Anatolia – Cradle of Wine?
Dr José Vouillamoz, University of Neuchâtel, Switzerland

DISCOVER THE ROOTS
INAUGURAL WINES OF TURKEY CONFERENCE & TASTING 2011
24 February 2011, Vinopolis, London, UK
Anatolia – Cradle of Wine?

- 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

<table>
<thead>
<tr>
<th>Wild grapevine</th>
<th>Cultivated grape varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Vitis vinifera ssp. silvestris</em></td>
<td><em>Vitis vinifera ssp. vinifera</em></td>
</tr>
<tr>
<td>dioecious</td>
<td>hermaphrodite</td>
</tr>
</tbody>
</table>

- **Wild grapevine**
  - Male: ♂
  - Female: ♀

- **Cultivated grape varieties**
  - Male: ♂
  - Female: ♀
  - Male and Female: ♂ + ♀
## Grape domestication

<table>
<thead>
<tr>
<th>Wild grapevine</th>
<th>Cultivated grape varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Vitis vinifera ssp. silvestris</em></td>
<td><em>Vitis vinifera ssp. vinifera</em></td>
</tr>
<tr>
<td><strong>hermaphrodite</strong></td>
<td><strong>dioecious</strong></td>
</tr>
<tr>
<td><img src="image1.png" alt="Image 1" /></td>
<td><img src="image2.png" alt="Image 2" /></td>
</tr>
<tr>
<td><strong>male ♂ + female ♀</strong></td>
<td><strong>male ♂</strong></td>
</tr>
<tr>
<td><img src="image3.png" alt="Image 3" /></td>
<td><strong>female ♀</strong></td>
</tr>
</tbody>
</table>

- Wild grapevine:
  - 2-3% hermaphrodite

- Cultivated grape varieties:
  - <2% dioecious
Grape domestication

Primary and secondary domestication centres

Secondary domestication centres

Primary domestication centre
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
Grape domestication: where?

Fertile Crescent: domestication centre of founder agricultural crops

Grape domestication: where?

Expansion of food production from domesticated plants ($^{14}C$) from the Fertile Crescent (8000 BC)
Grape domestication: where?

‘Genealogical tree’ of the Indo-European languages

Grape domestication: where?

Hittite: extinct language
From Anatolia

Linguistics confirms the Anatolian origin of crop cultivation
Grape domestication: where?

Distribution map of *Vitis vinifera ssp. silvestris*

Project Vouillamoz & McGovern

Archaeo-genetics

After Zohary (1995)
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

Wild Europe

Cultivated Europe

Wild Georgia + Armenia
South eastern Anatolia is the most likely primary domestication centre of the grapevine according to:

- Grape genetics
- Biomolecular Archaeology (Çayönü)
- Linguistics (Hittite)

Grape domestication: where?
Leading indigenous Anatolian grape varieties

- 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’)

Emir (‘order’ or ‘command’)

Kalecik Karası (‘Black from Kalecik’) • Grown in Turkey since the Hittite Empire (1650-1200 BC)? • Synonym of Hasandede? • No DNA profiling?

The Great Wine Grape Book (Robinson, Vouillamoz, Harding. In prep.)
Öküzgözü (‘bull's eye’)

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'