

Sierra de la Nieve*, which is joined in a western direction by several parallel chains of less height, at whose western foot lies the town of Ronda. Toward the west the Sierra de Yunquera gradually descends to form a spacious high table-land, in which are several small villages, and the western limit of which is bounded by a mountain-chain stretching from the mountains of Ronda along the left bank of the Guadiaro as far as the sea—the Sierra de Gaucin. In a south-eastern direction a mountain-chain proceeds from the high mountains of Yunquera, constituting the Sierra de Tolox and Montes de Pereyla, and terminates on the dolomite mountains of the Sierra de Mijas, nearly 6000 feet high, which extends to the sea and the mouth of the Guadalhorce. Between these dolomite mountains and the mouth of the Guadiaro runs a chain of mountains along the coast of considerable height, forming the southern boundary of the central high plains and the whole Serrania, and whose different parts take, from the valleys of several coast rivers, the names of Sierra de Estepona, Sierra de Marbella and Sierra de Bermeja†. Along this mountain-chain the coast forms a strip of from one to four miles in width, which, as far as the country of the town of Marbella, is comparatively level and covered for the most part with shrubs of various *Cistineæ*, pistachios and dwarf palms; from Marbella onwards, on the contrary, where the mountain recedes further from the coast, this plain passes over into a gradually ascending hilly land.

A number of leguminous plants of the genera *Trifolium*, *Medicago*, *Lotus*, *Lathyrus*, *Astragalus*, *Vicia*, *Hippocrepis*, *Ornithopus*, &c., in company with various *Plantagines*, *Cistineæ*, *Silene* and grasses, were now in flower along the coast in great profusion. In marshy spots on the Guadiaro I found *Ranunculus trilobus*, Desf., plentiful, and on dry grass-plots along the river, *Lithospermum apulum*, Vahl. Along the coast occurred *Erythræa maritima*, P., *Stachys hirta*, L., and on isolated spots the small and tender *Lotus parviflorus*, Desf. Under the bushes, from Estepona onwards, *Genista hirsuta*, Vahl., grows plentifully, and on the hills of Marbella *G. umbellata*, L. In the drift-sand of the coast occur *Medicago marina* and *littoralis*, a small Umbellate, *Plantago Coronopus*, L., various grasses, and between Marbella and Fuengirola a beautiful *Senecio*. On the firmer sand-hills blossomed the beautiful *Statice sinuata*, L., in plenty. In the sunny clefts of limestone rocks around Estepona I found *Lotus edulis*, L., with *Asteriscus maritimus*, Mönch., and *Valeriana Calcitrapa*, L., which is also very common on the thatched roofs in Estepona.

* Boissier in his Voyage confounds the Sierra de Yunquera with the S. de la Nieve, and comprises both chains under the name of Sierra de la Nieve. The inhabitants of the Serrania however distinguish exclusively the lower mountain chain lying to the north of Yunquera by this name.

† The Sierra de Estepona bears also, among the people, the name of Sierra Bermeja, and Boissier, in his Voyage, understands constantly the Sierra de Estepona under the last name. But as he sometimes indicates this chain also by its true name Sierra de Estepona, I think the Sierra Bermeja of Boissier so rich in plants is that indicated by this name on all maps, lying west of the Sierra de Mijas, and saw subsequently, to my great disappointment, that I had been deceived.

The corn-fields were surrounded with *Chrysanthemum coronarium* and *segetum*, L., *Anacyclus clavatus*, P., *A. radiatus*, Lois., and other *Anthemideæ*. Under the bushes, between Estepona and Marbella, as well as in the hilly land lying further eastward, occurs, though rather rarely, the beautiful *Lupinus hirsutus*, L., with *Medicago orbicularis*, L. Lastly appear in the above-mentioned hilly land, *Malva hispanica*, L., *Bupthalmum aquaticum*, L., *Linum strictum*, L., *Lin. narbonneuse*, L., *Lathyrus purpureus*, Desf., *Tolpis barbata*, Gärtn., a number of *Cistineæ*, and on moist spots, not rarely, the pretty *Imperata*, as well as, under shady bushes by rivulets, *Arum italicum*, L. In the country distant a mile from the south-western foot of the Sierra de Mijas, close to the village of Fuengirola, lying on the shore, the mountain recedes fully ten miles from the coast, so as to form an abrupt angle with the Sierra de Mijas stretching from north-east to south-west. The rugged Sierra Bermeja forms the western bend of this angle, whose highest points may rise about 5000 feet, and which I visited on the 18th of April from Fuengirola. The whole space between the coast, the Sierra Bermeja and Sierra de Mijas, includes a variously intersected hilly land, watered by the Rio Gomenaro, which separates these two mountain-chains, and is almost wholly covered by a dense Monte-bajo often taller than a man, consisting principally of *Helianthemum glutinosum*? P. On the hills close to the foot of the Sierra Bermeja occurs, very rare, *Cistus ladaniferus*, which was just beginning to unfold its large white blossoms, and appeared to be not frequent in the country along the coast, whilst, for instance, it almost wholly covers the Sierra Morena. I also found here and there *Adenocarpus Telonensis*, Gay., in flower. On the rugged walls of rock facing the north and east of the Sierra Bermeja, covered nearly to its top with shrubs, the splendid *Helianthemum atriplicifolium*, W., began to blossom; I likewise gathered *Senecio Doronicum*, L., var. *lanatus*, Koch. The *Echium flavum*, Desf., occurred but very rarely, and in the clefts of rock *Ranunculus gramineus*, L., var. *luzulæfolius*, Boiss.; somewhat more frequent on the rocks of the summit, *Valeriana tuberosa*, DC., and the pretty *Saxifraga gemmulosa*, Boiss. Lastly, I found at several hundred feet below the highest summit on the south side a splendid *Stipa*, and in shady clefts of the rock at the foot of the mountain the delicate *Arenaria retusa*, Boiss. The northern declivity of the chain is for the most part wooded with cork-oaks.

On the following day my way led me through the lowest and most southern part of the Sierra de Mijas, as this mountain-chain between Fuengirola and Torremolinos stretches to the sea, and in part descends abruptly in rocks into the sea. In corn-fields around Fuengirola I for the first time observed *Vicia vestita*, Boiss., which occurs very plentifully in the environs of Malaga. On the rocky high table-land between Torremolinos and Chuniana blossomed *Cladanthus proliferus*, DC., in company with *Anacyclus clavatus*, P., *Galactites tomentosa*, Mnch., and *Phlomis purpurea*, L., in great abundance. The last is one of the commonest plants of the warm region in Andalusia.

Before speaking of the environs of Malaga, I will endeavour briefly to describe the rich and interesting vegetation of the lofty mountains of Yunquera, which I had an opportunity of investigating during a sojourn of several days at the end of April. The little town of Yunquera lies in an almost circular expanse, surrounded by one of the branches of the Serrania, close to the foot of the steep mountain of the same name. From the mountains of Ronda a branch runs in a north-eastern direction as far as the Guadalhorce, which bounds the wide valley of Yunquera north and east, and forms between this place and the river two parallel chains of 5000 to 6000 feet high, bearing the names of Sierra Blanquilla and Sierra Prieta. Both these chains consist of limestone, and are remarkable for their sterility and nakedness. In one of the valleys running in a southern direction lies the village of Alozáina, through which the road leads from Malaga to Yunquera, and is separated from the Guadalhorce by an undulating hilly land. In these hills I observed large tracts wholly overgrown by *Convolvulus tricolor*, L., *C. undulatus*, Cav., and *Lavatera trimestris*, L.; on dry stones, plots of grass, and under shrubs in sunny spots blossomed *Cleonia lusitanica*, L., *Salvia viridis*, L., *Teucrium pseudo-chamæpitys*, L., *Asperula hirsuta*, Desf., *Micromeria græca*, Bth., *β. latifolia*, Boiss.; in corn-fields *Ornithogalum narbonnense*, L., and a *Phalaris*; and by the road-side *Galactites tomentosa*, *Ormenis mixta*, DC., *Micropus supinus*, L., *Plantago Serraria*, L., *P. albicans*, L., &c. Upon walls and rocks at Alozáina the pretty blue-flowered *Umbilicus hispidus*, DC., is very common, as also on the rocks in the valleys of the Sierra Prieta, which the road crosses. In shady places we meet with isolated specimens of *Sarothamnus affinis*, Boiss. (*Cytisus affinis*, Brot.). Near Yunquera is a rocky eminence, upon which stands an old watch-tower, one of the few habitats of the rare *Digitalis laciniata*, Lindl., which unfortunately was not yet in flower. Here, and throughout all the rocky district of Yunquera, the pretty large-blossomed *Erodium guttatum*, W., is found plentifully. In the same undeveloped state as *Digitalis laciniata* I met with two of Boissier's choice plants, namely *Linaria Clementei* and *Salvia Candelabrum*, which occur at the foot and in the lowest part of the Sierra, and whose stems were just beginning to shoot.

The first excursion which I made from Yunquera led me into the lowest parts of the mountain, toward the *nacimiento* of the Rio Grande. By this is understood the issuing forth of an entire river directly from a cavern in the rock,—the only rivulet of any importance in the whole mountain-chain of Yunquera, which is unusually destitute of water. Through a rocky side-valley, watered by the stream on which the little town stands, we enter on the romantic Barranco del Nacimiento, hemmed in on all sides by picturesque rocks, in the depths of which the water of the Rio Grande, constantly interrupted in its course by immense blocks of marble, apparently loses itself in milk-white foam. At the mouth of the rivulet of Yunquera is a spinning-manufactory belonging to the apothecary of the town, and this spot is the only locality for the rare *Scrophularia*

crithmifolia, Boiss., growing at the foot of the shady rock, which is kept perpetually moist by the spray from the foaming river, and of which plant I have only found a single specimen. On the same rock grows *Campanula Erinus*, L., in abundance, common on all rocks in the lower part of the mountain, as well as in the environs of Malaga; and at the foot occurred, frequent, *Scrophularia auriculata*, L., and various umbelliferous plants not yet in blossom.

From hence I started for the Nacimiento, accompanied by the apothecary and the physician of the town, both friends of M. Prolongo, and from whom I experienced the most hospitable reception. The path winds along the left side of the valley, one while over declivities of boulders, at another on the edge of giddy precipices. Here, upon sunny masses of rock, grows the charming *Linaria satereioides*, Boiss., frequent, together with *Polygala saxatilis*, Desf. (*P. juniperina*, Cav.), *Echium albicans*, Lag., and the beautiful *Reseda undata*, L., a magnificent plant of two to three feet high, with close compact heads of large white flowers with purple anthers, which were unfortunately afterwards lost by accident, as well as some branches of the splendid *Lavatera arborea*, a large shrub of which I remarked in full blossom on a perpendicular, inaccessible wall of rock. In sunny clefts of the rock blossomed the shrubby *Anthyllis podocephala*, Boiss., a beautiful species with golden flowers, also *Micromeria græca*, Bth., *Lavandula multifida*, L., and other rock-plants. Higher up a perpendicular and lofty wall of rock, over which a little rivulet precipitates itself, stretches obliquely across the valley, and closes it abruptly; to the left of this rivulet, and on the right side of the valley, lies the Nacimiento of the Rio Grande. This is a spacious dark rocky cavern, the bottom of which is formed of a large basin of crystal water, from which the stream issues. The entrance of the cavern is overshadowed by old wild fig-trees, in whose shade grow *Orleya grandiflora*, Hoffm., *Scrophularia auriculata*, L., *Gernium Robertianum*, &c.

The next day I made an excursion to the Convento de las Nieves, a lonely convent situated at the foot of the Sierra de la Nieve, which rises in grotesque forms, some leagues to the north of Yunquera. It lies on the acclivity of a tolerably broad valley, filled with thick copse-wood, which passes over higher up into a deep rocky barranco. In the neighbourhood of the convent I found, upon dry grass plots, *Linaria tristis*, Mill., and the pretty *Trixago latifolia*, Rchb. The wood consists mostly of *Quercus Suber*, *Qu. Ilex*, *Qu. lusitanica* and *faginea* (*Qu. faginea*, Lamk., *Qu. valentina*, Cav.), which were just in full blossom; and below, *Qu. pseudo-coccifera*, Desf., *Qu. coccifera*, L., and *Qu. Mesto*, Boiss., a pretty shrubby oak with round thorny denticulated leaves, which was unfortunately not in flower. In this wood I gathered a *Coronilla* (♂), *Cephalanthera ensifolia*, Rich., *Orchis longicrucis*, Lk., *Scilla campanulata*, Ait. (*Hyacinthus cernuus*, Brot.), *Helleborus fætidus*, L., common throughout the whole Serrania, which was here already out of flower, whilst in the alpine regions of the Sierra de Yunquera it had scarcely begun to flower. From hence I ascended to the Pico Jarro, one of the highest rocky summits



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