

# Tropical Biome

The Tropical Biome reproduces the environment of tropical rainforests, which are gradually disappearing due to environmental destruction, in a greenhouse about 3,000 square meters in size. Centered on rainforests in Asia, visitors can observe vertical multi-layered structures and various creatures as the rainforests of Central and South America, and Africa are reproduced.

In the Tropical Biome, visitors can see a variety of animals and plants that inhabit the rainforests, including over 130 species of fish - even world's largest freshwater fish - the pirarucu, 10 amphibians and reptiles, and over 700 tropical plants.



## Rainforest Climate

The evergreen broad-leaved forest is thick with a year-round hot and humid climate. Although rainforests occupy just 7% of the earth's land area, they contain about 50% of the earth's species, so they are very biodiverse.



African Rainforest

Asian Rainforest

Central and South American Rainforest

## Number of Species in Tropical Biome



Fish

Over 130 species



Amphibians  
Reptiles

10 species



Plants

Over 700 species

## Environment of the Tropical Biome



Humidity

60~90%



Temperature

Below 35°C in summer  
Above 22°C in winter



Height

35m



Area

3,232m<sup>2</sup>

## National Institute of Ecology Tropical Rain Forest

Another Little Earth  
Ecorium

### 1 Asian Rainforest

Kalimantan in Indonesia is Asia's largest rainforest region and the world's oldest rainforest. Kalimantan is famous for orangutans, but there are more than 6,000 other species endemic to the region. As time passes, large areas are being destroyed due to deforestation for agriculture.

### 2 Central and South American Rainforest

Central America was once completely covered by rainforest, but this is declining as sugar cane plantations and ranches are introduced. The Amazon Rainforest is the world's largest rainforest, covering eight countries: Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana and Suriname.

### 3 Madagascar Rainforest

Located in the northeast of the island of Madagascar, it is a nature reserve located within the Rainforest Kalimantan rainforests of the Atsinanana. This place is home to the most diverse range of plant species on the planet, and new species are constantly being discovered. Madagascar's rainforests cover only 2% of the total area of Madagascar, but more than 50% of lifeforms in Madagascar inhabit it, making it extremely biodiverse.

### 4 African Rainforest

The African rainforest, the second largest of the world's rainforests, is mostly within the Democratic Republic of the Congo. Compared to South American and Asian rainforests, it is relatively dry, with low tree height and vegetation density, and there are fewer epiphytic plants that require a lot of moisture.

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# Tropical Biome



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### 11 Pirarucu 1

*Arapaima gigas*

Pirarucu, which is the longest among freshwater fish, is also referred to as paiche, which means red fish, due to the fact that the red pattern on its tail becomes darker as it grows. The Indians regarded the pirarucu as sacred, and they believed that drawing the pattern of the fish on their faces would offer them protection by the gods.



### Clownfish 2

*Amphiprion ocellaris*

Clownfish live around anemones and hide between the tentacles of anemones at night or when they are threatened. The clownfish's bright colors attract food to the anemone. Clownfish have a symbiotic relationship with anemones in which they use the anemones as hideouts for obtaining food as they are immune to the poison in their tentacles.



### LC Princess Vine 3

*Cissus verticillata*

Princess vine has succulent stems and roots, so even when it is not in contact with the ground, aerial roots and sprouts may sprout while hanging in mid-air. When aerial roots touch the ground, rootlets sprout and become aerial roots, absorbing nutrients from the soil, and then gradually thicken into stems.



### LC 11 Poison Dart Frog 4

*Dendrobates tinctorius*

Poison dart frogs have very bright colors all over. Its colors warn potential predators that it is poisonous. It has the ability to protect itself by secreting venom from its skin, including from the back. Its venom is obtained from eating certain ants and insects that are venomous.



### LC Council Tree 5

*Ficus altissima*

The seeds of the council tree live by attaching to trees such as palm trees via birds and monkeys. As the council tree grows, it takes root in the ground and covers up the tree that it was initially attached to, causing it to die. The council tree is also known as the lemon lime rubber tree, but it is not of the varieties from which natural rubber is harvested.

## Tropical Biome Main Animals & Plants



### 6 Green water dragon VU

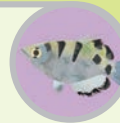
*Physignathus cocincinus*



Green water dragon is a large arboreal semi-aquatic lizard native in Southeast Asia. They live in the immediate vicinity of river basin or swamp bank. When startled, green water dragons drop in to the water. They are strong swimmers and can even submerge for longer period.

### 7 Archerfish LC

*Toxotes chatareus*



The archerfish shoots water at insects outside the water like a water gun, causing the insects to fall into the water and become the fish's prey. Because of the speed at which the water that is being shot out by the archerfish increases the further along the shooting process, the water shot flies a long distance in the shape of a bubble. The first shot is usually successful, but it can also fire in rapid succession.

### 8 Noni

*Morinda citrifolia*



Noni has been used by natives of South Pacific islands for a long time as an 'anti-allergy medicine' for its various effects such as strengthening the immune system. Although its fruit appears to be one fruit, it's actually made up of a bunch of fruits, and each fruit has one seed.

### 9 Monstera

*Monstera deliciosa*



The Swiss cheese plant, which has perforated leaves, grows wild all the way to northern Mexico, but as you go south, the leaves become smaller and have fewer holes. When the aerial roots from the stems touch the ground, they form fine roots that absorb nutrients. Even if the fine roots are removed, the adhesion is strong enough to leave traces.

### 10 Aldabra Giant Tortoise VU 11

*Aldabrachelys gigantea*



The Aldabra giant tortoise can only reproduce after 30 years since waking from its egg, and it has a lifespan of over 250 years. It stores moisture in the body so that it can live without water for a long time. When it does encounter new water, it discharges the water stored in its body and changes the water to clean water and stores it.

#### Red List

CR Critically Endangered	NT Near Threatened
EN Endangered	LC Least Concern
VU Vulnerable	

#### CITES

I Appendix I
II Appendix II
III Appendix III

#### Endangered Wildlife

I Level 1
II Level 2



# Desert Biome

The Desert Biome exhibits animals and plants living in barren desert environments. It consists of the Madagascar and Namib Deserts in Africa, the Sonora and Mojave Deserts in the western United States, and the Atacama Desert in northwest Chile. At the Desert Biome, a realistically created desert area, visitors can see a variety of desert animals such as desert foxes, rattlesnakes, and shawl lizards. In addition, there are more than 300 types of cacti and succulent plants on display.



## Desert Climate

The temperature difference between day and night is extreme, and the annual average rainfall varies from 50mm or less (Namib Desert) to 300mm or less (average 250mm or less). Creatures living in deserts that lack water have evolved by adapting to the harsh environment.



## Number of Species in the Desert Biome



Reptiles

6 species



Mammals

2 species



Plants

Over 300 species

## Environment of the Desert Biome



Humidity

10~70%



Temperature

Below 35°C in summer  
Above 16°C in winter



Height

12m



Area

1,380m²

## National Institute of Ecology Desert

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Ecorium

# Desert Biome

### 1 Sonora Desert (Western US and US-Mexican Border)

The Sonora Desert is a hot, dry area that stretches from the western United States to the US-Mexican border. The desert has a bimodal rainfall pattern throughout the season, and it is sunny on most days, even during the rainy season. Thanks to this rainfall pattern, there is high biodiversity in the region.

### 2 Madagascar Desert (Africa Island of Madagascar)

The island of Madagascar has a variety of climate zones, including a rainforest. In the southwest, desert land is formed because it rarely rains. The desert area is home to species endemic to Madagascar that cannot be found anywhere else in the world.

### 3 Namib Desert (Atlantic Coast of Africa)

The Namib Desert is the oldest desert in the world. There are about 200 foggy days per year, and it is very dry with annual rainfall of less than 50mm. Morning mist from the sea is the main source of moisture for the animals and plants of the Namib Desert.

### 4 Mojave Desert (Western United States)

The Mojave Desert is a dry, high-altitude desert located in the Desert Western west of the United States. The annual average rainfall is less than 250mm and it rains mainly in winter. The plantlife mostly comprises low shrubs and few succulent and arboreal plants.

### 5 Atacama Desert (Northwestern Chile)

The Atacama Desert is the driest desert in the world with very little rain. It is mainly made up of salt, sand, and granite. Although there are very few plants, algae, lichens and cactus grow due to the moisture supply from the coastal fog.

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# Desert Biome

## Main Animals & Plants



### 1 **LC** Western Diamondback Rattlesnake

*Crotalus atrox*

The western diamondback rattlesnake makes a warning sound by rattling its tail which takes the form of a bell. The end of a rattlesnake's tail is keratinized like a button. Each time the snake sheds its skin, its rattle increases by one segment. The segments of its tail are loosely connected to each other, allowing the snake to make a rattling sound when it shakes its tail.



### 2 **LC** **II** Fennec Fox

*Vulpes zerda*

The fennec fox is one of the smallest foxes with the surface area of its body minimized in size to avoid the hot desert heat. It mainly feeds on rodents, insects, and plants. Compared to the size of its ears, its skin is thin and its blood vessels are exposed, allowing it to both hear well and cool its body.



### 3 **LC** **II** Saguaro

*Carnegiea gigantea*

Saguaro doesn't start to bloom until it's 50 years of age. White flowers bloom every year thereafter. It blooms at night and then wilts in the hot day the next day. The trunk is inhabited by woodpeckers that burrow holes and make nests. Also, when the pillar falls, it becomes a shelter for animals on the ground.



### 4 **Aloe Vera**

*Aloe vera*

Aloe vera is the most widely known plant of the aloe genus and is grown worldwide. The stem is short, and long hard leaves emerge from the stem. The leaves are thick, fleshy, and succulent. The fleshy substance in the leaves is called 'aloe gel' and is used by humans for various purposes such as food, medicine, and skin care.



### 5 **EN** **II** Golden Barrel Cactus

*Echinocactus grusonii*

The golden barrel cactus is also known as the golden ball as it is round like a ball and covered in thick sharp needles that give it a golden appearance. Another type of thorn is what looks like fluffy fur around the rugged thorns at the top of the cactus. After growing for around 30 years, light yellow flowers bloom from spring to summer.



### 6 **Rubra** **NT**

*Lithops optica*

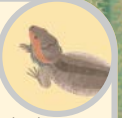
Rubra is a mimetic plant that has changed its shape to look like it has a stone around it to avoid becoming food for animals. It grows naturally between rocks or pebbles in extremely dry areas. The leaves are fleshy with an inverted cone shape with the bottom part attached, so they can store enough moisture during the rainy season.



### 7 **Giant Toad Plant**

*Stapelia grandiflora*

Stapelia is also referred to as decayed plant, star fish flower and starfish cactus. Its flowers bloom to a diameter of roughly 35cm. It has a pungent smell to attract flies for pollination. Its red petals with long hairs create a more meaty look.



### 8 **Bearded lizard**

*Pogona vitticeps*

When other individuals approach on breeding season, they snake their heads up and down and when they do these actions, the chain turns into black. Breeding occurs in early spring and can lay 11 to 30 eggs.



### 9 **Spiny-tailed Monitor** **LC** **II**

*Varanus acanthurus*

The spiny-tailed monitor is a predator, but unlike other monitor lizards, it hides in the grass of dry rocky ground. It inserts its tail into a rock or hole to support its body, and it uses the thorns of its tail as wedges to help fix the body in place.



### 10 **Black-tailed Prairie Dog** **LC**

*Cynomys ludovicianus*

Black-tailed prairie dogs live primarily in open, dry grasslands. They live in groups and communicate with each other by making 12 different sounds. When a threat appears, it stands upright and makes a sound that is similar to the sound of a dog barking, which is where it got its name.

Red List		CITES	Endangered Wildlife
<b>CR</b> Critically Endangered	<b>NT</b> Near Threatened	<b>I</b> Appendix I	<b>I</b> Level 1
<b>EN</b> Endangered	<b>LC</b> Least Concern	<b>II</b> Appendix II	<b>II</b> Level 2
<b>VU</b> Vulnerable		<b>III</b> Appendix III	



# Mediterranean Biome

The Mediterranean Biome reproduces the ecological environments of the Mediterranean climate, such as the European Mediterranean coast, South Africa, the Canary Islands, the California coast, and Australia. Mediterranean climate regions are a repository of biodiversity, accounting for only about 1.7% of the land area but about 25% of the world's plant species. In particular, over 25,000 species of plants are distributed in the European Mediterranean Sea, which accounts for 64% of the total Mediterranean vegetation belt area.



## Mediterranean Climate

It is hot and dry in summer and cool and humid in winter. Most of the regions face the sea, so the temperature is mild and the annual temperature difference is not great.



## Number of Species in Tropical Biome



Amphibians

7 species



Plants

Over 300 species

## Environment of the Mediterranean Biome



Humidity

40~60%



Temperature

Below 35°C in summer  
Above 10°C in winter



Height

15m



Area

1,287m<sup>2</sup>

## National Institute of Ecology Mediterranean

### 1 Asian Rainforest

The Mediterranean climate region of South Africa has the smallest area of Mediterranean vegetation belt area. Over 8,700 species of plants grow naturally in the region, 68% of which are endemic to the region, and there are many rare species.

### 2 Europe

The European Mediterranean is the largest Mediterranean climate region, accounting for 64% of the total Mediterranean vegetation belt area. The region's rugged terrain, high mountain ranges, and numerous islands have driven evolution of vegetation, resulting in more species distribution than any other Mediterranean climate region.

### 3 Canary Islands (Atlantic Northwest Africa)

The Canary Islands are made up of seven islands in the Atlantic Ocean in northwest Africa. With the influence of trade winds, the climate is warm and dry, and the coastal plains have a Mediterranean climate, with the ecological characteristic of subtropical and Mediterranean plants coexisting.

### 4 California (Western United States)

The Mediterranean region of California, USA accounts for 4% of the total Mediterranean vegetation belt area. More than 4,300 plant species are distributed in the region, of which 35% are endemic to the region. The region contains American redwood forests which are composed of an endemic species, oak forests, cypress forests, and mixed evergreen forests.

### 5 Australia

Unlike the diverse topography of other regions, the Australian Mediterranean climate region is in the form of a flat plateau at an elevation of over 1,000m. Half of the plant species in the southwestern region are endemic to the region, and over 2,500 species are designated protected species.

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Ecorium

# Mediterranean Biome



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# Mediterranean Biome

## Main Animals & Plants



### LC Oleander 1

*Nerium oleander*

The only species in the oleander genus, the flower begins to bloom in July-August and continues until autumn. It is a plant used in many Mediterranean countries as a folk remedy to treat diseases such as eczema and asthma. It grows well anywhere and is very resistant to pollution, so it is used as a street tree.



### Bird of Paradise Flower 2

*Strelitzia reginae*

The bird of paradise flower is characterized by flowers that resemble a bird's head. The orange calyxes and purple petals spread out like a fan over the beak-like bract, attracting birds, which are pollinators. The flowers bloom 3 to 5 years after pollination, but once they bloom, they last about 60 days.



### EN Dragon Tree 3

*Dracaena draco*

The dragon tree, a native plant of the Canary Islands, is a grass-like plant that has developed tracheids. When it is young, it has one stem, but as it grows, it develops several branches, forming an umbrella shape. It is a plant that grows independently in dry places and can survive with only 10 mm of annual rainfall.



### Olive Tree 4

*Olea europaea*

Olive is a representative foliage shrub species. The tree is short and its leaves are small and narrow, so it can withstand the dry summer climate. Olive fruit contains a lot of oil, so it is widely used as olive oil. Due to its high economic value, it has been cultivated throughout the Mediterranean for a long time.



### LC Thread-leaved Sundew 5

*Drosera filiformis*

The thread-leaved sundew attracts thirsty insects by creating a lot of sticky liquid that looks like water droplets. Insects that land on it are wrapped in sticky mucus and then suffocated and eaten. The thread-leaved sundew is equipped with a precision sensor and weapon that can detect the weight of its potential prey even with a slight touch.



### 6 Eucalyptus LC

*Corymbia citriodora*

Eucalyptus is known to be a staple food for koalas. Koalas sleep for more than 20 hours a day when they eat these leaves. This is because the leaves contain an alcoholic anesthetic, and the leaves actually contain very little nutrition, so the koala reduces its activity time to minimize energy loss.



### 7 False Tomato Frog LC II

*Dyscophus guineti*

The false tomato frog is named because its body turns red when it is adulthood, similar to the way tomatoes are ripening. It is endemic to the Madagascar rainforest, but its population has declined due to rapid destruction of its habitat, resulting in its endangered species level being raised to CITES Annex II in 2017.



### 8 Fire Salamander LC

*Salamandra salamandra*

Fire salamanders have bright orange or yellow warning colors on their black body. As a defensive mechanism, neurotoxins are released from the glands under its eyes and on the sides of its body. The poison is not secreted when it sheds its skin, so it usually sheds its skin at night, avoiding the eyes of predators.



### 9 Tiger Salamander LC

*Ambystoma tigrinum*

Tiger salamanders, which have a tiger-like pattern on their body, reproduce when the rainy season begins, and they travel about 1.5 km in search of a breeding place. It lays 100 to 1,000 eggs, attaching them to grass stalks, branches or stones in water.



### 10 Western Honey bee

*Apis mellifera*

Western honey bees are easy to cultivate and are cultivated all over the world. Instead of getting pollen and nectar from plants, honey bees allow the plants to bear fruit through pollination. Honey bees play a very important role in maintaining the food chain because they help plants reproduce.



#### Red List

CR Critically Endangered	NT Near Threatened
EN Endangered	LC Least Concern
VU Vulnerable	

#### CITES

I Appendix I
II Appendix II
III Appendix III

#### Endangered Wildlife

I Level 1
II Level 2



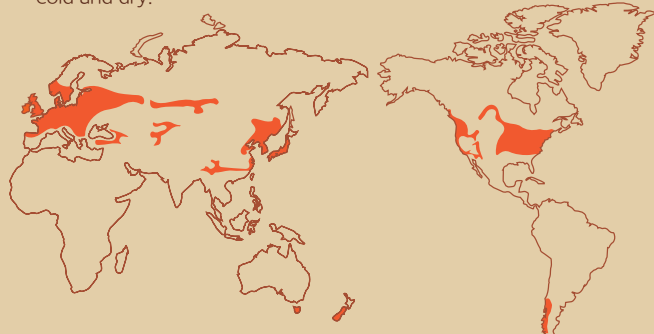
# Mediterranean Biome

The Temperate Biome reproduces the climate environment and ecosystem of the Korean Peninsula with distinct four seasons. It is composed of warm and temperate forests in the interior, valleys outside, and temperate forests in the mountainous area, and a subject species was selected for each element. In particular, Jeju Gotjawal and a pond were created to reproduce Jeju Island, home to the representative temperate forest of the Korean Peninsula. Inside, there are plants from Jeju Gotjawal, 7 species of amphibians and reptiles living on the Korean Peninsula, and about 40 species of fish. Visitors can observe temperate climate animals such as otters and golden eagles in the outdoor space where the mountainous and valley regions of the Korean Peninsula have been recreated.



## Temperate Climate

Temperate climates are characterized by distinct changes across four seasons. The summers are hot and rainy, and the winters are cold and dry.



## Number of Species in the Temperate Biome

Fish	Amphibians · Reptiles	Plants	Birds	Mammals
Over 40 species	7 species	Over 150 species	1 species	1 species

## Environment of the Temperate Biome

Humidity	Temperature	Height	Area
50~60%	Room temperature in summer Above 0°C in winter	12m	1,717m <sup>2</sup>

# National Institute of Ecology Temperate

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Ecorium

# Temperate Biome

## 1 Jeju Warm Temperate Forest (Jeju Island)

In terms of the seasonal distribution of temperature in Jeju Island, summer is similar to inland Korea, but winter is close to a maritime climate. Depending on the altitude, various forest zones appear, such as the warm temperate forests, and frigid zone forests. Due to having various vegetation zones, Jeju Island has become a valuable asset for plant research as it is said to be a treasure trove of plants.

## 2 Gotjawal

'Gotjawal' comprises the Jeju dialect words 'got', which means 'forest', and 'jawal', which means thicket. It refers to a forest where trees and bushes have become thick and messy. Various animals and plants coexist there and a unique ecosystem is maintained.

## 3 Seoraksan Valley

Seoraksan is largely divided into Oesorak (outer Seorak) and Naesorak (inner Seorak). In the Oesorak area, a colony of pine trees that are resistant to dryness have developed, and in the Naesorak area, the slope to the south of the northwestern ridge is highly exposed to rock mass, and a small valley heading to Hanhae Stream has developed.

## 4 Temperate Biome Outdoor (Otters and Birds of Prey)

Visitors can observe otters and birds of prey, which are representative animals living in temperate regions. Otters, which are a Class-1 endangered species, have been seen nationwide in the past, but their number is rapidly decreasing due to overfishing and pollution of rivers. The golden eagle, a Class-1 endangered species, is a rare winter migratory bird in Korea, and a small number of individuals arrive in winter every year.

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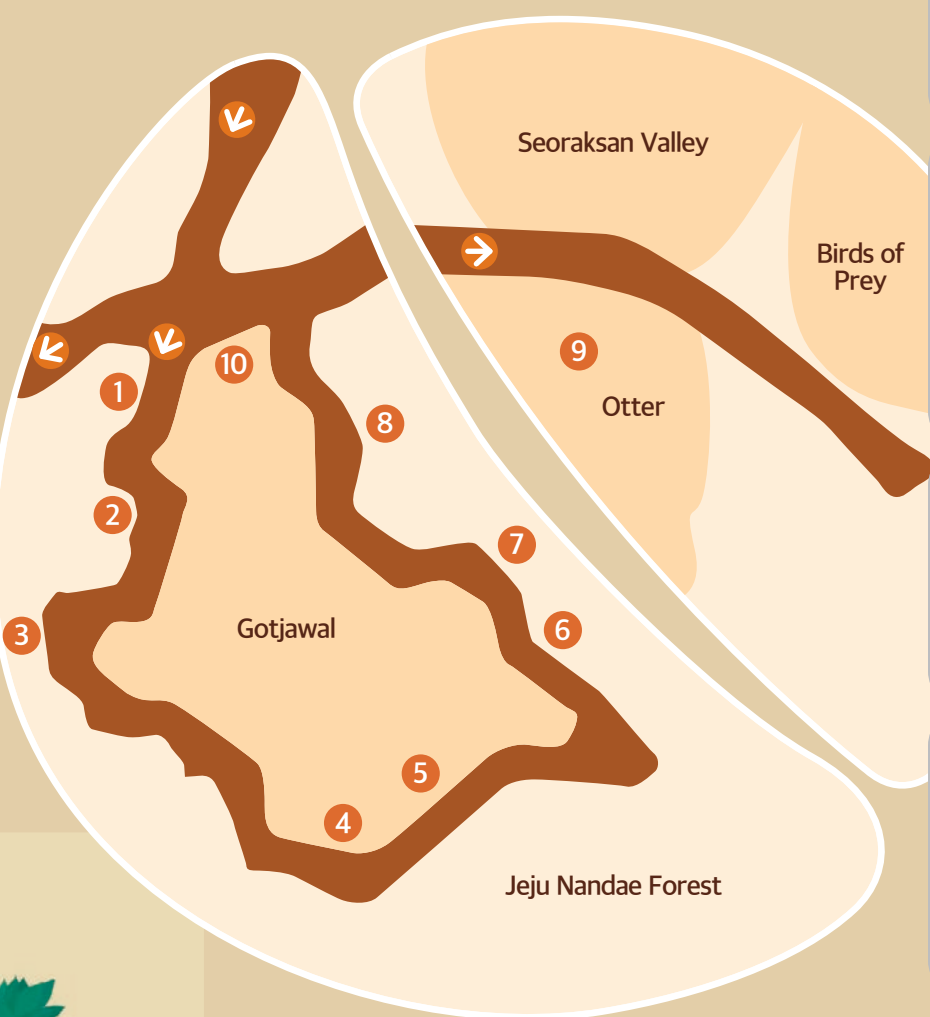
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# Temperate Biome

## Main Animals & Plants



### LC Sweet Viburnum 1

*Viburnum odoratissimum*

Sweet viburnum leaves are thick and shiny, and it has a reddish fruit and red petioles. In autumn, some of the leaves turn dark red, which contrasts with green leaves. In addition, the bark is thick and has strong fire and salt resistance, so it is good for firefighting water and as coastal shelterbelt forest.



### LC Japanese Tree Frog 2

*Hyla japonica*

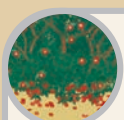
Tree frogs change their body color to match the color of their surroundings. They have the smallest among frogs in Korea, but their croaking sound is so loud that when their mating season comes, females mates with the male who makes the loudest croak among several males.



### II Hardy Yellow Hibiscus 3

*Hibiscus hamabo*

This is a plant of the genus mugunghwa that grows wild in Korea, and it is also called 'yellow mugunghwa' because it blooms yellow in July and August. In Jeju Island, ropes were made and used using the tough stem bark. It is vulnerable to the cold and cannot spend winter inland, and only a few individuals remain in Jeju Island, which is now its native habitat.



### LC Japanese Camellia 4

*Camellia japonica*

Japanese camellia is a representative ornithophilous flower, and chestnut-flanked white-eye birds or brown-eared bulbul birds act as pollinators. Instead of eating the nectar of the camellia flower, the birds get pollen and transfer it to other flowers to help pollinate. The flowers of the camellias bloom red so that birds can see them well.



### LC Camphor Tree 5

*Cinnamomum camphora*

The representative tree of Jeju Island, woodland elaeocarpus, grows well on the edge of sunny forests or in moist and fertile places. Young leaves take on red color and then gradually turn green. On the other hand, young branches are green, yellow-green, and then gradually turn brown. The woodland elaeocarpus has a characteristic odor all over it.



### 6 Acheilognathus Yamatsutae

*Acheilognathus yamatsutae*

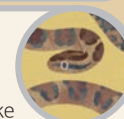
Acheilognathus yamatsutae, a freshwater fish belonging to the carp family, lives in the depths of aquatic rivers. During the spawning season, the males have a beautiful nuptial coloration and the females hang a gray ovipositor (spawning duct) behind the anus. This ovipositor is inserted into the spout hole of shellfish such as unio douglasiae or orlamprotula coreana, to spawn in the body of the shellfish.



### 7 Black shinner I

*Pseudopungtungia nigra*

Black shinner, endemic to Korea, is a brood parasitic fish rely on other fishes such as Korean aucha perch, a natural predator of it. They swarm into the nest of Korean aucha perch and out after laying eggs there. The male of Korean aucha perch protects its own and Black shinner's eggs together from other organisms and supplies oxygen by fanning its fins to stimulate hatching, and take care of them until they grow up until to a certain size.



### 8 Short-tailed Pit Viper

*Gloydus brevicaudus*

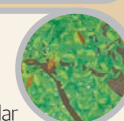
The short-tailed pit viper does not lay eggs like other common snakes. Its eggs mostly hatch inside its body which are then given birth to as offspring. It uses its fangs to hunt prey or protect itself from predators or threats with hemorrhagic venom.



### 9 Eurasian Otter NT I I

*Lutra lutra*

Of the Mustelidae animals, the otter, the most skilled at living in water, enters the water to hunt for prey or to hide. It is nocturnal and digs a hole in the ground, under the root of a tree, or in the cracks of rocks alongside the water. When building a house, it makes the doorway hole toward the water and the air hole toward the ground.



### 10 Woodland Elaeocarpus LC

*Elaeocarpus sylvestris*

The woodland elaeocarpus, which has a fruit similar to the olive, grows naturally in Jeju Island in Korea. Some leaves are colored dark red, and maple leaves are mixed throughout the year, showing a contrast with green leaves. The woodland elaeocarpus native to Cheonjiyeon Falls has been designated as a natural monument.

#### Red List

- CR Critically Endangered
- EN Endangered
- VU Vulnerable

- NT Near Threatened
- LC Least Concern

#### CITES

- I Appendix I
- II Appendix II
- III Appendix III

#### Endangered Wildlife

- I Level 1
- II Level 2



# Polar Biome

The Polar Biome reproduces changes in ecosystems from temperate regions to polar regions. Unlike other exhibition halls that display living animals and plants, the ecosystem of the polar climate was created with graphics, images, and panels, as well as stuffed animal specimens.

The Polar Biome is a place where visitors can experience various cold regions, starting with Gaema Highlands, the coldest region on the Korean peninsula, taiga forests with coniferous forests, tundra areas, arctic ice and snow conditions, and the Antarctic Penguin Village. In particular, this is the only place in Korea where visitors can see gentoo penguins and chinstrap penguins.



## Polar Climate

The average monthly temperature in the warmest month is under 10°C, and is divided into a tundra climate of 0-10°C and an ice and snow climate of less than 0°C.



## Number of Species in the Polar Biome



Birds

2 species

## Environment of the Polar Biome



Humidity

50~60%



Temperature

Under 10°C



Height

7.5m



Area

1,316m²

## National Institute of Ecology Polar Regions

Another Little Earth  
Ecorium

# Polar Biome

### 1 Gaema Highlands (Korean Peninsula)

Although belonging to the temperate climate zone, the Gaema Highlands is the highest and widest plateau in Korea, and a wide range of vegetation is distributed at various altitudes. The temperature decreases by 0.6°C every 100-meter increase in altitude, and in mountains over 2,000m above sea level, various climatic zones appear, from temperate in the low-lying regions to polar climate at the peak.

### 2 Taiga and Tundra (Northern Siberia)

Taiga is a mixed forest of wetlands and coniferous forests in Siberia. It is home to one third of the world's trees, providing a lot of the earth's oxygen.

Tundra is affected by low temperatures and short growing seasons, resulting in vegetation that cannot grow much. It is made up of small shrubs, bryophytes, and lichens.

### 3 North Pole

Unlike Antarctica, the Arctic is mostly frozen sea. The natural environment in the Arctic is characterized by the large difference in temperature between summer and winter, ice caps, lowland tundra grasslands, shrub forests, permafrost in the ground and topsoil that melts in summer. The Arctic plays an important role in maintaining the global environment such as weather, climate, and ocean current circulation.

### 4 Antarctica

Antarctica refers to the continent of Antarctica and the Antarctic Ocean that surrounds it. Antarctica is the fifth-largest continent on Earth, with about 98% of its total area covered by thick ice fields all year round. That is why it is referred to as the "white seventh continent" and is characterized by being colder than the North Pole.

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Address 1210 Geumgang-ro, Maseo-myeon, Seochon-gun,  
Chungcheongnam-do / [www.nie.re.kr](http://www.nie.re.kr)

Phone 041 950 5300

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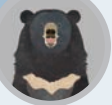
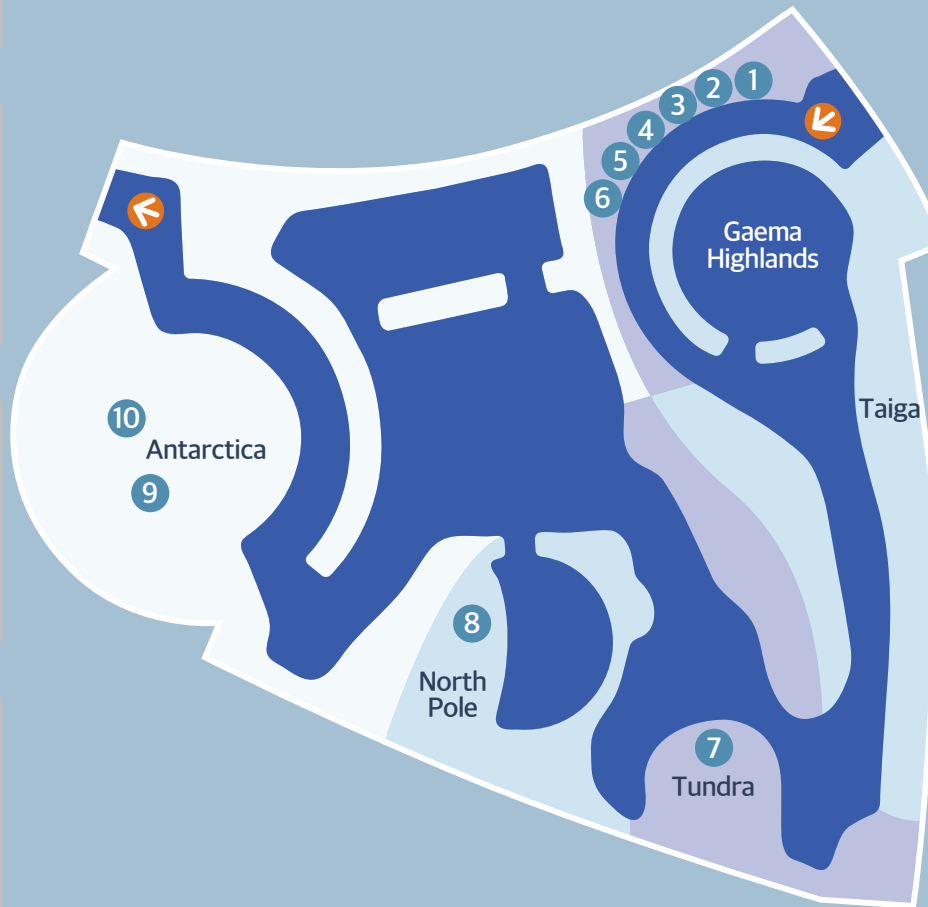
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일러스트작가 조고은

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# Polar Biome

## Main Animals & Plants



### **VU I I Asian Black Bear 1**

*Ursus thibetanus*

The black bear is omnivorous and mainly consumes plant foods such as acorns and chestnuts, but its digestibility is not good at 30%, so the seeds come out in its excrement. During the feeding process, it breaks the branches, letting sunlight into the lower layers of the forest, helping the plants to grow well.



### **LC I II Leopard Cat 2**

*Prionailurus bengalensis*

The leopard cat, which is good at climbing up and down trees, is primarily active at night and hunts rats and small animals. They look similar to cats, but are larger than cats. The most important feature is that it has sporadic spots on its entire body, and it has distinct white patterns from the nose to both sides of the forehead.



### **LC II Korean Buzzard 3**

*Buteo buteo*

The Korean buzzard is a representative medium-to large-sized bird of prey in Korea. Because they live on the border between forest and land, they prefer coniferous and mixed forests. They live alone and fly low, and when they find food such as small animals and birds, they fly quickly and catch them, then sit on a post and eat the food they caught.



### **LC II Long-eared Owl 4**

*Asio otus*

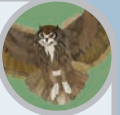
Long-eared owl with their prominent long ears sit still in forest that is open at the front and closed at the back during the daytime, and they are active at night. They usually lay eggs in unused nests left by hawks and Korean buzzards. Recently, the number has decreased due to the destruction their habitats, so it has been designated as a protected species.



### **LC III II Yellow-throated Marten 5**

*Martes flavigula*

The yellow-throated marten, despite its cute face, is one of the most deadly predators of the Korean Peninsula, along with the leopard cat. It is larger than a leopard cat, and is omnivorous in that it eats rats, small birds and roe deer, as well as fruit. Martens living in groups as a family are known to hunt for prey in cooperation.



### **6 Eurasian Eagle-Owl LC II II**

*Bubo Bubo*

The Asian eagle-owl is the largest of all owls of prey. It is characterized by the long ear tufts on both sides of its head. Since it is a nocturnal animal that is active mainly at night, it has excellent eyesight and hearing, and it is referred to as the 'lord of the night' because it flies silently and strikes its prey.



### **7 Reindeer**

*Rangifer tarandus*

The reindeer or the so called 'Reindeer moss' eats lichen and otherwise eats dry grass or willow leaves. Males and females have horns. The male's horns fall at the end of the year and female's horns fall in the following year. The mother's milk which the young reindeer feeds and grows contains four times more nutrients than cow's milk, which help in rapid growth.



### **8 Polar Bear VU II**

*Ursus maritimus*

Polar bears have a special membrane in their nose which keeps the cold arctic air warm and moist, preventing cold air from entering the lungs. The fat layer of about 10-15cm around its body not only provides it with great insulation, but it is also used as an energy source when feeding is not possible.



### **9 Chinstrap Penguin LC**

*Pygoscelis antarctica*

Alert and aggressive chinstrap penguins have a string-like pattern under their chin. They swim more than 80km every day and hunt by diving to a depth of 70m. Unlike other birds, this is due to the fact that their bones do not contain air, so they can dive well.



### **10 Gentoo Penguin LC**

*Pygoscelis papua*

The Gentoo Penguin is a curious penguin with an orange beak. It is the third largest existing penguin after the Emperor and King penguins. In order to escape from its natural enemy the leopard seal, they swim underwater at 24 km/h, about 4 times faster than humans.

Red List		CITES	Endangered Wildlife
<b>CR</b> Critically Endangered	<b>NT</b> Near Threatened	<b>I</b> Appendix I	<b>I</b> Level 1
<b>EN</b> Endangered	<b>LC</b> Least Concern	<b>II</b> Appendix II	<b>II</b> Level 2
<b>VU</b> Vulnerable		<b>III</b> Appendix III	