

THE EARTH'S HISTORY BOOK

The Puez-Geisler/Puez-Odle Nature Park is famous for its geological diversity. Here you can find all the typical rock types and erosive events typical of the South Tyrolean Dolomites.

Geology

The Dolomites, including those in South Tyrol, survived the Alpine Mountain formation phase (around 80 to 30 million years ago) relatively unscathed. While elsewhere huge shifts and folds make the age structure of the rocks rather confusing for laymen, in the Dolomites the original stratigraphic sequence is usually still easily recognisable.

Nevertheless, there are also fault lines here along which rock masses have been displaced. The most significant fault line in the nature park is the Villnöss/Funes Line, which essentially follows the course of the valley and presents older rock units next to younger ones.

Some of the most characteristic rock strata in the Nature Park are described below. The lowest rock unit is the Brixen/Bressanone Quartzphyllite through which all access routes into the nature park run. Its typical features are quartz bands and silvery mica.



Outcrop at the Würzjoch/Passo delle Erbe Pass where the original deposition sequence of the different, exposed rocks at the foot of the Peitlerkofel/Sas de Putia is easily recognisable even by laymen.
Photo: Werner Putzer

Peak thrust faults are of great geological importance: for example, at Col da la Sonè (pictured), the older Dolomia Principale was pushed onto the Puez Marl, the youngest rock formation in the nature park, protecting it from erosion like a hat.
Photo: Georg Tappeiner



The approximately 200 metre thick deposits of fossil-rich limestone, clay marls and gypsum layers got their name from the „Bellerophon“ mollusc, the leading fossil of this formation.

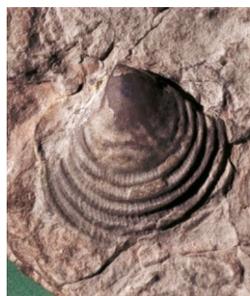
Photo: Wolfgang Moroder, Museum Gherdëina

The rocks of the Athesian Volcanic Group (formerly Bozen/Bolzano Quartzporphyry) were formed by the huge eruptions of a supervolcano. The red-brown porphyry blocks characterise the Raschötz/Rasciesa plateau.

The almost 300 metre thick layers of Gröden/Val Gardena Sandstone are the erosion product of the Brixen/Bressanone Quartzphyllite and the Bozen/Bolzano Quartzporphyry set in a desert-like climate that lasted millions of years. Then, around 260 million years ago, the continuously sinking land was slowly flooded by the Tethys Sea advancing from the east. This created the first marine deposits, the Bellerophon formation.

Fossils are found in large quantities in the Werfen Formation, but with low species diversity, such as the *Claraia Clarai*. The reason for this was a mass extinction that occurred around 251 million years ago, in which around 90 per cent of the plants and animals on land and in the sea became extinct.

Photo: Nature Park Office



The Geisler/Odle range with Raschötz/Rasciesa and Seceda in the foreground.
S = Schlern/Sciliar Dolomite
BU = Buchenstein Formation
C = Contrin Formation
R = Richthofen Conglomerate
W = Werfen Formation
BE = Bellerophon Formation
G = Val Gardena Sandstone
EV = Athesian Volcanite Group

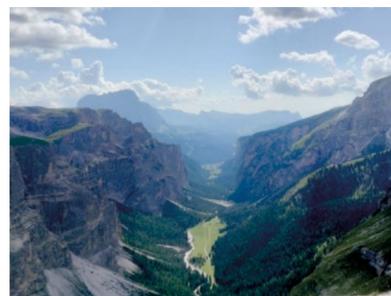
Photo: Nature Park Office
Editing: Alfred Gruber

The Werfen Formation consists of a colourful sequence of limestones, marls, sandstones, siltstones and mudstones several hundred metres thick. After they were deposited, the sea was pushed back for a short time due to earth crust movements, and a large part of the Werfen Formation was subjected to erosion. River gravels and coastal sediments such as the Peres layers and the Richthofen conglomerate formed.

The sea then regained the upper hand and marl (a sediment consisting of clay and limestone) was formed with fossilised plant remains and shallow-water organisms, known as the Morbiac Formation. The light-coloured Contrin Dolomite then formed above this. Finally, there was a significant change: sea basins up to 800 metres deep were formed, surrounded by reefs (Schlern/Sciliar Dolomite), in which well-stratified limestones and intercalations of green tuffs were deposited, known as the Buchenstein Formation.

The Langental/Vallunga valley has got its typical U-shape due to the impact of the glaciers during the last ice age.

Photo: Simon Perathoner



From the base to the summit, Piz Duleda consists of Schlern/Sciliar Dolomite, Raibl Formation and Dolomia Principale sequence, showing very recognisable transitions.
D = Dolomia Principale
R = Raibl Group
S = Schlern/Sciliar Dolomite

Photo: Nature Park Office
Editing: Daniel Costantini

The light-coloured Dolomia Principale, on the surface of which fossil shell remains of large bivalves - known as megalodon bivalves - are often seen, can be found on the wide plateau of Crespèina, Gherdenacia and Puez, as well as in Val Chedul (pictured).

Photo: Simon Perathoner



The spruce stands around the Peitlerkofel/Sas de Putia and the mixed conifer forests near Halsl/Passo Rodella pass are highly important habitats. These are good mating grounds for the increasingly rare capercaillie. During the mating season in April/May, the cocks develop a bright scarlet-coloured skin over their eyes, the so-called "caruncle" or "rose".
Photo: Tetraon

Habitats, animals and plants

The nature park is home to a variety of different habitats, ranging from mixed coniferous forests to dwarf shrub heaths with alpine roses and other heather plants, to mountain pine fields, scree slopes, steep rock faces and stony plateaus. Traditionally farmed alpine pastures and mountain meadows also characterise the landscape.

The vegetation levels range from the high-altitude mountain forest standing at around 1,500 metres to the rocky regions beyond 3,000 metres.



The forest belt is limited to the peripheral areas of the nature park. Large stands of Swiss pines are located in the area around the Peitlerkofel/Sas de Putia and at the head of Villnössal/Val di Funes.
Photo: Pixcube

The meadows lined with larches in the uppermost Kampill/Longiarù valley and the floor of Langental/Vallunga are particularly rich in flowers. Some of the most beautiful consist of the Ground Cistus, Lady's-slipper, *Lilium bulbiferum* and Turk's cap lily (pictured). It exudes a sweet fragrance, especially in the evening and at night, attracting numerous long-tailed butterflies for pollination.
Photo: Nature Park Office

Mountain meadows

Within the park boundaries there are numerous extensive mountain meadows such as the Peitlerwiesen/Prati del Putia. In contrast to other areas in the Alps, they are still regularly mown despite their location at more than 2,000 metres above sea level, and the hay is used as fodder for livestock. Crocus and Alpine Meadow-saffron form the first and last flowering here, and in summer arnica, marguerites and *Campanula sp.* can be found in a colourful meadow community.



The Northern nutcracker helps to rejuvenate the Swiss stone pine population. In autumn, it hides thousands of Swiss pine seeds as a winter supply. The seeds that it no longer finds can then develop into new plants.
Photo: Nature Park Office

Mountain meadows, scree slopes and dolomite rock cliffs

Edelweiss, Pyrenean Dead-Nettle and Pedicularis rostratocapitata thrive on the wind-protected, steeper slopes of the Peitlerkofel/Sas de Putia, while Petasites paradoxus can also be found on the north side. *Thlaspi rotundifolium*, Mountain Flax and *Papaver rhaeticum* enliven the scree slopes of the Villnösser Geisler/Odle di Funes range.



In Langental/Vallunga and especially in Val Chedul, edelweiss, *Artemisia mutellina* and *Physoplexis comosa* (pictured) bloom copiously. The *Physoplexis comosa* occurs exclusively (endemically) in the Southern Alps and is native to limestone and dolomite crevices.
Photo: Sepp Hackhofer



Passerine birds such as the Black redstart, the Northern wheatear and the Snowfinch (pictured) nest at high altitudes. Orange-red, nitrogen-loving lichens thrive where they leave their droppings.
Photo: Johannes Wassermann

Traditional hamlets (Ladin Viles) on the edge of the nature park characterise large parts of the settlement landscape of Gadertal/Val Badia. A few farms are grouped around a small village square with a shared fountain and oven. The mushroom shape of the houses is typical: the residential storey is built in stone masonry while the bedrooms and attics are made of wood.

Photo: Albert Willert



Man and nature

Except for Villnöss/Funes, the towns around the nature park are of Ladin origin. The Ladin people, a Rhaeto-Romanic population group, once colonised the Alps from Friuli to Switzerland. In the Middle Ages, their settlement area was constricted by Germanic, Italic and Slavic peoples, which led them to retreat into inaccessible Alpine valleys or being absorbed by other cultures. Until 1892, when the road was built, Gadertal/Val Badia was self-sufficient, living on fine balance of agriculture and livestock farming that ensured the survival of the Ladin people until the 21st century.

Natura 2000

Natura 2000 is a European nature conservation project. It aims to create a network of protected areas for the long-term protection of natural and semi-natural habitats as well as for wild animals and plants to safeguard biodiversity. All South Tyrolean nature parks are part of the Natura 2000 network, and their designation is based on two European directives: the Flora-Fauna Habitats Directive and the Birds Directive.

Dolomites UNESCO World Heritage Site

In 2009, the Dolomites, and with them the Puez-Geisler/Puez-Odle Nature Park, were added to the UNESCO World Heritage List due to their scenic beauty and their geomorphological and geological significance. After careful selection, this list includes globally outstanding and unique natural and cultural assets whose preservation is of particular importance to the international community. This honour also means a special obligation and responsibility regarding the protection and sustainable development of this extraordinary mountain region!

Fossilised skeletal remains of a fish dinosaur (*Ichthyosaurus cymbospondylus*) were found in the Buchenstein Formation of the Seceda (top layer in the picture). They can be admired in the Gherdëina Museum in St. Ulrich/Ortisei.

Photo: Alfred Erandi



Peitlerkofel/Sas de Putia
Photo: Pixcube, Alfred Gruber

Zans/Zamnes, Infopoint
Photo: Martin Koller

Puez-Geisler/Puez-Odle Nature Park Visitor Center
Photo: SBO, M. L. Lamminger



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Phone +39 0472 842 523
info.pg@provinz.bz.it

Opening hours:
nature-parks.provinz.bz.it/en
Free admission!

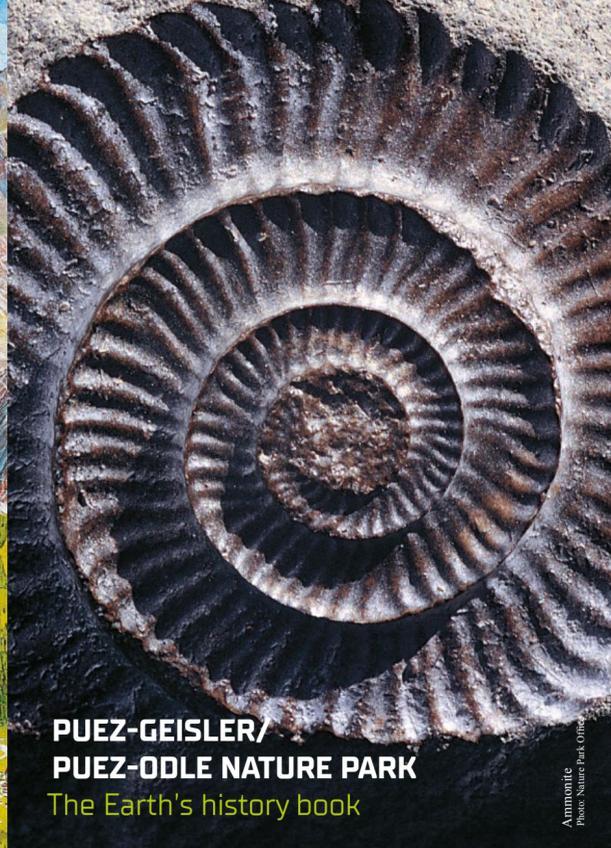


Autonome Provinz Bozen
Provincia autonoma di Bolzano
Provincia autonoma di Südtirol
SÜDTIROL - ALTO ADIGE

NATURPARK PARCO NATURALE PARC NATUREL NATURE PARK

PUEZ-GEISLER PUEZ-ODLE PÖZ-ODLES

PUEZ-GEISLER/PUEZ-ODLE NATURE PARK
The Earth's history book



**PUEZ-GEISLER/
PUEZ-ODLE NATURE PARK**
The Earth's history book

Alpine rescue signal

- 1 Within 1 minute, emit 6 acoustic or visual signals (at 10 second intervals)
- 2 Pause for 1 minute
- 3 Repeat the signal (until response arrives)
- 4 Response: 3 signals within 1 minute

Emergency call centre **112**

Key

Nature park boundary	Difficult trail
Access road	Via ferrata
Blocked road	Mountain pass
Car park	Water body
Ascent system	Mountain hut
Nature Park Visitors' Centre	Camping
Infopoint	
Marked hiking trail	

The nature parks in South Tyrol

are areas of particular value for the conservation of nature and landscape, research, awareness-raising and environmental education. They offer numerous opportunities for direct and respectful interaction with nature.

1 Schlern-Rosengarten Sciliar-Catinaccio	7,288 ha 2,156 m ★ 1974	5 Trudner Horn Monte Corno	6,873 ha 1,571 m ★ 1980
2 Texelgruppe Gruppo di Tessa	31,407 ha 2,857 m ★ 1976	6 Drei Zinnen Tre Cime	11,878 ha 1,961 m ★ 1981
3 Puez-Geisler Puez-Odle Pöz-Odles	10,729 ha 1,499 m ★ 1978	7 Rieserferner-Ahrn Vedrette di Ries-Aurina	31,334 ha 2,610 m ★ 1988
4 Fanes-Sennes-Prags Fanes-Senes-Braies	25,485 ha 1,929 m ★ 1980	N Nationalpark Stilfserjoch Parco nazionale dello Stelvio	53,447 ha 3,255 m ★ 1935

The Puez-Geisler/Puez-Odle Nature Park in a nutshell

The 10,729-hectare Puez-Geisler/Puez-Odle Nature Park, founded in 1978, borders to the north with Würzjoch/Passo delle Erbe and to the south with Grödnertal/Passo Gardena. To the east, the park extends to Gadertal/Val Badia (Kampill/Longiarù, Untermois/Antermoia), and to the west up to the Villnöss/Funes and Gröden/Gardena valleys. The northern part is dominated by the Aferer/Eores and Villnösser/Funes Geisler/Odle complex and by the Peitlerkofel/Sas de Putia, while the southern border is defined by the Gherdenacia and Sassongher plateaus, by the Puez plateau (with Langental/Vallunga) and by the Cir range. The park contains Karstified plateaus and gently undulated, fertile alpine meadows in front of bizarrely jagged mountain silhouettes and majestic rock walls, as well as deeply incised erosion valleys and thick coniferous forests that form a highly varied range of landscapes rarely to be found in such a small area.

The nature park's municipalities

Villnöß/Funes Nature park's share 2,171 ha Tourist office Ph +39 0472 840 180 www.villnoess.com	Wolkenstein/Selva di Val Gardena Nature park's share 2,101 ha Tourist office Ph +39 0471 777 900 www.valgardena.it	Abtei/Badia Nature park's share 1,011 ha Tourist office Stern Ph +39 0471 847 037 Tourist office St. Kassian Ph +39 0471 849 422 Tourist office Badia Ph +39 0471 839 695 www.altabadia.org
St. Ulrich/Ortisei Nature park's share 993 ha Tourist office Ph +39 0471 777 600 www.valgardena.it	Corvara Nature park's share 1,097 ha Tourist office Corvara Ph +39 0471 836 176 Tourist office Kolfuschg Ph +39 0471 836 145 www.altabadia.org	St. Martin in Thurn/San Martino in Badia Nature park's share 2,475 ha Tourist office Ph +39 0474 523 175 www.sanvigilio.com

- Rules of behaviour**
- Don't pick
 - No vehicles
 - Don't camp
 - No fire
 - Don't trash
 - No drones
 - No noise
 - Dog on a leash
 - No fire
 - No drones
 - Don't destroy