P10 – First description of wild grapevine (*Vitis vinifera spp. sylvestris*) locations in Slovenia

Perko, Andrej[1*]; Trapp, Oliver[2]; Maul, Erika[2]; Röckel, Fanco[2]; Piltaver, Andrej[3]; Vršič, Stanko[1]

[1]University of Maribor, Faculty of Agriculture and Life Sciences, UC of Viticulture and Enology Meranovo, Maribor, Slovenia

[2]Julius Kühn Institute (JKI), Institute for Grapevine Breeding Geilweilerhof, Siebeldingen, Germany

[3]Institute for the Systematics of higher Fungi, Ljubljana, Slovenia

*a.perko@um.si

Abstract

Vitis vinifera subsp*. sylvestris* is the only native wild grapevine in Eurasia (Europe and Western Asia) and the present ancestor of the grapevine varieties belonging to subsp*. vinifera*. The wild subspecies survived the Ice Age in small refugia (sites with isolated or relict populations) and spread from there through alluvial forests. A few natural populations of European wild grapevine still exist in small, disconnected populations in remnant habitats such as Szigetköz (Fertő-Hanság National Park) in Hungary and Germany in the Upper Rhine Valley. In Slovenia, the prevailing opinion was that there were no habitats of subsp. *sylvestris*. This study describes for the first time *Vitis vinifera* subsp*. sylvestris* in Slovenia and the aim was to get an overview of wild grapevine locations in the country.

In this project, a sample set of 83 accessions was studied using 24 SRR markers and 3 markers for flower sex determination. The accessions were found in forests on the left side along the Sava River in Slovenia at the border between alluvial soils and limestone and dolomite at 4 different sites, some of which were described for the first time. The proportion of female and male accessions differed at the different sites. At two sites female plants dominated, at others the ratio was balanced. Their genetic diversity and structure were compared with autochthonous and unique varieties of subsp. *vinifera* from old vineyards in Slovenia and with rootstocks escaped to nature from abandoned vineyards. Sylvestris was clearly separated from vinifera and the rootstocks.

The conservation of biodiversity has a practical value for mankind, as some of the subsp. *sylvestris* accessions showed relatively high tolerance to grapevine pathogens and represent a valuable genetic resource for resistance breeding.

Meanwhile, a complete genetic copy of the wild grapevine has been established at the University Centre Meranovo University of Maribor, Faculty of Agriculture and Life Sciences.

Keywords: Slovenia, Wild grapevine, SSR markers, V. V. Subsp. Sylvestris, conservation, genetic fingerprinting