

Anatolia – Cradle of Wine ?

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DISCOVER THE ROOTS

INAUGURAL WINES OF TURKEY CONFERENCE & TASTING 2011

24 February 2011, Vinopolis, London, UK

- **Grape domestication**
- **Leading indigenous Anatolian grape varieties**

Grape domestication



Vitis vinifera subsp. *silvestris*

Domestication(s) event(s)

Vitis vinifera subsp. *vinifera*
(8'000-10'000 grape cultivars)

99.9% wines in the world

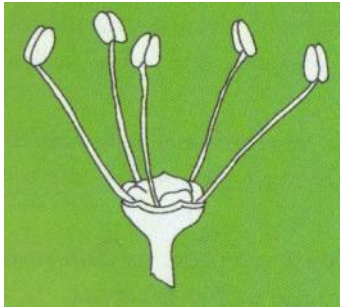


Grape domestication

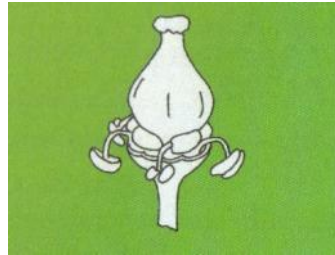
Wild grapevine

Vitis vinifera ssp. *silvestris*

dioecious



male ♂



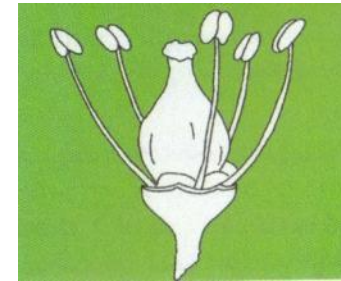
female ♀



Cultivated grape varieties

Vitis vinifera ssp. *vinifera*

hermaphrodite



male ♂ + **female** ♀



Grape domestication

Wild grapevine
Vitis vinifera ssp. silvestris

hermaphrodite



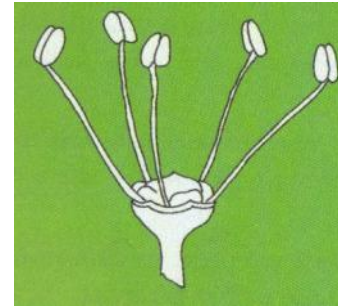
male ♂ + female ♀



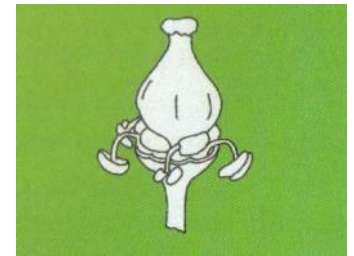
2-3%

Cultivated grape varieties
Vitis vinifera ssp. vinifera

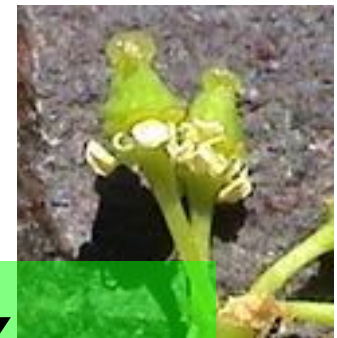
dioecious



male ♂



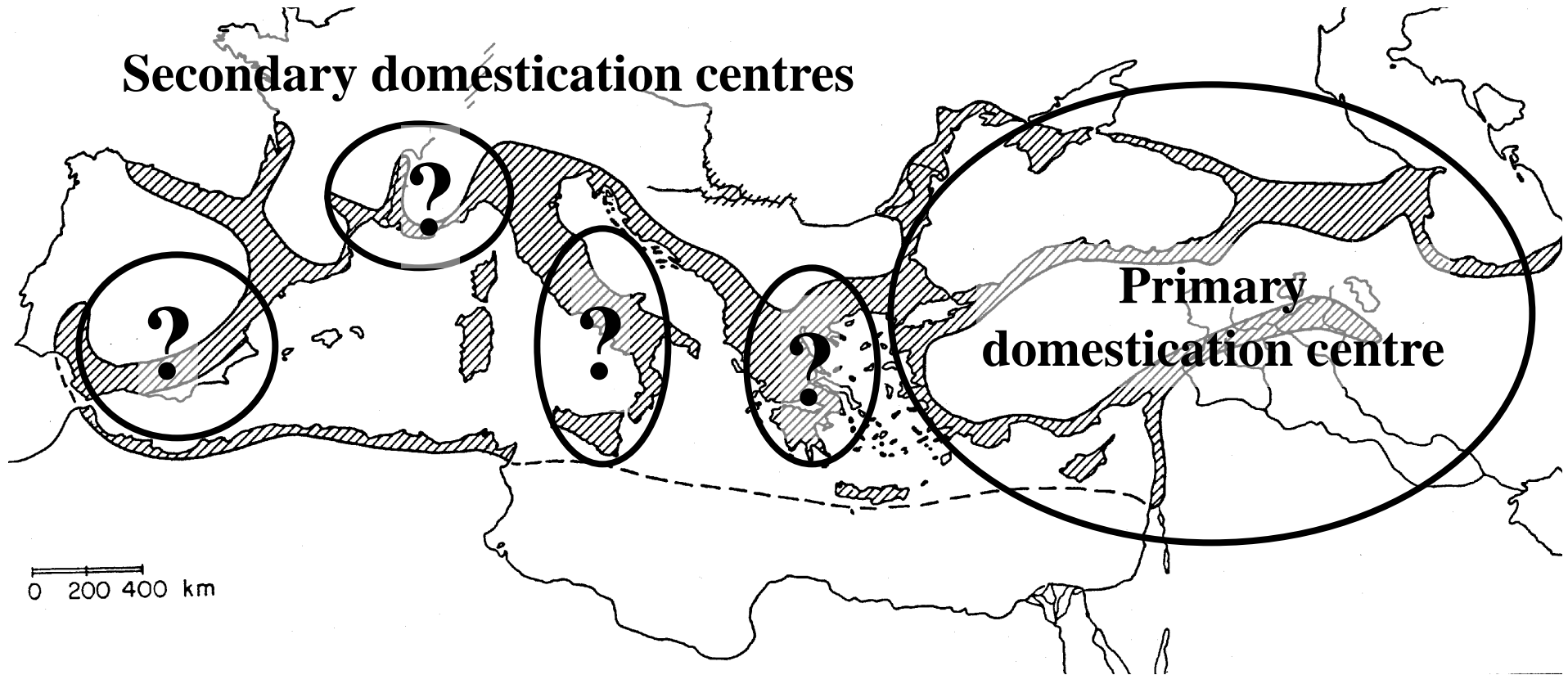
female ♀



<2%

Grape domestication

Primary and secondary domestication centres



Grape domestication: where?

Transcaucasia: consensus centre of origin for botanists, archaeologists, historians, etc.

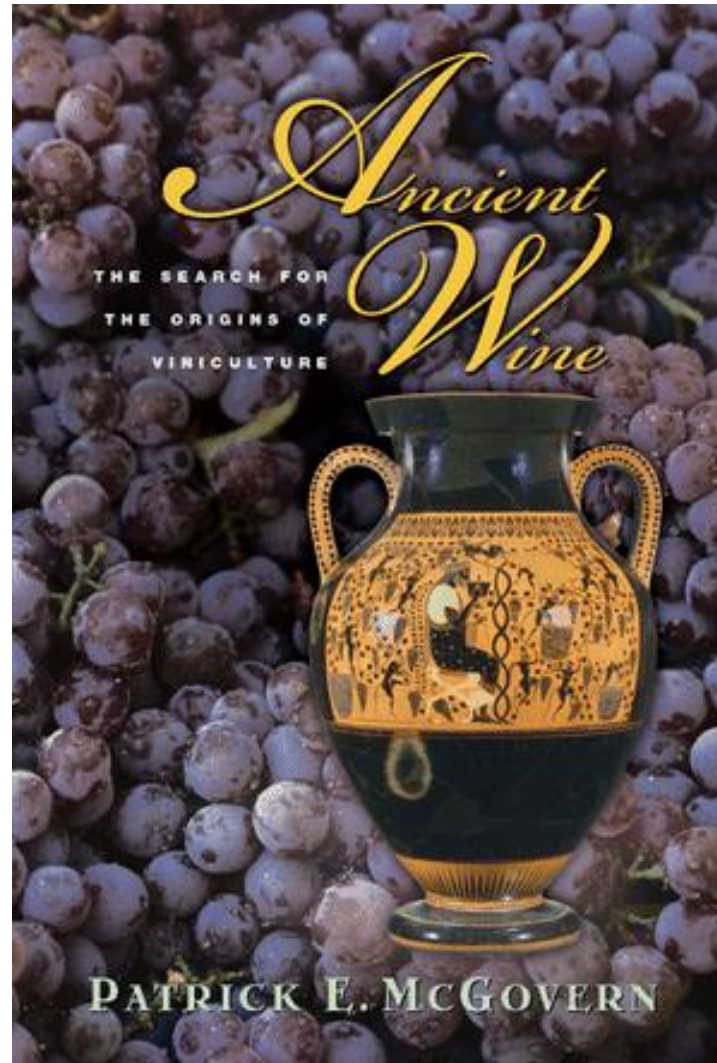


Recent findings in genetics, archaeology and linguistics: SE Turkey (Taurus), between Tigris and Euphrates

Grape domestication: where?

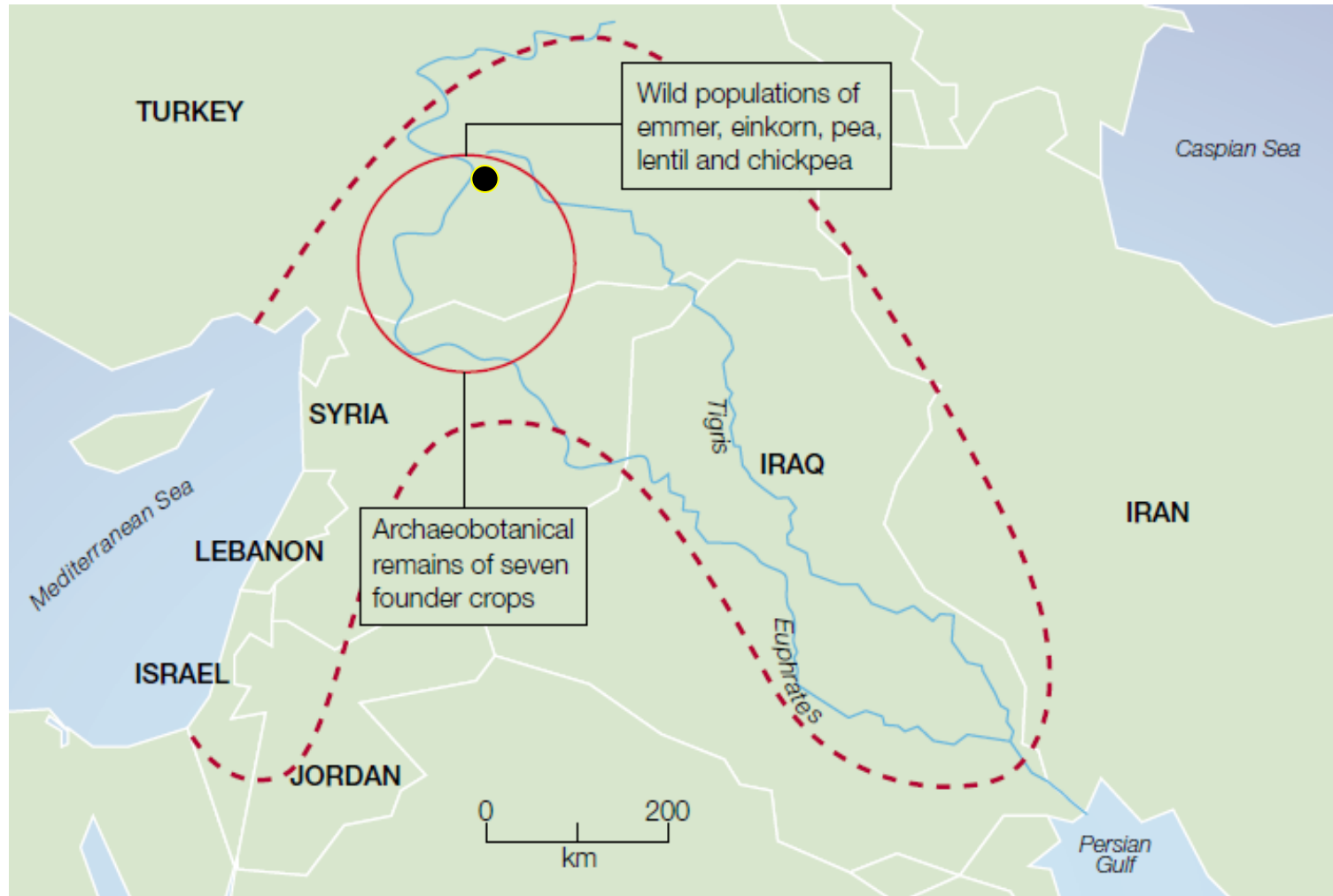
Oeno-archaeology

McGovern P.E. (2003). Ancient wine. Princeton Univ. Press



Grape domestication: where?

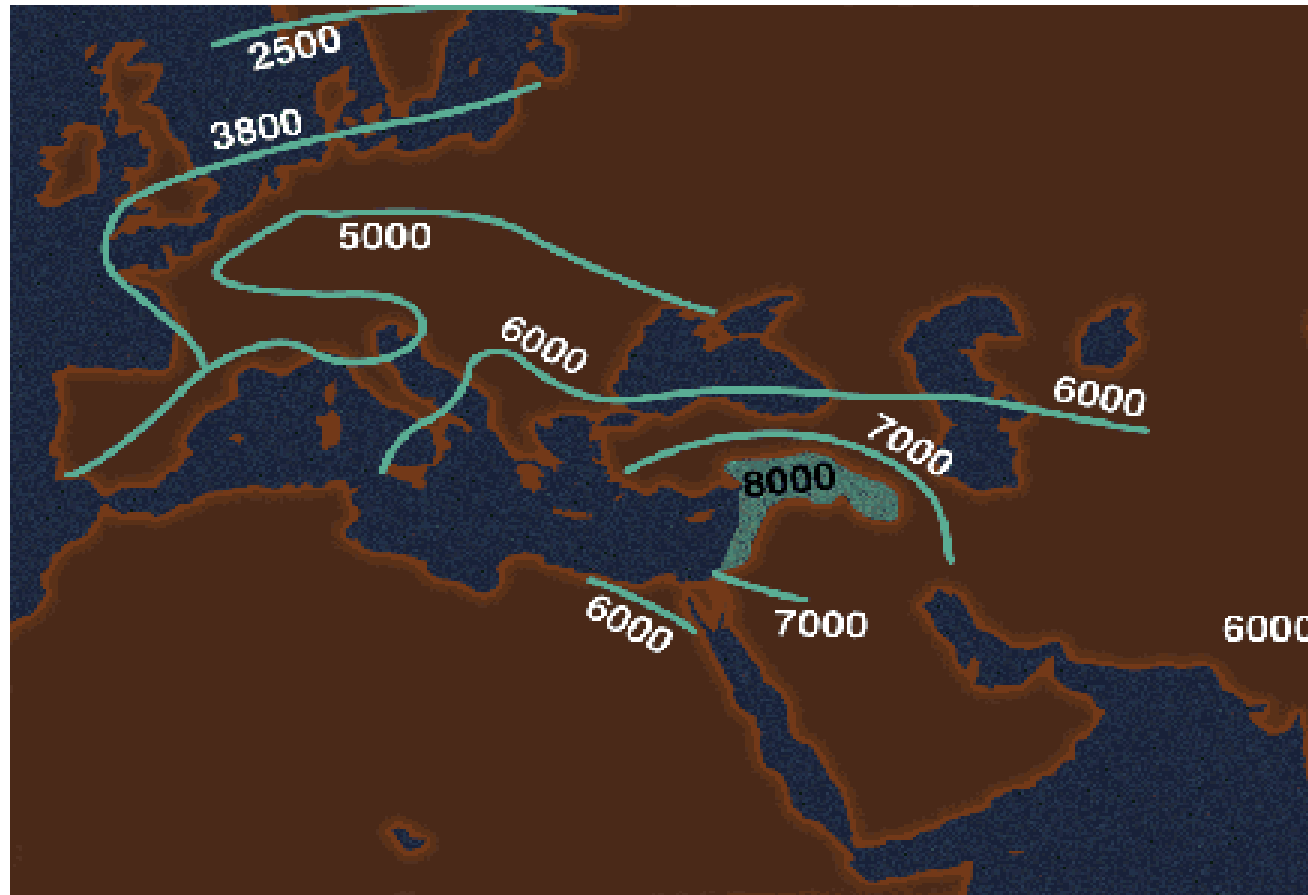
Fertile Crescent: domestication centre of founder agricultural crops



Salamini *et al.* (2002). Genetics and Geography of wild cereal domestication in the Near East. *Nature Reviews Genetics* 3: 429-441

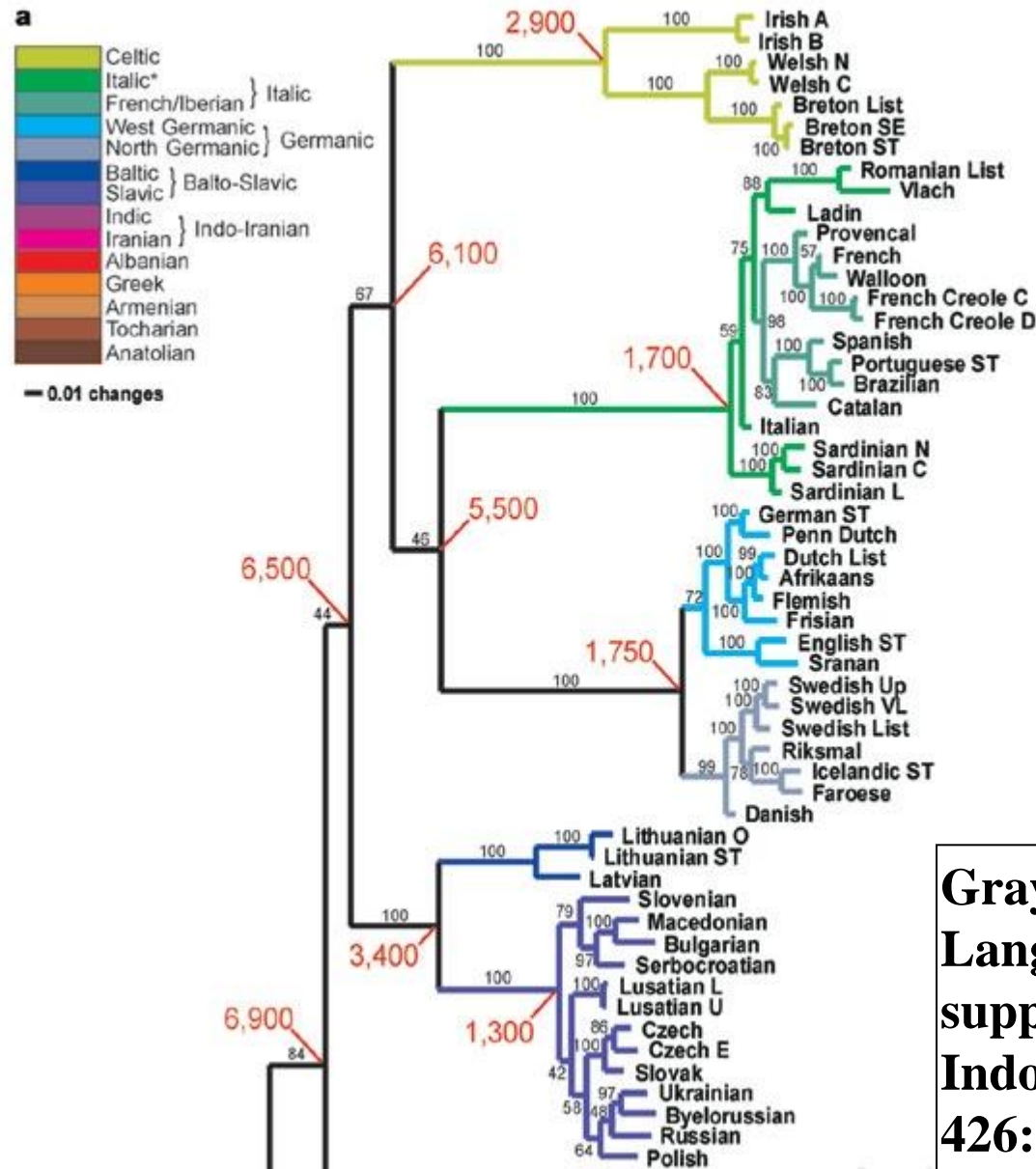
Grape domestication: where?

Expansion of food production from domesticated plants (C^{14}) from the Fertile Crescent (8000 BC)



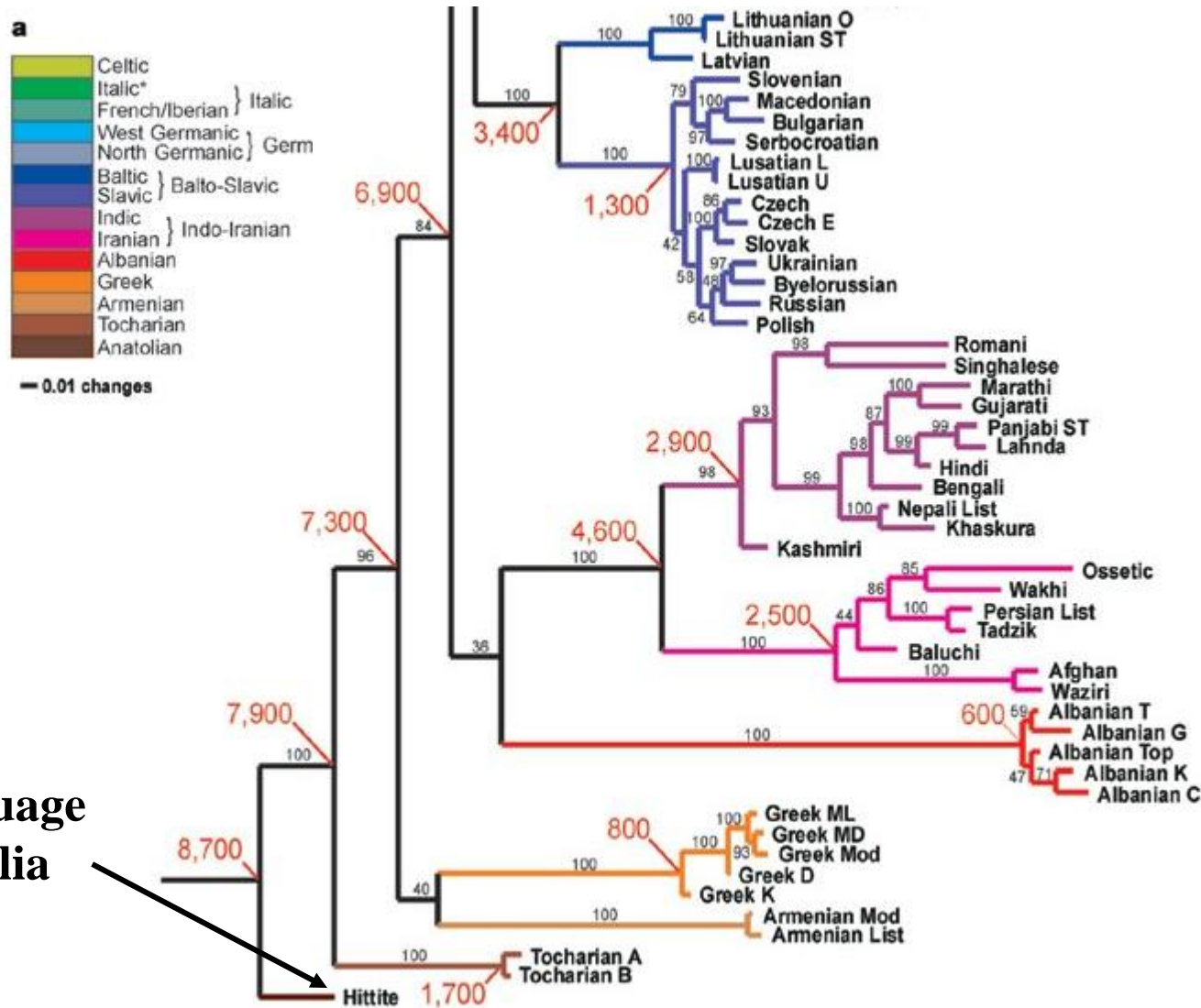
Grape domestication: where?

‘Genealogical tree’ of the Indo-European languages



Gray & Atkinson (2003).
 Language-tree divergence times support the Anatolian theory of Indo-European origin. *Nature* 426: 435 - 439

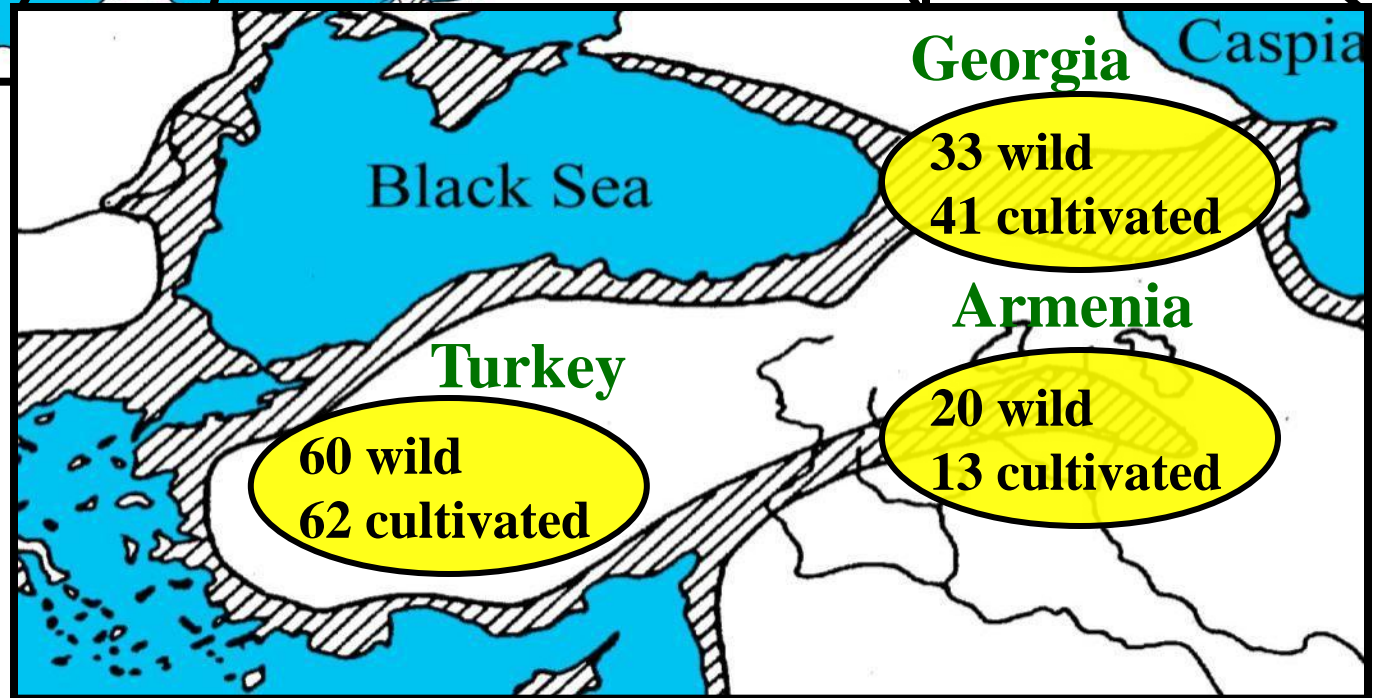
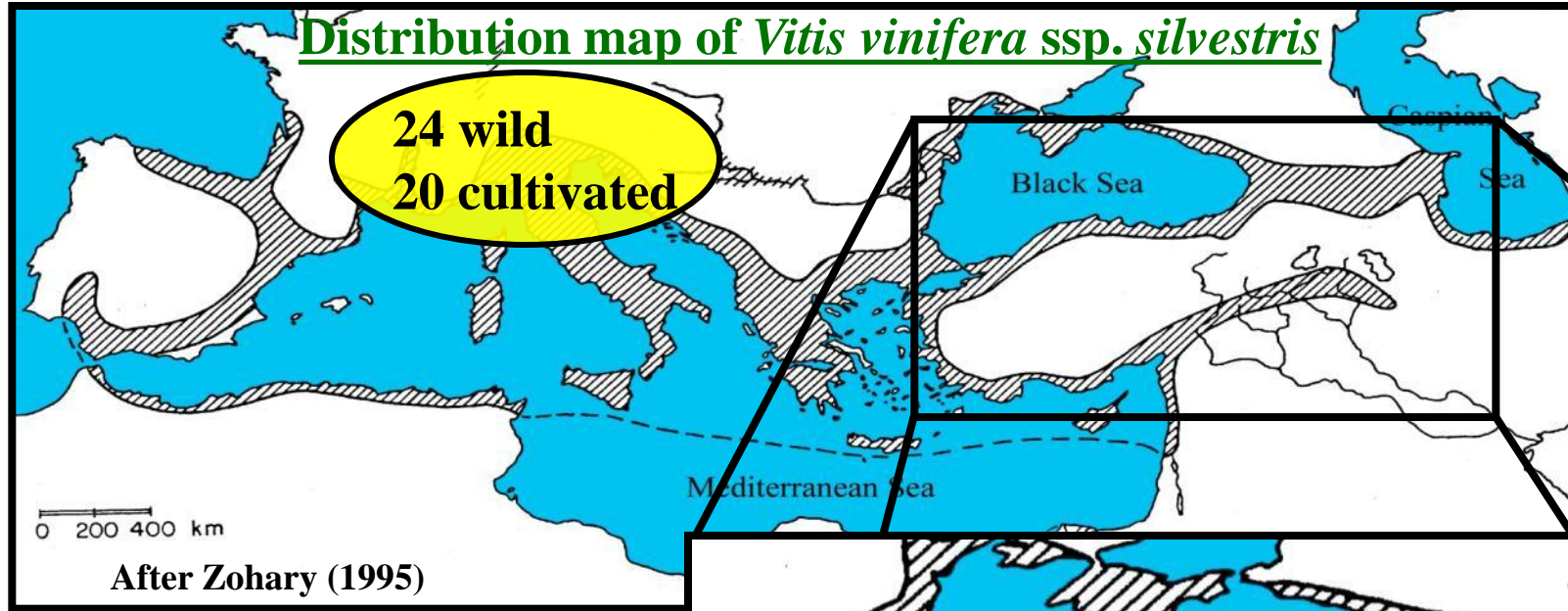
Grape domestication: where?



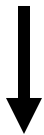
Hittite:
extinct language
From Anatolia

Linguistics confirms the Anatolian origin of crop cultivation

Grape domestication: where?



Project
Vouillamoz & McGovern



Archaeo-genetics

Grape domestication: where?

P. McGovern - J. Vouillamoz: springs of the Tigris



Grape domestication: where?

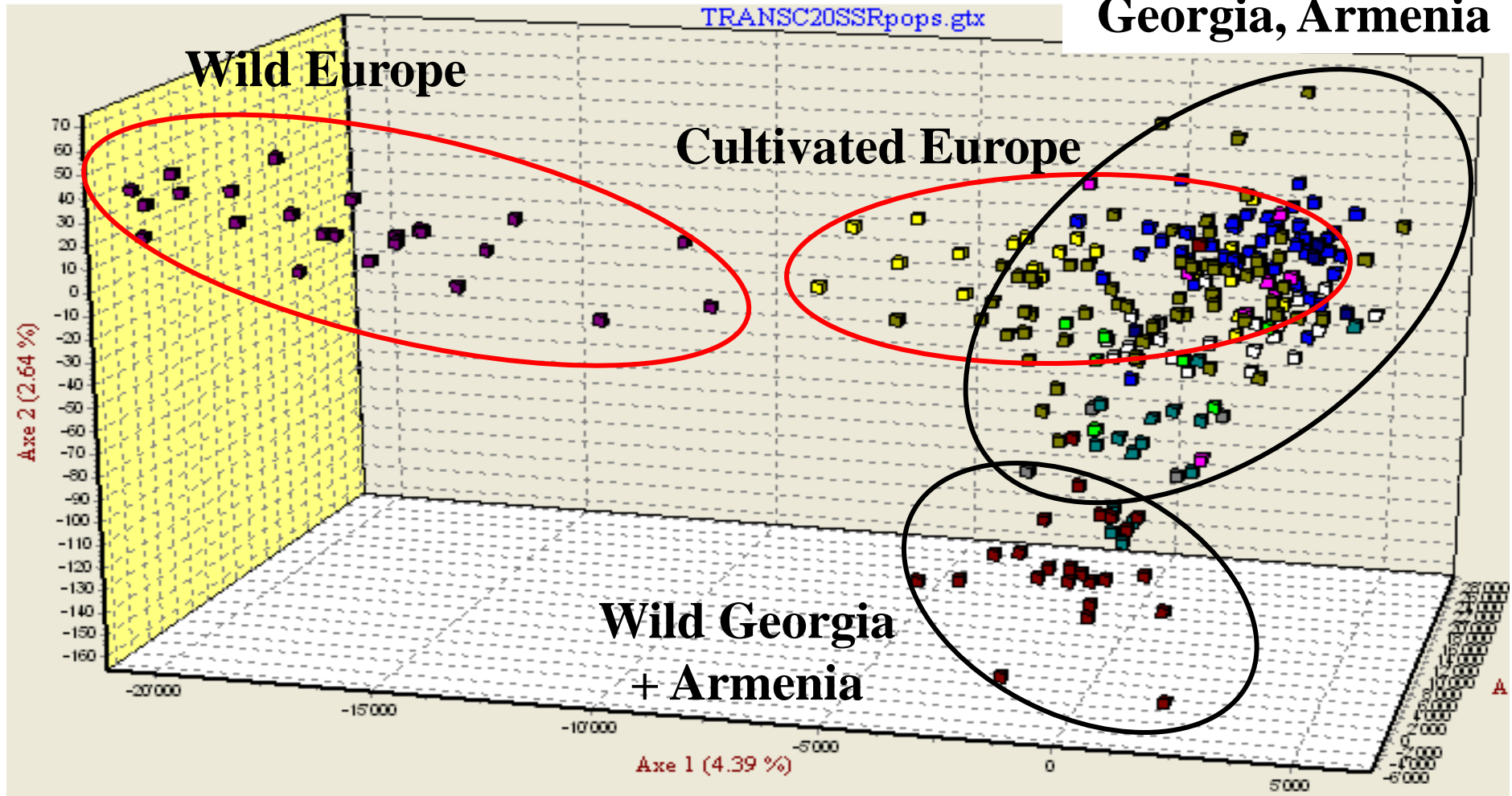
Satan at the gates of the Garden of Eden



Grape domestication: where?

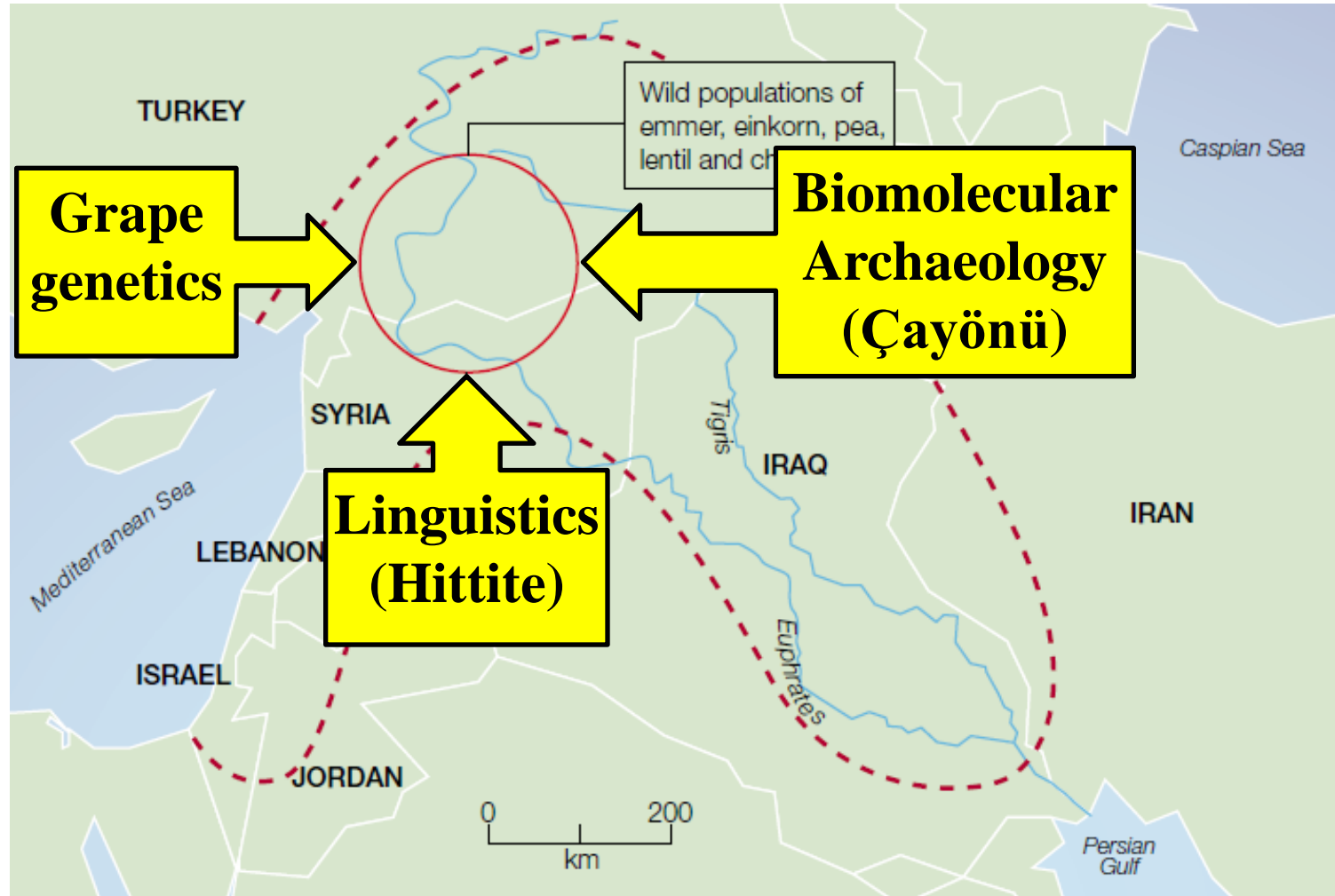
Analysis of 20 DNA markers:
136 cultivated + 137 wild grapes

Wild Turkey
+ cultivated Turkey,
Georgia, Armenia



Grape domestication: where?

South eastern Anatolia is the most likely primary domestication centre of the grapevine according to:



Leading indigenous Anatolian grape varieties

A map of Turkey is shown in the background, with a black dot indicating the location of Tekirdağ in the northwest. The map is color-coded with yellow for land and light blue for water. A semi-transparent white box is overlaid on the map, containing the text 'Tekirdağ' and a list of statistics.

Tekirdağ

- **1421 accessions (Vitis International Variety Catalogue)**
- **5 large grape collections (Tekirdağ)**
- **808 prime names in VIVC = indigenous?**
- **ca. 60 possibly used for wine production**
- **ca. 25 actually used for wine production**

Still a large amount of work ahead for Turkish ampelographers

Leading indigenous Anatolian grape varieties

Five among the major wine grape varieties

Boğazkere

Emir

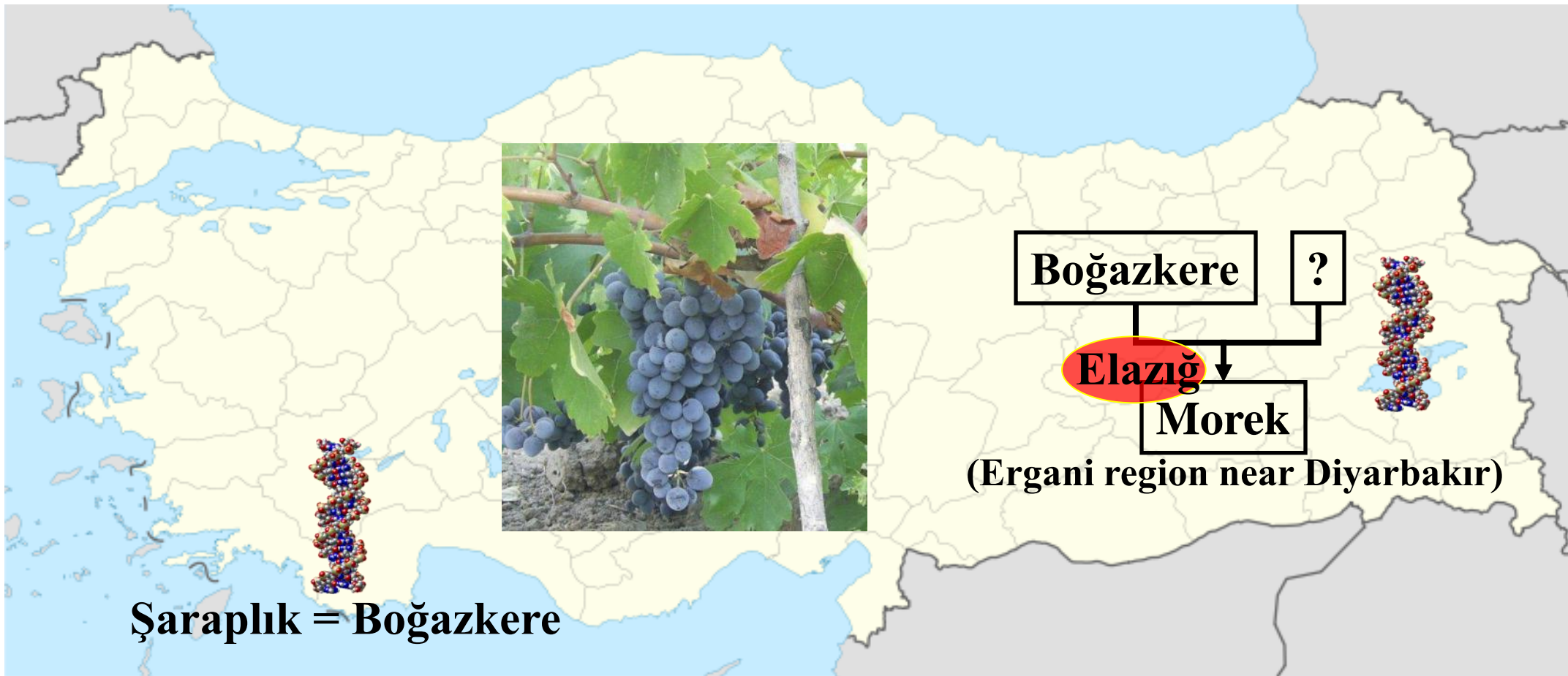
Kalecik Karası

Narince

Öküzgözü

The Great Wine Grape Book (Robinson, Vouillamoz, Harding. In prep.)

Boğazkere ('burning throat')



Vouillamoz, McGovern, Ergül, Söylemezoğlu, Tevzadze, Meredith, Grando (2006). Genetic characterization and relationships of traditional grape cultivars from Transcaucasia and Anatolia. *Plant Genetic Resources* 4 (2): 144–158

Emir ('order' or 'command')



Vouillamoz, McGovern, Ergül, Söylemezoğlu, Tevzadze, Meredith, Grando (2006). Genetic characterization and relationships of traditional grape cultivars from Transcaucasia and Anatolia. *Plant Genetic Resources* 4 (2): 144–158

Kalecik Karası ('Black from Kalecik')



Kalecik
district

- Grown in Turkey since the Hittite Empire (1650-1200 BC)?
- Synonym of Hasandede?
- No DNA profiling ?

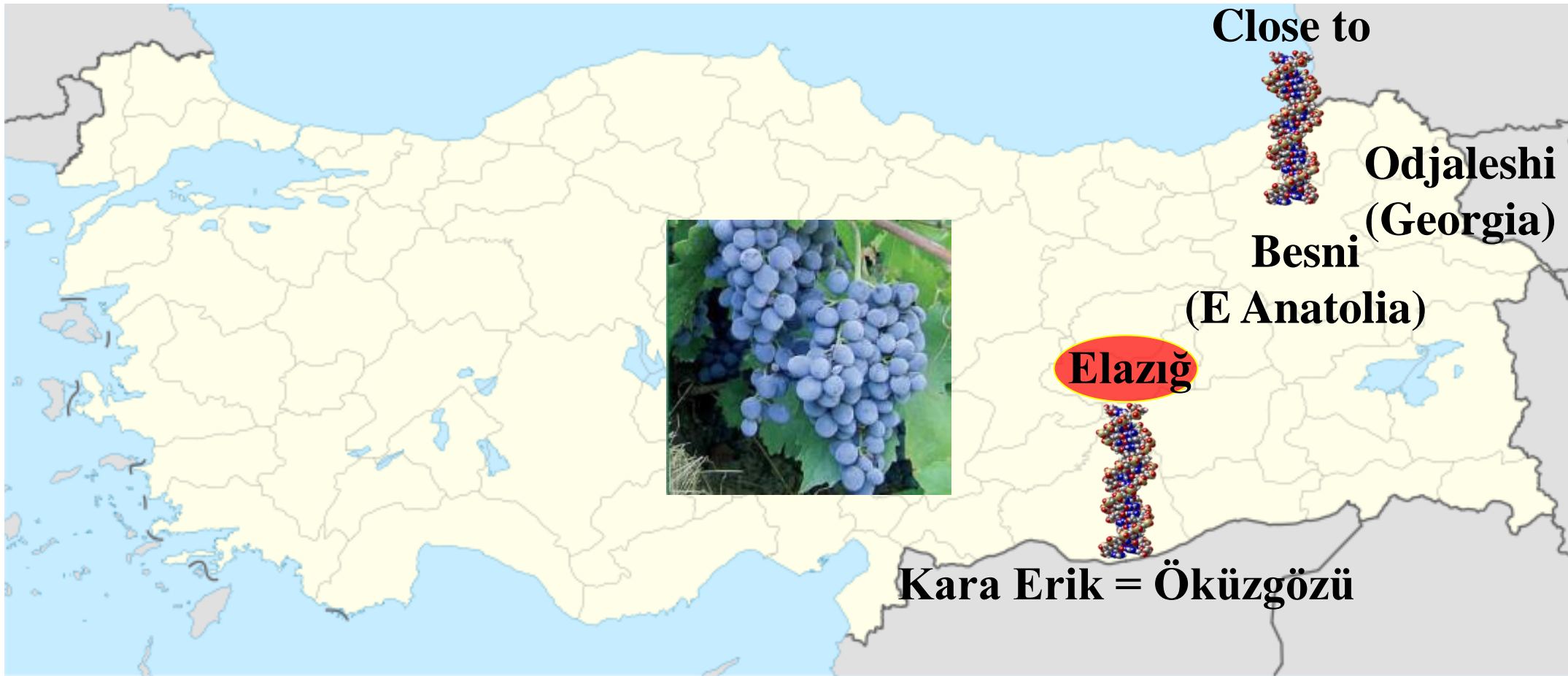


Narince ('delicate')



Vouillamoz, McGovern, Ergül, Söylemezoğlu, Tevzadze, Meredith, Grando (2006). Genetic characterization and relationships of traditional grape cultivars from Transcaucasia and Anatolia. *Plant Genetic Resources* 4 (2): 144–158

Öküzgözü ('bull's eye')



Vouillamoz, McGovern, Ergül, Söylemezoğlu, Tevzadze, Meredith, Grando (2006). Genetic characterization and relationships of traditional grape cultivars from Transcaucasia and Anatolia. *Plant Genetic Resources* 4 (2): 144–158

Conclusion

Turkey is home to hundreds of indigenous grape varieties.

Some of them are today's flagships of the country's wine production, some others might be tomorrow's gems.

When I drink a wine from Turkey, I like it to 'speak Turkish'