



ŠIAULIŲ
UNIVERSITETAS
BOTANIKOS SODAS

INDEX SEMINUM 2018 No 18





**BOTANICAL GARDEN OF
ŠIAULIAI UNIVERSITY**

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Cover design **Karolis Grušas**

Cover image: *Eryngium bourgatii* Gouan; *Eryngium giganteum* L.; *Allium stipitatum* Regel;
Tragopogon porrifolius L.

Photographer **Romualdas Struoga**

ŠIAULIAI UNIVERSITY BOTANICAL GARDEN

ŠIAULIAI AREA. Šiauliai is a city of Northern Lithuania. It counts its years from the Battle of Saulė which took place in 1236. Šiauliai is the fourth largest city by its population. Population: 100 575.

HISTORY. Šiauliai University Botanical Garden was established in 1997 at the former site of Agrobiological Station of Šiauliai University. Total area of the garden is 6.54 ha. Since 2003 Botanical Garden of Šiauliai University is a member of Botanic Gardens Conservation International, Planta Europa Network, Association of Botanic Gardens in the Baltic Sea Region, Botanical Gardens of the Baltic Countries and the Association of Lithuanian University Botanic Gardens (LUBSA). Since 2005 the Botanic Garden is a member of International Network of Phenological Gardens of Europe (IPG). There is a Club of Botanic Garden Friends at the Botanical Garden. The Garden exchanges seeds with more than 250 botanical gardens of the world. Director: dr. Martynas Kazlauskas.

Fields of research:

- Research on plant biodiversity *ex situ* and *in situ*,
- Research on introduction and acclimatization of ornamental plants,
- Phenological observations.

Other activities:

- *ex situ* conservation,
- educational activities at the Botanical Garden,
- organization of events at the Botanical Garden.

COLLECTIONS OF THE BOTANICAL GARDEN. The garden has specimens of over 4000 species and varieties of plants. The plants are kept in 6 sections.

- **Section of Plant Systematics and Geography.** The plants are grouped and displayed in accordance with the system of *Magnoliophyta* division by A. L. Takhtajan. Plant families are arranged in alphabetical order. Since 2000 the section has specimens of over 900 plant species from 92 families. The section is supervised by botanical collections senior supervisor Žydrūnė Valainytė.
- **Section of Lithuanian Flora.** Section of Lithuanian Flora was established in 2011. The section includes herbaceous plants from different ecosystems: swamps, wet and dry meadows, forests. Priorities: rare and protected species of plants, beneficial (medicinal and ethnobotanical) plants. The section covers 70 species of plants included in the Red Book of Lithuania. The section is supervised by the botanical collections supervisor Virginija Aleknienė.
- **Section of Floriculture.** The section was opened in 2004. It currently has over 1200 different species and varieties of annual and perennial ornamental plants which fall under 58 families. The largest collections are those of *Lilium*, *Hemerocallis* and *Iris*. The section is supervised by Daiva Ūsienė.
- **Section of Mountain Plants.** Since 2000 this section has specimens of mountain flora from Europe, Asia, and North America. There are over 1000 species and varieties of plants which fall under 70 families. The main priorities for choosing the species are: ornamental features, natural resources of the species, beneficial features of the plant. The section is supervised by junior research associate dr. Rimanta Vainorienė.
- **Section of Dendrology.** Dendrological collection has been maintained since 1999. Currently it has over 900 taxons of woody plants. The area of the garden is not large, therefore, it mainly focuses on groundling plants. One of the largest collections is that of *Ericaceae* family, covering over 300 species and varieties from *Rhododendron*, *Calluna*, *Kalmia*, *Gaultheria*, *Erica* and

Vaccinium genera. The section is supervised by senior supervisor of botanical collections Vaidas Juknevičius.

- **Phenological Garden.** Since 2005 our Botanical Garden is a member of phenological observations network in Europe. Phenological garden is intended for observation of phenological phases of plants and research on genetically identical woody plants. Supervisor: junior research associate dr. Rimanta Vainorienė.

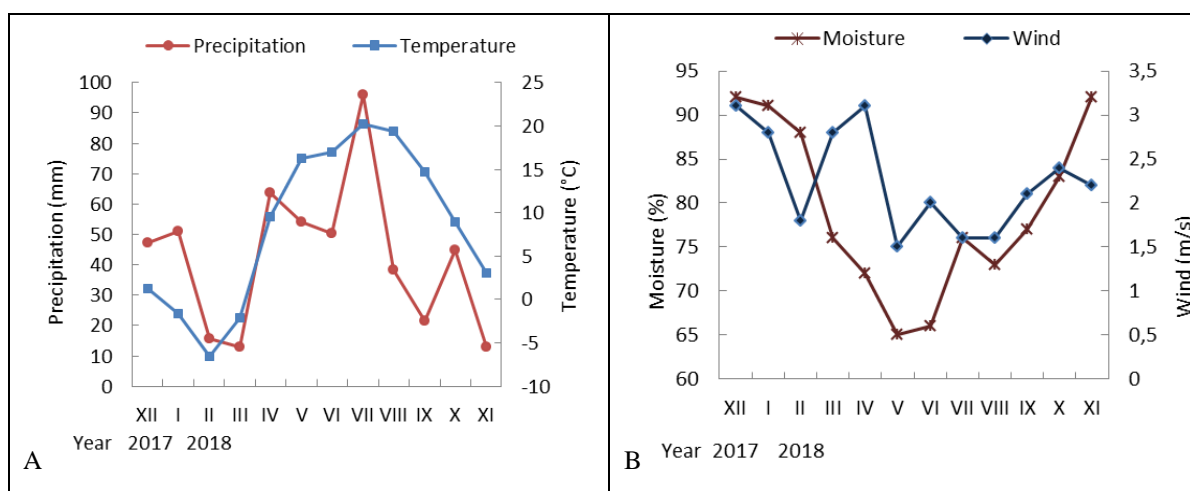
GEOGRAPHICAL SITUATION:

Latitude N 55° 55' 57.7"

Longitude E 23° 16' 57.0"

Zone 5 (Baltic region plant hardiness map)

CLIMATIC CONDITIONS:



Distribution of mean month: precipitation and temperature (A), moisture and wind speed (B) from December 2017 till November 2018.

Collectors: V. Aleknienė, D. Ūsienė, B. Balašaitienė, R. Vainorienė, Ž. Valainytė.

* - Seeds collected in 2017

** - Seeds collected in 2016

**SEEDS FROM PLANTS
CULTIVATED IN THE GARDEN
EXCEPT REPRESENTATIVES OF LITHUANIAN FLORA**

MAGNOLIOPHYTA Cronquist, Takht. et W. Zimm. ex Reveal.

MAGNOLIOPSIDA Brongn.

APIACEAE Lindl.

1. *Aegopodium podagraria* L. f. *variegata*** [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2000].
2. *Astrantia carniolica* Wulfen 'Rubra'** [Botanical Garden of Lodz, PL, 2003].
3. *Astrantia maxima* Pall.** [Botanical Garden of Lodz, PL, 2003].
4. *Astrantia trifida* Hoffm.** [The Botanical Garden of Lyon, FR, 2004].
5. *Athamanta turbith* (L.) Brot. subsp. *haynaldii* (Borbás et Uechtr.) Tutin* [Botanical Garden Rennsteiggarten Oberhof, DE, 2010].
6. *Chaerophyllum hirsutum* L. subsp. *villarsii* (W. D. J. Koch) Arcang.** [The Botanical Garden of the University of Tübingen, DE, 2012].
7. *Cuminum cyminum* L. [Jardin Botanique de la Ville et de l'Universite de Besancon, FR, 2011].
8. *Dorema ammoniacum* D. Don** [The Munich Botanical Garden, Nymphenburg, DE, 2007].
9. *Endressia pyrenaica* (Gay ex DC.) Gay* [The Alpine Botanical Garden "Rezia", Bormio, IT, 2008].
10. *Eryngium amethystinum* L. [Botanical Garden of Lodz, PL, 2001].
11. *Eryngium spinalba* Vill.* [Botanic Garden and Arboretum Mendel University of Agriculture and Forestry Brno, CZ, 2008].
12. *Ferula assa-foetida* L.** [Botanical Garden of the Carinthian Botanic Center, Klagenfurt, AT, 2012].
13. *Laser trilobum* (L.) Borkh.** [Botanic Garden of the Philipp University of Marburg, DE, (Deu Hessen 5517 Anhohe Oberkleen), 2002].
14. *Ligusticum lucidum* Mill.** (<http://www.ipni.org/index.html>), [*Ligusticum lucidum* Ait), Royal Botanic Garden, Juan Carlos I, Madrid, ES, 2004].
15. *Meum athamanticum* Jacq [Private collection of I. Burneckienė, Šiauliai, LT, 2006].

ASTERACEAE Dumort.

16. *Alfredia cernua* (L.) Cass. [Central Botanical garden of National Academia Sciense of Belarus, Minsk, BY, 2003].
17. *Antennaria carpatica* (Wahlenb.) Bluff et Fingerh.** [The Botanical Garden of the University of Tübingen, DE, 2002].
18. *Antennaria microphylla* Rydberg* [Salaspils National Botanical Garden, LV, 2002].
19. *Arnica alpina* (L.) Olin** [The Botanical Garden of the University of Regensburg, DE, 2002].
20. *Aster alpinus* L. var. *dolomiticus* Beck.** [The Alpine Botanical Garden "Paradisgia", IT, 2009].
21. *Aster alpinus* L.* [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2002].
22. *Aster caucasicus* Willd.** [University of Alberta Devonian Botanic Garden, CA, 2004].
23. *Bupththalmum salicifolium* L.* [Experimental Station of Field Floriculture, LT, 2004].
24. *Centaurea aplolepa* Moretti subsp. *carueliana* (Micheletti) Dostál** [The Botanical Garden of Bonn University, DE, 2012].
25. *Chrysanthemum macrophyllum* Waldst et Kit.** [Botanic Garden of Nantes, FR, 2005].
26. *Echinops niveus* Wall. [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2000].
27. *Echinospartum horridum* (Vahl) Rothm** [Botanical Garden of the University Vienna, AT, 2002].
28. *Erigeron compositus* Pursh** [Private collection of G. Pociūlienė, Pakalniškiai, Radviliškis district, LT, 2010].
29. *Eriophyllum lanatum* (Pursh) J. Forbes** [Botanical Garden of the Christian Albrechts University of Kiel, DE, 2002].
30. *Helichrysum compactum* Boiss.** [Botanical Garden University Innsbruck, AT, 2004].
31. *Helichrysum montanum* DC.* [Botanic Garden and Arboretum Mendel University of Agriculture and Forestry Brno, CZ, 2010].
32. *Hieracium villosum* Jacq.** [Botanic Garden of Nantes, FR, 2005].
33. *Hymenoxys hoopesii* (A. Gray) Bierner** [Botanical Garden of the University of Tartu, EE, 2011].
34. *Inula hirta* L.** [Arboretum and Institute of Physiography in Bolestraszyce, PL, 2005].
35. *Jurinea mollis* (L.) Rchb. [The Botanical Garden of the University of Münster, DE, 2012].
36. *Leibnitzia anandria* (L.) Turcz. [Nancy Botanical Garden, FR, 2009].
37. *Leontopodium wilsonii* Beauverd* [The Botanical Garden of the University of Regensburg, DE, 2004].
38. *Leuzea rhapontica* (L.) J. Holub** [The Alpine Botanical Garden "Rezia", Bormio, IT, 2010].

39. *Rhaponticum scariosum* Lam. subsp. *bickelli* (Gugler) Pign.* [The Alpine Botanical Garden “Viotte”, Trento, IT, 2011].
40. *Rudbeckia flava* Greene [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2000].
41. *Senecio abrotanifolius* L.** [University of Salzburg Botanical Garden Department of Ecology and Evolution, AT, 2010].
42. *Solidago virgaurea* L.** [The Botanic Garden of the University of Oulu, FI, (Norway, Trs, Storfjord, Moalkejavri (69° 05’N, 20°42’E, 550 m), 10.9.03BG), 2004].
43. *Tanacetum corymbosum* (L.) Sch. Bip.** [Botanic Garden of Petrozavodsk State University, RU, 2004].
44. *Vernonia gigantea* (Walter) Trel. ex Trel. [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2003].

BORAGINACEAE Juss.

45. *Mertensia echioides* Benth. ex C. B. Clarke* [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2012].
46. *Solenanthes apenninus* (L.) Fischer et Meyer** [The Munich Botanical Garden, Nymphenburg, DE, 2005].

BRASSICACEAE Burnett.

47. *Aethionema edentulum* N. Busch* [Tbilisi Botanical Garden of Georgian Academy of Sciences, GE, 2005].
48. *Alyssoides utriculata* (L.) Medik.* [The Botanical Garden of Bonn University, DE, 2003].
49. *Alyssum altaicum* C. A. Mey.* [Botanical Garden of Maria Curie-Skłodowska University, Lublin, PL, 2004].
50. *Arabis purpurea* Sm.** [Kovacs Pal Rock Garden, Dorog, HU, 2009].
51. *Draba aspera* Bertoloni* [Botanical Garden of the University of Tartu, EE, 2004].
52. *Draba oligosperma* Hook.* [The Munich Botanical Garden, Nymphenburg, DE, 2010].
53. *Iberis sempervirens* L.** [The Botanical Garden of the University of Latvia, Riga, LV, 2000].
54. *Isatis tinctoria* L. [National Botanic Garden of Belgium, Meise, BE, 2003].
55. *Lesquerella alpina* (Nutt.) S. Watson [The Botanical Garden of the University of Regensburg, DE, 2010].
56. *Lesquerella arctica* (Wormsk. ex Hornem.) S. Watson** [Kovacs Pal Rock Garden, Dorog, HU, 2011].

CAMPANULACEAE Juss.

57. *Adenophora peresküifolia* (Roemer et Schultz) G. Don** [The Greifswald Botanic Garden and Arboretum, DE, 2009].
58. *Campanula moravica* (Spitzner) Kovanda [Reykjavik Botanical Garden, IS, 2004].
59. *Campanula persicifolia* L. [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2004].
60. *Campanula sarmatica* Ker Gawl.* [The Botanical Garden of the University of Tübingen, DE, 2003].
61. *Campanula sibirica* L.** [Arboretum and Institute of Physiography in Bolestraszyce, PL, 2004].
62. *Codonopsis ovata* Benth. [Botanical Garden of the University of Zurich, CH, 2007].
63. *Codonopsis tangshen* Oliv.** [Botanical Garden of the University of Potsdam, DE, 2006].
64. *Edraianthus dalmaticus* (A. DC.) A. DC.** [Botanical Garden of the Carinthian Botanic Center, Klagenfurt, AT, 2009].
65. *Jasione laevis* Lam. [The Botanical Garden of Graz, Institute for Plant science, Karl-Franzens-University Graz, AT, 2005].
66. *Phyteuma charmelii* Vill.* [Botanical Garden of the University of Potsdam, DE, 2006].

CAPRIFOLIACEAE Juss.

67. *Triosteum himalayanum* Wall.* [Botanical Garden of the University of Tartu, EE, 2010].
68. *Triosteum pinatifidum*. Maxim. [University of Turku Botanic Garden, FI, 2004].

CARYOPHYLLACEAE Juss.

69. *Arenaria gypsophiloides* L. var. *glabra* Fenzl* [Botanic Garden of the Philipp University of Marburg, DE, 2003].
70. *Arenaria kingii* Jones* [Botanical Garden University of Oslo, NO, 2004].
71. *Arenaria polaris* Schischk.** [The Botanical Garden Bielefeld, DE, 2010].
72. *Arenaria procera* Spreng. subsp. *glabra* (F. N. Williams) Holub* [The Botanical Garden of the University of Latvia, Riga, LV, 2003].
73. *Dianthus alpinus* L. ‘Weiss’ [Experimental Station of Field Floriculture, LT, 2005].
74. *Dianthus praecox* Willd. ex Spreng.* [Botanical Garden of P. J. Šafárik University, Košice, SK, 2010].
75. *Dianthus ruprechtii* Schischk.** [Botanical Garden of Pyatigorsk State Pharmaceutical Academy, RU, 2004].
76. *Drypis spinosa* L. subsp. *jacquiniana* Murb. & Wettst. [The Botanical Garden of Ljubljana, SI, 2008].
77. *Lychnis yunnanensis* Baker f.** [Nancy Botanical Garden, FR, 2011].

78. *Silene quadridentata* (L.) Pers.* [The Botanic Garden of the University of Padua, IT, (Monte Faverghera, Belluno (BL), 1500 m), 2004].
79. *Saponaria caespitosa* DC. [Botanical Garden of the University of Tartu, EE, 2003].
80. *Viscaria vulgaris* Bernh.** [Botanical Garden of the Medical University of Gdansk, PL, 2009].

CISTACEAE Juss.

81. *Helianthemum alpestre* (Jacq.) DC.** [The Botanic Garden of the Georg-August-University, Goettingen, DE, 2005].
82. *Helianthemum lippii* Pers.** [Vilnius University Botanical Garden, LT, 2005].
83. *Helianthemum pilosum* (L.) Pers.** [Kovacs Pal Rock Garden, Dorog, HU, 2008].

CRASSULACEAE DC.

84. *Sedum stenopetalum* Purch** [The Botanical Garden of the University of Tübingen, DE, 2003].

DIPSACACEAE Juss.

85. *Scabiosa georgica* Sulak.** [University of Alberta Devonian Botanic Garden, CA, 2012].

EUPHORBIACEAE Juss.

86. *Ricinus communis* L. [Botanic Garden of Technical University Dresden, DE].

FABACEAE Lindl.

87. *Anthyllis coccinea* (L.) Beck** [Private collection of V. Motiekaitytė, Šiauliai, LT, 2006].
88. *Anthyllis macrocephala* Wend.* [Botanic Garden of Ivan Franko National University of Lviv, UA, 2000].
89. *Baptisia australis* (L.) R. Br.* [Traupio Botanical Garden, LT, 2001].
90. *Dorycnium pentaphyllum* Scop. subsp. *pentaphyllum*** [Utrecht University Botanic Garden, NL, 2012].
91. *Lathyrus pisiformis* L. [Vilnius university Botanical Garden, LT, 2001].
92. *Trifolium trichocephalum* M. Bieb.** [Botanical Garden of the University of Tartu, EE, 2004].

GENTIANACEAE Juss.

93. *Gentiana asclepiadea* L. 'Alba'** [Botanical Garden Rennsteiggarten Oberhof, DE, 2011].
94. *Gentiana asclepiadea* L. 'Rosea'** [Austrian Horticultural Society, Graz, AT, 2011].
95. *Gentiana lutea* L. [The Botanical Garden of the University of Regensburg, DE, 2004].
96. *Gentiana tibetica* King ex Hook. f. [National botanic garden of Belgium, Meise, BE, 2002].

GERANIACEAE Juss.

97. *Geranium bohemicum* L.* [Botanic Garden of the Philipp University of Marburg, DE, 2011].
98. *Geranium ibericum* Cav.** [The Botanical Garden of the University of Ulm, DE, 2008].

GLOBULARIACEAE DC.

99. *Globularia incanescens* Viv.* [The Botanical Garden of the University of Regensburg, DE, (I, Alpi Apuane, Nordwestl. Von Monte Pelato, BG Firenze, 950713), 2009].
100. *Globularia punctata* Lapeyr.* [Salaspils National Botanical Garden, LV, 2003].
101. *Globularia trichosantha* Fischer et G. A. Mey* [Botanic Garden of the Philipp University of Marburg, DE, 2002].

LAMIACEAE Lindl.

102. *Dracocephalum argunense* Fisch. ex Link* [Botanical Garden University of Oslo, NO, 2007].
103. *Lavandula angustifolia* L. 'Nana Alba' [Botanical Garden, Faculty of Science, Masaryk University, Brno, CZ, 2015].
104. *Phlomis russeliana* (Sims) Benth.* [Botanic Garden of Cologne, DE, 2004].
105. *Phlomis samia* L.** [The Botanical Garden of the Heinrich-Heine University, Dusseldorf, DE, 2004].
106. *Phlomis tuberosa* L.* [The Munich Botanical Garden, Nymphenburg, DE, 2011].
107. *Salvia argentea* L.** [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2004].
108. *Salvia verticillata* L.** [The Trieste Municipal Botanic Garden, IT, 2003].
109. *Scutellaria alpina* L. [Botanic Garden of Johannes Gutenberg University Mainz, DE, 2002].
110. *Scutellaria woronowii* Juz.** [Botanic Garden of Nantes, FR, 2005].
111. *Sideritis glacialis* Boiss. [The Botanical Garden Aarhus, DK, 2004].
112. *Teucrium marum* L.* [The Botanical Garden E. M. Heckel, Marseille, FR, 2011].

LINACEAE DC. ex Gray

113. *Linum extraaxillare* Kit.* [Botanical Garden of P. J. Šafarik University, Košice, SK, 2004].

MALVACEAE Juss.

114. *Lavatera thuringiaca* L. [Vilnius University Botanical Garden, LT, 2003].

PAPAVERACEAE Juss.

115. *Meconopsis cambrica* (L.) Vig. [Botanic Garden of Nantes, FR, 2002].
116. *Papaver bracteatum* Lindl.** [The Botanical Garden of the University of Regensburg, DE, 2004].
117. *Papaver pilosum* Sm.** [Akureyri Botanical Garden, IS, 2010].
118. *Papaver rupifragum* Boiss et Reut** [Botanical Garden of the University of Zurich, CH, 2014].

PHYTOLACCACEAE R. Br.

119. *Phytolacca acinosa* Roxb. [Botanic Garden of Rostock University, DE, 2011].
120. *Phytolacca esculenta* L. [Alexandru Borza Cluj-Napoca University Botanic Garden, RO, 2008].

PLANTAGINACEAE T. Lestib. ex Dumort.

121. *Plantago sempervirens* Crantz. [Botanic Garden of Nantes, FR, 2016].

PLUMBAGINACEAE Juss.

122. *Armeria canescens* Boiss. subsp. *nebrodensis* (Guss.) P. Silva** [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2005].
123. *Armeria labradorica* Wallr.** [Botanical Garden of the Christian Albrechts University of Kiel, DE, 2003].
124. *Armeria sibirica* Turcz. ex Boiss.** [Botanical Garden of the Christian Albrechts University of Kiel, DE, 2003].
125. *Armeria splendens* (Lagasca et Rodr.) Webb.* [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2008].

POLEMONIACEAE Juss.

126. *Linanthus liniflorus* (Benth.) Greene [The Botanical Garden of the Heinrich-Heine University, Dusseldorf, DE, 2007].

POLYGONACEAE Juss.

127. *Eriogonum umbellatum* Torr. var. *stellatum* (Benth.) M. E. Jones* [Botanic Garden of the Philipp University of Marburg, DE, (CA, Columbia, Jones Corbin, 4940 N 114 49 W 488 m, BG Vancouver (MR, 2005)), 2011].
128. *Eriogonum umbellatum* var. *bahiiforme* (Torr. & A.Gray) Jeps. [Utrecht University Botanic Garden, NL, 2012].
129. *Fagopyrum esculentum* Moench 'Vokiai'* [Vilnius University Botanical Garden, LT, 2006].
130. *Rumex conglomeratus* Murray** [The Botanical Garden of the University of Münster, DE, 2003].
131. *Rumex tianschanicus* Losinsk.** [The Botanical Garden of Bonn University, DE, 2004].

PRIMULACEAE Vent.

132. *Primula edelbergii* Schwarz** [Botanical Garden of Clermont-Ferrand, FR, 2009].
133. *Primula elatior* Hill** [Botanical Gardens of Clermont-Ferrand, FR, 2009].

RANUNCULACEAE Juss.

134. *Aconitum compactum* Rchb.* [The Ecological-Botanical Garden of the University of Bayreuth, DE, 2009].
135. *Aconitum decipiens* Vorosch. et Anfalov* [The Botanical Garden of the University of Regensburg, DE, 2011].
136. *Aconitum fischeri* Reichenb** [The Botanical Garden of the University of Regensburg, DE, 2001].
137. *Aconitum moldavicum* Hacq.** [The Botanical Garden of University of Debrecen, HU, 2005].
138. *Aconitum napellus* L. 'Kleiner Ritter'** [The Ecological-Botanical Garden of the University of Bayreuth, DE, 2011].
139. *Aconitum tanguticum* (Maxim.) Stapf [Gothenburg Botanical Garden, SE, (China: Sichuan, 3500 m), 2007].
140. *Aconitum vulparia* Rchb.** [Botanic Garden and Arboretum Mendel University of Agriculture and Forestry Brno, CZ, 2006].
141. *Anemone altaica* Fisch. ex C. A. Mey.** [Botanic Garden of the Comenius University, Bratislava, SK, 2004].
142. *Anemone demissa* Hook. f. et Thomson* [The Botanical Garden of Bonn University, DE, 2010].
143. *Anemone leveillei* Ulbr.** [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2000].
144. *Anemone nemorosa* L.** [Experimental Station of Field Floriculture, LT, 2003].
145. *Anemone rupicola* Cambess. ex Jacquem.** [Collector A. Grišaitė, (The Botanical Garden of Schellerhau, DE), 2011].

146. *Aquilegia flabellata* Sieb. et Zucc. 'Alba' [Institute of Botany Academy of Sciences of the Czech Republic, Pruhonice, CZ, 2005].
147. *Aquilegia flabellata* Sieb. et Zucc. var. *pumila* (Huth) Kudo* [Reykjavik Botanical Garden, IS, 2006].
148. *Aquilegia olympica* Boiss.** [Botanical Garden of the Carinthian Botanic Center, Klagenfurt, AT, 2010].
149. *Aquilegia sibirica* Lam. [The South-Siberian Botanical Garden, Barnaul, RU, 2011].
150. *Clematis hirsutissima* Pursh* [Botanical Garden University Innsbruck, AT, (W/U.S.A., Utah, Mt. Pleasant), 2007].
151. *Clematis ianthina* Koehne [University of Alberta Devonian Botanic Garden, CA, 2012].
152. *Consolida ajacis* (L.) Schur** [University of Ferrara Botanic Garden, IT, 2004].
153. *Delphinium pictum* Willd subsp. *pictum*** [The Söllner Botanic Garden, ES, 2004].
154. *Pulsatilla albana* (Stev.) Bercht. et J. Presl [Botanical Garden of Pyatigorsk State Pharmaceutical Academy, RU, 2004].
155. *Pulsatilla armena* Rupr.** [The Alpine Botanical Garden "Paradisica", IT, 2005].
156. *Pulsatilla gayeri* Simonk.* [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2005].
157. *Pulsatilla rubra* (Lam) Delarbre* [Botanical Garden University of Oslo, NO, 2005].
158. *Pulsatilla styriaca* (Pritzel) Simk.* [The Botanical Garden of Graz, Institute for Plant science, Karl-Franzens-University Graz, AT, 2006].
159. *Pulsatilla vulgaris* Mill. 'Rote Glocke'* [Arboretum "Kokaudzētava Baltezers", LV, 2004].
160. *Pulsatilla zimmermannii* Soo** [Botanical Garden of the University of Potsdam, DE, 2006].
161. *Thalictrum chelidonii* DC.** [The Botanical Garden of the University of Regensburg, DE, (Alpine Garden Club of British Columbia), 2011].
162. *Thalictrum foetidum* L. [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2003].
163. *Thalictrum rochebrunnianum* Franch. et Sav.** [The Botanical Garden of the University of Regensburg, DE, 2011].
164. *Trollius altaicus* C. A. Mey.** [The Botanical Garden of the University of Regensburg, DE, 2009].
165. *Trollius macropetalus* F. Schmidt** [Botanical Garden-Institute Vladivostok, RU, 2010].

ROSACEAE Juss.

166. *Dryas octopetala* L. var. *vestita* Beck* [Botanical Garden Rennsteiggarten Oberhof, DE, 2010].
167. *Geum urbanum* L.** [Vera Csapody Hardy Plant Society of Hungary, Budapest, HU, 2012].
168. *Horkelia fusca* Lindl.** [Botanical Garden of the University of Tartu, EE, 2011].
169. *Potentilla atrosanguinea* D. Don** [The Alpine Botanical Garden "Saussurea", Courmayeur, IT, 2007].
170. *Potentilla collina* Wibel** [The Botanical Garden of Krefeld, DE, 2009].
171. *Potentilla fissa* Nutt.** [The Alpine Botanical Garden "Viotte", Trento, IT, 2004].
172. *Sanguisorba albiflora* (Makino) Makino** [Botanical Garden, Faculty of Science, Palacky University in Olomouc, CZ, 2012].
173. *Sanguisorba alpina* Bunge** [Botanical Garden of the University of Tartu, EE, 2011].
174. *Sanguisorba dodecandra* Moretti [Tallinn Botanic Garden, EE, 2004].

SAXIFRAGACEAE Juss.

175. *Elmera racemosa* (S. Watson) Rydb.* [Botanical Garden of the University of Tartu, EE, 2009].
176. *Heuchera americana* L.** [Botanic Garden and Arboretum Mendel University of Agriculture and Forestry Brno, CZ, 2004].
177. *Heuchera cylindrica* Douglas ex Hook** [Salaspils National Botanical Garden, LV, 2003].
178. *Heuchera glabella* Torr. et A. Gray** [Nancy Botanical Garden, FR, 2003].
179. *Heuchera grossulariifolia* Rydb.* [Botanic Garden of Šiauliai University, LT. No data available of their origin].
180. *Heuchera pulchella* Wootton et Standl. [Gothenburg Botanic Garden, SE, (USA: New Mexico, Bernalillo CO, 3200), 2010].
181. *Saxifraga australis* Moric. [The Alpine Botanical Garden "Viotte", Trento, IT, 2007].
182. *Saxifraga exarata* Villars* [Alpine Botanical Garden of Lautaret, FR, 2005].
183. *Saxifraga hostii* Tausch* [University of Oxford Botanic Garden and Harcourt Arboretum, UK, 2004].

SCROPHULARIACEAE Juss.

184. *Digitalis grandiflora* Mill.** [Botanic Garden of University of Konstanz, DE, 2005].
185. *Penstemon cardwellii* Howell* [Botanical Garden Teplice, CZ, 2010].
186. *Penstemon eatonii* A. Gray* [RHS Garden Wisley, UK, 2011].
187. *Penstemon gracilis* Nutt.** [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2003].
188. *Penstemon nanus* D. D. Keck** [Botanical Garden of the University of Tartu, EE, 2010].
189. *Penstemon peckii* Pennell** [Botanical Garden Teplice, CZ, 2009].

190. *Penstemon pinifolius* Greene [Botanical Garden University Innsbruck, AT, 2015].
191. *Penstemon procerus* Dougl. ex Graham var. *tolmiei* (Hook.) Cronq.* [Akureyri Botanical Garden, IS, 2007].
192. *Penstemon procerus* Dougl. ex Graham* [Botanic Garden of the University of Stuttgart-Hohenheim, Stuttgart, DE, 2003].
193. *Penstemon serrulatus* J. E. Smith** [Botanic Garden of the University of Stuttgart-Hohenheim, Stuttgart, DE, 2003].
194. *Penstemon wilcoxii* Rydb.** [Botanical Garden of the University of Zurich, CH, 2007].
195. *Veronica armena* Boiss. et A. Huet [Botanical Garden of the Christian Albrechts University of Kiel, DE, 2006].
196. *Veronica fruticans* Jacq. 'Rosea'* [Botanical Garden of the University of Tartu, EE, 2004].
197. *Veronica gentianoides* Vahl 'Nana'*** [Reykjavik Botanical Garden, IS, 2008].
198. *Veronica gentianoides* Vahl** [Botanical Garden of the Christian Albrechts University of Kiel, DE, 2002].

SOLANACEAE Juss.

199. *Nicotiana rustica* L. [Botanical Garden of the Carinthian Botanic Center, Klagenfurt, AT, 2018].

LILIOPSIDA Batsch

ALLIACEAE J. Agardh

200. *Allium altaicum* Pall.** [Ural State University Botanical Garden, Ekaterinburg, RU, 2004].
201. *Allium ascalonicum* L.** [Botanic Garden Regensburg, DE, 2011].
202. *Allium christophii* Trautv.* [Botanic Garden and Botanical Museum Berlin-Dahlem, DE, 2006].
203. *Allium cupuliferum* Regel** [Salaspils National Botanical Garden, LV, 2006].
204. *Allium karataviense* Regel [Vilnius University Botanical Garden, LT, 2006].
205. *Allium pskemense* B. Fedtsch. [Gothenburg Botanical Garden, SE, (Uzbekistan: Ugam Mtn. Range, Urungachsay, 2555-2800 m), 2007].
206. *Allium ramosum* L.** [Ghent University Botanic Garden, BE, 2002].
207. *Allium stipitatum* Regel* [Private collection of A. Markevičius, Neveronys, Kaunas district, LT, 2011].
208. *Allium suworowii* Regel [Salaspils National Botanical Garden, LV, 2007].
209. *Allium victorialis* L. [Botanic Garden and Botanical Museum Berlin-Dahlem, DE, 2006].

AMARYLLIDACEAE J. St.-Hil

210. *Leucojum aestivum* L. [Utrecht University Botanic Garden, NL, 2002].

ASPARAGACEAE Juss.

211. *Asparagus officinalis* L. [Botanic garden of Šiauliai University, LT. No data available of their origin].

ASPHODELACEAE Juss.

212. *Aspodeline brevicaulis* (Bertol.) Baker** [Botanical Garden of Leipzig University, DE, 2006].
213. *Eremurus altaicus* (Pall.) Stev.** [Institute of Ecology and Botany Hungarian Academy of Sciences Botanical Garden, Vacratot, HU, 2003].
214. *Eremurus himalaicus* Bak.* [Botanic Garden of the University of Stuttgart-Hohenheim, Stuttgart, DE, 2003].
215. *Eremurus stenophyllus* (Boissier et Buhse) Baker* [Botanical Garden of Maria Curie-Skłodowska University, Lublin, PL, 2005].

CANNACEAE Juss.

216. *Canna indica* L. [Leuven Botanical Garden, BE, 2010].

COLCHICACEAE DC.

217. *Colchicum autumnale* L.** [Traupio Botanical Garden, LT, 2000].

CYPERACEAE Juss.

218. *Carex pseudocyperus* L.** [Botanical Garden of Ernst-Moritz-Arndt University Greifswald, DE, 2006].

HYACINTHACEAE Batsch ex Borkh.

219. *Bellevalia romana* (L.) Sweet.** [Botanic Garden of the University of Stuttgart-Hohenheim, Stuttgart, DE, 2005].
220. *Hyacinthoides hispanica* (Mill.) Rothm.** [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2005].
221. *Ornithogalum pyramidale* L.** [Botanical Garden of the Voroneszh State University B. M. Kozo-Poljanskii, RU, 2009].

222. *Scilla autumnalis* L.** [Botanic Garden of Rostock University, DE, 2003].
223. *Scilla litardierei* Breistr.** [The Munich Botanical Garden, Nymphenburg, DE, 2006].

IRIDACEAE Juss.

224. *Iris aurea* Lindl.** [Botanical Garden of Lautaret, FR, 2010].
225. *Iris laevigata* Fisch.** [The Alpine Botanical Garden “Viotte“, Trento, IT, 2003].
226. *Iris spuria* L. subsp. *sogdiana* (Bunge) B. Mathew** [Utrecht University Botanic Garden, NL, 2009].
227. *Iris spuria* L.** [Botanic Garden and Arboretum Mendel University of Agriculture and Forestry Brno, CZ, 2005].
228. *Iris tenax* Douglas ex Lindl.* [The Botanical Garden of the University of Regensburg, DE, 2004].
229. *Sisyrinchium angustifolium* Mill.** [The Botanical Garden of the University of Tübingen, DE, 2002].
230. *Sisyrinchium bellum* S. Watson ‘Album’** [Tallinn Botanic Garden, EE, 2011].

IXIOLIRIACEAE (Pax) Nakai

231. *Ixiolirion tataricum* (Pall.) Herb.* [Botanical Garden University of Oslo, NO, 2006].

JUNCACEAE Juss.

232. *Luzula luzuloides* (Lam.) Dandy et Willmott** [Kaunas Botanic Garden of Vytautas Magnus University, LT, 2000].
233. *Luzula multiflora* (Ehrh.) Lej.** [Botanical Garden of Dijon, FR, 2012].
234. *Luzula nivea* (Nathh.) DC.** [Humboldt University of Berlin, Institute of Biology, Arboretum, DE, 2009].

LILIACEAE Juss.

235. *Fritillaria bucharica* Regel [Salaspils National Botanical Garden, LV, 2004].
236. *Fritillaria imperialis* L.** [Botanic Garden of Šauliai University, LT, No data available of their origin].
237. *Fritillaria involucrata* All.* [Austrian Horticultural Society, Graz, AT, 2009].
238. *Fritillaria pallidiflora* Schrenk [Salaspils National Botanical Garden, LV, 2003].
239. *Fritillaria roylei* J. D. Hook. [Botanical Garden University of Oslo, NO, 2003].
240. *Fritillaria sewerzowii* Regel [Salaspils National Botanical Garden, LV, 2003].

POACEAE (R. Br.) Bernhart

241. *Andropogon gerardi* Vitman [Botanical Garden, Faculty of Science, Palacky University in Olomouc, CZ, 2012].
242. *Briza media* L.** [Leuven Botanic Garden, BE, 2009].
243. *Festuca amethystine* L.** [Private collection of G. Pociūlienė, Pakalniškiai, Radviliškis district, LT, 2012].
244. *Festuca gigantea* (L.) Vill.** [The Botanical Garden of Graz, Institute for Plant science, Karl-Franzens-University Graz, AT, 2013].

SEED FROM PLANTS OF LITHUANIAN FLORA PROTECTED EX-SITU IN THE GARDEN

MAGNOLIOPHYTA Cronquist, Takht. et W. Zimm. ex Reveal.

MAGNOLIOPSIDA Brongn.

APIACEAE Lindl.

- 245. *Astrantia major* L. [The local area Žagarė, Joniškis district, LT, 2000].
- 246. *Chaerophyllum bulbosum* L.* [Collector V. Ramonas. The local area Pakruojis, LT, 2017].
- 247. *Laserpitium latifolium* L. [The local area Mažeikiai district, LT, 2007].

ASTERACEAE Dumort.

- 248. *Gnaphalium luteoalbum* L. [The local area Merkinė, Varėna district, LT, 2008].

BORAGINACEAE Juss.

- 249. *Lithospermum officinale* L. [Traupis Botanical Garden, LT, 1999].

BRASSICACEAE Burnett

- 250. *Lunaria rediviva* L. [The local area Varėna district, LT, 2000].

CAMPANULACEAE Juss.

- 251. *Campanula bononiensis* L. [The local area Kėdainiai district, LT, 2007].
- 252. *Campanula cervicaria* L.* [The local area Paryžė, Kupiškis district, LT, 2007].

CARYOPHYLLACEAE Juss.

- 253. *Dianthus arenarius* L. [The local area Marcinkonys, Varėna district, LT, 2008].
- 254. *Dianthus arenarius* L. subsp. *arenarius** [The local area Perloja, Varėna district, LT, 2007].
- 255. *Dianthus borbasii* Vandas [The local area Dzūkija National Park, Varėna district, LT, 2003].
- 256. *Silene lithuanica* Zapał.* [The local area Marcinkonys, Varėna district, LT, 2008].
- 257. *Silene tatarica* (L.) Pers. [The local area Liškiava, Varėna district, LT, 2008].

CHENOPODIACEAE Vent.

- 258. *Polycnemum arvense* L.* [The local area Kupiškis district, LT, 2010].

DIPSACACEAE Juss.

- 259. *Scabiosa columbaria* L. [The local area Vilnius district, LT, 2007].
- 260. *Succisella inflexa* Kluk [The local area Kupiškis district, LT, 2010].

FABACEAE Lindl.

- 261. *Anthyllis vulneraria* L.** [The local area Prienai district, LT, 2000].
- 262. *Sarothamnus scoparius* (L.) Wimm. ex W. D. J. Koch [The local area Krokšlys, Varėna district, LT, 2013].

GENTIANACEAE Juss.

- 263. *Gentiana cruciata* L.* [The local area Lazdijai district, LT, 2005].

HYPERICACEAE Juss.

- 264. *Hypericum hirsutum* L.* [The local area Satkūnai, Joniškis district, LT, 2007].

LAMIACEAE Lindl.

- 265. *Dracocephalum ruyschiana* L. [The local area Anykščiai district, LT, 2008].
- 266. *Mentha longifolia* (L.) Huds.* [The local area Pupiniai, Kupiškis district, LT, 2007].
- 267. *Prunella grandiflora* (L.) Scholler [The local area Varėna district, LT, 2008].
- 268. *Salvia ×sylvestris* L. [The local area Vizgūnai, Kupiškis district, LT, 2009].
- 269. *Salvia pratensis* L. [The local area Smalininkai, Jurbarkas district, LT, 2001].
- 270. *Scutellaria hastifolia* L.* [The local area Gazdonai, Šilutės district, LT, 1998].
- 271. *Stachys recta* L. [The local area Kaišiadorys district, LT, 2002].

MELANTHIACEAE Batsch.

- 272. *Tofieldia calyculata* (L.) Wachenb. [The local area Lazdijai district, LT, 2001].

POLYGONACEAE Juss.

273. *Fagopyrum tataricum* (L.) Gaertn.* [The local area Šalčininkai district, LT, 2007].

RANUNCULACEAE Juss.

274. *Pulsatilla patens* (L.) Mill. [The local area Varėna district, LT, 2008].

VIOLACEAE Batsch

275. *Viola elatior* Fr. [The local area Vilnius district, LT, 2007].

LILIOPSIDA Batsch

ALLIACEAE J. Agardh

276. *Allium scorodoprasum* L. [The local area Priekulė, Klaipėda district, LT, 2007].

ASPHODELACEAE Juss.

277. *Anthericum ramosum* L.** [Kurtuvėnai Regional Park, Šiauliai district, LT, 2000].

CYPERACEAE Juss.

278. *Carex buxbaumii* Wahlenb.** [The local area Kėdainiai district, LT, 2008].

IRIDACEAE Juss.

279. *Gladiolus imbricatus* L. [The local area Širvintai district, LT, 2007].
280. *Iris sibirica* L. [The local area Truskava, Kėdainiai district, LT, 2008].

LILIACEAE Juss.

281. *Lilium martagon* L. [The local area Varėna district, LT, 2013].

ORCHIDACEAE Juss.

282. *Dactylorhiza fuchsii* (Druce) Soo' [The local area Kupiškis district, LT, 2008].
283. *Dactylorhiza longifolia* (Neum) Aver** [The local area Švendrė forest, Šiauliai district, LT, 2007].

POACEAE (R. Br.) Bernhart

284. *Alopecurus arundinaceus* Poir [The local area Pakruojis district, LT, 2008].
285. *Festuca psammophila* (Hack. ex Celak.) Fritch. [The local area Varėna district, LT, 2008].
286. *Melica ciliata* L.** [The local area Anykščiai district, LT, 2001].
287. *Sesleria caerulea* (L.) Ard. [The local area Gudmonišké, Kelmė district, LT, 2005].

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