**Supplementary Table 1:** **Voucher information for samples used in the analyses of cpDNA (including GenBank accession numbers), ITS variation and genome size.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Taxon name** | **Sample code** | **Locality information** | **Voucher information** | **GenBank acc. number *psbA*-*trnH*** | **GenBank acc. number *rps16-trnK*** | **Notes** |
| *V. altaica* Kosachev | Alt1 | Russia, Altaiskii krai, Tretyakov distr., Mount Poruchikova, 12 km south of Ekaterininskoe, 50°46.5 'N, 82°04' E | Kamelin et al. 3.7.1996 (TASH 692), ALTB | KJ425727 | KJ425658 |  |
| *V. altaica* | Alt2 | Russia, Altaiskii krai, Tretjakovskiy distr., mount Czeorny Kamen | Kosachev  12.7.2012, ALTB | KJ425670 | KJ425600 |  |
| *V. altaica* | Alt3 | Russia, Altaiskii krai, Tretyakov distr., Mount Poruchikova, 12 km south of Ekaterininskoe, 50°46.5 'N, 82°04' E | Kamelin et al.  3.7.1996  ALTB | KJ425701 | KJ425632 |  |
| *V. arenosa* (Serg.) Boriss. | Are1 | Kazakhstan, East Kazakhstan distr., Saur Range, 5 km north-west of the village Przhevalsk (Saryterek), 85 07 E, 47 31 N, rocky steppe. | Smirnov & Antonjuk 28.5.2000, ALTB | KJ425671 | KJ425601 |  |
| *V. arenosa* | Are2 | Kazakhstan, East Kazakhstan distr., spurs Kurchumskii Range, 30 km east from village Kurchum, 48 32 N, 84 03 E, rocky-gravelly slope. | Smirnov & Antonjuk 31.5.2000, ALTB | KJ425672 | KJ425602 |  |
| *V. bachofenii* Heuff. | Bac1 | Romania, via BG Halle, ex BG HBVienna | Albach 978, MJG | KJ425700 | KJ425631 |  |
| *V. bachofenii* | Bac2 | Romania, distr. Arges, Vidraru, 28 km de Curtea de Arges | Martínez Ortega 908, SALA |  |  | Voucher for ITS sequence |
| *V. barrelieri* H. Schott | B01/Bar1 | Slovenia, Caven, Haplotype 01 1 | Frajman & Schönswetter 11132, WU | HQ327847 | HQ327705 |  |
| *V. barrelieri* | B03 | Haplotype 03 1 |  | HQ327860 | HQ327718 |  |
| *V. barrelieri* | B04 | Haplotype 04 1 |  | HQ327863 | HQ327721 |  |
| *V. barrelieri* | B05 | Haplotype 05 1 |  | HQ327871 | HQ327729 |  |
| *V. barrelieri* | B07 | Haplotype 07 1 |  | HQ327872 | HQ327730 |  |
| *V. barrelieri* | B08 | Haplotype 08 1 |  | HQ327861 | HQ327719 |  |
| *V. barrelieri* | B11 | Haplotype 11 1 |  | HQ327897 | HQ327755 |  |
| *V. barrelieri* | B14 | Haplotype 14 1 |  | HQ327887 | HQ327745 |  |
| *V. barrelieri* | B21 | Haplotype 21 1 |  | HQ327893 | HQ327751 |  |
| *V. barrelieri* | B25 | Haplotype 25 1 |  | HQ327895 | HQ327753 |  |
| *V. barrelieri*/*V. orchidea* | B02 | Haplotype 02 1 |  | HQ327883 | HQ327741 |  |
| *V. barrelieri*/*V. orchidea* | B06 | Haplotype 06 1 |  | HQ327901 | HQ327759 |  |
| *V. barrelieri*/*V. orchidea* | B19 | Haplotype 19 1 |  | HQ327876 | HQ327734 |  |
| *V. barrelieri*/*V. orchidea* | B27 | Haplotype 27 1 |  | HQ327885 | HQ327743 |  |
| *V. barrelieri*/*V. orchidea*/*V. spicata* | B20 | Haplotype 20 1 |  | HQ327849 | HQ327707 |  |
| *V. czemalensis* Kosachev & Albach | Cze1 | Russia, Altai Republic, Shebalino distr., village Chemal, the right bank of the Katun River, gravel. | Kashcheev & Solovyov 7.8.1991, ALTB |  |  |  |
| *V. czemalensis* | Cze2 | Russia, Altai Republic, Czemalskiy distr., village Еlanda | Shmakov et al.  25.7.2010 ALTB, OLD | KJ425673 | KJ425603 |  |
| *V. czemalensis* | Cze3 | Russia, Altai Republic, Ongudajskiy distr., pass Czike-Taman | Kosachev  5.11.2011 ALTB, OLD | KJ425674 | KJ425604 |  |
| *V. daurica* Steven | Dau1 | Mongolia, Southeastern Chentey, East of Kerulen, Zorgol-valley | Hilbig 5.8.1983, GOET | KJ425675 | KJ425605 |  |
| *V. daurica* | Dau2 | Mongolia, ex BG Jena | Albach s.n., WU | KJ425676 | KJ425606 |  |
| *V. grisea* Kosachev & A. L. Ebel | Gri | Russia, Republic of Khakassia, Shirinsky distr., village Efremkino, River valley Belij Ijus, steppefied meadow. | Ebel 11.7.2008, ALTB | KJ425677 | KJ425607 |  |
| *V. incana* L. | Inc1 | Russia, Altaiskii krai, Ust-Kalmansky distr., northern spurs Baschelakskii Ridge, 3 km south village Novokalmanka, the right bank of the river Kalmanka, 51° 55' N, 83° 22' E | Kamelin et al. 26.6.1999, ALTB | KJ425678 | KJ425608 |  |
| *V. incana* | Inc10 | Russia, Rep. Tuva, Ovyursky distr., Mount Argalyg-Kozhagar and its eastern environs, 50 54 N, 92 22 E | Kosachev 540 & Vashchenko, 26.6.2001, ALTB | KJ425679 | KJ425609 |  |
| *V. incana* | Inc11 | Mongolia, Baruun Saikhan, east of Gegeetin An, 43° 50´ N 103° 12´ E | G. & S. Miehe, GOET |  |  | Voucher for ITS sequence |
| *V. incana* | Inc12 | Russia, Altaiskii krai, Zmeinogorskiy distr., village Novocharkovka | Kosachev  13.7.2012 ALTB, OLD | KJ425681 | KJ425611 |  |
| *V. incana* | Inc2 | Russia, Altaiskii krai, Ust-Kalmansky distr., neighborhood village Ogni, 51 53 N, 83 30 E | Kamelin 8.7.1998, ALTB | KJ425678 | KJ425608 |  |
| *V. incana* | Inc3 | Russia, Altaiskii krai, Zelinny distr., neighborhood village Popovici, valley of Kondolep, 52 55 N, 86 07 E. | Kashcheev et al. 05.09.1997, ALTB | KJ425682 | KJ425612 |  |
| *V. incana* | Inc4 | Russia, Altaiskii krai, Altaiskii distr., 4 km west. village Altay, bush slope, 51 53 N, 85 13 E | Gromova et al. 18.7.1997, ALTB | KJ425683 | KJ425613 |  |
| *V. incana* | Inc5 | Russia, Altaiskii krai, Kurjinsky distr., valley Loktevka 7 km below the village Kolyvan' 51 17.5 N, 82 29 E | Shmakov et al. 22.6.2003, ALTB | KU207061 | KU207072 |  |
| *V. incana* | Inc6 | Ukraine | No. 1, 24.7.2001 | KJ425684 | KJ425614 |  |
| *V. incana* | Inc7 | Russia, Altai Republic, Chemalsky distr., River valley, Cuba, 2 km upstream from the mouth, left bank, 51 22.5 N 86 08 E | Shmakov et al. 22.8.2002, ALTB | + | + |  |
| *V. incana* | Inc8 | Russia, Rep. Tuva, Ovyursky distr., village Handagayty | Mongush 20.06.1993, ALTB | KJ425680 | KJ425610 |  |
| *V. incana* | Inc9 | Russia, Rep. Tuva, Ulug-Khem distr., an array Hajyrkan, 51 34 N, 93 02 E | Shmakov et al. 19.9.1997, ALTB | KJ425685 | KJ425615 |  |
| *V. kiusiana* Furumi | Kiu | Japan, via BG Bonn, ex BG Mainz | Albach 1040, WU | KJ425686 | KJ425616 |  |
| *V. kolyvanensis* Kosachev & Schmakov | Kol | Russia, Altaiskii krai, Kurjinskiy distr., valley Loktevka | Kosachev  14.7.2012 ALTB, OLD | KJ425687 | KJ425617 |  |
| *V. laeta* Kar. & Kir. | Lae1 | Kazakhstan, Dzhambylskay distr., Aksu-Zhabagly, Talasskii Range, the river valley Baydaksay near Lake Kyz-Ulgen, 42 23 N, 70 37 E | German 29.7.2010, ALTB | KJ425688 | KJ425618 |  |
| *V. laeta* | Lae2 | Kazakhstan, Dzhambylskay distr., Aksu-Zhabagly, Talasskii Range, the river valley Baydaksay near Lake Kyz-Ulgen, 42 23 N, 70 37 E | German 29.7.2010, ALTB | KJ425688 | KJ425618 |  |
| *V. linariifolia* Pall. ex Link | Lin1 | Mongolia, Central Mongolia, Southern margin of Chentey Gardis | Hilbig 18.8.1981, GOET |  |  | Voucher for ITS sequence |
| *V. linariifolia* | Lin2 | China | Albach 1214, OLD | KJ425689 | KJ425619 |  |
| *V. longifolia* L. | Lon1 | Russia, Altaiskii krai, Zmeinogorsky distr., village Andreewskoe, 51 06 N, 81 49 E, humid multiplant meadow near the creek. | Golyakov & Uvarova 18.7.2000, ALTB | KJ425690 | KJ425620 |  |
| *V. longifolia* | Lon2 | Russia, Altaiskii krai, Krasnoschekovsky distr. River valley Charysh 3 km above the village Krasnoshchekovskoe, right bank, 51 42 N, 82 48 E | Kamelin et al. 29.6.1996, ALTB | KJ425691 | KJ425621 | Voucher for ITS sequence |
| *V. longifolia* | Lon3 | Russia, Altaiskii krai, Biisk distr., village Srostki, the right bank of the Katun River | Naumov 10.7.2002, ALTB | KJ425694 | KJ425625 |  |
| *V. longifolia* | Lon4 | Russia, Altai Republic, Ust-Koksinskii distr., flood plain of Charish, right bank, between settle. of Korgon and mouths Bolshaya Tatarka, 51 07 N, 84 00 E., 595 m. | Kamelin et al. 25.8.2004, ALTB | KJ425690 | KJ425620 |  |
| *V. longifolia* | Lon5 | Russia, Altaiskii krai, Tretyakovsky distr. River valley Glubokaja, former village Kljuczi, 50 55 N, 82 36 E | Kamelin et al. 26.6.2000, ALTB | KJ425695 | KJ425626 |  |
| *V. longifolia* | Lon6 | Russia, Altai Republic, Kosh-Agachsky distr., valley of Tete in the middle reaches. Multiplant meadow. | Shmakov 9.7.1982, ALTB | KJ425708 | KJ425639 |  |
| *V. longifolia* | Lon7 | Mongolia, Ulan Bator, Bogd Kul nahe Saisan | Miehe 96-122-07, GOET | KU207082 | KJ425623 |  |
| *V. longifolia* | Lon8 | Turkey, Bingöl prov., NE of Genç, Şam Mountain, 2100 m | L. Behcet 7435, OLD | KJ425693 | KJ425624 |  |
| *V. longifolia* | Lon9 | Ukraine | 23.7.2001, WU | KU207070 | KU207083 |  |
| *V. longifolia* | Lon10 | UK, Frey´s Is. NR | McSheahan 48, K | KJ425692 | KJ425622 |  |
| *V. longifolia* | Lon11 | Ex BG Bonn | Albach 66, WU | KJ425691 | KJ425621 |  |
| *V. nakaiana* Ohwi | Nak | Korea, Ullung Is. | Sun & Kim 12022, WU & JNU | KJ425696 | KJ425627 |  |
| *V. orchidea* Crantz | Orc1 | Russia, Bashkortostan Rep., Sterlitamak distr., Urman-Bishkadak village: Tratau (Shikhan) hill 3.5 km NNE of the village53°33´N 56°06´E | Koci et al., Iter uralense 2007/579 | KJ425699 | KJ425630 |  |
| *V. orchidea* | Orc2/ B39 | Hungary, Borsod-Abaúj-Zemplen, Miskolc ; Haplotype 39 1 | Bardy pseu 39, WU | HQ327924 | HQ327782 |  |
| *V. orchidea* | B12 | Haplotype 12 1 |  | HQ327948 | HQ327806 |  |
| *V. orchidea* | B18 | Haplotype 18 1 |  | HQ327949 | HQ327807 |  |
| *V. orchidea* | B26 | Haplotype 26 1 |  | HQ327927 | HQ327785 |  |
| *V. orchidea* | B28 | Haplotype 28 1 |  | HQ327954 | HQ327812 |  |
| *V. orchidea* | B29 | Haplotype 29 1 |  | HQ327956 | HQ327814 |  |
| *V. orchidea*/ *V. barrelieri* | B30 | Haplotype 30 1 |  | HQ327934 | HQ327792 |  |
| *V. orchidea* | B31 | Haplotype 31 1 |  | HQ327921 | HQ327779 |  |
| *V. orchidea* | B32 | Haplotype 32 1 |  | HQ327915 | HQ327773 |  |
| *V. orchidea* | B33 | Haplotype 33 1 |  | HQ327944 | HQ327802 |  |
| *V. orchidea*/ *V. barrelieri* | B35 | Haplotype 35 1 |  | HQ327904 | HQ327762 |  |
| *V. orchidea*/ | B36 | Haplotype 36 1 |  | HQ327918 | HQ327776 |  |
| *V. orchidea* | B37 | Haplotype 37 1 |  | HQ327923 | HQ327781 |  |
| *V. orchidea* | B38 | Haplotype 38 1 |  | HQ327961 | HQ327819 |  |
| *V. orchidea*/*V. spicata* | B09 | Haplotype 09 1 |  | HQ327984 | HQ327842 |  |
| *V. ornata* Monjuschko | Orn | Japan, ex BG Tokyo Metropolitan | Albach S204, OLD |  |  | Voucher for genome size estimate |
| *V. ovata* Nakai | Ova | ?, ex BG Tsukuba | Matsumoto s.n., WU | KJ425700 | KJ425631 |  |
| *V. pinnata* ssp. *nana* Polozhij | Nan1 | Russia, Altai Republic, Kosh-Agachskii distr., Chuiskaja steppe, river Yustyd | Dyachenko , Schalimov 27.8.2006 ALTB | KJ425697 | KJ425628 |  |
| *V. pinnata* ssp. *nana* | Nan2 | Russia, Altai Republic, Kosh-Agachskii distr., plateau Ukok, the river Jumaly | Dyachenko , Schalimov 25.8.2006 ALTB | KJ425698 | KJ425629 |  |
| *V. pinnata* ssp. *nana* | Nan3 | Russia, Altai Republic, Kosh-Agachskii distr., between Tarchata river and Czagan-Burgasyi | Kamelin et al. 31.07.1998 ALTB | KU207062 | KU207075 |  |
| *V. pinnata* ssp. *nana* | Nan4 | Russia, Altai Republic, Kosh-Agachskii distr., Chuiskaja steppe | Dyachenko , Schalimov 27.8.2006 ALTB | KJ425697 | KJ425628 |  |
| *V. pinnata* ssp. *nana* | Nan5 | Russia, Altai Republic, Kosh-Agachskii distr., Kurajskaj steppe | Kosachev 16.7.2012 ALTB, OLD | KU207063 | KU207076 | Voucher for genome size estimate |
| *V. pinnata* ssp. *pinnata* L. | Pin1 | Russia, Altaiskii krai, Charyshsky distr., valley of Charish, right bank, 2 km below the Bolshaya Tatarka mouth, 51 10’ N, 83 54’ E. | Kamelin et al. 26.8.2004, ALTB | KJ425705 | KJ425636 |  |
| *V. pinnata* ssp. *pinnata* | Pin2 | Russia, Altaiskii krai, Charyshsky distr., 4 km downstream along the left bank of the river Charysh from the mouth of the river Tulata, 51 26´ N, 83 20´ E | Shmakov et al. 23.6.2002, ALTB | KJ425706 | KJ425637 |  |
| *V. pinnata* ssp. *pinnata* | Pin3 | Russia, Altaiskii krai,, Tretjakovskiy distr., mount Czeorniy Kamen | Kosachev 12.7.2012 ALTB | KJ425705 | KJ425636 | Voucher for genome size estimate |
| *V. pinnata* ssp. *pinnata* | Pin4 | Russia, Altai Republic, Chemalsky distr., right bank of the Katun River | Shmakov et al. 24.8.2002, ALTB | KJ425707 | KJ425638 |  |
| *V. pinnata subsp. pinnata* | Pin5 | Russia, Altai Republic, Kosh-Agaczskiy distr., Chrya (Czujaskaj) steppe | Tribsch & Essl 10251, WU | KJ425708 | KJ425639 |  |
| *V. porphyriana* Pavlov | Por1 | Russia, Rep. Tuva, mount Mongun-Tayga | Kosachev, Vaschenko 30.6.2001 ALTB |  |  | Voucher for genome size estimate |
| *V. porphyriana* | Por2 | Russia, Altaiskii krai, Smolensky distr., village of Smolenskoe, a monument to nature "Smolenski Borky. | Silantjeva & Ankova 12.7.2001, ALTB | KJ425713 | KJ425644 |  |
| *V. porphyriana* | Por3 | Russia, Altai Republic, North of Aktash, Chibitka valley, 87°37´ E 50° 22´E | Tribsch & Essl 9763, WU | KJ425710 | KJ425641 |  |
| *V. porphyriana* | Por4 | Russia, Altaiskii krai, Charyshsky distr., village of Ust-Pihtovka, 51 41 N, 83 34 E. River valley Malaja Maraliha. | Skochko et al. 14.6.2000, ALTB | KJ425713 | KJ425644 |  |
| *V. porphyriana* | Por5 | Russia, Altaiskii krai, Soloneshensky distr., village Rybnoe, the valley of the river Shchepeta, southern slope, 51 23 N, 84 21 E | Strelnikova et al. 20.6.1997, ALTB | KJ425714 | KJ425645 |  |
| *V. porphyriana* | Por6 | Russia, Altaiskii krai, Soloneshensky distr., former village Bolschaja Rechka, Mount Tolstaja, 51 35 N, 84 05 E | Kamelin 16.7.1996, ALTB | KJ425715 | KJ425646 |  |
| *V. porphyriana* | Por7 | Russia, Altaiskii krai, Krasnoschekovsky distr., right bank of the river Inya, 4 km above the mouth, 51 26 N, 83 04 E | Kamelin 13.6.1994, ALTB |  |  |  |
| *V. porphyriana* | Por8 | Russia, Altai Republic, Kosh-Agachsky distr. River valley Dzhazator 3 km above the mouth of the river Jumaly, 49 38 N, 87 55 E, 1800-1900 m. Multiplant meadow. | Dyachenko & Shalimov 16.8.2006, ALTB | KJ425716 | KJ425647 |  |
| *V. porphyriana* | Por9 | Russia, Altai Republic, Ulaganskiy distr., between river Boki and Belgebash | Kosachev 16.7.2012 ALTB | Indiv. 4:  KJ425711 | Indiv. 4:  KJ425642 |  |
| *V. porphyriana* | Por10 | Russia, Altai Republic, Kosh-Agachsky distr. Plateau Ukok, the northern slope of Mount Argamdzhi (south of the outpost Argamdzhi), 49 14-16 N, 87 56 E. | Kamelin et al. 18.7.1995, ALTB | KJ425709 | KJ425640 |  |
| *V. porphyriana* | Por11 | Mongolia, river Tzagan-Us | Kamelin et al. 30.7.2001 ALTB | KJ425712 | KJ425643 |  |
| *V. porphyriana* | Por12 | Mongolia, mount Arshantin-Nuru | Dyachenko & Kosachev. 21.6.2004 ALTB |  |  | Voucher for genome size estimate |
| *V. porphyriana* | Por13 | Mongolia, lake Tzagan-Bulangiyn-Nur | Kamelin et al. 29.7.2001 ALTB |  |  | Voucher for genome size estimate |
| *V. reverdattoi* Krasnob. | Rev1 | Russia, Khakassia, Tashtypsky distr., village Karagaiskaja, rocky steppe. | Krasnoborov & Merzlyakova 14.8.1970, ALTB | KJ425717 | KJ425648 |  |
| *V. reverdattoi* | Rev2 | Russia, Tuva Republic, Sagli village | Shmakov & Smirnov 17.7. 2006, ALTB | KJ425711 | KJ425642 |  |
| *V. rotunda* Nakai | Rot | Ex BG Oldenburg | Albach S209, OLD |  |  | Voucher for genome size estimate |
| *V. sajanensis* Printz | Saj | Russia, Eastern Sayan. Kanskoe Belogorje, Lakes Bolshoe Pizo, elevation 1450 m. Subalpine meadow. | Krasnoborov & Postnikova 8.8.1965, ALTB | KU207082 | KU207074 |  |
| *V. sapozhnikovii* Kosachev | Sap1 | Mongolia, Bajan-Ulegeysky aimak, the average flow of the river Tsagaan-Us, left bank, south-western mountain slopes Shovgor, 48 50.5 N 88 07 E. | Kamelin et al. 28.7.2001, ALTB | KJ425709 |  |  |
| *V. sapozhnikovii* | Sap2 | Mongolia, Bayan-Ulegeysky aimak, upstream Tsagaan-Gol, the left bank of the valley, 5 km above the mouth of the river Nalija-goal, 49 07.5 N, 88 14 E. | Kamelin et al. 2.8.2001, ALTB | KJ425718 | KJ425649 |  |
| *V. schmakovii* Kosachev | Smk1 | Russia, Altai Republic, Kosh-Agachsky distr. Plateau Ukok, rise from the river Jumaly to pass Akkol, 49 32 N, 87 45 E, 2500-2700 m. | Dyachenko & Shalimov 25.8.2006, ALTB | KJ425722 | KJ425653 |  |
| *V. schmakovii* | Smk2 | Russia, Altai Republic, Kosh-Agachsky distr. River valley Dzhazator 3 km above the mouth of the river Jumaly, 49 38 N, 87 55 E, 1800-1900 m. | Dyachenko & Shalimov 16.8.2006, ALTB | KJ425723 | KJ425654 |  |
| *V. schmakovii* | Smk3 | Russia, Altai Republic, Kosh-Agachsky distr. Plateau Ukok, the lower reaches of the river Kara-Bulak, near the gates of Ak-Alakha, 49 16 N, 87 28 E. | Kamelin et al. 28.7.1998, ALTB | KJ425709 | KJ425640 |  |
| *V. schmakovii* | Smk4 | Russia, Altai Republic, Ulaganskiy distr., lake Czoybekkol | Molokanov et al. 27.6.2007, ALTB |  |  | Voucher for genome size estimate |
| *V. schmakovii* | Smk5 | Mongolia, Bajan-Ulegeyskiy aymak, mount 3321  48’43,5”N, 88’05” E | Kamelin et al. 28.7.2001 ALTB |  |  | Voucher for genome size estimate |
| *V. schmidtiana* Regel | Scm1 | Japan, Hokkaido, Kushiro-mashi | S. Umezawa 20130, WU | KJ425719 | KJ425650 |  |
| *V. schmidtiana* | Scm2 | Via BG Tübingen (172/813), ex BG Mainz | Albach 1043, MJG | KJ425720 | KJ425651 |  |
| *V. sessiliflora* Bunge | Ses1 | Russia, Altai Republic, Ulagansky distr., right bank of the river valley Chuja and mountains between the estuaries of river Boki and Belgebash, 50 21 N, 87 25 E. | Kamelin et al. 17.7.1998, ALTB | KJ425678 | KJ425608 |  |
| *V. sessiliflora* | Ses2 | Russia, Altai Republic, Kosh-Agaczskiy distr., mount Belkenek | Shmakov et al. 17.8.1997, ALTB | KU207065 | KU207077 |  |
| *V. sessiliflora* | Ses3 | Russia, Altai Republic, Ulagansky distr., river Chuja | Shmakov et al. 1998, ALTB | KJ425721 | KJ425652 |  |
| *V. smirnovii* Kosachev | Smv | Mongolia, Kobdossky Aimak, Mongolian Altai, headwater Bayan-gol, North slopes Arshantyn-Nuru ridge near the pass Bayan-Hutel, 46 22 N, 91 10 E, 1900-2100 m | German 14.7.2003, ALTB | KJ425724 | KJ425655 |  |
| *V. spicata* ssp. *Kamelinii* Kosachev | Kam1 | Russia, Altaiskii krai, Kurjinsky distr. Kolyvansky ridge, north-west slopes near Mount Sinjucha near Kolyvanstroya, 51 15.5 N, 82 34 E. | Kamelin et al. 28.6.1999, ALTB | KU207064 | KU207073 |  |
| *V. spicata* ssp. *kamelinii* | Kam2 | Russia, Altaiskii krai,Botanical Garden SSBG, Barnaul | Kosachev  6.2000 ALTB | KJ425727 | KJ425658 |  |
| *V. spicata* ssp. *Paczoskiana* (Klok.) Kosachev | Pac1 | Russia, Altaiskii krai, Michajlovsky distr., village Malinovoe ozero. | Dyachenko 11.9.1996, ALTB | KJ425701 | KJ425632 |  |
| *V. spicata* ssp. *paczoskiana* | Pac2 | Russia, Altaiskii krai, City Barnaul, village Juzhny | Khavryuk & Khramtsova 10.7.2001, ALTB | KJ425702 | KJ425633 |  |
| *V. spicata* ssp. *paczoskiana* | Pac3 | Russia, Altaiskii krai, Krutikhinsky distr.t, village Podbornoe, lake Pustynnoe. | Dyachenko 31.8.1996, ALTB | KJ425728 | KJ425659 |  |
| *V. spicata* ssp. *paczoskiana* | Pac4 | Russia, Altaiskii krai, Kamensky distr., village Kornilovo. | Dyachenko 27.8.1996, ALTB | KJ425703 | KJ425634 |  |
| *V. spicata* ssp. *paczoskiana* | Pac5 | Russia, Altaiskii krai,Mamontovskiy distr., village Kostin Log | Kosachev 8.9.2012 OLD | KJ425704 | KJ425635 |  |
| *V. spicata* ssp. *spicata* L. | SpiA1 | Russia, Altaiskii krai, Tretyakovsky distr. Deep river Glubokaja, former village Kljuchi, 50 55 N, 82 36 E. | Kamelin et al. 26.6.2000, ALTB | KJ425725 | KJ425656 |  |
| *V. spicata* ssp. *spicata* | SpiA2 | Russia, Altaiskii krai, Krasnoschekovsky distr., village Berezovka, 51 50 N, 82 57 E. | Kamelin et al. 28.6.1996, ALTB | KJ425726 | KJ425657 |  |
| *V. spicata* ssp. *spicata* | SpiA3 | Russia, Altaiskii krai, Tretyakovsky distr., Mount Poruchikova, 12 km south of the village of Ekaterininskoe, 50 46.5 N, 82 04 E. | Kamelin et al. 3.7.1996, ALTB | KJ425727 | KJ425658 |  |
| *V. spicata* ssp. *spicata* | SpiA4 | Russia, Altaiskii krai, Topchihinsky distr., 5 km north-west of the village Habazino, 52 45 N, 83 17 E | Kamelin et al. 24.6.1998, ALTB | KJ425728 | KJ425659 |  |
| *V. spicata* ssp. *spicata* | SpiA5 | Russia, Altaiskii krai, Zmeinogorsky distr., the valley of the river Goltsovka above the village Ryazanovka, 51 05 N, 82 17 E. | Kamelin 28.6.1998, ALTB | KJ425727 | KJ425658 |  |
| *V. spicata* ssp. *spicata* | SpiA6 | Russia, Altaiskii krai, Aleisky distr., City Aleisk, the right bank of the river Alei. 52 28 N, 82 47 E | Kamelin et al. 25.6.1998, ALTB | KU207066 | KU207080 |  |
| *V. spicata* ssp. *spicata* | SpiA7 | Russia, Altaiskii krai, Kurjinskiy distr., valley Loktevka | Kosachev 14.7.2012 ALTB, OLD |  |  | Voucher for genome size estimate |
| *V. spicata subsp. spicata* | SpiA8 | Russia, Altaiskii krai, Tretjakovskiy distr., mount Czeorniy Kamen | Kosachev  12.7.2012 ALTB | KJ425725 | KJ425656 |  |
| *V. spicata subsp. spicata* | SpiB | Russia, Bashkiria, Rajon Tujmazi Kolchosusen, 20km north of Tyimary | Hilbig, GOET | KJ425727 | KJ425658 |  |
| *V. spicata subsp. spicata* | SpiE1 | Sweden, Uppland-N of Uppsala, E of Gammla Uppsala, Tunåsen | Frajman s.n., WU | KJ425729 | KJ425660 |  |
| *V. spicata subsp. spicata* | SpiE2 | Romania, Valea Lunga | Bardy 19.8.2006, WU | KU207067 | KU207078 |  |
| *V. spicata subsp. spicata* | SpiE3 | Germany, Brey near Koblenz. | Albach 224 & E. Fischer, WU | KJ425730 | KJ425661 |  |
| *V. spicata subsp. hybrida* (L.) E. F. Warb. | SpiE4 | UK, Stanner Rock NNR | Jones 15.2.1999, K | KJ425731 | KJ425662 |  |
| *V. spicata subsp. hybrida* | SpiE5 | UK, Avon Gorge | Libby Houston s.n., K | KJ425700 (Ind. 17) | KJ425631 (Ind. 17) |  |
| *V. spicata* | SpiE6 | ?, ex BG Bonn | Albach 65, BONN | KJ425732 | KJ425663 |  |
| *V. spicata* ssp. *spicata* | spiE8/ B17 | Austria, Söbriach (NO von Obervellach); Haplotype 17 from Bardy et al. (2011) | Bardy pseu60, WU | HQ327965 | HQ327823 |  |
| *V. spicata* ssp. *lanisepala* (Travn.) Albach | B10 | Haplotype 10 1 |  | HQ327978 | HQ327836 |  |
| *V. spicata* ssp. *spicata* | B15 | Haplotype 15 1 |  | HQ327976 | HQ327834 |  |
| *V. spicata* ssp. *spicata*/ *V. orchidea* | B16 | Haplotype 16 1 |  | HQ327966 | HQ32782 |  |
| *V. spicata*/ *V. barrelieri*/*V. orchidea* | B22 | Haplotype 22 1 |  | HQ327968 | HQ327826 |  |
| *V. spicata* ssp. *Fischeri* (Travn.) Albach | B23 | Haplotype 23 1 |  | HQ327981 | HQ327839 |  |
| *V. spicata* | SpiU1 | Ukraine | Ukraine 1, 7.7.2001, WU | KJ425733 | KJ425664 |  |
| *V. spicata* | SpiU2 | Ukraine | Ukraine 2, 9.7.2001, WU | KJ425734 | KJ425665 |  |
| *V. spicata* | SpiU3 | Ukraine | Ukraine 3, 11.7.2001, WU | KJ425735 | KJ425666 |  |
| *V. spicata* | SpiU4 | Ukraine | Ukraine 4, 14.7.2001, WU | KJ425736 | KJ425667 |  |
| *V. spicata* | SpiU5 | Ukraine | Ukraine 5, 17.7.2001, WU | KJ425700 | KJ425631 |  |
| *V. spicata* | SpiU6 | Ukraine | Ukraine 6, 8.7.2001, WU | KJ425736 | KJ425667 |  |
| *V. spuria* L. | Spu1 | Kazakhstan, Dzhambylskay distr., Aksu-Zhabagly, Talasskii Range, Aksai valley, 42 30 N, 70 50.5 E. | German 19.7.2010, ALTB | KJ425683 | KJ425613 |  |
| *V. spuria* | Spu2 | Russia, Altaiskii krai, Kurjinskiy distr., valley Loktevka | Kosachev 14.7.2012 ALTB, OLD | KJ425738 | KJ425669 |  |
| *V. spuria* | Spu3 | Austria, Burgenland | M. A. Fischer 4.6.2000, WU | KJ425737 | KJ425668 |  |
| *V. spuria* | Spu4 | Russia, Bashkiria, Kutuber lake | Klotz 4.7.1979, HAL 060596 | KU207069 | KU207079 |  |
| *V. steppacea* Kotov | Stp | Ukraine, Kumenugge mogily, ex BG Halle | Braun 17.6.1984, HAL | KU207059 | KU207071 |  |
| *V. hispidula* Boiss. & Huet |  | Turkey, Erek Dagi | Albach 635, WU | KU207060 | KU207081 |  |
| *V. missurica* Raf. |  | USA, cult. RBG Kew, UK | Albach 124, K | FJ848105 | KU207069 |  |

**1Sequence published originally in Bardy et al. (2011), see there for details**