

Inventory of *Vitis sylvestris* natural population in Serbia

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ECPGR, Vitis working group – Split, 05.07.2016.



Serbia



UNIVERSITY OF NOVI SAD

UNIVERSITY OF BELGRADE



University of Belgrade Faculty of Agriculture



*University of Belgrade among the world's best
400 universities in the Shanghai list*

Faculty of Agriculture



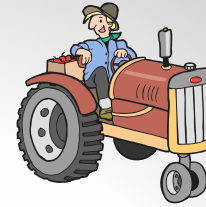
Established in 1919

Employees > 500

Faculty of Agriculture



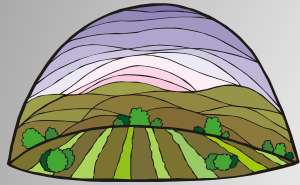
**Institute of
Horticulture**



**Institute of Agricultural
Engineering**



**Institute of
Animal Science**

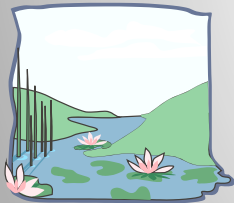


**Institute of
Crop Science**

**8 institutes
30 departments
4.500 students**



**Institute of Food
Technology
and Biochemistry**



**Institute of Soil
Management**



**Institute of
Agroeconomy**



**Institute of
Plant Protection**

Institute of Horticulture

- Department of fruit growing
- Department of viticulture

□ 36 employees

- 24 professors
- 3 assistants
- 3 teaching assistants
- 6 technical assistants



□ Research activities

- Biochemical, physiological and genetic studies
- Fruit and grape breeding
- Genetic resources
- Development of new technologies in the production
- Ecology
- Biology of flowering, pollination and fertilization
- The study of fruit and grape quality
- Honey bee biology, technology of beekeeping
- Meteorology and climate change



EXPERIMENTAL SCHOOL FARM “RADMILOVAC”

University of Belgrade, Faculty of Agriculture



...established in 1947

Total area 86 ha

ORGANIZATION

- Center for fruit growing (15 ha)
- Center for beekeeping
- Center for fishery and applied hydrobiology
- Vineyards (13 ha)
- Wine cellar and distillery
- Greenhouse for vegetable production



VINEYARDS

- Collection orchard - over 450 cultivars
- 23 new cvs released (15 table, 8 wine)
- Many new genotypes (27 submitted for releasing)
- Clones of standard cvs (12 released and 36 are in the process of recognition)





Banatski
muscat



Smederevski
muscat



Radmilovacki
muscat



Demir kapija



Beogradska
rana

New grapevine cultivars



Opuzenska rana



Gročanka



Kladovska
bela



Beogradska
besednena



Krajlnski bojadiser



Zupski bojadiser



Srpski rubin



WINE CELLAR AND DISTILLERY



40 000 l





University of Novi Sad Faculty of Agriculture



... founded in 1954.



Faculty of Agriculture



- Founded in 1954
- The oldest faculty within the University

Facts and figures

Students per year – 3340

Graduated students - 12015
PhD - 700

Teaching Staff - 246

Non-teaching staff - 135



Faculty of Agriculture



DEPARTMENTS (8):

Department of Field and Vegetable Crops

Department of Animal Husbandry

Department of Fruit Growing, Viticulture, Horticulture and Landscape arc.

Department of Agricultural Engineering

Department of Plant and Environment Protection

Department of Water Management

Department of Agricultural Economics

Department of Veterinary Medicine



Department of Fruit growing, Viticulture, Horticulture and Landscape arc.



- Established in 1947 in Sremski Karlovci
- Since 1971 a part of Faculty of agriculture Novi Sad
- In 2006 name changed from Institute to Department for fruitgrowing, viticulture, horticulture and landscape architecture
- 2 cathedras:
 - Fruit groving and Viticulture
 - Horticulture and Landscape arc.



EXPERIMENTAL FIELD FOR VITICULTURE – SREMSKI KARLOVCI



Total area: 33 ha
Vineyard: 15 ha
Winery: 30 000 lit per year



- Practical work of the students

The whole research work in viticulture could be systematized into four sections:

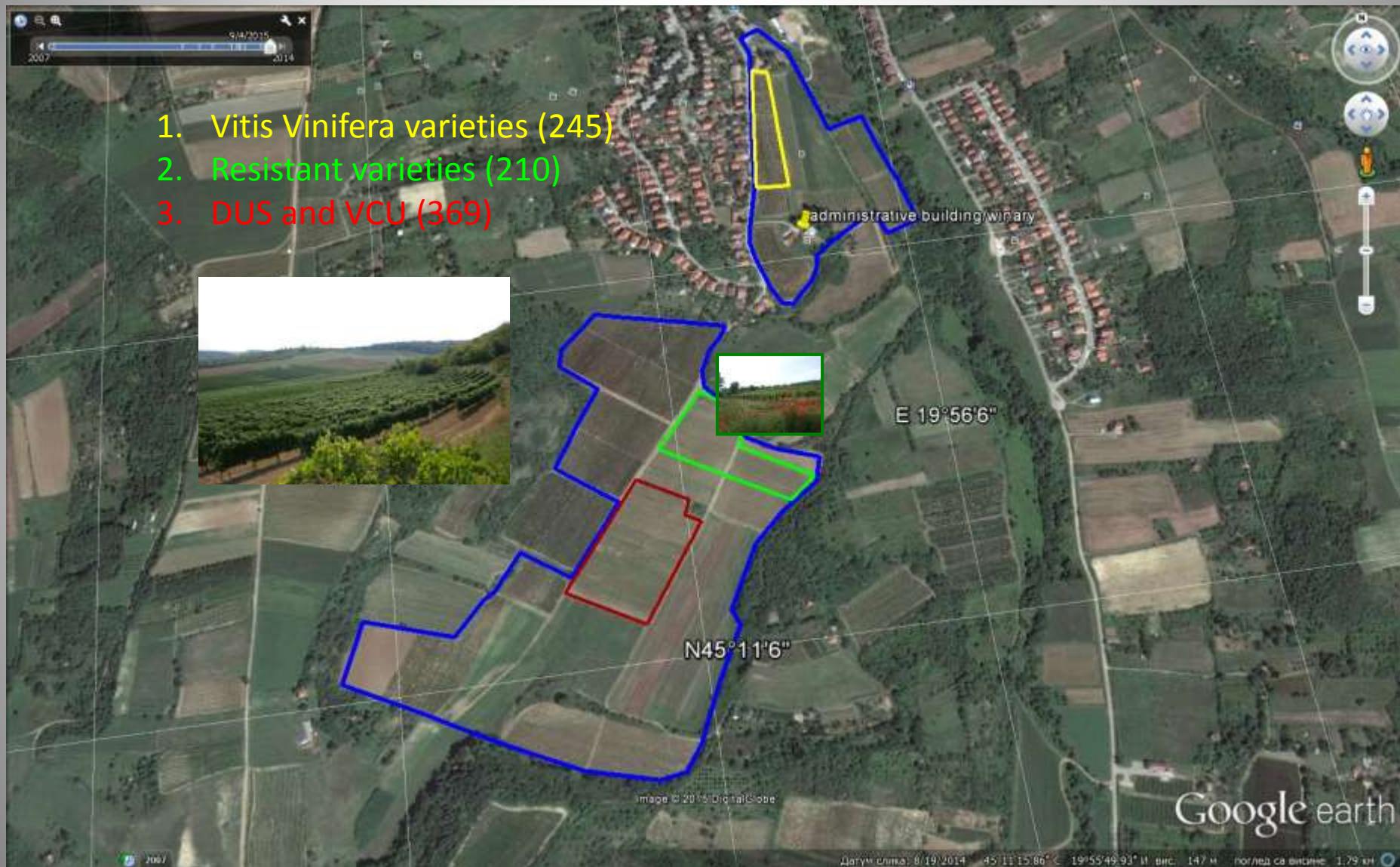
- Ampelographic research (**Ampelographical collection** with over 800 genotypes)
- **Grapevine breeding**
- Grapevine physiology
- Grapevine agrotechnique



EXPERIMENTAL FIELD FOR VITICULTURE – SREMSKI KARLOVCI

Ampelographical collection :

1. *Vitis Vinifera* varieties (245)
2. Resistant varieties (210)
3. DUS and VCU (369)



Google earth

EXPERIMENTAL FIELD FOR VITICULTURE – SREMSKI KARLOVCI

23 varieties



EXPERIMENTAL FIELD FOR VITICULTURE – SREMSKI KARLOVCI

- Riesling italico
 - 3 clones
 - 4 subclones
- Župljanka
 - 4 clones



Preliminary field investigations

-*Vitis sylvestris*-

According to existing literature field investigations were focus on:

- Sava valley
- Danube valley
- Morava valley

Sava valley

- Surroundings of Belgrade
- Sample was taken from 3 locations
 - S1 (2 samples)
 - S2 (2 samples)
 - S3 (6 samples)



- S 1



- S 2



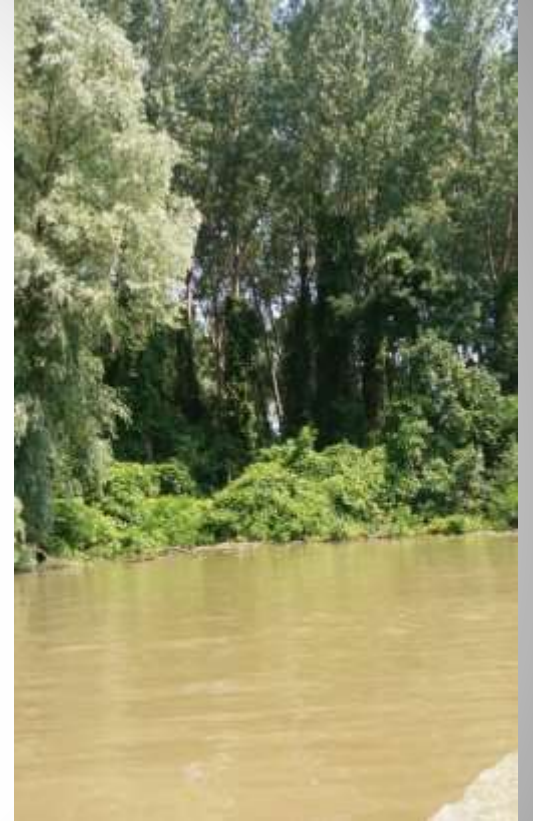
- S3



Danube valley

- Smederevo, smederevska Ada (Smederevo island)
- Sample was taken from 2 locations







Morava valley

- Aleksandrovac
- Not located yet.
- Fishermen's Association is involved in this work

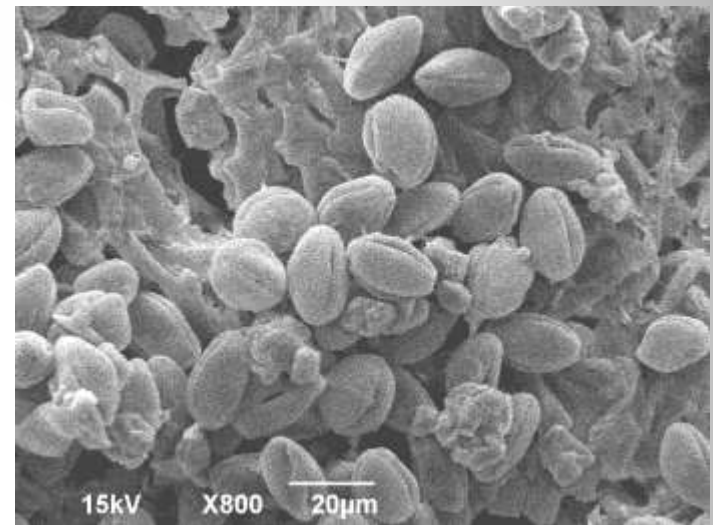
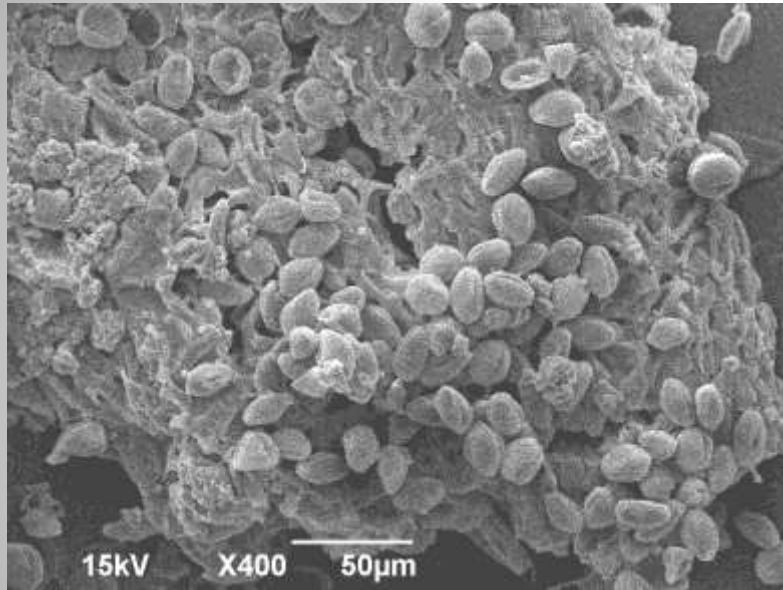


What are we going to do next?

1. Characterization and evaluation accession using descriptors



2. Determination of the samples based on the ultrastructural analysis of pollen using SEM

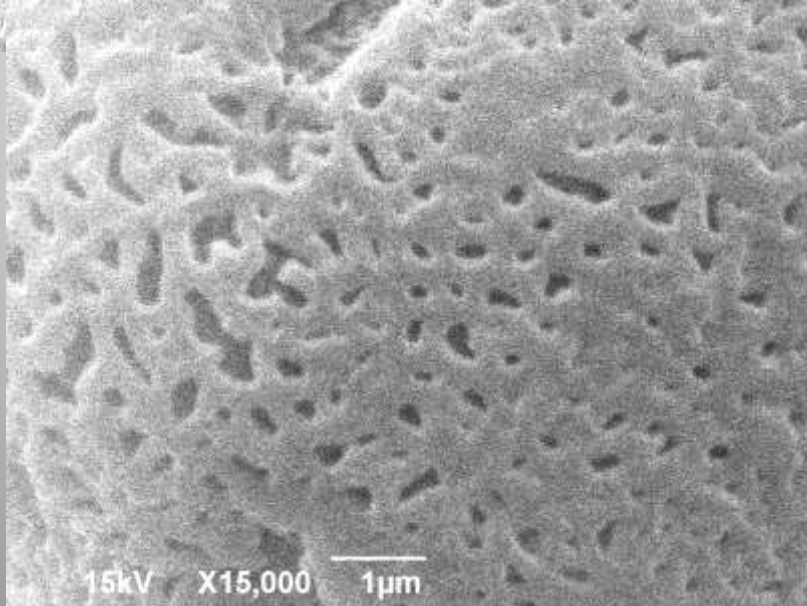
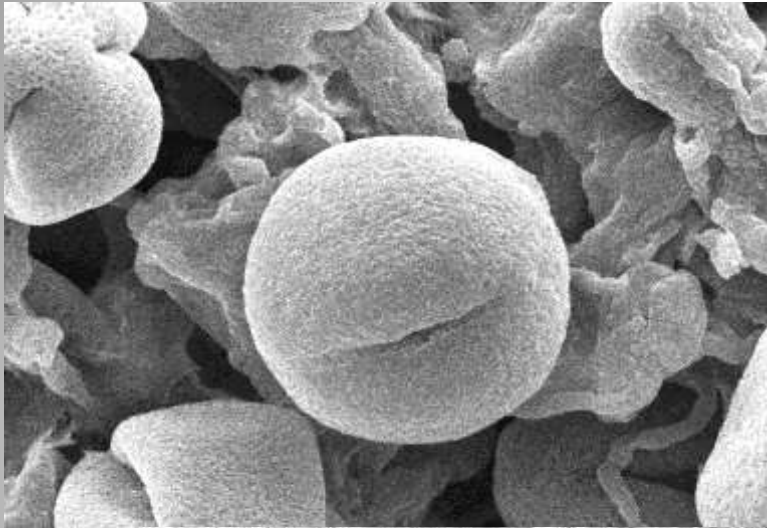


Pollen grains of *V. vinifera*
subsp. *sylvestris*

Current research

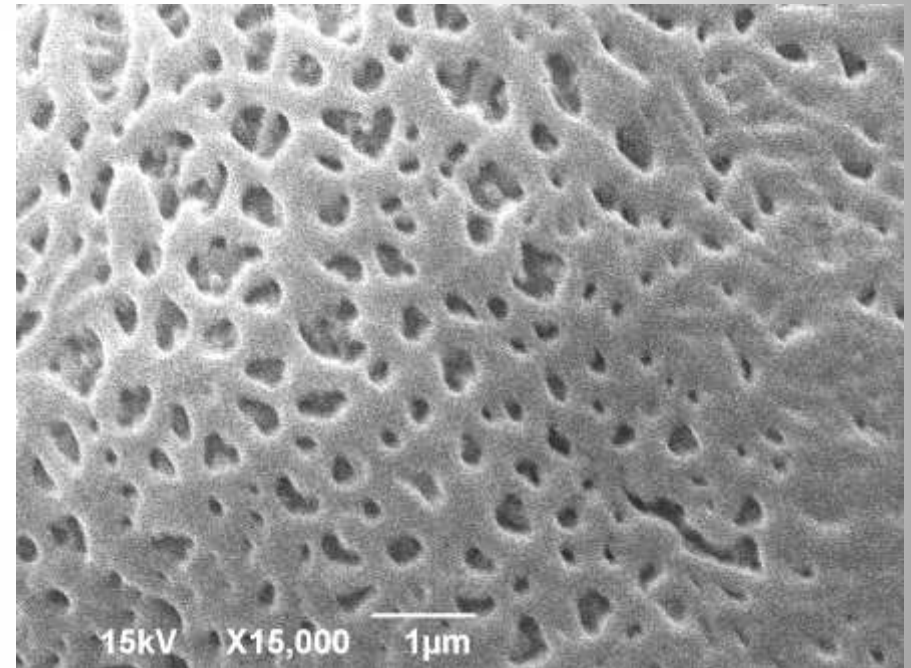
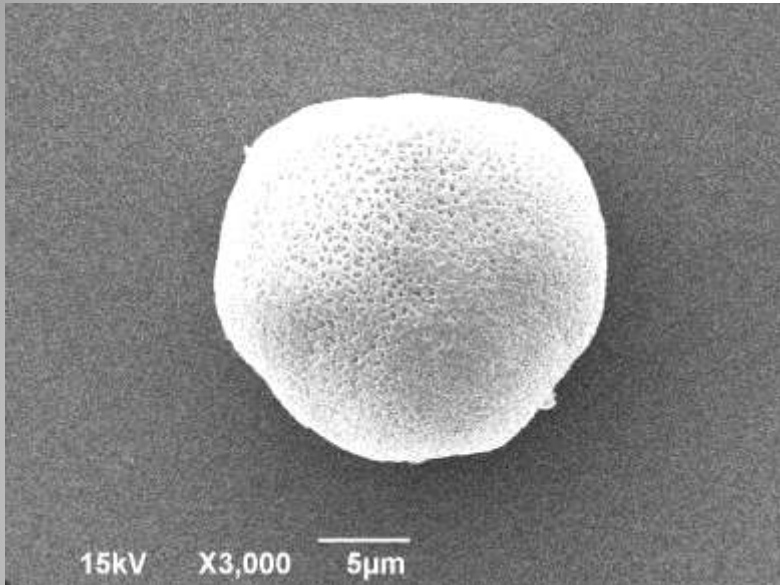
Joint work on the identification of Vitis species by SEM between the Faculty of Agriculture in Belgrade (Serbia) and the Institute IMIDRA in Madrid (Spain)

Pollen grains from male flower of *V. vinivera* L. subsp. *sylvestris*



Tricolporate pollen grains

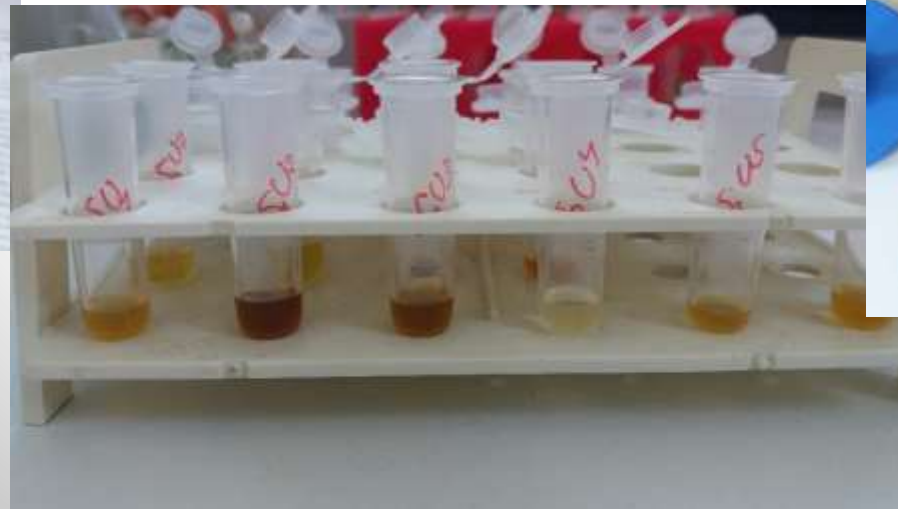
Pollen grains from female flower of *V. vinivera* L. subsp. *sylvestris*



← Unaperturate pollen grains

3. Analysis of DNA using SSR markers





4. Inventory finishing and collection of selected accessions



Thank you for your attention