

# ALBANIAN ALPS GEOTOPES

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**Abstract:** The Albanian Alps are encountered in the most northern part of Albania and have very clear-cut boundaries representing the highest and most beautiful regions of our country. Regarding the physical and geographical viewpoint, the Albanian Alps border with the Drini valley (Fierzë, Vau i Dejës) in the south, the Tropoja basin in the east and northeast and the Mbishkodra plain in the west. In the north, they extend beyond the Albanian territory, in Montenegro

**Key words:** Albanian Alps, mountains, villages, block

## 1.GEOGRAPHY OF THE ALBANIAN ALPS

The Alps have a width of 60 km and a length of 64 km and occupy an area of about 2020 km<sup>2</sup>. Towards the north, their geographic and geological structures extend beyond the national border to Montenegro. In the south, the Alps go down to the Drini valley (Fierzë, Vau i Dejës area), in the east and in the south the transversal breakdown Shkodra-Pejë separates the Alps from the neighboring regions, whereas in the west the Alps border with the Mbishkodra plain. The Albanian Alps are divided along the Shala valley and Runica trough into two large areas: the Western Alps and the Eastern Alps. The Western Alps lie amid the valley of the Shala River and Runica trough on the east, Mbishkodra plain on the southwest, Drini valley on the south and the borderline on the northwest.

**RELIEF**-The Albanian Alps are characterized by big contrasts of the relief, valleys and surrounding alpine crests.



The highest mountains and peaks are: Jezerca 2,693 m, Papluka 2,569 m, Radohima 2,569 m, Kollata 2,555 m, Grykat e hapura 2,625 m, Çetat e Arushës 2,423 m, etc. The average height of the Alps is 1,140 m, 73% of whose relief is occupied by elevations of 600-2,000 m, whereas the elevations over 2,000 m make up about 7% of the overall area of the Alps. A typical feature is the existence of three main hypsometric levels such as that of 200-800 m, which occupies about 29% and represents the valley elevation, that of 800-1,400 m, which occupies 34% including the mountainous blocks and that of 1,400-2,000 m, which occupies about 27% of the territory including the high crests of the Alps. Some of the most important valleys of the Albanian Alps representing interest to the mountainous tourism are



**MOUNTAINOUS BLOCK**-In Albanian Alps there are typically big contrasts between mountains in form of pyramids and deep narrow valleys at their feet. Vertical energy of the relief is of about 400-800 m/km<sup>2</sup> and horizontal breaking of the relief goes 1-5 km/km<sup>2</sup>. In a surface not more than 50 Km<sup>2</sup>. There are placed four mountain blocks of higher more than 2 000 m.



-*Jezerca mountainous block*. In these mountainous blocks there are 19 peaks more than 2 000 m. above the sea level.-*Radohima mountainous block*. In this mountainous block there are 14 peaks 2000 m above the sea level.-*Grykat e Hapura mountainous block*. In this mountainous block there are 20 peaks 2 000m above the sea level -*Shkelzeni mountainous block*. In this block there are 14 peaks 2000 m above the sea level-*Marlules Mountainous block*. In this block there are 8 peaks 2000 m above the sea level.



**HYDROGRAPHY**-The Albanian Alps are characterized by a highly developed hydrographic network represented by the water basin of the lake of Shkodra, the Drini,Buna,Vermoshi,Kiri, Shala and the Valbona River.

## 2. Albanian Alps Geology

Albanian Alps Zone (the zone included in guide) there is at the north of Albania and from the

geological point of view begin at the southern ridge of Shkodra lake following at Vidhgar, thorough Taraboshi mountain, Shkodra castle and continuous at the north Mes-Gjuraj village. After it take a eastern direction until to Curraj i Eperm village-Bajram Curri town, at the north to Valbona-Plave-Vermosh finishing at the south near the Shkodra lake (Hani i Hotit place). Oldest depositions at Albanian Alps zone begin with schist, sandstones, conglomerates, and limestones with fuzilinidae of Permian (Age 295 Million years). Over them putting the terrigenes, terrigeno- carbonate rocks, limestones, radiolarians siliceous and tuffs and tuffits, algae limestones and dolomites, slate limestones with siliceous lenses, limestones with megalodonte, stromatolite limestones of Triassic, (Age 250 Million years). At Valbona valley, Markajt lake, Shtyllen e Grise, Vidhgare, etc. between the algae limestones and dolomites and Triassic limestones shown funnels and bauxite lenses or bauxitic clays. The Albanian Alps Zone, in the base of paleo-geographic development, represented from subzone of Malesia e Madhe and subzone of Valbona.

**Malesia e Madhe Subzone**, expands at western part of Alps. It limited at south and southeast with Valbona subzone. This boundary, from Shkodra to Nderlysa going by tectonic fault: Rrjollit stream – Maja e Madhe-Nderlyse and after move along at northwest by tectonic faults: Shtegu i Dhenve-Liqenje e Jezerces. At the north, at Greçe-Golisht sector, Malesia e Madhesubzoneoverthrusting from Valbona subzone. At Malesia e Madhe subzone Jurassic depositions (Age 203 million year), represented from limestones with Lithiotis and Protodicerias, siliceous limestones, oolitic limestones and dolomites, limestones with *Cladocoropsis* (sides) or algae's limestones and dolomitic limestones *Clypeina jurassica*. At Tamara place meeting the clays that content bauxites. Neritic sediments, with a considerable thickness, represented from limestones with *S. annulata*, *S. dinarica*, *Orbitolinide*, *numerous benthos* and rudists, continuing along all the Cretaceous (Age 135 million year). Carbonate section of Malesia e Madhe subzone, at Selca and Golishi Mountain, finished with limestones with *Globotruncana*, that covered from Paleogenic (Age 65 million years). Generally, Malesia e Madhe subzone characterized from a structural composition, manly, simple monocline, with soft flexure, with folds near the tectonic faults, with downthrows and repeated faults, rare with over thrusting. At this subzone, a considerable role playing tectonic faults with an amplitude 400-600m, and notably these of Thate Stream – Troshanit saddle, Grabom - Boges, Lepushe - Qafes se Thores - Nderlyses, which have

been ancient and reactivated with a separation of tectonic micro blocks of Kastrati, Kelmendi and Reç – Mardomi that characterized from facial changes of Jurassic - Cretaceous depositions that construct these micro blocks. Micro blocks themselves, are fragmented form other tectonic faults (Sokoli, Kapes se Brojes, Hot – Veleçikut streams, etc.) with a general spreading NW-SE and NE-SW, with a almost vertical falling.

**Kelmendi Micro block-** at the north of tectonic fault of Grabom - Boge, composed mainly from Jurassic and Cretaceous depositions. Generally, it represents a monocline plate with a soft falling ( $10^0$ - $25^0$ ) in northern direction. In its southern part, meeting asymmetric anticline of Boçani with both its periclinal. Northern side go down at northern direction with an angle  $10^0$ - $15^0$ , while southern side at the beginning go down with a big angle ( $60^0$ - $70^0$ ) toward south and after fall away. Near this fault there are anticline fault of Rahovica and anticline fault of Raba, with very gentle sides ( $10^0$ - $15^0$ ) and limited spreading. The relief, very craggy at Cemi and Boga Valleys, favoured gravitationally moves for biggest blocks, particularly at Tamara and Boga.

**Kastrati Micro block-** composed from Jurassic and Cretaceous depositions. It, there is at the south of tectonic fault of Grabom - Boge. In direct contact with this fault meeting southern side of overturned anticline of Fusha e Zeze, that go down at northeast direction with an angle by  $40^0$ - $50^0$ . More at the south, this block, represent again an fragmented monocline, with a gentle dip mainly SW and W, where in its background seemed syncline faults of Veleçiku and Rapsha, with sides very gentles ( $7^0$ - $10^0$ ), with small measures that have the form of brachy-folds. Only in Brigje, near the tectonic fault, meet a overturned anticline with a south-western convergence. The tectonic faults that fragment the block are on SW-NE and SE-NW directions. They create secondary structures of horst and graben kind. Microblock composition has a tendency for sinking toward to Shkodra lake, finishing, so, to Kopliku lowland.

**Reçi Microblock-** composed from Triassic, Jurassic and Cretaceous depositions. It has an elongation southwest-northeast and limited from tectonic faults of Dry stream – Qafa of Troshani and Rrjolla – Nderlysa streams. Like the other microblocks, it is fragmented from tectonic faults in parallel and transversal of its elongation. The northern part, (m. Mardomi) represents a monocline with a north-western falling ( $20^0$ - $25^0$ ). More, in the south, meeting Kurrila syncline and Reçi anticline with very gentle

slopes ( $5^{\circ}$ - $15^{\circ}$ ). The south-western slope of Reci anticline thickening from tectonic scaled faults with a sinking tendency toward Shkodra Lake forming the Kopliku lowland.

**Valbona subzone**, that has like its analogue in Montenegro the parakarst zone, occupy a noticeably surface of Albanian Alps zone. It surround from the north, east and north-east Malesias e Madhe subzone. In the sector, from Greça at Golishi mountain until Vajusha mountain the Triassic and cretaceous depositions of this sub zone over thrusting mainly over the Paleocene - Eocene flysch and Senonian limestones of Malesia e Madhe subzone while at the north, along the Vermoshi Valley, covered from flysch of Vermoshi unit. At the east, it passing in Montenegro territory in order to repeat again in our territory, at Jezerca Mountain –Valbona Valley - Padeshe and after in the southwest direction from Thethi and Curraj i Eperm until Drishti. At the place of Çeremi Valley, Valbona subzone limited from overthrusting of Gashi zone. In its southeastern ledge, from Padesha place to Qafa e Kolshit, this subzone covered from Mirdites zone, while from Kolshi saddle Vuksanaj, Pogut direction until Drisht it over thrusting over " Xhani Schist's " of Cukali subzone. At north-western ledge, Valbona subzone contact by a tectonic with Malesia e Madhe subzone. Initiating from its composition, its structural elements and facial changes, in this zone are separated: Vermoshit microblock, Selca microblock, Bishkaz - Shala microblock Thethi microblock. Valbona subzone characterize from condensate sections of Jurassic and Cretaceous with small thick, consequently with limited spreading. Jurassic depositions represented with bivalves pelagic limestones, siliceous and limestones with saccocoma and calpionelides, or from crinoidal limestones with laminate texture (Valbona microblock) of Jurassic. There are enrichment facie with turbidites that characterized the slopes. At some cases (Selca microblock), Jurassic depositions absent oneself in sections. The limestones of Cretaceous content many turbidites stratum and breccia conglomerate with pieces of rudists, gastropods, orbitolina, etc, rarely with plankton foraminifers. These limestones at Valbona block emplace over Jurassic depositions while at Selca block emplace direct over Triassic depositions (Selca, Budaçe holes).

*Selca microblock there is at northern extremity of our country.* It composed from carbonate depositions of Upper Triassic and Cretaceous and notably from Maastrichtian flysch. At the south, in Greçe – Golisht place, Triassic depositions emplace tectonically over

the Palaeogene flysch of Kelmendi block, while more at the east is the Maastrichtian flysch that emplace over the Senonian limestones or Palaeogene flysch. Over thrust plane has a gentle angle ( $25^{\circ}$ - $35^{\circ}$ ) and at Golishti Mountain is almost horizontal. At the north, this block covered from Upper Titonian-Cenomanianit flysch of Vermoshi unit. At the west and east going in Montenegro territory but in Trojani Mountain, Vermoshi microblock covered from a clip of Gashi zone. In it encountered Budaçe and Gropave te Selces anticlines, that interrupted in their expand from tectonic faults and are partially. Their nucleus composed from Upper Triassic limestones while the limbs composed from cretaceous limestones and Maastrichtian flysch. At the last case, seemed isoclinal folds of lower grater, with a widely expand and overturn to south.

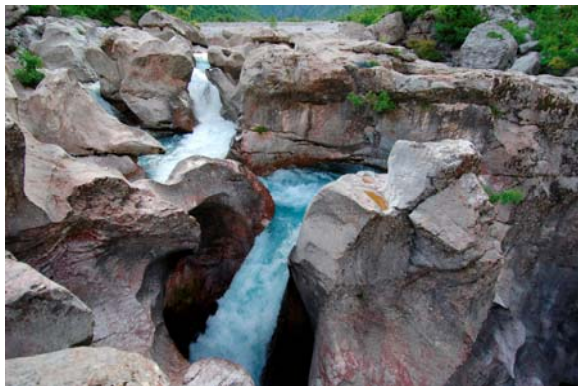


*Valbona microblock*-composed from Triassic depositions and smallest from those of condensate facies of Jurassic and Cretaceous. It over thrusting at southeast from Mirdita zone, at the north from Gashi zone, while at southwest limited by Bishkaz - Mardomit and Thethi microblocks through the fault of Ragami – Qafa e Kolshit. This block, although is such fragmented seemed clearly that represent a big anticline with an elongation, nearly east-west. Its nucleus composed from rocks of Upper and middle Triassic while the limbs from Jurassic-cretaceous and Maastrichtian flysch, that commonly emplace with break over them and surrounded everywhere this anticline. Its limbs sinking with an angle from  $10^{\circ}$ - $15^{\circ}$  to  $30^{\circ}$ - $35^{\circ}$ . At Padeshe observed its eastern pericline.

*Bishkaz –Shales Microblock*-composed from Permian and Triassic depositions. It elongated from Drishti at southwest, to Qafa e Kolshit - Currajn e Eperm at northeast. At the east and northeast it over thrust over the "Rreshpet Xhani", Cukali subzone, while more in

the northwest limited, with tectonic faults, with Reç – Mardomit microblock (Malesia e Madhe subzone) and Thethi microblock. From Gjuraj-Boksi to Qafa e Kolshit, it represent a monocline with northern until northeastern falling ( $15^{\circ}$ - $30^{\circ}$ ). At Permian formations, that construct the base of monocline seemed isocline folds of lower grater with a overturning toward south. At southwest of Gjuraj - Boksit encountering Bishkazi syncline with very gentle limbs. At southeast until Vorfe and Drisht it makes south-westernmost. It seemed the scales tectonics, also, toward the Kopliku lowland.

*Thethi Microblock*- is emplace tectonically over the Bishkazi - Shala block. It is composed from middle Triassic formations, black tabulated limestones of Ladinian - Karnianit and limestones with Megalodonte of Upper Triassic. It represent a positive flexure, with the limbs that falling at northwest and southeast, with angles  $20^{\circ}$ - $25^{\circ}$ . Overthrusting plane is very gentle and can be observe since Qafa e Thores until at the north of Currajt te Eperm. For its gentle angle and cover nature, evidence the clip of Maja e Zorzit block itself.



### 3. Flora

Albanian Alps represent a high values biodiversity area in the mediterranean montanious part of the country. They constitute a nucle of Biosphere reserrve. It is cararacterized by high diversity of habuitats, plants and animal species, rich in endemic and subendemic species. The only zone in Albania where spuce (*picea abies*) grows. The constitute one of the most important mounatinous of the country. Alps are considered as a typicall center of floristic lincage with sourounding countries. Despite scientific values this area has also information values, landscape and it has big potentials for development of turisme and mainly alpine one.

In Alpes zone are denined the following habitats

#### SHRUBLAND AND PASTURES

Shrub land and ericaceae of temperate zone. Mountainous shrub land of alpines zone are dominated by *Juniperus nana* ( in all masives) Balkan Alpine and sub alpine pastures communities dominated by *Dryas octopetala*; (Carici-Dryadetum); fund only in Vermosh (Bear Field) Community of Sub alpine zone dominated by *Vaccinium myrtillus* followed by herbaceous plants (Vermosh, Bogë-Theth, Gash-Curra). Very short shrub land Pelago-Dinarike dominated by *Pinus mugo* associated by *Vaccinium myrtyllus*, *Rubus saxatilis*, *Sorbus aucuparia*, *Rosa pendulina* etj. (Pinetum mugi illiricum); in Droçkës pass. Forest edges with *Atropa bella-dona* associated with *Bromus ramosus*, *Fragaria vesca*, *Hypericum hirsutum*, *Stachys alpinus* etc. (Atropion); met only in Vermosh.



Pastures of died calcareous terrains

Dense pastures perennial plants

Pastures of calcareous mesofilic zon of ilimic beech forest with *Bromus erectus*, *Plantago media*, *Knautia arvensis*, *Viola alba* etc; Vermosh. Bogë-Theth.

Alpine and Sub alpine pastures

Pastures in snowy terrains

Alpines community of snowy terrains with *Salix herbacea*, *Omalotheca supina*, *Cerastium cerastoides* etc. (Salicion herbacea); in Vermosh and Bogë-Theth.

Acidofillic Boreo – Alpine Pastures

Oro-Moesian pastures dominated by *Poa violacea* with *Linum capitatum*, *Antenaria dioca*, *Thymus sp.* etc. (Geranio-Poetum violaceae); in Bogë-Theth and Gash-Curraj

Oro-Moesiane pastures of subalpine zone of Balkans with *Sesleria comosa*, *Poa ursina*, *Poa media*, *Festuca airoides* etj. (Agrostio-Seslerietum comosae); in Gash.

Clacareous Boreo-Alpine Pastures

Dinaric pastures dominated by *Festuca bosniaca* (Festucetum pungentis); in Gash.

Pastures of alpine and subalpine zone of Western Balkans with *Bromus erectus* dhe *Lamium garganicum* (Lamio-Brometum erecti); in Vermosh, Bogë, Gash.

Fertile alpine and subalipne pastures

Pastures with *Agrostis alpina*, *Phleum alpinum*, *Poa alpina*, *Crepis aurea*, *Leontodon hispidus* etc. (Poion alpinae); in Bogë-Theth, Gash.

Mesofilic Pastures

Supramesdhetare zone pastures of Balcans, Apenines etc. Dominated by *Lolium perenne* often associated with *Cynosurus cristatus* (Lolio-Cynosyretum cristati); in Bogë.

## FOREST

Broadleaved decidous forest

Beech forest

Meso-European beech forest with *Melica uniflora*, *Galium odoratum*, *Asarum europaeum*, *Viola reichenbachiana*, *Lathyrus vernus*, *Epipactis helleborine* etc. (Melico-Fagetum); in Bear field.

Moesian beech forest

Balcanic beech forest low dimensions growing on rock edges with south face aspect with *Luzula luzuloides*, *Luzula sylvatica*, *Prenanthes purpurea*, *Vaccinium myrtillus*, *Calamagrostis arundinacea* etc. (Luzulo nemorosi-Fagetum), Vermosh, Bogë-Theth, Gash.

Balcanic beech forest with *Galium* associated by floristic cortege of Fagetalia order (*Cardamine bulbifera*, *Lamium galeobdolon*, *Impatiens nolitangere*, *Veronica montana*, *Mercurialis perennis*, *Sanicula europaea*, *Symphytum tuberosum* etc. (Asperulo odoratae-Fagetum); in all massives.



Neutrophyile beech forest and silver fir of high level lands of Balcans (Abieti-Fagetum moesiicum); in Vermosh, Bogë, and Gash-Curraj.

Coniferous forest of temperated climate zone

Fir forest of Western Palearctic

Balcanic forest with *Abies alba*, *Fagus sylvatica*, *Picea abies* and *Pinus sylvestris*; in upper part of Valbona valley.

Spruce forest of Western Palearctic

Subalpine forest with *Picea abies*, localized Albania and Macedonia; in Valbonë.

“Hartinë” Forest of Western Palearctic

Balkan forest with *Pinus sylvestris*; in upper part of Valbona valley.

Oromediteranean Pine Forest

Forest of "rrobulli" with "kërlekë" (Mugheto-Pinetum leucodermis); in Droçka pass

Forest of "rrobulli" with beech (Fageto-Pinetum leucodermis); Bear field, Bogë-Theth

Typical forest of "rrobulli" (Pinetum leucodermis-typicum); Vermosh, Bogë-Theth.

Forest of "rrobulli" with Seslerie (Seslerio-Pinetum leucodermis); Vermosh, Bogë-Theth

Forest of "rrobulli" (Pinetum leucodermis-patulectorum); Vermosh.

Forest with *Pinus peuce* alpine zone of western Dinarides (Pontetillo-Pinetum peucis); Sefercë.

Forest and Shrubland of flooded area in temperated climate zone

Riverine Willow formation

Balkan formation dominated by willow along the river beds composed of *Salix elaeagnos*, *Salix amplexicaulis*, *Salix purpurea* etj. (Alneto-Salicetum amplexicaulis); Vermosh, Bogë-Theth.

Beds of Boreo-Alpine streams

Formation with *Alnus incana* along the river beds; Vermosh.

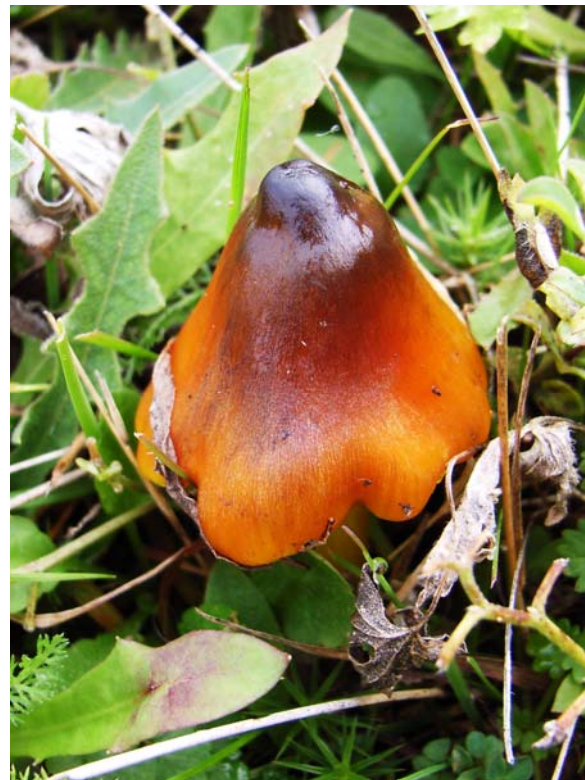
**ROCKS, BARELANDS AND SANDY TERRAINS IN THE INTERNAL PART OF THE COUNTRY**

Barelands

Pionner communities populating calcareous barelands of mountainous zones are dominated by *Rumex scutatus* and often with *Silene vulgaris*, *Hieracium bifidum* etc. (Rumicetum scutati); Bogë-Theth.

Illiric bareland with *Drypis spinosa* (*Drypetum spinosae*); Theth.

Albanian Alps represent a high value biodiversity zone nucleus of a Biosphere reserve and important areal for birds. Alps are considered a typical center for the establishing connection of Albanian flora with other surrounding countries and Europe in general terms. In massive of Alps are met 11 endemic plant species of 37 sub endemic, 10 balcanic and also 71 threatened species and 20 CORINE species. Alps are noted for presence of specific habitats and with scientific values out of which 5 are Albanian endemic, 1 sub endemic, 9 Balkanic and 1 subbalcanic. For these values as almost virgin area Albanian Alps constitute important biotopes for Albania and Europe, that in the future need more attention for protection and conservation. According to that it is important to be developed scientific projects in national and European level, in collaboration with neighboring countries BALKAN





#### 4. National Park “Thethi”

With a Decision of the Councils of Ministers, No. 96, dated 21.11.1966, the mountainous area of Thethi, with a surface of 2 630 ha, from which 1 680 ha of forests and the other part meadows and rocky surfaces, is proclaimed “National Park” and it is administered by Shkodër DFS

##### Physical environment

*Geographical position.* National park “Thethi” is located close to the “Bjeshket e Namura” on the Albanian Alps. It is the most important touristic and alpinistic center of the northern Albania. It is located 80 km from the Shkodra city. It is part of Shala Commune of Dukagjini area. It is bordered by the high rocky tops of the “Bjeshkët e Namuna” in shape of a crown, which ends in a valley and creates a unrepeated view; such as Radohima peak (2 568 m), Arapit peak (2 217 m), Papluka peak (2 569 m), Alija peak (2 471 m) etc. At an altitude of 750 – 800 m, down in the valley, it is positioned village of Thethi. There it springs Thethi river, which, after joining the Kaprreku stream, in Nderlysaj village, create Shala river, which pours in Drini river. Thethi river, a clear

and frothed one, bringing 1000 – 1300 l/sec and average water temperature 7<sup>0</sup>C, is rich with the mountainous trout. The canyon in Thethi mouth, full of wild doves, is about 40 m high and 1 m wide. “Grunasi” waterfall is very wonderful, with a waterfall by 30 m highness. The park territory is located in the physical –geographical area called Northern Mountainous Region (NMR).

*Geological features.* In the park, there are distinguished two sectors: Upper and down ones

The upper sector is more rugged, related to its composition of massive dolomitized limestone. This dolomitization conditions the intensive development of their physical alienation, under the strong action of alteration processes (frost and snow) present in most parts of the year, and the very quick changes of temperature. In these soil and climatic conditions, there is developed the cutting up of the origin rock and gravitational fallings of the partial materials. The consequence is the formation of the abrupt tops and crests and naturally, the total lack of vegetation and land coverage.

The down sector has a smaller slope, creating an evident breaking of the slope profile. The formation of this scale is related to the change of limestone character, from massive to stratum. These types of limestone are less dissolvable. As a consequence, compared to the upper sector, the slope is lowered, but it is again bigger than the lasting part. This is the reason that in the down sector of the cycling crests, the gravitational falling processes are developed with a lower intensity. At meanwhile, in this sector, even the other erosive processes have a lower development. As a consequence the vegetation is gradually increased up to the creation of the beech forests, conifers and oak forests.

The park is positioned in dun mountainous lands and partly in meadow- mountainous lands. The yearly falls are about 2 400 – 2 500 mm. The snow stratum goes to 1.5 – 2.5 m and lasts 130 – 160 days, while in some specific points of the park there is a permanent snow, which increases the tourist values.

##### Biological environment

*Flora.* In the park, there are various habitats and vegetation types. The most part is occupied by the beech forests (*Fagus sylvatica*), but there are also shrub formations with *Vaccinium myrtillus* or sub-alpine meadows (*Poion alpinae*), which are accompanied with pigmy shrubs and alpine areas



shrubs such as: *Juniperus communis* subsp. *nana*; *Juniperus sibirica* Burgsd, *Dryas octopetala*, etc. There are about 1 500 species of plant representing almost half of our country vegetation. From these plants, about 100 types are medical plants and very useful tannin plants. About 70 types are endangered to be disappeared, rare ones etc. The most common associations found in Thethi are: *Fagetum asperulosum*, *Fagetum oxalidosum*, *Fagetum vaccinosum*, *Tremuleto - Fageto asperulosum*, *Fageto - allietosum ursinum*, etc.

A lot of value has the very rare and ancient wood (*Taxus baccata*) within the wood store of the beech forests, and of the endemic plants (*Wulfenia baldaccii*; *Viola dukagjinica*, *Lilium albanicum*). Amongst the most important plants for each store, we can mention: (i) Wood store: *Fagus sylvatica*, *Abies alba*, *Acer pseudoplatanus*, *Betula pendula*, *Populus tremula*, *Taxus baccata* etc.; (ii) Shrubs store: *Vaccinium myrtillus*, *Rubus idaeus*, *Sambucus racemosa* etc.; (iii) herbs store: *Galium odoratum*, *Mycelis muralis*, *Paris quadrifolia*, *Cardamine bulbifera*, *Dryopteris filix-mas*, *Lamiastrum galeobdolon*, *Lilium martagon*, *Atropa bella-donna*, *Oxalis acetosella*, *Sanicula europaea*, *Viola reichenbachiana*, *Euphorbia amygdaloides*, *Saxifraga rotundifolia*, *Actaea spicata*, *Impatiens noli-tangere*, *Convallaria majalis*, *Anemone nemorosa*, *Mercurialis perennis*, *Allium ursinum*, *Prenanthes purpurea*, *Melica uniflora*, *Asarum europaeum*, *Neottia nidus-avis*, *Ligusticum albanicum*, *Dryas octopetala* etc. Sub-endemic plants are: *Aquilegia dinarica* and *Teucrium arduini*.

*European mountain ash* (*Sorbus aucuparia*) is a tree up to 15 m high and up to 35 cm thick. It is spread in the beech area, 500 – 1800 m over the sea level. It is a very beautiful woof for the landscape. Its presence, during spring full of flowers and in autumn –winter with red fruits is very evident in the forest background. Because of the distance from the residence centers, the beech forest state is generally good, but some of the above-mentioned accompaniments or species are endangered, mainly by illegal cutting, fires, overgrazing, uncontrolled tourism development, throwing of trashes etc. We can mention here the damages of *Picea abies*.

**Fauna.** The park is rich of animals. There are 20 types of mammals, 50 of fowls, about 10 types of reptiles, 8 types of amphibians. Mammals and fowls related to high forests and mountainous and alpine ecosystems have a lot of importance. Amongst the biggest mammals of Thethi Park, there are bear

(*Ursus arctos*), wolf (*Canis lupus*), lynx (*Lynx lynx*), chamois (*Rupicapra rupicapra*) and roe deer (*Capreolus capreolus*).

Common vew(*Taxus baccata* L)

Eshtë dru që takohet rrallë në vendin tonë, por me shtrirje nga veriu në jug, deri në lartësitë 800 – 1600 m mbi rrafshin e detit. Rritet deri në 15 m lartësi e 1 m diametër; jeton deri 500 vjet. Në vendin tonë nuk krijon grumbuj pyjorë, por gjendet i shpërndarë në grumbujt e bredhit e ahut. Eshtë lloj i kërcënuar për zhdukje. Ka vlera të mëdha si dru i veçantë në parqe e masive pyjore.

In the high forest, there do mainly predominates the members of *Fringillidae* (4 types), *Paridae* (4 types) families. Other components, but rare ones, are the typical elements of high forests such as woodpeckers (3 types), *Sitta europea*, *Certhia brachydactyla*, *Streptopelia turtur* and *Oriolus oriolus*.

In the shrub floor there can be encountered other types such as: *Phylloscopus collybita*, *Erithacus rubecula*, *Troglodytes troglodytes*, *Sylvia melanocephala*, *Saxicola rubetra*, *Lanus collurio*, *Garrulus glandarius* and *Turdus merula*.

The general state of the habitats is a good one.

*Chamois* (*Rupicapra rupicapra* L.)

*It can be mainly found in the mountainous areas. It is feed with grass, fruits and leaves. It weights about 20-40 kg, with a body length 110 – 140 cm. The male is 10 % bigger than the female. The copulation begins in 18 – 19 months old. It lasts for 6 months and cubs in May. The ground where it lives is very difficult and abrupt and because of that, it has not too much enemies*

Local participation in management

Although they are living in not good social-economic conditions, the local population criticizes any intervention or action damaging the park. The population has created very well relations with the forestry staff in the area. This is also a result of the awareness campaigns developed by national and international environmental associations, which have been active in the last 5 – 6 years in this area. There are trends of local population movements to the field areas, but during the summer they come back in vacancies, and have started to provide good conditions to develop family tourism. In general, the living conditions in the local families can provide conditions for family tourism. In

the future, it is needed a better intervention especially in improving the state of residences, according to the tourists needs.

### Future recommendations

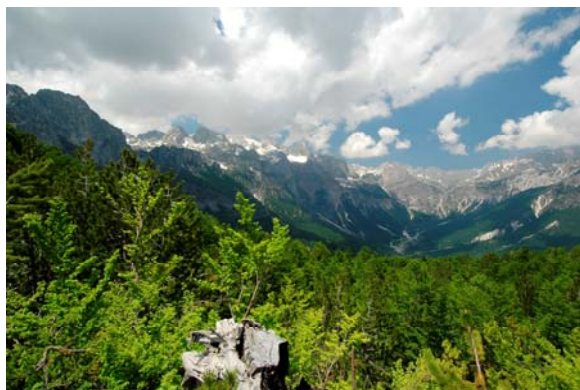
The actual status as a second category PA, according to the IUCN, is sufficient to ensure its protection.

Amongst the most necessary measures for preserving the good state, is the development of the park to make possible the development of the mountain tourism. In the other side, it has to be taken in consideration the Biodiversity Strategy and Action Plan, that foresee the establishment of a big alpine park, including existing parks of Valbona and Thethi, as well as other protected areas as Strict Nature Reserve of “Lumi i Gashit” and “Livadhi i Harushës”, and interesting areas as “Bjeshkët e Namuna”, “Lugina e Vermoshit”, “Lëpusha”, etc.

In the framework of the establishment of the trans-boundary “Peace Park” between Albania, Montenegro and Kosovo, the aesthetic and tourist values of this area will increase and the park will be one of the most interesting places in the region.

The DCM No. 676, date 20.12.2002, within the area of the park or in its surroundings there are the following Nature Monuments:

- Thethi waterfall,
- Thethi cave,
- Jezerca circus,
- Jezerca lake,
- Flag pine of Peja pass,
- Okoli springs,
- Arapi peak cave,
- The castle of “shtegu i dhenve”.



## 5.References

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