42'N, 89°55'E, 1900–1907 m, mountain tundra with *Betula* bushes, 15.VIII 2016, 2 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°57'N, 95°33'E, 2005 m, mountain tundra with *Betula*, 10.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°57'N, 95°33'E, 1945 m, alpine meadow, 10.VIII 2018, 1 ♀ (MS). **Krasnoyarsk Region:** southern part, West Sayan Mts., Kazyrskiy Range, W Oyskoe Lake, 52°51'N, 93°16'E, 1470–1630 m, mountain tundra and alpine meadow, 13.VIII 2017, 1 ♂ (MS).

REMARKS. This is also the first record of *Podismopsis jacuta* for Krasnoyarsk Region.

DISTRIBUTION. **Tuva:** WSW, ET. – E Sayan Mts.: Tunkinskie Goltzy (Sergeev, 1982), E Siberia, N Mongolia.

ECOLOGY. Relatively rare in the mountain tundra and alpine meadows of W Sayan Mts, and Academician Obruchev Range. In Tuva, its altitudinal distribution is usually limited by the upper altitudinal belts (mainly above a timber-line).

Tribe Hypernephini

Genus *Eclipophleps* Serg. Tarbinsky, 1927

***Eclipophleps glacialis* Bey-Bienko, 1933**

Eclipophleps glacialis: Sergeev, 1987: 82; Sergeev, 2016: 09.

DISTRIBUTION. SE Altay Mts.; NW Mongolia.

ECOLOGY. Very abundant species in the alpine steppes of SE Altay.

Tribe Arcypterini

Genus *Arcyptera* Audinet Serville, 1839

Subgenus *Arcyptera* Audinet Serville, 1839

21(43). *Arcyptera (Arcyptera) fusca* (Pallas, 1773)

Arcyptera fusca: Miram, 1907: 7; Berezhkov, 1951: 20; Sergeev *et al.*, 1995: 96, 98; Benediktov, 1997: 117; Vedenina & Bukhvalova, 2001: 98.

Arcyptera fusca fusca (sic!): Pavlov, 2004: 65.

MATERIAL. Tuva: W Sayan Mts., Alash Plateau, Ak-Sug River, 51°23'N, 90°28'E, 1208 m, southern slope, stony steppe, 13.VIII 2016, 5 ♂ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 810 m, lower terrace and upper flood-plain, meadows, 13.VIII 2016, 2 ♂ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°37'N, 90°05'E, 1450 m, terraces and flood-plain, short meadows, 14.VIII 2016, 7 ♂, 2 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°37'N, 90°05'E, 1450 m, southern slope, meadow with bushes, 14.VIII 2016, 3 ♂, 3 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44' N, 95°26' E, 958 m, upper terrace, steppe, 11.VIII 2018, 4 ♂, 1 ♀, 1 larva (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 3 ♂, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 2 ♂, 3 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 781–784 m, lower terrace and flood-plain, meadow, 11.VIII 2018, 2 ♀ (MS); 16 km N Boyarovka settlement, 15.VII 2013, 1 ♂ (M. Prostshalykin, V. Loktionov); Chaa-Khol River, 51°34'N, 92°23'E, 570–600 m, dry steppes, 14–18.VII 1962, several specimens (IS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 2 ♂ (SS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, plain, mixed steppe, 20.VII 2014, 4 ♂, 2 ♀ (SS); the same locality, bottom of balka with wet meadow, 21.VII 2014, 1 ♂ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 3 ♂, 2 larvae (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, piedmont plain, balka, meadow between larches, 8.VII 1978, 1 ♂, 1 ♀, 1 larva (MS); the same locality, upper terrace, meadow with *Caragana* bushes, 8.VII 1978, 1 ♀ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, left side, 15 km S Balgazyn settlement, 50°53'N, 95°12'E, 900–950 m, piedmont plain of E Tannu-Ola Mts., meadow, 9.VII 1978, 5 ♂, 2 ♀, 7 larvae (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1000–1039 m, terraces, steppe and meadow, 9.VII 1978, 1 ♂, (MS); the same locality, 1030–1050 m, southern slope, steppe and meadow, 10.VII 1978, 4 ♂, 2 larvae (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 7 ♂, 2 ♀ (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1106 m, southern slope, mountain steppe, 11.VII 1978, 1 ♂, 1 ♀ (MS); E Tannu-Ola Mts., 7 km W Shuurmak settlement, 50°37'N, 95°14'E, 1400 m, local southern slope, stony steppe, 12.VII 1978, 3 ♂, 1 ♀, 1 larva (MS); E Tannu-Ola Mts., Shuurmak Pass, 50°38'N, 95°11'E, 1492 m, short meadow, 5.VII 2017, some specimens observed (MS); E Tannu-Ola Mts., 13 km NEE Samagaltaj settlement, Kaldak-Khamar (Shuurmak) Pass, 50°38'N, 95°11'E, 1500 m, rangeland, 19.VII 2014, 1 ♂ (SS); the same locality, 1550 m, open larch forest, 19.VII 2014, 2 ♂ (SS); the same locality, 1500 m, 11.VII 2013, 1 larva (M. Prostshalykin, V. Loktionov); Dyttyg-Khem River, 12 km SW Samagaltaj settlement, 50°38' N, 95°19' E, 17.VII 2014, 1 ♂, 1 ♀ (SS); Dyttyg-Khem River, 13 km SW Samagaltaj settlement, 8.VII 2013, 1 ♂ (M. Prostshalykin, V. Loktionov). **Krasnoyarsk Region:** southern part, W Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, some specimens observed (MS); the same locality, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 1 ♀ (MS); the same locality, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, 1 ♂ (MS).

DISTRIBUTION. Tuva: WSW, ET, KHE, UKH, KKH, WTO, ETO, UVS, SAN. – Southern part of European Russia, S Siberia up to Sakha (Yakutia), Amur Region; mountains of S Europe, Moldova, Ukraine, Caucasus, Kazakhstan, Mongolia, NE China.

ECOLOGY. Usually associated with the meadows.

22(44). *Arcyptera (Arcyptera) albogeniculata* Ikonnikov, 1911

Arcyptera fusca albogeniculata: Berezchkov, 1951: 20.

Arcyptera albogeniculata: Bukhvalova, 1993a: 48; Bukhvalova, 2006: 201; Benediktov, 1997: 117.

MATERIAL. **Tuva:** Chaa-Khol River, 51°34'N, 92°23'E, 570–600 m, dry steppes, 18.VII 1962, 1 ♂ (IS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580–582 m, dry meadow, 23–26.VI 2017, a male observed (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°45'N, 94°34'E, 1280–1301 m, terraces, dry meadows, 8.VII 2017, some specimens observed (MS).

DISTRIBUTION. **Tuva:** KHE, UKH, UVS. – Khakassia, S Krasnoyarsk Region, Irkutsk Region, Dauria; Mongolia.

ECOLOGY. Unknown.

Subgenus *Pararcyptera* Serg. Tarbinsky, 1930

***Arcyptera (Pararcyptera) microptera* (Fischer de Waldheim, 1833)**

Arcyptera flavicosta: Miram, 1907: 7.

Pararcyptera microptera microptera: Berezchkov, 1956: 139; Ivanova, 1967: 133.

MATERIAL. **Krasnoyarsk Region:** 10 km NW Minusinsk City, Bystraya settlement (near the mouth of Minusinsk outlet), steppe, 9.VII 2014, 2 ♂, 4 ♀ (SS).

DISTRIBUTION. S Europe, W Siberia, S Krasnoyarsk Region; Caucasus, Kazakhstan, NW Mongolia, NW China.

23(45). *Arcyptera (Pararcyptera) meridionalis* (Ikonnikov, 1911)

Arcyptera microptera sibirica: Berezchkov, 1951: 20.

Pararcyptera microptera auct.: Sergeev *et al.*, 1995: 97–98.

Pararcyptera microptera meridionalis: Benediktov, 1997: 117.

Arcyptera microptera meridionalis: Vedenina & Bukhvalova, 2001: 100.

MATERIAL. **Tuva:** 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 6 ♂, 4 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 2 ♂, 1 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 2 ♂, 3 ♀, 1 larva (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 3 ♂, 4 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 2 ♂, 2 ♀ (MS); Ulug-Khem Intermountain Basin, Elegest River, middle part, 51°22'N, 94°04'E, 695 m, upper terrace, dry steppe, 16.VI 2017, a specimen observed (MS); Kaa (Malyj Yenissei) River, right side, near Boyarovka settlement, 51°32'N, 95°21'E, 703 m, plain, dry steppe, 12.VIII 2018, 1 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°05'E, 1300–1350 m, piedmont plain, stony steppes with *Caragana*, 16.VIII 1985, 5 ♂ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°50'N, 92°05'E, 1637 m, mountain steppes, 19.VIII 1985, 6 ♂ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°04'E, 1336 m, foothills on piedmont plain, stony steppe, 21.VIII 1985, 3 ♂, 7 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°50'N, 92°05'E, 1500–1550 m, piedmont plain, upper part, steppe, 21.VIII 1985, 6 ♂, 4 ♀ (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, 50°45'N, 92°09'E, 1150–1200 m, southern slope and piedmont plain, stony semi-desert with *Nanophyton grubovii*, 24.VIII 1985, 1 ♀ (MS); Uvs-Nuur, 7.VII 2013, 2 ♂ (M. Prostshalykin, V. Loktionov); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°39'N, 94°28'E, 990–995 m, flood-plain and terraces, dry steppes with *Caragana*, 28.VI 1978, 2 ♂ (MS); the same locality, lower terrace, dry steppes and meadows, 18.VII 1978, 2 ♂, 3 ♀; the same locality and habitats, 10.VIII 1978, 1 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N,

94°33'E, 1259 m, piedmont plain, dry steppe with *Caragana*, 8.VII 2017, 2 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N – 50°45'N, 94°33'E – 94°34'E, 1200–1400 m, mountain slopes, piedmont plains, terraces, dry meadows and steppes, often with bushes and stones, 24.VI–12.VIII 1978, >20 specimens, including larvae (T. Myagkaya, A. Lee); Uvs-Nuur Intermountain Basin, Tes River, 50°32'N, 94°31'E, 930–932 m, upper flood-plain, meadows, 13.VII 1978, 3 ♂, 2 ♀ (MS); the same locality, upper flood-plain and terraces, 11.VIII 1978, 2 ♂, 4 ♀ (MS); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 932–934 m, terraces, steppes, 14.VII 1978, 5 ♂, 3 ♀ (MS); Dyttyg-Khem River, 12 km SW Samagaltai settlement, 50°38' N, 95°19' E, 17.VII 2014, 1 ♂, 1 ♀ (SS); Dyttyg-Khem River, 13 km SW Samagaltai settlement, 6–10.VII 2013, 9 ♂ (M. Prostshalykin, V. Loktionov); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 1 ♂, 1 ♀ (SS); Uvs-Nuur Intermountain Basin, near Shara Lake, 50°13'N, 94°32'E, 902–904 m, plain and upper terrace, sands, semi-desert and grassland with *Achnatherum*, 6.VII 2017, 1 ♂, 2 ♀ (MS); 9 km SSE Erzin settlement, 1 larva (M. Prostshalykin, V. Loktionov); 25 km SW Erzin settlement, Tes River, 50°05'N, 95°21'E, 14–15.VII 2014, 4 ♂, 3 ♀ (SS); the same locality, 5.VII 2013, 2 ♂, 1 larva (M. Prostshalykin, V. Loktionov).

REMARKS. This taxon is considered as distinct species, not as subspecies of *Arcyptera microptera* (Storozhenko *et al.*, 2015).

DISTRIBUTION. **Tuva:** KHE, UKH, KKH, WTO, ETO, UVS, SAN. – S Siberia (from Tuva to Dauria and Yakutia), southern part of the Russian Far East; Mongolia, NE China, N Korea.

ECOLOGY. More or less common species in the typical and dry steppes.

Tribe Aulacothrini

Genus *Eremippus* Uvarov, 1926

24(46). *Eremippus mistshenkoi* Stebaev, 1965

Eremippus mistshenkoi: Stebaev, 1965: 53–58; Benediktov, 1997: 117.

Eremippus sp.: Stebaev, 1964: 616.

MATERIAL. **Tuva:** N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 938–973 m, 24.VI 1978, piedmont plain, stony semi-deserts with *Nanophyton grubovii*, 1 larva (IS, MS); NE Uvs-Nuur Intermountain Basin, 18 km SW Khol-Oozhu settlement, piedmont plain, lower part, semi-desert with *Nanophyton grubovii*, 21.VII 1960, 11 larva (IS); NE Uvs-Nuur Intermountain Basin, Khol-Oozhu River, 50°43'N, 94°17'E, 931 m, piedmont plain, lower part, semi-desert with *Nanophyton grubovii*, 30.VI 1978, 1 larva (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, piedmont plain, dry steppe, 2.VIII 1962, 1 ♂ (IS); Uvs-Nuur Intermountain Basin, Dus-Khol, 50°22'N, 94°52'E, 994–995 m, semi-desert with *Nanophyton grubovii*, 24–26.VII 1962, 5 ♂, 12 ♀, 10 larvae (IS); Uvs-Nuur Intermountain Basin, 10 km S Erzin settlement, Tsuger-Els, 50°10'N, 95°11'E, 1154 m, sandy semi-desert with *Thymus* and *Potentilla acaulis*, 23.VII 1978, 1 ♂ (MS).

DISTRIBUTION. **Tuva:** UVS. – E Kazakhstan; NW Mongolia.

ECOLOGY. The species prefers the semi-deserts with *Nanophyton grubovii*.

25(47). *Eremippus simplex* (Eversmann, 1859)

Eremippus simplex: Sergeev, 1985: 49.

REMARKS. The species was mentioned from the north-eastern coast of Uvs-Nuur for the first and last time by Sergeev (1985).

DISTRIBUTION. **Tuva:** UVS. – SE Kazakhstan, W Mongolia, NW China (ssp. *maculatus* Mistshenko, 1951); SE European Russia, Kazakhstan (except the northern part) (nominotypical subspecies); E Kazakhstan (ssp. *rectus* Mistshenko, 1951).

ECOLOGY. Unknown; in Kazakstan, the species occurs in the deserts and semi-deserts.

Tribe Stenobothrini

Genus *Stenobothrus* Fischer, 1853

26(48). *Stenobothrus lineatus* (Panzer, 1796)

Stenobothrus lineatus: Behezhkov, 1956: 91; Ivanova, 1967: 131; Sergeev *et al.*, 1995: 96; Benediktov, 1997: 118.

Stenobothrus (Stenobothrus) lineatus: Sergeev, 1986: 204.

Stenobothrus (Stenobothrus) lineatus lineatus: Storozhenko, 1985: 147; 1986: 299.

MATERIAL. **Tuva:** E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°57'N, 95°33'E, 1945–2005 m, mountain tundra with *Betula* and alpine meadow, 10.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44' N, 95°26' E, 958 m, upper terrace, steppe, 11.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 2 ♀ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, bottom of balka with wet meadow, 20.VII 2014, 5 ♂, 1 ♀ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 1 ♂ (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, piedmont plain, balka, meadow between larches, 8.VII 1978, 1 ♂, 1 larva (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1030–1050 m, southern slope, steppe and meadow, 10.VII 1978, 5 ♂ (MS); E Tannu-Ola Mts., Shuurmak Pass, 50°37'N, 95°11'E, 1495 m, southern slope and upper terrace, mountain steppe, 12.VII 1978, 1 ♂ (MS). **Krasnoyarsk Region:** southern part, W Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, 3 ♂ (MS); the same locality, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 1 ♀ (MS).

DISTRIBUTION. **Tuva:** ET, KKH, ETO. – Europe (except the northern part), S Siberia up to Sakha (Yakutia); Caucasus, N Kazakhstan, N Mongolia (nominotypical subspecies); Russian Far East, Dauria (ssp. *flavotobialis* Storozhenko, 1985).

ECOLOGY. Usually associated with the grass meadows.

27(49). *Stenobothrus fischeri* (Eversmann, 1848)

Stenobothrus fischeri: Berezhevskiy, 1951: 18; Berezhevskiy, 1956: 92; Sergeev *et al.*, 1995: 96; Benediktov, 1997: 117.

Stenobothrus (Stenobothrus) fischeri: Sergeev, 1986: 204.

MATERIAL. **Tuva:** 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 11 ♂, 4 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, upper terrace, dry meadow, 17.VI 2017, 1 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 2 ♂, 29 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 1 ♂ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 1 ♂, 22 ♀ (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 1 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 3 ♂ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, plain, mixed steppe, 20.VII 2014, 8 ♂, 4 ♀ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 5 ♂, 4 ♀ (MS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1300 m, northern slope, balka with *Caragana*, 18.VII 2014, 1 ♂, 2 ♀ (SS). **Krasnoyarsk Region:** southern part, West Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, 3 ♂, 5 ♀ (MS).

DISTRIBUTION. **Tuva:** UKH, KKH, SAN. – S Europe, S Siberia (up to Tuva); Asia Minor, Caucasus, Kazakhstan, mountain of Middle Asia, Mongolia (nominotypical subspecies); Spain (ssp. *glaucescens* I. Bolívar, 1897).

ECOLOGY. Typical steppe species.

***28(50). *Stenobothrus nigromaculatus* (Herrich-Schäffer, 1840)**

Stenobothrus nigromaculatus: Miram, 1907: 4; Ivanova, 1967: 131.

Stenobothrus (Stenobothrus) nigromaculatus: Sergeev, 1986: 204; Vedenina & Bukhvalova, 2001: 100; Tishechkin & Bukhvalova, 2009: 29.

Stenobothrus nigromaculatus nigromaculatus: Berezchkov, 1956: 89.

MATERIAL. **Tuva:** Ulug-Khem Intermountain Basin, Elegest River, middle part, 51°22'N, 94°04'E, 695 m, upper terrace, dry steppe, 16.VI 2017, some specimen observed (MS).

DISTRIBUTION. **Tuva:** UKH. – S Europe, S Siberia; Asia Minor, Caucasus, Kazakhstan, Tien Shan (nominotypical subspecies); Georgia (ssp. *transcaucasicus* Ramme, 1933).

ECOLOGY. Typical steppe species.

***29(51). *Stenobothrus carbonarius* (Eversmann, 1848)**

Stenobothrus (Stenobothrodes) carbonarius: Sergeev, 1986: 204.

MATERIAL. **Tuva:** SE Ulug-Khem Intermountain Basin, Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1030–1050 m, southern slope, steppe and meadow, 10.VII 1978, 2 ♀ (MS); E Tannu-Ola Mts., Shuurmak Pass, 50°37'N, 95°11'E, 1495 m, southern slope and upper terrace, mountain steppe, 12.VII 1978, 1 ♀ (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace, steppes, 23.VII 1978, 1 ♀ (MS).

DISTRIBUTION. **Tuva:** KKH, ETO, UVS. – SE European Russia, S Siberia (up to Buryatia); Kazakhstan.

ECOLOGY. As a rule, in the dry steppes; very rare.

30(52). *Stenobothrus newskii* Zubovsky, 1900

Stenobothrus newskii: Sergeev, 1991: 121; Sergeev *et al.*, 1995: 98; Benediktov, 1997: 117.

Stenobothrus newskii: Berezchkov, 1956: 93.

Stenobothrus (Stenobothrodes) newskii: Sergeev, 1986: 204.

MATERIAL. **Tuva:** W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°52'N, 92°04'E, 2060 m, alpine steppe and meadow, 19–20.VIII 1985, 3 ♂ (MS, A. Bugrov); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, some specimens observed (MS).

DISTRIBUTION. **Tuva:** WTO. – Altay Mts. (including S Altay); NW Mongolia.

ECOLOGY. Usually associated with alpine meadows. Males stridulate during flights.

31(53). *Stenobothrus eurasius* Zubovsky, 1898

Stenobothrus eurasius: Berezchkov, 1951: 17–18; Ivanova, 1967: 131; Sergeev *et al.*, 1995: 96–98; Benediktov, 1997: 117; Kazakova & Sergeev, 1997: 317; Bukhvalova & Vedenina, 1998: 115.

Stenobothrus (Stenobothrodes) eurasius: Sergeev, 1986: 204.

Stenobothrus eurasius eurasius: Berezchkov, 1956: 93.

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°27'E, 1079–1085 m, southern slope, stony semi-desert, 13.VIII 2016, 2 ♂, 2 ♀ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII

2018, 4 ♂, 6 ♀ (MS); Todzha Lake, Bij River, steppe, 9.VII 2004, 1 ♂ (M. Zasyrkina); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 4 ♂, 2 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 7 ♂, 11 ♀ (MS); Chaa-Khol River, 51°34'N, 92°23'E, 570–600 m, dry steppes, 14–18.VII 1962, 1 ♂, 2 ♀ (IS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 7 ♂, 5 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, upper terrace, dry meadow, 17.VI 2017, 1 ♂ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 37 ♂, 45 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 31 ♂, 8 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580–582 m, dry meadow, 23–26.VI 2017, 1 ♂ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 21 ♂, 23 ♀ (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 12 ♂, 8 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 14 ♂, 16 ♀ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°09'E, 630–830 m, mountain slopes and piedmont plain, semi-deserts *Nanophyton grubovi*, 19.VII 1995, 1 ♂ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°08'E, 608 m, upper terrace, semi-deserts *Nanophyton grubovi*, 20.VII 1995, 2 ♀ (MS); Kaa (Malyj Yenissey) River, right side, near Boyarovka settlement, 51°32'N, 95°21'E, 703 m, plain, dry steppe, 12.VIII 2018, 4 ♂, 10 ♀ (MS); Ulug-Khem Intermountain Basin, 8 km N Cheder Lake, 51°32'N, 95°21'E, 750–760 m, steppes, 12.VIII 1962, 1 ♀ (IS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 3 ♂, 3 ♀ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1030–1050 m, southern slope, steppe and meadow, 10.VII 1978, 19 ♂, 9 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°05'E, 1300–1350 m, piedmont plain, stony steppes with *Caragana*, 16.VIII 1985, 4 ♂ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 8 ♂, 7 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°50'N, 92°05'E, 1637 m, mountain steppes, 19.VIII 1985, 19 ♂, 16 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°05'E, 1200–1250 m, piedmont plain, lower part, stony steppes with *Caragana* and dry meadow, 21.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°50'N, 92°05'E, 1500–1550 m, piedmont plain, upper part, steppe, 21.VIII 1985, 2 ♂ (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, 50°45'N, 92°09'E, 1150–1200 m, southern slope and piedmont plain, stony semi-desert with *Nanophyton grubovii*, 24.VIII 1985, 2 ♀ (MS); E Tannu-Ola Mts., Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1041 m, southern slope and piedmont plain, mountain steppe and grazed meadow, 10.VII 1978, 1 ♂, 2 larvae (MS); E Tannu-Ola Mts., Shuurmak Pass, 50°38'N, 95°11'E, 1492 m, short meadow, 5.VII 2017, 1 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°39'N, 94°28'E, 990–995 m, terraces, dry steppes with *Caragana*, 18.VII 1978, 2 ♂, 1 ♀ (MS); the same locality, upper terrace, dry meadow, 10.VIII 1978, 1 ♂ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1200–1300 m, southern slopes and piedmont plain, steppes with *Caragana*, 24.VII 2003, 1 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°45'N, 94°34'E, 1280–1301 m, terraces, dry meadows, 8.VII 2017, some specimens observed (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1259 m, piedmont plain, dry steppe with *Caragana*, 8.VII 2017, 1 ♂, 5 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N – 50°45'N, 94°33'E – 94°34'E, 1200–1400 m, mountain slopes, piedmont plains, terraces, dry meadows and steppes, often with bushes and stones, 24.VI–12.VIII 1978, >20 specimens, including larvae (T. Myagkaya, A. Lee); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 932–934 m, terraces, steppes, 14.VII 1978, 1 ♂ (MS); Dyttyg-Khem River, 12 km SW Samagaltai settlement, 50°38' N, 95°19' E, 17.VII 2014, 1 ♂, 2 ♀ (SS); Dyttyg-Khem River, 13 km SW Samagaltai settlement, 9.VII 2013, 2 ♂ (M. Prostshalykin, V. Loktionov); 7 km SW Erzin settlement, Tes River, 50°12'N, 95°08'E, steppe, 13.VII 2014, 1 ♂, 1 ♀ (SS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace, steppes, 23.VII 1978, 2 ♂, 1 ♀ (MS); 9 km SSE Erzin settle-

ment, 3.VII 2013 1 ♀ (M. Prostshalykin, V. Loktionov); Uvs-Nuur Intermountain Basin, 10 km S Erzin settlement, Tsuger-Els, 50°10'N, 95°11'E, 1154 m, sandy semi-desert, 23.VII 1978, 1 ♀ (MS); 25 km SW Erzin settlement, Tes River, 50°05'N, 95°21'E, steppe, 11–12.VII 2014, 5 ♂, 4 ♀ (SS); 25 km SSW Erzin settlement, Tore Lake, 50°02'N, 95°03'E, 1150 m, sands, grasses and *Caragana*, 11–12.VII 2014, 7 ♂, 4 ♀ (SS); Tore Lake, 50°06'N, 95°06'E, 1100 m, coast, steppe, 12.VII 2014, 2 ♂, 3 ♀ (SS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°01'N, 95°04'E, 1154–1166 m, sand semi-desert and upper terraces with birch forest, 07.VII 2017, 3 ♂, 3 ♀ (MS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°02'N, 95°03'E, 1152 m, flood-plain, meadow, 7.VII 2017, 1 ♂ (MS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°05'N, 95°09'E, 1174 m, sandy semi-desert with *Caragana bungei*, 7.VII 2017, 7 ♂, 6 ♀ (MS); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 5 ♂, 3 ♀ (SS). **Krasnoyarsk Region:** southern part, West Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, 13 ♂, 5 ♀ (MS).

DISTRIBUTION. Tuva: WSW, WSE, ET, KHE, UKH, KKH, WTO, ETO, UVS, SAN. – SE European Russia, S Siberia; N Kazakhstan, Tien Shan, N Mongolia (nominotypical subspecies).

ECOLOGY. Widely distributed in Tuva, very common in the grass steppes.

Genus *Omocestus* I. Bolivar, 1878

32(54). *Omocestus viridulus* (Linnaeus, 1758)

Stenobothrus viridulus: Miram, 1907: 4.

Omocestus viridulus: Berezikov, 1951: 18; Berezikov, 1956: 94; Ivanova, 1967: 131; Sergeev, 1986: 204; Benediktov, 1997: 117; Pavlov, 2004: 65; Tishechkin & Bukhvalova, 2009: 27.

MATERIAL. Tuva: W Sayan Mts., Kurtushibinskij Range, 52°16' N, 93°41' E, 1429 m, alpine meadows, 13.VIII 2018, 1 ♂, 3 ♀ (MS); Todzha Lake, Ij River, opening of pine forest, 13.VII 2004, 1 ♂ (M. Zasyapkina); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°57'N, 95°33'E, 1945 m, alpine meadow, 10.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°56'N, 95°30'E, 1737–1869 m, southern slope, terraces, flood-plains, meadows, 9–10.VIII 2018, 2 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°55' N, 95°2' E, 1432 m, terraces and flood-plain, meadows, 10.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°52'N, 95°26'E, 1230 m, terrace, meadow, 10.VIII 2018, 4 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°50'N, 95°25'E, 1132–1135 m, terrace and flood-plains, meadows, 11.VIII 2018, 1 ♂, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44' N, 95°26' E, 958 m, upper terrace, steppe, 11.VIII 2018, 1 ♂, 1 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 12 ♂, 6 ♀ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, bottom of balka with wet meadow, 21.VII 2014, 1 ♂ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°15'E, 886 m, upper flood-plain and lower terrace, meadow, 8.VII 1978, 12 ♂, 1 ♀, 6 larvae (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, left side, 15 km S Balgazyn settlement, 50°53'N, 95°12'E, 900–950 m, piedmont plain of E Tannu-Ola Mts., meadow, 9.VII 1978, 2 ♂, 1 ♀ (MS); Shuurmak River near Shuurmak settlement, 50°38'N, 95°19'E, mixed meadow (cutted), 19.VII 2014, 4 ♂, 13 ♀ (SS); E Tannu-Ola Mts., Khol-Oozhu River, near Kara-Kol, 50°59'N, 94°21'E, 2100–2200 m, alpine steppe, 6.VIII 1978, 2 ♂, 1 ♀, 1 larva (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, flood-plain and terraces, steppe and short meadow between shrubs and *Larix* trees, 28.VI 1978, 1 larva (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1086 m, upper flood-plain and lower terrace, wet meadow, 11.VII 1978, 2 ♂, 4 larvae (MS); E Tannu-Ola Mts., Shuurmak River, near Shuurmak settlement, 1170 m, 12.VII 2013, 1 ♂, 1 ♀ (M. Prostshalykin, V. Loktionov); E Tannu-Ola Mts., Shuurmak Pass, 50°37'N, 95°11'E, 1495 m, flood-plain, meadow with *Salix* bushes, 12.VII 1978, 1 ♂ (MS); E Tannu-Ola Mts.,

Shuurmak Pass, 50°38'N, 95°11'E, 1492 m, short meadow, 5.VII 2017, 1 ♂, 1 ♀ (MS); E Tannu-Ola Mts., 13 km NEE Samagal'taj settlement, Kaldak-Khamar (Shuurmak) Pass, 50°38'N, 95°11'E, 1550 m, open larch forest, 19.VII 2014 m, 3 ♂, 3 ♀ (SS); the same locality, 1500 m, 11.VII 2013, 1 ♂ (M. Prostshalykin, V. Loktionov); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, flood-plains, meadows, 21.VII 1978, 1 ♀, 1 larvae (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace, meadows, 23.VII 1978, 2 ♂, 1 ♀, 1 larva (MS). **Krasnoyarsk Region:** southern part, W Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, 1 larva (MS); the same locality, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, 5 ♂, 7 ♀ (MS).

DISTRIBUTION. Tuva: WSE, ET, KHE, UKH, KKH, ETO, UVS, SAN. – Europe (except the extreme North), S Siberia, Amur Region, S Khabarovsk Region; Asia Minor, Caucasus, Kazakhstan, Tien Shan, N China, Mongolia, N Korea.

ECOLOGY. Usually inhabits the wet meadows.

33(55). *Omocestus haemorrhoidalis* (Charpentier, 1825)

Stenobothrus haemorrhoidalis: Miram, 1907: 4.

Omocestus haemorrhoidalis: Berezikov, 1951: 18; Ivanova, 1967: 131; Sergeev, 1986: 205; Sergeev et al., 1995: 96–98; Benediktov, 1997: 117; Pavlov, 2004: 65; Bukhvalova, 2006: 201.

Omocestus haemorrhoidalis haemorrhoidalis: Berezikov, 1956: 96.

MATERIAL. Tuva: W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 810 m, lower terrace and upper flood-plain, meadows, 13.VIII 2016, 1 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°30'N, 90°12'E, 1250–1252 m, lower terrace and upper flood-plain, meadows, pebbles, 14.VIII 2016, 38 ♂, 15 ♀, 1 larva (MS); W Sayan Mts., Kurtushibinskij Range, 52°16' N, 93°41' E, 1429 m, alpine meadows, 13.VIII 2018, 2 ♂, 1 ♀ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII 2018, 1 ♂, 2 ♀ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 829 m, terrace, meadow, 12.VIII 2018, 12 ♂, 19 ♀, 1 larva (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°50'N, 95°25'E, 1132–1135 m, terrace and flood-plains, meadows, 11.VIII 2018, 6 ♂, 9 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44' N, 95°26' E, 958 m, upper terrace, steppe, 11.VIII 2018, 13 ♂, 5 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 1 ♂, 3 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 17 ♂, 26 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 781–784 m, lower terrace and flood-plain, meadow, 11.VIII 2018, 11 ♂, 5 ♀ (MS); 16 km N Boyarovka settlement, 15.VII 2013, 3 ♀ (M. Prostshalykin, V. Loktionov); Chaa-Khol River, 51°34'N, 92°23'E, 570–600 m, dry steppe, 16.VII 1962, 1 ♂, 2 larvae (IS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 27 ♂, 24 ♀, 37 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, upper terrace, dry meadow, 17.VI 2017, 2 ♂, 1 ♀, 13 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 3 ♂, 1 larva (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 37 ♂, 21 ♀, 31 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580–582 m, dry meadow, 23–26.VI 2017, 18 ♂, 6 ♀, 5 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 3 ♂, 8 larvae (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 3 ♂, 5 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°36'N, 94°09'E, 600–605 m, lower terrace, steppe, 7.VIII 1978, 1 ♀ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 1 ♂, 1 ♀ (MS); Ulug-Khem Intermountain Basin, 8 km N Cheder Lake, 51°32'N, 95°21'E, 750–760 m, steppes,

12.VIII 1962, 1 ♂, 1 ♀ (IS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, slope of balka with steppe, 20.VII 2014, 1 ♂, 1 ♀ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 1 ♂, 1 ♀, 4 larvae (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, piedmont plain, balka, meadow between larches, 8.VII 1978, 1 larva (MS); the same locality, upper terrace, meadow with *Caragana* bushes, 8.VII 1978, 24 ♂, 23 ♀, 6 larvae (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°15'E, 886 m, lower terrace, meadow, 8.VII 1978, 1 ♀ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1000–1039 m, terraces, steppe and meadow, 9.VII 1978, 189 ♂, 159 ♀, 314 larva (MS); the same locality; 1030–1050 m, southern slope, steppe and meadow, 10.VII 1978, 16 ♂, 3 ♀, 13 larvae (MS); the same locality, 1006 m, upper flood-plain, overgrazed meadow, 10.VII 1978, 2 ♂, 4 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, lower part, low terrace and flood-plain of stream, ruderal vegetation and meadow, 16.VIII 1985, 19 ♂, 10 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 7 ♂, 5 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°03'E, 1193 m, piedmont plain, lower terrace of stream, meadow, 21.VIII 1985, 2 ♂, 1 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°05'E, 1200–1250 m, piedmont plain, lower part, stony steppes with *Caragana* and dry meadow, 21.VIII 1985, 118 ♂, 74 ♀, 6 larvae (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, Mugar River, 50°44'N, 92°08'E, 1100–1150 m, low terrace and upper flood-plain, meadows, 24.VIII 1978, 58 ♂, 80 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, middle part, lower terrace of stream, 25.VIII 1985, 3 ♂, 4 ♀, 4 larvae (MS); W Tannu-Ola Mts., 5 km W Torgalyg settlement, Khandybai Mt., near timber-line, meadows, 23.VI 1962, 2 larvae (IS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, upper terrace, steppe and short meadow with *Caragana*, 17.VII 1978, 14 ♂, 2 ♀, 3 larvae (MS); the same locality, lower terrace, steppe and short meadow between shrubs and *Larix* trees, 17.VII 1978, 7 ♂, 1 ♀ (MS); the same locality, upper flood-plain, meadow, 17.VII 1978, 1 ♂ (MS); the same locality, southern slope and upper terrace, stony steppes, 17.VII 1978, 3 ♂, 1 ♀, 2 larvae (MS); the same locality, upper terrace, short meadow and steppe, 12.VIII 1978 15 ♂, 9 ♀ (MS); the same locality, lower terrace, steppe, 12.VIII 1978 10 ♂, 5 ♀ (MS); E Tannu-Ola Mts., Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1041 m, southern slope and piedmont plain, mountain steppe and grazed meadow, 10.VII 1978, 28 ♂, 9 ♀, 36 larvae (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°41'N, 95°19'E, 1173 m, local southern slope and piedmont plain, steppe, 10.VII 1978, 1 ♂, 3 larvae (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1106 m, southern slope, mountain steppe, 11.VII 1978, 12 ♂, 5 ♀, 8 larvae (MS); Shuurmak River near Shuurmak settlement, 50°38'N, 95°19'E, mixed meadow (cutted), 19.VII 2014, 1 ♂ (SS); E Tannu-Ola Mts., Shuurmak Pass, 50°37'N, 95°11'E, 1495 m, southern slope and upper terrace, mountain steppe, 12.VII 1978, 12 ♂, 197 larvae (MS); the same locality, flood-plain, meadow with *Salix* bushes, 12.VII 1978, 16 ♂, 9 ♀, 5 larvae (MS); E Tannu-Ola Mts., Shuurmak Pass, 50°38'N, 95°11'E, 1492 m, short meadow, 5.VII 2017, 5 ♂, 3 ♀, 10 larvae (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°45'N, 93°09'E, 1030–1040 m, 29.VII 1978, upper terrace, dry meadow, 1 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 984 m, 29.VII 1978, flood-plains, meadows, 1 larva (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°45'N, 94°34'E, 1280–1301 m, terraces, dry meadows, 8.VII 2017, some specimens observed (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, upper flood-plain, meadows, 21.VII 1978, 2 ♂ (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace, meadows, 23.VII 1978, 9 ♂, 5 ♀, 1 larva (MS); 25 km SW Erzin settlement, Tes River, 50°05'N, 95°21'E, 14–15.VII 2014, 1 ♀ (SS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°01'N, 95°04'E, 1154–1166 m, 07.VII 2017, sand semi-desert and upper terraces with birch forest, 3 ♂ (MS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°02'N, 95°03'E, 1152 m, flood-plain, meadow, 07.VII 2017, 2 ♂, 1 ♀ (MS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1100–1300 m, 18.VII 2014, 11 ♂, 12 ♀ (SS); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 9 ♂, 7 ♀ (SS). **Krasnoyarsk Region:** southern part, W Sayan Mts., Us Intermountain Basin, near

abandoned Idzhim settlement, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, 2 ♂, 8 larvae (MS); the same locality, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, 1 ♂ (MS); the same locality, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 10 ♂, 14 ♀, 1 larva (MS).

DISTRIBUTION. **Tuva:** WSW, WSE, ET, KHE, UKH, KKH, MT, WTO, WTO, UVS, SAN. – Europe (except the extreme North), Siberia (except the extreme North), S Russian Far East; Asia Minor, Caucasus, Kazakhstan, Tien Shan, Pamiro-Alay, Mongolia, N China, Korea.

ECOLOGY. Very common species in the dry meadows and steppes, especially overgrazed.

***34(56). *Omocestus petraeus* (Brisout de Barneville, 1882)**

Stenobothrus petraeus: Miram, 1907: 5.

Omocestus petraeus: Berezchkov, 1956: 97; Ivanova, 1967: 131; Sergeev, 1986: 205.

MATERIAL. **Tuva:** 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 1 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 1 ♂, 2 ♀, 2 larvae (MS).

DISTRIBUTION. **Tuva:** UKH. – S Europe, S Siberia (up to S Krasnoyarsk Region); Asia Minor, Caucasus, N Kazakhstan.

ECOLOGY. Very rare in the dry steppes and semi-deserts.

Genus *Myrmeleotettix* I. Bolívar, 1914

35(57). *Myrmeleotettix palpalis* (Zubovskiy, 1900)

Omocestus (Myrmeleotettix) palpalis: Berezchkov, 1951: 18.

Myrmeleotettix palpalis: Berezchkov, 1956: 98; Ivanova, 1967: 131; Sergeev, 1986: 205; Sergeev *et al.*, 1995: 96–98; Benediktov, 1997: 117; Pavlov, 2004: 65; Tishechkin & Bukhvalova, 2009: 27.

Myrmeleotettix pallasi (sic !): Kazakova & Sergeev, 1993: 73.

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°27'E, 1079–1085 m, southern slope, stony semi-desert, 13.VIII 2016, 3 ♂, 16 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°31'N, 90°12'E, 1275 m, southern slope, steppe, 14.VIII 2016, 4 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°30'N, 90°12'E, 1250–1252 m, lower terrace and upper flood-plain, meadows, pebbles, 14.VIII 2016, 1 ♂, 19 ♀ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII 2018, 4 ♀ (MS); Chaa-Khol River, 51°34'N, 92°23'E, 570–600 m, dry steppes, 14–18.VII 1962, 24 ♂, 49 ♀, 9 larvae (IS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 4 ♂, 1 ♀, 7 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 54 ♂, 8 ♀, 46 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 26 ♂, 5 ♀, 15 larvae (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 6 ♂, 10 ♀ (SS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°09'E, 650–700 m, piedmont plain and upper terraces, dry steppes and semi-desert, 6.VII 1978, 16 ♂, 9 ♀, 16 larvae (MS); 25 km SW Kyzyl City, Ulug River, 51°36'N, 94°09'E, 600–605 m, upper terrace, dry steppe, 7.VIII 1978, 3 ♂, 2 ♀, 6 larvae (MS); 25 km SW Kyzyl City, Ulug River, 51°36'N, 94°09'E, 600–605 m, lower terrace, steppe, 7.VIII 1978, 12 ♂, 11 ♀, 3 larvae (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°09'E, 630–830 m, mountain slopes and piedmont plain, semi-deserts *Nanophyton grubovi*, 19.VII 1995, 21 ♂, 11 ♀ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°08'E, 608 m, upper

terrace, semi-deserts *Nanophyton grubovi*, 20.VII 1995, 3 ♂, 1 ♀ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°36'N, 94°09'E, 600–605 m, lower terrace and upper flood-plain, meadows, 20.VII 1995, 1 ♂ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 24 ♂, 22 ♀, 2 larvae (MS); Ulug-Khem Intermountain Basin, 8 km N Cheder Lake, 51°32'N, 95°21'E, 750–760 m, steppes, 12.VIII 1962, 3 ♀ (IS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, southeastern slope, stony steppe, 8.VII 1978, 10 ♂, 13 ♀, 12 larvae (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, upper terrace, meadow with *Caragana* bushes, 8.VII 1978, 19 ♂, 24 ♀ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, 25 km S Balgazyn settlement, near Kuran settlement, 50°47'N, 95°17'E, 1030–1050 m, southern slope, steppe and meadow, 10.VII 1978, 18 ♂, 22 ♀, 7 larvae (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°05'E, 1300–1350 m, piedmont plain, stony steppes with *Caragana*, 16.VIII 1985, 22 ♂, 32 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, Mugur River, 50°46'N, 92°04'E, 1170 m, marsh, wet meadow with bushes, 17.VIII 1985, ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, stony steppes with *Caragana*, 18.VIII 1985, 7 ♂, 4 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 3 ♂, 8 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°50'N, 92°05'E, 1637 m, mountain steppes, 19.VIII 1985, 5 ♂, 7 ♀ (MS); W Tannu-Ola Mts., NW Khandagajty settlement, near Solchur settlement, 50°46'N, 92°01'E, 1150–1200 m, agricultural fields including abandoned and plots along canal and roads, 21.VIII 1978, 6♂, 12 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°03'E, 1193 m, piedmont plain, lower terrace of stream, meadow, 21.VIII 1985, 4 ♂, 6 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°05'E, 1200–1250 m, piedmont plain, lower part, stony steppes with *Caragana* and dry meadow, 21.VIII 1985, 16 ♂, 31 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°04'E, 1336 m, foothills on piedmont plain, stony steppe, 21.VIII 1985, 2 ♂, 3 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°50'N, 92°05'E, 1500–1550 m, piedmont plain, upper part, steppe, 21.VIII 1985, 7 ♂, 11 ♀ (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, 50°45'N, 92°09'E, 1150–1200 m, southern slope and piedmont plain, stony semi-desert with *Nanophyton grubovii*, 24.VIII 1985, 4 ♂, 11 ♀ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°44'N, 92°09'E, 1140 m, northern slope, stony semi-desert, 24.VIII 1985, 1 ♂, 2 ♀ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°43'N, 92°04'E, 1170–1200 m, piedmont plain, desert with *Nanophyton grubovii*, 24.VIII 1985, 1 ♂, 3 ♀ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°43'N, 92°03'E, 1200–1250 m, piedmont plain and northern slope, semi-desert with *Caragana* bushes, 24.VIII 1985, 1 ♀ (MS); W Tannu-Ola Mts., 5 km W Torgalyg settlement, Khandybai Mt., mountain steppe, 23.VI 1962, 1 larva (IS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, flood-plain and terraces, steppe and short meadow between shrubs and *Larix* trees, 28.VI 1978, 42 ♂, 13 ♀, 366 larvae (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, lower terrace, steppe and short meadow between shrubs and *Larix* trees, 17.VII 1978, 3 ♂, 2 ♀ (MS); the same locality and habitat, 12.VIII 1978, 1 ♂, 7 ♀ (MS); the same locality, upper terrace, steppe, 12.VIII 1978, 31 ♂, 96 ♀ (MS); the same locality, upper flood-plain, meadow, 12.VIII 1978, 1 ♂ (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, upper terrace, steppe and short meadow with *Caragana*, 17.VII 1978, 57 ♂, 148 ♀, 29 larvae (MS); the same locality, southern slope and upper terrace, stony steppes, 17.VII 1978, 54 ♂, 133 ♀, 40 larvae (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°41'N, 95°19'E, 1173 m, local southern slope and piedmont plain, steppe, 10.VII 1978, 14 ♂, 13 ♀ (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1106 m, southern slope, mountain steppe, 11.VII 1978, 54 ♂, 76 ♀, 1 larva (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1086 m, lower terrace, meadow, 11.VII 1978, 1 ♂ (MS); E Tannu-Ola Mts., Shuurmak Pass, 50°37'N, 95°11'E, 1495 m, southern slope and upper terrace, mountain steppe, 12.VII 1978, 116 ♂, 104 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 938–973 m, piedmont plain, stony semi-deserts with *Nanophyton grubovii*, 24.VI 1978, 27 larvae (IS, MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°45'N, 93°09'E, 1030–1040 m, terraces, dry meadows and steppes, 29.VII 1978, 6 ♂, 7 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 984 m, upper terrace, stony semi-desert,

29.VII 1978, 8 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 938 m, lower terrace and flood-plains, steppe, 30.VII 1978, 8 ♂, 25 ♀, 2 larvae (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 938 m, upper terrace and piedmont plain, semi-desert with *Nanophyton grubovii*, 30.VII 1978, 12 ♂, 26 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 973 m, piedmont plain, upper part, semi-desert with *Nanophyton grubovii*, 30.VII 1978, 5 ♂, 3 ♀ (MS); N Uvs-Nuur Intermountain Basin, 50 km E Amdaygyn-Khol, semi-desert with *Nanophyton grubovii*, 26.VII 1962, 6 ♂, 4 ♀ (IS); N Uvs-Nuur Intermountain Basin, 40 km E Amdaygyn-Khol, semi-desert with *Nanophyton grubovii*, 26.VII 1962, 2 ♀ (IS); N Uvs-Nuur Intermountain Basin, Amdaygyn-Khol, 50°42'N, 93°16'E, 783 m, meadow, 27.VII 1962, several specimens (IS); NE Uvs-Nuur Intermountain Basin, Khol-Oozhu River, 50°43'N, 94°17'E, 931 m, piedmont plain, lower part, semi-desert with *Nanophyton grubovii*, 30.VI 1978, some specimens observed (MS); NE Uvs-Nuur Intermountain Basin, Khol-Oozhu River, 50°43'N, 94°17'E, 930 m, upper flood-plain, meadow, 16.VII 1978, 1 ♂ (MS); NE Uvs-Nuur Intermountain Basin, Khol-Oozhu River, 50°43'N, 94°17'E, 930 m, piedmont plain, lower part, semi-desert with *Nanophyton grubovii*, 16.VII 1978, 8 ♂, 3 ♀, 8 larvae (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°39'N, 94°28'E, 990–995 m, flood-plain and terraces, dry steppes with *Caragana*, 28.VI 1978, 32 larvae (MS); the same locality and habitats, 18.VII 1978, 62 ♂, 42 ♀, 46 larvae (MS); the same locality and habitats, 10.VIII 1978, 13 ♂, 21 ♀, 1 larva (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1215 m, lower terrace, dry steppe, 15.VII 1978, 8 ♂, 9 ♀, 6 larvae (MS); the same locality and habitats, 11.VIII 1978, 3 ♂, 11 ♀ (MS); the same locality, 1200–1300 m, lower terrace, meadow 15.VII 1978, 1 ♀, 1 larva (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1200–1300 m, southern slopes and piedmont plain, steppes with *Caragana*, 24.VII 2003, 5 ♂, 3 ♀, 6 larvae (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°45'N, 94°34'E, 1280–1301 m, terraces, dry meadows, 8.VII 2017, some specimens observed (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1259 m, piedmont plain, dry steppe with *Caragana*, 8.VII 2017, 22 ♂, 14 ♀, 3 larvae (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N – 50°45'N, 94°33'E – 94°34'E, 1200–1650 m, mountain slopes, piedmont plains, terraces, dry meadows and steppes, often with bushes and stones, 24.VI–12.VIII 1978, >200 specimens, including larvae (MS, T. Myagkaya, A. Lee); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 932–934 m, upper flood-plain and terraces, dry meadows and steppes, 27.VI 1978, 31 ♂, 1 ♀, 178 larvae (MS); Uvs-Nuur Intermountain Basin, Tes River, 50°32'N, 94°31'E, 930–932 m, upper flood-plain, meadows, 13.VII 1978, 17 ♂, 12 ♀, 9 larvae (MS); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 932–934 m, terraces, steppes, 14.VII 1978, 45 ♂, 45 ♀, 38 larvae (MS); Uvs-Nuur Intermountain Basin, Tes River, 50°32'N, 94°31'E, 930–932 m, upper flood-plain and terraces, 11.VIII 1978, 10 ♂, 23 ♀ (MS); Dyttyg-Khem River, 12 km SW Samagaltai settlement, 50°38'N, 95°19'E, 17.VII 2014, 3 ♂, 5 ♀ (SS); Dyttyg-Khem River, 13 km SW Samagaltai settlement, 9.VII 2013, 1 ♀ (M. Prostshalykin, V. Loktionov); Uvs-Nuur Intermountain Basin, Dus-Khol, 50°22'N, 94°52'E, 994–995 m, semi-desert with *Nanophyton grubovii*, 24–26.VII 1962, 7 ♂, 11 ♀ (IS); Uvs-Nuur Intermountain Basin, Dus-Khol, 50°23'N, 94°52'E, solonchak, 13.VII 2014, 3 ♂, 3 ♀ (SS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace and upper flood-plains, dry meadows and steppes, 22.VII 1978, 1 ♂, 3 ♀ (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace, steppes, 23.VII 1978, 7 ♂, 17 ♀, 2 larvae (MS); 7 km SW Erzin settlement, Tes River, 50°12'N, 95°08'E, steppe, 13.VII 2014, 5 ♂, 3 ♀ (SS); Uvs-Nuur Intermountain Basin, 10 km S Erzin settlement, Tsuger-Els, 50°10'N, 95°11'E, 1154 m, sandy semi-desert, 23.VII 1978, 1 ♂, 5 ♀, 1 larva (MS); Uvs-Nuur Intermountain Basin, E Shara-Nuur, Yamalyg farwell rocks, 50°14'N, 94°45'E, 1150 m, piedmont plain, dry steppe, 6.VII 2017, some specimens observed (MS); Uvs-Nuur Intermountain Basin, near Shara Lake, 50°13'N, 94°32'E, 902–904 m, plain and upper terrace, sands, semi-desert and grassland with *Achnatherum*, 6.VII 2017, 1 ♂ (MS); Uvs-Nuur Intermountain Basin, near Shara Lake, 50°14'N, 94°31'E, 894 m, flood-plains of lake and small stream, short meadows with halophytes, 6.VII 2017, 1 ♂ (MS); 25 km SW Erzin settlement, Tes River, 50°05'N, 95°21'E, 14–15.VII 2014, 1 ♀ (SS); 25 km SSW Erzin settlement, Tore Lake, 50°02'N, 95°03'E, 1150 m, sands, grasses and *Caragana*, 11–12.VII 2014, 12 ♂, 14 ♀ (SS); Tore Lake, 50°06'N, 95°06'E, 1100 m, coast, steppe, 12.VII 2014, 6 ♂, 6 ♀ (SS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°01'N, 95°04'E, 1154–1166 m, 07.VII 2017, sand semi-desert

and upper terraces with birch forest, 2 ♂ (MS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°05'N, 95°09'E, 1174 m, sandy semi-desert with *Caragana bungei*, 7.VII 2017, 6 ♂, 1 ♀, 1 larva (MS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1300 m, northern slope, balka with *Caragana*, 18.VII 2014, 1 ♂, 2 ♀ (SS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1100 m, flood-plain, meadow near cliff, 18.VII 2014, 2 ♂, 1 ♀ (SS); 34 km NEE Erzin settlement, Erzin River, 50°22'N, 95°30'E, 1100 m, larch forest, openings, 16.VII 2014, 1 ♂, 1 ♀ (SS); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 2♂, 3 ♀ (SS). **Krasnoyarsk Region:** southern part, West Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 1 ♂ (MS).

DISTRIBUTION. Tuva: WSW, WSE, KHE, UKH, KKH, WTO, ETO, UVS, SAN. – S Siberia (from the Altay Mts. to Dauria), Amur Region; E Kazakhstan, Mongolia, China.

ECOLOGY. One of the most common and abundant grasshoppers in the dry steppes and semi-deserts.

Genus *Stauroderus* I. Bolívar, 1897

36(58). *Stauroderus scalaris* (Fischer de Waldheim, 1846)

Stenobothrus morio: Miram, 1907: 5.

Stauroderus scalaris: Berezchkov, 1951: 19; Ivanova, 1967: 132; Sergeev, 1986: 207; Benediktov, 1997: 117; Vedenina & Bukhvalova, 2001: 103; Tishechkin & Bukhvalova, 2009: 27; Benediktov, Belyaev 2019: 23.

Stauroderus scalaris scalaris: Berezchkov, 1956: 108.

MATERIAL. Tuva: W Sayan Mts., Kurtushibinskij Range, 52°16' N, 93°41' E, 1429 m, alpine meadows, 13.VIII 2018, 2 ♂ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 829 m, terrace, meadow, 12.VIII 2018, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°57'N, 95°33'E, 1945–2005 m, mountain tundra with *Betula* and alpine meadow, 10.VIII 2018, 1 ♂, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°56'N, 95°30'E, 1737–1869 m, southern slope, terraces, flood-plains, meadows, 9–10.VIII 2018, 7 ♂, 2 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°55' N, 95°2' E, 1432 m, terraces and flood-plain, meadows, 10.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°52'N, 95°26'E, 1230 m, terrace, meadow, 10.VIII 2018, 9 ♂, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°50'N, 95°25'E, 1132–1135 m, terrace and flood-plains, meadows, 11.VIII 2018, 6 ♂, 5 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44' N, 95°26' E, 958 m, upper terrace, steppe, 11.VIII 2018, 4 ♂, 2 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 4 ♂, 7 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 781–784 m, lower terrace and flood-plain, meadow, 11.VIII 2018, 9 ♂, 4 ♀ (MS); 16 km N Boyarovka settlement, 15.VII 2013, 4 ♂, 4 ♀ (M. Prostshalykin, V. Loktionov); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 34 ♂, 32 ♀, 17 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580 m, upper flood-plain, pebbles and sand, 20.VI 2017, 1 ♂ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, upper terrace, dry meadow, 17.VI 2017, 6 ♂, 5 ♀, 5 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 5 ♂, 4 ♀, 5 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 580–582 m, dry meadow, 23–26.VI 2017, 2 ♂, 7 ♀, 4 larvae (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 5 ♂ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, slope of balka with steppe, 21.VII 2014, 2 ♂, 2 ♀ (SS); 6 km SE

Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, plakor, mixed steppe, 20.VII 2014, 1 ♂, 3 ♀ (SS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, piedmont plain, balka, meadow between larches, 8.VII 1978, 1 ♂ (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°16'E, 940 m, upper terrace, meadow with *Caragana* bushes, 8.VII 1978, 1 ♂ (MS); SE Ulug-Khem Intermountain Basin, Uzun-Kharagan River, near Balgazyn settlement, 50°57'N, 95°15'E, 886 m, lower terrace, meadow, 8.VII 1978, 1 ♂ (MS); SE Ulug-Khem Intermountain Basin, Shuurmak River, left side, 15 km S Balgazyn settlement, 50°53'N, 95°12'E, 900–950 m, piedmont plain of E Tannu-Ola Mts., meadow, 9.VII 1978, 1 ♂, 1 ♀ (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1086 m, lower terrace, meadow, 11.VII 1978, 1 ♂ (MS); Shuurmak River near Shuurmak settlement, 1170 m, 12.VII 2011, 5 ♂ (M. Prostshalykin, V. Loktionov); E Tannu-Ola Mts., Shuurmak Pass, 50°38'N, 95°11'E, 1492 m, short meadow, 5.VII 2017, 5 ♂, 9 ♀ (MS); E Tannu-Ola Mts., 13 km NEE Samagaltaj settlement, Kaldak-Khamar (Shuurmak) Pass, 50°38'N, 95°11'E, 1550 m, open larch forest, 19.VII 2014, 1 ♂, 1 ♀ (SS); the same locality, 1500 m, rangeland, 19.VII 2014, 2 ♂, 1 ♀ (SS); the same locality, 1500 m, 11.VII 2013, 3 ♂ (M. Prostshalykin, V. Loktionov); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°45'N, 94°34'E, 1280–1301 m, terraces, dry meadows, 8.VII 2017, some specimens observed (MS); Dytyg-Khem River, 12 km SW Samagaltaj settlement, 50°38' N, 95°19' E, 17.VII 2014, 1 ♂ (SS); Dytyg-Khem River, 13 km SW Samagaltaj settlement, 6–10.VII 2013, 5 ♂, 1 ♀ (M. Prostshalykin, V. Loktionov); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°01'N, 95°04'E, 1154–1166 m, 07.VII 2017, sand semi-desert and upper terraces with birch forest, 4 ♂, 2 ♀ (MS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°02'N, 95°03'E, 1152 m, flood-plain, meadow, 07.VII 2017, 3 ♂ (MS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1100 m, flood-plain, meadow near cliff, 18.VII 2014, 2 ♂, 1 ♀ (SS); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 2 ♂ (SS). **Krasnoyarsk Region:** southern part, West Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°21'N, 93°13'E, 780–800 m, southern slope, dry mountain meadow and steppe, 22.VII 1995, 8 ♂, 11 ♀ (MS); the same locality, 52°20'N, 93°20'E, 700–750 m, low terrace, meadow, 22.VII 1995, 1 ♀ (MS); the same locality, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 3 ♀ (MS).

DISTRIBUTION. **Tuva:** WSE, ET, KHE, UKH, KKH, ETO, UVS, SAN. – Europe (except the North), S Siberia (up to Buryatia); Asia Minor, Caucasus, Kazakhstan, Tien Shan, Pamiro-Alay, NW China, Mongolia [nominotypical subspecies]; Azerbaijan [ssp. *znojko* (Miram, 1938)], NW Iran [ssp. *demavendi* Popov, 1951].

ECOLOGY. Common species (especially during the last decade) in the steppes of the central part of Tuva. Often associated with dry meadows with high vegetation.

Genus *Megaulacobothrus* Caudell, 1921

37(59). *Megaulacobothrus aethalinus* (Zubovskiy, 1899)

Stenobothrus aethalinus: Miram, 1907: 6.

Megaulacobothrus aethalinus: Bukhvalova & Vedenina, 1998: 120.

Chorthippus (Megaulacobothrus) aethalinus: Sergeev, 1986: 207.

Megaulacobothrus althalinus (sic!): Pavlov, 2004: 65.

REMARKS. The species was mentioned from the south-eastern part of Tuva (Tarys or Tarysin Basin, just near the state boundary) for the first and last time by Pavlov (2004). However, this mention looks like based on misidentification, because, in the Altay-Sayan Mts., the species is commonly associated with bushes and high meadows on the lower altitudinal belts (e.g., in North Altay, up to 1000 m).

DISTRIBUTION. **Tuva:** SAN. – S Siberia (from the N Altay Mts. and their piedmont plains up to Dauria), S Russian Far East; E Kazakhstan, NE China, Korea.

Genus *Glyptobothrus* Chopard, 1951

GENERAL REMARKS. This genus includes the so-called species group or complex "*biguttulus-brunneus-mollis*". Morphology of all species is very variable. As a result, many different species, subspecies, forms, and varieties have been described in the 19–20th centuries. Actually, in many cases, limits of their traits' variations are overlapped. Only an analysis of acoustic signals and organization of stridulatory apparatus often allows to distinguish the species and other forms. However, acoustic data are limited and, besides, many specimens, especially used in some old publications, are inaccessible or ruined. This means we could not check many records concerning, for instance, the distribution of *Glyptobothrus brunneus* (Thunberg) in the East Palaearctic

Glyptobothrus brunneus (Thunberg, 1815)

REMARKS. Chogsomzhav (1972) mentioned this species for the Mongolian part of Uvs-Nuur Basin. This mention may be based on misidentification, because there are no exact data about distribution of the species in the eastern part of Palaearctic.

38(60). *Glyptobothrus biguttulus* (Linnaeus, 1758)

Stenobothrus biguttulus: Miram, 1907: 6.

MATERIAL. **Tuva**: Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII 2018, 2 ♂, 5 ♀ (MS); the same place, 829 m, terrace, meadow, 12.VIII 2018, 1 ♂, 2 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°50'N, 95°25'E, 1132–1135 m, terrace and flood-plains, meadows, 11.VIII 2018, 10 ♂, 11 ♀ (MS). **Krasnoyarsk Region**: southern part, West Sayan Mts., Us Intermountain Basin, near abandoned Idzhim settlement, 52°16'N, 93°07'E, 680–700 m, terraces and southern slope, steppes, 22–23.VII 1995, 29 ♂, 24 ♀ (MS). **Khakassia**: W Sayan Mts., Bolshoj On River, 51°52'N, 89°48'E, 1200 m, upper terrace, opening, old gravel quarry, 15.VIII 2016, 15 ♂, 8 ♀, 1 larva (MS).

DISTRIBUTION. **Tuva**: WSE, ET. – Widely distributed in the Palaearctic Region, but all data concerning its distribution should be checked, because some of them may belong to other members of this species complex, e.g. *G. porphyroperus* (Vorontsovsky) and *G. maritimus* (Mistshenko). The species is mentioned for the Mongolian part of Uvs-Nuur Basin (Chogsomzhav, 1972).

39(61). *Glyptobothrus porphyroperus* (Vorontsovsky, 1928)

Stauroderus mollis var. *porphyroperus*: Vorontsovsky, 1928a: 12, 1928b: 35.

Chorthippus porphyroperus porphyroperus: Benediktov, 1999: 42–44.

Chorthippus porphyroperus: Benediktov, 2005: 124.

Glyptobothrus porphyroperus: Sergeev & Baturina, 2017: 241.

Chorthippus bicolor (part): Berezhekov, 1951: 18.

Chorthippus biguttulus (part): Sergeev *et al.*, 1995: 96–98; Benediktov, 1997: 118.

Chorthippus brunneus: Benediktov, 1997: 117.

Chorthippus yersini: Bukhvalova: 1993b: 63.

MATERIAL. **Tuva**: W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°27'E, 1079–1085 m, southern slope, stony semi-desert, 13.VIII 2016, 3 ♂, 1 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 800–810 m, southern slope and upper terrace, semi-deserts, 13.VII 2016, 1 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 810 m, lower terrace and upper flood-plain, meadows, 13.VIII 2016, 2 ♂, 2 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°31'N,

90°12'E, 1275 m, southern slope, steppe, 14.VIII 2016, 4 ♂, 4 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°30'N, 90°12'E, 1250–1252 m, lower terrace and upper flood-plain, meadows, pebbles, 14.VIII 2016, 3 ♂, 3 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°42'N, 89°58'E, 1760–1767 m, southern slope and upper terrace, 15.VIII 2016, 1 ♂ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII 2018, 2 ♂, 2 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°57'N, 95°33'E, 1945 m, alpine meadow, 10.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°52'N, 95°26'E, 1230 m, terrace, meadow, 10.VIII 2018, 3 ♂, 2 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 3 ♂, 5 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 1 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°27'N, 92°45'E, 583 m, lower terrace, meadow between bushes, 17–18.VI 2017, 5 ♂, 3 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 615–629 m, slopes and piedmont plain, semi-deserts, 21, 23.VI 2017, 40 ♂, 15 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°44'E, 610 m, steppe with *Stipa*, 23.VI 2017, 7 ♂, 2 ♀ (MS); 14 km SW Shagonar City, Shagonar River, 51°28'N, 92°45'E, 585–600 m, semi-desert and dry steppe, 25–26.VI 2017, 8 ♂, 3 ♀, 13 larvae (MS); 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, steppe, 22.VII 2014, 2 ♀ (SS); 25 km SW Kyzyl City, Ulug River, 51°36'N, 94°09'E, 600–605 m, lower terrace, steppe, 7.VIII 1978, 9 ♂, 3 ♀, 14 larvae (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°34'N, 94°10'E, 800–900 m, southern slope and piedmont plain, semi-deserts *Nanophyton grubovi*, 22.VII 2003, 3 ♂, 4 ♀ (MS); Ulug-Khem Intermountain Basin, 25 km SW Kyzyl City, Ulug River, 51°35'N, 94°09'E, 630–830 m, mountain slopes and piedmont plain, semi-deserts *Nanophyton grubovi*, 19.VII 1995, some specimens observed (MS); Ulug-Khem Intermountain Basin, 8 km N Cheder Lake, 51°32'N, 95°21'E, 750–760 m, steppes, 12.VIII 1962, 1 ♀ (IS); Kaa (Malyj Yenissey) River, right side, near Boyarovka settlement, 51°32'N, 95°21'E, 703 m, plain, dry steppe, 12.VIII 2018, 6 ♂, 3 ♀ (MS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, bottom of balka, wet meadow, 21.VII 2014, 1 ♀ (SS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, slope of balka with steppe, 20.VII 2014, 3 ♂ (SS); 6 km SE Baj-Haak settlement, Sosnovka settlement, 51°08'N, 94°32'E, plakor, mixed steppe, 21.VII 2014, 1 ♂, 1 ♀ (SS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, 4 ♂, 3 ♀ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°50'N, 92°05'E, 1637 m, mountain steppes, 19.VIII 1985, 16 ♂, 13 ♀ (MS); W Tannu-Ola Mts., NW Khandagajty settlement, near Solchur settlement, 50°46'N, 92°01'E, 1150–1200 m, agricultural fields including abandoned and plots along canal and roads, 21.VIII 1978, 13 ♂, 28 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°03'E, 1193 m, piedmont plain, lower terrace of stream, meadow, 21.VIII 1985, 10 ♂, 8 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°05'E, 1200–1250 m, piedmont plain, lower part, stony steppes with *Caragana* and dry meadow, 21.VIII 1985, 14 ♂, 16 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°04'E, 1336 m, foothills on piedmont plain, stony steppe, 21.VIII 1985, 2 ♂, 3 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°50'N, 92°05'E, 1500–1550 m, piedmont plain, upper part, steppe, 21.VIII 1985, 10 ♂, 14 ♀ (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, 50°45'N, 92°09'E, 1150–1200 m, southern slope and piedmont plain, stony semi-desert with *Nanophyton grubovii*, 24.VIII 1985, 1 ♂, 3 ♀ (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, Mugur River, 50°44'N, 92°08'E, 1100–1150 m, low terrace and upper flood-plain, meadows, 24.VIII 1978, 2 ♂, 5 ♀ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°44'N, 92°09'E, 1140 m, northern slope, stony semi-desert, 24.VIII 1985, 3 ♂, 4 ♀ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°43'N, 92°04'E, 1170–1200 m, piedmont plain, desert with *Nanophyton grubovii*, 24.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°43'N, 92°03'E, 1200–1250 m, piedmont plain and northern slope, semi-desert with *Caragana* bushes, 24.VIII 1985, 2 ♂, 4 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°05'E, 1300–1350 m, piedmont plain, stony steppes with *Caragana*, 16.VIII 1985, 10 ♂, 10 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, lower part, low terrace and flood-plain of stream, ruderal vegetation and meadow, 16.VIII 1985, 14 ♂, 5 ♀ (MS); W Tannu-Ola Mts., 5 km N Khandagajty

settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, stony steppes with *Caragana*, 18.VIII 1985, 16 ♂, 13 ♀ (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, terraces, steppe and short meadow between shrubs and *Larix* trees, 17.VII 1978, 12 ♂, 7 ♀ (MS); the same locality, upper terrace, short meadow, 12.VIII 1978, 9 ♂, 14 ♀ (MS); the same locality, lower terrace, steppe, 12.VIII 1978, 12 ♂, 21 ♀ (MS); the same locality, upper terrace, steppe, 12.VIII 1978, 16 ♂, 32 ♀ (MS); E Tannu-Ola Mts., Shuurmak River, 5 km N Shuurmak settlement, 50°42'N, 95°20'E, 1106 m, southern slope, mountain steppe, 11.VII 1978, 4 ♂, 22 larvae (MS); Shuurmak River near Shuurmak settlement, 50°38'N, 95°19'E, mixed meadow (cutted), 19.VII 2014, 5 ♂, 32 ♀ (SS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°45'N, 93°09'E, 1030–1040 m, flood plains and terraces, dry meadows and steppes, 29.VII 1978, 7 ♂, 13 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 984 m, 29.VII 1978, lower flood-plain, pebbles and stone, scarce vegetation with *Salix* and *Nepeta*, 29.VII 1978, 3 ♂, 1 ♀ (MS); the same locality, upper flood-plains, meadow, 29.VII 1978, 3 ♂ (MS); the same locality, lower terrace, meadow, 29.VII 1978, 1 ♂, 3 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 984 m, 29.VII 1978, upper terrace, stony semi-desert, 1 ♂, 5 ♀ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 938 m, 30.VII 1978, lower terrace and flood-plains, steppe, 4 ♂, 5 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1200–1300 m, lower terrace, meadow 15.VII 1978, 6 ♂, 83 larvae (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1215 m, lower flood-plain, pebbles and stone with scarce vegetation, 11.VIII 1978, 5 ♂, 6 ♀, 1 larva (MS); the same locality, lower terrace, wet meadow, 11.VIII 1978, 2 ♂, 3 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1215 m, lower terrace, dry steppe, 15.VII 1978, 1 ♀ (MS); the same locality and habitats, 11.VIII 1978, 8 ♂, 9 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°39'N, 94°28'E, 990–995 m, flood-plain and terraces, dry steppes with *Caragana*, 18.VII 1978, 3 ♂, 1 ♀, 2 larvae (MS); the same locality and habitats, 10.VIII 1978, 8 ♂, 9 ♀ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1200–1300 m, southern slopes and piedmont plain, steppes with *Caragana*, 24.VII 2003, 7 ♂, 4 ♀, 4 larvae (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1259 m, piedmont plain, dry steppe with *Caragana*, 8.VII 2017, 9 ♂, 1 ♀, 35 larvae (MS); Uvs-Nuur Intermountain Basin, Tes River, 50°33'N, 94°31'E, 932–934 m, terraces, steppes, 14.VII 1978, 11 ♂, 1 ♀ (MS); Dyttyg-Khem River, 12 km SW Samagaltai settlement, 50°38' N, 95°19' E, 17.VII 2014, 3 ♂, 2 ♀ (SS); Dyttyg-Khem River, 13 km SW Samagaltai settlement, 8–10.VII 2013, 2 ♂, 1 ♀ (M. Prostshalykin, V. Loktionov); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, flood-plains, meadows, 21.VII 1978, 1 ♀ (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace and upper flood-plains, dry meadows and steppes, 22.VII 1978, 1 ♂, 2 ♀ (MS); Uvs-Nuur Intermountain Basin, 7 km S Erzin settlement, Tes River, 50°11'N, 95°12'E, 1097 m, lower terrace, steppes, 23.VII 1978, 3 ♂, 2 ♀ (MS); Uvs-Nuur Intermountain Basin, 10 km S Erzin settlement, Tsuger-Els, 50°10'N, 95°11'E, 1154 m, sandy semi-desert, 23.VII 1978, 1 ♂, 2 ♀ (MS); Uvs-Nuur Intermountain Basin, E Shara-Nuur, Yamalyg farwell rocks, 50°14'N, 94°45'E, 1150 m, piedmont plain, dry steppe, 6.VII 2017, numerous specimens observed (MS); Uvs-Nuur Intermountain Basin, near Shara Lake, 50°14'N, 94°31'E, 894 m, flood-plains of lake and small stream, short meadows with halophytes, 6.VII 2017, 2 ♀ (MS); Uvs-Nuur Intermountain Basin, near Shara Lake, 50°13'N, 94°32'E, 902–904 m, plain and upper terrace, sands, semi-desert and grassland with *Achnatherum*, 6.VII 2017, 5 ♀ (MS); 7 km SW Erzin settlement, Tes River, 50°12'N, 95°08'E, 13.VII 2014, 3 ♂, 3 ♀ (SS); 25 km SW Erzin settlement, Tes River, 50°05'N, 95°21'E, 14–15.VII 2014, 3 ♂, 5 ♀ (SS); 27 km SSW Erzin settlement, Tore Lake, 50°01'N, 95°03'E, 1150 m, sands, grasses and *Caragana*, 11.VII 2014, 5 ♂, 3 ♀ (SS); Tore Lake, 50°06'N, 95°06'E, 1100 m, steppe, steppe, 12.VII 2014, 2 ♂, 1 ♀ (SS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°01'N, 95°04'E, 1154–1166 m, 07.VII 2017, sandy semi-desert and upper terraces with birch forest, 3 ♂, 2 ♀ (MS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°02'N, 95°03'E, 1152 m, flood-plain, meadow, 07.VII 2017, 1 ♂, 1 ♀ (MS); Uvs-Nuur Intermountain Basin, S Tore Lake, 50°05'N, 95°09'E, 1174 m, sandy semi-desert with *Caragana bungei*, 7.VII 2017, 3 ♂, 2 ♀ (MS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1300 m, northern slope, balka with *Caragana*, 16.VII 2014, 6 ♂, 1 ♀ (SS); 31 km NEE Erzin settlement, Erzin River, 50°21'N, 95°34'E, 1100 m, flood-plain, meadow near

cliff, 18.VII 2014, 1 ♂, 2 ♀ (SS); 34 km NEE Erzin settlement, Erzin River, 50°22'N, 95°30'E, 1100 m, openings of larch forest, 16.VII 2014, 1 ♂, 1 ♀ (SS); 25 km NEE Erzin settlement, Belyj Medved Mt., 50°21'N, 95°27'E, steppe, 16.VII 2014, 2♂, 2 ♀ (SS).

REMARKS. Actually Vorontsovsky has described *Stauroderus mollis* var. *porphyroptera* in two associated and adjacent papers (Vorontsovsky, 1928a: 12, 1928b: 35) published simultaneously in the same issue of the journal. In the first one, he has characterized the main traits of this taxon and the locations, habitats and dates for its specimens. In the second paper, he has emphasized that this variety should be considered as a species *in statu nascendi*. Later Benediktov (1999: 42–44) revised this group, showed that this taxon should be qualified as a separate species and designated its lectotypes. The main nomenclature problem is derived from the original papers of Vorontsovsky, because, in the first one, he has described a number of colour varieties (i.e., forms of the infrasubspecific ranks) of several acridid species, but, in the second paper of this series, he has unambiguously and explicitly noted that some varieties (including *Stauroderus mollis* var. *porphyroptera*) should be qualified as forms of the subspecific or even specific ranks. This means accordingly the Article 45.6.4 of the International Code of Zoological Nomenclature (fourth edition) the rank of this variety is the subspecific one. Really almost all known records of *Glyptobothrus brunneus* and *G. biguttulus* from Tuva belong to this species.

DISTRIBUTION. **Tuva:** WSW, WSE, ET, KHE, UKH, KKH, WTO, ETO, UVS, SAN. – S Russia up to Tuva; N Kazakhstan, N Mongolia (Benediktov, 1999).

ECOLOGY. One of the most common and widely distributed grasshoppers in Tuva. The species prefers the dry meadows, different variants of the steppes and occupies almost all transformed ecosystems with grass vegetation (openings, agricultural fields, abandoned fields, rangelands, lawns etc.).

***Glyptobothrus maritimus* (Mistshenko, 1951)**

REMARKS. This species may occur in the southern parts of Tuva, but all data concerning its distribution in S Siberia and some other regions should be checked carefully on the basis of an acoustic signal analysis.

DISTRIBUTION. S Russia; Kazakhstan, Tien Shan, Alay, Mongolia (?), NW, NE China (?).

40(62). *Glyptobothrus mollis* (Charpentier, 1825)

Chorthippus mollis: Benediktov & Korsunovskaya, 1996: 67; Benediktov, 1997: 118.

MATERIAL. **Tuva:** W Sayan Mts., Kurtushibinskij Range, 52°16' N, 93°41' E, 1429 m, alpine meadows, 13.VIII 2018, 2 ♂, 1 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°50'N, 95°25'E, 1132–1135 m, terrace and flood-plains, meadows, 11.VIII 2018, 1 ♂ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°44'N, 95°26'E, 1006 m, southern slope, stony steppe, 11.VIII 2018, 4 ♂, 2 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 3 ♂, 3 ♀ (MS); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 781–784 m, lower terrace and flood-plain, meadow, 11.VIII 2018, 1 ♀ (MS); Ulug-Khem Intermountain Basin, 8 km N Cheder Lake, 51°32'N, 95°21'E, 750–760 m, steppes, 12.VIII 1962, 1 ♀ (IS); 20 km SW Erzin settlement, Kurgalchi farwell rocks (AB); 25 km SE Naryn settlement (AB). **Krasnoyarsk Region:** southern part, West Sayan Mts., Kazyrskiy Range, E Oyskoe Lake, 52°51'N, 93°16'E, 1470–1630 m, mountain tundra and alpine meadow, 13.VIII 2017, 1 ♂ (MS).

DISTRIBUTION. **Tuva:** WSE, ET, UKH, UVS, SAN. – Europe (except the extreme North), Siberia (except the extreme North); Asia Minor, Caucasus, Kazakhstan, Middle Asia, N Iran.

ECOLOGY. This species is relatively rare in Tuva, but occupies almost the same habitats as *G. porphyropterus*.

41(63). *Glyptobothrus dubius* (Zubovsky, 1898)

Chorthippus dubius: Berezkhov, 1956: 120; Stebaev, 1964: 615; Ivanova, 1967: 132; Mistshenko, 1968: 492; Sergeev *et al.*, 1995: 98; Benediktov, 1997: 117.

Chorthippus (Glyptobothrus) dubius: Sergeev, 1986: 207.

MATERIAL. **Tuva:** W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°28'E, 1075–1077 m, terraces, steppe and meadow, 12.VIII 2016, 5 ♂, 1 ♀, 5 larvae (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°24'N, 90°27'E, 1079–1085 m, southern slope, stony semi-desert, 13.VIII 2016, 7 ♂, 2 ♀, 7 larvae (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 800–810 m, southern slope and upper terrace, semi-deserts, 13.VII 2016, 13 ♂, 3 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 810 m, lower terrace and upper flood-plain, meadows, 13.VIII 2016, 7 ♂, 5 ♀, 25 larvae (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°31'N, 90°12'E, 1275 m, southern slope, steppe, 14.VIII 2016, 3 ♂, 2 ♀ (MS); W Sayan Mts., Alash Plateau, Ak-Sug River, 51°30'N, 90°12'E, 1250–1252 m, lower terrace and upper flood-plain, meadows, pebbles, 14.VIII 2016, 1 ♂ (MS); Turan-Uyuk Intermountain Basin, Begreda River, 51°59'N, 94°18'E, 830–845 m, southern slope and piedmont plain, semi-deserts, 12.VIII 2018, 1 ♂ (MS); Academician Obruchev Range, Koptu (Khapto) Pass, 10.VI 2003, 1 ♂ (M. Zasyrkina); E Tuva, Academician Obruchev Range, southern slope, Koptu (Khapto) River, 51°37'N, 95°21'E, 788–843 m, southern slope and upper terraces, steppes, 11.VIII 2018, 1 ♂ (MS); Ulug-Khem Intermountain Basin, Elegest River, middle part, 51°22'N, 94°04'E, 695 m, upper terrace, dry steppe, 16.VI 2017, a specimen observed (MS); Kaa (Malyj Yenissei) River, right side, near Boyarovka settlement, 51°32'N, 95°21'E, 703 m, plain, dry steppe, 12.VIII 2018, 2 ♂, 1 larva (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°48'N, 92°05'E, 1300–1350 m, piedmont plain, stony steppes with *Caragana*, 16.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, lower part, low terrace and flood-plain of stream, ruderal vegetation and meadow, 16.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°02'E, 1225 m, piedmont plain, stony steppes with *Caragana*, 18.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., 9 km N Khandagajty settlement, 50°51'N, 92°04'E, 1700–1900 m, mountain steppes, 19.VIII 1985, some specimens observed (MS); W Tannu-Ola Mts., NW Khandagajty settlement, near Solchur settlement, 50°46'N, 92°01'E, 1150–1200 m, agricultural fields including abandoned and plots along canal and roads, 21.VIII 1978, 1 ♂ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°03'E, 1193 m, piedmont plain, lower terrace of stream, meadow, 21.VIII 1985, 2 ♂ (MS); W Tannu-Ola Mts., 5 km N Khandagajty settlement, 50°47'N, 92°05'E, 1200–1250 m, piedmont plain, lower part, stony steppes with *Caragana* and dry meadow, 21.VIII 1985, 9 ♂ (MS); W Tannu-Ola Mts., 4 km E Khandagajty settlement, 50°45'N, 92°09'E, 1150–1200 m, southern slope and piedmont plain, stony semidesert with *Nanophyton grubovii*, 24.VIII 1985, 6 ♂ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°44'N, 92°09'E, 1140 m, northern slope, stony semi-desert, 24.VIII 1985, 2 ♂, 1 ♀ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°43'N, 92°04'E, 1170–1200 m, piedmont plain, desert with *Nanophyton grubovii*, 24.VIII 1985, 1 ♂ (MS); W Tannu-Ola Mts., near Khandagajty settlement, 50°43'N, 92°03'E, 1200–1250 m, piedmont plain and northern slope, semi-desert with *Caragana* bushes, 24.VIII 1985, 3 ♂ (MS); E Tannu-Ola Mts., Shivelig River, 50°45'N, 94°34'E, 1330–1340 m, upper terrace, steppe, 12.VIII 1978, 3 ♂ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°45'N, 93°09'E, 1030–1040 m, 29.VII 1978, upper terrace, dry meadow, 1 ♂, 5 larvae (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 984 m, 29.VII 1978, lower flood-plain, pebbles and stone, scarce vegetation with *Salix* and *Nepeta*, 1 ♂ (MS); N Uvs-Nuur Intermountain Basin, Iribitej River, 50°44'N, 93°08'E, 984 m, 29.VII 1978, upper terrace, stony semi-desert, 1 ♂ (MS); NE Uvs-Nuur Intermountain

Basin, Shivelig River, 50°39'N, 94°28'E, 990–995 m, flood-plain and terraces, dry steppes with *Cara-gana*, 10.VIII 1978, 5 ♂ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N, 94°33'E, 1215 m, lower terrace, dry steppe, 11.VIII 1978, 26 ♂, 7 ♀ (MS); the same locality, lower terrace, wet meadow, 11.VIII 1978, 1 ♂ (MS); NE Uvs-Nuur Intermountain Basin, Shivelig River, 50°43'N – 50°45'N, 94°33'E – 94°34'E, 1200–1650 m, mountain slopes, piedmont plains, terraces, dry meadows and steppes, often with bushes and stones, 24.VI–12.VIII 1978, >20 specimens, including larvae (T. Myagkaya, A. Lee); Uvs-Nuur Intermountain Basin, Tes River, 50°32'N, 94°31'E, 930–932 m, upper flood-plain and terraces, 11.VIII 1978, 4 ♂, 1 ♀, 68 larvae (MS).

DISTRIBUTION. Tuva: WSW, WSE, ET, KHE, UKH, KKH, WTO, ETO, UVS. – SE European Russia, S Siberia; Kazakhstan, Mongolia, NE, N, C China.

ECOLOGY. Usually associated with the dry steppes and semi-deserts. Adults commonly are in the end of July and August.

Genus *Schmidtiacris* Storozhenko, 2002

42(64). *Schmidtiacris schmidti* (Ikonnikov, 1913)

Chorthippus schmidti: Sergeev, 1982: 45; Benediktov, 1997: 118; Bukhvalova & Vedenina, 1998: 122.

Schmidtiacris schmidti: Sergeev & Baturina, 2017: 241–242; Benediktov, 2006: 29; Tishechkin & Bukhvalova, 2009: 38.

MATERIAL. Tuva: W Sayan Mts., Alash Plateau, Ak-Sug River, 51°25'N, 91°04'E, 810 m, lower terrace and upper flood-plain, meadows, 13.VIII 2016, 3 ♀ (MS); ~ 20 km SW Shagonar City, near Aryg-Uziu, Ishti River, 20.VIII 1947, 1 ♀; 32 km SW Kyzyl City, Elegest River, 51°29'N, 94°10'E, grasses along willows near river, 22.VII 2014, 8 ♂, 9 ♀ (SS).

DISTRIBUTION. Tuva: KHE, UKH. – Transbaikalia, S Russian Far East; Mongolia, NE China, Korea, Japan.

ECOLOGY. Very rare species associated with meadows along rivers of the central parts of Tuva.

CONCLUSIONS

The analysis of all applicable data concerning the short-horned orthopterans of Tuva shows that there are at least members of 3 families of Caelifera, namely Tridactylidae (1 species), Tetrigidae (6), and Acrididae (more than 35 species). The last family (grasshoppers *per se*) is the most diverse taxon of Orthoptera in the Palaearctic Region. In Tuva, this group of grasshoppers includes members of four subfamilies: Melanoplinae (6 species from the tribe Podismini), Calliptaminae (1 species), Gomphocerinae (more than 28 species from the tribes Chrysochraontini, Arcypterini, Aulacobothrini, and Stenobothrini), and Locustinae (= Oedipodinae). The composition of the last subfamily and two tribes of Gomphocerinae (Gomphocerini and Parapleurini) will be discussed in the last part of the check-list. Seven species are recorded from the region for the first time, namely *Tetrix similans* (Bey-Bienko), *Zubovskya koeppleri* (Zubovsky), *Podismopsis poppiusi* (Miram), *P. jacuta* Miram, *Stenobothrus nigromaculatus* (Herrich-Schäfer), *S. carbonarius* (Eversmann), and *Omocestus petraeus* (Brisout de Barneville). Some of them are mainly distributed in the boreal part of Eurasia (Sergeev, 2011) and occur in the mountains of the northern territories of Tuva. Among them are *Zubovskya koeppleri*, *Podismopsis poppiusi*, *P. jacuta*. Several species are commonly associated with the steppes (*Stenobothrus nigromaculatus*, *S. carbonarius*, *Omocestus pet-*

raeus). Besides that, there are at least three species known from adjacent regions, such as the southern parts of the Republic of Khakassia and Krasnoyarsk Region and the Mongolian part of Uvs-Nuur Intermountain Basin. This means that *Arcyptera microptera* (Fischer de Waldheim) may be registered in the northern parts of Tuva. *Prumna polaris* (Miram) can be found in the high mountains of the north-eastern parts of Tuva. *Eclipophleps glacialis* Bey-Bienko may occur in the arid mountains of SW Tuva.

ACKNOWLEDGEMENTS

The authors wish to express their sincere thanks to the late L.L. Mistshenko (St. Petersburg), the late I.V. Stebaev (Novosibirsk), the late V.V. Bugrovsky (Moscow), A.V. Gorochov (St. Petersburg) and V.V. Zaika (Kyzyl) for advices, cooperation and interactions and to all collectors of specimens. The authors are also indebted to all companions during their field trips to Tuva and adjacent areas.

These studies were made possible by the grant of the Russian Foundation for Basic Research No 16-04-00706. The work of MGS was partly supported by the Federal Fundamental Scientific Research Programme for 2013–2020 (No AAAA-A16-116121410123-1) and by the grant of the OSF. This work was done by AAB in frame of Moscow University Project "Noah's Ark" and by R&D (No. AAAA-A16-116021660095-7) – taxonomic studies.

Some data used in the study were provided by the Institute of Systematics and Ecology of Animals, collection "Siberian Zoological Museum", developed within project 0311-2017-0016.

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