

SPECIAL FLOWERS OF GIBRALTAR.

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Abstract.

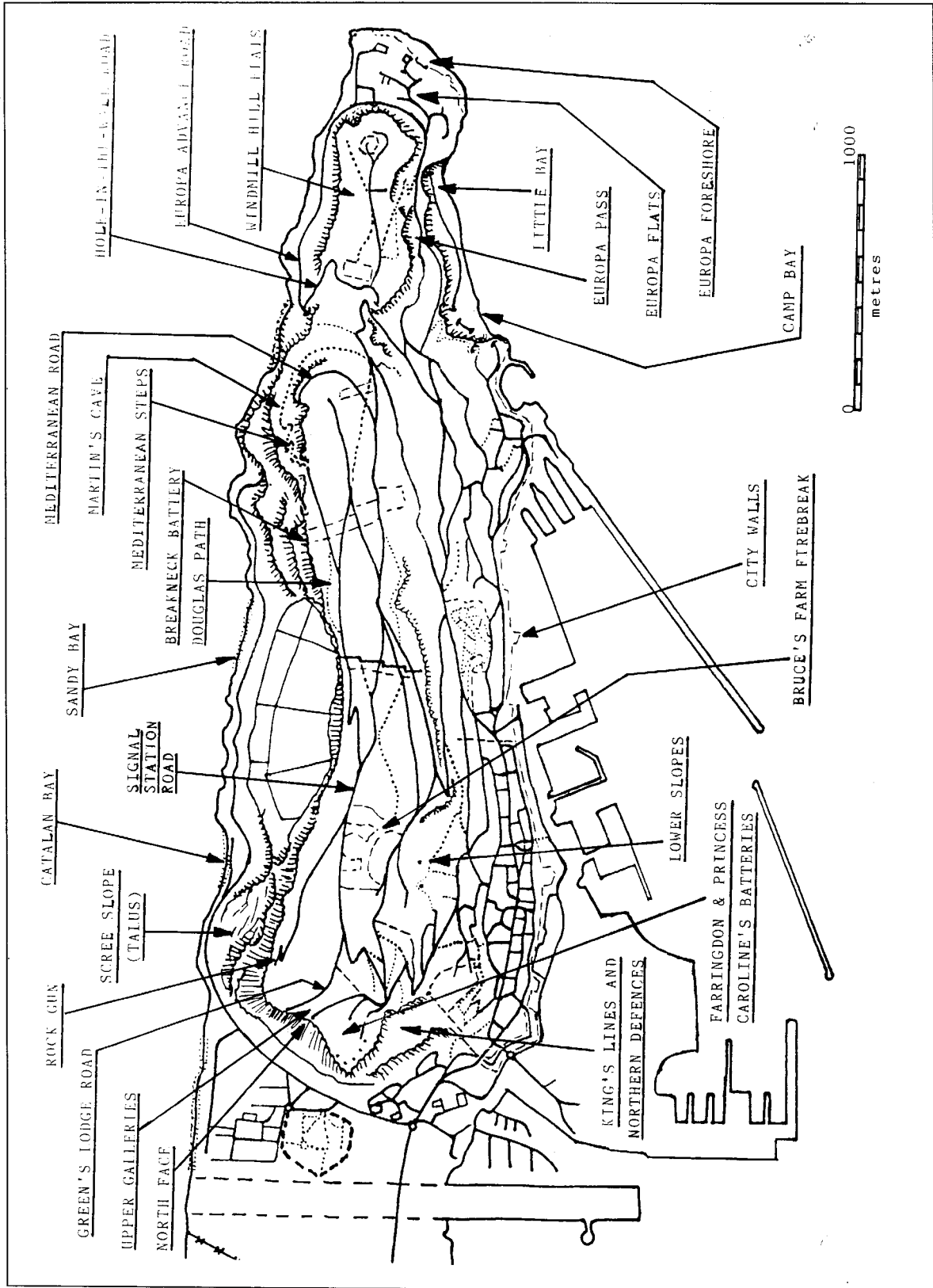
The special geological and climatological circumstances of the Rock give rise to conditions which favour the growth of certain species of plants which are unique to Gibraltar, or North African species which are not found elsewhere in Europe. Some are varieties of more common types and others, whilst common on the Rock are not so in neighbouring Spain.

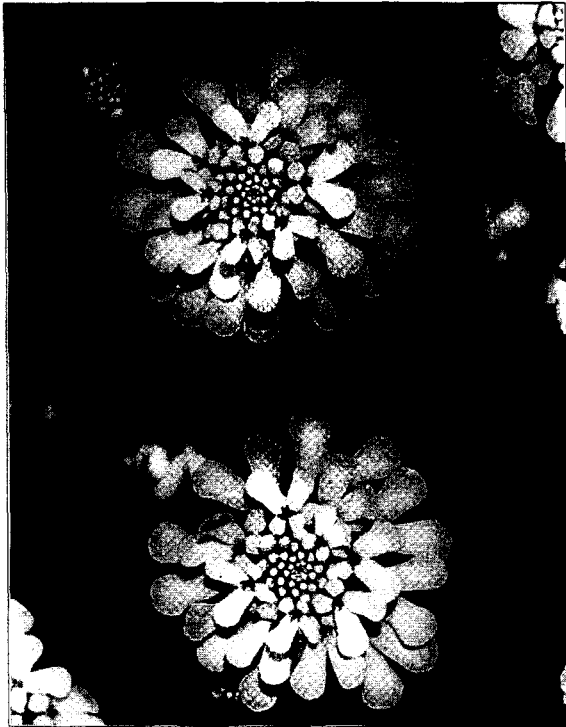
The Jurassic limestone of the Rock results in the soil being largely alkaline, with only isolated and scattered pockets of more acid soil. This limestone is similar to that found on the North African side of the Strait but no such similarity exists with rocks in the immediate Spanish hinterland, which are largely of sandstone and more acid. It is not surprising then that North African species can have Gibraltar as their only foothold in Europe, and also that species that thrive in Gibraltar find it hard to spread northwards.

This paper will highlight those plants which are special to Gibraltar because of these circumstances, concentrating on their current status, their distribution and abundance.

Introduction.

Gibraltar consists largely of a mass of Jurassic limestone. The soil is thus predominantly alkaline, with only isolated pockets of more acid soil. The limestone is similar to that found across the Strait in North Africa. Except for a





The Gibraltar Candytuft, *Iberis gibraltarica*



The Gibraltar Thyme, *Thymus willdenowii*

small outcrop at Los Pastores just South of Algeciras, no such similarity exists with the rocks in the Spanish hinterland, which are largely sandstone, providing a more acid and totally different habitat for plants. Thus we see *Cistus*, *Erica*, *Ulex* and other species thriving in the latter area, but not at all or very rarely on the Rock. The reverse is also true: the special geological and climatological circumstances of the Rock has given rise to conditions which favour the growth of species which are either unique to Gibraltar, or North African species which are not found elsewhere in Europe. Some species are varieties of more common types and others, whilst common on the Rock are not so in the neighbourhood. Since the closest major outcrops of limestone in Spain are at Sierra Crestellina and then Sierra de Grazalema, it is not surprising that North African species which have their only European foothold in Gibraltar, and also those others which thrive in Gibraltar but not so well in surrounding areas of Spain, find it difficult, if not impossible, to spread Northwards.

The following text highlights a few of these plants which are special to Gibraltar in some way:

***Iberis gibraltarica* L.**

Perhaps the best known of these special plants. Many mistakenly think that this species can only be found in Gibraltar, but in fact it is a North African species which is restricted in Europe to Gibraltar. It is best found growing among the limestone rocks along the upper reaches of the Rock and on the Eastern cliff face from North Front to Europa, especially along Mediterranean Steps, Douglas Path and the area below Rock Gun. An attractive, showy plant, its colour ranges from almost white to strong pink. It flowers between March and May and is quite common.

Comunicaciones

Thymus willdenowii Boiss.

Another North African species restricted in Europe to Gibraltar. Its habitat is virtually the same as for *Iberis gibraltatica*, but it can also be found growing on limestone outcrops all over the Upper Rock, including roadsides, e.g. along Signal Station Road. It is also found on the East Side, though not close to the sea. It is a common plant and flowers between April and June.

Limonium emarginatum (Willd.) O.Kuntze.

This plant grows well on rocks and cliffs near the sea, its dark green leaves often forming distinctive, tight, rounded clumps. It is also found higher up on the rock face, the highest observed being at Martin's Cave (at about 180 metres above sea level). The species is apparently restricted in Europe to the Gibraltar region. It is rare on the African coast, and there have been reports of specimens having been seen growing on the Spanish coast opposite Europa Point. In Gibraltar it thrives among the limestone rocks and can be seen at its best between April and September. Particularly good examples of the species can be seen between Europa Advance Road and Hole-in-the-Wall Road, at Europa Point, along Europa Foreshore, and on the coastal rocks between Catalan Bay and Sandy Bay. The dumping/reclamation taking place along the latter site has already destroyed large numbers of this species.

Cerastium gibraltarium Boiss.

The taxonomy of this species is a little confused. Certain authorities keep this species as separate from *Cerastium boissierianum* Greuter & Burdet of Southern Spain, Corsica and Sardinia, while others group them together in one very variable species. If not a distinct species, the Gibraltar plant is at the least a distinct and unique variant. The plant is found in very similar situations as *Iberis gibraltatica*: among limestone rocks and mainly along the uppermost parts of the Rock, especially along Mediterranean Steps, the area below Rock Gun, and the ridge around Douglas Path. It flowers between April and June, and forms very attractive clumps. It is quite common.

Ononis natrix L. ssp. *ramosissima* (Desf.) Batt. var. *ramosissima*

This variety of the species is unique to Gibraltar. It is a common plant which is only found on the East Side sand slopes, particularly on the screes north of Catalan Bay (The Talus) and south of Sandy Bay. A large number of the plants are also found growing on the slopes between these two scree slopes. These sand slopes are consolidated wind-blown dunes dating from prehistoric times when the sea level was much lower, and constitute a unique and rich habitat for plants. The *Ononis* plants form rounded shrubs which stand out very distinctly when in bloom between April and June.

Silene tomentosa Otth.

This species is unique to Gibraltar and has been recorded as probably extinct by some authorities. In 1979 a specimen of *Silene* was observed growing above Green's Lodge Road. It was photographed but identification was not attempted. Although the site was visited over subsequent years, the plant was not seen again till 1985 when a single specimen was seen growing on the limestone face just outside the Upper Galleries entrance. On checking once again



The Gibraltar Chickweed, *Cerastium gibraltarium*



The Gibraltar Campion, *Silene tomentosa*

above Green's Lodge Road, other specimens were observed and photographed. A small sample was taken for initial identification and after some delay identified as *S. tomentosa*. No further checks were carried out to confirm this on that occasion, and there has been no other chance since then to do so since the plant has failed to re-appear. It is a plant of coastal rocks and cliffs and where observed at Green's Lodge Road it was probably at the boundary of its range, which may account for the failure of the plant to establish itself firmly on that site. Searches along the coastline and the Eastern cliffs have failed to come up with any plants, but there is always the hope that some exist in the many inaccessible parts of these cliffs. The flowers were seen between April and May, and their colour ranged from pale violet to pink.

Saxifraga globulifera Desf. var. *gibraltarica* Ser.

The species is a variable one belonging to North Africa and South Spain, and the Gibraltar plant is a distinct variety of this species. It can be found growing from the north-facing side of limestone outcrops, where they are least exposed to direct sunlight and the rock face is damper. They are not very common, but quite good stands of the plant may be found on the rock face outside the entrance to the Upper Galleries. Other stands may be seen towards the top of Mediterranean Steps and the rocks between Rock Gun and Green's Lodge Road. Smaller stands are also found at Bruce's Farm Firebreak and in the Lower Slopes. It is also highly probable that more of the plants will be found on the North Face of the rock and along the Eastern cliffs. The plants flower between March and May.

The list of plants that follows consists of those which are special to Gibraltar in the sense that they are quite common on the Rock but are not so in the neighbouring area. They are certainly not unique to Gibraltar but the fact that they are rare or non-existent in the near vicinity, puts the onus on Gibraltar to ensure their protection and continued existence here.

Succowia balearica (L.) Medicus

This plant is found on the Rock but not in the surrounding area. It is not very common, and they may be found mainly in two broad areas. The first runs from the rocks below Rock Gun down to Green's Lodge Road, then down to Farrington Battery and Princess Caroline's Battery area, and then further down the slope to King's Lines and other parts of the Northern Defences. The second area covers Mediterranean Steps and Mediterranean Road. Other small stands may be found elsewhere on the Upper Rock but these are very scattered. The plant may be found growing on stony ground or from rocky outcrops where there is a limited degree of overgrowth, the long flexuous flowering stems spreading outwards from among the shrubs. The most distinctive parts of the plant are the hemispherical siliculae which are covered with spreading spines and from which emerges the conical style. The flowers may be seen from March to June.

Aeonium arboreum (L.) Webb & Berth.

This is a North African species which has become naturalised on the cliffs around Gibraltar. It is very well established on the Southern half of the Rock, in particular the cliffs above Europa Pass and Camp Bay to Little Bay, and the cliffs below Breakneck Battery. The flowers appear between January and February.

Echium parviflorum Moench.

This species is not mentioned at all in Flora Vascular de Andalucía Occidental, (Valdes *et al.* 1981) In Gibraltar there are two stands of these: the main one at Windmill Hill Flats, and a small one at Martin's Cave. At both sites the plants are small and difficult to find, their small blue flowers not being very conspicuous. Valdes *et al.*, however mention *Echium arenarium* Guss. from Gibraltar, and state that this has not been collected recently. These two species are very close, and could have been confused in the past. In view of this, it would be necessary to have a close look at the plants at the two sites above to confirm identification as *E. parviflorum*. The flowers may be seen between March and May.

Ferula tingitana L.

A very common plant in Gibraltar, but one which is not found in the surrounding area. Here it is found in virtually every habitat since not only does it grow on the Upper Rock, but can be found lower down on the East Side sand slopes as well. It grows well along roadsides and footpaths, and areas such as firebreaks and clearings in the Maquis. The tall flowers and glossy leaves are very distinctive and may be seen between March and May. This plant is also reported as growing in the Grazalema area, but I have not seen it there.

Cephalaria leucantha (L.) Roemer & Schultes

This is a plant of limestone rocks and cliffs. It is rare on the Rock where it is only found on the North Face. The nearest area in Spain where it is found is at Grazalema, and north of this. The white flowers are very similar to Scabious in appearance, and may be seen growing from ledges on the rock face between June and July. It is interesting to note that this plant is not recorded at Gibraltar in any of the old Floras, and I only noticed it in 1982.

Carthamus arborescens (L.) Webb & Berth.

This tall yellow thistle is extremely common on the Rock. It flowers between May and July and may be seen growing all round Gibraltar. It prefers clearings and so it will be seen growing on firebreaks, roadsides, clearings, and from rocky outcrops. They are also found on the East Side. Though common on the Rock it is not so in the surrounding area, where only a few may be seen scattered here and there.

Lavatera arborea L.

This plant of the Mallow family grows very well on coastal areas of Gibraltar, in particular Windmill Hill, Europa Flats and along Europa Advance Road. A number may also be seen around Catalan Bay. It is interesting to note that a few plants may also be found around Martin's Cave, half way up the Rock. This area, which is quite sandy, also contains other maritime plants. The plants, which have stout woody stems and look like small trees, flower between March and June.

Comunicaciones

Helichrysum rupestre (Rafin) D.C.

This is another plant which grows well in Gibraltar. Its yellow flowers and greyish stems and leaves make it quite distinctive, and may be seen between April and June. It is a plant of limestone rocks, and is found growing from cracks on the Rock face in most places around Gibraltar, but principally in northern parts. What is quite interesting here is that the best places to find this plant is growing from the city walls, which of course are made of limestone.

This list is not exhaustive. There are other plants which grow well in Gibraltar and not so in the hinterland, but the ones listed above are perhaps the most distinctive.

Reference:

VALDÉS, B. TALAVERA, S & FERNÁNDEZ GALIANO, E. 1987. *Flora Vascular de Andalucía Occidental*. Ketres. Barcelona.