

The Gargano Peninsula

Europe's Finest Natural Rockery



A Personal View

Paul Harcourt Davies / Hidden Worlds

A few years ago I wrote regularly for *Wild Planet Magazine* and one of those articles was on Gargano building upon another I had written some years previously for the *RHS Garden Journal*. I have tweaked it, again, to give a feel for this wonderful natural rockery to those aiming to travel with us and get acquainted with the Gargano.

For some four decades in spring and early summer, I have tramped the hillsides of Europe - from Mediterranean to High Alps, into the far north. visiting valleys, lakes, woods and pasture driven by a passion for plants and the things that live on them. Above all, it is those intriguing wild orchids that have always held me in their thrall.

When asked about my favourite region for wild orchids, I never equivocate for there is somewhere I first visited in 1979 to get material for a first orchid book. I had purchased a superb series of illustrated photographic works in German by *Othmar and Edeltraud Danesch* and noted that many of their pictures carried the legend '*Gargano Peninsula*'. The urge to get there was formed.

My interest in wild orchids blossomed early, around age 10, in fact, with the discovery of a bee orchid on sand dunes at Kenfig, S Wales. It was not just the intriguing shapes formed by the third petal or 'lip' that got to me...lizard, fly, bee, frog and tiny human figures: lady, man, soldier and monkey orchids, but the whole life cycle, especially pollination mechanisms that seemed endlessly fascinating. Gargano is often cited as an orchid hotspot but is so much more with a very wide range of plant species, butterflies, moths, birds ...

So where is Gargano and what is it? Well, if you take a closer look at a map of the boot shape of Italy you will find a 'spur'. This is the Gargano peninsula, a gigantic limestone 'lump' that seems to rise from the Adriatic sea beyond the plain of Foggia. It just happens to be the most wonderful natural limestone rockery I have ever encountered in many years of looking for wild orchids and bulbous plants – those things that got me into photography in the first place.

The origins of Gargano stretch back through the Cretaceous and Jurassic periods when



Floral displays near Monte Sant Angelo, Gargano, Puglia, Italy

dinosaurs held sway and limestones were laid down in the warm, shallow seas as countless millions of micro-organisms died where their calcareous remains formed a sediment. In fact, this was once an island, part of an archipelago lying off the Dalmatian coast of what is now Croatia. It was forced closer to the Italian mainland on its tectonic plate: the separating channel became silted up to form the fertile plain of Foggia.

Through leading tours, both my own and for others, and now by living just 4.5 hours away, I have made over 40 visits, in as many years. Thus I have spent a good year and more in total which has allowed me to savour the atmosphere of a remarkable place. Gargano is isolated from neighbouring land masses, the Murgia hills lie some 40 km away to the west. This has enabled orchids to evolve separately from their nearest mainland relatives, thanks to a complex interplay between pollinating insects and flowers.

Gargano is certainly not a wilderness in the accepted sense of the word, yet, at close quarters, it is with mini worlds existing in its karstic limestone pavements.

There is limited tourist development near the coast, where Aleppo pines descend from white calcareous cliffs to the sea and the waters are a deep azure blue. Inland, however, Gargano is sparsely populated since much of the interior is upland landscape, threaded with miles of ancient stone walls and peppered with conical dwellings - 'trulli' - whose design dates back to the stone age. The local inhabitants cleared fields for subsistence farming and had to do something with those rocks, after all.

By the time sun-seekers arrive the land is desiccated and orchid tubers have a period of summer dormancy (aestivation) protected by hard-baked, clay-like soils around them. The first few drops of autumnal rains that manage to penetrate stimulate vegetative growth again and leaf rosettes begin to appear.



a. A seasonal pond with water crowfoot.

b. The ridge near Monte Sant'Angelo

c. Ancient stone enclosures rich in orchids

d. Woodland flowers nr San Giovanni Rotondo

Humans and Gargano

This interaction of humans and the land fascinates me: sometimes, over-zealous (but well-meaning) conservationists forget the influence humankind has had on habitat diversity. The Gargano landscape would not exist, as it now does, but for human intervention - over the millennia. Without traditional grazing by cows, that crop higher than sheep and goats and leaving orchid and other plant leaves intact, parts of Gargano would rapidly become devoid of plant variety. Flowering from one year to the next is greatly influenced by the onset of spring and exactly when animals are put out to pasture.

On the heights, with their sparse soils there is little competition from other plants and so wild orchids and numerous bulbous species (tulips and irises) flourish. Floral displays are often a feast for the eyes revealing Mother Nature, the gardener, at her best.

Getting The Best from Gargano

There is a wonderful beech forest at high altitude, the *Foresta Umbra*, that is maintained under the control of the *Corpo Forestale* and

grazed by cows that crop at just the right height to leave it carpeted in spring with blue, white and magenta anemones, white narcissus and yellow orchids... Bird life is extraordinarily rich with five species of woodpecker, goshawk, eagle owls, hoopoe and golden oriole...

Although the richness of Italian history is famed through the world, its astonishing natural history is not. For me, Italy has always been synonymous with incredible displays of wildflowers through spring and early summer.

To get to the best areas on Gargano you have to walk off the beaten track and through countryside rich in wild irises – both the dwarf yellow *Iris lutescens* (*Iris pseudopumila*) and the taller, scented, *Iris bicapitata* (mainly dark blue but also light blue, yellow and white a Gargano endemic. This is no chore when, in dozens of ancient, stone-walled and stone-strewn fields between Monte St Angelo and San Giovanni Rotondo, for example, you can find literally thousands of *Ophrys* and drifts of *Orchis*: pink butterfly (*Orchis papilionacea*) and green-winged (*Orchis morio*).



A Trabucco...one of the traditional coastal fish traps with nest lowered and raised by pulleys to catch shoals of fish. This one is about 300 years old but the design dates from Phoenician times..ten times older.

Ophrys specialities of Gargano



<i>Ophrys sipontensis</i> Siponto Orchid	<i>Ophrys parvimaculata</i> Small-patterned Orchid	<i>Ophrys cornuta</i> Horned Ophrys	<i>Ophrys archipelagi</i> Archipelago Orchid
<i>Ophrys apulica</i> Apulian orchid	<i>Ophrys bertoloniformis</i>	<i>Ophrys promontori</i> Promontary Orchid	<i>Ophrys biscutella</i> Shield Orchid

Gargano has long been a 'splitters' paradise with each slightly different *Ophrys* being ascribed to a new taxon. For those of us who hold that simplicity is important these are geographical variations: to others they are new species, to be named. Above are some of the Gargano specialities we hope to come across...one year can differ from another and we try but cannot promise.

Most of these flower through March into April (and sometimes earlier on the lower ground closer to the sea). There are a few species (shown below) that flower in mid-May.

Ophrys conradiae: *Ophrys fuciflora* ssp *cinnabarina*: *Ophrys fuciflora* ssp *gracilis*: *Ophrys lacaitae*



When we lead tours and run workshops endeavour to help participants begin see the wider picture in order to gain an insight into the way that nature works. It is not just a case of finding new species and hybrids to photograph but of understanding where and how they grow, why numbers fluctuate, their life-cycles and the way they entwine with the whole ecosystem.

Orchids are great indicators of healthy terrain because they cannot survive heavy cultivation and use of fertilisers or herbicides and thus, where they grow, many other species of flowers and insect will thrive, too. I have always considered that orchids act as a kind of 'barometer' for the state of the terrain... when local conditions change some species will disappear and yet others thrive.

There is a lively debate as to the exact number of orchids species in Europe in general and in Gargano in particular, especially when it comes to endemics, those species and subspecies (taxa) –unique to the peninsula or its near territories. An area like

Gargano gives a sense of perspective when you can examine a myriad orchid flowers of the same species and thus get a feel for the innate variability, which can be considerable. Too often, extreme examples of a single species are conveniently selected, all intermediates are neglected, and a new 'species' is dutifully announced in a journal that is not 'peer reviewed'. Once upon a time, I was deeply preoccupied with orchid taxonomy (particularly the genus *Ophrys* those insect mimics) but this 'trainspotting' approach makes me despair.

We recommend : *Field Guide to the Orchids of Europe and the Mediterranean* by Kuhn, Peterson and Cribb should help...it also happens to contain numerous images by P.H Davies ...

Many people think of any science as having rules and being 'exact' but there are differences of opinion and a veritable battlefield exists with wild orchids, particularly with the insect-mimics of the genus *Ophrys*.



It is not just the diversity of species, sub-species and hybrids in Gargano but the sheer numbers - here the obvious orchids are the naked man (Orchis italica) but there were 13 species present on the same day.



OPHRYS hybrids and varieties

<i>O. x permutata</i> <i>O. biscutella</i> x <i>O. bertoloniformis</i>	<i>O. x montis-angeli</i> <i>Ophrys biscutella</i> x <i>O. tenthredinifera</i>	<i>(O. x flavicans)</i> <i>Ophrys bertoloniiformis</i> x <i>O. sphegodes</i>
<i>Ophrys sipontensis</i> unusual green form	<i>Ophrys passionis</i> x <i>Ophrys bertoloniformis</i> .	<i>Ophrys passionis ssp virescens</i> <i>(O. garganica ssp virescens)</i>
<i>Ophrys lacaitae</i> x <i>Ophrys fuciflora ssp gracilis</i> .	<i>O. x salentina</i> <i>O. tenthredinifera</i> X <i>O. apulica</i>	<i>Ophrys passionis</i> lacking colour pigments
<i>Ophrys apulica</i> x <i>O. passionis</i>	<i>Ophrys passionis apochromic form</i> where speculum extends to cover the whole of the lip	<i>O. x lupiae</i> <i>Ophrys bertoloniformis</i> x <i>O. tenthredinifera</i>

There are a thousand and more tales to be unraveled within individual niches in the various ecosystems. One of them has long fascinated me and that is the link between small bees and various species of the insect-mimicking orchids – the *Ophrys*.

The flowers secrete scents in early spring that are pretty good copies of the pheromones produced by the female hymenopterans (tiny solitary bees and wasps). Micro-chromatographic analysis reveals some super-stimulants in there, too, so the male bees (which usually emerge before the females) are drawn to the *Ophrys* flowers in preference to females of their own species.

The duplicity is masterly for the orchid lip looks like a nice juicy female, even down to having strategically placed hairs to stimulate the male and shiny patches that mimic reflections from female wings.

Males attempt to copulate (pseudocopulation) and, in so doing whirl around in what looks like abject frustration. In doing so they remove the pollinia (pollen bundles) from the orchid... then fly off to the next flower and try again.

This promotes fertilisation when the pollen bundle fractures on the stigma of the next

flower during the subsequent ‘romantic’ act. This capacity for extreme sexual delusion is, I am reliably reminded, a ‘male’ thing!

There is also a high fidelity of the insects to particular species (or subspecies) of orchid so hybrids are rare but seem to be more frequent in Gargano than anywhere else I know. This is possibly because both orchids species and their pollinators are in a state of evolutionary ‘flux’.

The act of ‘pseudocopulation’ is not easy to photograph for it seems that many species of male wasps do not get active at temperatures much below 17°C and the action can be extremely speedy – very much of the “wham, bang, thank-you-mam” variety.

I have heard of some workers putting superglue in flowers as a means of capturing insects – all in the name of science. I am one who cannot and will not subscribe to such things. I prefer to watch and wait...and wait.

Most people interested in nature visit Gargano to coincide with the height of the main Orchid flowering season throughout April: the precise timing of which depends upon altitude.



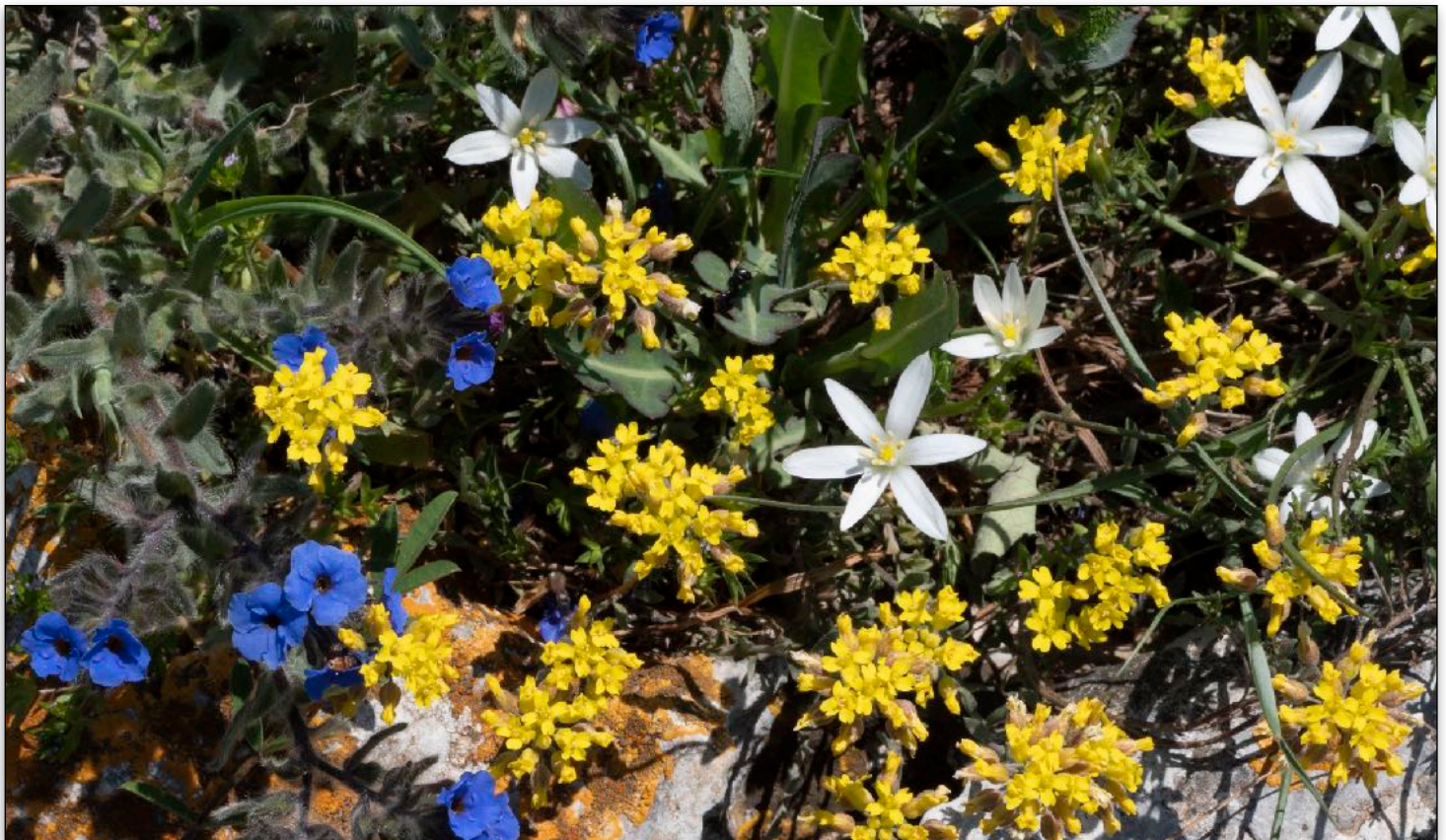
OPHRYS 1 - endemics and specialities

<i>Ophrys promontori</i> Promontary Orchid	<i>Ophrys sipontensis</i> Siponto Oprchid	<i>Ophrys archpelagi</i> Archipelago Orchid
<i>Ophrys parvimaculata</i> Small-patterned Orchid	<i>Ophrys biscutella</i> Shield Orchid	<i>Ophrys cornuta</i> Horned Ophrys
<i>Ophrys apulica</i> Apulian orchid	<i>Ophrys apulica</i> Apulian orchid	<i>Ophrys bertoloniformis</i>

Those friends fortunate to live there begin finding orchids, such as the Giant orchid (*Himantoglossum robertianum*) and the *Orchis collina* (syn *O. saccata*) in later December /early January. Spring starts slowly and there is a host of other species such as anemones, narcissus and grape hyacinths to add colour.

The most common grazing animal in Gargano is the cow – lovely soft-grey animals of an ancient species with large horns. They crop at a greater height than sheep or goats in open pastures and through the forests and, in the upper pastures, you will often find orchid plants just a few centimetres tall flowering in late April after having been munched as rosettes when buds were still safely concealed and the flowering stem had not begun to extend.

Over the years, we have explored most of the Gargano mountain tops in spring where, if you love mountain flowers, each few steps brings new joy with a riot of multi-coloured pansies, anemones, buttercups...within a very loose woodland of shrub-like downy oaks (*Quercus pubescens*) stunted by the harshness of baking summers and cold, often snowy winters.



Sheltered within the outcrops of vast limestone areas in the uplands there are innumerable small rock gardens where just a few species can provide colour: white star of Bethlehem (*Ornithogalum umbellatum*), yellow rock alyssum (*Alyssum saxatile*) and blue dyers alkannet (*Alkanna lehmanii*)



OPHRYS 2 - endemics and specialities

<i>Ophrys passionis</i> Gargano Orchid	<i>Ophrys lutea</i> Yellow Orchid	<i>Ophrys bombyliflora</i> Bumble bee Orchid
<i>Ophrys atrata</i> Dark Orchid	<i>Ophrys bertolonii</i>	Ophrys
<i>Ophrys neglecta</i>	<i>Ophrys tenthredinifera</i> Sawfly Orchid	Ophrys speculum

The higher ground of the Gargano peninsula forms an ancient landscape with ruined stone farms “*masseria*” and the conical prototypes of the “*trulli*” found further south. These are set within a network of snaking stone walls built around depressions where animals have grazed over the millennia in natural pounds. The walls were often built to rim ‘dolines’ - craters where erosion by water in the limestone beneath.

Gargano is under pressure from over-grazing which denudes hillsides and a few people, whom we are privileged to know, work tirelessly to protect what is there. Fly-tipping occurs to a worrying extent and, as so often happens, people do not realise what a treasure house they have. Every year we visit there are changes ...some for the better such as new initiatives to inform visitors via marked trails and illustrated panels that deal with the wild creatures, flowers and history of this remarkable area. Others do not augur well such as fencing off of land and much heavier grazing from sheep and goats...the numbers of such animals has vastly increased and they denude huge tracts of species-rich pasture.





ORCHIS relatives: *Orchis*, *Anacamptis* and *Neotinea*

<i>Anacamptis papilionacea</i> Pink Butterfly Orchid	<i>Anacamptis papilionacea var rubra</i> Pink Butterfly Orchid	<i>Orchis italica</i> Naked ManOrchid
<i>Orchis anthropophorum</i> Bug Orchid	<i>Orchis purpurea</i> Lady Orchid	<i>Orchis provincialis</i> Provence Orchid
<i>Neotinea tridentata</i> Toothed Orchid	<i>Orchis coriophora</i> Bug Orchid	<i>Orchis collina</i> Hill Orchid
<i>Neotinea lactea</i> Milky Orchid	<i>Orchis pauciflora</i> Few-flowered Orchid	<i>Anacamptis morio</i> Green-winged Orchid
<i>Orchis quadripunctata</i> Four-spotted Orchid	<i>Neotinea ustulata</i> Burnt-tip Orchid	<i>Anacamptis morio</i> Green-winged Orchid



<i>Orchis italica</i> growing besides its deeper coloured hybrid with <i>O.</i> <i>anthropophorum</i> <i>x Orchis bivonae</i>	<i>Orchis anthropophorum</i> <i>x O. Italica</i> <i>x Orchis bivonae</i>	<i>Orchis anthropophorum</i> Man orchid	<i>Orchis purpurea</i> Lady Orchid	<i>Orchis purpurea x O.</i> <i>anthropophorum</i> <i>x Orchis duffortii</i>
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NB. There were genera *Orchis*, *Neotinea* and *Aceras* before the detailed study of the DNA of European orchids which prompted a rearrangement into *Orchis*, *Anacamptis* and *Neotinea* with the elimination of *Aceras*. Since hybrids are usually created within genera, this makes it easier to understand why some hybrids occur and others do not...similar insects (often butterflies and moths) visit the species in profusion in meadows such as those you often see in Gargano. The Man Orchid (*Orchis anthropophorum*) was known for many years as *Aceras anthropophorum* and it forms hybrids with *O. italica* (Naked Man), *O. simia* (Monkey), *O. purpurea* (Lady) and *O. militaris* (Military) when they grow together.

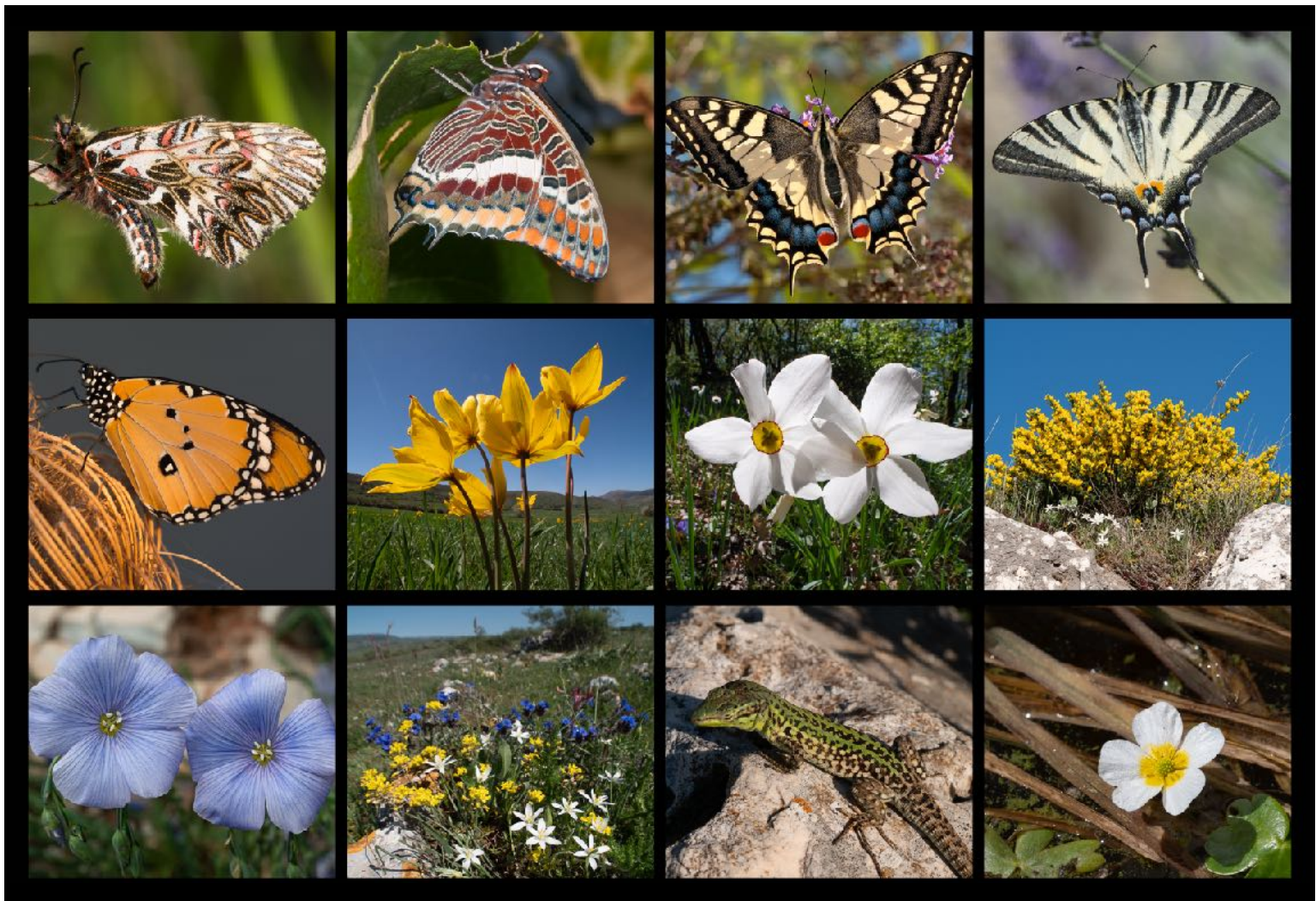


A VARIETY OF GARGANO FLOWERS

<i>Aubretia columnnae</i>	<i>Paeonia macula</i> Male Peony	<i>Orchis italica</i> and hybrid with <i>O. anthropophorum</i>	<i>Tulipa australis</i> Yellow Tulip
<i>Anemone hortensis</i> , <i>A. apennina</i> . Peacock & Apennine anemones	<i>Viola heterophylla</i> Gargano violet	<i>Narcissus poeticus</i> Poets Narcissus	Yellow Asphodel <i>Asphodeline lutea</i>

Gargano plays host to numerous orchid species and many flowering plants, including endemics during spring and summer... but there is also the spectacle of a floral explosion that begins with anemones in the lowlands followed by tulips, narcissus, irises and many other species on higher ground: peonies, violas, asphodels... Some of these are widespread but others, such as the delightful endemic *Aubretia (A. columnnae)* clings to walls around Mt St Angelo and just a bit further afield. In autumn, the Foresta Umbra becomes carpeted with pink cyclamen (*C. hederifolium*) and numerous species of fungi appear. Intensive cultivation in the lowlands has put paid to those many areas ablaze with scarlet poppies and yellow crown daisies but they are still there along roadsides or in fields left fallow.

Wherever there is a rich and diverse flora there will be a correspondingly varied insect fauna and the birds that feed on them. Unfortunately, in Gargano, as in many other places the use of sprays has reduced insect populations but there are still numerous butterflies to be found in spring and early summer and then again in autumn after the summer heat has subsided...swallowtails (both common and scarce) are frequent and a special treat in late summer near Lago di Lesina might be the plain tiger (*Danaus chryssipus*). Hawkmoths are to be found including spurge hawk (*Hyles euphorbia*), death's head (*Acherontia atropos*), oleander (*Daphnis nerii*) and convolvulus (*Herse convolvuli*).



SOME MORE GARGANO TREASURES...FLORA AND FAUNA

Southern festoon (<i>Zerynthia cerysii</i> ssp <i>cassandra</i>)	Two-tailed Pasha (<i>Charaxes jasius</i>)	Common swallowtail (<i>Papilio machaon</i>)	Scarce swallowtail (<i>Iphiclides podalirius</i>)
Plain tiger (<i>Danaus chrysippus</i>)	Yellow tulip (<i>Tulipa sylvestris</i> ssp <i>australis</i>)	Poets Narcissus (<i>Narcissus poeticus</i>)	Dyer's greenweed (<i>Genista tinctoria</i>)
Perennial flax (<i>Linum perenne</i>)	Floral display (<i>Ornithogalum, Anchusa,</i> <i>Alyssum</i>)	Italian wall lizard (male) (<i>Podarcis sicula</i>)	Water Crowfoot (<i>Ranunculus aquaticus</i> sp)

Author's Note

This account is a personal view of Gargano and the diversity of its treasures with the intention of bringing its richness to the attention of people who would like to go there and who will appreciate what Gargano has to offer. In no sense is it intended to be complete.

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