

Sweet chestnut orchards as a traditional agroforestry system throughout Europe

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Agenda

1. What is sweet chestnut?
2. Sweet chestnut in Europe, Hungary and Transylvania.
3. Sweet chestnut orchards and plantations as habitats and AF system.
4. Challenges.
5. Possible solutions.



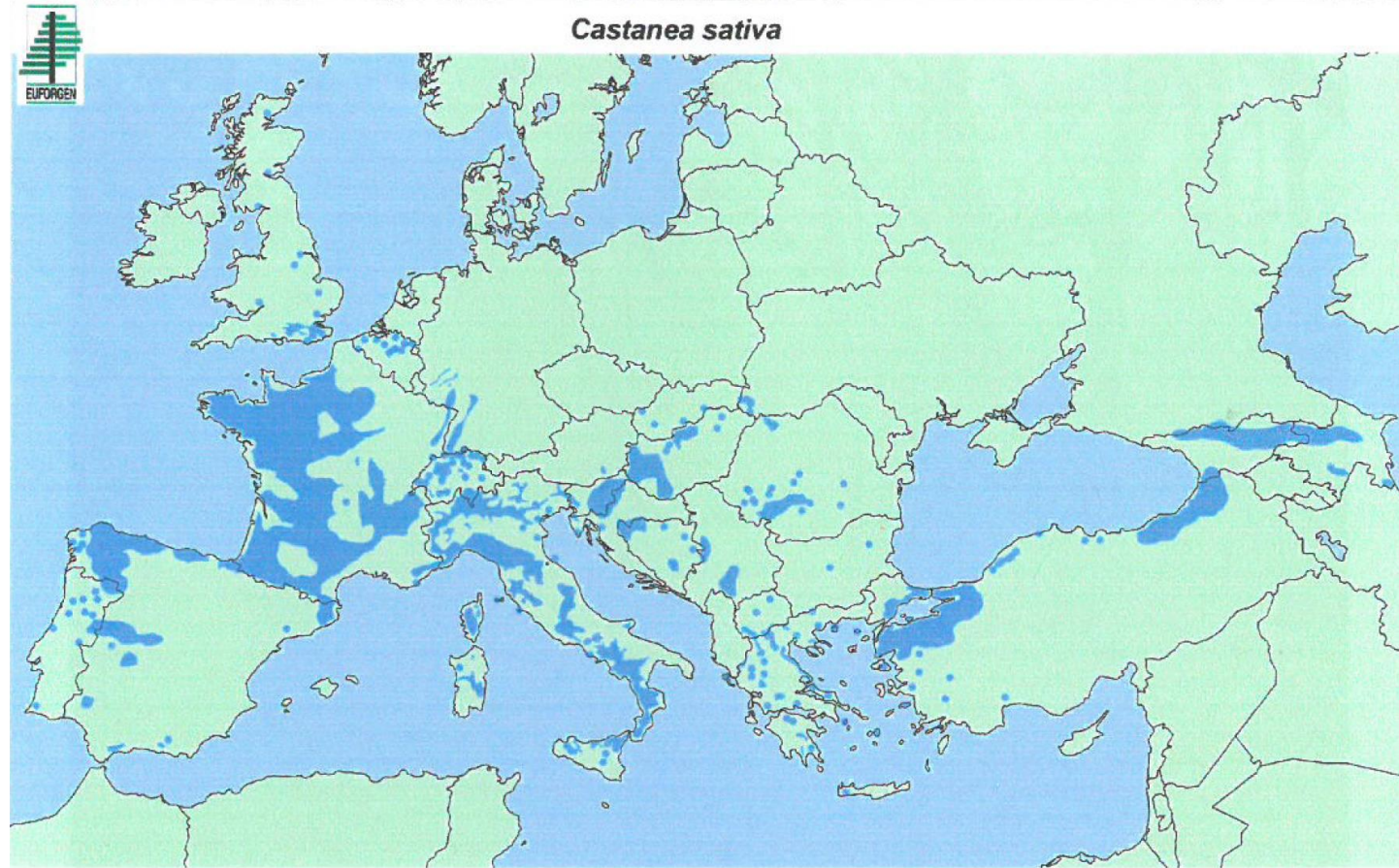
What is sweet chestnut?

Castanea sativa is a tree in the family of Fagaceae (so a relative to beech, also oak). Native to Southern Europe and Asia Minor, but cultivated beyond since ancient times. Beautiful, long-lived tree (if not disturbed by human activities or diseases). Produces edible seed, amazing honey, and durable timber (Britain's example). Usually grows on acidic soils, but there are exceptions.

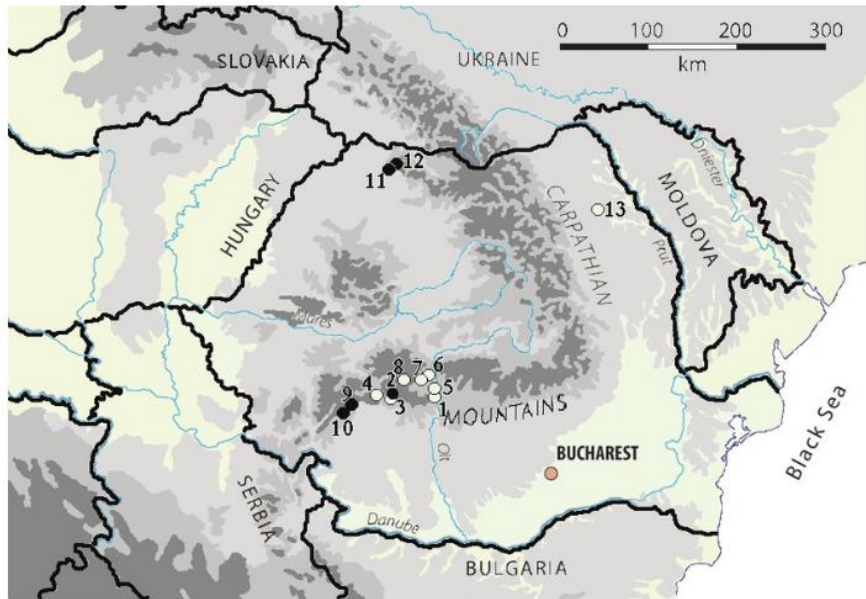


Sweet chestnut in Europe and beyond

- Submediterranean species.
- Grows or planted both in orchards and woodlands, or often planted near monasteries (in Romania).
- Roman Empire took it to Britain, and to probably many other regions of Europe, including Hungary.

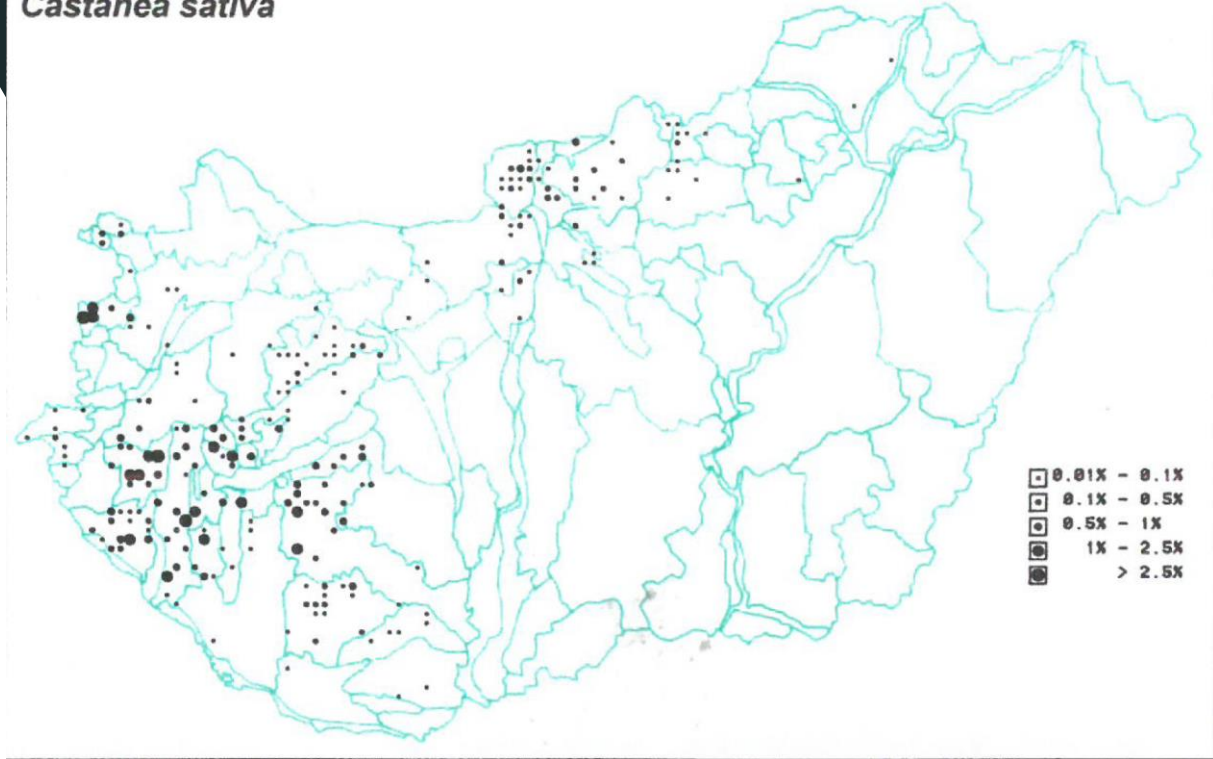


Sweet chestnut in Hungary and Transylvania



Localities in Romania where chestnut blight was surveyed and *Cryphonectria parasitica* samples were collected. Numbers 1–13 in the map correspond with the names of localities given in Tables 1–3. Black dots are localities where the presence of chestnut blight disease was recorded, white dots indicate disease-free localities.

Castanea sativa



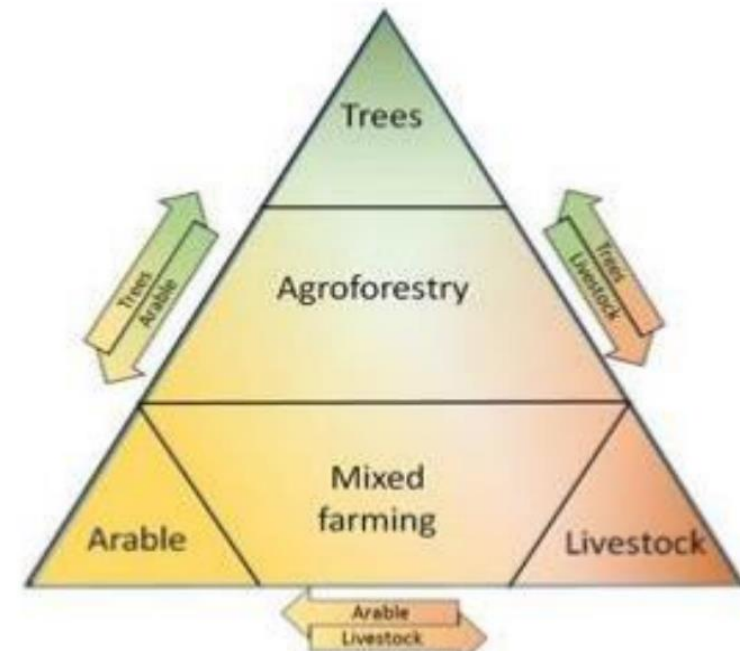
Transylvania: Vâlcea, Gorj, Caraș-Severin and Maramureș (Zsil, Valcsa, Krassó-Szörény, Máramaros).

Hungary: Kőszeg, Sopron, Zala, Nagymaros – interesting example of growing on alkaline soil.



Sweet chestnut orchards and plantations

- Sweet chestnut orchards are used as an ancient agroforestry system combining livestock and trees. The species is also planted in woodlands. Both methods are used from ancient times.
- The tree is also coppiced (multiple shoots from one stump) in Britain – another considered as ancient method for forestry.
- The trees are cultivated for their edible seed, honey and/or timber mostly for fencing.
- The vegetation underneath is either grazed or cut for hay, sometimes multiple times per year (very productive).
- Flora and fauna are both very rich due to the diverse hay meadow under the trees and the microhabitats provided by them (they are able to live for hundreds of years, if undisturbed).



Challenges and solutions

- Chestnut blight *Cryphonectria parasitica* - fungus
- Intensification – easier to buy Italian maroni (maroon) than face the challenges. Less livestock in the countryside.
- Construction and development.



- Resistant varieties, encourage the new shoots from old trees OR seedlings.
- Hypovirulence - viral pathogens that weaken the fungus.
- Promote local produce.
- Promote local wildlife, create protected sweet chestnut groves. (Protected chestnut grove and yearly festival in Nagybánya!).
- As an AF system and the species is easily adopted to warmer climates, it has great potential in the future.



Thank you for your attention!



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