

Current status of *Vitis sylvestris* genetic resources in Hungary

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Why is *Vitis sylvestris* important in Hungary?

The *Vitis sylvestris* GMEL. in Hungary is a protected species.

The quest and reservation of its populations are significant in terms of **nature conservation and reserve of biodiversity** as well.

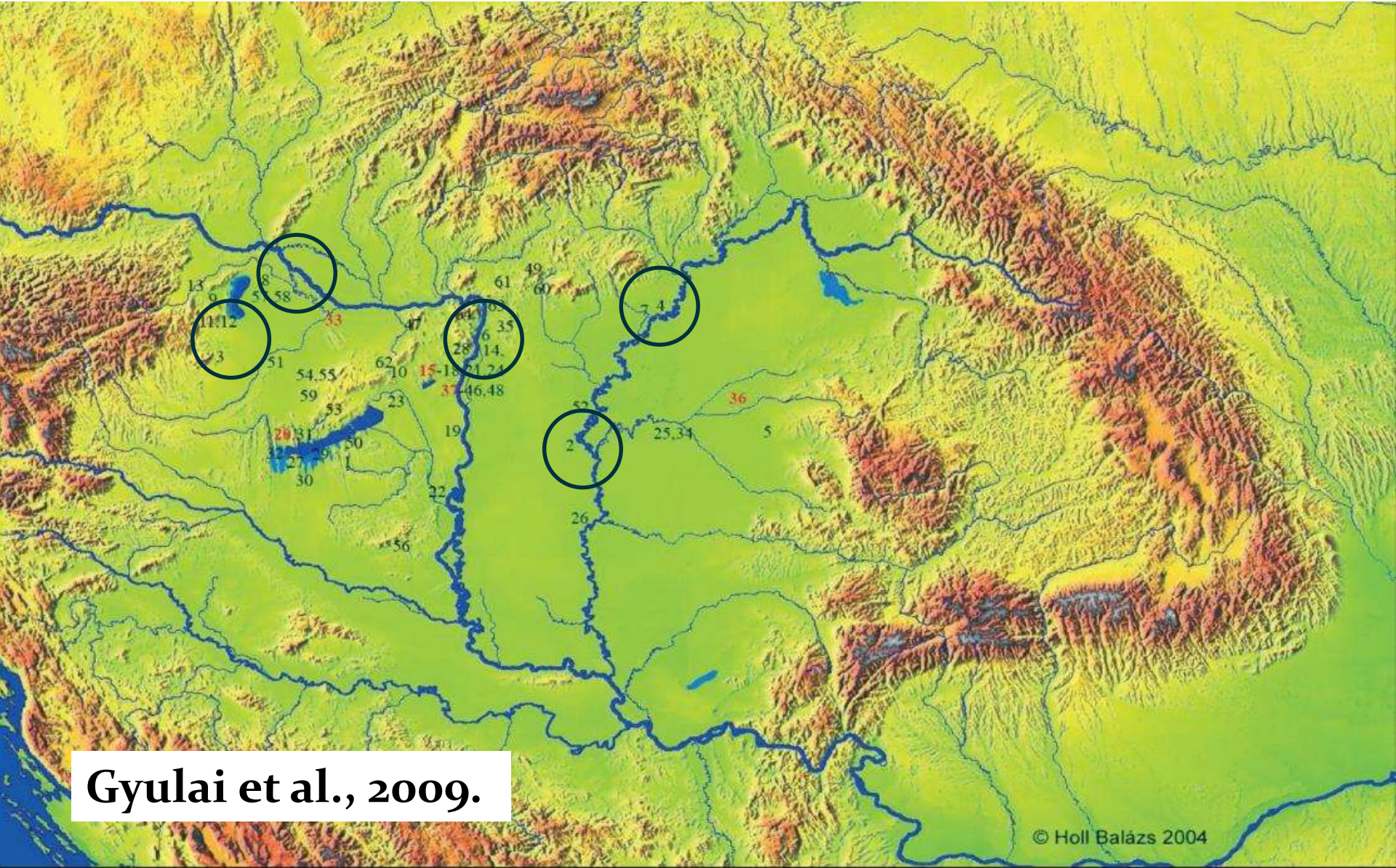
Based on theoretical and practical researches, it is supposed, that this species could be the **progenitor of the European grapevine** (*Vitis vinifera* L.).

The ex-situ conservation of the quested individuals has a great importance in the practical point of view as well, as they can serve as a **resistance source** in the future breeding programmes.



Let's begin from the ancient times...

Archaeological sites of Hungary where Vitis seeds were excavated



Gyulai et al., 2009.

Archaeological sites of Hungary where Vitis seeds were excavated

- 2. Tiszapolgár-Csőszhalom
- 3. Szombathely
- 4. Kompolt-Kistéri tanya
- 6. Dunakeszi - Székesdűlő
- 7. Ludas Varjú-dűlő
- 8. Mosonmagyaróvár – Németdűlő
- 11. Sopron - Krautacker



Nowadays...

Prof. András Terpó

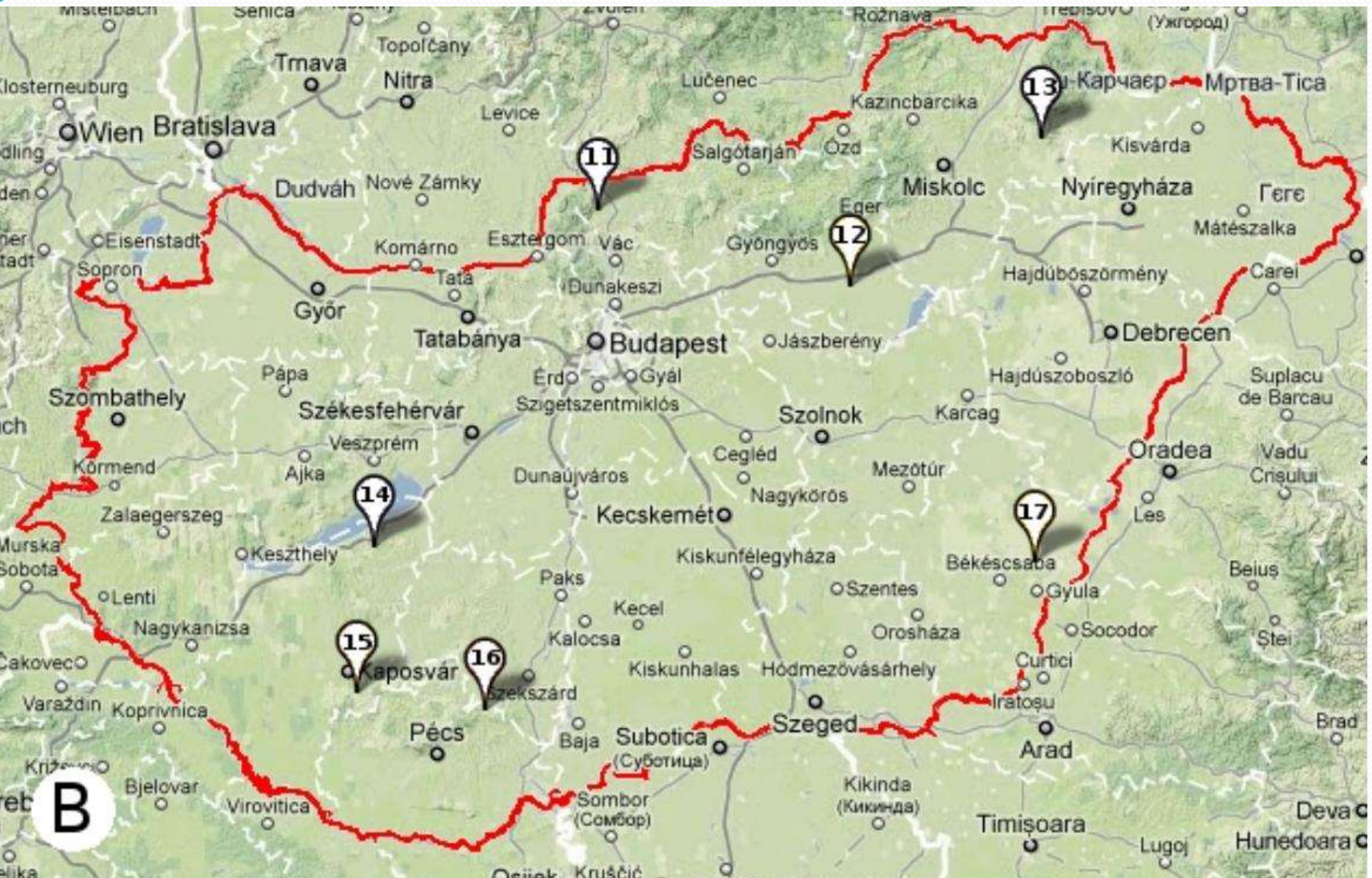


Reconstruction and systematization of Terpó's herbarium

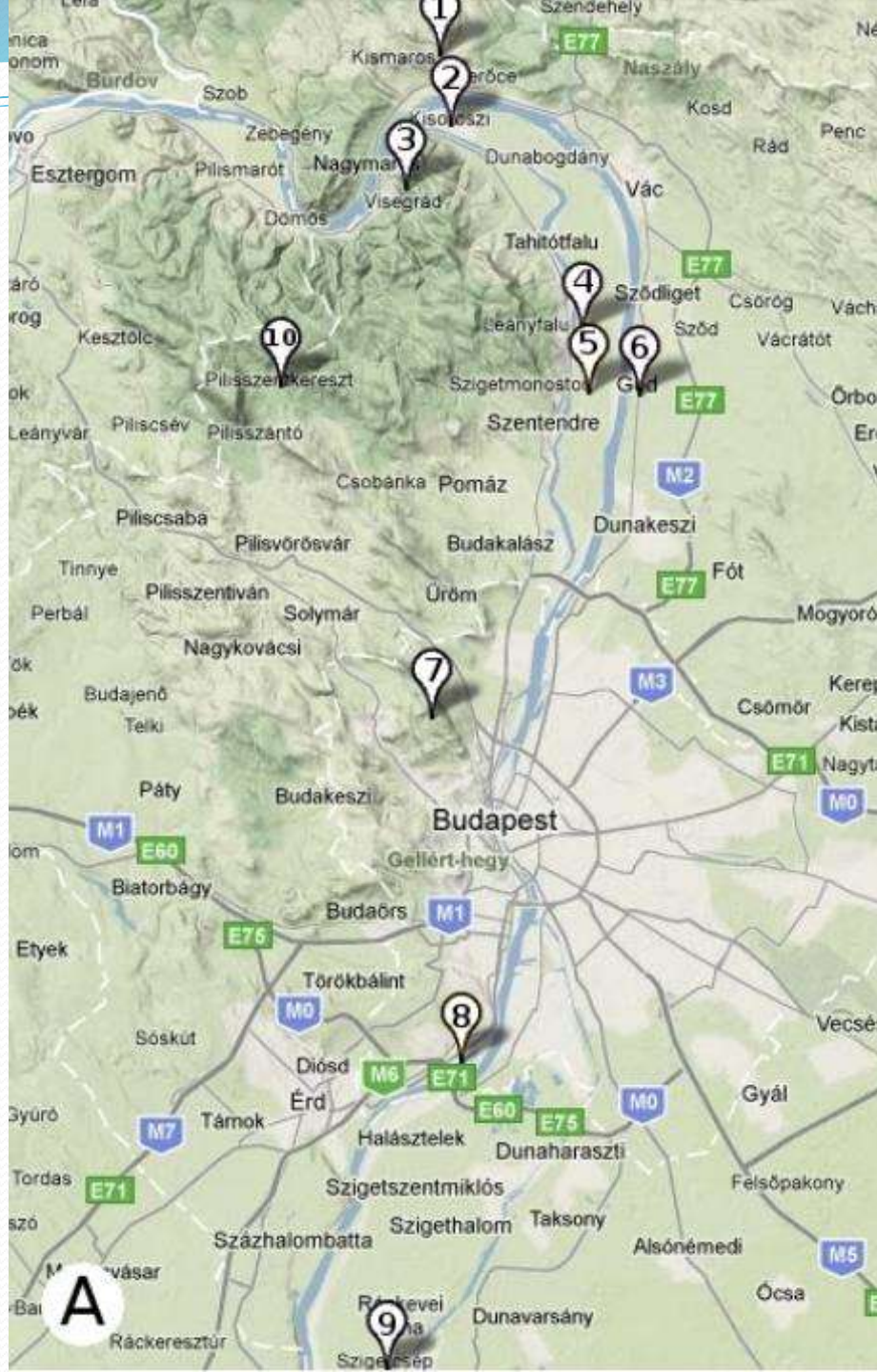


Dr. Péter Bodor





B



A

Óbuda island





Bodor, 2010 (Photo by Imola Dücső, 2009)



Contamination!

Riparia-type populations near Kismaros

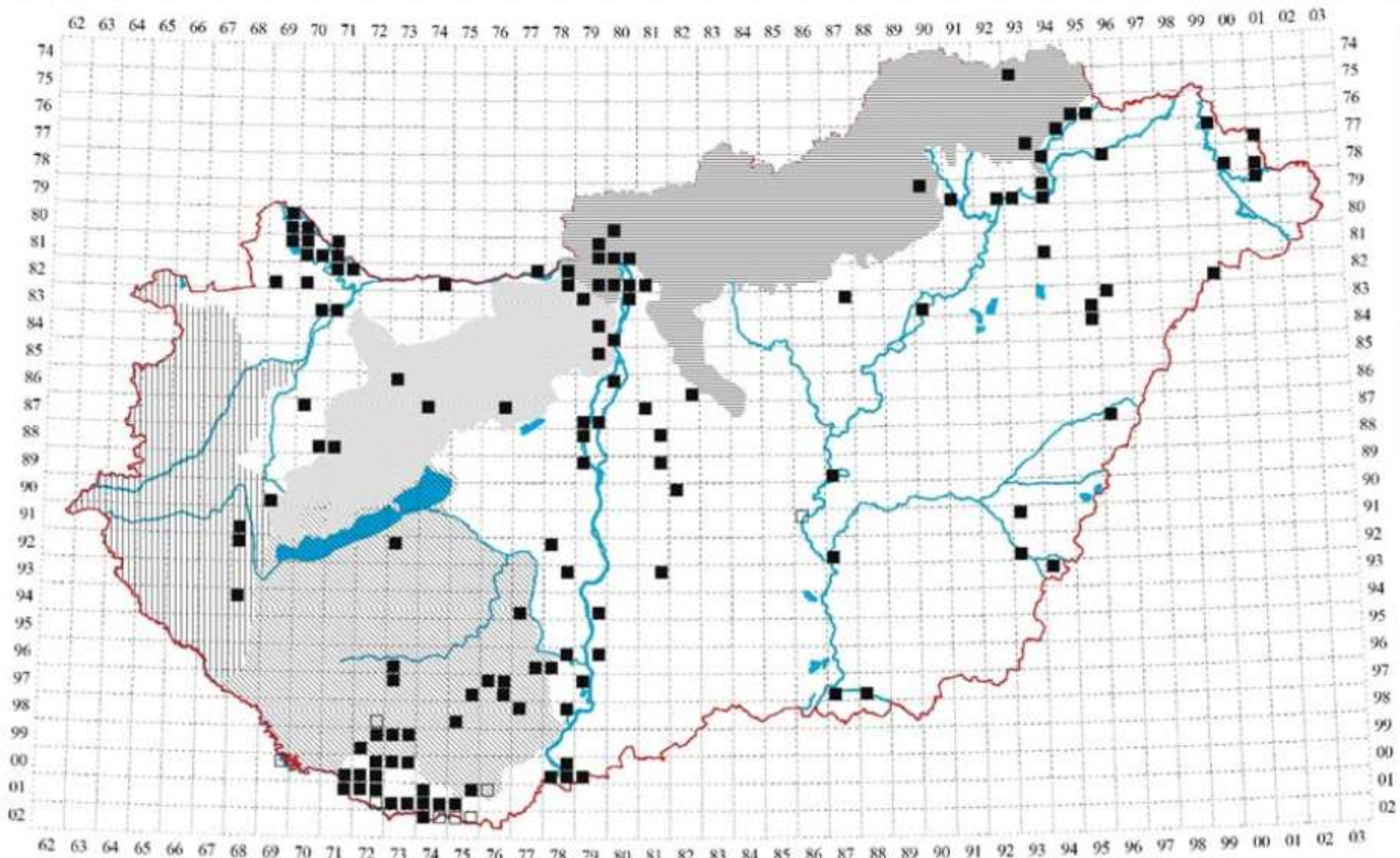


Some of Péter Bodor's conclusions

- *Vitis sylvestris* C.C. Gmel. is **still present** in the habitats earlier characterized by András Terpó.
- The area of the species **decreased** to very small territory, due to the spread of the **invasive North American species** and the **degradation** of the area.
- Most of the Hungarian habitats studied is **valuable for the conservation.**

Prof. Dénes Bartha, Viktor Tiborc





Tiborcz et al, 2011

Habitat preferences of *Vitis sylvestris* in Hungary

Parts of Hungary	Floodplain habitat	Non-floodplain habitat	Total
Great Hungarian Plain	95	19	114
Little Hungarian Plain	34	0	34
Northern mountains	2	11	13
Transdanubian mountains	1	19	20
South-Transdanubia	1	18	19
West-Transdanubia	2	2	4
Total	135	69	204

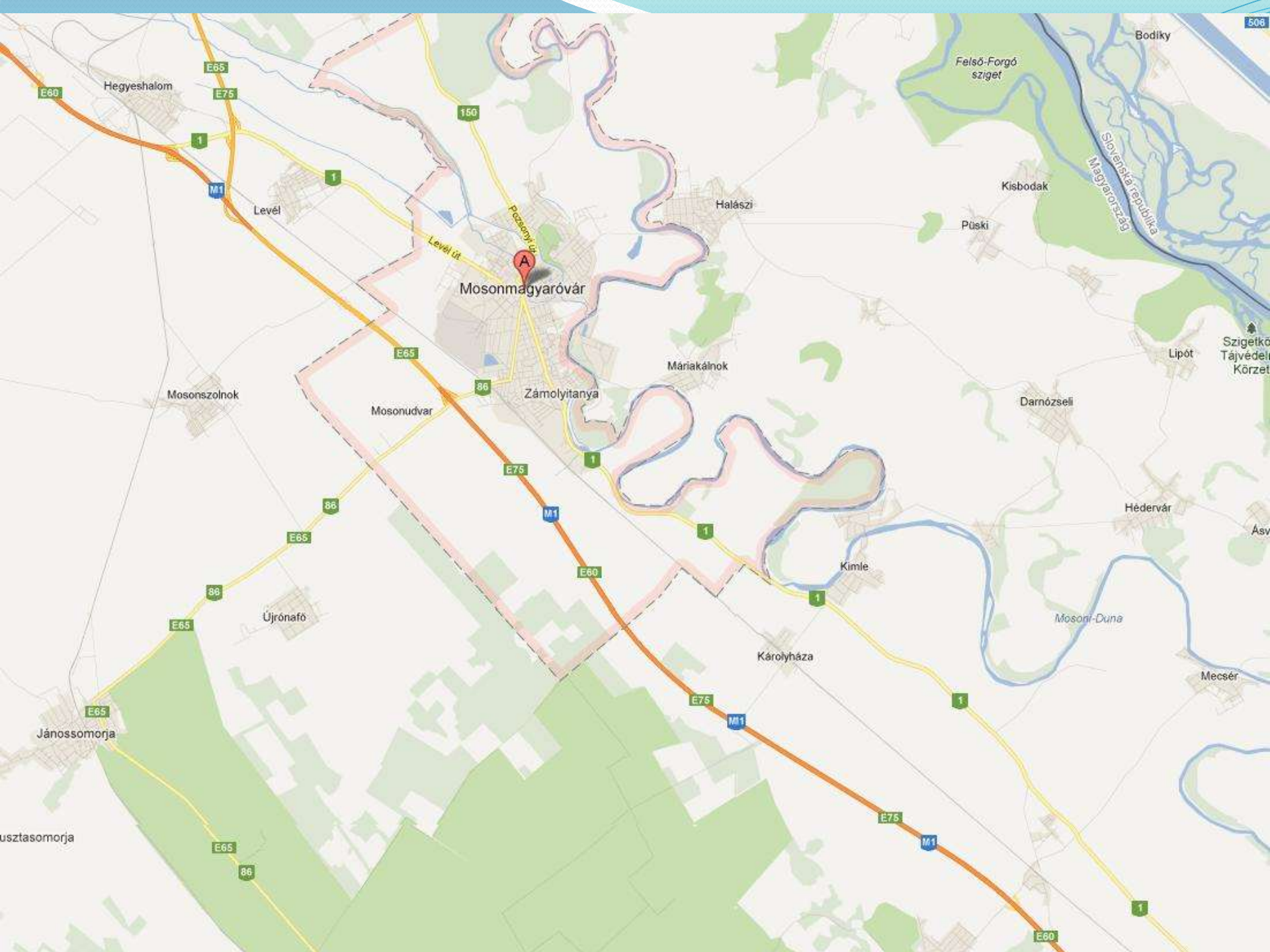
Tiborcz et al, 2011

Quest for the *Vitis sylvestris* (GMEL.)

Populations of the Szigetköz and Fertő-Hanság National Park, Ex Situ Conservation, Propagation and Comparative Analysis by Molecular Markers

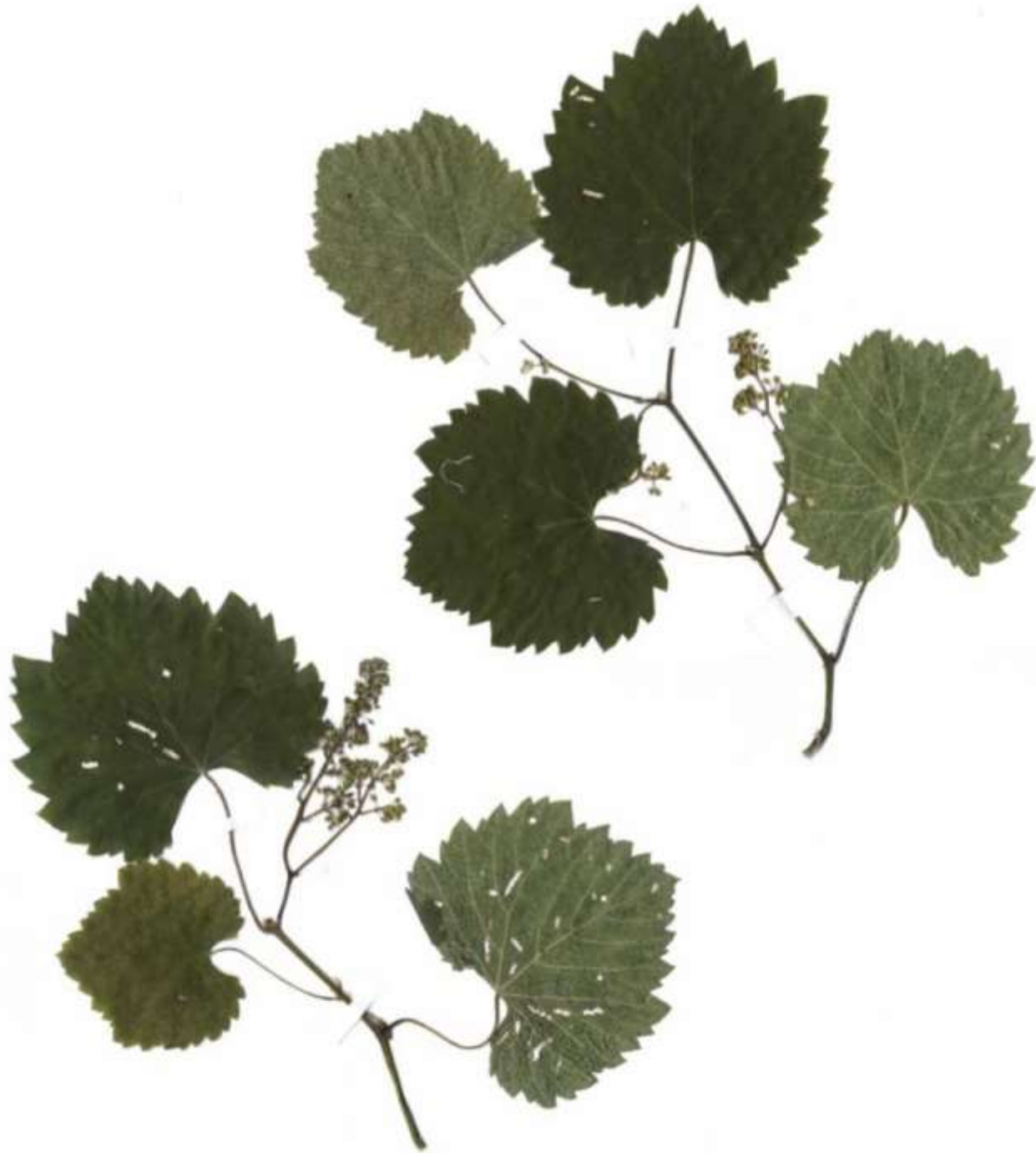
- PhD. work by Zóra Nagy (Tutors: Prof. László Kocsis; Gizella Győrffy-Jahnke)
- Project funded by Hungarian Scientific Research Fund (project no. PD-109386).





This area is an ideal place to find and collect “clear” (true to type) woodland grape (*Vitis sylvestris* GMEL.) individuals and plant materials, as here is no considerable grape growing, so the chance of contamination is very low.

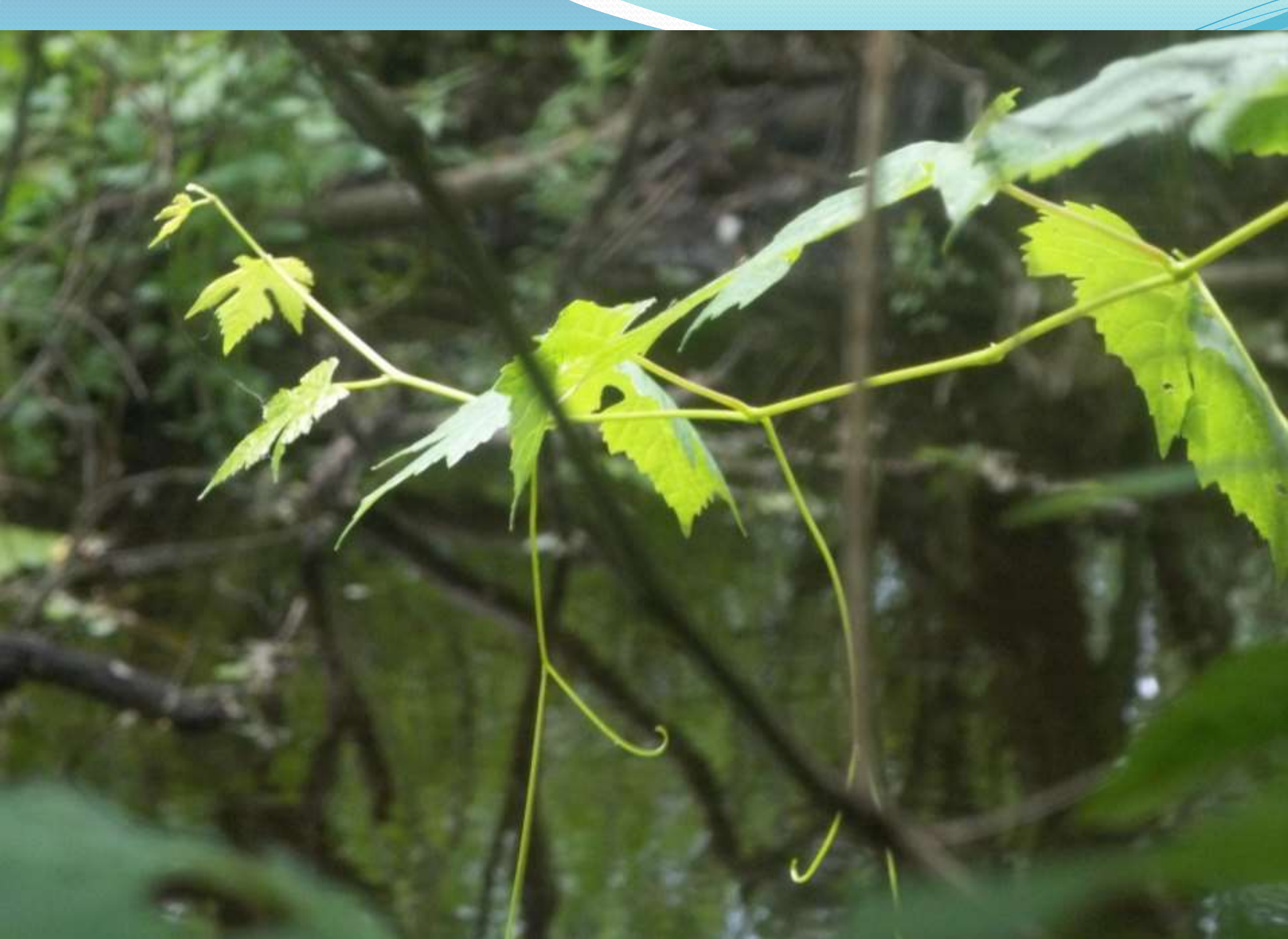
















Reproduction materials (young shoots) from the individuals were collected in May 2011 and 2012, they were grafted to rootstocks in the gene bank of the Research Institute for Viticulture and Enology in Badacsony for ex situ conservation propose.







95 seeds from a female plant were collected in October, 2010., in next February after chilling treatment they were throwed in a greenhouse. 52 seeds germinated, the seedlings were planted to outdoor field.











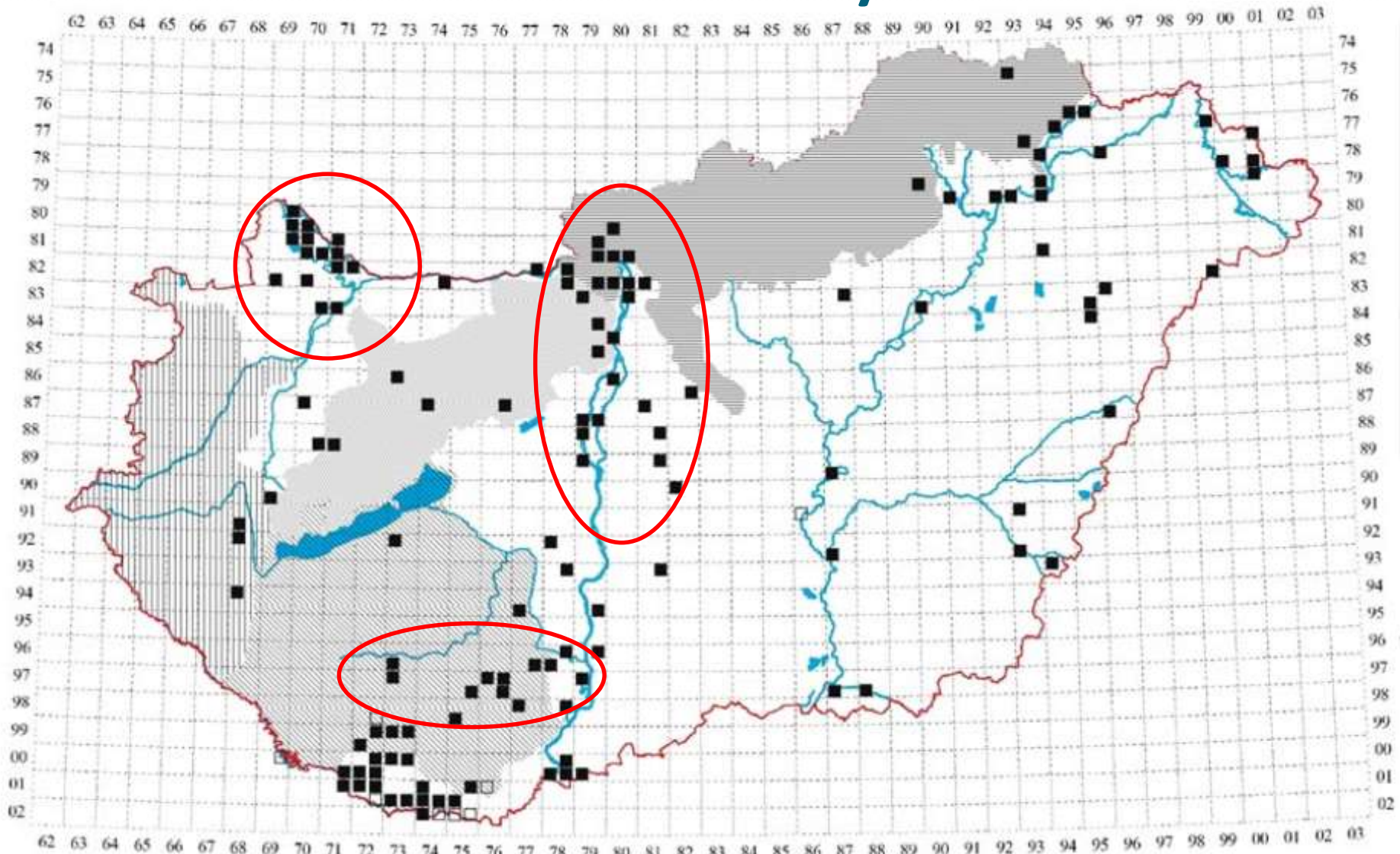




Summary

- *Vitis sylvestris* still present in Hungary but:
 - Populations are small
 - In some habitats the contamination is high
 - Remarkable area loss
- Quest and phenotypical/molecular analyses to confirm true-to-typness
- Preservation is in progress!

Summary



Tiborcz et al, 2011

References

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Thank you for your kindly attention!

