

# I.S. E. MAJORANA BARI

ERASMUS+ "SAVE WATER"

KA220-SCH-000085699

## LAMA BALICE BIODIVERSITY

Stories from an extraordinary place



## FLORA

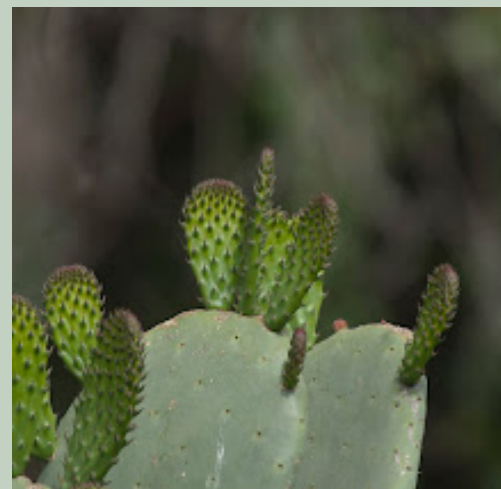
Lama Balice is the bed of a prehistorical river characterized by a complex mosaic of plant communities. On the walls of the Lama, the vegetation is a residual of the abandonment of agricultural crops. It is characterized by *Punica granatum*, *Ficus carica*, *Ceratonia siliqua*, *Prunus avium*.

On the bottom of the Lama there is an hygrophilous vegetation characterized (*Phragmites australis*, *Lemna minor*, *Arundodonax*, *Paspalum distichum*, *Rumex crispus*) mixed with post-cultivation herbaceous formations and weeds such as *Silybum marianum*, *Rubia peregrina*, *Apium nodoflorum* which are linked to the high humidity conditions.

A wooded area extends along the southern slope of the Lama.

The arboreal specimens are: holm oak, *Quercus ilex* which represents the remaining of the dominant formation along the slopes.

Corresponding to the sides there is a garrigue of *Coronilla emerus*, *Osyris alba*, *Rosa sempervirens*, *Arbutus unedo*.



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In this area there are 11 species belonging to the Orchidea family such as *Ophrys sphecodes* subsp. *garganica* and *Serapia svomeracea*.

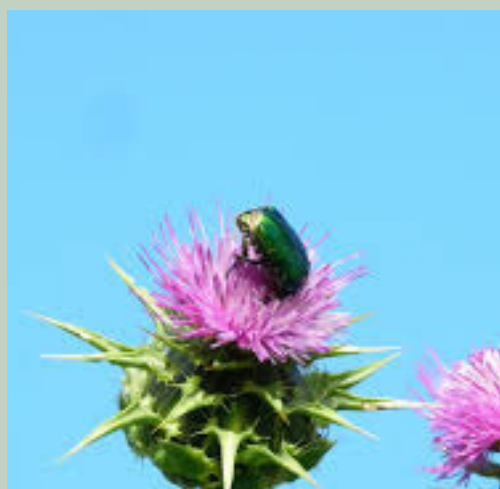
Among the rare plant species there are also some Apulian endemics listed in the Red Book of Italian plants: *Serapia sapulica*, *Ophrys passionis*, *Anacamptis pyramidalis* stand out. There are also two taxa endemic to central-southern Italy such as *Ophrys holosericea* subsp. *apulica* and *Crepis bursifolia*.

*Allium atroviolaceum* is considered "vulnerable" by the Regional Red List of Italian Flora.

The flat rocky areas at the top of the banks are occupied by a low garrigue of *Helichrysum italicum* with scattered specimens of Aleppo pine (*Pinus halepensis*).

The spontaneous vegetation of the area consists of a nitrophilous-ruderal vegetation close to the San Paolo district. In this area there are marigolds (*Calendula officinalis*), purple rockets (*Diptaxis rucoides*), wildflowers (*Dyttrichia viscosa*), chicory (*Cichorium intybus*). There are also other rare herbaceous species including *Convulsus pentapetaloides*, *Scorzoneravillosa*, *Salviaviridis*, *Ranunculus neapolitanus*.

There are also relict populations of the ferns *Polypodium cambricum*, *Allosorus acrosticus* and *Asplenium trichomanes* and a notable variety of ancient cultivation species such as olive tree (*Olea europaea*), carob tree (*Ceratonia siliqua*), almond tree (*Prunus dulcis*).



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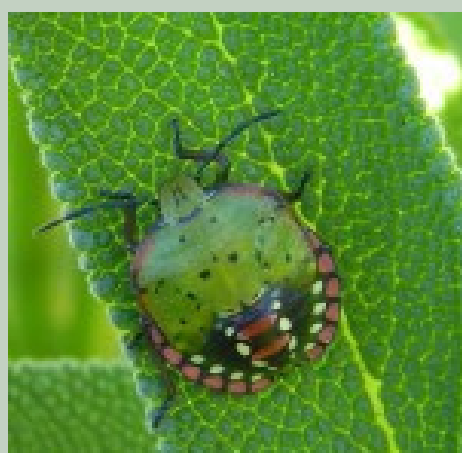
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## FAUNA



The wide environmental and vegetational heterogeneity of Lama Balice favors the diversification and the co-presence of a notable environmental diversity.

The presence of water even for short periods is an exceptional resource in an environmental context strongly influenced by karst. Among mammals, there are some carnivores such as fox (*Vulpes vulpes*), stone marten (*Martes foina*) and weasel (*Mustela nivalis*), and various rodents and insectivores widely spread in the region are documented. There are also traces of the presence of wild boar (*Sus scrofa*) coming from the Murgia plateau.

There are more than 40 species of nesting birds, a high number compared to the neighboring anthropic contexts. Among non-passerines, there are various birds of prey such as buzzard (*Buteo buteo*), kestrel (*Falco tinnunculus*), barn owl (*Tyto alba*), long-eared owl (*Asio otus*) and scops owl (*Otus scops*).

The number of species (130) that use the park's environments during migratory stops and during the wintering period is very rich.

The presence of aquatic birds is concentrated in the winter period and it's linked to the presence of temporarily flooded areas, both along the coast and in the innermost reaches of the Lama. The most representative groups of birds are ducks, herons, rails and numerous waders.

Among the species of greatest importance for conservation purposes there are the Kentish plover (*Charadrius alexandrinus*), the only nesting species listed in the Birds Directive. Several other species protected by the Habitats Directive lives in the park as migrants or winterers.

As regards reptiles, there are 7 species including the field lizard (*Podarcis siculus*), Kotschy's gecko (*Cyrtopodion kotschyi*), rat snake (*Hierophis viridiflavus*), cervine (*Elaphe quatuorlineata*).

There are two species of amphibians, the green toad (*Bufo viridis*) and the green frog (*Pelophylax bergeri* kl. *hispanicus*) whose reproductive sites are located respectively in the temporary ponds of the riverbed and in the humid air of the mouth.

Some seasonal pools are important reproductive sites for the green toad. We know about the presence of at least 31 species of lepidoptera in the park area, such as *Thymelicus acteon* and *Hipparchia statilinus*, both listed in the European Red List of butterflies.

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## CRITICAL ISSUES

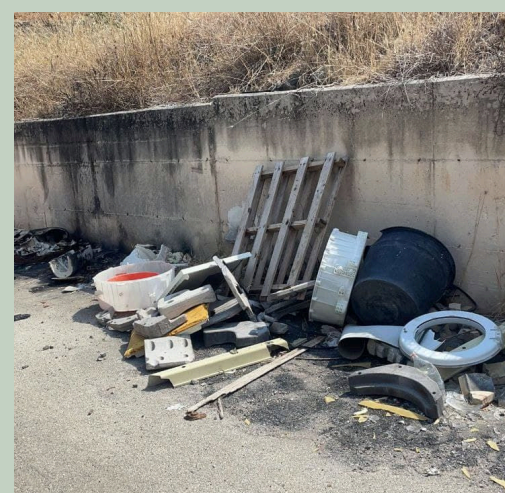
### waste pollution

Lama Balice Park has turned into an open-air landfill.

The various waste present are rubbish bags, empty cartons, buckets of paint and other plastic material, together with construction waste.

he latest report comes from the Anuu (Italian Migrationists Association) and concerns the rural road of the Torrente.

Pollution can directly kill organisms and can also insidiously destroy or slowly poison, disrupting the physiological modes of life. For example, for reproduction, animals or plants need odors, hormones, which the male and female need to find each other. Plastic pollution causes harm to animals through several mechanisms: entrapment, ingestion, suffocation and release of toxic chemicals.



Pollution due to pesticides used in agriculture and other chemical products is the cause of the worrying decline in insectivorous birds and avifauna. It also affects amphibians such as frogs, toads and salamanders, insects and small mammals such as bats, hamsters and citellites.

The Park is the subject of continuous attacks on biodiversity:

Hazardous waste is dumped there: milk, containing solvents and paints, plasterboard, and Eternit sheets. Furthermore, continuous fires occur in the blade, often even one fire per day. And it is worrying that what is burned is waste thrown into the undergrowth, which releases polluting and highly toxic agents.

There are also sewage stagnating in the river bed. The the leak of sewage had already flooded numerous lands in the park area. The reclamation of the land affected by the spill is necessary.



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## CRITICAL ISSUES

### wild boars

European wild boars are typical inhabitants of mature woods of oak forests, while the African and Asian subspecies appear to prefer open, swampy areas.

In general, the boar proves to be very adaptable in terms of habitat and colonizes any kind of environments, including the urban one where it can easily find food in waste containers.

In the territories occupied by wild boars, however, a source of water is needed present, from which the animal cannot escape never far away. Wild boars, however, tolerate the cold very well (they resist temperatures tens of degrees below zero), while they are less adaptable to excessively climates warm, where they show signs of suffering: the humidity of the environment affects them relatively little, thanks to their fur highly insulating.



Lama Balice is affected by the presence of a large number of boars introduced by hunters. Their numbers are now out of control and it is a big deal for the Park.

In woodland environments where the species is native, the wild boar carries out a beneficial action, as its continuous excavation work in the surface layer of the soil contributes to the aeration of the soil, the decrease in the presence of harmful insect larvae and the burial of seeds, thus favoring development of the forest cover.

The reduction of the habitat, however, has caused the concentration in restricted areas of a large number of animals, which damages the tree cover (which comes consumed and not renewed because the seeds and young plants are also consumed).

in particular, a link has been demonstrated between the massive presence of wild boar and the decrease in the number of Cervids, as well as various species of Galliformes.

In the areas where this animal is introduced, however, it turns out to be harmful, as it displaces other species of suids present in the area and devastates the forests with its continuous excavation work. It also causes the decline and disappearance of many species of reptiles, amphibians and ground-dwelling birds, as it actively feeds on both animals and their eggs: for for this reason, in many areas where this animal has been introduced they are periodically organized hunting trips to drastically reduce their numbers.

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## CRITICAL ISSUES

### floodings

The lama is a very critical place in terms of water floodings. It's the bed of a prehistorical river thus when it rains it's very easy that water floods in the Park and devastates the area and the species. Only last year the authorities that manage the Park found the money to finance a project which concerns a stretch of the Lama Balice waterway approximately 3.2 kilometers long which presents abandoned conditions and a reduced flow section due to the accumulation of material transported by rainwater and the proliferation of abundant vegetation.

The aim is to reduce the risk of flooding and alluvial damage, restoring the correct functionality of the hydraulic and defense works existing along the riverbed with arrangement works including the controlled cutting of vegetation, clearing of the bottom and cleaning of the banks.



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