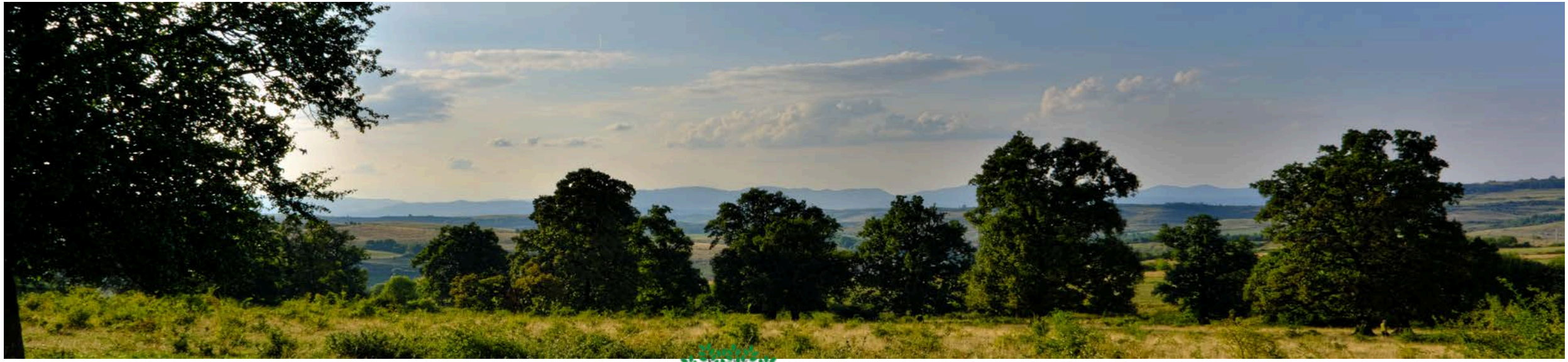
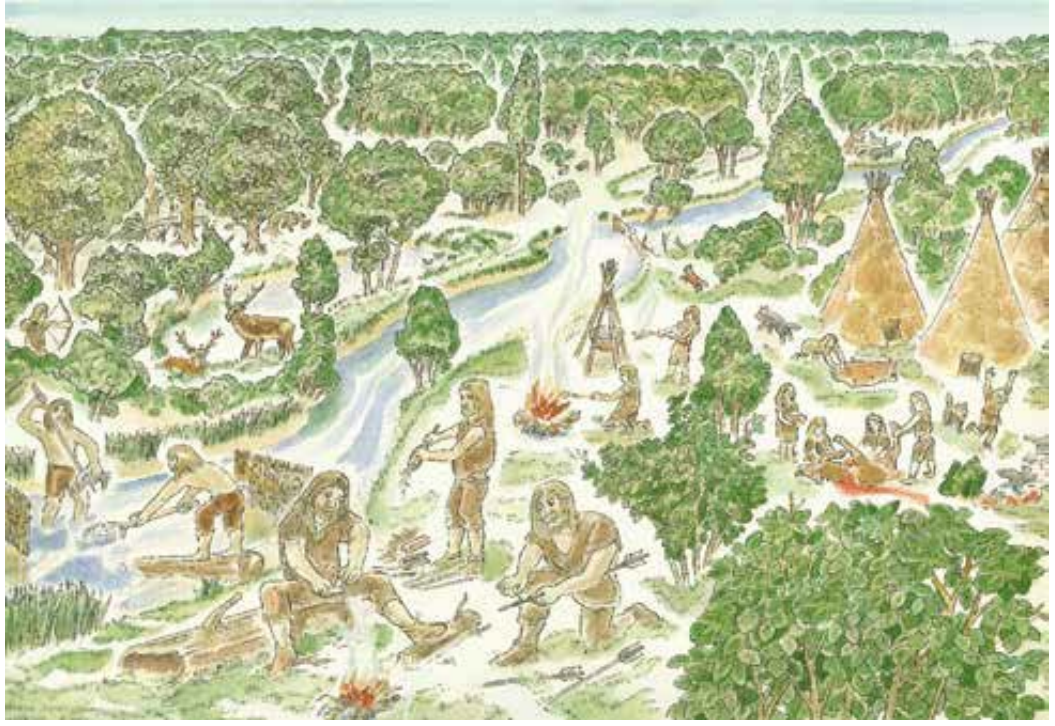
Grazed forests and wood pastures, forgotten and abandoned silvo-pastoral systems



Păşuni cu arbori din Transilvania
Erdélyi fáslegelők
Siebenbürgische Hutewälder
Transylvanian wood-pastures

L. Rákosy, T. Hartel & F. Wagener

Compact, dark forest



Sedentary population in the Stone Age

Pig keeper, 15th century

Current grazing with pigs in the forest

Mixed herd in the Middle Ages (Schodler Chronik 1514, Habsburg Castle, CH)

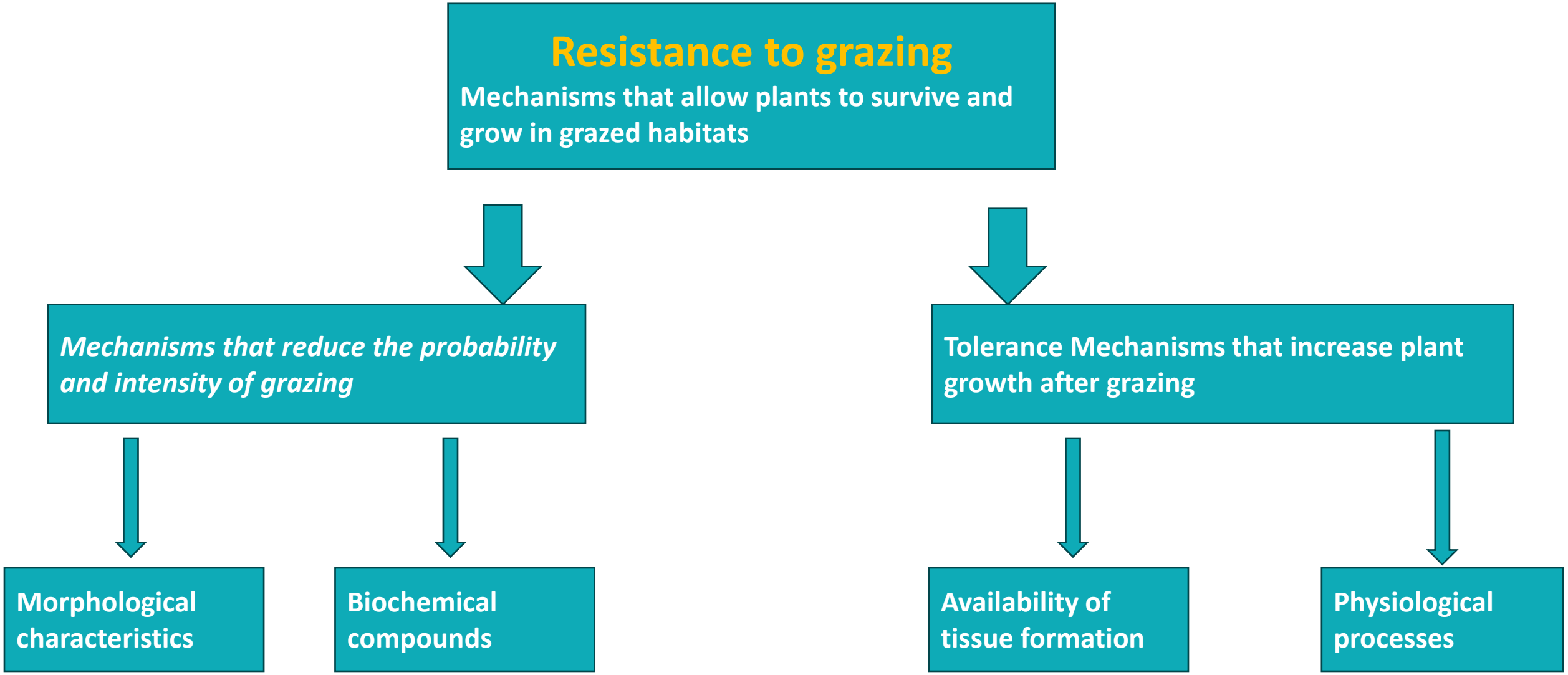
Bas-relief on the facade of a house in Hosman (Sibiu County)

Artistic representation of a 17th century wood pasture

Megaherbivores

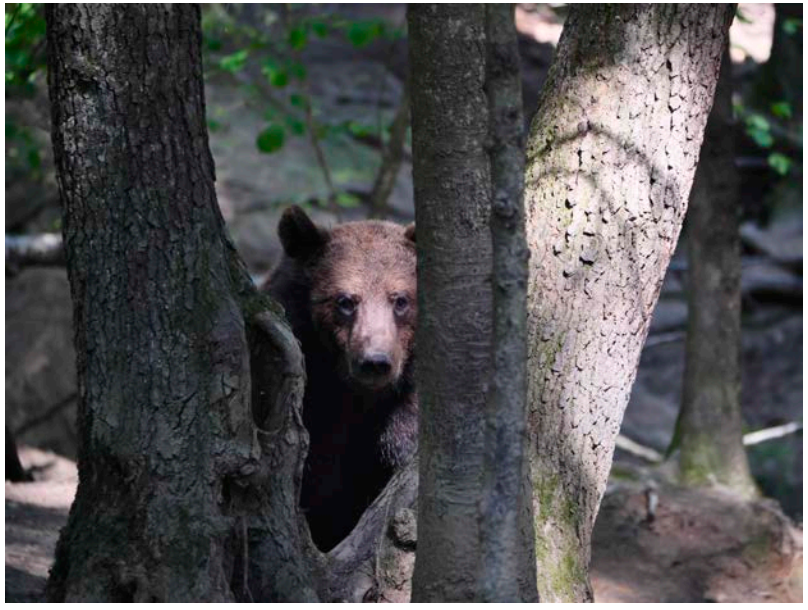
Multispecies forest grazing was the norm for thousands of years

Today, introducing a single species does not have the same effect



Various strategies enable plants in grassland ecosystems to survive and grow despite grazing (after Briske 1996, modified).

Wild animals learned to coexist with domestic animals and humans in the forest.



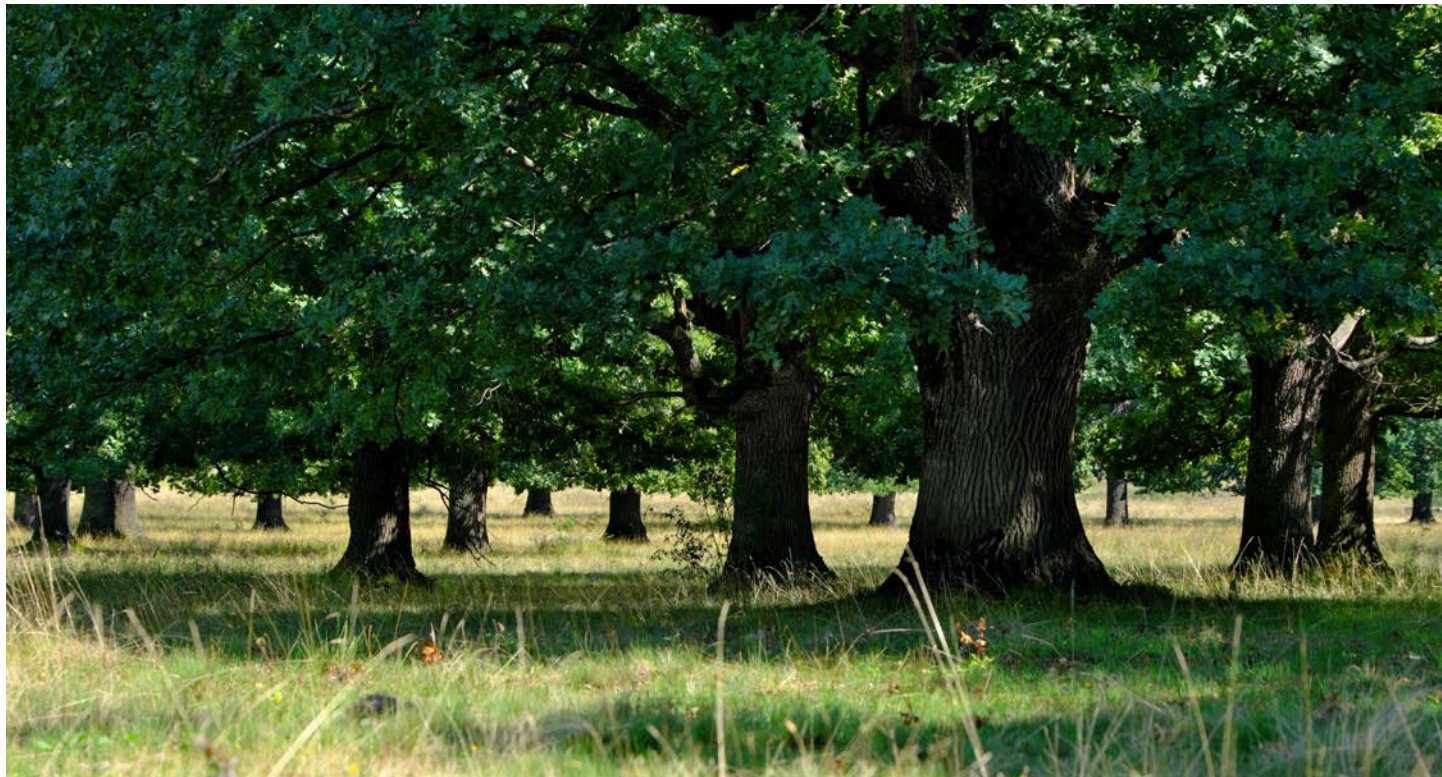
After multispecies grazing, the forest structure changes significantly

Current wood pasture in Transylvania

Beech wood pasture near Bixad

Current wood pasture in Transylvania

Oak wood pasture near Hodisu



The ecosystem functions of wood pastures are multiple and complex.

Water puddle created by water buffalo

*Triops cancriformis (*European tadpole shrimp)

Bombina variegata

Food

Hotspots for insects

Cerambyx cerdo

Lucanus cervus

Osmoderma eremita

Morimus funereus

Phengaris alcon

Carabus obsoletus

Callimorpha quadripunctaria

Dilina tiliae

Marumba quercus

Meloe sp.

Cipripedium calceolus

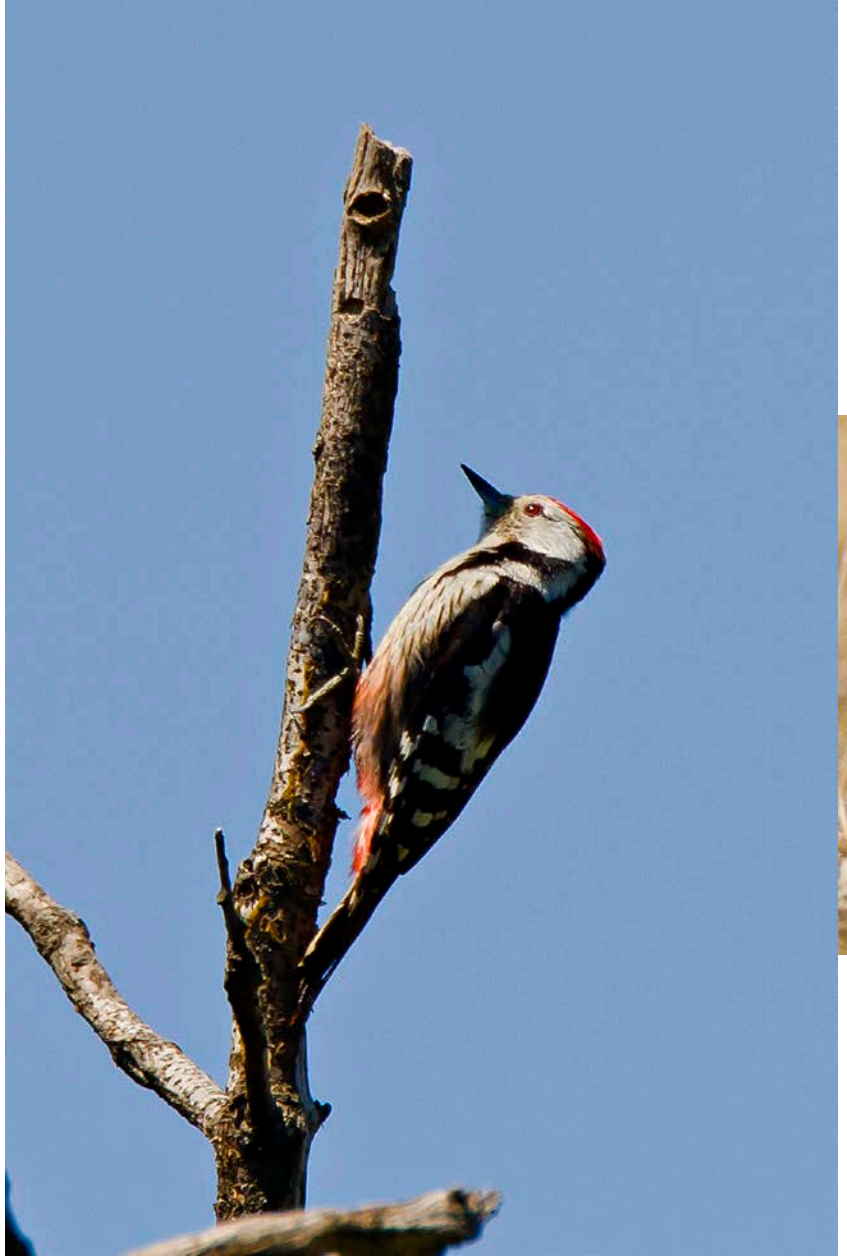
Dactylorhiza incarnata

Orchis ustulata

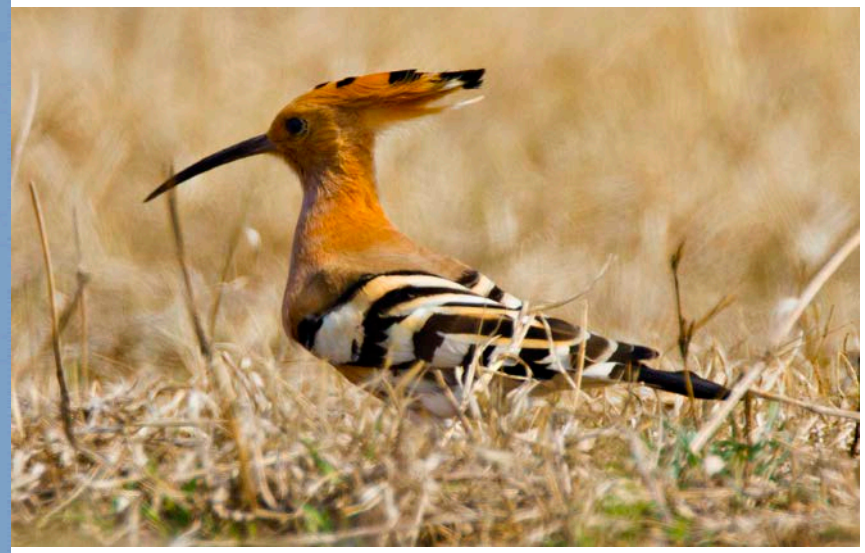
Gymnadenia conopsea

Orchis morio

Insectivorous birds



Dendrocopos major



Upupa epops

Picus viridis

Bats

The lung lichen (*Lobaria pulmonaria*) is an highly endangered species.
Indicator of intact ecosystems.

Myotis myotis

Barbastella barbastella

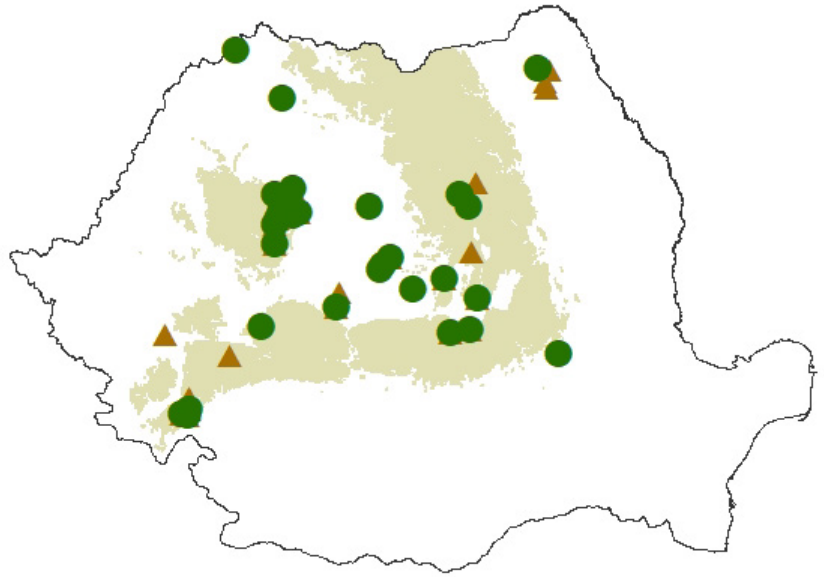
The feces of large herbivores and omnivores favor the formation of communities rich in coprophagous species (coleoptera, diptera, nematodes, etc).

Over 50 species of coprophagous beetles live in Europe

Forest-specific butterflies

Leptidea morsei (Fenton's Wood White)

Lathyrus niger

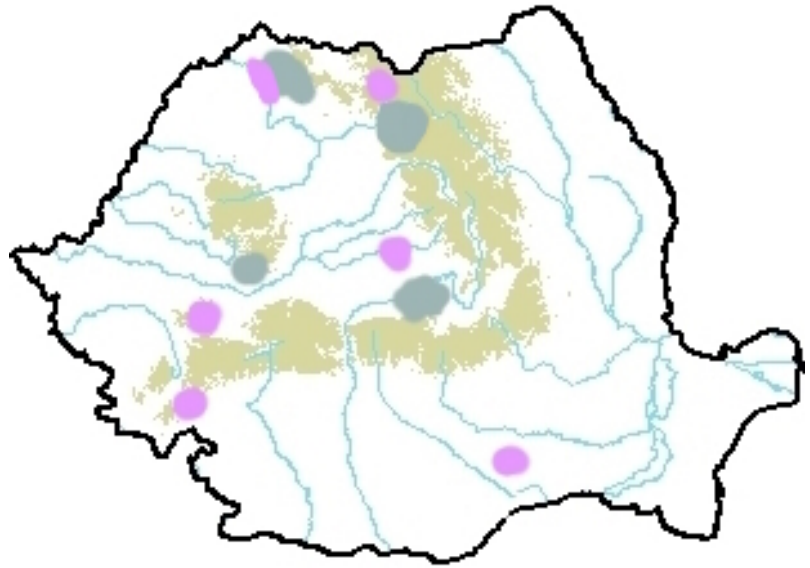


Egg

Larva

Deciduous forests with glades

Lycaena helle (Violet Copper)

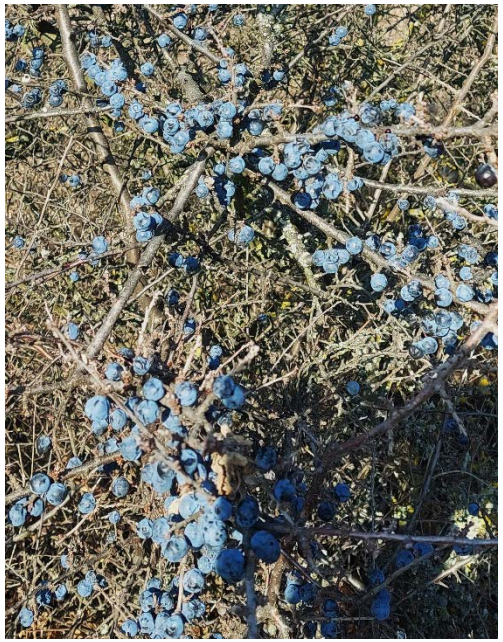


Habitat: *Bistorta officinalis (Bistort)* glades in oak forests

About 20 species of edible mushrooms are used by local communities

Old trees are being destroyed by natural phenomena but mainly by human activities

The services provided by grazed forests or wood pastures are numerous and diverse (food for animals, source of wood for buildings and fire, food for human communities, recreation, science, artistic inspiration, meditation, etc.)



Local communities still today use acorns for fattening pigs, berries for syrups, marmalade, alcoholic drinks, etc.

Crataegus monogyna (Common hawthorn, whitethorn)

Traditional medicine still uses many plant species for the successful treatment of certain diseases.

Painting shows an ancient oak as habitat for several organisms (Alexandra Butnariu)

Tourists, scientists, students, photographers and many others are attracted by the wood pastures preserved in Transylvania

Measures to improve the relationship between wood pastures, grazed forests and humans:

A cognitive coordination between the several ‘authorised users’ (hunting, tourism, forestry, agriculture, nature conservation, transport, municipality, etc.) with divergent interests.

Necessity of spatial and temporal coordination of forestry, hunting, agricultural and touristic forms of utilisation.

Regional planning concepts should be developed for all large, wide-ranging wild animals that are orientated in their spatial extent to wild ecologically are based on landscape units (valleys, mountain ranges, etc.) that are well defined in terms of wildlife ecology, in which different combinations of measures make sense.

Targeted interdisciplinary research projects have made it possible to find out how a harmonious balance between large herbivores, forestry, hunting, tourism, etc. can be created at an area level for the benefit of biodiversity and sustainability.

For the protection of biodiversity, we must endeavour to protect the large herbivores in semi-wild suitable habitats or wild conditions in Europe.

Thanks

The study is funded by LIFE Metamorphosis 101074487 and DBU Transiylvanian wood-pastures projects.

We would like to thank the teams of the two projects and the numerous volunteers who have contributed to obtain a lot of valuable information.

Project results will soon be published in a book about Transylvanian wood pastures.

Thank you for your patience!