Protecting large old trees in wood-pastures

A keystone for biodiversity in Romanian wood pastures
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The largest ancient oak-wood-pasture of lowland Central-Eastern Europe is in the Saxon region of Transylvania, with a size of over 1200 ha and over 450 large old trees. *Ref : Tibor Hartel*

The value of large old trees in pastures

Maintaining high biodiversity in production landscapes is a key conservation challenge.

Large old trees are keystone structures, conferring high ecological value to pastures. The hollowing parts, the ageing bark and the dry stems, while being biological and ecological legacies, create a wide diversity of habitats for many organisms.

Large old trees can have high socio-cultural importance in particular contexts (for example in expression of rural identity, and as sites for popular events and tourism).

Large old trees are in severe decline in commodity production landscapes, including pastures, because they are not explicitly recognized by agricultural, forestry and nature conservation policies.

A key challenge for the sustainability of large old trees on wood-pastures is to ensure their tangible and intangible values are fully recognised by local communities and also, more formally, within agricultural, forestry and nature conservation policies.

Farmer attitudes to large old trees

We assessed the perceptions and attitudes of farmers towards mature trees, large old trees and decaying trees from wood-pastures in Southern Transylvania. Mature trees were appreciated for many of tangible values, such as shade for livestock, fruits (including acorn), microclimate for grass, habitats for wildlife, and contribution to erosion control and soil fertility.

Large old trees were primarily appreciated for their intangible values, such as their age, beauty, cultural and relaxation value. The tangible values (e.g. shade for livestock) of large old trees were recognized by only a few farmers. Interviewees also highlighted the fact that large old trees have hollowing and dead components as well as nodes, which decrease their tangible value and creates challenges for processing. Decaying trees were perceived negatively by most of interviewees. Our study shows that, to protect large old trees in wood-pastures, it is not enough to rely on traditional local knowledge and attitudes**.**

Efforts are needed to increase awareness related to the intangible values (such as ecological, socio-cultural) of large old trees at the level of local communities and to recognize these trees in formal policies.

Large old pear tree (Pyrus pyraster) in a traditionally managed wood-pasture from Southern Transylvania. *Ref : Tibor Hartel*

Advantages

Large old trees on wood-pastures provide several beneficial opportunities for local communities, including:

- *Ecological and cultural tourism*: due to their outstanding beauty and cultural values

- *Branding of local products:* meat and milk products are often produced in wood-pastures and this should be informed to consumers open to pay extra prices for landscape and biodiversity conservation

- *Genetic resources for forestry:* through large old trees

- *Cultural and educational role:* due to their multiple cultural and nature values

- *Soil fertility*: due to nutrient cycling

- *Biodiversity conservation in production landscape*: due to their habitat values

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November 2017

An example of a local initiative

In 2009, the Mihai Eminescu Trust initiated a citizen-based project entitled "Find the oldest tree". The largest oak (Quercus robur) in Transylvania, with a trunk circumference of 920 cm, was identified by two pupils in a pasture near the village of Mercheașa. News of the tree was widely reported on local, regional, and even national TV Channels. The tree was named, 'The Old of Carpathians'. Subsequently, The Carpaterra Association developed formal documents to declare the oak a 'Natural Monument'. Since 2016, the tree and the surrounding ancient oak wood-pasture have been the focus of a local cultural initiative, 'Go Run' organised by the same association. This has done much to raise the awareness of ancient trees in the area.

An Oak with a 920 cm trunk circumference was identified through the "Find the oldest tree" competition of the Mihai Eminescu Trust. It is now protected by the Carpaterra Association. *Ref : Tibor Hartel*

Recommendations

- Large old trees should be recognized by agricultural, forestry and nature conservation policies.
- Local communities should be encouraged to recognize and protect large old trees, for example, by including large old trees in the historical, cultural and natural heritage sites.
- Income generated by local economic activities built on ancient wood-pastures should be funded to actively maintain the multiple values of these systems.

Further information

Hartel et al. (2016). Tree hay as a source of economic resilience in traditional social-ecological systems from Transylvania. Revue d'Anthropologie du Musée du Paysan Roumain 21: 52-65.
Hartel et al. (2017). Valuing scattered trees from wood-pastures by farmers in a traditional rural region of Eastern Europe. Agriculture, Ecosystems and Environment 236: 304-311.
Moga et al. (2016). Environmental determinants of the old oaks in wood-pastures from a changing traditional social–ecological system of Romania. Ambio 45: 480-489.
Remarkable trees of Romania: www.arboriremarcabili.ro [online platform for large old trees, in three languages: RO, HU and EN]