

Nature Guide: Canale Monterano and its Nature Reserve

the environment, the itineraries, the services



Monti della Tolfa Life+ Nature Project



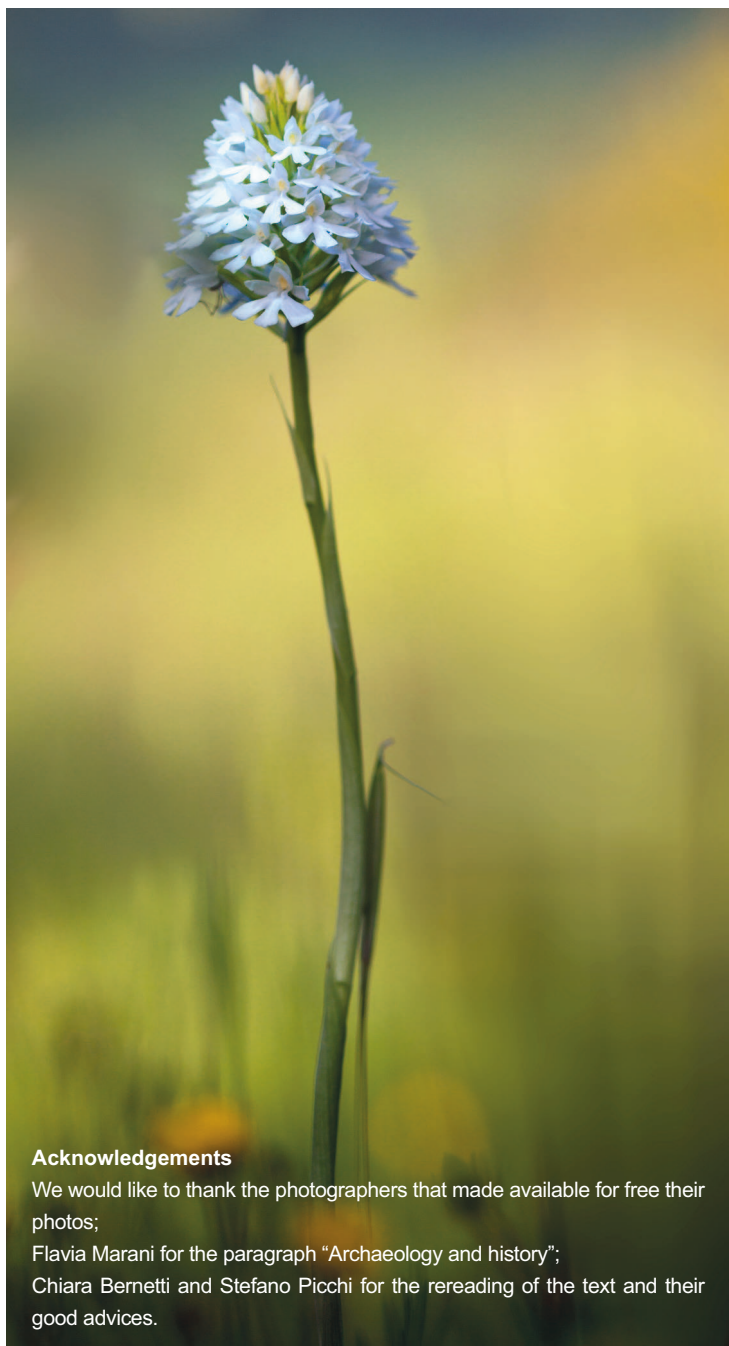




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Preface

In the Region of Lazio years have not passed in vain, years when the environmental conservation and the defence of naturalistic areas have become protagonists of many projects that have changed the story of our territories. For the most part they have transformed it in an ameliorative way, and above all, in a free way. A network of ecosystem safeguarding has been developed uninterruptedly, it has gone beyond profits, advantages and purposes not relevant to the key setting: the protection as a binding reason.

Thanks to this path, today we have a great number of naturalistic areas that embellish our territory. The example of Canale Monterano and of its nature reserve is one of the most beautiful realities between them, since it holds environmental, archaeological and historic aspects. The local community has been able to use this occasion, and after the preliminary step of settings and protection, they have gradually begun to put it into play, in terms of reception, sharing and productivity: this is the aspect I want to value, within the strategic resolution that the current Regional Administration is defining in these months. I believe it's useful to remember, between the first measures executed by the Nicola Zingaretti Committee, the latest approval of the Guidelines about a regional legislation revision regarding nature preservation, protected areas, biodiversity and geo-diversity protection. What will these Guidelines be helpful for?

They represent the preconditions for a Bill about biodiversity, geo-diversity and protected areas. In this way we aim for establishing standards, values, purposes that, at this point, will have to restart the environmental opportunity as a means of a sustainable and productive development. It's necessary make easier and efficient the management system, improve the ability of management authority to self-financing forms compatible with their own mission, in order to supplement the regional fundings and to activate private, business or voluntary work resources, so as to enhance services offered and contribute to the protection activities.

In this path, that aims for animating the opportunities of the naturalist protection plans carried out so far, this guide about Canale Monterano Nature Reserve is an excellent business card.

Fabio Refrigeri

Regional Councillor for the Infrastructure, Housing Policy and Environment

Foreword

Here you can breathe air of eternity. Gentle little hills, green pastures, luxuriant woods and deep forre (tufaceous canyons) cradle quiet streams and constitute the crown of our wonderful territory, full of ancient traces and thousand-year old history.

The ancient Etruscan love of life can be perceived during the beautiful spring-like days, close to the many tufaceous ridges where you can find the unique sign of their presence: the necropolises, scattered, here and there all over our territory. The ancient glory of Rome regains strength through Roman villa ruins, the wonderful Via Selciata, the majestic Ponte del diavolo (Devil's Bridge), the Thermae Stygyanae and the magnificent and inhabited cliff of Monterano, our latest history.

Thousands of years have passed in this wonderful context composed of nature, history and culture; today we can enjoy our territory and we thank those who have preceded us for having left this very precious heritage. It will be our duty to ensure that everybody has a responsibility to allow the future generations to enjoy the same privilege.

This project, funded by the European Union, connects history and culture of an important territory which, since the dawn of time, combines culture and destinies of an important Lazio community, who tenaciously has been able to survive in a beautiful but, at the same time, rough and difficult land. The butteri (Italian cowboys), ancient expression of breeding and outdoor life, are always the myth of this reality. They live in symbiosis with horses and breed Maremma cattle; they enjoy nature with attention and respect, knowing every corner of this rugged territory, the shelters, the animals and the wild herbs that expertly cooked join in a traditional and delicious soup called acquacotta ("cooked water").

The Municipality of Canale Monterano is getting involved with this project by a small share, optimizing human and economic resources, we will try to make an extended and passionate community sector aware of local treasures, history and nature including the engagement of Monterano Reserve and Università Agraria (managing authority of commons) staff. The Università Agraria has had a very important role in the territory protection and now, more than ever, it's the only real bulwark in our territory defence.

Angelo Stefani

President of Monterano Regional Nature Reserve

Mayor of Canale Monterano

Introduction

Monterano Nature Reserve has been established under the Regional law n. 79 of 1988, and later extended by the Regional Law n. 62 of 1993 to protect the Mignone River inside the municipal territory, it covers nearly 1085 hectares. The Reserve is managed by the Municipality of Canale Monterano and consists of wide portions of woods, pastures and cultivated lands, deep valleys dug by streams through the rock, which represent aspects of relevant geological interest, with the wonderful sheer tufaceous sides, rare species of fauna and flora, and a very important cultural heritage, the ruins of old Monterano and several Etruscan necropolises on the territory.

Besides there are many important traces of the work of generations of miners, who have left an impenetrable network of subterranean tunnels.

The Reserve acts to protect and value this extended environmental and cultural heritage: don't forget that thanks to the presence of the protected area, enormous economic resources has been made available by the EU, the state, the region and the province, as for instance, Life+ Nature Monti della Tolfa Project, that has permitted this publication and other tangible interventions on the territory, described underneath. Local traditions are really significant too, they give rise to local festivals during summer and to several expressions of the *buttero* (Italian cowboy) culture.



Field oaks, Ara del Tufo

The Monterano Nature Reserve environment

The territory of Monterano Nature Reserve is geologically and morphologically extremely varied: there are volcanic elevations, hilly plateaus with not very

craggy slopes that alternate to valleys extremely dug out and with very steep sides, almost vertical in the typical *forre* (tufaceous canyons). The altitude changes from 470 m on Monte Ciriano, down to 136 m of Mignone River, bordering Tolfa.

It's a land emerged during the end of Pliocene Epoch and the middle Pleistocene Epoch, overturned in its sedimentary origin by the extended eruptions happened about 600,000 years ago, along the main fault lines, when Sabatini Hills rose up. On the border we have Tolfa Hills, one of the oldest expressions of the Pre-Apennines volcanism, its apparatuses are dismantled far-back. The territory of the reserve is between the volcanic system of Bracciano, characterized by basic volcanic rocks and the *Flysch* hilly complex.

The climate is Mediterranean-like (1,000 mm of average rainfalls with an average temperature of 15 °C), with precipitations from autumn to spring and a moderate summer dryness. However the microclimate can be very different along Mignone Valley and especially inside the *forre*, where a considerable temperature inversion occurs that keeps a high grade of humidity.

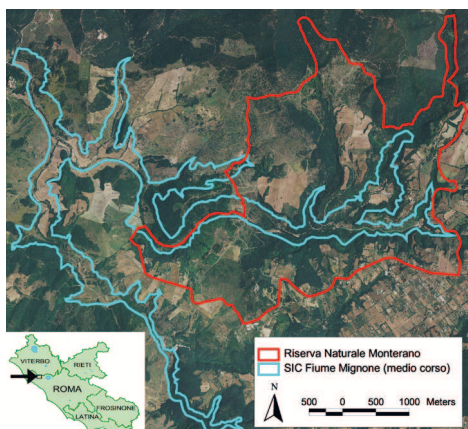
Because of the high variability of the microclimate and the soil, there is a variety of vegetation and in a few dozen metres it changes from a hygrophilous environment inside the *forre* to a dry environment on the rocky slopes. After human utilization, a mosaic of vegetation originated: there are woods on the hills, along the streams and in the more inaccessible locations; there are shrubby pastures and cultivated lands in the flat areas (arable lands, olive



Mignone River Valley below old Monterano

groves, vineyards), modelling the typical *Maremma* landscape.

Natural vegetation is characterized by deciduous oaks, and Turkey Oak is predominant, but in the rocky slopes some groups of Holm Oak are present. Inside the *forre*, humus accumulation and a mass of humidity allow the presence of more mesophilous species as Hornbeam, Sycamore Maple and even Beech.



The Reserve and Mignone River middle course SCI

Along streams Black Alder woods are present, with poplars and willows. The specific conditions of humidity and temperature inside the forre, together with the presence of many springs rich in minerals and the emissions of sulphur, permitted the preservation of some ice age relict populations, as Sphagnum mosses (*Sphagnum capillifolium* var. *tenerum*, *S. girgensohnii*); they grow in the alpine peat bogs, so the reserve population constitutes the unique site in

Central and Southern Italy. Inside the forre there are some rare ferns as Royal Fern (*Osmunda regalis*) and Hard Fern (*Blechnum spicant*). About 30 species of orchids are present, and there is also a great fauna variety: between the insects, 20 species of dragonflies and 60 species of butterflies, between the vertebrates over 140 species, more than half of those present in the whole of Lazio. Many of them are species of Community interest and are described underneath.

Archaeology and history

Thanks to Flavia Marani, archaeologist

Canale Monterano territory offers an extremely varied and evocative landscape, shaped in the rocks by the flowing of many streams. The deep and narrow forre (tufaceous canyons) carved by streams or valleys dominated by isolated plateaus are suddenly replaced by wide flat areas and gentle slopes, partly designed for pastures and cultivated lands and partly exploited for wood production and all the economic subsistence activities of the different communities who settled here, more than once and in several forms, since ancient times.

The evidence of human presence in this territory doesn't go beyond the Neolithic period, composed of some random surfacings of stone tools; we find more considerable traces during the final stage of the Bronze Age (11th - 10th centuries BC), when Monterano plateau is probably occupied by a village. Its configuration – a roughly triangle shaped hill, placed where Mignone River and Bicione Ditch join together, digging the steep slopes – made Monterano the most strategically suitable place for human settlement over the years. We find more evident forms of settlement starting from the Orientalizing Etruscan period (8th - 7th centuries BC), when a population increase in Sabatini Hills and Tolfa Hills territory was recorded. The presence of a stable and economically prosperous settlement, under the cultural and commercial sphere of influence of *Caere* (Cerveteri) supervising Mignone River, is emphasized by some roads “cut” into the rock and by some small groups of necropolises around (*Bandita*, *Ara del Tufo*, *Frassineta*,

Palombara) and far from the settlement (*Grottini di Rota*).

The Roman occupation of the northern territories, from 4th – 3th centuries BC, caused the gradual decadence and abandonment of Monterano. Trades were “redirected” after the building of *Via Clodia*, depending on the new administrative centre, risen up on the Lake Bracciano, *Forum Clodii*. Monterano territory became crowded with Roman villas and big farms, whose economic level sometimes was very important, as proved by a remarkable Roman sarcophagus, now kept at Villa Giulia Museum. These fertile plains were crossed by a path, called *Selciatella*, that led to the sacred complex of Stigliano, the *Aquae Apollinares Veteres*, after climbing over a ditch and a valley by an important flyover 90 metres long, called Ponte del diavolo (Devil’s bridge). Thanks to professor L. Gasperini, from Canale Monterano, we know the ancient history of this territory, resulting from his archaeological researches and his passionate studies for more than 40 years.

After the Fall of the Roman Empire, as a consequence of the devastations and insecurity caused by the long Gothic War and the Lombard occupation of the Tuscia territory, Monterano obtained again a leading role thanks to its location, between the Duchy of Rome and the Kingdom of the Lombards. During this



Aerial view of old Monterano

period (6th and the first half of 7th centuries AD) the episcopal seat has been relocated from Forum Clodii to the more secure plateau of *Manturanum*. The *castrum* and its bishops are more than once mentioned in many ecclesiastic documents until 998, but the archaeological evidences are limited to few sculpted fragments coming from the cathedral, the ecclesia *Sanctae Mariae*. During the central Middle Ages centuries, after the suppression of the episcopal seat, the *castrum* of Monterano became a part of the San Paolo fuori le Mura Abbey property: during this period (11th century) a massive foursquare tower has been built on the top of the spur, later inserted as mastio (fortified tower) in the stronghold structures (12th or 13th century). Walls have been joined, provided with three entrances: *Porta Cretella*, the most scenic one, is located on the southern front.

From the 14th century the fief of Monterano became a part of different aristocratic Roman families properties, such as the Anguillaras, the Colonnas,

Della Rovere, and finally the Orsinis, within the Duchy of Bracciano. A big economic impulse to Monterano castle came from the exploitation of mineral deposits, especially after the discovery of the alum presence on Tolfa Hills. During the 16th century the population increase, caused by the colonisation of Tuscan hired men and loggers, and the necessity of coal for metallurgic activities, promoted the deforestation of wide slopes and the tillage of new cultivated lands. Some human settlements are growing on Monte Sassano and Canale di Magliano: they will be Monteverginio and Canale. The decadence of the Orsinis, some years later, transformed Monterano into a *castrum exiguum et angustum* (small and poor castle), gradually depopulated because of the new settlements or rural homes (e.g., Casale della Palombara, Casale di Santioro, Casali Pigna, Roghi, Chirichilli, Rabbai, Monte Guasto). In 1671 the territory became property of Emilio Bonaventura Altieri, Pope Clement X, who promoted an urban and monumental rearrangement: Gian Lorenzo Bernini, Carlo Fontana and Mattia De' Rossi had to design it. The austere fortress became more distinguished, with the creation of a fake ruins loggia and a majestic fountain *a scogliera* (carved into the rock), with a heraldic Lion (Coat of arms of Paluzzo Paluzzi Altieri degli Albertoni family, Cardinal-Nephew to Pope Clement X), provided by the double arched aqueduct.



The Lion, made by Bernini

In 1676 between the several construction sites, the most interesting is the building of the Baroque church and the convent of St. Bonaventura, outside the walls, at the western far end of the plateau. Anyway Monterano demographic decline seemed to be unstoppable, also because of the noxious air and the distance from the main routes.

In 1799 the village was almost deserted when it was damaged by French troops and anti-French insurgents, and after some years it was completely abandoned.

Today old Monterano appears as a majestic architectural complex. Thanks to the presence of Monterano Nature Reserve the site is protagonist of important restoration works



The fountain made by Bernini and St. Bonaventura convent

The Natura 2000 Network

From www.minambiente.it

The Natura 2000 network (Monterano Nature Reserve territory stands within the network, EN) is the EU's most important initiative for the preservation of biodiversity. It's an ecological network widespread all over EU territory, established under the "Habitats" Directive 92/43/EEC to assure the long-term survival of natural habitats and fauna and flora species considered to be extremely rare or seriously threatened in Europe.



There are 2 different types of sites that make up this large network: Sites of Community Importance (SCI), identified by Member States under the Habitats Directive, later designated as "Special Areas of Conservation" (SAC), and Special Protection Areas (SPA), established under the "Birds" Directive 2009/147/EC, concerning the preservation of wild birds.

The areas composing Natura 2000 are not a system of strict nature reserves where all human activities are excluded; the Habitats Directive intends to assure the nature conservation taking "account of economic, social and cultural requirements and regional and local characteristics" (art. 2). Natura 2000 sites can continue to be privately owned, ensuring a sustainable management, both ecologically and economically.

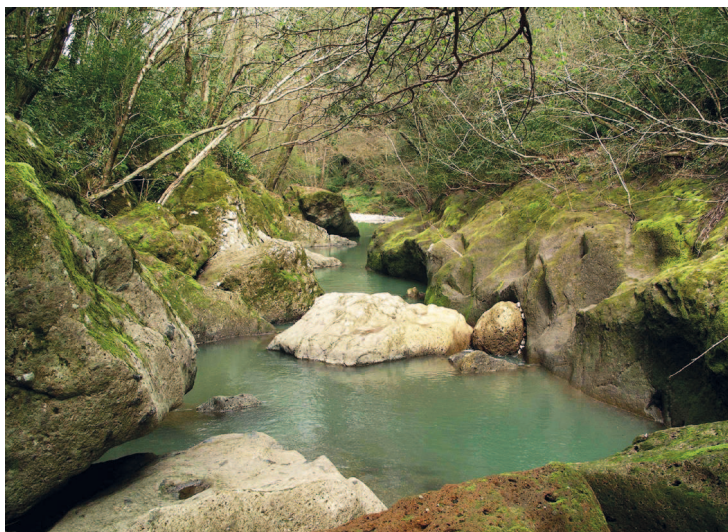
The Directive also gives full importance to all those areas where human presence and its traditional activities over the centuries permitted the maintenance of an interaction between human activities and nature. For instance in farming areas we find several fauna and flora species, now rare and threatened; to assure their survival it's necessary to continue and value traditional activities, like pasture or not intensive farming.

In the Directive headline is specified the goal to preserve natural and semi-natural environments (as traditional farmlands, forests subjected to certain form of coppicing, pastures, etc.).

Another Directive original step forward is recognizing the importance of some landscape elements that play a connection role for wild fauna and flora (art. 10). The Member States are encouraged to maintain or develop if necessary these elements to improve the ecological coherence of Natura 2000 network. In Italy the SCIs and the SPAs represent the 21% of national territory.

The Tolfetano-Cerite-Manziate District SPA

Tolfa Hills constitute a natural environment of remarkable charm, only 50 km from Rome, they are one of the most extraordinary examples of biodiversity in Central Italy. To protect this treasure, especially bird species and their habitats, almost 70,000 hectares have been included in the *Tolfetano-Cerite-Manziate*



Lenta Ditch, in the Mignone River middle course SCI

District SPA (IT 6030005), or simply *Tolfa Hills SPA*. It's one of the biggest SPA in Lazio, it covers the entire area from the Tyrrhenian Sea (the border is about a hundred metres from the coast) to the Sabatini Hills, that surround Lake Bracciano, occupying the territory of 14 municipalities, 2 provinces and 3 nature parks: Bracciano-Martignano Park, Marturanum Park and the entire Monterano Reserve.

The area has a hilly morphology, where Mignone River and its affluents have carved valleys more or less deep, depending on the substratum, with the typical *forre* (tufaceous canyons) almost vertical. The climate is Mediterranean,



Extensive pasture, with trees and shrubs, Bandita

but it can change locally, depending on exposure and altitude, allowing the presence of several vegetation types: from maquis shrubland to Beech woods (Beech is widespread only on the Alps and Apennines).

The primarily purpose of the SPA, established under the Birds Directive, is to maintain an opportune conservation of bird species and their habitats of Community interest. This area is well known because of the abundance of birds of prey, facilitated by the typical environmental mosaic, with woods where nesting and open hunting-grounds: sowed fields and pastures managed extensively with bushes and elements of the traditional agrarian landscape as dry stone walls, hedges and field trees, where their preys breed. These agricultural ecosystems are an excellent example of semi-natural environment included in the Habitats Directive, where the traditional activities conducted over the centuries have assured the conservation of biodiversity; today they are threatened in Europe by intensive farming (mono-farming, use of pesticide) and, on the contrary, by the abandonment of lands, that causes the invasive diffusion of shrub-like species

The SCIs

Within the *Tolfa Hills* SPA there are some areas of specific naturalist value thanks to the presence of habitats and/or species of Community interest. These areas have been identified as Sites of Community Importance (SCI), under the Habitats Directive:



Tolfa Hills SPAs and SCIs (denominations in the next paragraph)

IT6010030	<i>Area di S. Giovenale e Civitella Cesi</i> (San Giovenale and Civitella Cesi area)
IT6010033	<i>Mola di Oriolo</i> (Oriolo old grindstone)
IT6010035	<i>Fiume Mignone (basso corso)</i> (Mignone River low course)
IT6010037	<i>Il "Quarto" di Barbarano Romano</i> (The "Quarto" of Barbarano Romano)
IT6030001	<i>Fiume Mignone (medio corso)</i> (Mignone River middle course)
IT6030003	<i>Boschi mesofili di Allumiere</i> (Allumiere mesophilous woods)
IT6030004	<i>Valle di Rio Fiume</i> (Rio Fiume Valley)
IT6030006	<i>Monte Tosto</i> (Mount Tosto)
IT6030007	<i>Monte Paparano</i> (Mount Paparano)
IT6030008	<i>Macchia di Manziana</i> (Manziana Forest)
IT6030009	<i>Caldara di Manziana</i> (Manziana solfatara)
IT6030021	<i>Sughereta del Sasso</i> (Sasso Cork Oak wood)

Between these 12 SCIs, the 3 in bold type concern the actions of Life+ Nature Monti della Tolfa Project.



Rosalia Longicorn (Rosalia alpina)

The **Allumiere mesophilous woods SCI** extends for more than 600 hectares in Allumiere municipality, the distinctive trait of these woods is the presence of some "mesophilous" species as Beech, Sycamore Maple and Hornbeam, which require a fresh and humid climate, different from the typical Mediterranean one. In this reduced area of Tolfa Hills the elevations are moderate (the maximum altitude is 616 m, locality of Monte delle Grazie) but they intercept the humid air masses coming from the sea causing many rainfalls that allow the presence of Beech forests, below the normal altitude of most Apennines Beech forests (1,000 m above sea level). In these Mediterranean Beech forests, called "depressed" because of the unusually low altitude, we find



Manziana Forest

the presence of the Holly and Yew (this one is not present in Tolfa area), these forests are so uncommon in Europe to be included in the Habitats Directive as a “priority habitat” because they are “in danger of disappearance” and could become extinct and in their preservation “European Union has a particular responsibility”.

Allumiere beech forest, within the SCI, it's an excellent example: here it's signaled the rare Rosalia Longicorn (*Rosalia alpina*), a blue-grey beetle with black spots, 3-4 cm long, whose life cycle is linked to mature Beech forests

The **Manziana Forest SCI** extends over 800 hectares and includes Macchia Grande, one of the most beautiful and best preserved forests of Turkey Oak and Hungarian Oak in Northern Lazio. The Hungarian Oak is a species of quite rare oak, easily to recognize for its large leaves up to 20-25 cm and the thin and “soft to the touch” bark. Thanks to the presence of old trees and dead wood, the forest is the habitat of two large beetles, the Great Capricorn Beetle (*Cerambyx cerdo*) and the Stag Beetle (*Lucanus cervus*); they are more and more uncommon in Europe because of the productive management of woods that causes the elimination of diseased and dead trees, which are very important to the forest ecosystem allowing the abundance of insects and birds that feed on them, like woodpeckers. In particular the smaller European woodpeckers, the Lesser Spotted Woodpecker, sparrow-sized, is rather habitual in the Manziana Forest.

The **Mignone River middle course SCI** travels almost 500 hectares along the river of the same name and



Mignone River, Rota (Tolfa)

its affluents, and occupies about 150 hectares of Monterano Nature Reserve. The purpose of the SCI is to preserve these sections of Mediterranean streams, still natural, where until the 70's the Otter was present, and characterized by riparian woods that grow up to create a green gallery over the river. The SCI hosts many amphibians and reptiles species of Community interest, and also species of fish less and less widespread (such as Italian Barbel, South European Roach, Brook Lamprey) because they are threatened by the environmental pollution and the introduction of alien species and subspecies (native to other territories and introduced by man), which enter into competition with each other and/or create hybrids that compromise the original identity of local species.

Habitats of Community Interest

Natural habitats are identified by the Habitats Directive as terrestrial or aquatic areas distinguished by geographic, abiotic and biotic features, whether entirely natural or semi-natural (where there is an interaction between nature and human activities, as a pasture). "Habitat of a species" means an environment defined by specific abiotic and biotic factors, in which the species lives at any stage of its biological cycle: to protect a species is very important to protect its habitat too. For instance, it's not possible to protect a fish species only by forbidding its fishing, it's necessary to stop the pollution of the water and the destruction of the aquatic vegetation that it eats and where it lays eggs. Habitats of Community interest are all those natural (or semi-natural) habitats which, within the European Union territory are endangered, or have a limited distribution area, or present outstanding examples of typical characteristics of a biogeographical region, in this case, the Mediterranean one. Between them,



Temporary pond, vegetation of habitat 3130

there are some "priority" habitats in danger of disappearance, which are present only in EU, so the Community has a particular responsibility for their protection. Inside the *Tolfa Hills* SPA and the SCIs there are 16 habitats of Community interest (6 are "priority" habitats) that include almost all the environmental typologies, from those that need the presence of streams (Mignone River and its affluents, Rio Fiume), to others like pastures and woods.

There are 4 aquatic habitats within the Mignone River SCI and Monterano Nature Reserve: the vegetation of temporary ponds (habitat code 3130), that originates near the river where the water of tiny springs gathers into small depressions of the clay soil; the submerged vegetation (habitat code

3260) of Mignone River affluents, whose water is really clear, as Rafanello Ditch and Chiarone Ditch; the vegetation that propagates where the banks and sediments of the river are wider (habitat code 3280), composed of big aquatic herbaceous plants such as Cattail (*Typha latifolia*), and willows and poplars; the vegetation that grows on the border of streams, in shady places and below the Black Alder (habitat code 6430), composed of herbaceous plants with very large leaves as Butterbur (*Petasites hybridus*). There is also a similar 3280 habitat, but it's typical of Mediterranean streams with an irregular flow (habitat code 3290), that become dry during summer, as Rio Fiume. Other aquatic habitats are the forest type, such as the Mediterranean forest of Laurel (priority habitat, code 5230) along Rio Fiume, the Black Alder alluvial forest, where we find the uncommon Royal Fern (*Osmunda regalis*), near the *Caldara di Manziana* (Manziana solfataria), the Maples and Linden forest inside the *forre* (tufaceous canyons) near Civitella Cesi (priority habitat, code 9180) and the "gallery forests" of White Willow and White Poplar (habitat code 92A0) that grow along the river up to create a green gallery over it.

Between the woods, habitats of Community interest are the Holm Oak forest (code 9340) of *Mount Tosto* and *Mount Paparano*, the *Sasso Cork Oak wood* (code 9330); among Life project sites there are the Chestnut forest (code 9260) and Beech forest (priority habitat, code 9210) of Allumiere and the Hungarian Oak forest (code 9280) of Manziana.

Moreover, 2 habitats of grasslands in Mignone River SCI and Monterano Nature Reserve are composed of dry pastures growing on calcareous soils, and according to their composition can belong to the priority habitat 6220 or habitat 6210. The latter is considered as a "priority" habitat because of "important orchid sites" (*Monte Angiano*). These herbaceous habitats, very common in Tolfa territory, are identified as "secondary" vegetation, because they occupy some areas that would be invaded by woods without human utilization: so their presence must be maintained through human actions as the pasture and the cutting of some shrubs. It's a semi-natural habitat, whose presence is caused by human management.

To these habitats of Community interest we have to add the "habitats of a species", where there are physical and biotic factors necessary to the life and breeding of a single population. Within the SPA we can mention the slopes where the Peregrine Falcon and Lanner Falcon nest (also the Egyptian Vulture in the past), the little streams where the Spectacled Salamander breeds, the natural caves or the abandoned mines where the bats take shelter, etc.



Orchis simia. A considerable orchid blooming characterizes the habitat 6220

Species of Community Interest

The establishment of the SPA, under the Birds Directive, aims for preserving the bird species listed in Annex I: species that are extremely rare or threatened, and that need special attention because of the peculiarity of their habitats. As well as the birds, the SPA protects habitats and also species belonging to other taxonomic categories (mammals, amphibians, reptiles, fish, invertebrates and plants). The list of the species about *Tolfa Hills* SPA is very long (96 species), because of the territory extension and the biodiversity, thanks to the preservation of the environment:

- 27 birds (Annex I)
- 3 mammals
- 3 reptiles
- 3 amphibians
- 7 fish
- 4 invertebrates (insects)
- 1 plant
- 48 "other important species of flora and fauna", 9 birds not included in Annex I..

This area is well known because of the abundance of birds of prey, now 7 species of Community interest nest here: the Short-toed Eagle, that eats snakes, the Black Kite and Red Kite that eat the dead bodies of grazing animals, the Peregrine Falcon and Lanner Falcon that catch birds in flight, the European Honey Buzzard that feeds on wasps, and the Lesser Kestrel which breeds in the area. Except for this one, the other species are present in Monterano Nature Reserve too; also the Black Stork has attempted to nest in



Black Kite



Italian Wolf on Central Apennines

the SPA territory during the last few years.

Recently within the Reserve territory we find the Stone-curlew too, a bird as big as a pheasant nesting on the ground in stony pastures. This is an ideal habitat also for the Red-backed Shrike and Lesser Grey Shrike, known for making a "food storage", sticking the little preys into the thorns of shrubs; the second one is very rare and is present only occasionally in the Reserve. The Woodlark nests in the shrubby pastures of the Reserve, instead the Calandra Lark and Short-toed Lark are limited to other SPA sectors, as the Tawny Pipit that prefers more arid areas near the sea. The Nightjar, a cryptically coloured bird, nests in woods and pastures; between the most colourful birds we find the Kingfisher along Mignone River and the Roller nesting in remains and ruins. Small and localized populations of Ortolan Bunting and Dartford Warbler nest in the maquis shrubland, along the coast.

Other species of birds of prey can be observed: the rare Pallid Harrie, the Eleonora's Falcon and Red-footed Falcon during migrations, the Hen Harrier and Marsh Harrier wintering in the SPA, the Montagu's Harrier nesting outside the SPA.

Mammals of Community interest within the SPA territory are the Italian Wolf and 2 species of bats: the Greater Horseshoe Bat and Common Bent-wing Bat, that take shelter into the mining galleries of the Reserve. Between the reptiles of Community interest: the Four-lined Snake (*Elaphe quatuorlineata*), a large nonvenomous snake more and more rare, the Hermann's Tortoise, by now more common in private gardens than in nature because of the "taking" (forbidden so as the custody without authorization) and environmental alterations, the Pond Turtle along streams and ponds.

Mignone hydrographic network and the small ponds allow the abundance of amphibians: the Italian Crested Newt (*Triturus cristatus*), one of the most important Italian populations is protected by the Reserve in locality of Mercareccia, and the Spectacled Salamander (*Salamandrina perspicillata*) that breeds along Mignone River affluents, as Bicione Ditch and Rafanello



Spectacled Salamander

Ditch. The presence of the Yellow-bellied Toad (*Bombina pachypus*), a little toad with a cryptically coloured top side and a vivid underside, is more and more rare and external to the Reserve.

Among the fish, there are 7 species of Community interest: some of them live closer to the sea as Mediterranean Killifish (*Aphanius fasciatus*), others as Sea Lamprey (*Pedromyzon marinus*) and Twait Shad (*Alosa fallax*) return upstream for breeding; the Italian Barbel (*Barbus plebejus*) along Mignone River is threatened by the hybridization or competition with other Barbel species or different alien species introduced by man; the South European Roach (*Rutilus rubilio*) and Arno Goby (*Padogobius nigricans*) are threatened by the competition with similar species, the Brook Lamprey (*Lampetra planeri*) suffers the effects of environmental alterations.

Among the invertebrates we find 3 species of dead wood beetles (*Coleoptera*), especially in the Allumiere Beech Forest and the Manziana Forest (paragraph



The rare Adriatic Lizard Orchid (*Himantoglossum adriaticum*)

"The SCI", the Orange-spotted Emerald (*Oxygastra curtisii*) a rare dragonfly within the Reserve territory and in Manziana solfatara.

Only one plant is of Community interest, the Adriatic Lizard Orchid (*Himantoglossum adriaticum*), we find a small population near the Mignone River.

Objectives of the project

The LIFE programme is the EU's funding instrument for the environment. The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental policy and legislation by co-financing pilot or demonstration projects with European added value. Life+Nature co-finances projects that contribute to the implementation of the Birds and Habitats Directives and the Natura 2000 network.

The aim of Life+ project 08/NAT/IT/000316, "Urgent actions for nature conservation in *Tolfetano-Cerite-Manziate District* SPA and SCI " (Life *Tolfa Hills*), is to assure the long-term survival of species and habitats of Community interest in one of the biggest Lazio SPA, and at the same time, to enforce the coexistence between the agricultural, farming, woodland and tourist activities and the preservation aims. Another main purpose is raising awareness of environmental values and Natura 2000 objectives among people.

These are the expected results:

Apply the most effective practices and actions to protect species and habitats of Community interest;

Develop and carry out a common approach for the authorities that manage the same habitats and deal with the same problems, to assure the long-term survival of species and habitats through scientific validated actions;

Reduce and eliminate, where possible, factors that threaten species and habitats;

Increase the level of awareness among people (students, residents, tourists) and stakeholders about the value of these habitats of Community interest, not only for their landscape value but also as a means to increase a sustainable development based on protection and awareness.

All that will be possible thanks to the EU's funding and the collaboration between 4 municipalities (Manziana, the leader of the project, Allumiere, Canale Monterano, Tolfa), 3 *Università Agrarie* (managing authorities of commons of Allumiere, Manziana, Tolfa), the Regional Agency for Parks, Monterano Nature Reserve and the Lazio Region.



Small lake, Mercareccia

Actions

Life projects are divided into “actions”, grouped according to their typology and identified by the letters of the alphabet:

A: actions concerning Life early phases: they include the arrangement of projects to achieve by other actions (e.g., C actions);

B: actions that need the rental of some lands or the payment of the right of use to accomplish other actions (e.g., C actions); Life *Tolfa Hills* has no B actions, because all the interventions will be realized within public authorities and local governments territory: Municipalities, *Università Agrarie*, Monterano Nature Reserve and the Region;

C: actions focused on species and habitats conservation: in Life *Tolfa Hills* they concern mostly woods and pastures, to improve species of Community interest habitats (the thinning of wood to increase the diameter growth of remaining trees and make it a more suitable habitat to nest). Measures to manage grasslands are: the restoration of traditional dry stone walls, watering holes, enclosures and fences, and the monitoring of the shrubs growth, to stop the invasion of pasture and prevent the abandonment of the traditional activity, raising grass fed animals, that has preserved these important semi-natural habitats for centuries;

D: actions concerning the communication, the community engagement and environmental education; these actions have a strategic role in realities as Tolfa Hills, whose naturalistic importance results in a large part from semi-natural habitats: their preservation is strictly tied to human activities as pasture;

E: actions concerning the general management of the project, coordination and supervision of the results.

In Monterano Nature Reserve C actions are composed of many interventions oriented to the naturalistic management of the “habitats of a species” of Community interest.

Intervention sites has been chosen for their remarkable environmental value (some of them find themselves within the SPA and the *Mignone River middle course* SCI), and the direct management by the Reserve: the former mining area in locality of *Mercareccia*, *Monte Angiano*, and some smaller properties near Mignone River and Bicione Ditch.

The actions called for aim at facilitating the preservation of habitats of great natural interest, as *Monte Angiano* shrubby pastures, characterized by the typical species of the shrub-like mantle and nitrophilous species; thanks to the abundant herbaceous vegetation this is an excellent hunting-ground for birds of prey such as the Red Kite and Short-toed Snake Eagle, steppe species as the Eurasian Stone-curlew, and many passerines, typical of ecotonal environment. Between other species we find the Hermann's Tortoise and Four-lined Snake, as well as amphibians, which will benefit from the creation of humid microhabitats and the management of woods. The purpose of balancing preservation actions and the continuation of traditional economic

activities is carried out by land improvements, as the restoration of watering holes to water livestock and of some trails within the lands.

Creation of an artificial supply of food for bird of prey

The intervention provides for the creation of an artificial supply of food to help diurnal birds of prey that feed on carcasses, especially the Red Kite, that is not able to find the appropriate trophic resources and is now frequently sighted around garbage dumps. A small bird-watching hut will be fabricated at a safe distance. This intervention



Red Kite

will be an important element for concerned species preservation, observation and monitoring, and in general to increase the value of the wildlife heritage of the area, for tourist development and environmental education, for instance the students will enjoy this new observation point together with the existing bird-watching hut near the small lakes of *Mercareccia*.



Italian Tree Frog (Hyla intermedia)

Restoration of a watering hole and creation of some small humid areas for the amphibians

The presence of a disused watering hole to water livestock on Monte Angiano, gives the opportunity to act both favouring a proper and sustainable zootechnical use of land and creating some small humid areas for the amphibians

Improvements of forests and grasslands

Within *Monte Angiano* area managed by the Municipality of Canale Monterano (which manages the Reserve), a small deciduous wood will be thinned out to increase the diameter growth of remaining trees and make it a more suitable habitat to nest. A restoration of an existing trail is expected: it will have several uses, such as fire prevention, management of grass fed animals, tourist use and a possible arrangement of a nature trail in the future.

Environmental clean-up and realization of a picnic area in the former mining area in locality of Mercareccia

The intervention provides for the demolition of an unsafe building with the roof made of asbestos cement and the environmental clean-up of the area, where some picnic tables will be realized.

Intervention in locality of Frassineto-Franco

In this area, property of Canale Monterano Municipality (which manages the Reserve), within the *Mignone River middle course* SCI, the recovery of

an existing spring is expected, through the installation of rocky materials to favour the accumulation of the water. This small area will be fenced to protect it from the livestock bustle; some ponds will be created down-river to water livestock. This small humid area will favour the amphibians.

Intervention in the area of Bicione-Palombara

This area is located within the *Mignone River middle course* SCI, along the “Red Trail” (Diosilla-Old Monterano), the most important in the reserve for the environmental education. Near the confluence of Palombara Ditch and Bicione Ditch there is a Botanical Area where a small pond will be realized to favour the amphibians; it will host some aquatic plants for an educational exposition, connecting conservation and communication actions.



Netted fence in defence of bats, in a mining tunnel, within Monterano Reserve

Another intervention will be carried out in Bicione Ditch valley to protect a subterranean flooded cavity, an ex-mining tunnel, now an important site of breeding for the Spectacled Salamander (*Salamandrina perspicillata*). To avoid the entrance of visitors and bystanders it will be closed by a netted fence specifically studied and already realized in other neighbouring tunnels to allow the transit of the bats that take shelter into these cavities.

Around intervention sites, information and educational panels will be installed with habitats, species and Natura 2000 purposes descriptions; communication actions are addressed to the students of Canale Monterano, through educational interventions in schools and within the SPA territory.



Environmental education in bird-watching hut, Mercareccia

To examine in depth, you can find Life Project and all its actions at www.lifemontidellatolfa.it, where there is a short film to watch “*Monti della Tolfa, a wild kingdom on the outskirts of Rome*”.

Life projects are important, but the combination of every citizen action is important too, to protect sustainability and biodiversity.

Visit Canale Monterano

Canale Monterano can be reached by bus (Public Cotral), or by train (Trenitalia Roma-Viterbo FR3), stop in Bracciano or Manziana, then take the Cotral buses or urban Seatur buses.

The main entries to Monterano Nature Reserve are 2: Diosilla Parking and Monterano Parking, 1,3 km and 2,9 km from the centre of the town.

From the parkings you can take the trails within the Reserve, so you can visit its natural, historical and artistic beauties, especially old Monterano. The trails are described in the attached map.

By car Canale Monterano is about 50 km from Rome and 45 from Viterbo.



View of old Monterano and Canale Monterano in the background

Canale Monterano has many lively traditions: a local association looks after the continuity of the *buttero* “culture”, the typical Roman Campagna and Maremma “cowboy”, who lived in symbiosis with horses and bred *Maremma* cattle. Today, within the extended pastures of the *Università Agraria* of Canale Monterano, established in 1906 to manage commons, you can find *Maremma* cattle.

In May the *Riarto dei butteri* gathers *butteri* and visitors during the shows of horse ability and the tastings of traditional dishes. In June the *Corpus Domini* is astonishing, with the typical *infiorata*, sacred figures made of flowers. On 17th January there is the Feast of S. *Antonio Abate* (Anthony the Great), with the traditional blessing of the animals adequately “adorned”. In August there is the *Palio delle contrade* (horse race between the city quarters) organized by the *Pro Loco*, with a wonderful in costume parade of all the five *contrade* and the typical *Corsa del Bigonzo* (race piggybacking a full wooden tub). On 25th and 26th August the patron saint’s festival, in honour of *San Bartolomeo* (Bartolomew the Apostle) and *Santa Calepodia* (Saint Calepodia), with parades and horseman races. Sites to visit: the Lion made by Bernini, at the entrance of the town hall, where you can find other ancient architectural elements, and the original eight-sided fountain made by Bernini in *Piazza del Campo*.

Along the way to the little village of Montevirginio (suburb of Canale



Butteri on Mignone River

Monterano), you can access to the hermitage of the Discalced Carmelites friars, dated back to the second half of 17th century, and from the centre of the village you can take a beautiful historic tree-lined road, the *Olmate* (Elm trees).

There are many wine and food products: the sought-after and appreciated for quality and traditional way of production, *Maremma* cattle meat, bred in a semi-wild state; extra virgin olive oil, obtained by the cold pressing of olives, and local wines; an ancient wine variety, still existing, was very appreciated by the Pontifical Household, especially by Pope Paul III, born Alessandro Farnese (1468-1549). Another excellence of the territory is the bread of Canale Monterano, without salt, made with natural fermentation process and cooked with steam; also *pizza* and cakes are very good.



The typical products of Canale Monterano

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Municipality of
Allumiere



Municipality of
Canale Monterano



Municipality of
Manziana



Municipality of
Tolfà



Università Agraria
of Allumiere



Università Agraria
of Manziana



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Monterano Regional
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