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THE CHRYSOMELINAE (COLEOPTERA: CHRYSOMELIDAE) OF THE MONGOLIAN ALTAI

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ABSTRACT

An annotated inventory of the 40 species and 12 genera of Chrysomelinae from the Mongolian Altai is presented. Four species of leaf beetles, *Chrysolina quadrangulata* Motschulsky, 1860, *Chrysolina graminis* (Linnaeus, 1758), *Phratora polaris* (Schneider, 1886), and *Phratora vulgatissima* (Linnaeus, 1758), and one subspecies, *Chrysolina perforata simillima* Mohr, 1966, are newly recorded for the Mongolian Altai. Three species, *Crosita clementzae* Jacobson, 1899, *Phaedon armoraciae* (Linnaeus, 1758), and *Entomoscelis adonidis* (Pallas, 1771), and one subspecies, *Gastrophysa viridula lenta* (Weise, 1887), are new records for Bayan-Ulegei aimak. Two species, *Chrysolina perforata* (Gebler, 1830) and *Phaedon concinnus* Stephens, 1834, are new records for Gobi-Altai aimak.

Key Words: leaf beetles, distribution, checklist, Mongolia, Palearctic

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The Mongolian entomofauna has been extensively investigated since the 1960s by Czechoslovakian, German, Polish, and Hungarian expeditions. Among the early expeditions, those organized by the Hungarian entomologist Z. Kaszab during 1963–1968 deserve particular attention due to the large geographic coverage and wealth of collected material. In 1969, the joint Soviet-Mongolian complex biological expedition began. The prominent chrysomelid specialist, L. N. Medvedev (Institute of Ecology and Evolution named after A. N. Severtzov, Russian Academy of Sciences, Moscow) participated in the expedition from the beginning and headed it from 1973 to 1979.

Despite lengthy research on the insect fauna in Mongolia, the country's territory remained unevenly studied; in particular, Western Mongolia and especially the Mongolian Altai proved to be the least studied. As everywhere in Central Asia and South Siberia, the main reason was the inaccessibility of high mountain ranges. Our recent studies conducted in the Mongolian Altai significantly supplemented the data on the leaf beetle fauna of the Mongolian Altai. As a result, we described three species new to science. *Labidostomis yakovlevi* Gus'kova, 2006 (Guskova 2006), *Chrysolina shapkini* Mikhailov and Gus'kova, 2013 (Mikhailov and Guskova 2013a), and *Cystocnemis levmedvedevi* Mikhailov and Gus'kova, 2013 (Mikhailov and Guskova 2013b). In addition, Guskova (2016) presented a full review of the leaf beetles of the subfamilies Alticinae and Cassidinae for the Mongolian Altai. The present study provides a detailed overview of the leaf beetles of the subfamily Chrysomelinae in the Mongolian Altai.

MATERIAL AND METHODS

The current paper is mostly based on a personal collection by the author who participated in the botanical-zoological expeditions organized by the South Siberian Botanical Garden of Altai State University in 2007, 2009, and 2010. Expeditions were performed in all three aimaks covered by the Mongolian Altai: Bayan-Ulegei, Hovd, and Gobi-Altai, including localities which had never been visited by entomologists. Collecting was performed using standard methods: manual collecting and sweeping with a sweep net and night collecting using ultraviolet lights (light source - tube Philips TL 8W/05; bulbs - Philips 250; Subaru 750 generator; poison - chloroform).

The author also studied material collected during expeditions performed in 2002, 2005, 2011, 2012, 2013, and 2015. The taxonomic identities of specimens were determined using the key in Warchałowski (2010) and also by comparison with authoritatively identified specimens in the collection of Zoological Institute of the Russian Academy of Sciences. Acronyms of collections from which material was studied are as follows:

- ABC** Andrzej Bienkowski Collection, Zelenograd, Russia
DEI Deutsches Entomologisches Institut, Müncheberg, Germany
EGC Elena Guskova Collection, Barnaul, Russia
LMC Lev Medvedev Collection, Moscow, Russia
YuMC Yuriy Evgenievich Mikhailov Collection, Ekaterinburg, Russia

ZIN Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia

Collecting sites in the three aimaks of the Mongolian Altai are listed here and their locations indicated in Fig. 1.

BAYAN-ULEGEJ AIMAK:

- 1) **Elt-Gol:** Middle stream of Elt-Gol River (Kara-Irtys basin), Khorabajn-Salaa Valley, 2,100–2,300 m, 48°07' N 89°11' E.
- 2) **Tsengel:** Kobdo-gol Valley, 20 km SW Tsengel, (between Bor-Burgas-Gol and Mukharyn-Gol Rivers), 1,900–2,200 m, 48°49' N 88°59' E.
- 3) **Tal-Nuur:** Pass, 9 km ESE Tal-Nuur Lake, 2,800 m, 48°00' N 90°20' E.
- 4) **Altai (BU):** 20 km W Altai, 2,850–2,950 m, 46°53' N 91°06' E.
- 5) **Dzhelty-Ula:** 20 km NW Altai, Dzhelty-Ula Mt., 2,850–2,900 m, 47°01' N 90°59' E.
- 6) **Khara-Nuur:** 20 km WNW Altai, Lake Khara-Nuur, 2,560 m, 47°04' N 90°57' E.
- 7) **Middle Bulgan-gol:** Middle stream of Bulgan-gol River, 1,800 m, 46°44' N 91°18' E.
- 8) **Turgen-Gol:** 2,300–2,250 m, 50°10' N 91°26' E.
- 9) **Tolbo-Nuur:** Tolbo-Nuur Lake, 2,100 m, 48°31' N 90°06' E.
- 10) **Tolbo:** 45 km S Tolbo, 2,800 m, 48°04' N 90°15' E.
- 11) **Buyant:** Sagsaj River Valley, 12 km SSW Buyant, 2,100 m, 48°35' N 89°33' E.
- 12) **Sagsaj:** 30 km SSE Altai, Sagsaj Valley, 2,350 m, 48°36' N 89°48' E.

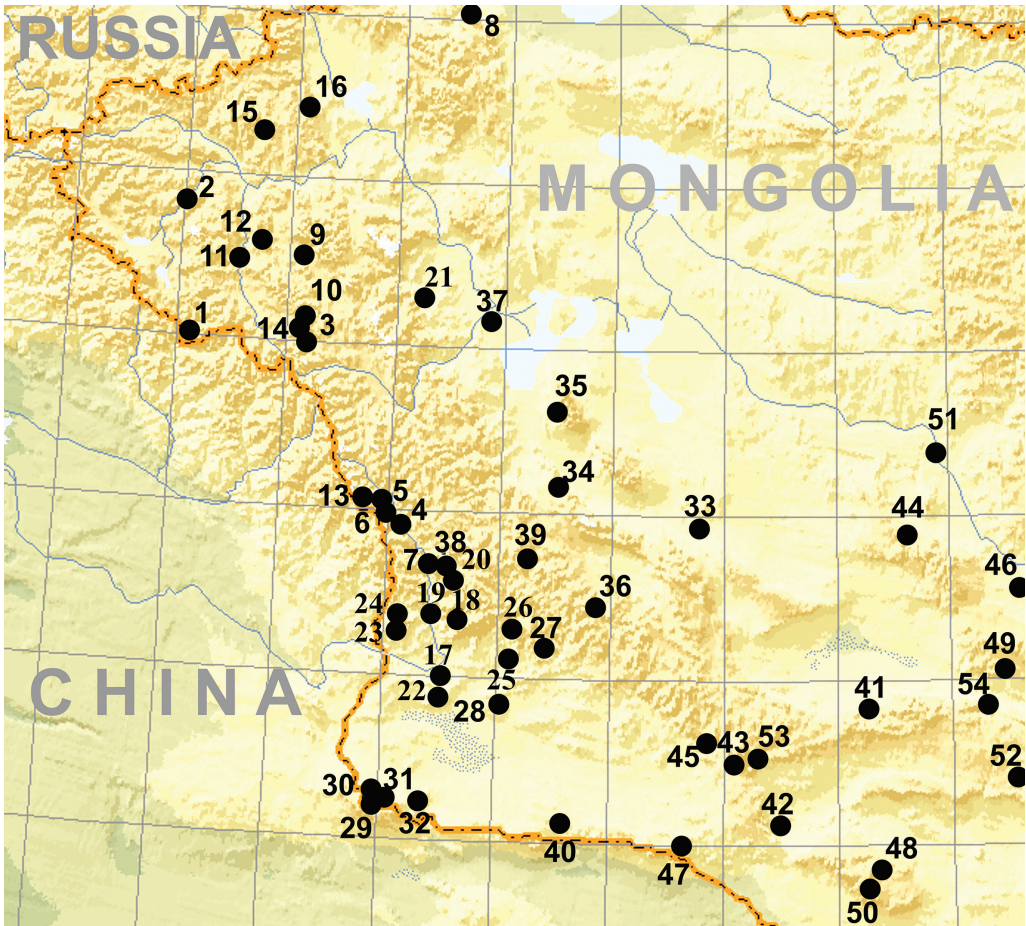


Fig. 1. Collecting localities for Chrysomelidae during expeditions of South-Siberian Botanical Garden of Altai State University in the Mongolian Altai.

- 13) **Ikh-Dhargalantyn-Gol:** Ikh-Dhargalantyn-Gol, 20 km NW Bulgan, 47°02' N 90°45' E.
- 14) **Usvajin-Davaa:** 50 km SE Altai, Usvajin-Davaa Pass, 2,850 m, 48°05' N 90°18' E.
- 15) **Shine-Davaa:** 27 km S Zagan-Nuur Lake, Shine-Davaa Pass, 2,700 m, 49°13' N 89°46' E.
- 16) **Zagan-Nuur:** 20 km E Zagan-Nuur Lake, Zagan-Nuryn-Gol Valley, 49°36' N 90°08' E.

HOVD AIMAK:

- 17) **Bulgan:** Dzhungarian Gobi Desert, Bulgan somon, 1,100–1,400 m, 45°59' N 91°31' E.
- 18) **25 km N Bulgan:** 25 km N Bulgan, Ulyastajin-Gol Valley, 1,500 m, 46°31' N 91°29' E.
- 19) **Bulgan-Gol Valley:** Middle stream of Bulgan-Gol Valley, 45 km N of Bulgan, 1,500 m, 46°33' N 91°22' E.
- 20) **Dod-Naryin-gol:** 40 km N Bulgan, Bulgan-gol Basin, middle stream of Dod-Naryin-gol River, Shara-Nuruu Mts., 1,400–1,700 m, 46°29' N 91°29' E.
- 21) **Darkhijn-Shurag-Gol:** Under stream of Darkhijn-Shurag-Gol River, near Erdene-Buren-Somon, 1,400 m, 48°18' N 91°18' E.
- 22) **Barangijn-Shara-Nuruu:** Dzhungarian Gobi Desert, Barangijn-Shara-Nuruu Mts., 15 km S Bulgan somon, 1,300 m, 45°53' N 91°19' E.
- 23) **Arshantyn-Nuruu:** Bulgan-gol Basin, Arshantyn-Nuruu Mts., Bayan-gol Basin, middle stream of Ulyastain-Sala River, 1,700–2,300 m, 46°19' N 91°07' E.
- 24) **Arshantyn-Nuruu (N):** Arshantyn-Nuruu Mts. (northern slopes), 1,700 m, 46°22'08" N 91°13'52" E.
- 25) **Uench:** Uenchin-Gol River, 25 km NNW Uench, 1,790 m, 46°07' N 92°03' E.
- 26) **Uenchin-Gol:** Uenchin-Gol Valley, 50 km N Uench, 1,500 m, 46°23' N 92°10' E.
- 27) **Hundijn-Gol:** Bodonchijn-Gol Basin, Hundijn-Gol River Valley, 1,600 m, 46°06' N 92°30' E.
- 28) **Elkhony-Ekhen-Tal:** 30 km S Altai somon, Bodonchijn-Gol River Valley (under stream), Elkhony-Ekhen-Tal, 1,200 m, 45°43' N 92°05' E.
- 29) **Altan-Obo:** Baitag-Bogdo Range, Altan-Obo, 1,900–2,200 m, 45°13' N 90°56' E.
- 30) **Tachtoi-Ula:** Baitag-Bogdo Range, Mt. Tachtoi-Ula, 1,800–2,200 m, 45°16' N 90°55' E.
- 31) **Baruun-Khargaityn-Gol:** Bajtag-Bogd-Uul Mts., Baruun-Khargaityn-Gol River Valley, 1,900–2,000 m, 45°16' N 90°57' E.
- 32) **Gushoot-Shineetijn-Gol:** Bajtag-Bogd-Uul Mts., Gushoot-Shineetijn-Gol River Valley, 2,000 m, 45°15' N 91°03' E.
- 33) **55 km NE Altai:** 55 km NE Altai, 2,000 m; Hovd aimak, Great Lakes Valley, near Dariv, 1,450 m, 46°55' N 93°41' E.
- 34) **Mankhan:** 50 km S Mankhan, 2,200 m, 47°02' N 92°14' E.
- 35) **Dzhun-Zhargalant-Hajirkhan:** 35 km NE Mankhan, western slope of Dzhun-Zhargalant-Hajirkhan Mts., 1,900 m, 47°40' N 92°30' E.
- 36) **Must:** 38 km S Must, Dayanpangijn-Davaa Pass, 2,800 m, 46°33' N 92°46' E.
- 37) **Myangat:** 15 km NNE Myangat, 48°16' N 91°40' E.
- 38) **Munkh-Khairkhan:** Munkh-Khairkhan Mts., 45°13' N 90°56' E.
- 39) **Bodgony-Hutel:** Between Bodgony-Hutel and Khara-Belchir-Daba Pass, 2,400 m, 46°45' N 92°31' E.
- 40) **Dzegijn-Ama:** Dzegijn-Ama Gorge, eastern Ikh-Khavtgijn-Nuruu Mts., 45°02' N 92°31' E.

GOBI-ALTAI AIMAK:

- 41) **Hara-Adzragyn-Nuru:** Hara-Adzragyn-Nuru Mts., Najtvaryn-Sajr River Valley (under stream), 1,700–2,000 m, 45°52' N 95°30' E.
- 42) **Alag-Nuur:** Dzhungarian Gobi Desert, Alag-Nuur Lake (near Ajlyn-Tsagan-Khuduk), 1,300 m, 45°09' N 94°30' E.
- 43) **Bidzh-Altai:** 30 km ENE Bidzh-Altai, Alag-Hajirkhan Mt., 2,200–2,300 m, 45°33' N 94°04' E.
- 44) **Zhargalan:** Khasagt-Khairkhan Mts., 17 km SSW Zhargalan, 2,500–2,900 m, 46°48' N 95°49' E.
- 45) **Mogojin-Gol:** Mongolian Altai Mts. (south slope), Mogojin-Gol Valley, 1,800 m, 45°39' N 93°47' E.
- 46) **Altai:** 40 km ENE Altai, 46°32' N 96°47' E.
- 47) **Tsargin:** Takhijn-Shara-Nuru mountain range, 5 km S Tsargin, 44°55' N 93°50' E.
- 48) **Atas-Ula:** Atas-Ula Mts., 1,950–2,150 m, 44°54' N 95°11' E.
- 49) **Naran:** 10 km SE Naran, 46°05' N 96°30' E.
- 50) **Il-Gol:** Adzh-Bogdo Mt. (south slope), Il-Gol Valley, 2,500 m, 44°48' N 95°17' E.
- 51) **Tajshir:** Near Tajshir, Dzabhan River Valley, Ikh-Nomgon-Ula Mt., 1,400 m, 46°48' N 96°31' E.
- 52) **Dutijn-Dava:** Dutijn-Dava Pass, 37 km ENE Tsogt, 2,800–2,850 m, 45°30' N 96°19' E.

- 53) **Burgyn-Davaa:** 16 km SW Bugat, Burgyn-Davaa Pass, 2,500 m, 45°34' N 94°13' E.
 54) **Khalyun:** 10 km SE Khalyun, 45°50' N 96°09' E.

RESULTS

ANNOTATED LIST OF THE CHRYSOMELINAE (CHRYSOMELIDAE) FAUNA OF THE MONGOLIAN ALTAI

Crosita Motschulsky, 1860

Crosita altaica (Gebler, 1823)

References. Lopatin 1968: 212, 1975: 206; Medvedev 1976: 906, 1982: 246; Medvedev and Zaitzev 1977a: 52, 1978: 100; Kippenberg 2010: 420.

Material Examined. Uench, 2.vii.1966 (№ 615) leg. Dr. Z. Kaszab (DEI); 55 km NE Altai, 30. vii.1976, leg. L. Medvedev and N. Voronova (LMC); Arshantyn-Nuruu, 6-7.v.2002, leg. R. Yakovlev (EGC); Middle Bulgan-gol, 15.v.2002, leg. R. Yakovlev and D. Ryzhkov (EGC); Alag-Nuur, 12.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC); Arshantyn-Nuruu, 15-17.v.2012, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Bayankhongor). Russia (Altai), central and eastern Kazakhstan, Tarbagatay, central Tian-Shan, western China.

Crosita clementzae clementzae Jacobson, 1899

References. Jacobson 1899: 9; Lopatin 1975: 207; Medvedev 1976: 908, 1982: 246; Medvedev and Voronova 1977a: 331, 1978: 14, 1979: 109; Medvedev and Zaitzev 1977a: 52; Kippenberg 2010: 420.

Material Examined. Tachtoi-Ula, 1-8.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Tsargin, 19-21.vii.1975, leg. L. Medvedev and N. Voronova (LMC); Uenchin-Gol, 6.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Barangijn-Shara-Nuruu, 11.vii.2007 leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 21.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Baruun-Khargaityn-Gol, 18-21.v.2015, leg. R.V. Yakovlev (EGC); Gushoot-Shineetijn-Gol, 23-26.v.2015, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Hovd, Gobi-Altai). China (Xinjiang).

Crosita clementzae atasica Medvedev, 1976

References. Medvedev 1976: 908, 1982: 247; Medvedev and Voronova 1977a: 331; Kippenberg 2010: 420.

Material Examined. Dzegijn-Ama 7.viii.1968, leg. Emelyanov (ABC); Atas-Ula, 17.ix.1976, leg. L. Medvedev and N. Voronova (LMC).

Distribution. Mongolia (Gobi-Altai).

Notes. An endemic species of Mongolia, described by Medvedev (1976) from the Atas-Ula Mountains.

Crosita elegans Lopatin, 1968

References. Lopatin 1968: 216, 1975: 207; Medvedev 1976: 909, 1982: 247; Medvedev and Voronova 1977a: 331, 1979: 109; Medvedev and Zaitzev 1977a: 52; Kippenberg 2010: 420.

Material Examined. Turgen-Gol, 1-2.viii.75, leg. L. Medvedev (LMC); Dzhun-Zhargalant-Hajirkhan, 28.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Must, 30.vii.76, leg. L. Medvedev and N. Voronova (LMC); Bidzh-Altai, 6-7.viii.1976, leg. L. Medvedev and N. Voronova (LMC); Burgyn-Davaa, 7.viii.1976, leg. L. Medvedev and N. Voronova (LMC); Mogoijn-Gol, 8.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC); Hara-Adzragyn-Nuru, 13-14.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Gobi-Altai, Ubsunur).

Notes. This is an endemic species in Mongolia.

Crosita kowalewskyi kowalewskyi (Gebler, 1836)

References. Jacobson 1898: 200; Lopatin 1968: 211, 1975: 207; Medvedev 1976: 909, 1979: 164, 1982: 247; Medvedev and Voronova 1976: 226, 1977a: 331, 1978: 13, 1979: 109; Medvedev and Zaitzev 1977a: 52, 1978: 100; Kippenberg 2010: 420.

Material Examined. Dutijn-Dava, 14.vii.1970, leg. Kozlov (ABC); Khalyun, 17.viii.1973, (ABC); Dutijn-Dava, 12.vii.75, leg. L. Medvedev (LMC); Hara-Adzragyn-Nuru, 13-14.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC); Zhargalan, 19-21. vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Gobi-Altai, Bayankhongor, South Gobi). Russia (S Altai), NW China.

Crosita kowalewskyi matronula Weise, 1894

References. Weise 1894: 155; Jacobson, 1899: 200; Lopatin 1966: 233, 1968: 211, 1975: 207; Medvedev 1976: 909, 1982: 248; Medvedev and Voronova 1976: 226, 1977b: 219, 1979: 110; Kippenberg 2010: 421.

Material Examined. Tolbo, 24.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Dzhun-Zhargalant-Hajirkhan, 28.vii.1976, leg. L. Medvedev and N. Voronova (LMC).

Distribution. Mongolia (Gobi-Altai, Bayankhongor, Uverhangay, Central).

Notes. This is an endemic species in Mongolia.

***Crosita rugulosa* (Gebler, 1841)**

= *C. longipes* Jacobson, 1898

References. Lopatin 1971: 224, 1975: 208; Medvedev and Korotyaev 1976: 243; Medvedev 1976: 909, 1982: 247; Medvedev and Voronova 1977a: 331, 1979: 109; Medvedev and Zaitzev 1977a: 52, 1978: 100; Kippenberg 2010: 421.

Material Examined. Mogoijn-Gol, 11.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Gobi-Altai, Ubsunur). Russia (S Altai, Tuva).

***Crosita pigra* Weise, 1894**

References. Weise 1894: 154; Lopatin 1971: 224, 232, 1975: 207; Medvedev 1976: 908, 1982: 246; Medvedev and Zaitzev 1977a: 52, 1978: 99; Medvedev and Voronova 1979: 109; Kippenberg 2010: 421.

Material Examined. Shine-Davaa, 21.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Altai (BU), 23.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Tal-Nuur 10.vii.2015, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Ubsunur). Russia (Tuva).

Chrysolina* Motschulsky, 1860**Chrysolina* (*Zeugotaenia*) Motschulsky, 1860*****Chrysolina* (*Zeugotaenia*) *limbata hochhuthii* (Suffrian, 1851)**

References. Cherepanov 1956: 57; Lopatin 1964: 369, 1966: 233, 1967: 160, 1968: 213, 1970: 252, 1971: 226, 1975: 209; Mohr 1966: 368; Medvedev and Dubeshko 1974: 189; Medvedev and Korotyaev 1975: 181; Medvedev and Voronova 1976: 226, 1977a: 332, 1977b: 219, 1979: 110; Medvedev 1982: 239; Kippenberg 2010: 419; Bienkowski and Orlova-Bienkowskaya 2011a: 500, 2011b: 1150.

Material Examined. Munkh-Khairkhan, 30. vii.1969, leg. Arnoldi (ABC); Uench 22.vi.2005, leg. R. Yakovlev and D. Ryzhkov (EGC); Tolbo-Nuur 25.vii.2009 leg. E.V. Guskova and R.V. Yakovlev (EGC); Dod-Naryin-gol, 14.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel 26-30.vii.2009 leg. E.V. Guskova and R. V. Yakovlev (EGC); Tajshir 17.vii.2010 leg. E.V. Guskova and R.V. Yakovlev (EGC); Arshantyn-Nuruu 15-17.v.2012 leg. R. Yakovlev (EGC); Elt-Gol 11.vii. 2015, leg. R. Yakovlev (EGC).

Distribution. Mongolia. Russia (Mountains of E Siberia), E Kazakhstan, N China.

Chrysolina* (*Anopachys*) Motschulsky, 1860**Chrysolina* (*Anopachys*) *aurichalcea* (Mannerheim, 1825)**

References. Cherepanov 1956: 58; Lopatin 1967: 160, 1971: 226, 1975: 209; Medvedev and Dubeshko 1974: 189; Medvedev and Voronova 1976: 227, 1977a: 332, 1977b: 219, 1979: 111; Medvedev and Zaitzev 1978: 93; Medvedev 1982: 240; Kippenberg 2010: 400.

Distribution. Mongolia (widespread). Europe, N Kazakhstan, Russia (European part, W and Middle Siberia, Altai, Yakutia, Sakhalin), China, Korea, Japan.

***Chrysolina* (*Anopachys*) *quadrangulata* (Motschulsky, 1860)**

References. Bienkowski 1998: 139; Kippenberg 2010: 400.

Material Examined. Tsengel, 26-30.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Zavhan, Central, Bulgan, Arkhangai). Russia (Altai, Tuva, Irkutsk region, Magadan region, Chita region, Yakutia, Khabarovsk region, Kamchatka).

Notes. This species is recorded here from the Mongolian Altai for the first time; it is previously known from eastern Mongolia.

Chrysolina* (*Allohypericia*) Bechyné, 1950**Chrysolina* (*Allohypericia*) *centralasiae* Lopatin, 1970**

References. Lopatin 1970: 253, 1971: 225, 1975: 209, 1977: 154; Medvedev and Pustovoit 1977: 206; Medvedev and Voronova 1977a: 333, 1979: 112; Medvedev 1982: 241; Kippenberg 2010: 401.

Distribution. Mongolia (Hovd, Gobi-Altai, Ubsunur, Bayankhongor, Uverhang, Mid-Gobi, South Gobi, East Gobi, Suhe Bator). E Siberia, N China (Inner Mongolia, Qinghai).

Notes. Lopatin (1970) described this species from southern Gobi Aimak based upon specimens in the collection of Dr. Kaszab. This species was not found by the author.

***Chrysolina* (*Allohypericia*) *aeruginosa alpina* Medvedev, 1980**

References. Medvedev 1980: 317; Mohr 1966: 96; Lopatin 1968: 212, 1975: 209; Medvedev and Voronova 1977a: 334, 1979: 111; Medvedev 1982: 241; Kippenberg 2010: 402.

Material Examined. Myangat, 3.viii.1970, leg. Kozlov (LMC); Naran, 22.vii.1970, leg. Kozlov (LMC); 25 km N Bulgan, 31.vii.1970, leg.

Narshuk (LMC); Dutijn-Dava, 10.vii.1975, leg. L. Medvedev (LMC); Bodgony-Hutel, 5.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Hovd, Gobi-Altai, Bayankhongor).

Notes. This species is endemic in Mongolia and inhabits highlands.

Chrysolina (Allohypercicia) perforata perforata
(Gebler, 1830)

References. Cherepanov 1956: 57; Lopatin 1971: 224, 1975: 212; Medvedev and Korotyaev 1976: 244; Medvedev and Voronova 1977a: 333, 1979: 112; Medvedev and Zaitzev 1977b: 363, 1978: 92; Medvedev 1980: 317, 1982: 240; Kippenberg 2010: 402.

Material Examined. Khara-Nuur, 22.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Dzhelty-Ula, 22.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Sagsaj, 23.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Usvajn-Davaa, 24.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Tolbo, 24.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Tsengel, 26–30.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC); Zhargalan, 19–21.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Gobi-Altai (new aimak record), N Zavhan, N Khubsugul, E Ubsunur). Russia (Altai, Khakassia, Tuva, Krasnoyarsk krai, Irkutsk region, Buryatia).

Chrysolina (Allohypercicia) perforata similima
Mohr, 1966

Material Examined. Tal-Nuur, 10.vii.2015, leg. R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Selenge).

Notes. This species is recorded here from the Mongolian Altai for the first time; it is previously reported only from Selenge aimak.

Chrysolina (Chalcoidea) Motschulsky, 1860

Chrysolina (Chalcoidea) brunnicornis
(Weise, 1887)

References. Weise 1887: 175; Medvedev and Voronova 1979: 112; Medvedev 1982: 244; Kippenberg 2010: 402.

Material Examined. Tsengel, 26–30.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 14.vii.2015, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei). Russia (SE Altai, Tuva).

Chrysolina (Chalcoidea) songarica
(Gebler, 1843)

= *Chrysomela circumducta* Ménétrié, 1848

References. Cherepanov 1956: 57; Lopatin 1970: 252, 1971: 226, 1975: 212; Medvedev and Voronova 1976: 226, 1977a: 332; Medvedev 1982: 240; Kippenberg 2010: 404.

Material Examined. Elt-Gol, 1–8.vii.2005, leg. R. Yakovlev and D. Ryzhkov (EGC); Arshantyn-Nuruu, 19–20.vi.2005, leg. R. Yakovlev and D. Ryzhkov (EGC).

Distribution. Mongolia (Bayan-Ulegei, Ubsunur, Khubsugul, Selenge, Central). SE and E Kazakhstan (Dzhungar Alatau and Tarbagatay Mountain Ranges).

Chrysolina (Pleurosticha) Motschulsky, 1860

Chrysolina (Pleurosticha) shapkini
Mikhailov and Gus'kova, 2013

Reference. Mikhailov and Guskova 2013a: 126.

Material Examined. Mankhan, 05.vii.2009, leg. E. Guskova (holotype (ISEA), paratypes (YuMC and EGC)).

Distribution. Mongolia (Hovd).

Notes. The type series was collected in the mountain breakstone steppe at 2,200 m in the valley of the creek, under stones, at the base of bushes *Salvia* sp. (Lamiaceae). The species is endemic in Mongolia.

Chrysolina (Pezocrosita) Jacobson, 1901

Chrysolina (Pezocrosita) convexicollis
(Jacobson, 1901)

References. Cherepanov 1956: 56; Lopatin 1971: 225, 1975: 209; Medvedev and Voronova 1977a: 333, 1979: 112; Medvedev and Zaitzev 1977b: 363, 1978: 93; Medvedev 1982: 243; Kippenberg 2010: 412.

Material Examined. Sagsaj, 22.vii.1976, leg. L. Medvedev and N. Voronova (LMC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Gobi-Altai, Ubsunur, Khubsugul). Russia (Tuva).

Chrysolina (Chrysolina) Motschulsky, 1860

Chrysolina (Chrysolina) staphylaea
(Linnaeus, 1758)

References. Mohr 1966: 368; Lopatin 1967: 160, 1968: 212, 1970: 252, 1975: 213, 1977: 154; Kaszab 1977: 65; Medvedev and Voronova 1977a: 332, 1977b: 219, 1979: 111; Medvedev 1982: 240; Kippenberg 2010: 405.

Material Examined. Elkhony-Ekhen-Tal, 5.v.2013, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Hovd, Gobi-Altai, Khubsugul, Arkhangai, Bulgan, Central, Eastern). Holarctic.

Chrysolina (Euchrysolina) Bechyne, 1950

***Chrysolina (Euchrysolina) graminis*
(Linnaeus, 1758)**

Material Examined. Bulgan-Gol Valley, 6-7.v.2002, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Hovd). Europe, Russia (European part, W and Middle Siberia, Yakutia).

Notes. This species is recorded here from the Mongolian Altai for the first time.

Colaphellus Weise, 1916

***Colaphellus alpinus* (Gebler, 1833)**

References. Cherepanov 1956: 58; Lopatin 1964: 371, 1966: 234, 1967: 162, 1968: 213, 1970: 253, 1971: 226, 1975: 214; Mohr 1966: 368; Medvedev and Dubeshko 1974: 191; Medvedev and Voronova 1977a: 336, 1979: 117; Medvedev and Zaitzev 1977b: 368, 1978: 113; Medvedev 1982: 255; Kippenberg 2010: 427.

Material Examined. Zagan-Nuur, 20.vii.1976, leg. L. Medvedev and N. Voronova (LMC); 55 km NE Altai, 23.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 25-27.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Gobi-Altai, Ubsunur, Arkhangai, Selenge, Central, Hentiy, Eastern, Bayankhongor, Uverhang). Russia (S and Middle Siberia).

Gastrophysa Chevrolat, 1836

Gastrophysa (Gastrophysa) Chevrolat, 1836

***Gastrophysa (Gastrophysa) mannerheimi*
(Stål, 1858)**

References. Cherepanov 1956: 58; Mohr 1966: 368; Medvedev and Dubeshko 1974: 190, 1975: 237; Lopatin 1975: 215; Medvedev and Voronova 1976: 228, 1977a: 335, 1979: 114; Medvedev and Zaitzev 1978: 111; Medvedev 1982: 255; Kippenberg 2010: 393.

Material Examined. 55 km NE Altai, 23.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (widespread). Russia (Tuva, Amurland), NE China.

***Gastrophysa (Gastrophysa) polygoni*
(Linnaeus, 1758)**

References. Cherepanov 1956: 58; Lopatin 1966: 234, 1970: 254, 1975: 215; Medvedev and Voronova

1977a: 335, 1979: 114; Medvedev and Zaitzev 1978: 111; Medvedev 1982: 254; Kippenberg 2010: 393.

Material Examined. Mogoijn-Gol, 11.07.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC); Il-Gol, 15.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC); Arshantyn-Nuruu, 9-10.vi.2011, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Hovd, Gobi-Altai, Ubsunur, Selenge, Hentiy, Eastern, Bayankhongor). Europe, Kazakhstan, Siberia, Japan, China, N Africa.

***Gastrophysa (Gastrophysa) viridula lenta*
(Weise, 1887)**

References. Lopatin 1964: 371, 1966: 234, 1967: 102, 1970: 254, 1971: 226, 1975: 215, 1977: 154; Medvedev and Dubeshko 1974: 190; Medvedev and Voronova 1976: 228, 1977a: 335, 1977b: 219, 1979: 114; Medvedev 1982: 255; Kippenberg 2010: 393.

Material Examined. Elt-Gol, 1-8.vii.2005, leg. R. Yakovlev and D. Ryzhkov (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Hovd, Zavhan, Khubsugul, Arkhangai, Bulgan, Selenge, Central, Hentiy, Eastern, Bayankhongor, Uverhang, East Gobi, Suhe Bator). Russia (Siberia).

Phratora Chevrolat, 1836

Phratora (Phratora) Chevrolat, 1836

***Phratora (Phratora) vulgatissima*
(Linnaeus, 1758)**

References. Medvedev 1982: 249; Kippenberg 2010: 395.

Material Examined. Dod-Naryin-gol, 26.vi.2005, leg. R. Yakovlev and D. Ryzhkov (EGC); Middle Bulgan-gol, 28.vi.2005, leg. R. Yakovlev and D. Ryzhkov (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Hovd (new aimak record), Khubsugul, Arkhangai, Bulgan, Selenge, Central, Hentiy, Suhe Bator). Holarctic.

Notes. This species is recorded here from the Mongolian Altai for the first time. The beetles feed on willows growing on river banks.

Phratora (Phyllodecta) Kirby, 1837

***Phratora (Phyllodecta) polaris* (Schneider, 1886)**

References. Medvedev 1982: 250; Bienkowi 2004: 69; Kippenberg 2010: 395.

Material Examined. Dod-Naryin-gol, 14.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 21.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 25-27.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Hovd (new aimak record), Zavhan, Arkhangai, Selenge, Central, Hentiy). Europe, Russia (European part, Tuva, Irkutsk region), North Korea.

Notes. This species is recorded from the Mongolian Altai for the first time. The beetles feed on willows growing on river banks.

Phaedon Latreille, 1829

Phaedon (Phaedon) Latreille, 1829

Phaedon (Phaedon) armoraciae (Linnaeus, 1758)

References. Lopatin 1966: 234, 1975: 214; Medvedev and Voronova 1977a: 334, 1979: 115; Medvedev and Zaitzev 1978: 112; Medvedev 1982: 248; Kippenberg 2010: 396.

Material Examined. Dod-Naryin-gol, 14.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 25–27.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Hovd, Gobi-Altai, Ubsunur, Zavhan, Khubsugul, Arkhangai, Bulgan, Central, Hentiy, Suhe Bator, Bayankhong, Uverhangay, South Gobi). N, Central, and E Europe, mountains of S Kazakhstan and Central Asia, Russia (European part, Siberia east to Yakutia).

Notes. Adults and larvae feed on *Hippuris* L. (Plantaginaceae).

Phaedon (Phaedon) concinnus Stephens, 1834

References. Mohr 1966: 368; Lopatin 1968: 213, 1975: 214; Medvedev and Dubeshko 1974: 190; Kaszab 1977: 65; Medvedev and Voronova 1977a: 334, 1979: 115; Medvedev and Zaitzev 1978: 112; Medvedev 1982: 248; Kippenberg 2010: 397.

Material Examined. Arshantyn-Nuruu, 12.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Mogoijn-Gol, 11.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC); Hundijn-Gol, 3.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC); Mogoijn-Gol, 30–31.v.2011, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Gobi-Altai (new aimak record), Ubsunur, Zavhan, Khubsugul, Arkhangai, Bulgan, Central, Hentiy, Bayankhong, Uverhangay, South Gobi). NNW and E Europe, Baltic States, Russia (N European part, N Siberia, Far East).

Sternoplatys Motschulsky, 1860

Sternoplatys clementzi Jacobson, 1901

References. Csiki 1901: 118; Jacobson 1901: 131; Lopatin 1964: 371, 1966: 234, 1967: 162, 1968: 213,

1970: 253, 1971: 227, 1975: 214; Mohr 1966: 368; Medvedev and Voronova 1977a: 335, 1979: 115; Medvedev and Zaitzev 1977b: 364, 1978: 109; Medvedev 1982: 249; Kippenberg 2010: 394.

Material Examined. Tsengel, 21.vii.2007, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 26–30.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (EGC); Tsengel, 25–27.vii.2010, leg. E.V. Guskova and R.V. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Central, Hentiy, Eastern). Russia (Altai, Tuva, Yakutia).

Chrysomela Linnaeus, 1758

Chrysomela (Chrysomela) Linnaeus, 1758

Chrysomela (Chrysomela) populi Linnaeus, 1758

References. Jacobson 1909: 24; Cherepanov 1956: 59; Lopatin 1966: 234, 1975: 216; Medvedev and Dubeshko 1974: 191; Medvedev and Voronova 1977a: 336; Medvedev 1982: 254; Kippenberg 2010: 391.

Material Examined. Baruun-Khargaityn-Gol, 18–21.v.2015, leg. R. Yakovlev (EGC); Gushoot-Shineetijn-Gol, 23–26.v.2015, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Bayan-Ulegei, Hovd, Ubsunur, Zavhan, Arkhangai, Uverhangay, Bulgan, Selenge, Central, Hentiy). Widespread in the Palearctic Region.

Chrysomela (Chrysomela) saliceti (Weise, 1884)

References. Cherepanov 1956: 59; Medvedev and Dubeshko 1974: 191; Lopatin 1975: 216; Medvedev and Voronova 1976: 336, 1979: 114; Medvedev and Zaitzev 1978: 105; Medvedev 1982: 254; Kippenberg 2010: 391.

Material Examined. Tachtai-Ula, 1–8.viii.1976, leg. L. Medvedev and N. Voronova (LMC); Dod-Naryin-gol, 26.vi.2005, leg. R. Yakovlev and D. Ryzhkov (EGC); Darkhijn-Shurag-Gol, 26.v.2011, leg. R. Yakovlev (EGC); Darkhijn-Shurag-Gol, 13.vi.2011, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Hovd, Ubsunur, Arkhangai, Uverhangay, Selenge, Central, Eastern). Widespread in the Palearctic Region except for Middle Asia.

Notes. This species was previously recorded in Hovd aimak only for the ridge Baytag-Bogdo. I have found it in the other more northern localities of this aimak.

Chrysomela (Chrysomela) tremula Fabricius, 1787

References. Jacobson 1909: 24; Medvedev and Dubeshko 1974: 191; Lopatin 1975: 216; Medvedev and Voronova 1977a: 336, 1979: 114;

Medvedev and Zaitzev 1978: 105; Medvedev 1982: 254; Kippenberg 2010: 391.

Distribution. Mongolia (Hovd, Ubsunur, Arkhangai, Bulgan, Selenge, Central, Hentiy, Eastern). Widespread in the Palearctic Region except for Middle Asia.

Entomoscelis Chevrolat, 1836

Entomoscelis adonidis (Pallas, 1771)

References. Cherepanov 1956: 60; Medvedev and Dubeshko 1974: 191; Medvedev and Voronova 1977a: 336, 1979: 117; Medvedev 1982: 256; Kippenberg 2010: 428.

Material Examined. Elt-Gol, 1–8.vii.2005, leg. R. Yakovlev and D. Ryzhkov (EGC).

Distribution. Mongolia (Bayan-Ulegei (new aimak record), Hovd, Ubsunur, Arkhangai). Europe, Kazakhstan, Russia (European part, Siberia), Japan, China, N Africa.

Oreomela Jacobson, 1895

Oreomela dubeshkoeae Medvedev, 1977

(Fig. 2)

References. Medvedev and Voronova 1977a: 337, 349; Medvedev 1982: 257; Kippenberg 2010: 430.

Material Examined. Altan-Obo, 25–28.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Baruun-Khargaityn-Gol, 18–21.v.2015, leg. R. Yakovlev (EGC).

Distribution. Mongolia (Hovd).

Notes. *Oreomela dubeshkoeae* is the sole representative of *Oreomela s. str.* in the Mongolian Altai. Medvedev (1977) described this species based upon a single young female. I have found one additional female.

Cystocnemis Motschulsky, 1860

Cystocnemis arnoldii Lopatin, 1974

References. Lopatin 1974: 176, 1975: 217; Medvedev and Voronova 1977a: 336, 1978: 14; Medvedev 1982: 257; Kippenberg 2010: 429; Mikhailov 2013: 310.

Material Examined. Munkh-Khairkhan, 30.vii.1968, leg. Arnoldi (ZIN); Ikh-Dhargalantyn-Gol, 5.vii.80, leg. L. Medvedev (ZIN).

Distribution. Mongolia (Bayan-Ulegei, Hovd), E Kazakhstan.

Cystocnemis (Cystocnemis) levmedvedevi

Mikhailov and Gus'kova, 2013

Reference. Mikhailov and Guskova 2013a: 540.

Material Examined. Arshantyn-Nuruu, 11–12.vii.2007, leg. E.V. Guskova and R.V. Yakovlev



Fig. 2. *Oreomela dubeshkoeae*, female, western Mongolia, Hovd aimak, Bajtag-Bogdo Mts., Baruun-Khargaityn-Gol, 18–21 May 2015, leg. R. Yakovlev (EGC).

(EGC); Arshantyn-Nuruu, 19.vii.2009, leg. E.V. Guskova and R.V. Yakovlev (holotype (ISEA), paratypes (YuMC, EGC)).

Distribution. Mongolia (Hovd).

Notes. This species is known only from the Arshantyn-Nuruu mountain range on the southwestern slopes of the Mongolian Altai. It may occur also on other ranges of similar elevation in the adjacent part of the Chinese Altai. All beetles were collected under stones on mountain crests in the zone of highland steppes. It is endemic in Mongolia.

Cystocnemis (Entomomela) Jacobson, 1925

Cystocnemis (Entomomela) oirata (Jacobson, 1926)

References. Jacobson 1925: 242; Medvedev and Voronova 1979: 117; Medvedev 1982: 257; Kippenberg 2010: 429; Mikhailov 2013: 309.

Material Examined. Khara-Nuur, 22.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Dzhelty-Ula, 22.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Altai (BU), 23.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Altai (BU), 23.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Usvajn-Davaa, 24.vii.1976, leg. L. Medvedev and N. Voronova (LMC); Elt-Gol, 1–8.vii.2005, leg. R. Yakovlev and D. Ryzhkov (EGC).

Distribution. Mongolia (Bayan-Ulegei). Russia (Altai (South-Chuya mountain range, Ukok plateau)), E Kazakhstan.

Gonioctena Chevrolat, 1836

Gonioctena (*Gonioctena*) Chevrolat, 1836

Gonioctena (*Gonioctena*) *arctica* Mannerheim, 1853

=*Gonioctena* (*Gonioctena*) *affinis* (Gyllenhal, 1808)

=*Gonioctena* (*Gonioctena*) *decaspilota* (Achard, 1924)

References. Medvedev and Voronova 1976: 228, 1979: 116; Medvedev and Zaitzev 1978: 119; Medvedev 1982: 252; Kippenberg 2010: 432.

Distribution. Mongolia (Bayan-Ulegei, Arkhangai, Uverhangay, Selenge, Central). N and NE Europe, Russia (European part, Siberia, Far East), N China.

Gonioctena (*Gonioctena*) *linnaeana* Schrank, 1781

References. Medvedev and Voronova 1976: 228; Medvedev 1982: 252; Kippenberg 2010: 433.

Distribution. Mongolia (Bayan-Ulegei, Central). Europe except for Mediterranean, Caucasus, Kazakhstan except for southern parts, Russia (European part, W and S Siberia, Altai, Tuva).

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