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Annotated catalogue of herbarium specimens of *Salix* L. (Salicaceae) associated with the work of Veniamin I. Shaburov in the Urals (Russia)

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Abstract

Herbarium specimens collected by the renowned Russian salicologist and breeder, Veniamin I. Shaburov (1926–2010), were digitised and their scans were deposited in GBIF. All original labels were translated from Russian into English, all specimens were revised, and they were annotated with the correct names. A new weeping form, *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch., was described and dedicated to V. I. Shaburov. A new combination, *S. triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts, was made and this name was typified. Four new synonyms were recognised.

Key words: authentic herbarium, barcoding, correct names**,** digitisation, herbarium vouchers, hybrids, new combination, new form, new synonyms, nomenclature, taxonomy, willows

Introduction

This paper commemorates the 95th Anniversary of the birth of Veniamin I. Shaburov and the 85th Anniversary of the Botanical Garden UB RAS, Yekaterinburg celebrated in 2021.

Documenting any scientific botanical research starts with collecting herbarium specimens of plants that were involved in the work and storing them in the herbaria registered in Index Herbariorum (Thiers, 2022). Information about herbarium vouchers is necessary in helping other scientists who cite these collections not only to study the specimens but to understand the general scientific approaches of collectors and researchers and, in particular, their taxonomic views. Nowadays, most of the world's Herbaria digitise their herbarium collections to provide easy access for researchers to the necessary herbarium specimens (Belyaeva and Kovtonyuk, 2021). Some Herbaria have unlimited free online access to their

collections which allows scientists to cite barcodes for the studied specimens in their papers with a link to the specific herbarium gathering.

Cataloguing the authentic herbarium specimens of *Salix* L. collected by Veniamin I. Shaburov has become especially important as many of his ornamental hybrid willows are distributed widely not only in Russia but worldwide and are used as ornamental plants by horticulturalists and amateurs often under different names which are sometimes incorrect (Kuzovkina, 2015, 2022; Marchenko, 2017, 2019, 2021). This is confusing and leads to chaos in understanding the nomenclature and taxonomy of willows and the application of their scientific names.

This work is a part of the digitisation project of Salicaceae *sensu stricto* family at the Herbarium of the Institute of Plants and Animals Ecology UB RAS, SVER (Erokhin *et al*., 2020), preparation of a book on Salicaceae in the Urals and compilation of the World Checklist of Salicaceae *s. str*. (Belyaeva and Govaerts, 2022).

Figure 1. Veniamin I. Shaburov (on the left) with colleagues on field work by the River Ufa, 1960. Photograph, anonymous

During the digitisation of herbarium specimens of the Salicaceae family at SVER (Herbarium codes hereafter follow Thiers, 2022), it was decided to catalogue and annotate all authentic herbarium specimens collected on field trips in the Urals (Fig. 1) and prepared by Veniamin I. Shaburov during his research work (1956–1986) in the Botanical Garden of the Ural Branch of Russian Academy of Sciences (BG UB RAS) in Yekaterinburg (Russia).

Collecting herbarium specimens of willows and poplars by V.I. Shaburov was connected with his major lifelong projects: (1) the study of infraspecific variability of *Salix alba* L. in the Urals (Shaburov, 1965; 1970a, b); (2) the introduction of *Salix* and *Populus* taxa from all around the world into the Middle Urals and the scientific curation of the Salicaceae collection in the Arboretum of the Botanical Garden UB RAS in Yekaterinburg (Shaburov, 1963; Konovalov and Shaburov, 1967; 1969; Shaburov, 1986); (3) the selection of new forms and breeding new hybrids of frost resistant willows and poplars for ornamental, recultivation

and basketry uses (Shaburov, 1964, 1966; 1976; 1977a–d; Shaburov and Shilova, 1978; Shaburov et al., 1979; Shaburov and Levit, 1984; Shaburov and Belyaeva, 1981; 1992; 1995; Shaburov *et al*., 1995; Belyaeva *et al*., 1991; 1995; 1998, Belyaeva and Shaburov, 1998; Belyaeva *et al*., 1999; 2000).

Material and methods

All specimens were revised and annotated according to current taxonomy (Belyaeva and Govaerts, 2022), digitised by a team from the Museum of the Institute of Plant and Animal Ecology UB RAS (IPAE) at SVER in Yekaterinburg (Figs. 2–3) and the data were published (Erokhin *et al*., 2020) on *Global Biodiversity Information Facility* (GBIF, 2022). Herbarium material for all species listed in the catalogue was studied in A, B, BAS, BASBG, BM, BOCH, BR, CAN, DR, E, FR, G, GH, H, HBA, K, **L**, LE, LINN, LIV, **MA**, MHA, MO, **MPU**, MW, **NS**, **NSK**, NY, **P**, PEPM, PERTH, **PH**, **RAB**, S, **SAV**, SVER, UPS, **USNC**, **VLA**, W, WU, Z, ZT (Herbaria codes in bold indicate digitized specimens which were only seen via *JSTOR Global Plants* (JSTOR, 2022), GBIF (2022) and other Virtual Herbaria). Names, author abbreviations and publication references are given as in the nomenclatural database *International Plant Names Index* (IPNI, 2022). All accepted names are in bold.

Figure 2. From left to right: Nikolay G. Erokhin, Nina P. Salmina and Ekaterina M. Zvezdina in front of the herbarium specimens at SVER, ready to scan, 2021. Photograph by Maxim E. Grebennikov

Figure 3. Scanning herbarium specimens at SVER; from left to right: Nina P. Salmina, Nikolay G. Erokhin and Ekaterina M. Zvezdina, 2021. Photograph by Maxim E. Grebennikov

We adopt here the use of the terms ‘male’ and ‘female,’ rather than ‘staminate’ and ‘pistillate,’ for flowers, catkins, and plants, as discussed by Dyachenko (2017).

Specimens are ordered, in the catalogue, alphabetically according to the names as annotated by V.I. Shaburov. For each specimen, text of the original label is translated into English by Irina Belyaeva. Specimens that were not annotated by Shaburov and identified by

Belyaeva are marked with one asterisk. Reidentified and/or renamed specimens are marked with two asterisks.

All necessary nomenclatural actions were made according to the *International Code of Nomenclature for Algae, Fungi and Plants* (ICN, Turland et al., 2018). Distribution data follow recommendations in the *World Geographical Scheme for Recording Plant Distribution* (Brummitt, 1992) and further updates on the website of the *Taxonomic Database Working Group* (TDWG, 2022).

Nomenclature and taxonomy

The necessity to apply the correct names to the willows collected by V.I. Shaburov and listed in this catalogue lead us to update the nomenclature and taxonomy of all species involved and apply the names according to the current taxonomy reflected in the *World Checklist of Salicaceae sensu stricto* (Belyaeva & Govaerts, 2022). The names for certain forms of two widely distributed and highly variable species, *Salix alba* L. and *S. triandra* L. needed taxonomic clarification and nomenclatural actions. Below these cases are presented.

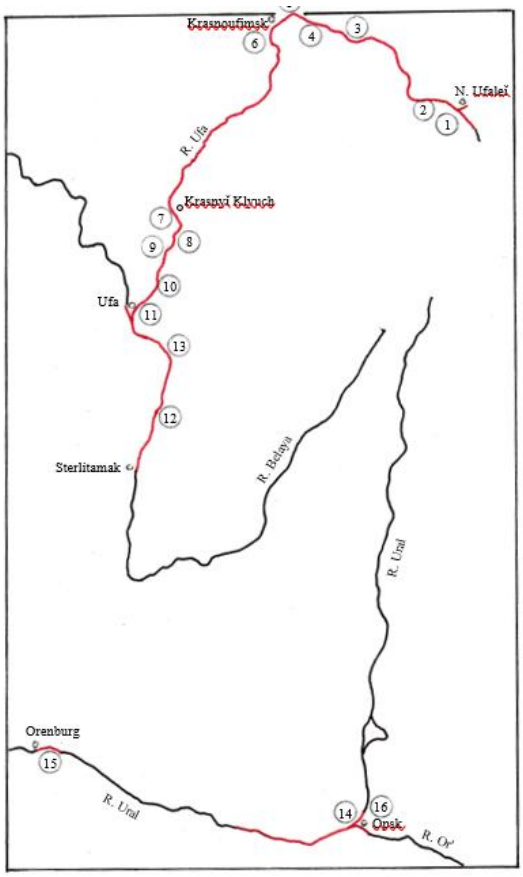

Fig. 4. Map of area from which *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. was collected by V.I.Shaburov. Numbers indicate sites of collections of *S. alba* L.

The first matter concerns the pendulous form of *Salix alba* L., which was found by V. I. Shaburov during his travels in the Urals at different sites (Fig. 4). Its area of distribution included populations of *S. alba* growing along three main rivers in the Urals: Rivers Ufa, Belaya and Ural, which are located along the perimeter of the study area forming the northern, western and southern borders. The populations on the upper and lower reaches of the River Ufa as well as in the middle reaches of the River Belaya and the River Ural were studied by Shaburov (1970a).

In previous publications (Belyaeva *et al*., 2018 and Belyaeva *et al*., 2021) the nomenclature and taxonomy of all weeping willows that were connected to the name *S. alba* were discussed, and it was decided that they all belong, in fact, to the hybrids of *S. alba* with *S. babylonica* L. and *S. euxina* I.V.Belyaeva. As the name, *S. alba* f. *tristis*

Gaudin (1830: 206), is a homotypic synonym of *S.* × *pendulina* Wender. nothof. *tristis* (Gaudin) I.V.Belyaeva, the pendulous form of *S. alba* found by Shaburov in the Urals needs a new name. To solve this problem, we describe below a new weeping form of *S. alba* using data for this willow from the dissertation by Shaburov (1970a) who collected it and placed its specimens in the Herbarium at SVER.

The morphological characteristics of the pendulous form of *S. alba* have been compared to those of herbarium specimens of *S. alba* at the Herbaria listed above in the Materials and methods section.

Salix alba L. f. ***veniaminii*** I.V.Belyaeva & O.V.Epanch., **f. nov**. (Figs. 16, 18, 20–22, 29–34 in Appendix).

(urn:lsid:ipni.org:names: 77300522-1)

Type: Russia, Sverdlovsk Region, Krasnoufimsk District, near Krylovo village, on the left bank of the River Ufa, 28.VII.1959, *V.I. Shaburov*, *s.n.* **(**holotype – SVER0509309!).

Paratypes: Russia, Bashkiria, Ufa Region, near Kargino village, on the right bank of the River Ufa, 01.VIII.1960, *V.I. Shaburov*, *s.n.*, SVER0509307!; Russia, Bashkiria, Ufa Region, right bank of the River Ufa, 25 km above its mouth, near Ufa city, 25.VIII.1960, *V.I. Shaburov*, *s.n.*, SVER0509323!; Russia, Bashkiria, Ufa Region, left bank of the River Ufa, near Shaksha village, 02.VIII.1960, *V.I. Shaburov*, *s.n.*, SVER0509324!; Russia, Bashkiria, Krasnoussolsk Region, left bank of the River Belaya, between Inzenga and Tabynskoye villages, 24.VII.1961, *V.I. Shaburov*, *s.n.***,** SVER0509325!; Russia, Bashkiria, Nurimanovsk District, floodplain of the River Ufa, near Krasnaya Gorka village, 29.VII.1960, *V.I. Shaburov*, *s.n.*, SVER0509331!; Russia, Sverdlovsk Region, Krasnoufimsk District, right bank of the River Ufa, near Kamennyĭ passing, 29.VII.1959, *V.I. Shaburov*, *s.n.*, SVER0509335!; Russia, Sverdlovsk Region, Krasnoufimsk District, left bank of the River Ufa, opposite Ust'-Torgash village, 26.VII.1961, *V.I. Shaburov 49*, SVER0509336!; Russia, Orenburg Region, Kuvandykskiĭ District, floodplain of the River Ural, 3 km below Podgornoe village, 10.VII.1963, *V.I. Shaburov*, *s.n.*, SVER0509337!

Diagnosis: *Salix alba* f. *veniaminii* differs from *Salix alba* f. *alba* (see description by Nasarow, 1936; Skvortsov, 1973; Belyaeva, 1994; Belyaeva *et al*., 2006; Valyagina-Malyutina, 2018; Belyaeva and Skvortsov, 2019) in having pendulous branches (Figs. 5–6).

Etymology: this form is named after the renowned Russian salicologist and breeder Veniamin I. Shaburov who collected it.

Distribution: East European Russia: Urals.

Figure 5. Two trees of *Salix alba* L. by the River Ufa at Krylovo village, Krasnoufimsk District, Sverdlovsk Region with non-weeping (on the left) and weeping (on the right) crown. Photograph by Veniamin I. Shaburov

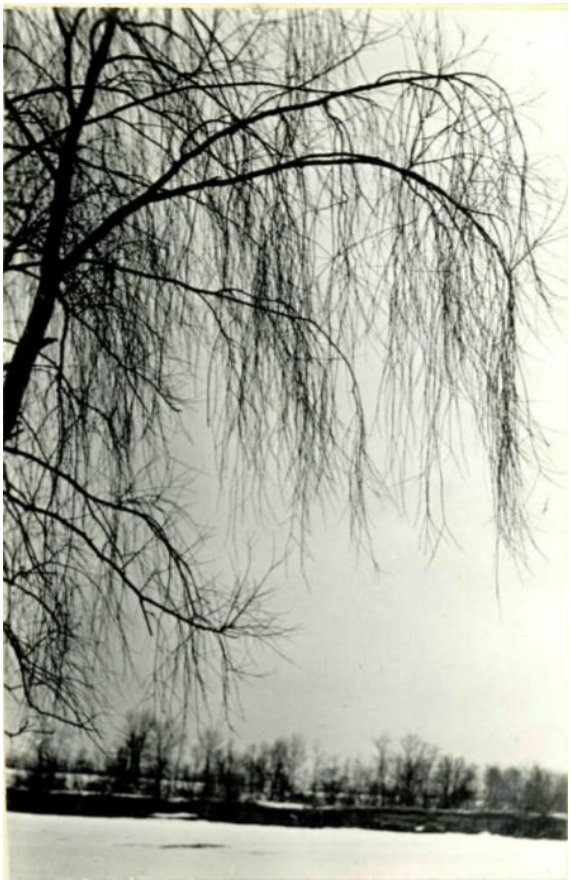

Figure 6. Fragment of weeping crown of *Salix alba* L. by the River Ufa at Krylovo village, Krasnoufimsk District, Sverdlovsk Region. Photograph by Veniamin I. Shaburov

The second matter concerns the forms of *S. triandra* that are based on the colour of their leaves. Skvortsov (1968: 101; 1999:107) recognises two forms of this willow, *S. triandra* f. *concolor* (colour of the leaves both sides green) and *S. triandra* f. *discolor* (colour of the leaves beneath with glaucous bloom). These willows were described by Linneaus (1753: 1016) as two different species, *S. triandra* and *S. amygdalina* L. Some authors treated them as varieties (Wimmer and Grabowski, 1829; Lejeune and Courtois, 1936;

Koch, 1837; Andersson, 1868) and subspecies (Arcangeli, 1882; Rechinger, 1957). Following Skvortsov (1999) we accept two forms of *S. triandra*, one with green leaves without any glaucous bloom beneath, the other with a green upper surface of the leaves and glaucous beneath. However, either in IPNI (2022) or in WCVP (2022) and all studied literature we could not find legitimate names published for these forms. Thus, current taxonomy and nomenclature of these two forms need clarification.

The earliest legitimate name for the infraspecific taxon of *Salix triandra* with leaves that are green on the upper surface and glaucous on the lower surface was published by Seringe (1815: 78) as the variety, *S. triandra* var. *glaucophylla* Ser. The latter name is available for a new combination which is needed for establishing a correct name in the rank of form.

Salix triandra L. f. ***glaucophylla*** (Ser.) I.V.Belyaeva & Govaerts, **comb. & stat. nov.** (Figs. 98–102, 105–106 in Appendix)**.**
(urn:lsid:ipni.org:names: 77300523-1)
Basionym: *Salix triandra* var. *glaucophylla* Ser., Essai Saules Suisse: 78. 1815.
≡ *S. villarsiana* Flüggé ex Willd., Sp. Pl., ed. 4, 4(2): 655. 1806 ≡ *S. amygdalina* var. *villarsiana* (Flüggé ex Willd.) Dumort., Fl. Belg.: 13. 1827, nom. superfl. ≡ *S. amygdalina* var. *discolor* Wimm. & Grab., Fl. Siles. 3: 362. 1829, nom. superfl. ≡ *S. amygdalina* var. glaucophylla (Ser.) Seemen, Syn. Mitteleur. Fl. [P.F.A.Ascherson & K.O.R.Grabner], 4: 77. 1908 ≡ *S. amygdalina* proles *villarsiana* (Flüggé ex Willd.) Rouy, Fl. France 12: 196. 1910 ≡ *S. triandra* L. var. *discolor* P.D.Sell, Fl. Gr. Brit. Ireland 1: 692. 2018, nom. illeg.
Type: France, Grenoble, *Flügge 65*, veg. (B-W-18104040! – lectotype, **designated here** by I.V. Belyaeva); syntypes: France, Grenoble, *Flügge 49*, ♂ (B-W-18104030!); France, Grenoble, *Flügge s.n.*, ♂,♀ (B-W-18104010!); France, Grenoble, *Flügge s.n.*, veg. (B-W-18104020!)
Protologue citation: "Habitat in Gallia australis. (v. ∫.)."
Note: Willdenow (1806: 655) based his description of *Salix villarsiana* on collections and a letter by Johannes Flügge, a German Botanist, who collected plants during his 'Grand tour' of France which he undertook from April 1801 until July 1803 with his friend Friedrich Stromeyer, visiting Southern France, the Pyrenees, and the Mediterranean coast as far as Nice (Te Papa Foundation. News, 2021).

Four specimens in the Willdenow herbarium at B (Curators Herbarium B, 2000+, https://herbarium.bgbm.org/object/BW18104000) that belong to *Salix triandra* and are annotated by D.F.L. von Schlechtendal (1832) as *S. villarsiana* were studied: B-W-1810-010!

(fragments with juvenile leaves and male [on the left] and female [on the right] catkins); B-W-18104-020 (fragment with mature leaves)!; B-W18104-030! (fragment with juvenile leaves and male catkins) and B-W-18104-040! (fragment with mature leaves). Specimens B-W-18104-020 and B-W-18104-040 correspond to the protologue and belong to the original material. The herbarium specimen B-W-18104-040 with mature leaves showing characteristics from the description is selected here as the lectotype.

= *Salix amygdalina* L., Sp. Pl. [C.Linnaeus], 2: 1016. 1753, **syn. nov.**

Type: Carlastad, *A. Axel W. Lund* (S-4884! – neotype, designated by Belyaeva in Jarvis, 2007: 808).

= *Salix triandra* var. *discolor* Mössler ex Lej., Comp. Fl. Belg. [A.L.S. Lejeune & R.J.Courtois] 3: 275. 1836, **syn. nov.**

Type: not designated.

= *Salix triandra* var. *discolor* Andersson, Prodr. [A.P. de Candolle], 16(2): 203. 1868, nom. illeg., **syn. nov.**

Type: not designated.

= *Salix triandra* subsp. *discolor* Arcang., Comp. Fl. Ital.: 626. 1882, **syn. nov.**

Type: not designated.

– *Salix amygdalina* var. *discolor* W.D.J.Koch, Syn. Fl. Germ. Helv. 644. 1837, not validly published (Art. 26. 2 of ICN, Turland *et al*., 2018).

– *Salix amygdalina* f. *discolor* Regel, Mém. Acad. Imp. Sci. Saint Pétersbourg, Sér. 7, 4(4):131. 1861, not validly published (Art. 26. 2 of ICN, Turland *et al*., 2018).

– *Salix triandra* var. *discolor* (Regel) Nakai, Fl. Sylv. Kor. 18: 87. 1930, not validly published (Art. 6. 10 of ICN, Turland *et al*., 2018).

Etymology: The infraspecific epithet of *Salix triandra* f. *glaucophylla* refers to the glaucous bloom on the lower surface of the leaves.

Distribution: Native in Temperate Eurasia, widely introduced around the world.

Catalogue of authentic specimens collected by Veniamin I. Shaburov during his work on *Salix* L.

Salix acutifolia Willd., Sp. Pl., ed. 4 [C.W.Willdenow] 4(2): 668. 1806.

Specimen SVER0696121! (Fig. 1, Appendix): Russia, Chelyabinsk Region, near Verkhniĭ Ufaleĭ, 8 km from Ufimka village, on the right bank of the River Ufa, 7.VI.1959, *V.I. Shaburov, s.n.*

Specimen SVER0696316! (Fig. 2, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 3.IX.1976, *V.I. Shaburov*, *s.n.* Origin: unknown.

Salix aegyptiaca L., Cent. Pl. I: 32. 1755.

Specimen SVER0509478! (Fig. 3, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov*, *s.n.*

Origin: cuttings were obtained from the Forest-steppe Station for Experimental Selection, Lipetsk (Vekhov, 1953; Shaburov, 1986).

Salix alba L., Sp. Pl. [C.Linnaeus] 2: 1021. 1753.

Specimen SVER0509314! (Fig. 4, Appendix): Russia, Sverdlovsk Region, Artinsk District, near Marokanovo village, on the left bank of the River Ufa, 24.VII.1961, *V.I. Shaburov*, *s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with typical lanceolate leaves.

Specimen SVER0509315! (Fig. 5, Appendix): Russia, Bashkiria, Krasnousolsk District, near Tatzinskoye village, on the left bank of the River Belaya, 16.VIII.1960, *V.I. Shaburov*, *s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with typical lanceolate leaves.

Specimen SVER0509277! (Fig. 6, Appendix): Russia, Sverdlovsk Region, Artinsk District, near Marokanovo village, on the left bank of the River Ufa, 24.VII.1961, *V.I. Shaburov*, *s.n.*, ♀, in fruits.

Note: This willow was annotated by Shaburov as a broadleaved variety of *S. alba*.

Specimen SVER0509291! (Fig. 7, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, floodplain of the Ufa River, mouth of the River Kabanka, 13.VII.1961, *V.I. Shaburov*, *s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with broad-lanceolate silvery leaves.

Specimen SVER0509313! (Fig. 8, Appendix): Russia, Sverdlovsk Region, Artinsk District, floodplain of the Ufa River, near Marokanovo village, 24.VII.1961, *V.I. Shaburov*, *s.n.*

Note: This willow was annotated by Shaburov as a broadleaved variety of *S. alba*.

Specimen SVER0509334! (Fig. 9, Appendix): Russia, Sverdlovsk Region, Artinsk District, near Marokanovo village, on the left bank of the River Ufa, 24.VII.1961, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with silvery leaves.

Specimen SVER0509320! (Fig. 10, Appendix): Russia, Bashkiria, Krasnoussolsk District, floodplain of the River Belaya, near Pavlovka village, 17.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with broad-lanceolate silvery leaves.

Specimen SVER0509329! (Fig. 11, Appendix): Russia, Bashkiria, Krasnoussolsk District, floodplain of the River Belaya, near Pavlovka village, 17.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with broad-lanceolate and moderately pubescent leaves.

Specimen SVER0509330! (Fig. 12, Appendix): Russia, Bashkiria, Krasnoussolsk District, floodplain of the River Belaya, 1 km below Pavlovka village, 17.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with narrowly lanceolate and moderately pubescent leaves.

Specimen **SVER0509321! (Fig. 13, Appendix): Russia, Sverdlovsk Region, Artinsk District, near Marokanovo village, on the left bank of the River Ufa, 24.VII.1961, ♂, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with broad-lanceolate leaves and reidentified by Belyaeva as ***Salix* × *fragilis*** L. (= *S. alba* × *S. euxina*).

Specimen SVER0509328! (Fig. 14, Appendix): Russia, Bashkiria, Nurimanovsk District, floodplain of the River Ufa, island on the near Krasnyĭ Klyuch village, 27.VII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with broad lanceolate and slightly pubescent leaves.

Specimen **SVER0509303! (Fig. 15, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Arboretum of the Ukrainian Academy of the Horticultural Sciences, Kiev, Ukraine.

Note: This willow was annotated by Shaburov as a fastigiate variety of *S. alba* and reidentified by Belyaeva as ***Salix* × *fragilis*** f. ***vitellina*** (L.) I.V.Belyaeva.

Specimen **SVER0509307! (Fig. 16, Appendix): Russia, Bashkiria, Ufa Region, near Kargino village, on the right bank of the river Ufa, 01.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a semi-pendulous variety of *S. alba* and renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen SVER0509308! (Fig. 17, Appendix): Russia, Bashkiria, Ufa Region, floodplain of the River Ufa, 18 km above its mouth, near Ufa city, 25.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with long narrowly lanceolate leaves.

Specimen **SVER0509309! (Fig.18, Appendix): Russia, Sverdlovsk Region, Krasnoufimsk District, near Krylovo village, on the left bank of the River Ufa, 28.VII.1959, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with heavily weeping branches and typical lanceolate leaves and renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen SVER0509327! (Fig. 19, Appendix): Russia, Bashkiria, Krasnoussolsk Region, left bank of the River Belaya, by Inzelga village, 15.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with typical lanceolate silvery leaves.

Specimen **SVER0509331! (Fig. 20, Appendix): Russia, Bashkiria, Nurimanovsk District, floodplain of the River Ufa, near Krasnaya Gorka village, 29.VII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with moderately weeping branches and narrowly lanceolate leaves and renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen **SVER0509324! (Fig. 21, Appendix): Russia, Bashkiria, Ufa Region, left bank of the River Ufa, near Shaksha village, 02.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with weeping branches and small lanceolate leaves and renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen **SVER0509325! (Fig. 22, Appendix): Russia, Bashkiria, Krasnoussolsk Region, left bank of the River Belaya, between Inzelga and Tabynskoye villages, 24.VII.1961, *V.I. Shaburov, s.n.* – cultivated in BG UB RAS

Note: This willow was annotated by Shaburov as a variety of *S. alba* with moderately weeping branches and renamed by Belyaeva as ***S. alba* f. *veniaminii***.

Specimen SVER0509310! (Fig. 23, Appendix): Russia, Orenburg Region, floodplain of the River Ural, 0,5 km above the mouth of the River Or', 6.VII.1963, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with light coloured branchlets.

Specimen SVER0509332! (Fig. 24, Appendix): Russia, Orenburg Region, Kuvandyk District, right bank of the River Ural, 10 km above Ilyinka village, 12.VII.1963, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with dark coloured branchlets and typical lanceolate leaves.

Specimen SVER0509338! (Fig. 25, Appendix): Russia, Orenburg Region, River Ural, on the island below the mouth of the River Or', 6.VII.1963, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with small leaves.

Specimen **SVER0696122! (Fig. 26, Appendix): Russia, Chelyabinsk Region, Verkhniĭ Ufaleĭ, left bank of the River Ufa, 1 km below Ufimka village, 7.VI.1959, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as *S. alba* and reidentified by Belyaeva as ***Salix* × *fragilis***.

Specimen SVER0696123! (Fig. 27, Appendix): Russia, Chelyabinsk Region, Verkhniĭ Ufaleĭ, left bank of the River Ufa, 1 km below Ufimka village, 7.VI.1959, *V.I. Shaburov, s.n.*, ♀, in fruits.

Note: This willow was annotated by Shaburov as *S. alba*.

Salix alba L. f. *argentea* Wimm. Sal. Eur. [C.F.H.Wimmer]: 17. 1866, nom. illeg. superfl.

Specimen **SVER0509322! (Fig. 28, Appendix): Russia, Bashkiria, Ufa Region, left bank of the River Ufa, sand bar opposite the mouth of the River Kabanka, 13.VII.1961, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* var. *argentea* Wimm. with silvery-pubescent lanceolate leaves. It was renamed by Belyaeva as ***S. alba***.

Salix alba L. f. *caerulea* (Sm.) Wimm., Salic. Eur.: 18. 1866.

Specimen **SVER0509319! (Fig. 29, Appendix): Russia, Sverdlovsk Region, Artinsk District, West outskirts of the village Bakiĭkovo, 27.VII.1959, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with weeping branches and glaucous leaves. It was reidentified as ***S. alba*** L. f. ***veniaminii***.

Specimen **SVER0509323! (Fig. 30, Appendix): Russia, Bashkiria, Ufa Region, right bank of the River Ufa, 25 km above its mouth, near Ufa city, 25.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with weeping branches and glaucous leaves. It was renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen **SVER0509335! (Fig. 31, Appendix): Russia, Sverdlovsk Region, Krasnoufimsk District, right bank of the River Ufa, near Kamennyĭ passing, 29.VII.1959, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with weeping branches and glaucous leaves. It was renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen **SVER0509336! (Fig. 32, Appendix): Russia, Sverdlovsk Region, Krasnoufimsk District, left bank of the River Ufa, opposite Ust'-Torgash village, 26.VII.1961, *V.I. Shaburov 49.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with weeping branches and long lanceolate leaves. It was renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen **SVER0509337! (Fig. 33, Appendix): Russia, Orenburg Region, Kuvandyk District, floodplain of the River Ural, 3 km below Podgornoe village, 10.VII.1963, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with slightly weeping и branches. It was renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Specimen **SVER0509333! (Fig. 34, Appendix): Russia, Sverdlovsk Region, Artinsk (Manchazhsk) Region, left bank of the River Ufa, near Bakiĭkovo village, 27.VI.1959, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as a variety of *S. alba* with heavily weeping branches and typical lanceolate leaves. It was renamed by Belyaeva as ***S. alba*** f. ***veniaminii***.

Salix alba L. var. *splendens* Andersson, Prodr. [A.P.de Candolle] 16(2): 211. 1868.

Specimen **SVER0509294! (Fig. 35, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from Lvov Botanical Garden, Ukraine.

Note: This willow was annotated by Shaburov as *Salix alba* L. var. *splendens* and was reidentified by Belyaeva as ***Salix* × *fragilis*** (= *S. alba* × *S. euxina*).

Specimen **SVER0509295! (Fig. 36, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 21.IX.1960, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from ornamental plantings of the Agriculture College, Kazdanga village, Liepaya Region, Latvia.

Note: This willow was annotated by Shaburov as *Salix alba* L. var. s*plendens* and was reidentified by Belyaeva as ***Salix* × *fragilis*** f. ***vitellina***

Specimen **SVER0509296! (Fig. 37, Appendix): Russia, Bashkiria, Krasnoussolskiĭ district, floodplain of the River Belaya, opposite Inzelga village, 15.VIII.1960, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as *Salix alba* L. var. s*plendens*. The latter is a synonym of S. alba L. subsp. micans (Andersson) Rech.f. and has its distribution in Caucasus and Asia Minor (Belyaeva & Govaerts, 2022). It was reidentified by Belyaeva as ***Salix alba***.

Specimen **SVER0509300! (Fig. 38, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from ornamental street plantings in Perm', Russia.

Note: This willow was annotated by Shaburov as *Salix alba* L. var. s*plendens* and was reidentified by Belyaeva as ***Salix* × *fragilis*** (= *S. alba* × *S. euxina*).

Salix alba L. var. *vitellina* (L.) Stokes, Bot. Mat. Med. 506. 1812

Specimen **SVER0509298! (Fig. 39, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Arboretum of the Timiryazev Agricultural Academy, Moscow, Russia.

Note: This willow was annotated by Shaburov as *Salix alba* L. var. *vitellina* which is a synonym of ***Salix* × *fragilis*** f. ***vitellina*** (Belyaeva & Govaerts, 2022).

Salix alba L. var. *vitellina* (L.) Stokes f. *pendula* Rehder

Specimen **SVER0509299! (Fig. 40, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from ornamental street plantings in Kharkov, Ukraine.

Note: This willow was annotated by Shaburov as *Salix alba* var. *vitellina* f. *pendula*. It was renamed by Belyaeva as ***Salix* × *pendulina*** nothof. ***tristis*** (*S. babylonica* × *S.* × *fragilis* f. *vitellina*).

Specimen **SVER0509301! (Fig. 41, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 23.VIII.1961, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from Arboretum "Sofievka", Uman', Cherkasskiĭ Region, Ukraine.

Note: This willow was annotated by Shaburov as *Salix alba* var. *vitellina* f. *pendula*. It was renamed by Belyaeva as ***Salix* × *pendulina*** nothof. ***tristis*** (*S. babylonica* × *S.* × *fragilis* f. *vitellina*.

Specimen **SVER0509302! (Fig. 42, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Botanical Garden, Kamenets-Podolskiĭ', Chmelnitskiĭ Region, Ukraine.

Note: This willow was annotated by Shaburov as *Salix alba* var. *vitellina* f. *pendula*. It was renamed by Belyaeva as ***Salix* × *pendulina*** nothof. ***tristis*** (*S. babylonica* × *Salix* × *fragilis* f. *vitellina*.

Salix babylonica L., Sp. Pl. [C.Linnaeus] 2: 1017. 1753.

Specimen SVER0509480! (Fig. 43, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1965, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Botanical Garden, Academy of Sciences, Uzbekistan, Tashkent.

Note: this gathering is represented by an immature shoot of the first year's growth which does not show distinguishing characteristics of *S. babylonica*, such as buds and mature leaves. It could be either *S. babylonica* or its hybrid with *S. euxina* and/or *S. alba*.

Specimen SVER0509481! (Fig. 44, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1965, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Botanical Garden, Academy of Sciences, Kazakhstan, Alma-Ata.

Note: This willow was annotated by Shaburov as a variety of *S. babylonica* with weeping branches. This gathering is represented by an immature shoot of the first year's growth which does not show distinguishing characteristics of *S. babylonica*, such as buds and mature leaves. It could be either *S. babylonica* or its hybrid with *S. euxina* and/or *S. alba*.

Specimen SVER0509482! (Fig. 45, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: unknown. This gathering is represented by an immature shoot of the first year's growth which does not show distinguishing characteristics of *S. babylonica*, such as buds and mature leaves. It could be either *S. babylonica* or its hybrid with *S. euxina* and/or *S. S. alba*.

Specimen SVER0509483! (Fig. 46, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 23.VIII.1962, *V.I. Shaburov, s.n.* Origin: cuttings obtained from the Nikitskiĭ Botanical Garden, Yalta, Krym. This gathering is represented by an immature shoot of the first year's growth which does not show distinguishing characteristics of *S. babylonica*, such as

buds and mature leaves. It could be either *S. babylonica* or its hybrid with *S. euxina* and/or *S. alba*.

Salix bebbiana Sarg., Gard. & Forest 8: 463. 1895.

Specimen SVER0696350! (Fig. 47, Appendix): Russia, Chelyabinsk Region, Verkhniĭ Ufaleĭ, right steep bank of the River Ufa, 2 km from Ufimka village, 2.VI.1959, *V.I. Shaburov, s.n*. Identified by Irina V. Belyaeva 12.09.2005 as *S. bebbiana*.

Specimen SVER0696960! (Fig. 48, Appendix): Russia, Krasnoyarsk Region, Krasnoyarsk, near Academic village, 15.V.1980, *V.I. Shaburov, s.n*. This specimen was annotated by Shaburov as '*S. bebbiana*?' and its identification was confirmed by A.K Skvortsov in 1981.

Salix × *blanda* Andersson, Kongl. Svenska Vetensk.-Akad. Handl. n.s., 6(1): 50. 1867

Specimen **SVER0509484! (Fig. 49, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n*. Origin: although it was not mentioned on the label from where this willow was introduced into the collection of the BG UB RAS, in his PhD Thesis (Shaburov, 1970a) *Salix* × *blanda* is associated with the Arboretum Vesyolyye Bokovenki, Kirovograd Region, Ukraine. This specimen was annotated by Shaburov as *S. blanda* (= *S. elegantissima* K.Koch). The correct name of this willow is ***Salix* × *pendulina*** (= *S. alba*. × *S. babylonica*. × *S. euxina*).

Specimen **SVER0509485! (Fig. 50, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n*. Origin: cuttings were obtained from the Arboretum of the Timiryazev Agricultural Academy, Moscow, Russia.

Note: This willow was annotated by Shaburov as a variety of *S. blanda* with not weeping branches. It was reidentified by Belyaeva as ***S***. × ***fragilis*** (*S. alba* × S. *euxina*).

Salix caprea L., Sp. Pl. [C.Linnaeus] 2: 1020. 1753.

Specimen SVER0696124! (Fig. 51, Appendix): Russia, Sverdlovsk Region, Severouralsk District, on the hill near Lake Dikoye , *V.I. Shaburov* & *I.V. Belyaeva*, *s.n*.

Salix daphnoides Vill., Prosp. Hist. Pl. Dauphiné 51. 1779.

Specimen SVER0509487! (Fig. 52, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 12.VIII.1963, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from the Forest-steppe Station for Experimental Selection, Lipetsk (Vekhov, 1953; Shaburov, 1986).

Specimen **SVER0509489! (Fig. 53, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 12.VIII.1963, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from the Forest-steppe Station for Experimental Selection, Lipetsk (Vekhov, 1953; Shaburov, 1986).

Note: this willow was annotated by V.I. Shaburov as *Salix daphnoides* Vill. subsp. *pulchra* Wimm. The latter taxon is not recorded either in IPNI or WCVP. However, there was a willow described by Wimmer (1866: 7) as *S. pulchra* Wimm., nom. illeg., later homonym, which is a synonym of ***Salix daphnoides***. (Belyaeva and Govaerts, 2022).

Salix dasyclados Wimm., Flora 32: 35. 1849.

Specimen **SVER0696125! (Fig. 54, Appendix): Russia, Bashkiria, Beloretsk Region, 1962, *V.I. Shaburov*, *s.n.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** Pall. (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696126! (Fig. 55, Appendix): Russia, Bashkiria, Beloretsk Region, left bank of the River Belaya, 11 km below Lomovka village, 9.VII.1962, *V.I. Shaburov 6.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696127! (Fig. 56, Appendix): Russia, Bashkiria, Beloretsk Region, left bank of the River Belaya, 2 km above Lomovka village, 8.VII.1962, *V.I. Shaburov s.n.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696128! (Fig. 57, Appendix): Russia, Bashkiria, Beloretsk Region, left bank of the River Belaya, 4 km below Lomovka village, 8.VII.1962, *V.I. Shaburov s.n.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696129! (Fig. 58, Appendix): Russia, Bashkiria, Beloretsk Region, left bank of the River Belaya, 4 km below Lomovka village, 8.VII.1962, *V.I. Shaburov 4.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696130! (Fig. 59, Appendix): Russia, Bashkiria, Beloretsk Region, left bank of the River Belaya, 4 km below Lomovka village, 8.VII.1962, *V.I. Shaburov 3.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696131! (Fig. 60, Appendix): Russia, Bashkiria, Beloretsk Region, left bank of the River Belaya, 2 km above Lomovka village, 8.VII.1962, *V.I. Shaburov 2*.

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696132! (Fig. 61, Appendix): Russia, Sverdlovsk Region, Krasnoufimsk District, 1962, *V.I. Shaburov s.n.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696133! (Fig. 62, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', bank of the River Elovka, near Elovka village, 8.VII.1959, *V.I. Shaburov s.n.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696134! (Fig. 63, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', near Lake Svetloye, 4.VII.1959, *V.I. Shaburov s.n.*

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0696135! (Fig. 64, Appendix): Russia, Bashkiria, Beloretsk Region, left bank of the River Belaya, 2 km above Lomovka village, 8.VII.1962, *V.I. Shaburov 1*.

Note: this willow was annotated by Shaburov as *Salix dasyclados* Wimm., which is a synonym of ***S. gmelinii*** (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Specimen **SVER0509499! (Fig. 65, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 12.VIII.1964, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from the Forest-steppe Station for Experimental Selection, Lipetsk (Vekhov, 1953).

Note: this willow was annotated by Shaburov as *Salix smithhiana* Wimm. (= *S. caprea* L. × *S. viminalis* L.), which is a synonym of ***S. gmelinii*** (Belyaeva and Govaerts, 2022).

Salix fragilis non L., auct. A.K.Skvortsov (1999: 118).

Specimen **SVER0509493! (Fig. 66, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from ornamental plantings, Latvia (Shaburov, 1986).

Note: this willow was annotated by Shaburov as *Salix fragilis* L. f. *bullata* Späth which is a cultivated form of ***S. euxina*** (Belyaeva, 2009).

Salix × *excelsior* Host, Salix: 8. 1828.

Specimen **SVER0509490! (Fig. 67, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from the Arboretum of the Timiryazev Agricultural Academy, Moscow, Russia.

Note: this willow was annotated by Shaburov as *Salix* × *excelsior* Host, which is a synonym of ***S***. × ***fragilis*** (Belyaeva & Govaerts, 2022).

Salix* × *fragilis L., Sp. Pl. [C.Linnaeus] 2: 1017. 1753. (= *S. alba* L. × *S. euxina* I.V.Belyaeva)

Specimen **SVER0509492! (Fig. 68, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from ornamental plantings, Perm', Russia.

Salix ilkensis Sukaczev, Selekt. & Introd. Bystrorast. Drevest. Rast.: 60. 1934, not validly published.

Specimen **SVER0509494! (Fig. 69, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from the Main Botanical Garden RAS, Moscow, Russia.

Note: this willow was annotated by Shaburov as *S. ilkensis* Sukaczev, which is not validly published name (Sukaczev, 1934). This specimen was reidentified by Belyaeva as ***S. udensis*** Trautv. & C.A.Mey.

Salix irrorata Andersson, Öfvers. Kongl. Vetensk.-Akad. Förh. 15: 117. 1858.

Specimen SVER0509491! (Fig. 70, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov*, *s.n.* Origin: cuttings were obtained from the Forest-steppe Station for Experimental Selection, Lipetsk (Vekhov, 1953; Shaburov, 1986).

Salix* × *laurina Sm., Trans. Linn. Soc. London 6: 122. 1802

Specimen SVER0509495! (Fig. 71, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 12.VIII.1964, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Forest-steppe Station for Experimental Selection, Lipetsk (Vekhov, 1953; Shaburov, 1986).

Note: this willow was annotated by Shaburov as a hybrid between *Salix caprea* and *S. phylicifolia* L. In fact, it is a hybrid between *Salix atrocinerea* Brot. and *S. phylicifolia*. (Belyaeva & Govaerts, 2022).

Salix matsudana Koidz. f. *tortuosa* Rehder, J. Arnold Arbor. 6: 206. 1925.

Specimen **SVER0509496! (Fig. 72, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Botanical Garden, Academy of Sciences, Uzbekistan, Tashkent. This gathering is represented by an immature shoot of the first year's growth which does not show distinguishing characteristics of *S. babylonica* f. *tortuosa*, such as buds and mature leaves. It could be either *S. babylonica* or its hybrid with *S. euxina* and/or *S. alba*. This willow was annotated by Shaburov as *S. matsudana* f. *tortuosa* which is a synonym of ***Salix babylonica*** L. f. ***tortuosa*** Y.L.Chou (Belyaeva and Govaerts, 2022).

Salix myrtilloides L., Sp. Pl. [C.Linnaeus] 2: 1019. 1753.

Specimen SVER0534511! (Fig. 73, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 12.VIII.1964, *V.I. Shaburov s.n.* Origin: cuttings were obtained from Sverdlovsk Region.

Salix pentandra L., Sp. Pl. [C.Linnaeus] 2: 1016. 1753.

Specimen *SVER0696136! (Fig. 74, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', near Lake Svetloye, 04.VII.1959, *V.I. Shaburov s.n.*

Specimen *SVER0696137! (Fig. 75, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', near Lake Svetloye, 04.VII.1959, *V.I. Shaburov s.n.*, ♀, in fruits.

Specimen *SVER0696169! (Fig. 76, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', near Lake Svetloye, 04.VII.1959, *V.I. Shaburov s.n.*, ♀, in fruits.

Specimen *SVER0696138! (Fig. 77, Appendix): Russia, Sverdlovsk Region, Nizhneserginsk District, 5 km upstream from Mikhaĭlovskiĭ Zavod village, left Bank of the River Ufa, 11.VII.1959, *V.I. Shaburov 5*.

Note: Specimens of *S. pentandra* listed above were not annotated by Shaburov and were identified as such by Belyaeva in 2005.

Salix phylicifolia L., Sp. Pl. [C.Linnaeus] 2: 1016. 1753.

Specimen *SVER0696139! (Fig. 78, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', near Lake Svetloye, 04.VII.1959, *V.I. Shaburov s.n.*

Specimen *SVER0696140! (Fig. 79, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', near Lake Svetloye, 04.VII.1959, *V.I. Shaburov s.n.*

Specimen *SVER0696141! (Fig. 80, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', on the top of the Yelovskiĭ Mountain Range, 08.VII.1959, *V.I. Shaburov s.n.*, ♀, in fruits.

Specimen *SVER0696142! (Fig. 81, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', Zhuravlyov Kamen, 06.VII.1959, *V.I. Shaburov s.n.*

Specimen *SVER0696143! (Fig. 82, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', Zhuravlyov Kamen, 06.VII.1959, *V.I. Shaburov s.n.*

Note: Specimens of *S. phylicifolia* listed above were not annotated by Shaburov and were identified as such by Belyaeva in 2005.

Salix purpurea L., Sp. Pl. [C.Linnaeus] 2: 1017. 1753

Specimen **SVER0509498! (Fig. 83, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 17.VI.1962, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Arboretum of the Ukrainian Academy of the Horticultural Sciences, Kiev, Ukraine.

Note: this willow was annotated by V.I. Shaburov as *Salix purpurea* L. f. *angustifolia* (Dumort.) DC., which is recorded in WCVP as *S. purpurea* L. var. *angustifolia* (Dumort.) DC. and is a synonym of ***S. purpurea*** L. var**. *purpurea*** (Belyaeva and Govaerts, 2022).

Specimen **SVER0509497! (Fig. 84, Appendix): Russia, Orenburg Region, 20 km above Orenburg city on the floodplain of the River Ural, 14.VII.1963, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as *Salix purpurea* L. and was reidentified by Belyaeva as ***S. vinogradovii*** A.K.Skvortsov.

Salix rossica Nasarow, Fl. URSS 5: 135. 1936

Specimen **SVER0535547! (Fig. 85, Appendix): Russia, Chelyabinsk Region, near Verkhniĭ Ufaleĭ, 8 km from Ufimka village, on the right bank of the River Ufa, 10.VI.1963, *V.I. Shaburov, s.n.*

Note: This willow was annotated by Shaburov as *S. rossica* Nasarow which is a synonym of ***S. viminalis*** L. (Belyaeva & Govaerts 2022).

Specimen **SVER0535622! (Fig. 86, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov 250*. Origin: unknown.

Note: This willow was annotated by Shaburov as *Salix rossica* Nasarow var. *obensis* Sukaczev, a which is not recorded either in IPNI or WCVP and is a synonym of ***S. viminalis*.**

Salix sibirica Pall., Fl. Ross. 1(2): 78. 1788.

Specimen **SVER0535260! (Fig. 87, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Arboretum of the Academy of the Horticultural Sciences, Frunze, Kirgizstan.

Note: this willow was annotated by Shaburov as *Salix sibirica* Pall. which is a synonym of ***S. rosmarinifolia*** L. subsp. ***sibirica*** (Pall.) I.V.Belyaeva & Sennikov (Belyaeva and Sennikov, 2008; Belyaeva and Govaerts, 2022).

Salix tenuifolia Turcz., Bull. Soc. Imp. Naturalistes Moscou 27(1): 376. 1854, nom. illeg.

Specimen **SVER0509500! (Fig. 88, Appendix): Russia, Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov, s.n.* Origin: cuttings were obtained from the Botanical Garden of the Lomonosov's Moscow State University.

Note: This willow was annotated by Shaburov as *S. tenuifolia* Turcz. which is a synonym of ***S. miyabeana*** Seemen (Belyaeva & Govaerts, 2022).

Salix triandra L., Sp. Pl. [C.Linnaeus] 2: 1016. 1753.

Specimen *SVER0696144! (Fig. 89, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, left bank of the Ufa River, 12 km below Nyazepetrovsk, 6.VI.1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696145! (Fig. 90, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, left bank of the Ufa River, 12 km below Nyazepetrovsk, 1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696146! (Fig. 91, Appendix): Russia, Sverdlovsk Region, Nizhniye Sergi District, left bank of the Ufa River, 5 km from the Mikhaĭlovsk factory, at the turn from Northwest to West, 1959, *V.I. Shaburov 3*.

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696147! (Fig. 92, Appendix): Russia, Chelyabinsk Region, Verkhniĭ Ufaleĭ District, right bank of the Ufa River, 8 km below Ufimka village, 7.VI.1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696148! (Fig. 93, Appendix): Russia, Chelyabinsk Region, Verkhniĭ Ufaleĭ District, right bank of the Ufa River, 8 km below Ufimka village, 7.VI.1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696149! (Fig. 94, Appendix): Russia, Bashkiria, Karaidel District, mouth of the River Uryuzan, 25. VII.1960, *V.I. Shaburov, 6-60*.

Note: this willow was annotated by Shaburov as *S. triandra* f. *concolor* and was reidentified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696150! (Fig. 95, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, big loop of the Ufa River, 11.VII.1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696151! (Fig. 96, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, big loop of the Ufa River, 1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696152! (Fig. 97, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, left bank of the Ufa River, 12 km below Nyazepetrovsk, 1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696153! (Fig. 98, Appendix): Russia, Sverdlovsk Region, Nizhniye Ser'gi District, left bank of the Ufa River, 5 km from the Mikhaĭlovsk factory, at the turn from Northwest to West, 11.VII.1959, *V.I. Shaburov s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *glaucophylla*

Specimen **SVER0696154! (Fig. 99, Appendix): Russia, Sverdlovsk Region, Krasnoufimsk District, floodplain of the Ufa River, 1 km from the Krasnyĭ Lug village, 1960, *V.I. Shaburov s.n.*

Note: this willow was annotated by Shaburov as *S. triandra* f. *bicolor* and was renamed by Belyaeva as *S. triandra* f. *glaucophylla*

Specimen *SVER0696155! (Fig. 100, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, near Araslanovo village, 15. VII.1960, *V.I. Shaburov s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *glaucophylla*

Specimen *SVER0696156! (Fig. 101, Appendix): Russia, Sverdlovsk Region, Nizhniye Sergi District, left bank of the Ufa River, 5 km from the Mikhaĭlovsk factory, at the turn from Northwest to West, 11.VII.1959, *V.I. Shaburov s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *glaucophylla*

Specimen *SVER0696157! (Fig. 102, Appendix): Russia, Sverdlovsk Region, Nizhniye Sergi District, left bank of the Ufa River, 5 km from the Mikhaĭlovsk factory, at the turn from Northwest to West, 11.VII.1959, *V.I. Shaburov s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *glaucophylla*

Specimen *SVER0696158! (Fig. 103, Appendix): Russia, Chelyabinsk Region, Verkhniĭ Ufaleĭ District, right bank of the Ufa River, 8 km below Ufimka village, 7.VI.1959, *V.I. Shaburov, s.n.*

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696315! (Fig. 104, Appendix): Russia, Sverdlovsk Region, Krasnoufimsk District, floodplain of the Ufa River, 1 km from the Krasnyĭ Lug village, 1959, *V.I. Shaburov s.n.*

Note: this willow was annotated by Shaburov as *S. triandra* f. *concolor* and was re-named by Belyaeva as *S. triandra* f. *triandra*

Specimen *SVER0696351! (Fig. 105, Appendix): Russia, Bashkiria, Karaidel' District, above the mouth of the River Uryuzan', 25. VII.1960, *V.I. Shaburov, s.n.*, ♀, in fruits

Note: this willow was not annotated by Shaburov and was identified by Belyaeva as *S. triandra* f. *glaucophylla*

Specimen **SVER0696352! (Fig. 106, Appendix): Russia, Bashkiria, Karaidel District, above the mouth of the River Uryuzan, 25. VII.1960, *V.I. Shaburov, s.n.*, ♀, in fruits

Note: this willow was annotated by Shaburov as *S. triandra* f. *discolor* and was renamed by Belyaeva as *S. triandra* f. *glaucophylla.*

Salix × *undullata* Ehrh., Beitr. Naturk. [Ehrhart] 6: 101. 1791 (= *S. triandra* × *S. viminalis*).

Specimen **SVER0509501! (Fig. 107, Appendix): Yekaterinburg, cultivated in the BG UB RAS, 14.VI.1963, *V.I. Shaburov s.n.* Origin: cuttings were obtained from the Forest-steppe Station for Experimental Selection, Lipetsk (Vekhov, 1953).

Note: this willow was annotated by V.I. Shaburov as *S.* × *undullata* Ehrh. (= *S. alba* L. × *S. triandra* L.) and was reidentified by I.V. Belyaeva as ***S.*** × ***mollissima*** Hoffm. ex Elwert (= *S. triandra* × *S. viminalis*).

Salix uralicola I.V.Belyaeva, Bot. Zhurn. (Moscow & Leningrad) 87(4): 153 (2002).

Specimen *SVER0696172! (Fig. 108, Appendix): Russia, Sverdlovsk Region, Severouralsk District, Nature Reserve 'Denezhkin Kamen', near Belaya village, 05.VII.1959, *V.I. Shaburov s.n.*

Note: this willow was not annotated by Shaburov and was identified by I.V. Belyaeva as ***S. uralicola*** in 2005.

S. viminalis L., Sp. Pl. [C.Linnaeus] 2: 1021. 1753.

Specimen **SVER0696159! (Fig. 109, Appendix): Russia, Bashkiria, Karaidel Region, floodplain of the River Yuryuzan, 25.VII.1960, *V.I. Shaburov 8-60*.

Note: This willow was annotated by Shaburov as *Salix viminalis* L. f. *argentea*, which was not recorded either in IPNI or WCVP and is identified by Belyaeva as ***S. viminalis*.**

Specimen SVER0696160! (Fig. 110, Appendix): Russia, Chelyabinsk Region, Nyazepetrovsk District, floodplain big loop of the River Ufa, near Yuldashevo village, 11.VII.1959, *V.I. Shaburov 1*.

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Author's contributions

Irina V. Belyaeva (IB) together with OE and LS initiated the project, revised all available herbarium material collected by V. I. Shaburov at SVER, discussed with RG and OE taxonomic and nomenclatural problems, made necessary nomenclatural actions, wrote the first version of the manuscript, participated in discussion of the text of the manuscript with NS, DV, EZ, AV and LS and coordinated the project.

Olga V. Epanchintseva (OE) together with IB and LS initiated the project, participated in the revision and annotation of the herbarium specimens and discussion of the text of the manuscript.

Nikolay G. Erokhin (NE) together with DV, NS, AV, EZ organized data curation and scanning the herbarium specimens, making necessary corrections in annotation of specimens, submitting and publishing data in GBIF, participating in preparation and discussion of the manuscript.

Rafaël H.A. Govaerts (RG) together with IB and OE discussed taxonomic and nomenclatural decisions, participated in preparation and discussion of the manuscript.

Nina P. Salmina (NS) together with NE, DV, AV and EZ participated in data curation, preparation of herbarium specimens for scanning and discussion of the manuscript.

Denis V. Veselkin (DV) together with NE, NS, AV and EZ participated in data curation and discussion of the manuscript.

Alex A. Vorobiov (AV) together with NE and AV participated in the organising of data curation and publishing them in GBIF and discussion of the manuscript.

Ekaterina M. Zvezdina (EZ) together with NE, DV, AV and NS participated in data curation and scanning of herbarium material and discussion of the manuscript.

Lidia A. Semkina (LS) together with IB and OE initiated the project, lead and advised the organisation of scientific collaboration and planned stages of the research, participated in preparation and discussion of the manuscript.

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Appendix

Figure 1. *Salix acutifolia* Willd. SVER0696121.

Figure 2. *Salix acutifolia* Willd. SVER0696316.

Figure 3. *Salix aegyptiaca* L. SVER0509478.

Figure 4. *Salix alba* L. SVER0509314.

Figure 5. *Salix alba* L. SVER0509315.

Figure 6. *Salix alba* L. SVER0509277.

Figure 7. *Salix alba* L. SVER0509291.

Figure 8. *Salix alba* L. SVER0509313.

Figure 9. *Salix alba* L. SVER0509334.

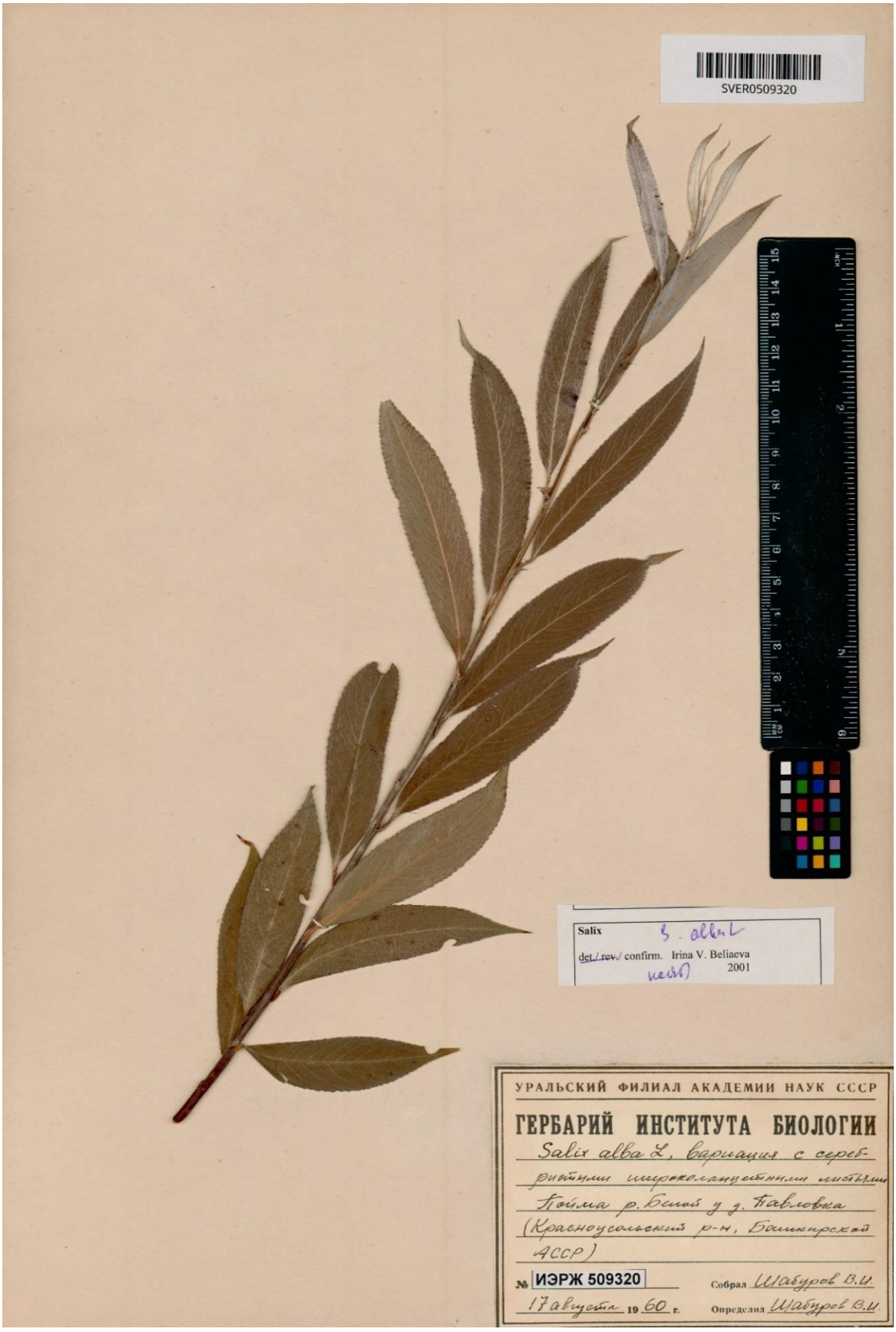

Figure 10. *Salix alba* L. SVER0509320.

Figure 11. *Salix alba* L. SVER0509329.

Figure 12. *Salix alba* L. SVER0509330.

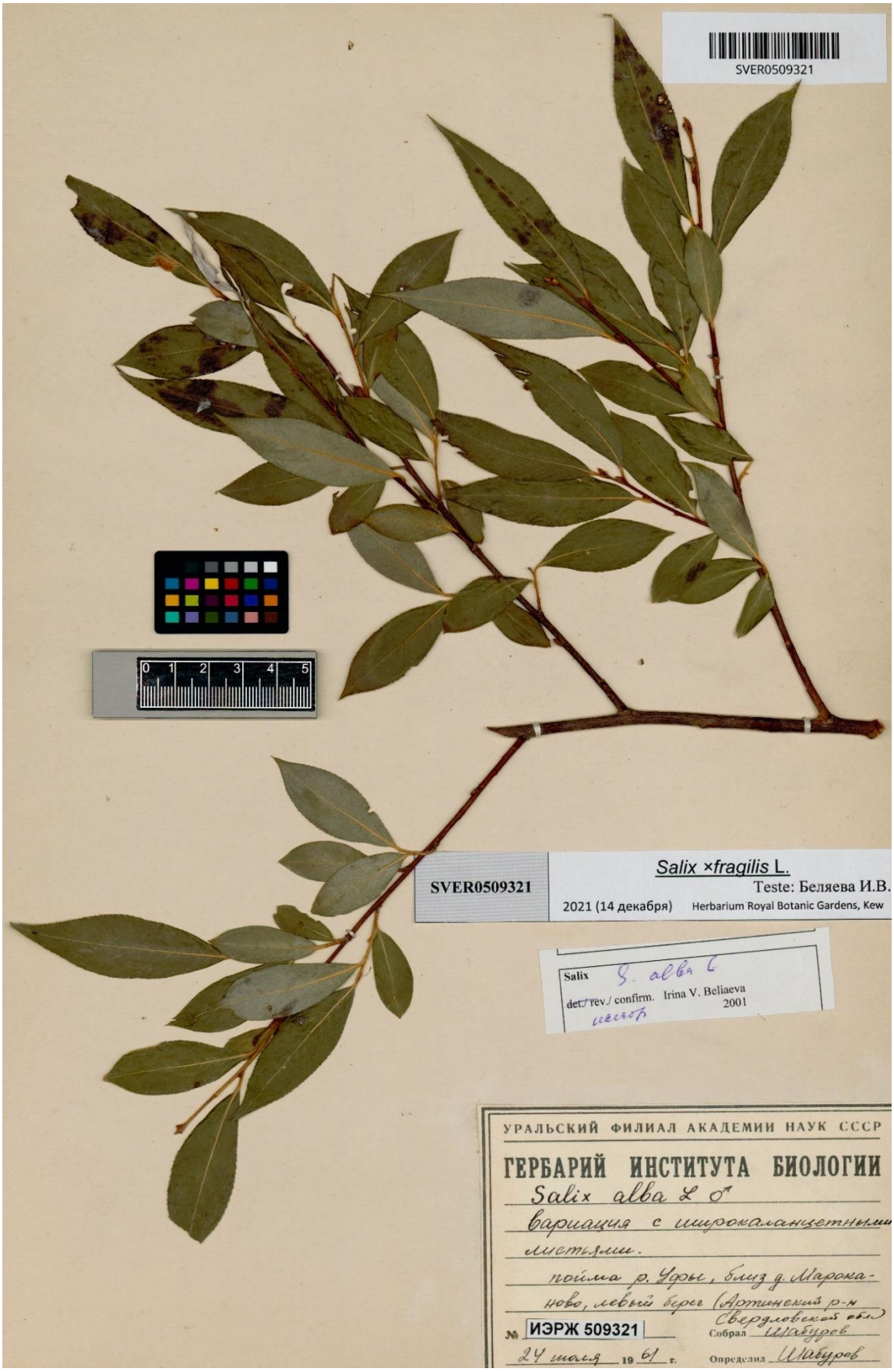

Figure 13. *Salix* × *fragilis* L. SVER0509321.

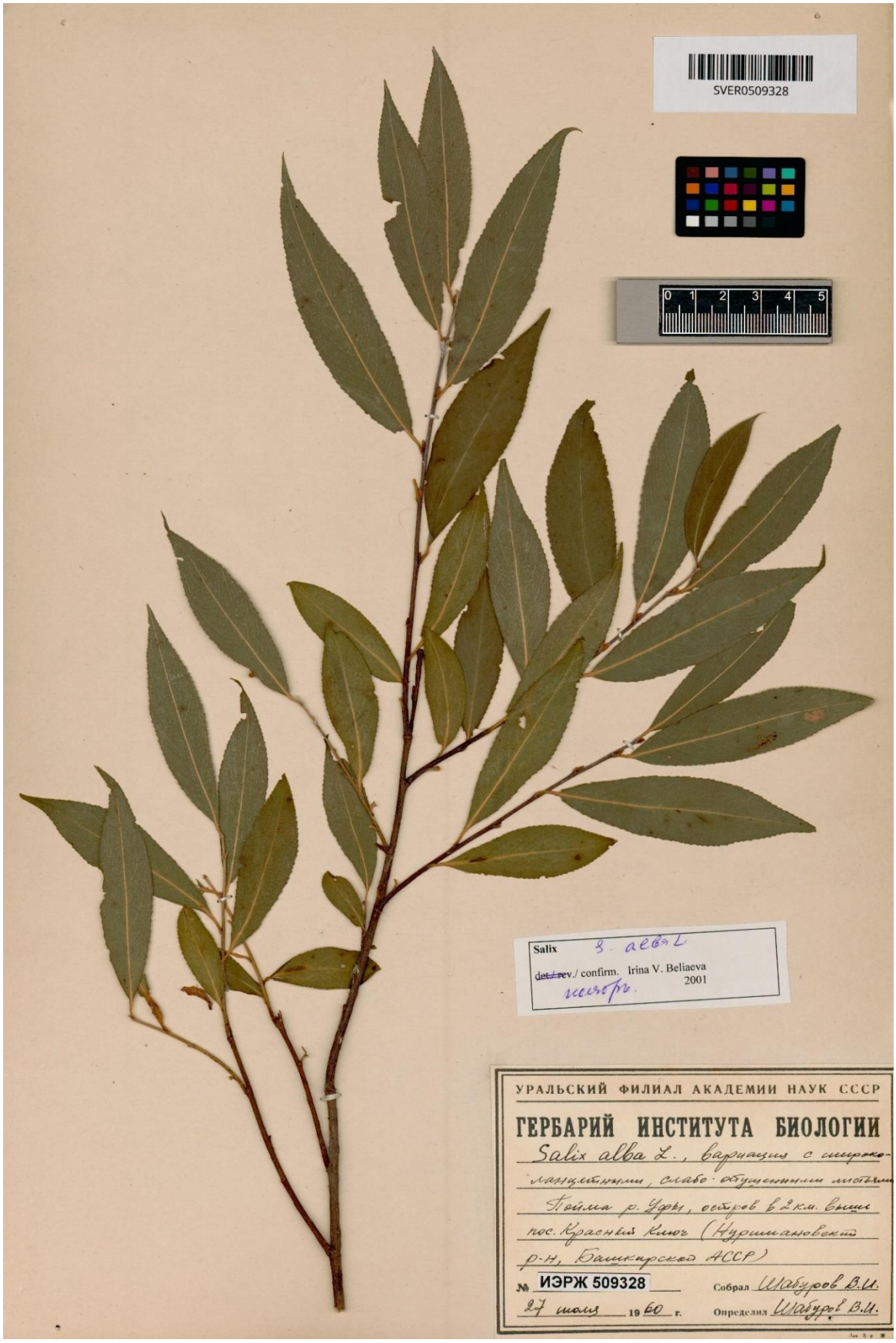

Figure 14. *Salix alba* L. SVER0509328.

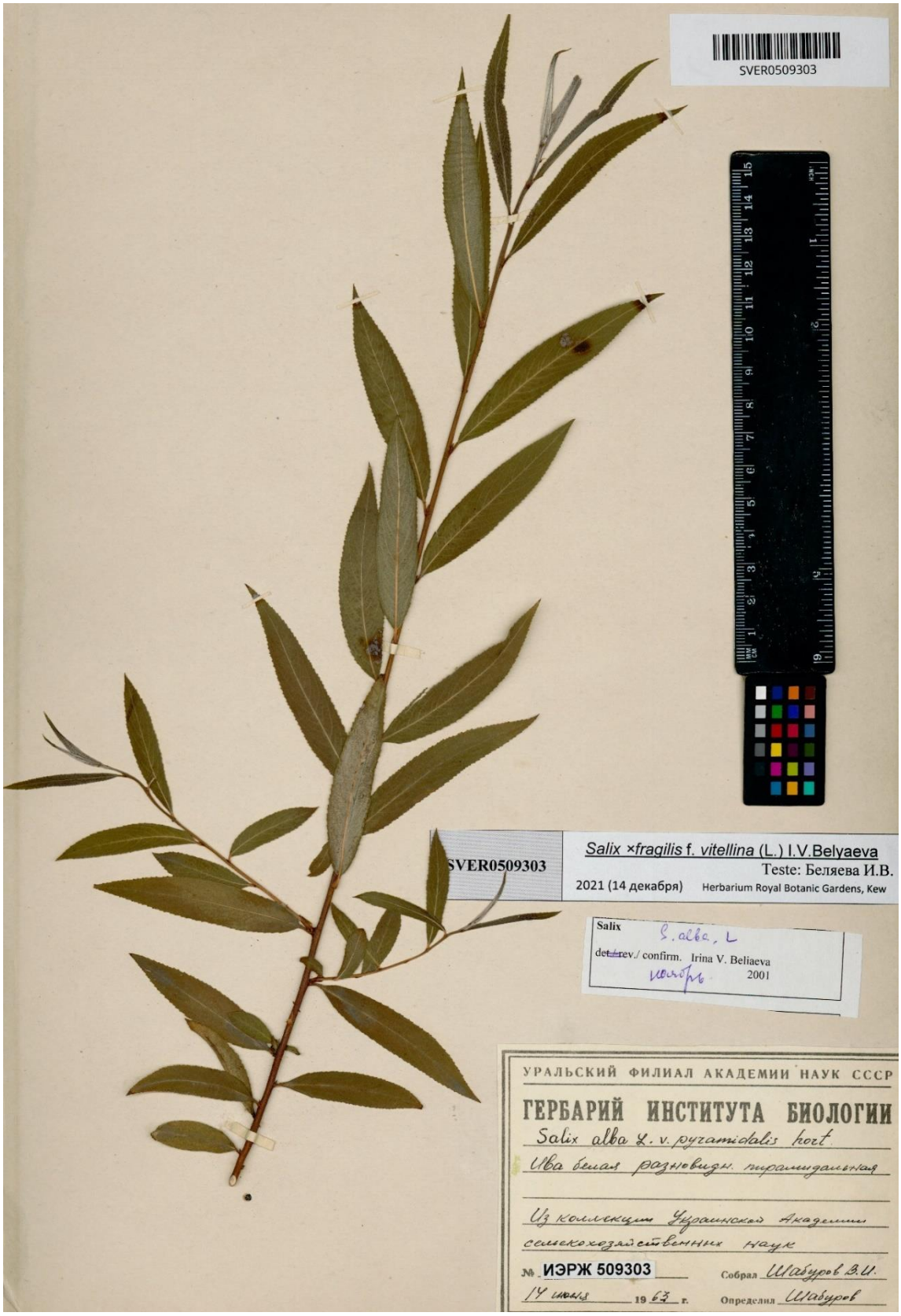

Figure 15. *Salix fragilis* L. f. *vitellina* (L.) I.V.Belyaeva SVER0509303.

Figure 16. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509307.

Figure 17. *Salix alba* L. SVER0509308.

Figure 18. Holotype of *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509309.

Figure 19. *Salix alba* L. SVER0509327.

Figure 20. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509331.

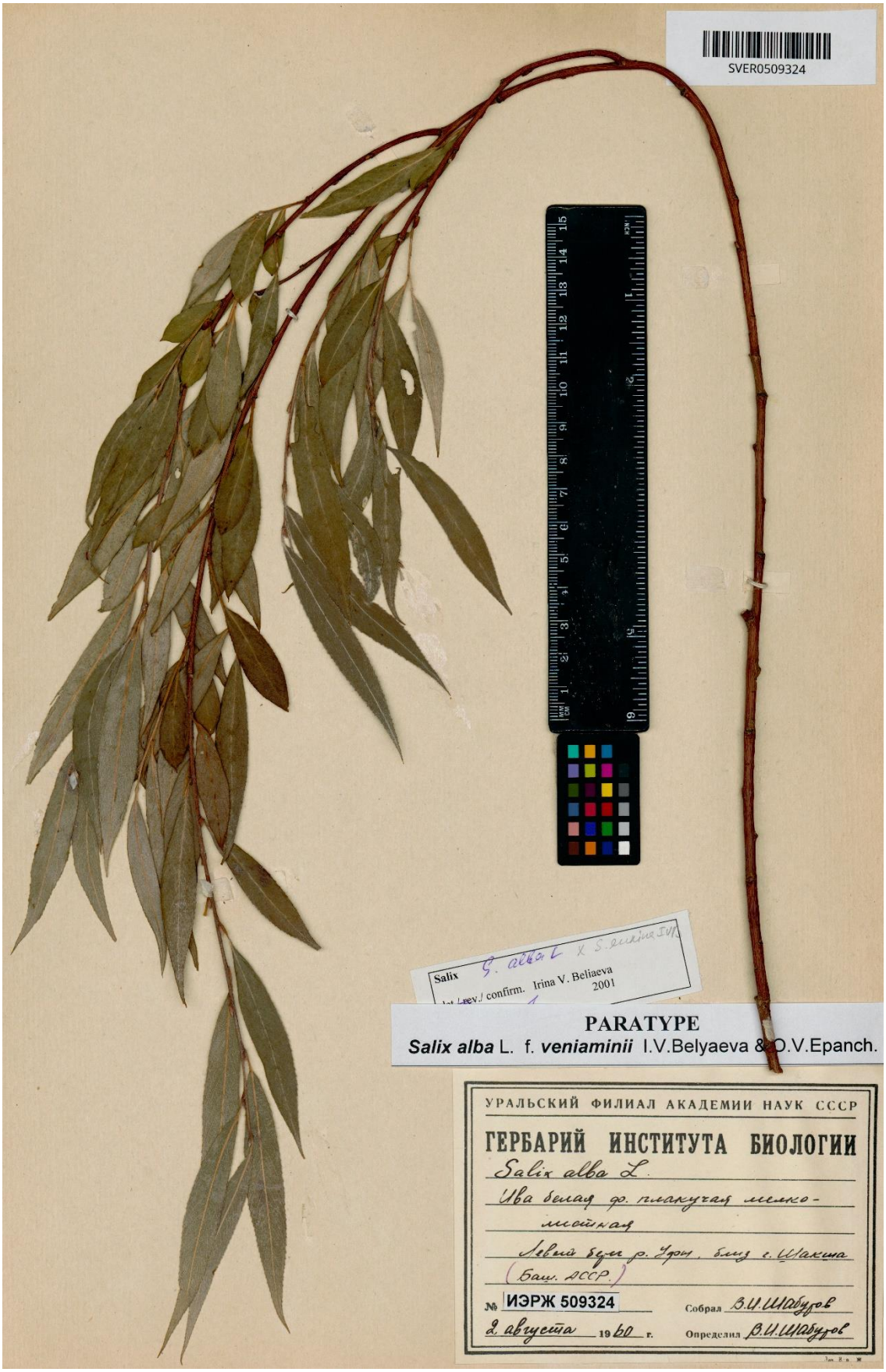

Figure 21. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509324.

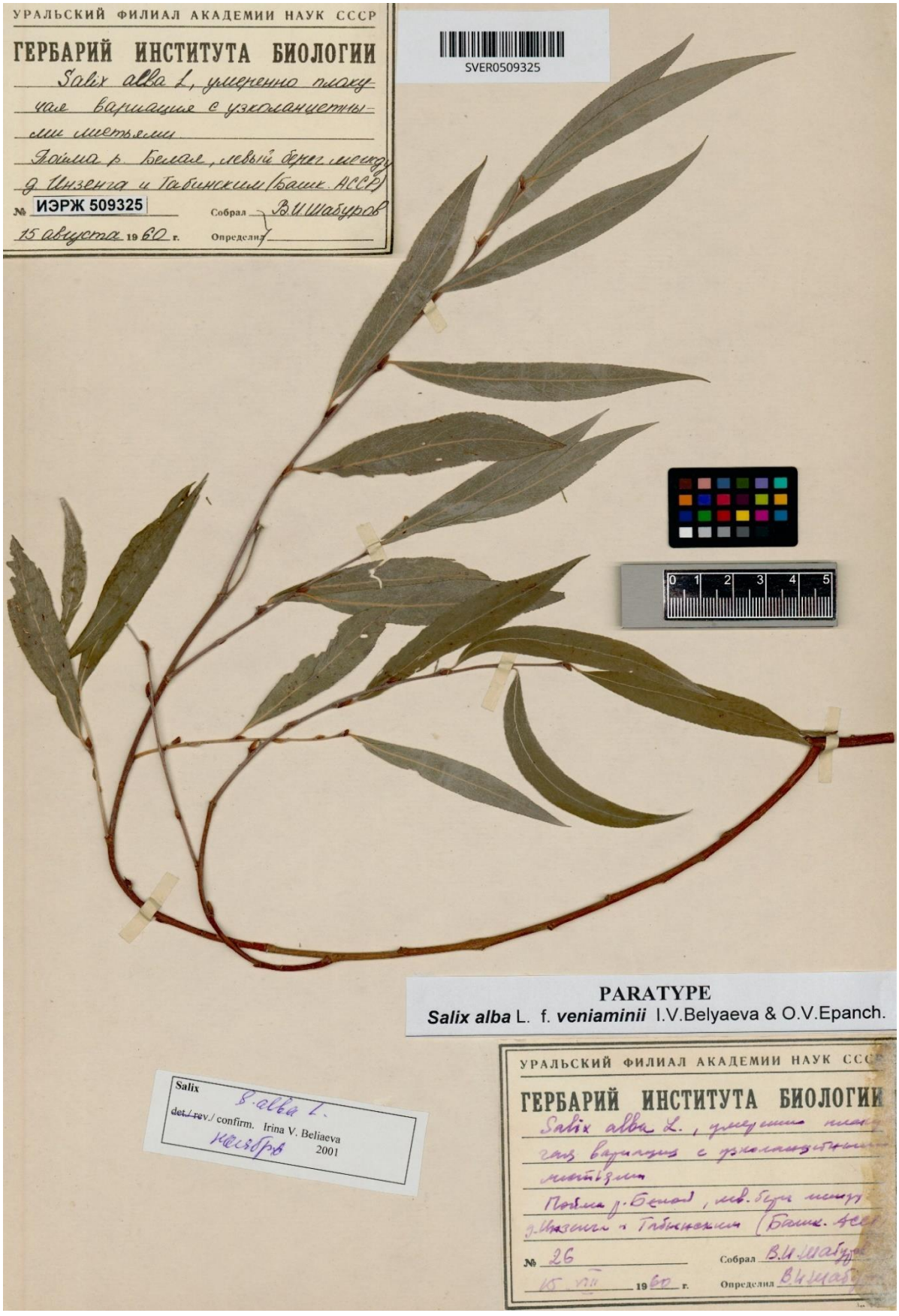

Figure 22. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509325.

Figure 23. *Salix alba* L. SVER0509310.

Figure 24. *Salix alba* L. SVER0509332.

Figure 25. *Salix alba* L. SVER0509338.

Figure 26. *Salix* × *fragilis* L. (= *S. alba* L. × *S. euxina* I.V.Belyaeva) SVER0696122.

Figure 27. *Salix alba* L. SVER0696123.

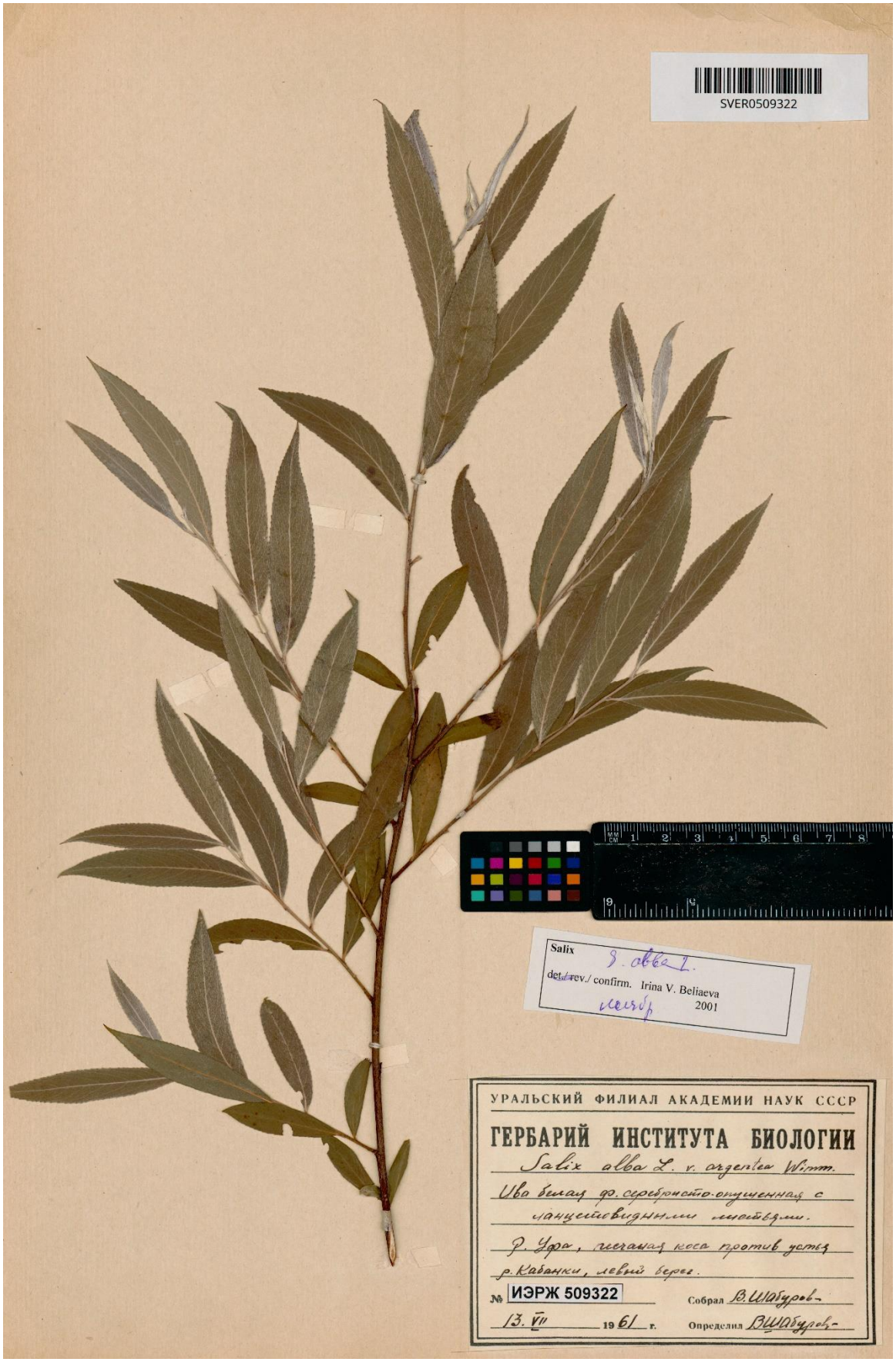

Figure 28. *Salix alba* L. SVER0509322.

Figure 29. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509319.

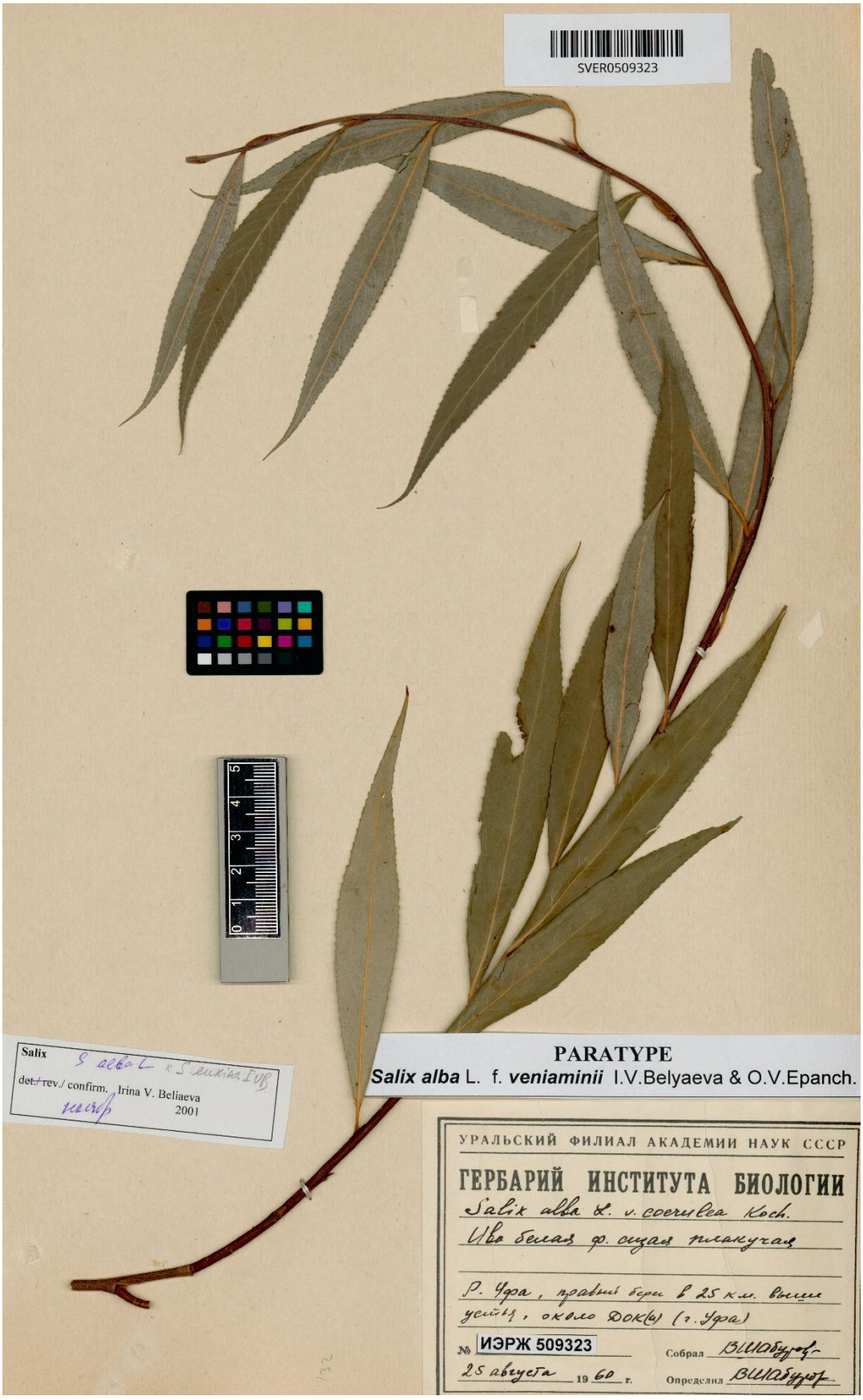

Figure 30. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509323.

Figure 31. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509335.

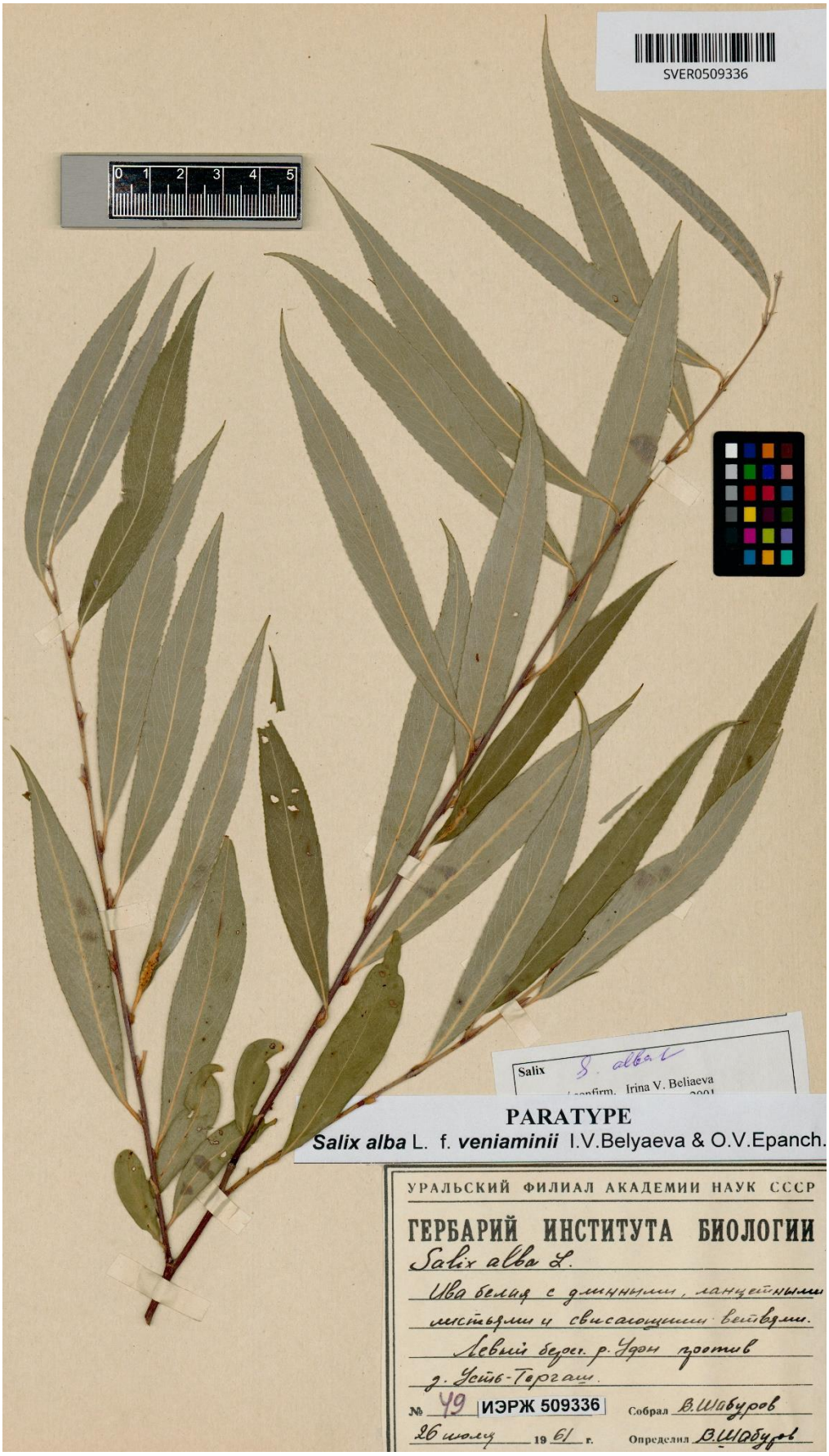

Figure 32. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509336.

Figure 33. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509337.

Figure 34. *Salix alba* L. f. *veniaminii* I.V.Belyaeva & O.V.Epanch. SVER0509333.

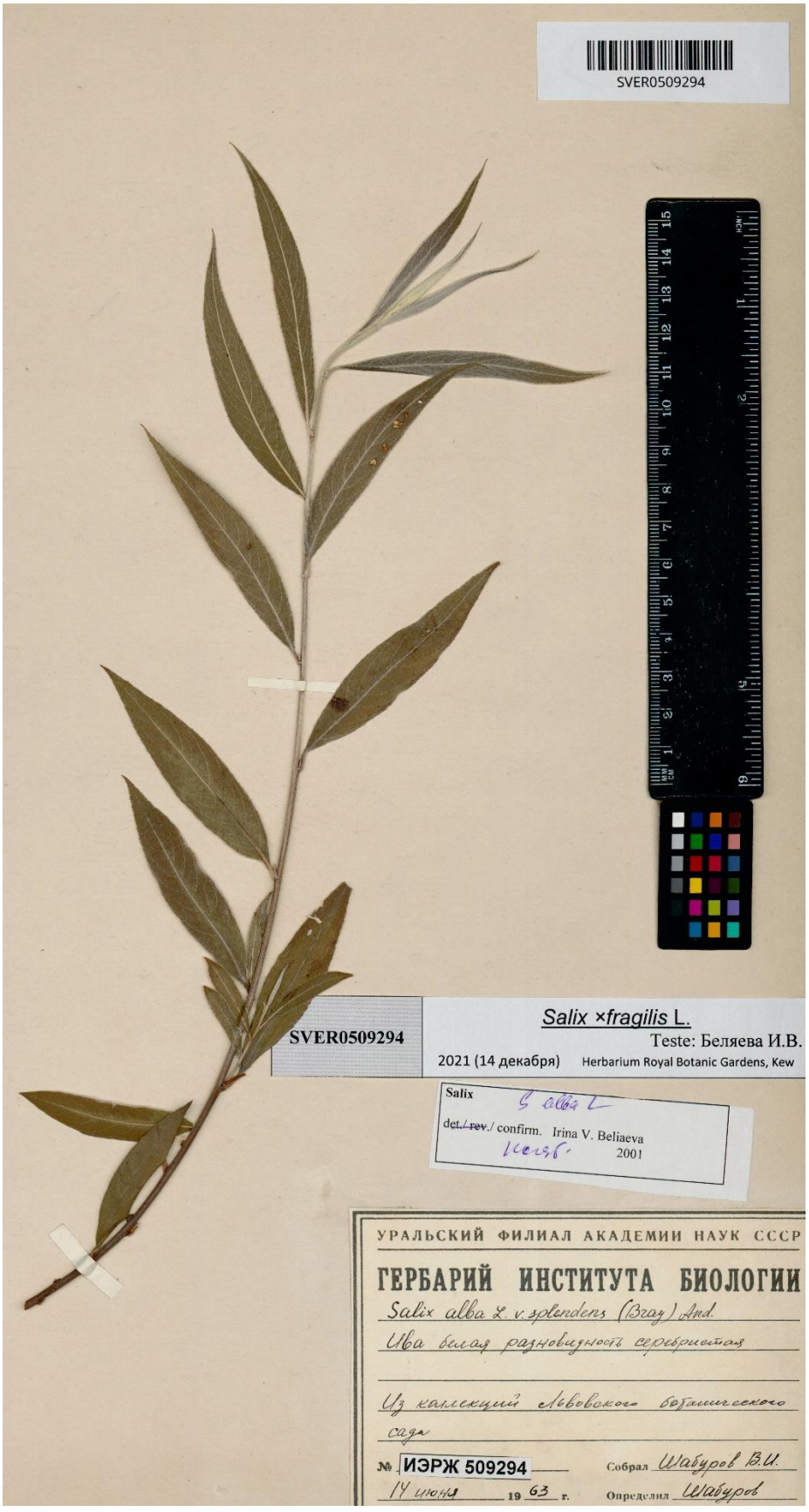

Figure 35. *Salix* × *fragilis* L. (= *S. alba* L. × *S. euxina* I.V.Belyaeva) SVER0509294.

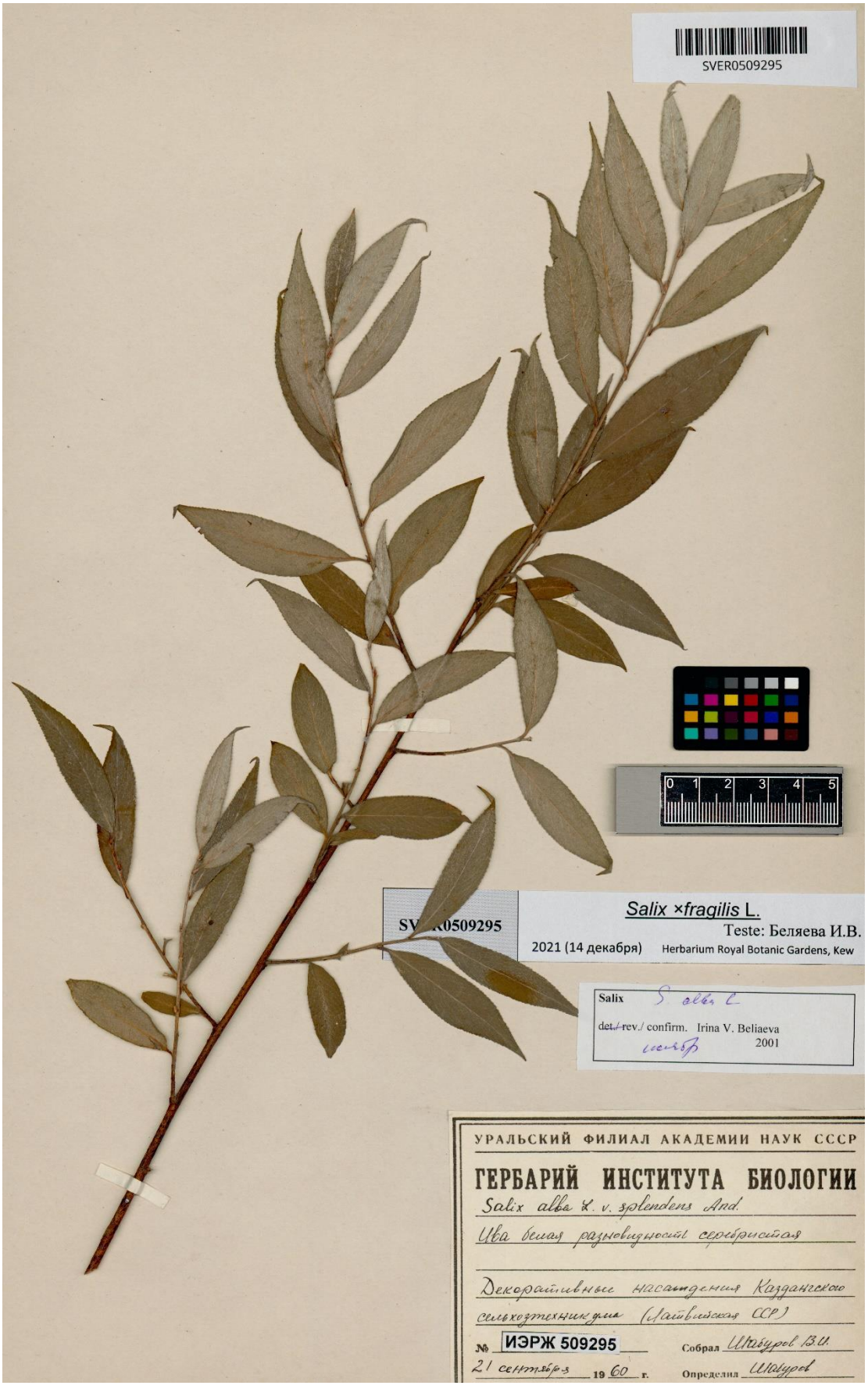

Figure 36. *Salix* × *fragilis* L. f. *vitellina* (L.) I.V.Belyaeva SVER0509295.

Figure 37. *Salix alba* L. SVER0509296.

Figure 38. *Salix* × *fragilis* L. (= *S. alba* L. × *S. euxina* I.V.Belyaeva) SVER0509300.

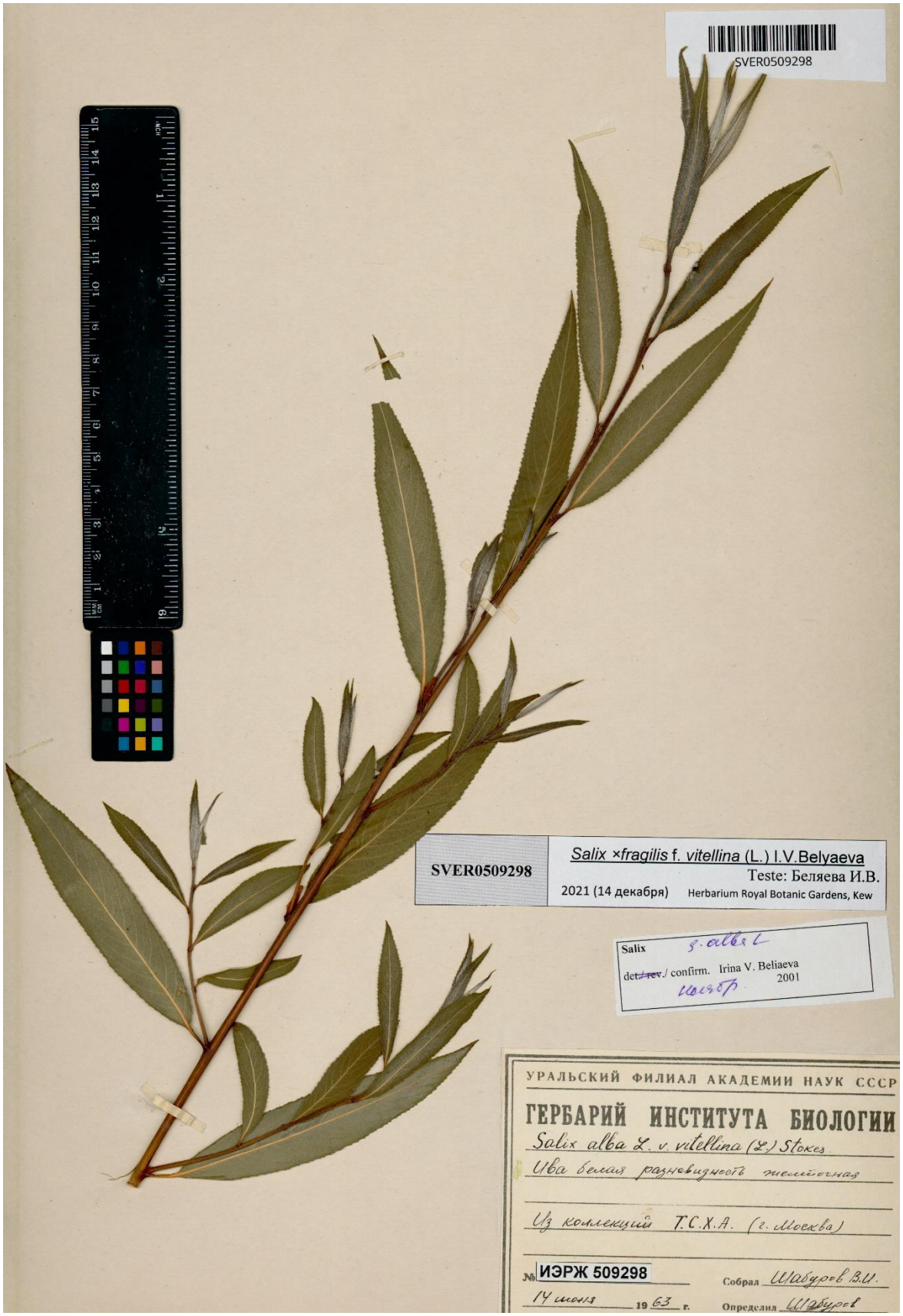

Figure 39. *Salix* × *fragilis* L. f. *vitellina* (L.) I.V.Belyaeva SVER0509298.

Figure 40. *Salix* × *pendulina* Wender. nothof. *tristis* (Gaudin) I.V.Belyaeva SVER0509299.

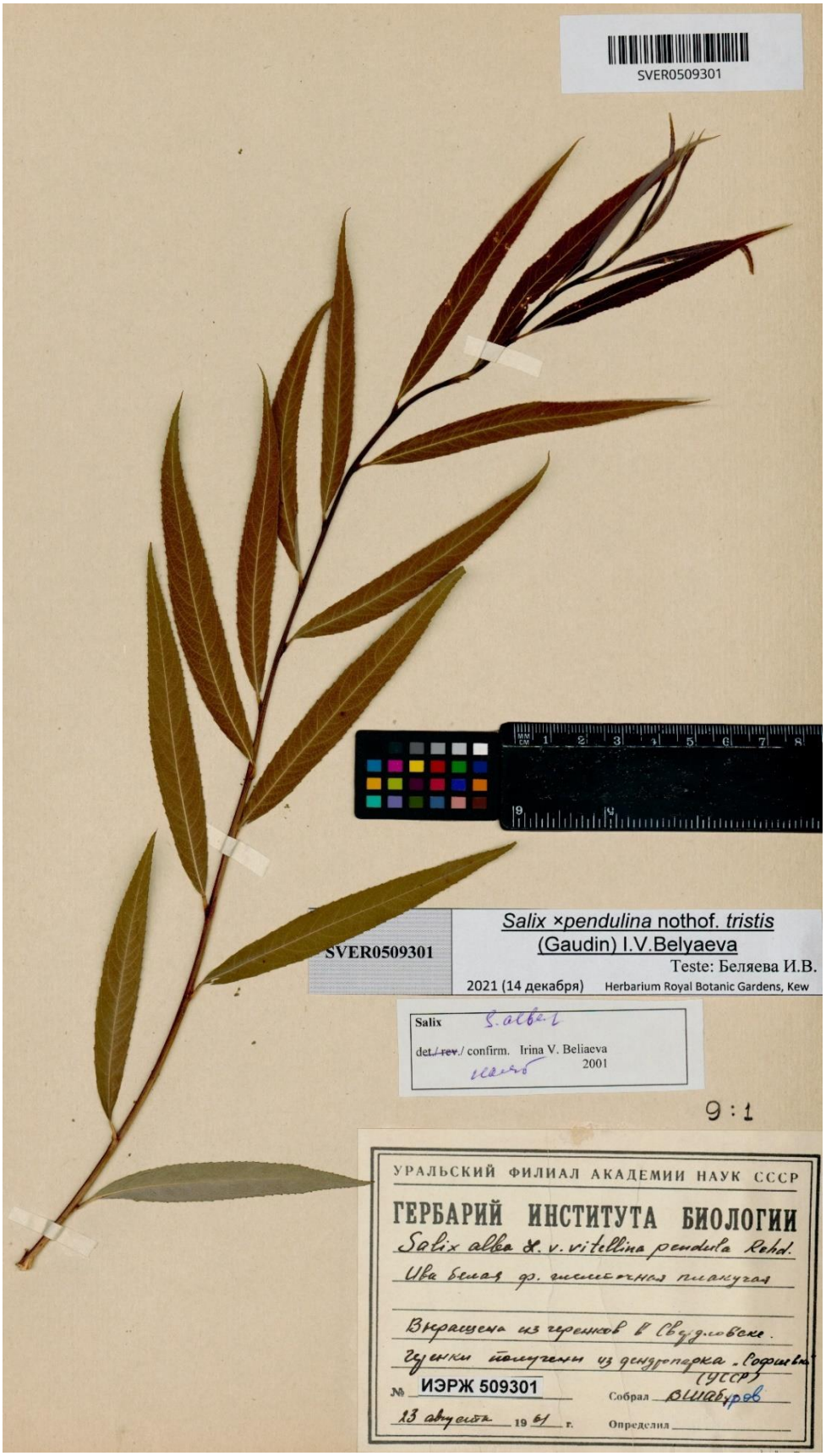

Figure 41. *Salix* × *pendulina* Wender. nothof. *tristis* (Gaudin) I.V.Belyaeva SVER0509301.

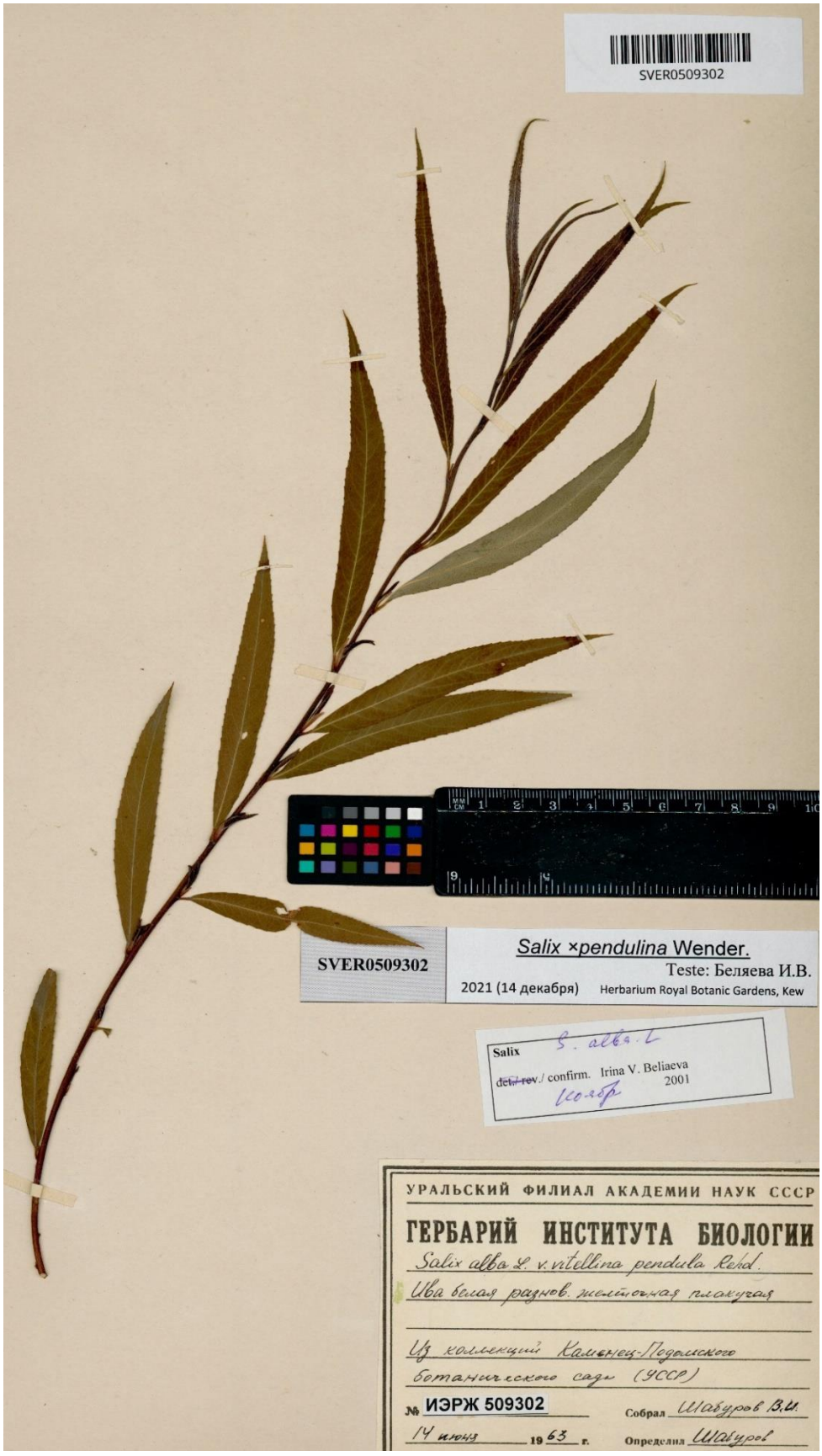

Figure 42. *Salix* × *pendulina* Wender. nothof. *tristis* (Gaudin) I.V.Belyaeva SVER0509302.

Figure 43. *Salix babylonica* L. SVER0509480.

Figure 44. *Salix babylonica* L. SVER0509481.

Figure 45. *Salix babylonica* L. SVER0509482.

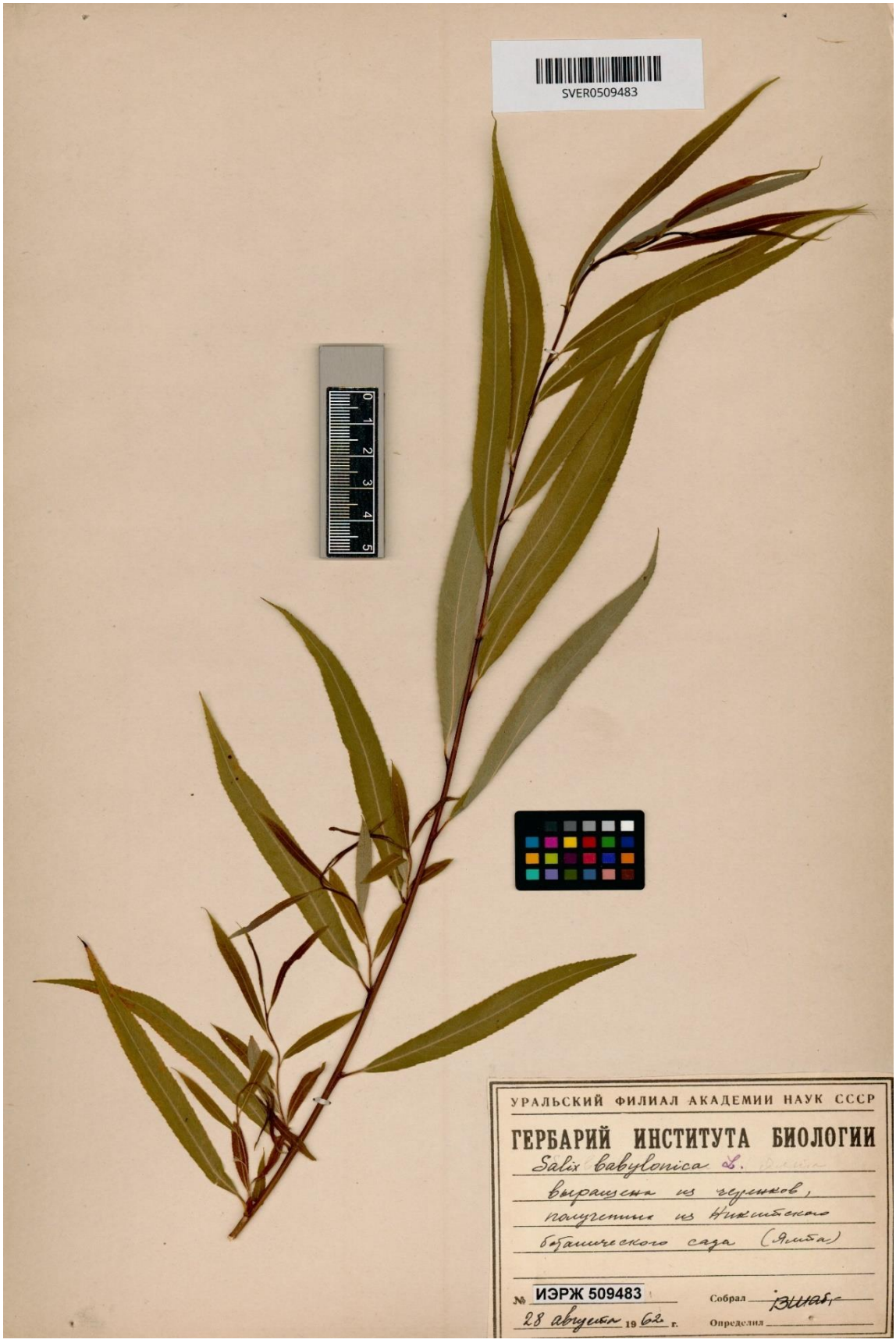

Figure 46. *Salix babylonica* L. SVER0509483.

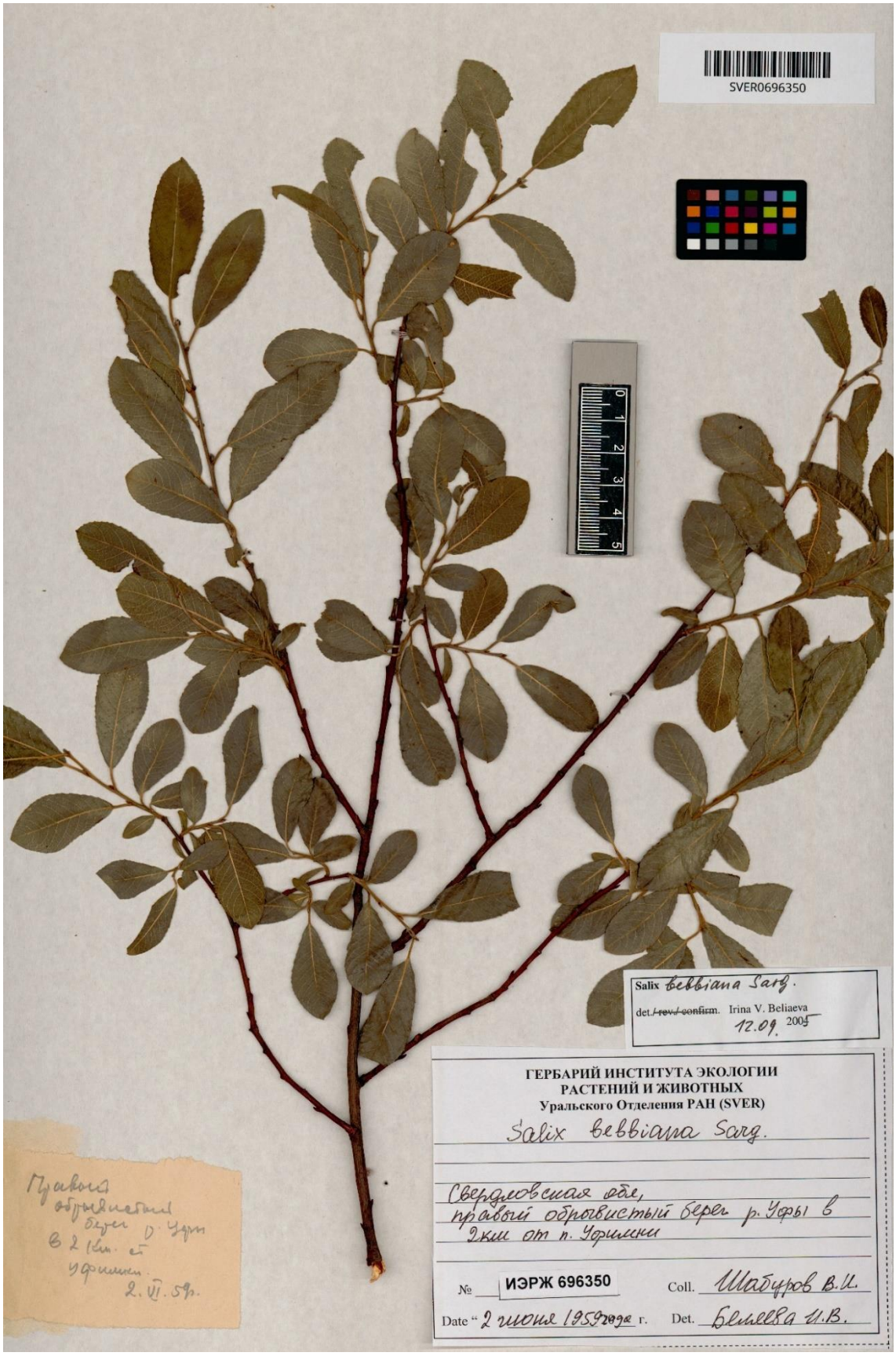

Figure 47. *Salix bebbiana* Sarg. SVER0696350.

Figure 48. *Salix bebbiana* Sarg. SVER0696960.

Figure 49. *Salix* × *pendulina* Wender. (*S. alba* L. × *S. babylonica* L. × *S. euxina* I.V.Belyaeva) SVER0509484.

Figure 50. *Salix* × *fragilis* L. (*S. alba* L. × *S. euxina* I.V.Belyaeva) SVER0509485.

Figure 51. *Salix caprea* L. SVER0696124.

Figure 52. *Salix daphnoides* Vill. SVER0509487.

Figure 53. *Salix daphnoides* Vill. SVER0509489.

Figure 54. *Salix gmelinii* Pall. SVER0696125.

Figure 55. *Salix gmelinii* Pall. SVER0696126.

Figure 56. *Salix gmelinii* Pall. SVER0696127.

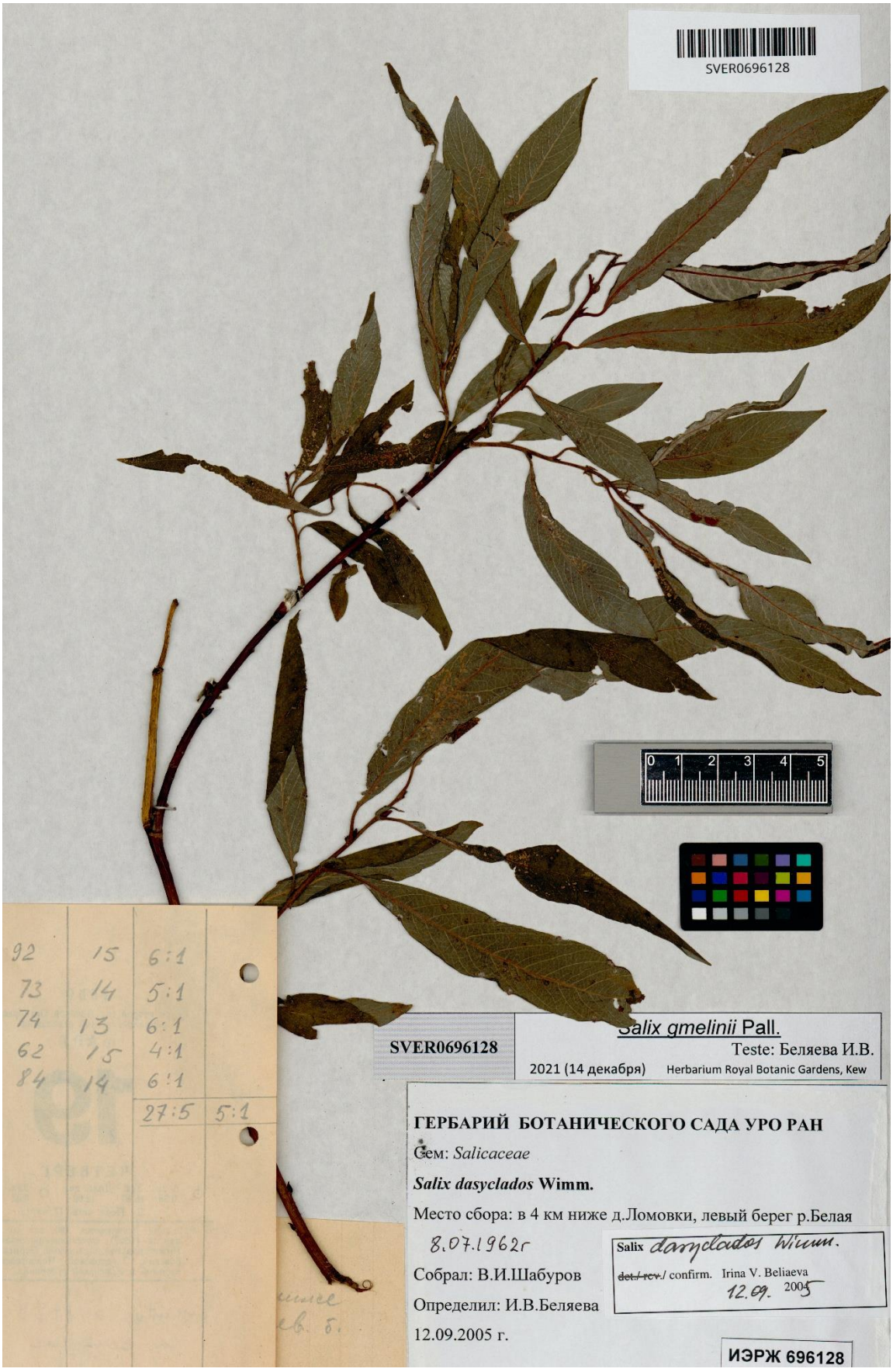

Figure 57. *Salix gmelinii* Pall. SVER0696128.

Figure 58. *Salix gmelinii* Pall. SVER0696129.

Figure 59. *Salix gmelinii* Pall. SVER0696130.

Figure 60. *Salix gmelinii* Pall. SVER0696131.

Figure 61. *Salix gmelinii* Pall. SVER0696132.

Figure 62. *Salix gmelinii* Pall. SVER0696133.

Figure 63. *Salix gmelinii* Pall. SVER0696134.

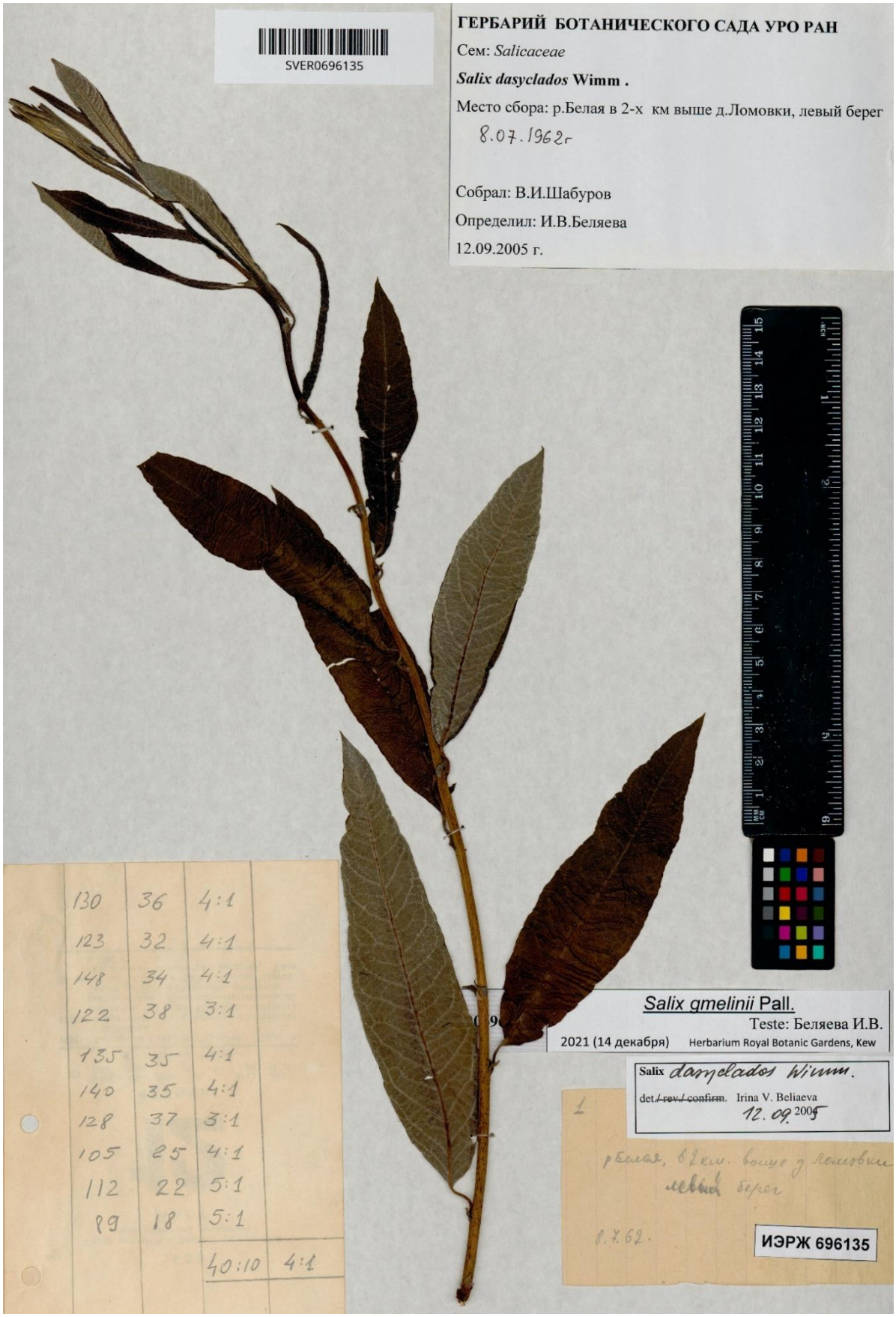

Figure 64. *Salix gmelinii* Pall. SVER0696135.

Figure 65. *Salix gmelinii* Pall. SVER0509499.

Figure 66. *Salix euxina* I.V.Belyaeva SVER0509493.

Figure 67. *Salix* × *fragilis* L. (= *S. alba* L. × *S. euxina* I.V.Belyaeva) SVER0509490.

Figure 68. *Salix* ×*fragilis* L. SVER0509492.

Figure 69. *Salix udensis* Trautv. & C.A.Mey. SVER0509494.

Figure 70. *Salix irrorata* Andersson SVER0509491.

Figure 71. *Salix* × *laurina* Sm. (= *S. atrocinerea* Brot. × *S. phylicifolia* L.) SVER0509495.

Figure 72. *Salix babylonica* L. f. *tortuosa* Y.L.Chou SVER0509496.

Figure 73. *Salix myrtilloides* L. SVER0534511.

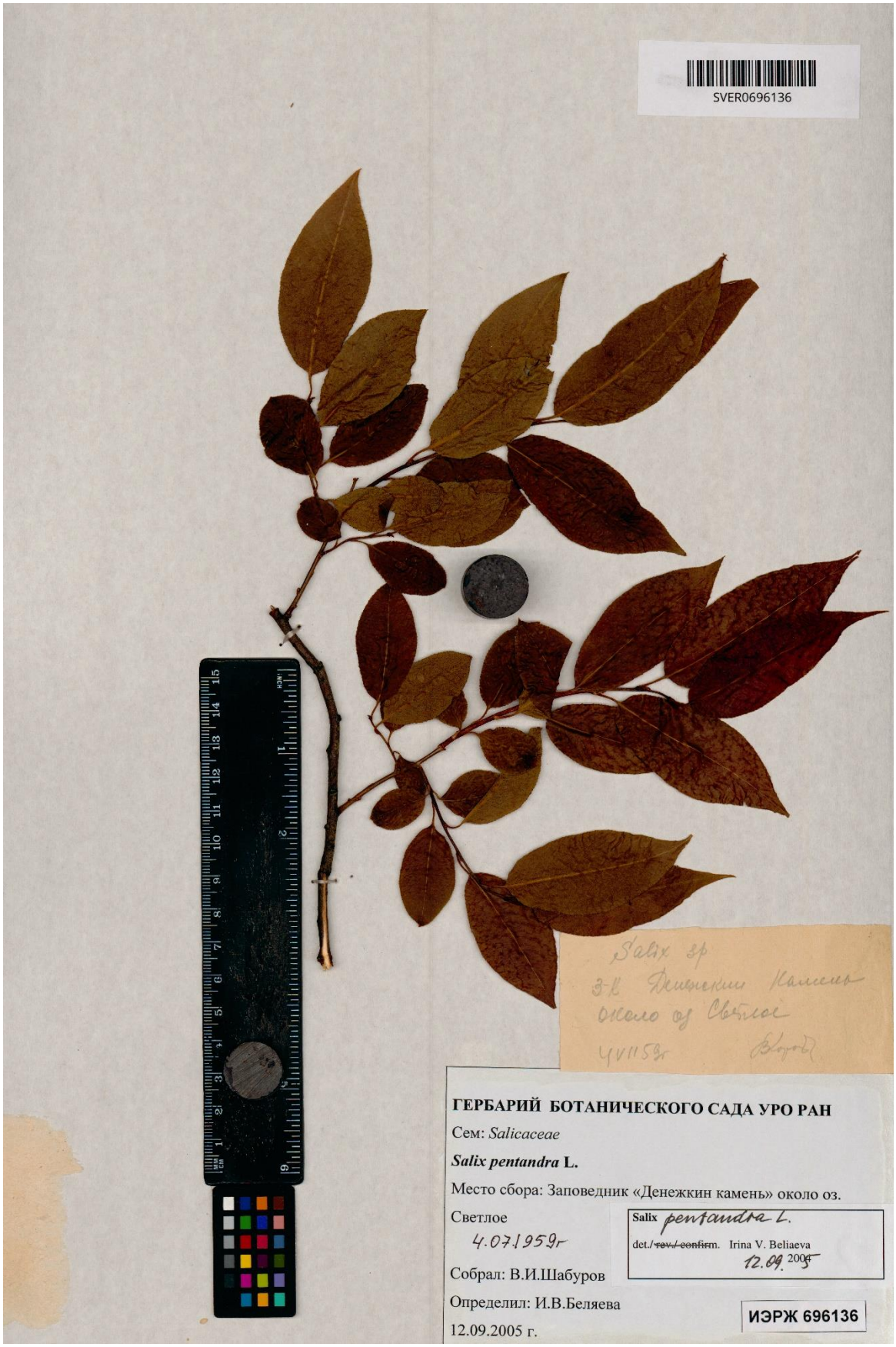

Figure 74. *Salix pentandra* L. SVER0696136.

Figure 75. *Salix pentandra* L. SVER0696137.

Figure 76. *Salix pentandra* L. SVER0696169

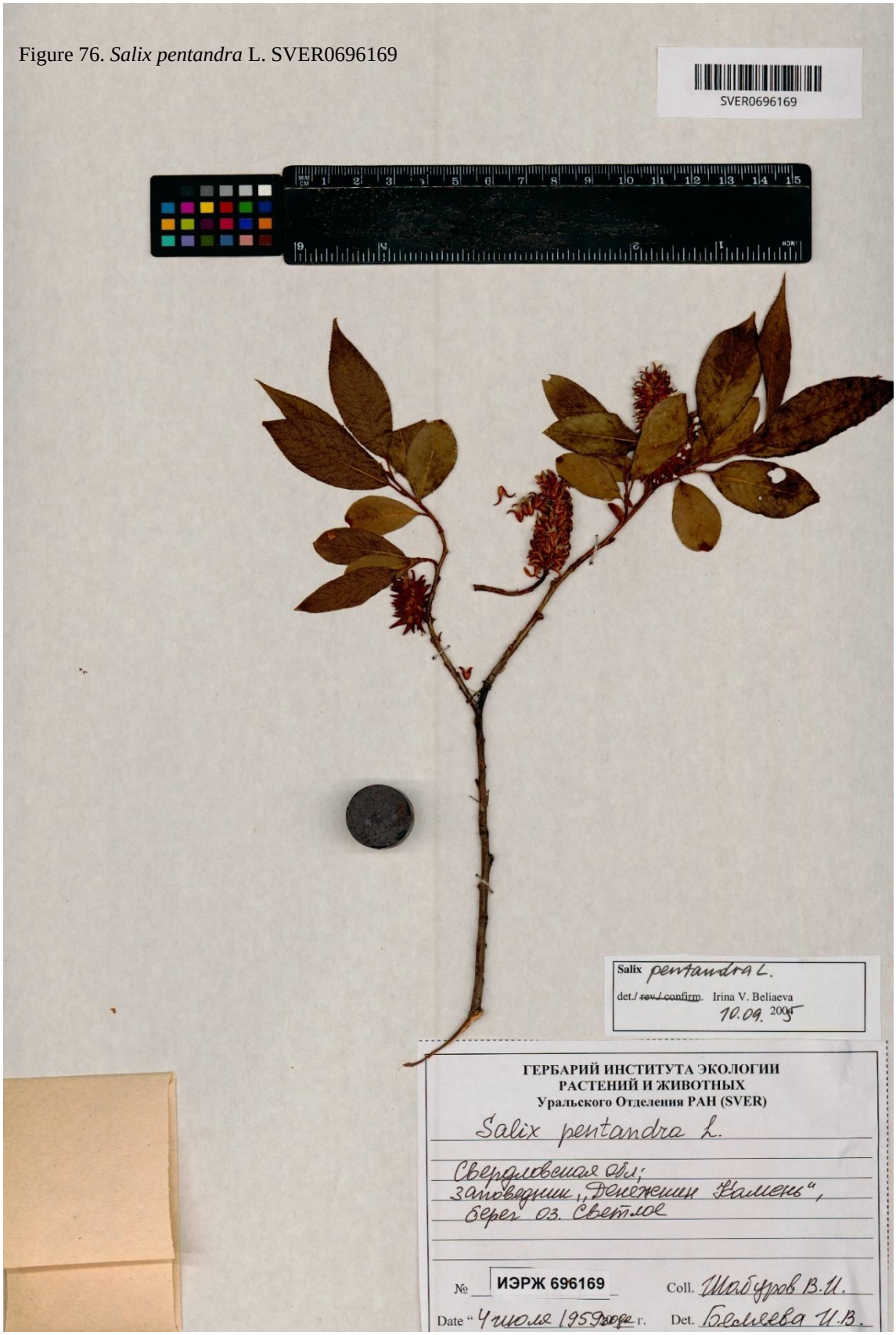

Figure 76. *Salix pentandra* L. SVER0696169.

Figure 77. *Salix pentandra* L. SVER0696138.

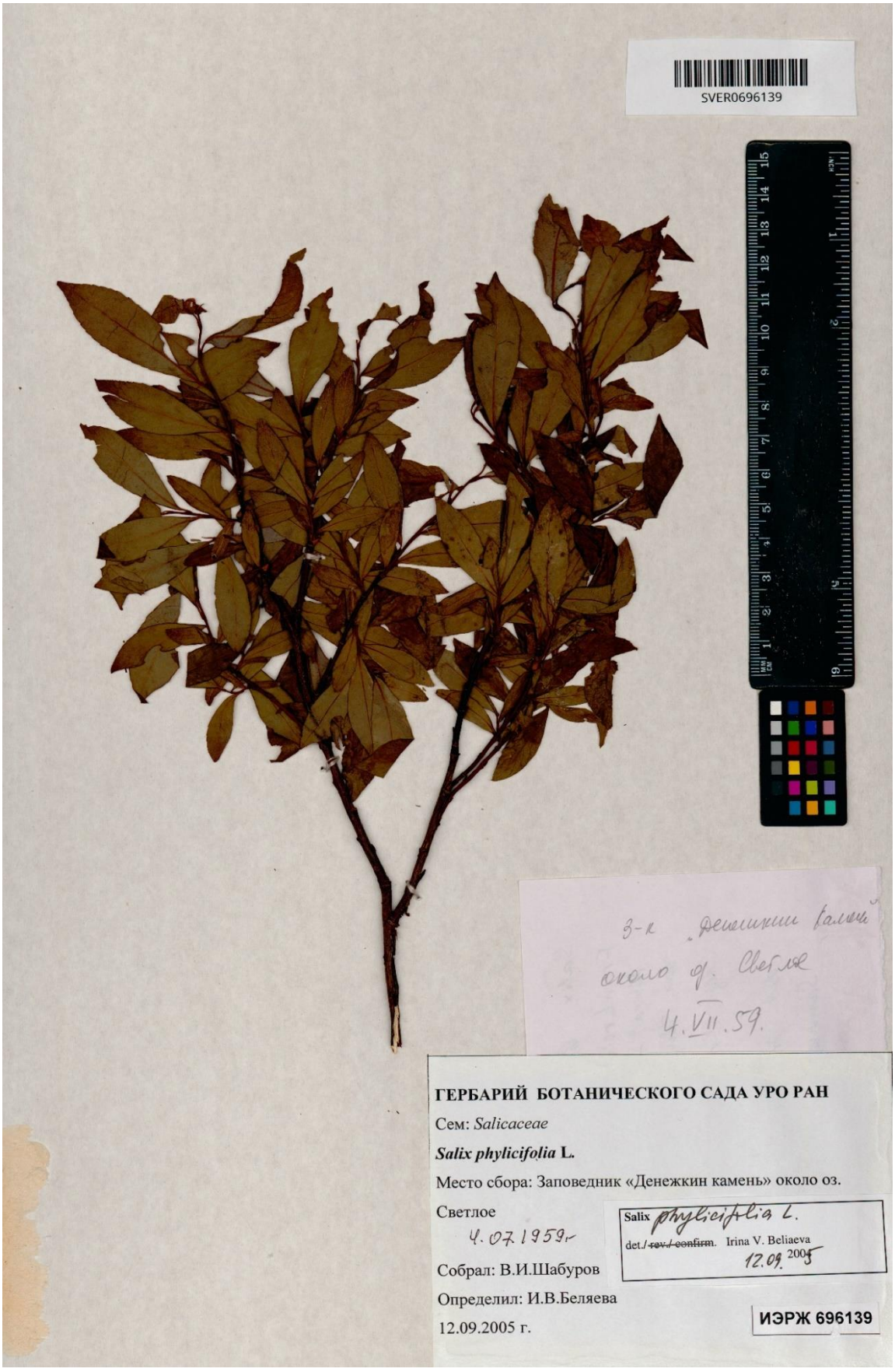

Figure 78. *Salix phylicifolia* L. SVER0696139.

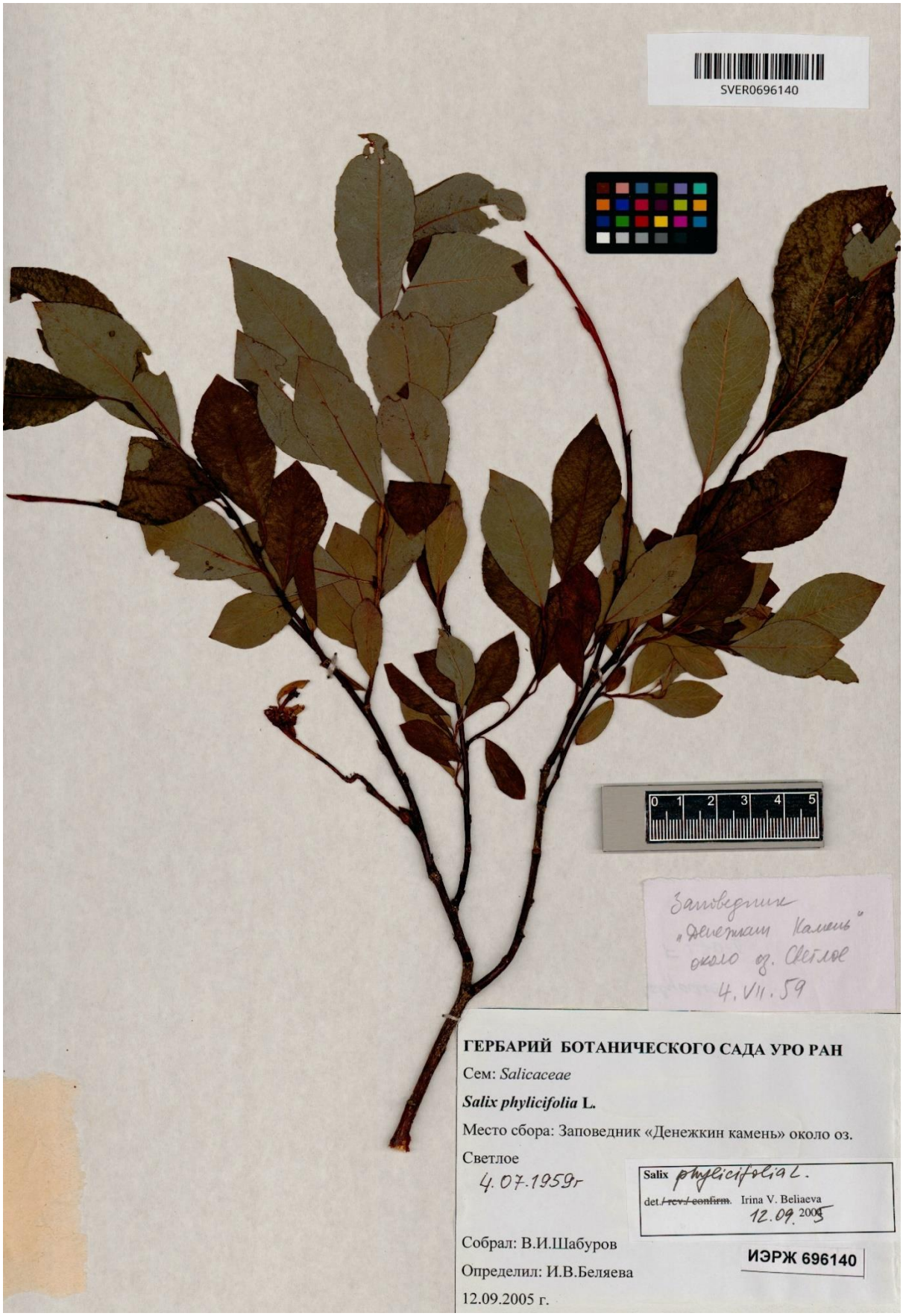

Figure 79. *Salix phylicifolia* L. SVER0696140.

Figure 80. *Salix phylicifolia* L. SVER0696141.

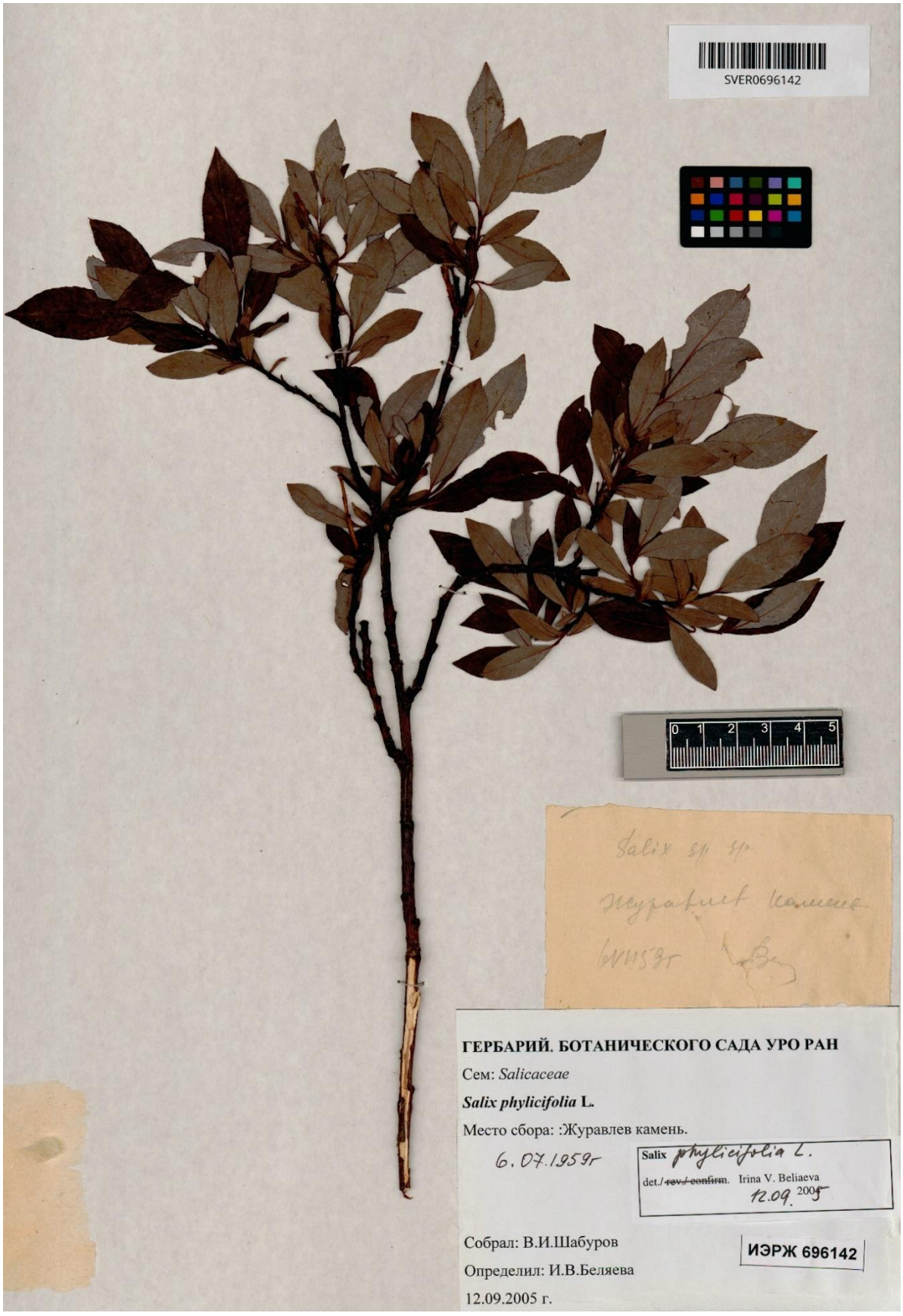

Figure 81. *Salix phylicifolia* L. SVER0696142.

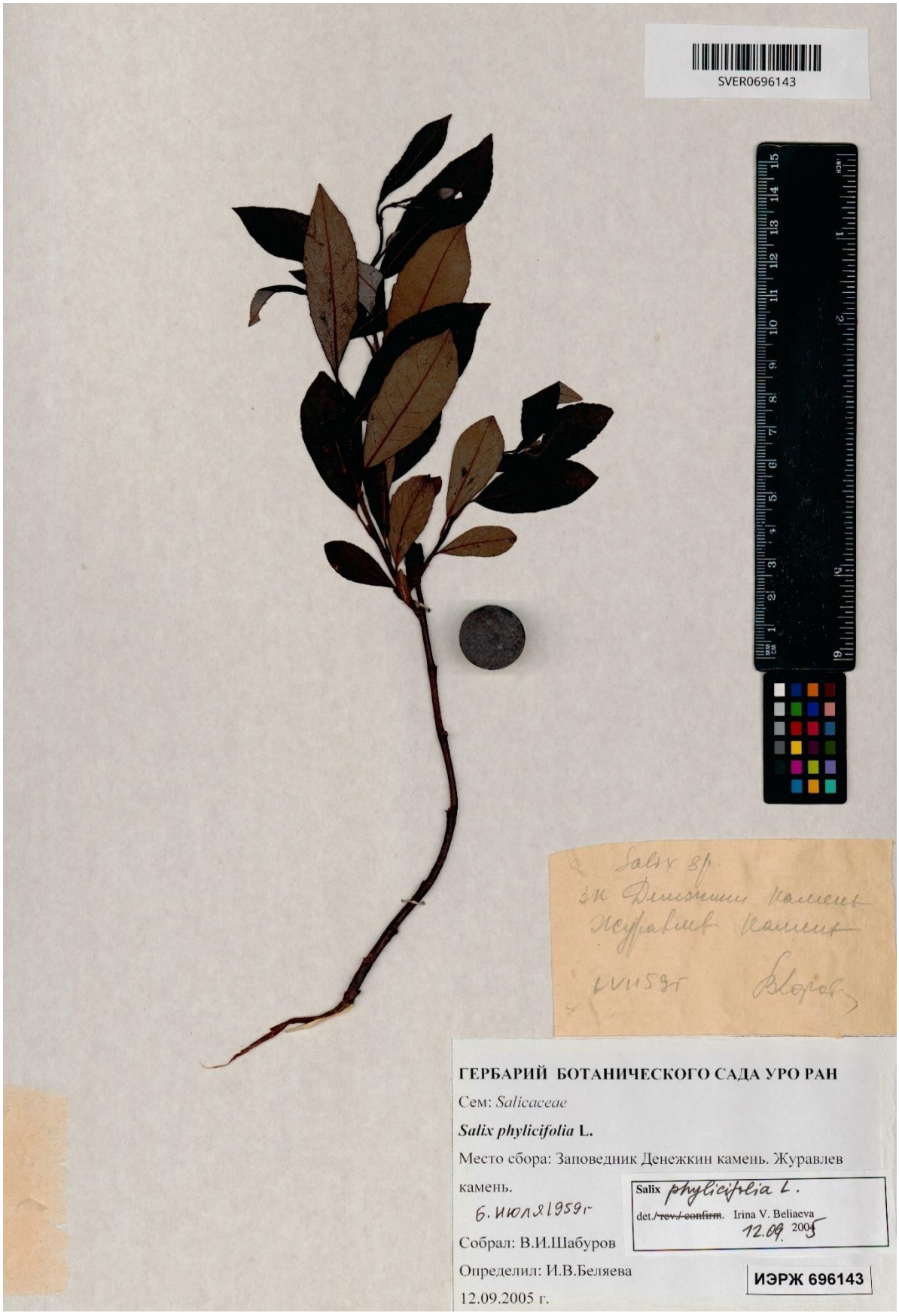

Figure 82. *Salix phylicifolia* L. SVER0696143.

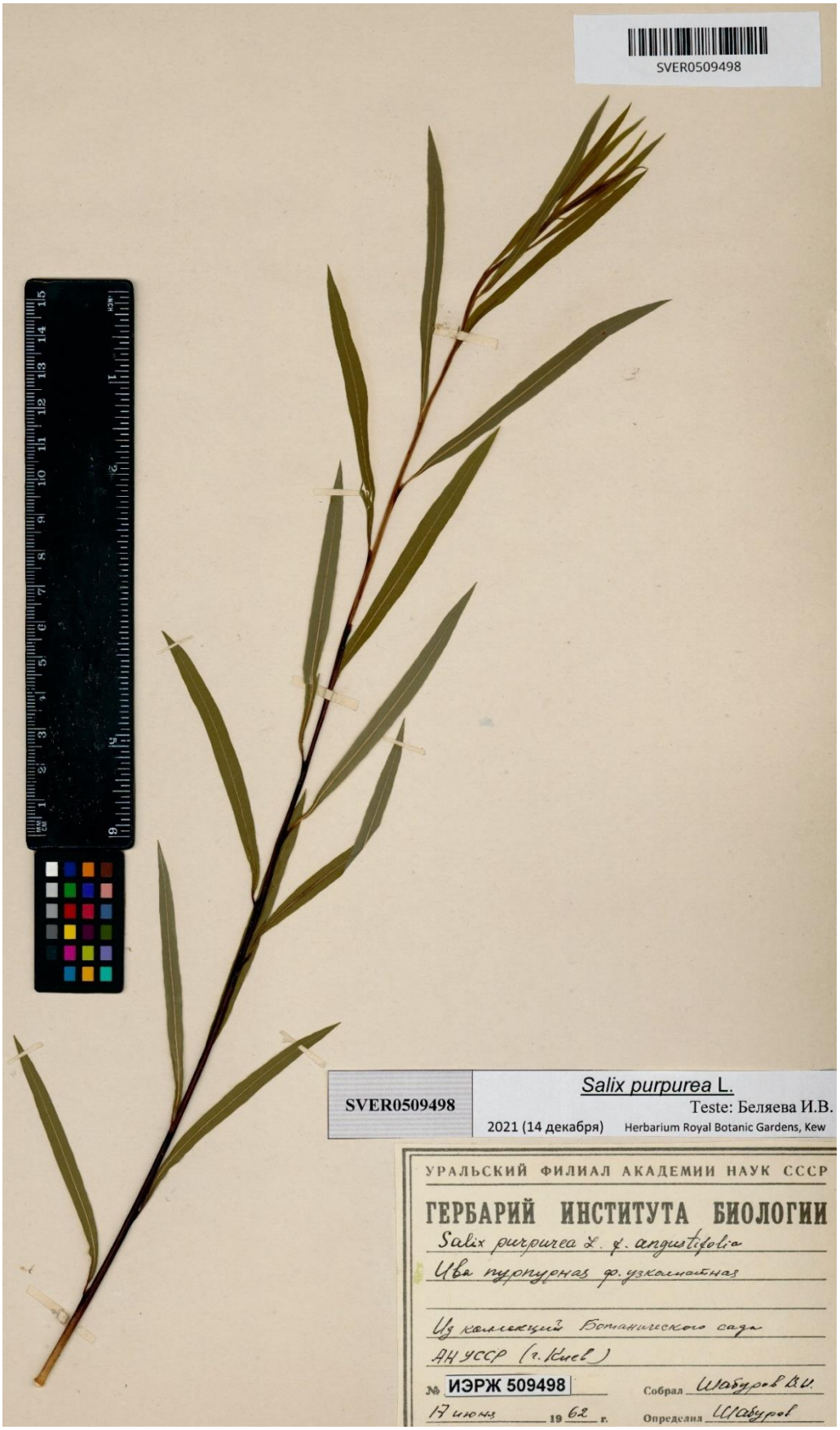

Figure 83. *Salix purpurea* L. SVER0509498.

Figure 84. *Salix vinogradovii* A.K.Skvortsov SVER0509497.

Figure 85. *Salix viminalis* L. SVER0535547.

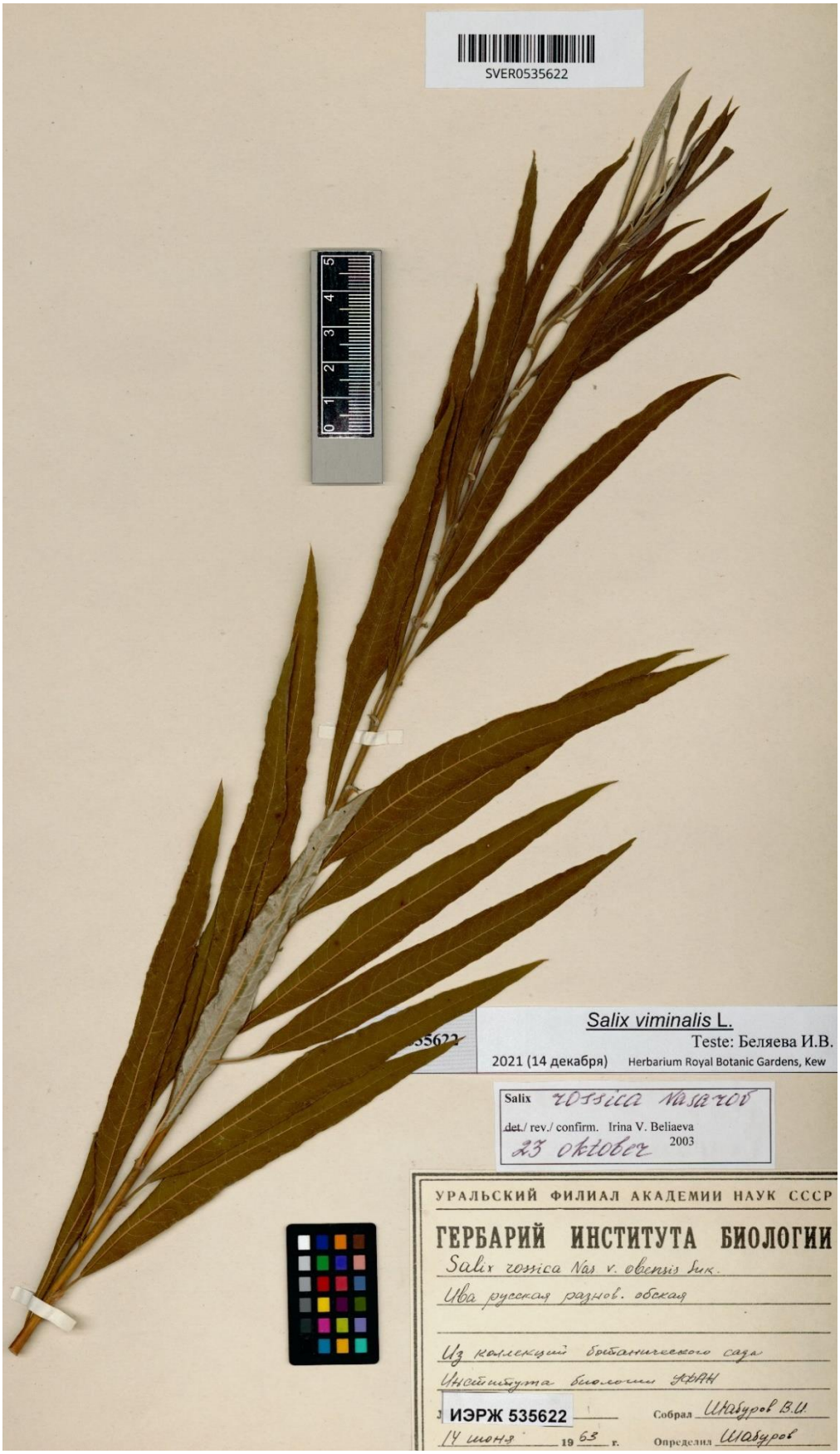

Figure 86. *Salix viminalis* L. SVER0535622.

Figure 87. *Salix rosmarinifolia* L. subsp. *sibirica* (Pall.) I.V.Belyaeva & Sennikov SVER0535260.

Figure 88. *Salix miyabeana* Seemen SVER0509500.

Figure 89. *Salix triandra* L. f. *triandra* SVER0696144.

Figure 90. *Salix triandra* L. f. *triandra* SVER0696145.

Figure 91. *Salix triandra* L. f. *triandra* SVER0696146.

Figure 92. *Salix triandra* L. f. *triandra* SVER0696147.

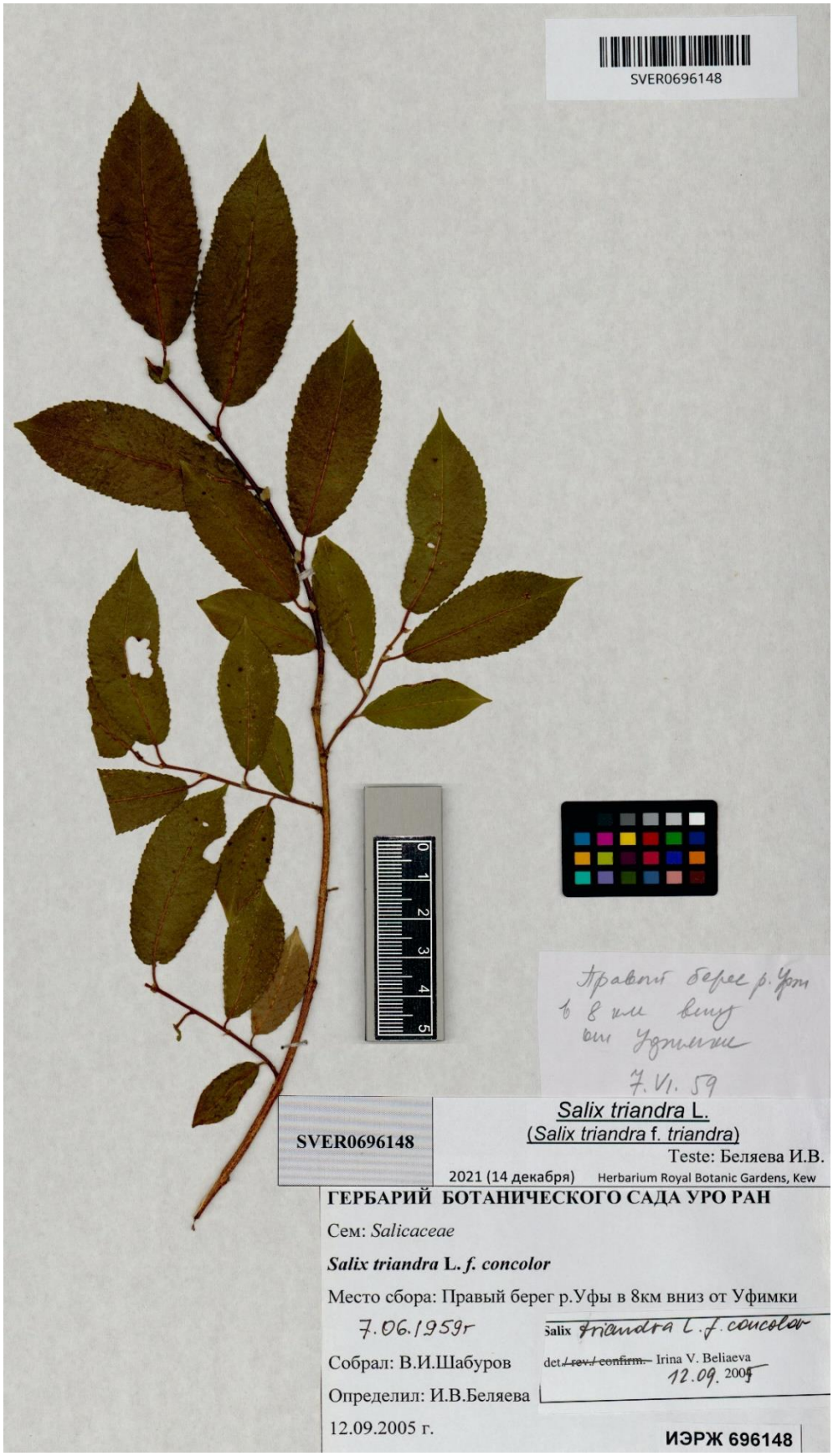

Figure 93. *Salix triandra* L. f. *triandra* SVER0696148.

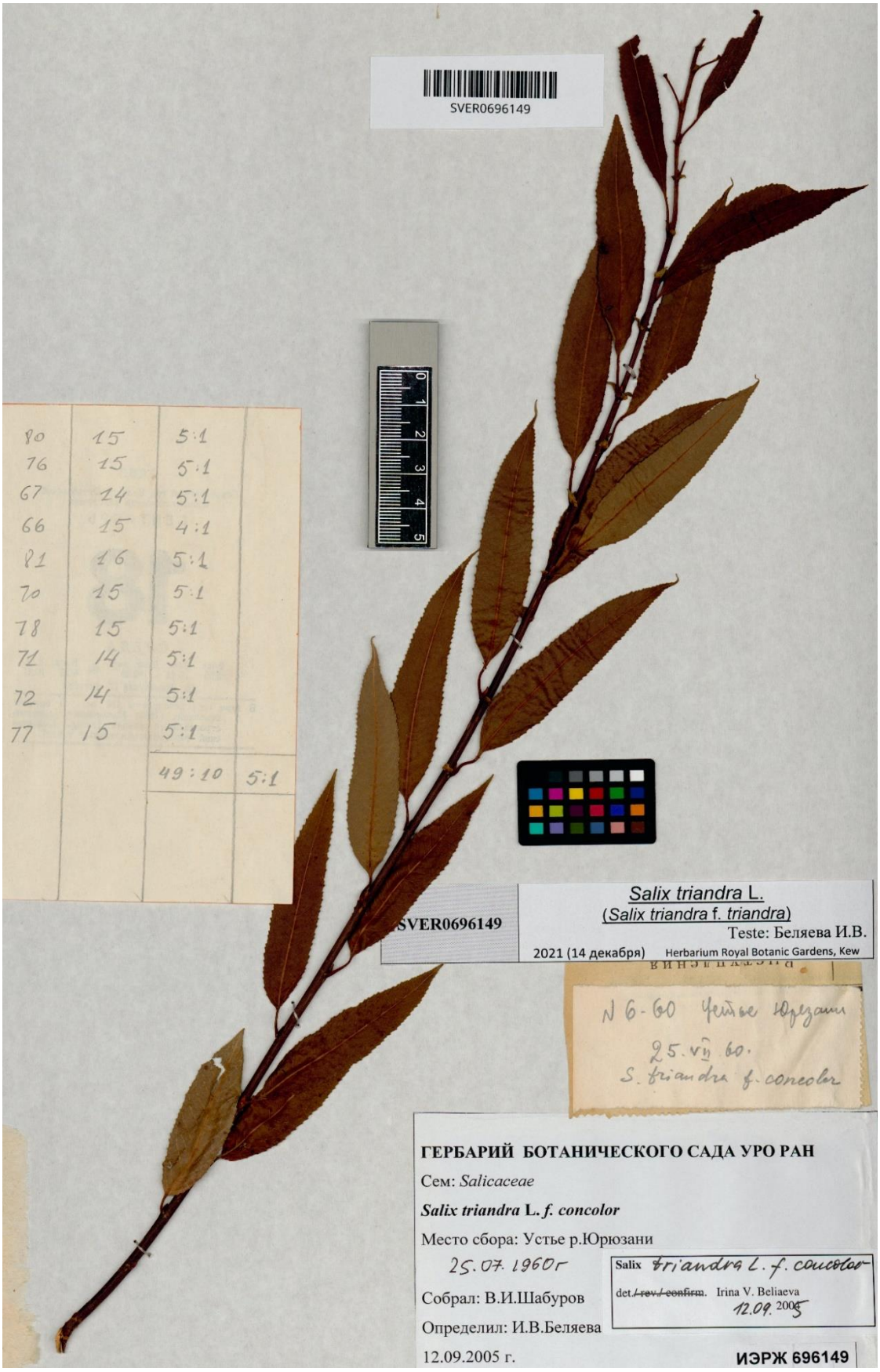

Figure 94. *Salix triandra* L. f. *triandra* SVER0696149.

Figure 95. *Salix triandra* L. f. *triandra* SVER0696150.

Figure 96. *Salix triandra* L. f. *triandra* SVER0696151.

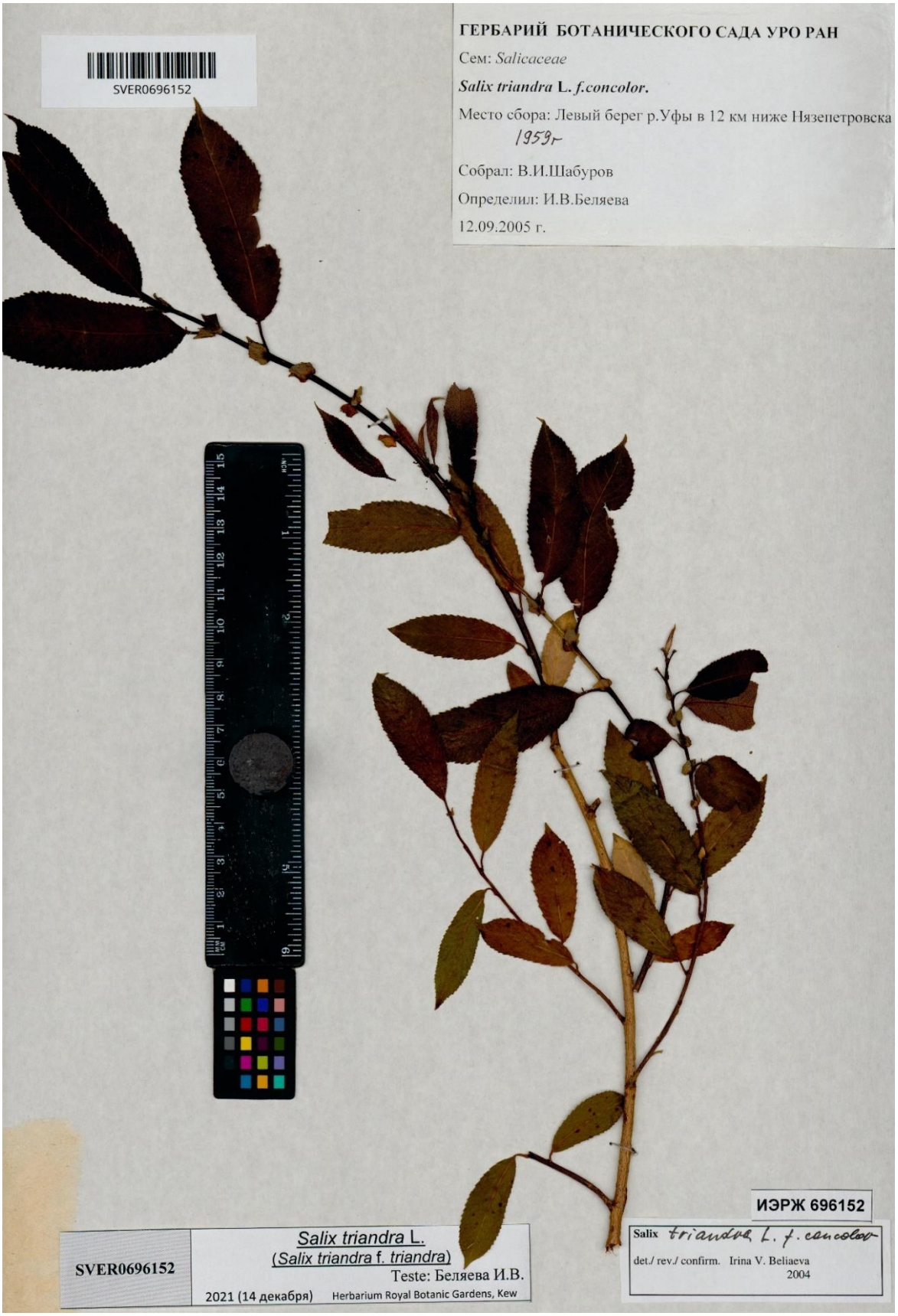

Figure 97. *Salix triandra* L. f. *triandra* SVER0696152.

Figure 98. *Salix triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts SVER0696153.

Figure 99. *Salix triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts SVER0696154.

Figure 100. *Salix triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts SVER0696155.

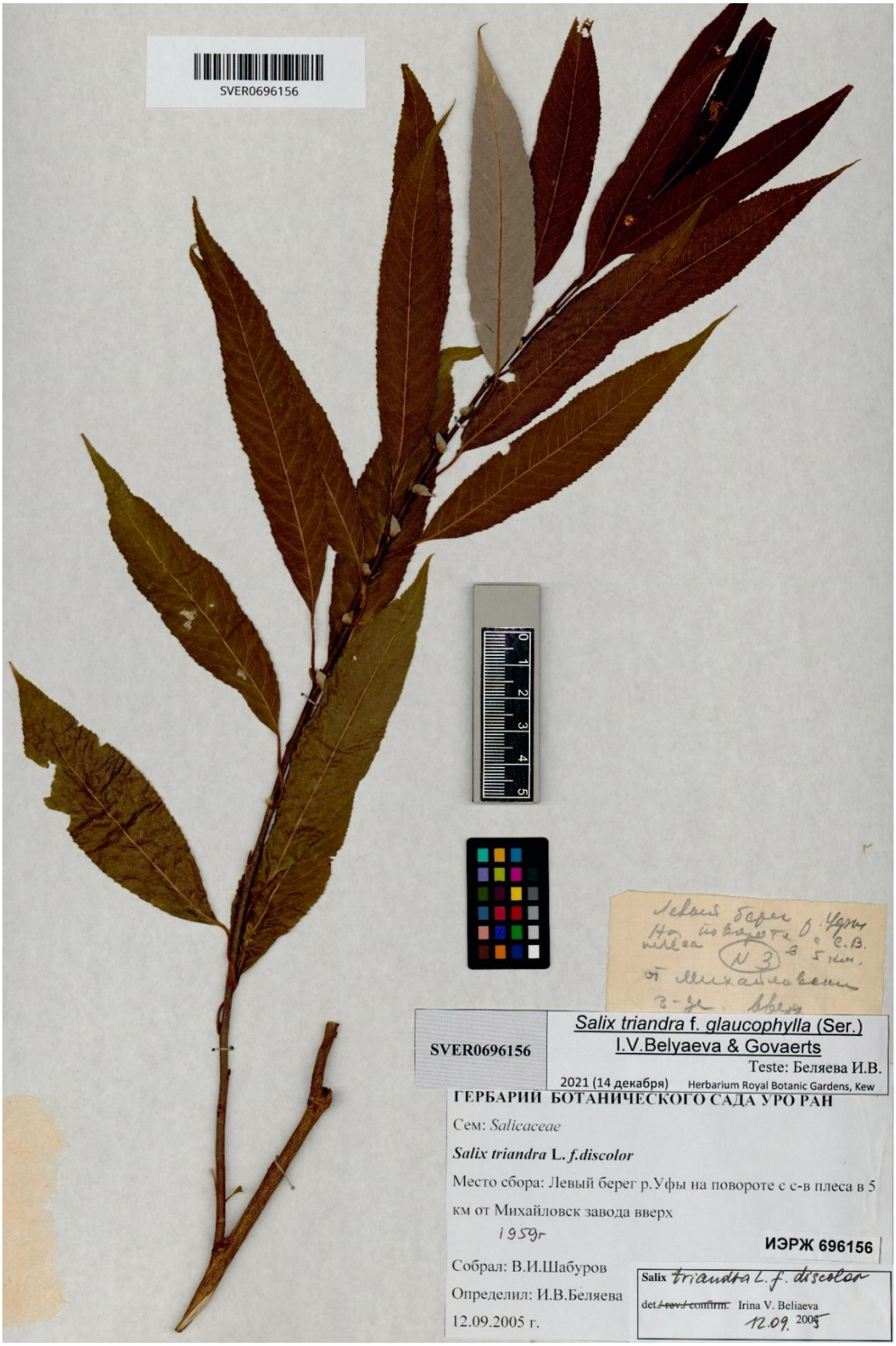

Figure 101. *Salix triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts SVER0696156.

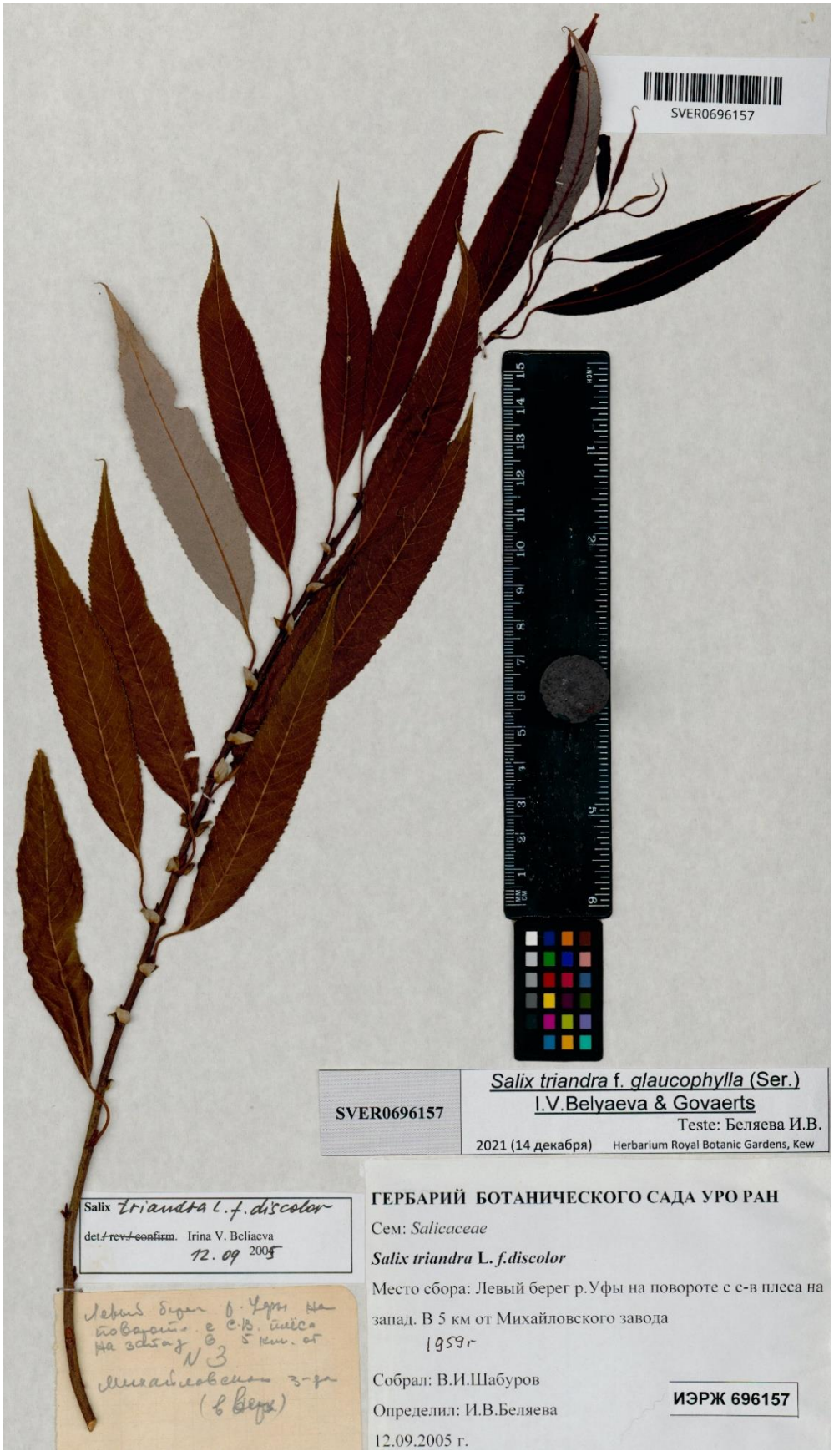

Figure 102. *Salix triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts SVER0696157.

Figure 103. *Salix triandra* L. f. *triandra* SVER0696158.

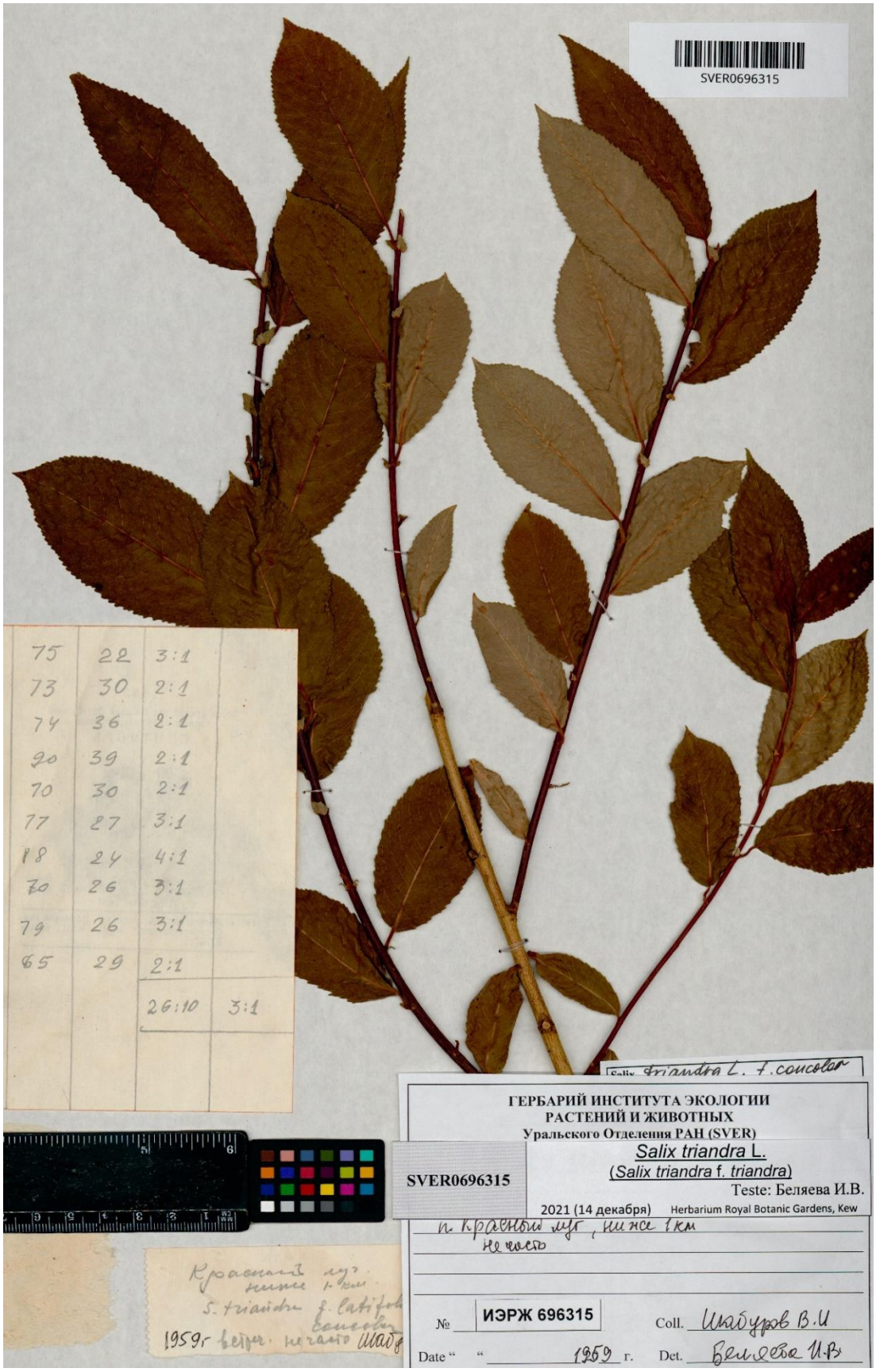

Figure 104. *Salix triandra* L. f. *triandra* (Ser.) I.V.Belyaeva & Govaerts SVER0696315.

Figure 105. *Salix triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts SVER0696351.

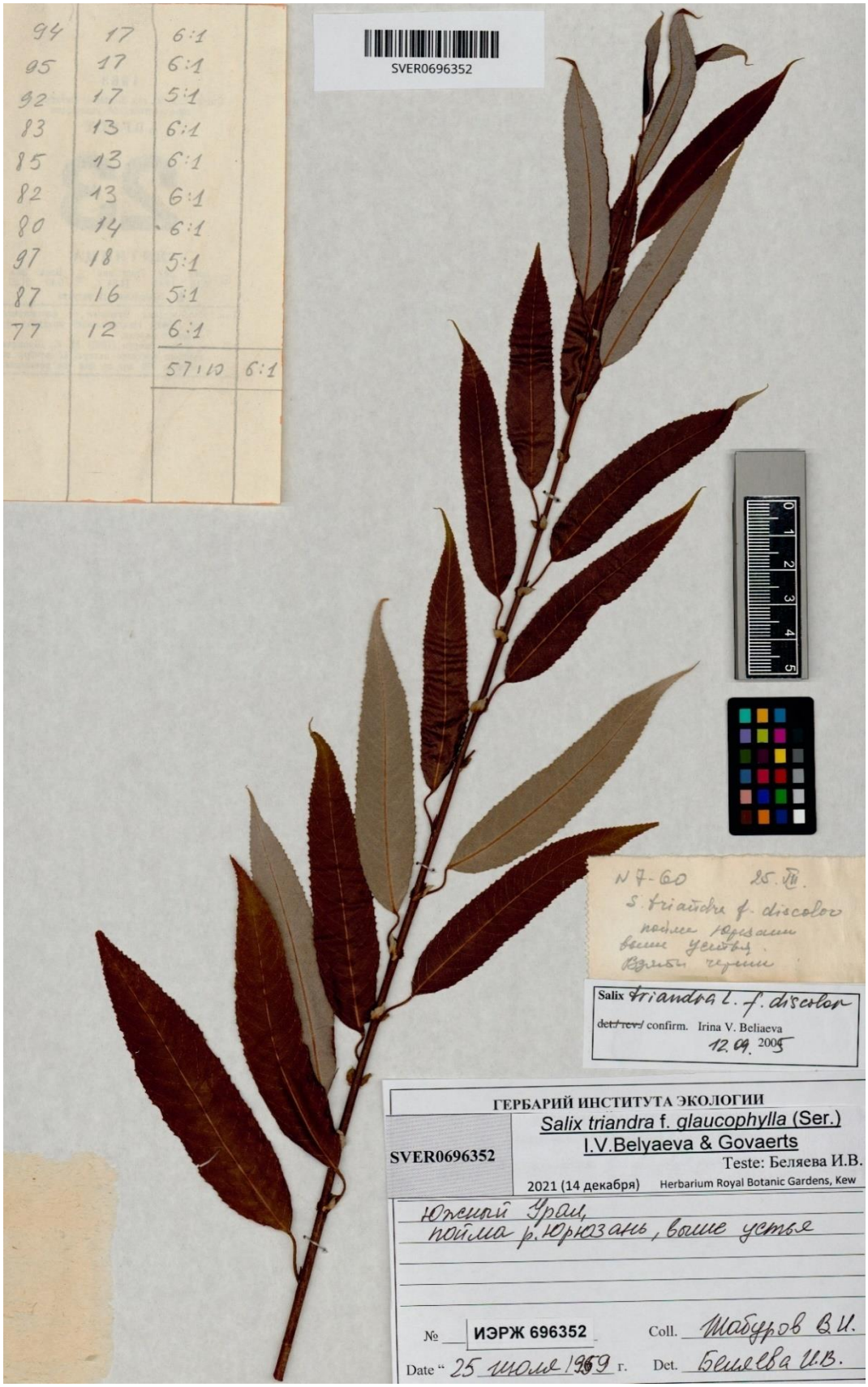

Figure 106. *Salix triandra* L. f. *glaucophylla* (Ser.) I.V.Belyaeva & Govaerts SVER0696352.

Figure 107. *Salix* × *mollissima* Hoffm. ex Elwert (= *S. triandra* L. × *S. viminalis* L.) SVER0509501.

Figure 108. *Salix uralicola* I.V.Belyaeva SVER0696172.

Figure 109. *Salix viminalis* L. SVER0696159.

Figure 110. *Salix viminalis* L. SVER0696160.