

Contribution to chromosome study in some vascular plants from Russia: Chenopodiaceae, Amaranthaceae, Brassicaceae

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ABSTRACT

Chromosome numbers for 31 taxa of vascular plants studied on the material from Russia are given. The most of them belong to Chenopodiaceae family, one species was studied in Amaranthaceae and Brassicaceae. Chromosome numbers in *Oxybasis micrantha* (Trautv.) Sukhor. & Uotila and *Suaeda arctica* Jurtz. et Petrovsky were examined for the first time. Chromosome numbers of *Grubovia melanoptera* (Bunge) Freitag et G. Kadereit and *Salsola abrotanoides* Bunge were first counted on the material from Russia. The map showing sampling locations is presented. Brief information on the distribution of the studied species and, if necessary, comments on the chromosome numbers are given.

Keywords: chromosome numbers, vascular plants, Amaranthaceae, Brassicaceae, Chenopodiaceae, Russia

РЕЗЮМЕ

Ломоносова М.Н. К изучению чисел хромосом у некоторых сосудистых растений России из семейств Chenopodiaceae, Amaranthaceae, Brassicaceae. Приводятся числа хромосом для 31 таксона сосудистых растений, полученные на материале с территории России. Большинство из них относятся к семейству Chenopodiaceae, по одному виду исследовано в семействах Amaranthaceae и Brassicaceae. У *Oxybasis micrantha* (Trautv.) Sukhor. & Uotila и *Suaeda arctica* Jurtz. et Petrovsky число хромосом определено впервые. Определение числа хромосом у *Grubovia melanoptera* (Bunge) Freitag & G. Kadereit и *Salsola abrotanoides* Bunge впервые выполнено на материале из России. Представлена карта с указанием мест сбора материала. Даны краткие сведения по распространению исследованных видов и, в необходимых случаях, комментарии по числам хромосом.

Ключевые слова: числа хромосом, сосудистые растения, Amaranthaceae, Brassicaceae, Chenopodiaceae, Россия

This paper continues our contributions to chromosome counts of the vascular plants especially belonging to the family Chenopodiaceae. Somatic chromosomes were examined by direct count in root meristem of seedlings. The root tips were pretreated with 0.2 % colchicine, fixed in 3:1 ethanol-acetic acid and stained with acetic hematoxylin. Chromosome counts in the literature were checked using the international databases: “the Chromosome Counts Database” (Rice et al. 2015) and “Index to Plant Chromosome Numbers” (Goldblatt & Johnson 1979). In this paper, literature sources were cited when the chromosome number for a particular species was previously determined no more than three times.

The taxonomy of Chenopodiaceae is considered in relation to recent molecular-phylogenetic studies (Kadereit & Freitag 2011, Fuentes-Bazan et al. 2012) besides the genus *Salsola* L., nomenclature of which until recently was questionable (Akhani et al. 2014, Mosyakin et al. 2014, 2017).

All herbarium specimens are stored in the Herbarium of the Central Siberian Botanical Garden SB RAS (NSK).

AMARANTHACEAE

Amaranthus retroflexus L., 2n = 32

Samarskaya Oblast', the city of Togliatti, the sandy cliff to the Volga river, 53°28'N 49°21'E, 23 Sep 2013, M. Lo-

monosova 1068b: 1. This aggressive weed spreads over all continents. Previous studies have shown that this species has two cytotypes: the most common 2n = 34 and relatively rare 2n = 32. Further research is needed to determine whether these cytotypes have any taxonomic significance in this morphologically variable taxon. This adventive species is distributed in all continents. Our data match the chromosome counts previously conducted by different authors.

BRASSICACEAE

Dontostemon pinnatifidus (Willd.) Al-Shehbaz et Ohba (*Dimorphostemon pectinatus* (Pers.) Kitag.), 2n = 14

Magadanskaya Oblast', Srednekanskii Raion, vicinity of the former village Kolymское, roadside, 62°86'N 152°40'E. 28 Aug 2016. M.N. Lomonosova & E.A. Korolyuk 1294: 29. Distribution: East Siberia, Russian Far East, Mongolia, China. This is the second chromosome count for the species. The same CN was reported from Buryatia (Probatova et al. 2015).

CHENOPODIACEAE

Atriplex patens (Litv.) Iljin, 2n = 36

Volgogradskaya Oblast', Pallasovskii Raion, El'ton Lake, *Phragmites australis* community, 49°12'N, 46°38'E, 26 Sep 2013, M. Lomonosova 1094c: 2. Distribution: European and Asian parts of Russia, Kazakhstan, Mongolia, China. The same chromosome count for the species (2n = 36) was discovered earlier in many localities. Rare cytotype (2n = 18) is known from E Kazakhstan (Lomonosova et al. 2003a) and the Russian Far East (Probatova et al. 1998).

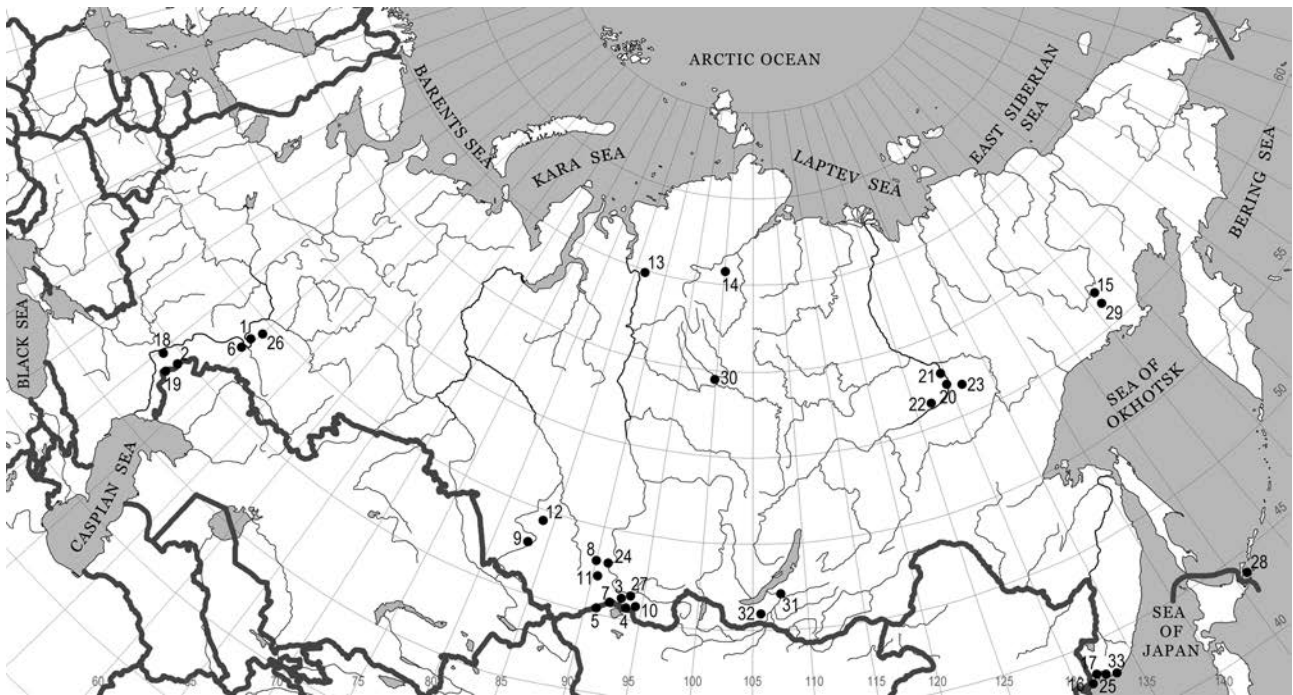


Figure 1 Study area. Dots with numbers from 1 to 33 are the sampling plot locations (according to numbering in the text)

***Atriplex subcordata* Kitag., 2n = 36**

Sakhalinskaya Oblast', Kunashir Island, Stolbchatyi Cape, sea shore, 44°01'N, 145°40'E, 22 Sep 2015, Yu.A. Ovchinnikov 508: **28**. Distribution: the Russian Far East and Japan. The same chromosome number (2n = 36) was published earlier from the Russian Far East (Probatova & Sokolovskaya 1990, Probatova et al. 2017). Nishikawa et al. (1981) discovered 2n = 54 in Japanese population.

***Bassia prostrata* (L.) Scott (*Kochia prostrata* (L.) Schrad.), 2n = 18**

Tyva Republic, Tandinskii Raion, Cheder Lake, 51°40'N, 94°76'E, 31 Aug 2013, M. Lomonosova 978c: **3**; Tyva Republic, Ovyurskii Raion, Ak-Chyraa village, semi-desert, 50°70'N, 93°26'E, 5 Sep 2013, M. Lomonosova 1019c: **4**; Tyva Republic, Ovyurskii Raion, near Khandagaity village, road side, 50°73'N, 92°17'E, 5 Sep 2013, M. Lomonosova 1025 **5**; Volgogradskaya Oblast', Pallasovskii Raion, El'ton village, desert steppe, 49°10'N, 46°12'E, 26 Sept 2013, M. Lomonosova 1091a: **2**.

— **2n = 54**

Samarskaya Oblast', Zhigulevsk, stony steppe slope, 53°25'N, 49°32'E, 21 Sep 2013, V. Byalt & M. Lomonosova 1056a: **6**. Distribution: steppe and desert zones of Eurasia. *B. prostrata* is a polyploid complex consisting of diploid (2n = 18), tetraploid (2n = 36) and hexaploid (2n = 54) cytotypes. Diploid cytotype is more common and was established in different parts of the species area of distribution, tetraploid one was discovered in Kazakhstan (Zakhar'eva & Soskov 1981) and China (Lomonosova et al. 2014), hexaploid cytotype was known from Pakistan (Khatun 1991) and Iran (Ghaffari et al. 2015).

***Bassia scoparia* (L.) Scott, 2n = 18**

Tyva Republic, Tandinskii Raion, Khadyn Lake, solonchak, 51°36'N, 94°36'E, 30 Aug 2013, M. Lomonosova 975b: **3**. Adventive species settles in all continents. It has stable chromosome number confirmed earlier on the material from many populations.

***Blitum virgatum* L. (*Chenopodium foliosum* (Moench) Asch.), 2n = 18**

Tyva Republic, Ovyurskii Raion, West Tannu-Ola Range, 2293 m, 50°92'N, 92°32'E, 5 Sep 2013, M. Lomonosova 1024b: **7**. Distribution: Eurasian mountain systems

from the Himalayas and the Altai Mts. to S Europe; naturalized in other continents. The same chromosome counts were confirmed from many sites of the area.

***Chenopodium acerifolium* Andr., 2n = 36**

Krasnoyarskii Krai, Evenkiyskii Raion, Tura village, the floodplain of the river N. Tunguska, 64°17'N, 100°13'E, 27 Aug 2016, L. Krivobokov s. n.: **30**. Distribution: shores of the major rivers in N Eurasia from Poland to Yakutia (see the map in Uotila & Lomonosova 2016). Tetraploid level 2n = 36 was earlier confirmed on the material from Siberia (Lomonosova et al. 2001, Mandák et al. 2016). Diploid chromosome number 2n = 18 mentioned for this species by Lomonosova (2013) is a typo, accurate chromosome number here is 2n = 36.

***Chenopodium acuminatum* Willd., 2n = 18**

Khakasia Republic, Beiskii Raion, Kirba village, roadside in steppe, 53°33'N, 91°13'E, 7 Sep 2013, M. Lomonosova 1038a: **8**; Buryatia Republic, Ulan-Ude, sandy roadside, 51°76'N, 107.59°13'E, 10 Sep 2017, B.B. Naidanov 017207: **31**. Distribution: Asia: S Siberia, N Central Asia and Far East. Diploid chromosome complement (2n = 18) is known from Altaiskii Krai, Tyva (Lomonosova & Krasnikov 1994) and China (Mandák et al. 2016). Tetraploid cytotype (2n = 36) is known from Kazakhstan (Lomonosova et al. 2003b) and Japan (Tanaka & Tanaka 1980).

***Chenopodium album* L., 2n = 54**

Altaiskii Krai, Barnaul, Yuzhnyi village, as a weed, 53°15'N, 83°41'E, 3 Oct 2013, M. Lomonosova 1113: **9**; Tyva Republic, Tes-Khemskii Raion, Khoolu river valley, on gravel, 50°34'N, 94°21'E, 4 Sep 2013, M. Lomonosova 1018a: **10**; Khakasia Republic, Beiskii Raion, B. Monok village, fallow land, 7 Sep 2013, M. Lomonosova 1035: **11**; Novosibirsk city, Akademgorodok, weed on the lawn, 53°15'N, 83°41'E, 22 Sep 2014, M. Lomonosova 1156c: **12**. Distribution: *C. album* is the most common species of *Chenopodium* in all continents. Previous reports indicated that this species has three ploidy levels: diploid 2n = 18, tetraploid 2n = 36, and hexaploid 2n = 54. Many authors confirmed hexaploid level for this species. Other ploidy levels (2n = 18 and 2n = 36) published under the name *C. album* most likely refer to other taxa and suggest that detailed investigation is required on the taxonomy of the species.

***Chenopodium frutescens* C.A. Mey., 2n = 90**

Tyva Republic, Ovyurskii Raion, Ak-Chyrra village, semi-desert, 50°70'N, 93°26'E, 5 Sep 2013, M. Lomonosova 1019a: **4**. Distribution: endemic species with restricted area in W Mongolia, NW China and SE Altai. *C. frutescens* is the only decaploid species having the highest ploidy level within *Chenopodium*, that was earlier confirmed on the material from Tyva (Lomonosova & Krasnikov 1994) and Altai (Lomonosova et al. 2005).

***Chenopodium. karoi* (Murr) Aellen (*C. prostratum* Bunge ex Herder non (Pall.) Schult.), 2n = 36**

Krasnoyarskii Krai, Taimyrskii (Dolgano-Nenetskii) Raion, Dudinka, 9 Aug 2014, M. Lomonosova 1145a: **13**; Krasnoyarskii Krai, Taimyrskii (Dolgano-Nenetskii) Raion, SE Taymyr, NW Anabar plateau, pebbly floodplain of the Kotuy river above the village Kayak, 71°28'N, 103°15'E, 25 Jun 2013, I.N. Pospelov 13-097: **14**; Magadanskaya Oblast', Srednekanskii Raion, vicinity of Seimchan village, floodplain terrace of the Seimchan river, on the gravel, 62°55'N, 152°23'E, 28 Aug 2016, M. Lomonosova & E. Korolyuk 1282a: **15**. Distribution: Asia from Hindukush to Arctic Siberia, N China and the Russian Far East (Uotila & Lomonosova 2016). *C. karoi* has stable chromosome number revealed from Tyva, Yakutia, Chukotka and China.

***Chenopodium novopokrovskianum* (Aellen) Uotila, 2n = 36**

Tyva Republic, Ovyurskii Raion, Ak-Chyrra village, 50°70'N, 93°26'E, 5 Sep 2013, M. Lomonosova 1021a: **4**; Tyva Republic, Ovyurskii Raion, Khandagaity village, *Achnatherum splendens* community, 50°73'N, 92°17'E, 5 Sep 2013, M. Lomonosova 1026b, 1027b: **5**. Distribution: steppe and semi-desert localities from SW Asia to C Asia and S Siberia. This chromosome number is in agreement with the several previous reports.

***Chenopodium probstii* Aellen, 2n = 54**

Primorskii Krai, Khassanskii Raion, Gamov Peninsula, Tret'yakovskii Bay, 42°35'N, 131°13'E, 8 Oct 2017, M. Lomonosova 1415b: **16**. Distribution: this species widely settles in W Europe and sporadically occurs in other parts of Eurasia and Australia (Dostálek & Jehlík 2004). It has recently been mentioned for Asian Russia (Lomonosova 2018). The same chromosome number was revealed from Slovakia (Schwarzová 1986), Portugal, Iran (Rahiminejad 2006) and China (Mandák et al. 2016).

***Chenopodium strictum* Roth, 2n = 36**

Altaiiskii Krai, Barnaul, Yuzhnyi village, weed, 53°15'N, 83°41'E, 3 Oct 2013, M. Lomonosova 1114: **9**; Novosibirsk city, Akademgorodok, a weed on the lawn, 53°15'N, 83°41'E, 22 Sept 2014, M. Lomonosova 1156b: **12**. Distribution: Eurasia from W Europe to Far East. It has constant chromosome number confirmed from many localities.

***Chenopodium suecicum* Murr, 2n = 18**

Altaiiskii Krai, Barnaul, Yuzhnyi village, a weed on the lawn, 53°15'N, 83°41'E, 3 Oct 2013, M. Lomonosova 1125: **9**; Novosibirsk, Akademgorodok, 53°15'N, 83°41'E, 22 Sep 2014, M. Lomonosova 1156a: **12**. Distribution: Eurasian species settles in North America. Diploid with stable chromosome number determined from many populations through the area of distribution.

***Chenopodium vachellii* Hook. et Arn., 2n = 36**

Primorskii Krai, Nadezhdinskii Raion, Razdol'noe village, the gravel embankment on the floodplain terrace, 43°33'N, 131°54'E, 8 Sep 2016, M. Lomonosova & E. Korolyuk 1329: **17**. Distribution: E China, Korea, Japan and the Russian Far East. The same chromosome number was known from Primorskii Krai (Probatova et al. 2006).

***Grubovia melanoptera* (Bunge) Freitag & G. Kadereit (*Kochia melanoptera* Bunge), 2n = 18**

Tyva Republic, Ovyurskii Raion, vicinity of Ak-Chyrra village, steppe, 50°70'N, 93°26'E, 5 Sep 2013, M. Lomonosova 1023: **4**. Distribution: Tien Shan mountains, NW China, Mongolia, SE Altai and S Tyva. This is the first count for Russia. Earlier the same chromosome number was discovered

red in E Kazakhstan (Lomonosova et al. 2003a).

***Oxybasis glauca* (L.) S. Fuentes, Uotila et Borsch (*Chenopodium glaucum* L.), 2n = 18**

Samarskaya Oblast', Zhigulevsk, the Volga River bank, 53°25'N, 49°32'E, 21 Sep 2013, M. Lomonosova 1060a: **6**; Novosibirskaya Oblast', Akademgorodok, railway station Seyatel', on the uncut lawn, 54°52'N, 83°04'E, 2 Oct 2015, M. Lomonosova 1253a: **12**. Distribution: Holarctic species settles in S America and Australia. The vast majority of previous reports (except two) for the species are 2n = 18. Tetraploid level of 2n = 36 was earlier reported from Irkutskaya Oblast' (Lomonosova & Krasnikov 2006) and Novosibirskaya Oblast' (Lomonosova 2013).

***Oxybasis micrantha* (Trautv.) Sukhor. et Uotila (*Chenopodium micranthum* Trautv.), 2n = 18**

Primorskii Krai, Nakhodka city district, vicinity of Avangard village, Vostok Bay, seashore, wet meadow at the river mouth with *Phragmites australis*, *Salicornia perennans* and *Tripolium vulgare*, 42°54'N, 132°43'E, 19 Aug 2015, M. Lomonosova & I. Gorbunova 1227: **33**. Distribution: Asiatic species, sporadically occurs in Kazakhstan, Mongolia and China. In Russia it is distributed from the S Urals through the S Siberia to the Russian Far East, while only two localities are known eastwards of the Lake Baikal: in Zabaikalskii Krai and Primorskii Krai (Sukhorukov et al. 2013). Chromosome number of this species is studied for the first time.

***Oxybasis urbica* (L.) S. Fuentes, Uotila et Borsch (*Chenopodium urbicum* L.), 2n = 18**

Saratovskaya Oblast', Rovenskii Raion, 2 km E of Rovnoe village, weed in the garden, 50°46'N, 46°03'E, 24 Sep 2013, M. Lomonosova 1070a: **18**; Volgogradskaya Oblast', Pallasovskii Raion, vicinities of El'ton Lake, Forpost, 49°10'N, 46°34'E, 25 Sep 2013, M. Lomonosova 1073a: **2**; Volgogradskaya Oblast', Pallasovskii Raion, B. Simkin village, fallow land, 48°52'N, 46°40'E, 27 Sept 2013, M. Lomonosova 1102c: **19**. Distribution: Eurasian species, adventive in N America. The same chromosome number has been reported by various authors.

***Salsola abrotanoides* Bunge, 2n = 18**

Tyva Republic, Ovyurskii Raion, Ak-Chyrra village, semi-desert, 50°70'N, 93°26'E, 5 Sep 2013, M. Lomonosova 1019c: **4**. Distribution: Mongolia and China. The locality in Tyva is situated on the northern border of the species area of distribution. This chromosome count is the first from Russia. There was only one previous report for the species from Mongolia (Lomonosova et al. 2003b).

***Salsola komarovii* Iljin (*Kali komarovii* (Iljin) Akhiani et E.H. Roalson), 2n = 36**

Primorskii Krai, Khassanskii Raion, Possjet Bay, the road between Zarubino and Andreevka villages, sandy beach, 42°39'N, 131°07'E, 10 Oct 2016, M. Lomonosova & E. Korolyuk 1355: **16**. Distribution: Japan, Korea and the Russian Far East. This chromosome number is in agreement with previous reports from Japan (Nishikawa et al. 1985) and Primorskii Krai (Lomonosova et al. 2005, Probatova et al. 2014).

***Suaeda arctica* Jurtz. et Petrovsky, 2n = 18**

Sakha (Yakutia) Republic, Namskii Ulus, vicinity of Khamagatta village, solonchak with *Salicornia*, 62°40'N, 129°41'E, 20 Aug 2012, M.N. Lomonosova & E.G. Nikolin 790: **20**; Sakha (Yakutia) Republic, Namskii Ulus, north outskirts of Maimaga village, degraded solonchak, 63°02'N, 129°31'E, 20 Aug 2012, M.N. Lomonosova & E.G. Nikolin 797: **21**; Sakha (Yakutia) Republic, Namskii Ulus, vicinity of Tastakh village, patches of solonchak along the road, 62°43'N, 129°22'E, 21 Aug 2012, M.N. Lomonosova & E.G. Nikolin 807: **20**; Sakha (Yakutia) Republic, Khangalasskii Ulus, between Bulgunyakhhtakh and Ulakhaan-An villages, patches of solonchak on permafrost mounds, 61°19'N, 128°37'E, 24 Aug 2012, M.N. Lomonosova & E.G. Nikolin 843: **22**; Sakha (Yakutia) Republic, Megino-Kangalasskii Ulus, 73-km-post along the Kolymskii Tract, vicinity of Tumul village, farm road on solonchak, 62°10'N,

130°38'E, 28 Aug 2012, M.N. Lomonosova & E.G. Nikolin 878: **23**. Distribution: this species was known from Chukotka (on the shore of Chaunskaya Bay) and from Magadanskaya Oblast' (on the shore of the Sea of Okhotsk). Recently it was found in many localities in Yakutia (Lomonosova 2018). Chromosome number for this species is given here for the first time.

***Suaeda corniculata* (C.A. Mey.) Bunge s. str., 2n = 54**

Khakassia Republic, Beiskii Raion, Bondarevo village, solonchak near the road, 52°55'N, 90°29'E, 7 Sep 2013, M. Lomonosova 1036: **24**. Distribution: steppe and semi-desert zones of Eurasia from SE European Russia to Kazakhstan, Mongolia, N China and Yakutia. The same chromosome number has been reported many times from different parts of the species area of distribution.

***Suaeda corniculata* (C.A. Mey.) Bunge subsp. *mongolica* Lomon. et Freitag, 2n = 36**

Buryatia Republic, Dzhidinskii Raion, 2 km SW Beloozersk village, Verkhnee Beloe Lake, solonchak, 50°65'N, 105°74'E, 29 Sep 2017, B.B. Naidanov 017198: **32**. Distribution: S Siberia (Khakassia, Tyva, Buryatia republics and Zabaikalskii Krai), Mongolia and N China. This report corresponds to our previous counts for Buryatia and Zabaikalskii Krai (Lomonosova & Freitag 2008, Lomonosova & Nikolin 2013, Lomonosova et al. 2017).

***Suaeda glauca* (Bunge) Bunge, 2n = 18**

Primorskii Krai, Shkotovskii Raion, in vicinity of Rechitsa village, Sukhodol River mouth, saltwort annuals on sandy seashore, 43°12'N, 132°23'E, 22 Sep 2015, M.N. Lomonosova & P.G. Gorovoy 1248: **25**. Distribution: E China, Korea and the Russian Far East. This chromosome number is in agreement with the previous reports from Primorskii Krai (Lomonosova et al. 2005, Probatova et al. 2006).

***Suaeda heteroptera* Kitag., 2n = 18**

Primorskii Krai, Shkotovskii Raion, vicinity of Rechitsa village, Sukhodol River mouth, saltwort annuals on sandy seashore, 43°12'N, 132°23'E, 22 Sep 2015, M.N. Lomonosova & P.G. Gorovoy 1246: **25**. Distribution: S Siberia from Tyva to Zabaikalskii Krai, Primorskii Krai, Mongolia and China. The same chromosome number was known from Tyva and Primorskii Krai.

***Suaeda kulundensis* Lomon. et Freitag, 2n = 72**

Samarskaya Oblast', Stavropol'skii Raion, vicinity of Sanchelevo village, salted meadow, 53°43'N, 49°25'E, 22 Sep 2013, M. Lomonosova 1063b: **26**. Distribution: steppe zone in SE European part of Russia, W Siberia, N Kazakhstan, NW China. Previous reports indicated that this species has two ploidy levels: octoploid 2n = 72 and decaploid 2n = 90 (Lomonosova & Freitag 2009, Lomonosova & Shaulo 2010).

***Suaeda sibirica* Lomon. et Freitag, 2n = 72**

Tyva Republic, Ovyurskii Raion, Ak-Chyraa village, 50°70'N, 93°26'E, 5 Sep 2013, M. Lomonosova 1020: **4**. Distribution: S Siberia from Tyva to Zabaikalskii Krai, Mongolia and NE China. This report confirms previous counts from Russian parts of the species area of distribution (Lomonosova & Freitag 2009, Lomonosova & Shaulo 2010, Lomonosova 2013).

***Teloxis aristata* (L.) Moq., 2n = 18**

Tyva Republic, Tandinskii Raion, Stipa krylovii community on sandy dunes, 51°58'N, 94°35'E, 30 Aug 2013, M. Lomonosova 972b: **27**. Distribution: SE European part of Russia, the Middle and the Central Asia, Siberia, the Russian Far East, naturalized in Europe, introduced in N America. These data confirm the earlier reports from Russia, Poland and China.

CONCLUSION

Among 29 species of Chenopodiaceae studied, 13 are diploids (2n = 18), nine tetraploids (2n = 36), three hexaploids (2n = 54), two octoploids (2n = 72) and one species

is decaploid (2n = 90) having the highest ploidy level in the family. Different chromosome counts were discovered in *Bassia prostrata* (2n = 18, 54). The most taxa examined in this paper are from East Siberia (Republics of Tyva, Khakassia, Buryatia, Yakutia and Krasnoyarskii Krai): *Bassia prostrata*, *B. scoparia*, *Blitum virgatum*, *Chenopodium acerifolium*, *C. acuminatum*, *C. album*, *C. frutescens*, *C. karoi*, *C. novopokrovskianum*, *Grubovia melanopectera*, *Salsola abrotanoides*, *Suaeda arctica*, *S. corniculata* s. str., *S. corniculata* subsp. *mongolica*, *S. sibirica* and *Teloxis aristata*. Eight species (*Atriplex subcordata*, *Chenopodium karoi*, *C. probstii*, *C. vachellii*, *Oxybasis micrantha*, *Salsola komarovii*, *Suaeda glauca* and *S. heteroptera*) are from the Russian Far East. In European part of Russia (Samarskaya and Volgogradskaya Oblasts) additional data were obtained for *Atriplex patens*, *Bassia prostrata*, *Oxybasis glauca*, *O. urtica*, *Suaeda kulundensis*. In West Siberia (Altayskii Krai and Novosibirskaya Oblast') chromosome numbers were counted for *Chenopodium album*, *C. strictum*, *C. suecicum* and *Oxybasis glauca*.

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