



Science and Education at the Vilnius University Botanical Garden



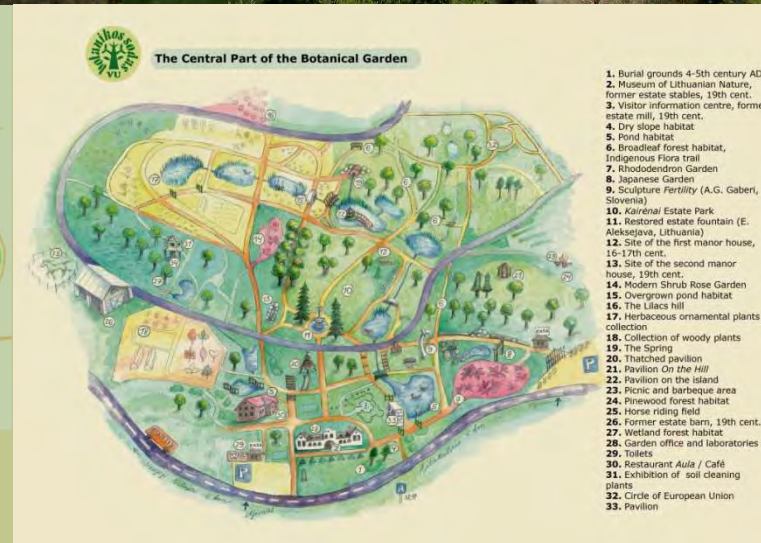
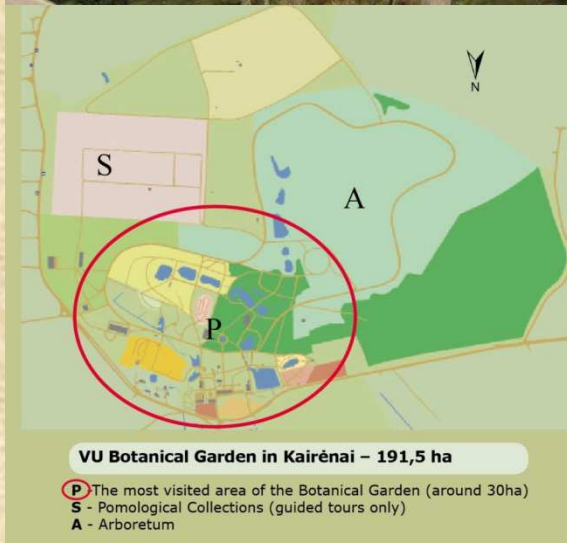
A. Skridaila, S. Zilinskaite, R. Ryliskiė, D. Ryliskis
Vilnius University Botanical Garden, Lithuania

Vilnius University Botanical Garden (VUBG) was founded by prof. J.E.Gilibert in 1781. Its glory time was the first half of XIX c.

(Below the view of VU BG in 1808-1831)

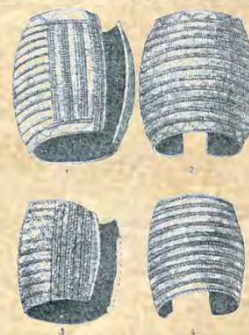


Contemporary VUBG main place is situated on the eastern outskirts of Vilnius City (there it covers area of 191 ha)



VU BG in Kairėnai inherited not only beautiful landscape but even rich archaeological, architectural, horticultural and historical legacy.

Below: buildings and fountain - heritage of Kairėnai estate (XIX c.);
bracelets found in former burial place (IV c. - V c.)



Today VUBG is known in Lithuania as an educational and cultural institution as well as place of popularization of science



There is the Department for management and coordination of scientific programs (with 11 scientists) at VU BG .

Main research areas:

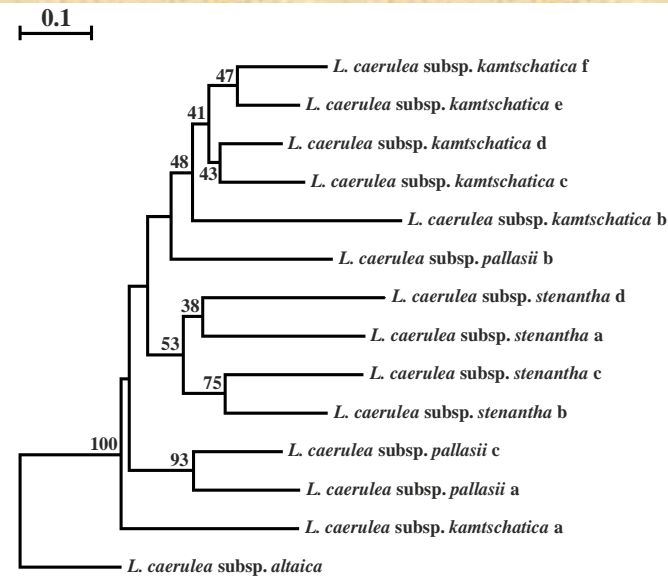
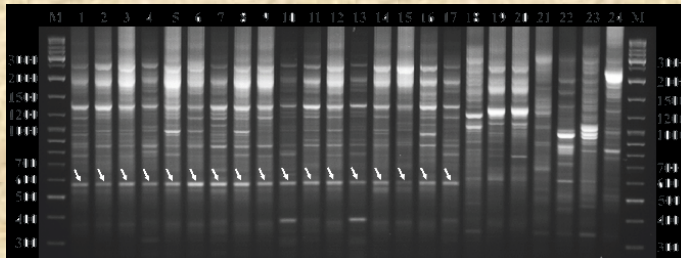
plant genotaxonomy;
biotechnology of cultivation and reproduction of plants;
research of plant genetic resources (of ornamental and fruit plants) and technologies for its preservation;
investigation of plants polymorphism, genetic instability;
micropropagation of plants *in vitro*.

Below: an experiment with plants growing *in vitro* conditions under controlled light spectrum

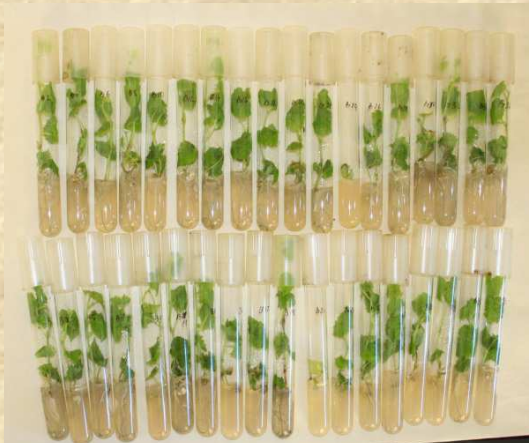


Left: research of barley mutagenesis under influence of heavy metals

Investigation of genetic diversity using DNA markers (*Lonicera* L. *Taxus* L.)



Plant propagation *in vitro* in the VUBG laboratory
(*Syringa* L., *Clematis* L., *Taxus* L., *Lilium* L. etc.)



School students (from age 6 to 17) produce micro plants *in vitro* (the part of “Researcher’s night” project 2013) in VU BG laboratory



**DNA extraction from fresh
young leaves of honeysuckle –
opportunity for teenagers to
take part in process of
experiment**

(“Researcher’s Night” project 2014)

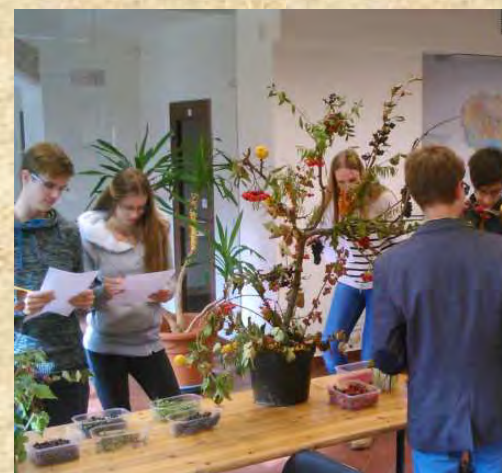


Research and Conservation of fruit plants genetic resources.

European Commission Community Programme - Genetic Resources in Agriculture: RIBESCO – core collection of northern european gene pool of *Ribes* L.(2009-2011).



Investigation of fruit plants (Workshop "Gifts of autumn" 2012)



All resources of VU BG open for general public, for free, a few times per year:

“International day of biodiversity” (traditional event organized since 2002 by VU BG and Ministry of environment),

“Researcher’s Night” (International project 7FP EU, since 2009),

“Spaceship Earth” (Lithuanian project for science popularization (since 2007).

Thousands of visitors per one event day are coming to VU BG



VU BG scientists carried out investigation of ectomycorrhizal fungi diversity on roots system of *Pinus silvestris* L. in 2007-2013.

Fungi taxa were identified using a combination of morphological analysis and sequencing of fungal ITS rDNA region.



Results of investigation were presented during a few workshops, trainings for 200 Lithuanian forest owners.



The project was financed by the Lithuanian Rural Development Program „Vocational training and information actions“ (2007-2013), activity „Spread of scientific knowledge and innovative practices in agricultural and forestry activities and producing agricultural products: „Mycorrhiza for rising efficiency in reforestation“ (2011-2013).



Investigation of ornamental plants diseases (*Tulipa* L.).

The collection of 400 cultivars of tulips growing in VUBG were investigated to resistance of viral and fungal diseases.



Results were presented for 200 Lithuanian farmers (trainings, workshops)

The project was financed by the Lithuanian Rural Development Program „Vocational training and information actions“ (2007-2013) , activity „Spread of scientific knowledge and innovative practices in agricultural and forestry activities and producing agricultural products: „Universal farming model: implementation of promising tulips species and varieties in cultivation“ (2011-2013).



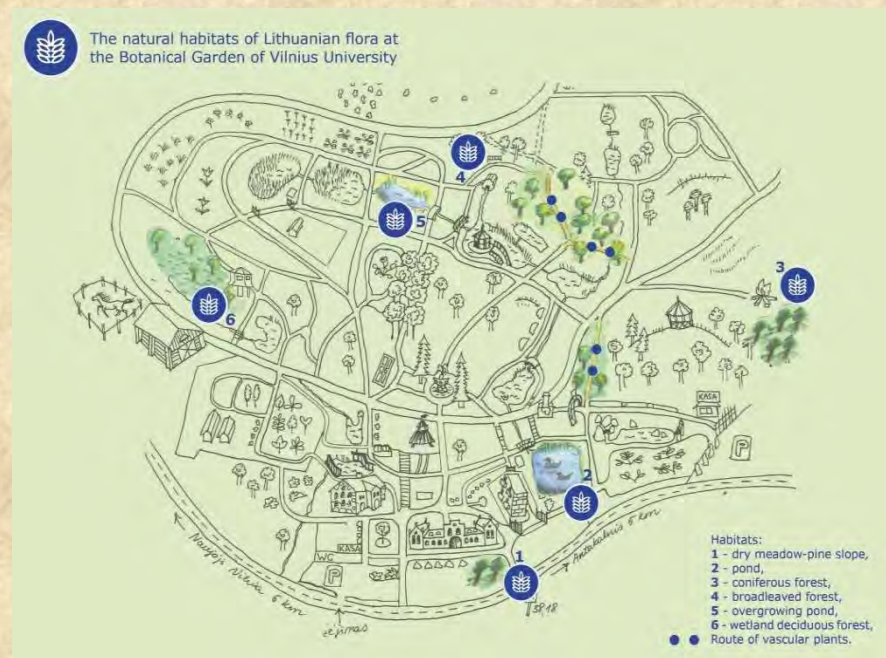
In close collaboration with our colleagues, botanists of Faculty of Natural Sciences, were carried out detail research of indigenous flora growing within all territory of BG



An educational route of native flora was established in the Garden in 2004. The information system and special educational stands (characterising dry slope, two ponds, wetland forest, broadleaved forest and pine forest habitats) were created in 2008.



483 species, nearly 30% of Lithuanian flora were identified in VU BG



The general public interest into educational possibilities of the garden grows very significantly during last few years.

Today VUBG in collaboration with different other organizations (including governmental organizations for non formal education of adults, schoolchildren, public body enterprises as well as private business representatives), organized a lot of public lectures, workshops, training courses, guided tours, academic events etc.





„Herbal days“
were very popular within
ethnobotanists



Pictures exhibitions of Lithuanian vertebrates, of macro photos of smallest parts of plants as well as frozen water crystals (produced by VU scientists physicists) were very popular too.

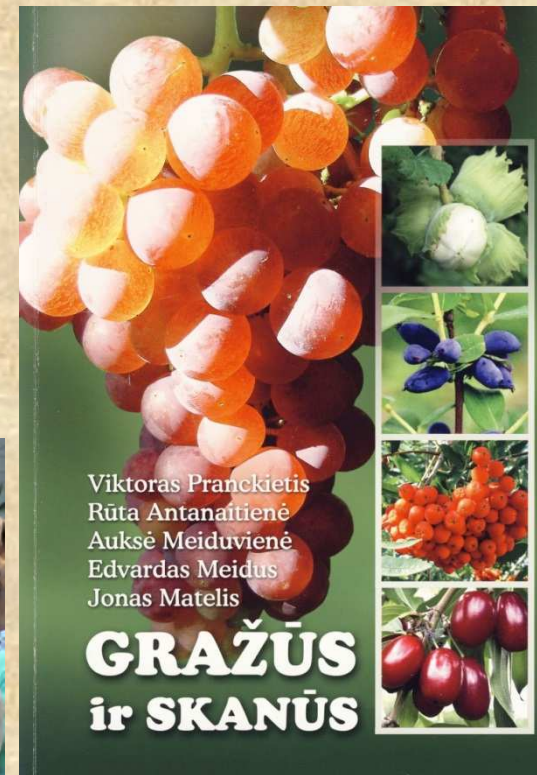


Last year competition **“My green windowsill”** engaged more than 715 kinder-garden groups and 136 school classes. Every year about 100 school teachers from all country take part on international conferences **“Green spaces for education and training process: the dissemination of good practice”**.



We use for good public relationships :

- popular publications;
- interviews for TV and radio;
- consultations;
- web pages (www.botanikos-sodas.vu.lt ;
www.facebook.com/botanikos.sodas;
<https://plus.google.com/+VilniausuniversitetoBotanikosSodas/>)



Databases for researches and general public

1. The *Ribes/Rubus* European Central Database managed by request of the IPGRI and ECP/GR

<http://projektai.vu.lt/ribes-rubus/>

2. The VUBG „Index Plantarum“ - on line database

<http://botsodas.lt/indexplantarum>

3. The Database of Latin-Lithuanian Names of Woody Plants www.botanikos-sodas-vu.lt



**Newest VU BG facilities for educational aims:
exposition presenting soil cleaning plants
(the project implemented in 2014 by support of private company)**



In 2016 we are going to finish the reconstruction of VU BG laboratory building. After reconstruction here will be a **multifunctional centre**, merging the modern basis for scientific researches and educational facilities at the same place.



We are trying to leave for them the friendly world...



Thank you for attention!