

Garigue and its flora



Land reclamation is the greatest malaise afflicting garigue in our islands. Here is an example of land reclamation for agriculture at Marfa.

Garigue is a generic term to describe a typical Mediterranean habitat characterised by dwarf, hemispherical shrubs less than half a metre high. The word garigue originated in Corsica. This habitat is branded phrygana in Greece and there are many other local names coined in different parts of the Mediterranean region to refer to garigue.

Such local names may overlap in their meaning or may embrace more than one type of community. The Spanish matorral, for example, spans from high matorral (maquis) to medium matorral (mid-maquis) and low matorral (garigue), which is also known as tornillares in Spain.

Garigue forms an intrinsic part of the sclerophyll series which is such a hallmark of the Mediterranean region and whose climax is the woodland, followed by maquis and its lowest expression is the steppe (the most degraded habitat of the series) which is preceded by garigue.

Dry climatic conditions and a high level of human degradation on our islands ensure that steppe and garigue never make the quantum leap to becoming a woodland. The recent fizzling off of grazing in our islands has, however, encouraged the re-establishment of garigue and maquis communities.

Characteristic plants of the garigue are the most resilient of all in order to stave off excessive heat and water evaporation, grazing, trampling and sporadic burning during the hot season. For this reason, garigue shrubs are mostly aromatic, exuding oils which bequeath upon them a waterproof filming which helps mitigate water loss and at the same time cools the plants (analogous to the mammal sweating system).

An aromatic plant species par excellence is the Mediterranean thyme (*Thymbra capitata* - saghtar). The same garigue flagship species is also highly unpalatable to grazing animals, as are all the thistle species, such as the smooth sow-thistle (*Sonchus oleraceus* - tfief komuni). Grazing animals are also warded off by spines borne by garigue plants and by the low-lying nature of the same plants.

Among the slew of adaptations which such plants possess, one must also mention the high resistance to occasional burning; hence they are dubbed pyrophytes.

Despite widespread local misconceptions, garigue harbours a very rich biodiversity due to it being an "open" habitat, with no shadowing effects. Garigue is usually tied to karstland, in which exposed outcrops of hard Coralline limestone are eroded by rain so that a rough texture, with many furrows and holes, results. Pockets of soil are then trapped in such furrows, which are then tapped by garigue plants.

Garigue is characterised by a high degree of endemism (i.e. harbours species restricted only to our islands). In fact, the largest endemic plant species of the Maltese Islands is also a beacon of our garigues - the Maltese Spurge (*Euphorbia melitensis* - tenghud tax-xaghri) forming rounded, dense mesmerising shrubs.

The most charismatic plant species to inhabit our garigues must surely be the orchids. Of the 12 or so species found in our islands, some of which are extremely rare (such as the 60-cm high Giant Orchid represented by only a handful of specimens, and the mirror orchid), two species are purported to be endemic to our islands. These are the Maltese Spider Orchid (*Ophrys sphegodes* spp. *melitensis* - *Brimba sewda*) and the Maltese Pyramidal Orchid (*Anacamptis urvilleana* - *Orkida Piramidali ta' Malta*).

The petals of many orchid species are highly specialised and resemble insects in order to enhance the plant's pollination chances. Orchids are also termed geophytes since they are herbaceous plants with underground bulbs. Some bulbs, such as those of the Sea Squill (*Urginea maritima* - *Ghansar*) are quite superficial and are easily visible above the ground. Other notable geophytes include the various species of iris, the Small and Large Stars of Bethlehem (*Ornithogalum* spp. - *Halib it-tajr*) and the various species of wild garlic (*Allium* spp. - *Tewm* and *Kurrad*).

Also worth mentioning are the germander species, such as the olive-leaved germander (*Teucrium fruticans* - *Zebbugija*) which forms dense hedges, the quiet rare rock-rose species (*Cistus* spp. - *Cistu*) and the Mediterranean Heath (*Erica multiflora* - *Erika*) which graces our garigues with the pink hue of its flowers. Interestingly enough, the latter is the only species of its family (*Ericaceae*) which is able to tolerate high soil levels of calcium - hence, our islands is shorn of other *Ericaceae* species which are calcifuges (i.e. abhor high calcium levels).

Current situation

Of all the Maltese Mediterranean habitats, garigue is certainly the most bedraggled of all. The Maltese, in fact, use the term *xaghri* in a quite disparaging way, as evident from typical phrases as "Mhux xaghri biss hawn". The State of the Environment Report could be used as a yardstick to gauge the integrity of garigue in our country. In fact, while the first report (1998) claims that 10.10% of our islands covered by garigue, the figure stated by the second report (2002) was somewhat lower - 9.72% - even though only four years had elapsed.

Garigue is plagued by three major malaises in our country - land reclamation for agriculture, dumping, the planting of exotic species, quarrying and the opening of makeshift roads for hunting and other purposes.

The first moray, especially widespread around the environs of Mellieha and Mgarr, is actually endorsed by our agricultural policies which encourage the reclamation of moghxa, wasteland. However, the Maltese use this as a loophole to also encompass ecologically important garigue. Mounds of rubble are first dumped on garigue and then a layer of topsoil is spread over the flattened rubble.

Such an ill-contrived scheme usually results in an exacerbated rate of erosion, whereby the first heavy rains leach away huge amounts of the topsoil added. This practice is readily visible on the way down to Ghadira beach from the Mellieha bypass and on the way down to Cirkewwa from Armier at Marfa.

Quarries pepper our coastal garigue, such as at Qala and San Lawrenz in Gozo and at Gebel Ciantar in Siggiewi. The planting of exotic species, especially the highly cherished *Eucalyptus* species, is pursued in order to cater for the needs of hunters intent on cajoling avian species, or as part of short-sighted landscaping projects, such as along the footpath from San Niklaw Bay to Santa Marija Bay in Comino.

Currently, the largest tracts of pristine garigue lie on Comino, on the cliffs behind Santa Marija Bay. Recent encroachments by pleasure boats on Cominotto have ensured that garigue here also runs the gauntlet of human disturbance.

Other ecologically important areas include the notorious *Qortin ta' Isopu* and the scheduled garigue at Pembroke, where a golf course development was recently warded off. Nature Trust (Malta) urges to emulate the safeguarding of woodland and maquis (*Buskett*), Salt marsh (*Ghadira* and *Simar*), sand dune (*Ramla* and *White Tower Bay*) in also nurturing garigue through the opening of garigue parks (such as at Marfa Ridge behind Popeye Village and *Qortin ta' Isopu* in Nadur) and through congenial legislation which bridles further exploitation of garigue.

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