



SECTION 0

Introduction to the Guilleries and to the Museu

The Guilleries is a mountains massif located in the north-west limit of the serralada prelitoral catalana mountains. It's forms a natural subdistrict between the districts, comarques Osona (Barcelona) and la Selva (Girona).

Part of the following townships compose this district: Amer, Arbúcies, Espinelves, Osor, Sant Feliu de Buixalleu, Sant Hilari Sacalm, Sant Sadurní d'Osormort, Santa Coloma de Farners, Susqueda, Viladrau i Vilanova de Sau. Sant Hilari is considered the capital of the Guilleries.

The relief is mainly mountainous and abrupt, having important points, with heights of 1200 m; but it also has plains that shape waving landscapes in areas between 800 and 1000m.

From the lowland of Vic in the west to la Selva in the east, the area concerning in a biological corridor between the Montseny mountains and the Serralada Transversal mountains, these last reaching the Pyrenees.

The Guilleries has an important weath of landscapes with a great diversity of ecosystems into evergreen mediterranean forest such as holm-oak woods and humid, mid-European deciduous forests, such as oak groves, beechwoods and chestnut groves.

The fauna of mid-mountain forest ecosystem is well represented. Thus, the Guilleries is protected by the Pla d'espais d'interès natural (PEIN); (a plan wich protects natural important areas). This plan structures the territory in rational and balanced way, at the time it is being protected. It also allows a balanced development of the area and its natural value's protection.

The Museu Guilleries purpose is to show, to make undestand and to interpret these values. It is intended the visitor to know, to visit, to protect and to improve them.



SECTION 1

The physic enviroment

The Guilleries geology is quite complex, as we can see on the panels where geological changes occurred in the area are shown. So, with of the most representative rocks, there is a stratigraphic scale with the rock's ages and their location in also displayed on a geologic map of Guilleries.

In fact we find large groups of rocks depending their origin: intrusive and metamorphic rock from orogenic hermician movements that took place during precambrian and eocenic sedimentary rocks.

That rock group soil diversity, although the orthens order, slightly acid and little desenvolped, is the most predominant kind.

Humid mediterranean winds climb the Serralada litoral and Prelitoral and when being in contact with the Montseny massifs, the Guilleries massif and the Serralada Transversal, the water containing drops and brings a humid feature to the climate.

We can find three links to climate depending on the area's height and orientation. From colder to hotter are:

Humid mountain climate, in the highest zones, over 900 m and in slady slopes

Submediterranean climate between 500-900 m, receiving mid-european and mediterranean influences

Humid mediterrania climate above 500 m and in sunny slopes

The Guilleries landscape is like an immense puzzle of forest, spread on its numerous hills.

Vegetation is determined by natural environment factors: climate and geologic substrat and a third anthropological factor: human influence through forestal, agricultural and cattle activities. It has largely modified the landscapes during the last centuries



SECTION 2

The aquatic enviroment

Physic features that define the *Guilleries* make pluviocity have an average 800 lts/m² year. That provides **important water resources, as well as superficial water, such as streams; subterranean water and springs.**

Hydrographically speaking, we have to considered the *Guilleries* as a net of **streams** all over the massif that feed the river, by **means of the Riera d'Osor and the Riera Major** in the north. In the east and south, the **Riera d'Arbúcies and the Riera de Santa Coloma** feed the Tordera river.

Marshes are periodically inundated lands of difficult superficial drainage. They are usually found in plain fossilised areas of erosion that have been dried by man; so as to rise to villages of Sant Hilari in an example. Second, so as to transform marshes into seath for cattle. Third, as to plant there trees.

Springs, font in Catalan, are natural issues of subterranean water. Due to silicic substratum, this water is calci bicarbonated and little mineralised so it is a high quality and very appreciated as drinkable water.

We can also find ferruginous water (Font del ferro, Font Picant) and fizzy water (Font Picant).

During the sixties, along the Ter river, the dams of Sau, Susqueda i el Pasteral were built. They keep water in wet periods whereas water is available in dry periods. They are also useful to make electricity, to water agricultural areas and for domestic and industrial uses in areas with seasonal water (part of the city of Barcelona, Girona and the Costa Brava).

In both banks along streams, independently of the rest of vegetation, we find a particular **forest that only grows in river banks**. It is formed by two thin lines of deciduous trees and shrubs and they count on different natural characteristics to resist inundation and erosion. Some of the tree species that we can observe are the alder, its roots into the water, the osier, the poplar, the ash tree, the elm, the walnut tree etc.

Streams and marshes fauna is very varied. It is important to make reference to the dipper, the kingfisher, the newt of the Pyrenees and the red frog, apart from other amphibia. Fish population is also rich because of well oxygenated water and of sand stream's beds. It is worth distinguishing the trout species. Not long ago, others were very popular, but they have nearly disappeared today because of man influence. They have been substituted by minnows, that arrived by accident. Finally, we have to talk about some particular arthropoda such as coleopteran, lepidopteran and cladoceran. They are good clean water indicators.



SECTION 3

Humid forests

Humid forests are located in humid mountain and in shady submediterranean climated areas. Oak groves are the most characteristics forests of those areas. They occupy a surface of about 200m with holm-oak woods and beechwoods. As other parts of the territory, human activity has transformed oak groves into **chestnut's plantations, perxades** as they called in catalan, new growth chestnut woods. Oak groves, with big leafed oaks, have an **important variety of flora and fauna**.

In north orientated parts and, consequently, more humid areas, we find beechwoods with very few animal and vegetal species. The horizontal position of beech's roots, branches and leaves doesn't allow the undergrowth's development.

Woods of Scotch pine are well adapted to the mid-European climate with its evergreen needle-shaped leaves. Consequently, they colonise the coldest and highest areas, above deciduous species. In the Guilleries, the Scotch pine creates both natural and planted pine groves with other non-genuine resinous species such as cedars, douglas...

In those woods, brambles and broom grow in edges. It's important to mention animal population in bushes. Bush colonies provide food to different animal species.



SECTION 4
Mediterranean woods

They grow in areas of humid Mediterranean climate and sunny slopes with submediterranean climate.

The holm-oak wood is the typical Mediterranean grove. It grows in low areas, below 500 m. It is leafy and shrubs and lianas make it difficult to get into. In higher zones, to 800 m, holm-oak woods grow in sunny and bushes and lianas are substituted by bracken and moss.

In most warm, silicic areas, we can find cork oak groves. Cork oak trees, with small, tough, evergreen leaves, such as the holm-oak tree's, has adapted itself to dry summer. It also covering the trunk that protects the tree from fungus and other organisms and fire, as it resist high temperatures. Cork oak groves have a rich fauna.

Stone pines frequently grow in cork oak groves. Planted pine groves are grown to get pinaster and pi insigni wood.

Heather and rockrose species are spreading themselves because of Mediterranean wood's degradation due to fire, wood cutting or breaking and levelling ground. So are spreading thyme thyme and lavender which colours, smells and nectar often attract insects.

Pine trees and brushwoods are easily flammable species because contain highly flammable essential resins and oils. This characteristic, added to special climatic conditions and human presence, make fire risk increase in dry periods.

Do not light a fire

Do not throw lit objects

Do not throw rubbish, vegetal or industrial remains of any kind that can set a fire



SECTION 5
Woods and trees

Woods are terrestrial ecosystems mainly formed by trees with a great number of animal and vegetal species that complex relationships between them.

There is a wall map with a schematic example of a simplified trophic chain that helps understand its complexity into an oak grove.

Woods are on a dynamic balance and accomplish essential **ecological functions** for the existence of life:

Lung function: Through photosynthesis. It increases oxygen levels and diminishes carbon dioxide levels in the atmosphere

Purifying function: by way of humus left on the soil that lets water retention grow, as well as its cleaning and keeping its PH level

Process of recycling nutrients: done small bacteria that decompose non-consumed parts of dead organism; this nutrients are set free to be absorbed again by means of vegetal's roots. That's the last step of the trophic chain

Function of preventing erosion: bush and tree branches make the rain's impact on the ground less direct; roots fix the ground, avoid erosion and let water be slowly absorbed.

Function of temperature regulator; by creating a warm and comfortable atmosphere for those species that lives in the forest itself. That atmosphere is created by solar radiation vegetables absorb.

Forest have a productive and social functions too.

Centenary trees that have reached important dimensions can be seen in the Guilleries. There is also a map where those trees are painted. At the same time, their protection is kept.