

Parco Nazionale della Sila – Sila, gran bosco d'Italia

 [Italy](#)

Date of Submission: 31/01/2012

Criteria: [\(viii\)](#)[\(ix\)](#)[\(x\)](#)

Category:

Submitted by:

Permanent delegation of Italy to UNESCO

State, Province or Region:

Region of Calabria, Province of Cosenza, Catanzaro, Crotona

Ref.: 5669

Description

Nominated property (73.695 ha) comprises "zone a", i.e. the integral reserves of Sila National Park. Park is located in the Sila, a vast plateau with a rectangular shape emerged about 7 million years ago located in the central region of Calabria (South Italy). Its natural landscape is mainly mountainous and forest with extensive plateau from 1200 to 1500 m. high and several mountains over 1600 m.; Mount Botte Donato, the highest peak reaches 1929 m.

"The Sila Massif consists of different Hercynian metamorphic and plutonic rock (Sila Unit), composed of medium-high, medium-low and low metamorphic grade, and intruded by Late Hercynian plutonites (Sila Batholith). Gneissic and plutonic rocks are deeply weathered, and exfoliation boulders are typical and widespread."

The rocks presently exposed in N Calabria and especially Sila have been deposited and/or emplaced in (1) a Jurassic to Cretaceous ocean (known as the Ligurian-Piedmont palaeo-ocean) extending southeastward to (2) a Mesozoic to Miocene deep pelagic basin on attenuated crust (the Sicilian to Lagonegro palaeo-basin) in turn passing to (3) a late Palaeozoic to Present deep basin on oceanic crust (the Ionian basin). (1) and part of (2) have been involved in the Alpine orogeny at the end of Cretaceous (thus becoming part of the Alps). The remaining part of (2) and (3) have not, allowing for Neogene drift of the Calabria terranes from Sardinia and Spain to the Southern Apennines

The property is dominated by a very important forest in terms of biodiversity and forest ecological conservation. Proposed boundaries include a rich variety of eco-region endemism, namely plant and insect, and the site is included in the Centres of plant diversity (WWF-IUCN) in the Mediterranean basin (Apennines and the Apuan Alps), being recognized as the only one plant diversity hotspot area in southern Europe, and among priority regions according to Global 200 Eco-regions by WWF (European-Mediterranean montane mixed forests). It also include and represents a unique geological setting where the Apennine chain is superseded by the Alps.

Justification of Outstanding Universal Value

The Sila National Park property is dominated by a wide forest belonging to the South Apennine mixed mountain forests eco-region. The property enjoys a special geological asset providing spectacular exposure with all their nappes of different ages and environment (from oceanic to continental granulitic lower crust) which are accreted on top of the Apennine chain buried under Sila and outcropping to the north. East and west, such a strange double chain is facing the oldest known (Permian) oceanic lithosphere in the Ionian Sea and one of the youngest oceans of the world in the Tyrrhenian Sea. This is a really unique coincidence of extreme plate tectonic processes.

Sila forest ecosystem has an important biodiversity and ecological significance related to its complicated geological, climatic evolution and age-old human action that has affected the territory amid Mediterranean region. Larger habitats in the Park are Mediterranean mountainous coniferous forests and Mediterranean deciduous forests marked by the uniqueness provided by the largest pine forest of *Pinus laricio* subsp. *calabrica* (endemic black pine subspecies) worldwide. Indeed, laricio pine forest covers a total of 33,400 hectares of territory. The Sila National Park has almost the entire population of laricio pine existing worldwide (more than 90%) and centuries old trees, playing a major vital role for the conservation of this unique forest ecosystem at the global scale. In the property it is still possible to find very old individuals of laricio pine, natural monuments of about 600 years old.

The property supports many other habitats of interest, including habitats of the typical central European temperate zone, which are of high value for their relictual aspect. Due to these features and its bio-geographical position within the amid Mediterranean basin, the Sila National Park is a rich reservoir of biodiversity and endemism with many species of

conservation interest, including a rich variety of eco-region endemism, namely plant and insect. In fact the property is included in the Centres of plant diversity (WWF-IUCN) in the Mediterranean basin (Apennines and Apuan Alps) the only one plant diversity hotspot area in southern Europe, and among the priority regions according to Global 200 Eco-regions by WWF (European-Mediterranean montane mixed forests).

Moreover, the area represents for at least 18 vertebrate species an outstanding genetic hotspot due to past isolation. These genetic hotspots have been recently shown as areas whose conservation must receive maximum priority (Hampe & Petit 2005; Weiss & Ferrand 2006).

Criteria:

(viii): The Sila mountain plateau forms the northern part of Calabria which is placed on the leading SE tip of the Apennines, a mountain chain constricted between the jaws of the moving macroplates of Eurasia and Africa. Geologically speaking, Calabria is a terrane comprised of some subterranees, the largest of which is Sila. What makes the Calabria and Sila terranes unique is a series of special circumstances making them of outstanding universal value

- a. Sila is a block of the Alpine chain comprised of different nappes some made by Precambrian to Palaeozoic rocks folded and metamorphosed during the Carboniferous Period (Hercynian orogeny c. 330-300 Ma) and others made by Mesozoic rocks, all in turn folded and metamorphosed during the Cretaceous Period (eo-Alpine orogeny c. 100-80 Ma, reactivating also the Hercynian nappes).
- b. Late Palaeozoic to Mesozoic extension and crustal listric fault denudation supplied to the following eo-Alpine convergence conditions favorable to emplace lower crustal granulites on top of the nappe system, which are widely outcropping in the Mount Gariglione unit of the Sila plateau.
- c. As a whole the Sila and Calabria terranes involved in the eo-Alpine orogeny are bounded N and S by the much younger Apennine chain made by Mesozoic to Tertiary rocks folded and partly metamorphosed only in Neogene times (c. 20-1 Ma). On both sides of Calabria the Apennine nappes plunge beneath the Alpine terranes which appears to have superseded the Apennines. Once attached to Spain, Sardinia and Calabria rotated anticlockwise from c. 20 to 15 Ma. Then Calabria detached from Sardinia being displaced east and southeastward for more than 600 km mainly in the last 2 Ma, following the opening of the Tyrrhenian Sea. At the same time, this enormous displacement and the Tyrrhenian Sea opening were driven by rapid westward subduction of the old (Permian) and cold Ionian oceanic lithosphere beneath the Calabria terranes and the Tyrrhenian area.
- d. Fast subduction of the Ionian lithosphere enabled the displacement of the Calabria terranes from Sardinia to the present position and their accretion on top of the Apennine chain, both occurring mostly in submarine condition and conveyed in the geotectonic depression as wide as the downgoing Ionian slab. Slowed or stopped subduction resulted in the Middle Pleistocene to Present fast uplift of Calabria and its Apennine margins at a rate of over 1mm/a or 1Km/Ma.
- e. The two basic driving forces enabling the Calabria terranes to be displaced are thus depending on subduction of the Permian oceanic lithosphere of the Ionian Sea, the oldest known in the whole Earth, and the spreading of the Pliocene-Pleistocene small Tyrrhenian ocean basin, one of the youngest oceans in the world. This is a really unique coincidence of extreme plate tectonic processes.
- f. Individual or associate occurrences of features similar to those described above, when available somewhere in the world, are found in isolated, far, and strenuous mountain chain difficult to be reached and visited. In the Calabrian Sila case, instead, the access and visibility are easy for everybody and provided with all facilities by the existing national parks.

(ix): The Sila National Park supports the ecological processes of a wide mature forest in the South Apennine mixed montane forests, and almost the entire population of *Pinus laricio* subsp. *calabrica* (endemic black pine subspecies) world-wide existing. The endemic laricio pine forest is related to the complicated geological history and the current climatic and lithological characteristics of this area, and provides a unique example of forest ecosystem in the Mediterranean region. The property hosts a lot of other habitats of interest, including typical habitats of the central European temperate zone, which are very relevant for their relictual aspect. The forests and habitats of the whole Sila support an outstanding amount of biodiversity and endemic species.

(x): Sila National Park contains the most significant natural habitats of mature forest for the conservation of biological diversity in the Mediterranean basin, as well as important bio-geographic and ecological aspects. The property ranks among the priority regions for the Global 200 Eco-regions and has been selected as Centres of plant diversity - Apennines and the Apuan Alps -. Sila National Park is a crucial area for the conservation of the entire population of endemic laricio pine (*Pinus laricio* subsp. *calabrica*) world-wide existing. The Sila peculiar forest ecosystem supports habitats and outstanding Mediterranean basin species richness at the global scale including threatened species.

The property hosts 946 vascular taxa, The property hosts 946 vascular plant taxa, 190 vertebrate, 2.632 known arthropods, more than 15.000 estimated, with a lot of endemism, namely plants and arthropods 180 vertebrates, 31 of which enclosed in the "Habitat" Directive, and more than 3000 invertebrates (more than 12,000 estimated), 9 of which in the Habitat D., with several local and regional endemics, and the best conserved saproxylic fauna of the Mediterranean mountains. Moreover, the area represents for at least 18 vertebrate species, mainly amphibians, an outstanding genetic hotspot due to past isolation, for the mole *Talpa romana* the calabrian populations show the highest genetic variability so far found in a mammal species in the world.

Statements of authenticity and/or integrity

Nominated property falls within the more protected area of National Park marked as "zona a" and its total extension of 73.695 ha includes almost world-wide existing population of *Pinus laricio* subsp. *calabrica* (subspecies endemic black pine) providing a comprehensive and unique example of forest ecosystem in Mediterranean region and recording ecological process of the South Apennine mixed mountain forests able to support an outstanding amount of biodiversity and endemic species, especially vascular plants and arthropods.

Considered by WWF as a priority areas for biodiversity conservation of eco-region of the central Mediterranean, proposed boundaries include the hotspot inserted in 234 Centres of Plant Diversity selected worldwide by IUCN and WWF, and it contains 25 Sites of Community Importance (SCI) and 3 Special Areas of Conservation (SAC) within European Natura 2000, as well as 9 natural State reserves and 1 natural oasis.

As above mentioned, entire territory is managed by a public body named "Ente Parco" financially supported by Ministry for Environment and whose structure and constraints are directly ruled by Italian framework law on protected areas n. 394/1991, as well as by Park Code. Community of the Park – one of "Ente Parco" internal organs – plays a major consultative role as it's composed by any local competent Authority and its decisions concerning park's instruments of management are legally binding. Park Code, Park Plan, Social and Economic Promotion Plan – required by articles 11, 12 and 14 of law 394/1991 – are in their way on to be adopted; however Sila National Park is almost untouched by human activities and the proposed "zone a" – integral reserves – represents an uncontaminated space completely intact, without traces of infrastructures.

Comparison with other similar properties

The Sila property is geologically unique in the world in the sense that no other region exhibiting all the features emphasized above was described so far. Areas presenting one or more of the Sila geological features (such as lower crustal sections and/or oceanic rock types) are found along the American Cordillera and the Karakorum-Himalayan regions, but are rarely available for an easy reading. There are several forests sites in the World Heritage List. The Sila National Park has been particularly compared with properties biogeographically close to the candidate site: Plitvice Lakes National Park (Croatia), Durmitor National Park (Montenegro), Gulf of Porto: Calanche of Piana, Gulf of Girolata, Scandola Reserve (France). Sila National Park site belongs to a different eco-region – South Apennine mixed montane forests – and it is much more extended than other properties.

Plitvice Lakes National Park, which is known for its outstanding ecosystemic values concerning floristic aspects, presents a greater botanical biodiversity but also forest habitats less extended with a smaller number of endemic species, namely 72 over 81 living in the Sila National Park. The Croatian property has an ecosystem linked to carsick elements and the hydrological regimen and, therefore, basically different from the Sila environment. The faunistic biodiversity as for vertebrates is generally comparable except for invertebrates biodiversity which is bigger in the Sila National Park.

Durmitor National Park, of outstanding value for conservation issues, hosts coniferous and broad-lived forests extending 17.000 ha, which are dominated by the Scots pine, spruce fir, silver fir and beech trees. Furthermore, a 40 ha extending centenary age wood is known as the last virgin black pine forest. The Sila National Park protects 34.400 ha of forest ecosystem, considering only the endemic *laricio* pine forests. The Montenegrin property has been recognized as one of the richest endemism centres in Europe for its 700 species of plants, of which 37 endemic. The nominated property hosts more than 1/3 botanical species with more than the double number of endemism compared with the Durmitor National Park.

The Gulf of Porto: Calanche of Piana, Gulf of Girolata, Scandola Reserve is a very less extended property. Its naturalistic values have been recognized for the biodiversity conservation referring to the maquis Mediterranean vegetation, namely marine birds, birds of prey, the rich algal flora and the marine fauna. Therefore, the property has to be considered for its coastal and marine ecosystems as well as for the habitats and species which differ from those ones existing in the nominated property.

In conclusion, the said comparison has shown that the Sila National Park:

- protects a very much extended territory;
- contains a unique association of spectacular and scientifically important uncommon geological assets like unique coincidence of extreme plate tectonic processes;
- includes forest ecosystems which are much more extended and of a different eco-region, namely the South Apennine mixed mountain forest;
- hosts the almost entire population of *Pinus laricio* subsp. *calabrica* (endemic subspecies black pine) worldwide existing, with centuries old trees, protecting, therefore, the associated forest ecosystem;
- presents a higher number of comparable endemisms;
- its whole biodiversity is greater or comparable with reference to other properties.