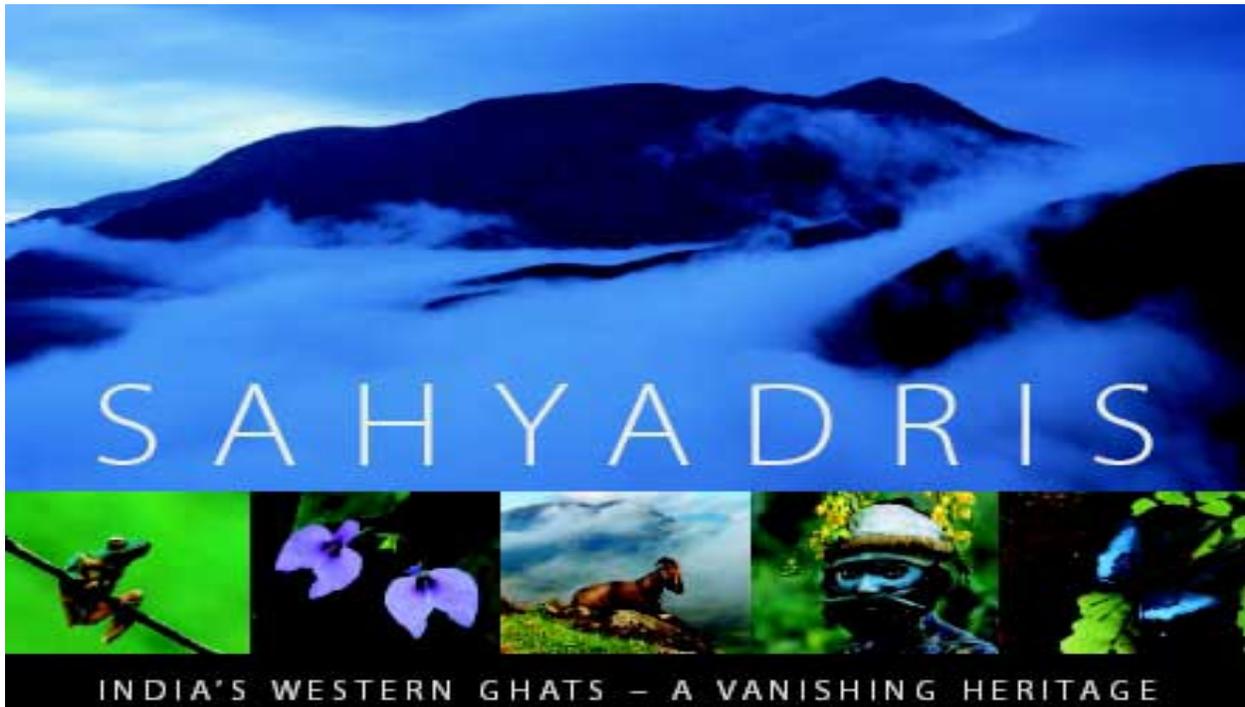


## SAHYADRIS

**Where Nature Crafts a Work of Art**



### ***India's Pristine Natural Heritage***

India is amongst the four major biodiversity zones in the world. Within the country, the two most diverse regions are the North East & the Sahyadri [earlier known as Western Ghats]. The latter is a stretch of magnificent volcanic mountains starting from the Maharashtra – Gujarat border in the West spreading North South, right up to the southern tip of India. This entire belt along with its surrounding areas has awesome variety in terms of geology, climate, flora & fauna.

It all started millions of years ago, during the continental shift, when the Indian plate was somewhere near the Madagascar Islands and still moving towards the Eurasian plate, the first eruption took place. While the Lava was cooling another one took place. Others followed suit – multiple fissure eruptions took place giving rise to the Sahyadri mountain chain. Even today we can see horizontal, parallel, almost equidistant layers, right from the top to the bottom throughout the ranges. This is best seen at the Arthur Seat Point at Mahabaleshwar.

Along with the main Sahyadri range, many subsidiary offshoot ranges also exist on both sides of it. This is akin to a two-dimensional tap root system of a plant. The main range being the main taproot and the offshoot ranges resembling small rootless on either side. Of course, the Sahyadris that we see today are actually the relics of what they were when they were first formed. The appearance of the mountains as they are today is a result of relentless weathering by wind, rain and sun ever since their birth. These rock hard and highly stable mountains are the basis for the diverse and rich natural and cultural heritage that the region is so well known for.

The Sahyadri range has a typical geo-morphological structure. It has a crest line [also known as Ghaat Maatha] – the tallest peaks and highest plateaus lie along this line – which runs

right through the entire range. The eastern side of the range has a gradual slope extending almost up to the Eastern Ghat Ranges. This region is a mixed terrain with some of the most interesting offshoot ranges [for example the Ajintha Mountains in Maharashtra & the Nilgiris in the South], the plains & basins of most of the peninsular rivers. To the west, the Sahyadris seems to abruptly descend – at places almost 90 degrees down to around 1000 feet and more – and further undulate right up to the Arabian Sea. This terrain affords some of the most exhilarating waterfalls seen in India.



**Sahyadris – Where Nature Crafts a Work of Art**

Most of the rivers in the Peninsula originate at the crest line & flow meandering through the Peninsula to finally meet the Bay of Bengal. A few major rivers that flow east are Narmada, Tapi, Bhima, Godavari, Krishna, Tungabhadra & Kaveri. There are also some rivers that originate at the crest lies at a distance of about 100 to 50 Km. to the west of the crest line.

The fascinating topography of the Sahyadris has, as a result of weathering, given rise to some breathtaking geological wonders. From the coast on the west to the plains on the east, there are an incredible number of rock formations that are awe-inspiring. On rocky beachheads, due to salt water & wind erosion, honeycomb like structures are carved. The mountains have their share of natural art on display. Pebbles & Water erosion have worked on river basins, scooping potholes – like the ones seen at Nighoj near Pune. Water erosion has also created natural rock caves with some magnificent interiors. The rather soft limestone inside these caves is washed away by water seeping through gaps in rocks in order to shape such structures. Some of the larger caves give rise to another form of natural art: stalactites & stalagmites. Deposition of Calcium over a period of time gives rise to these formations & if the process continues uninterrupted for years, the bars finally meet to form pillars of Calcium deposits. One such place where these pillars can be seen is in the Caves of Ulvi in North Karnataka.



**Yana Rocks, Karnataka**



**Honeycomb Weathering Structure**

Another unusual creation of nature can be seen at Yana, near Shirsi in Karnataka. Here the black volcanic basalt rock takes on shapes that rise to sharp spear like tops. This is a unique feature as usually all the volcanic mountain tops in the Sahyadris are rather flat or smooth. Due to the tough & demanding terrain of the Sahyadris, we find a number of man made caves & hill forts constructed by dynasties of yore, dating back to thousands of years. Maharashtra alone has around 80 % of all rock cut caves in India [the number being over 1200]. The Ajintha [Ajanta] & Verul [Ellora], Gharapuri [Elephanta], Naane Ghaat in Junnar region, Panhalekaji in Konkan, Karle, Bhaje & others in the Lonavala region & many more are among the best rock cut caves in the world.

Apart from this, there are about 300 to 400 forts in Maharashtra alone – possibly one of the largest numbers any state or country in the world has. These include forts built on ground, in water or sea, & hill forts. Some of the best forts built in the Sahyadris are Raigad & Torna in Pune District, Vasota in Satara District & a host of them in the Nasik region. Besides Caves & Forts, this terrain also hosts, many ancient Basalt Rock Hindu Temples. Some examples are the Kailash Temple at Verul, the Daityasudan Temple at Lonar & the Khidrapur Temple near Kolhapur.

One of the most fascinating natural wonders found in the plains of peninsular India, is the meteor crater of Lonar in Maharashtra formed thousands of years ago, this crater is the 3<sup>RD</sup> largest meteor crater in the world, the 2<sup>ND</sup> largest in Asia & the largest crater in basalt rock in the world. It also has a very peculiar kind of ecosystem evolved around it. During the monsoons the crest line & the region to its west receives the maximum rainfall, while the inner parts of the peninsula come under the rain shadow region where the rainfall goes on decreasing. Due to this great variation in the rainfall, extremely diversified ecosystems & forest types have evolved throughout this region.

A number of other factors also contribute to this variety in the ecosystem. As peninsular India comes under the tropical climatic zone, the temperatures here are quite warm throughout the year. This is a favourable condition for diverse life to survive & thrive. Also, the soil here is alluvial, that is – rich with nutrients which are brought down to the plains & slopes by many rivers & streams. The types of soil vary with altitude, making it conducive for multiple vegetation & forest types to flourish.



**Evergreen Forest**



**Exhilarating Waterfalls**

Rainfall, temperature, altitude & soil type play an important role in the formation of the different types of forests. The variation in the rainfall from 80 inches to less than 20 inches, gives rise to the evergreen, semi-evergreen, moist deciduous, dry deciduous, thorn forest, grasslands & desert type of forests, in that order. Some evergreen trees that you would find in the Sahyadris are Wild Mango, Jamun, Malotus sp, Litsea sp, Terminalia sp & Memecylon sp in the North Western Ghats [Maharashtra, Goa & parts of North Karnataka] & Persea sp, Dysoxylum sp, Hollgarna sp, Cullenia sp, & some others in the South Western Ghats [Karnataka & below].

Another Forest type is the Mangrove which is found at the mouth of estuaries or inland rivers that meet the sea. As marshy lands find it hard to stay underground & breathe air. So, a very interesting phenomenon takes place. The roots of these plants actually rise up from the ground & come out of the water to complete their requirements of air. A cluster of such roots is a magical sight.

Along with biological diversity another phenomenon associated with the region is endemism. There are a host of plant & animal species that are highly endemic to various parts of the Western Ghats. Some of them are in fact endemic to vary small area like certain valleys or hills or plateaus. A good example would be some orchids & other monsoon plants.

As regard the animal kingdom, here are some statistics that will give you a brief idea of the quality & diversity of life that the Western Ghats enjoy. If we consider all the animals, grouping them in categories, what we get is this: the approximate number of species of Mammals is 155, Birds is 450, Reptiles is more than 100, Amphibians is 105, Insects is more than 25,000, Fresh Water Fishes is about 250 amongst myriad other small groups & individuals.



**Bhaje Caves**



**Temple near Pravara River**

Almost all the larger & more glamorous Indian Mammals are found in various parts of the Sahyadris. The Tiger, Elephant, Gaur, Sambar & Leopard are amongst them. In fact, there are species here that hold world records. The largest Poisonous Snake in the world – King Cobra, the smallest poisonous snake in the world – Saw Scaled Viper, the Smallest Non-Poisonous Snake in the world – Blind Snake, one of the largest Butterflies in Asia – Southern Bird Wing, one of the largest Bats in the world – the Flying Fox are a few examples.

Some animals are, so to speak, the magicians & great mimics of the natural world. They are able to blend into their surroundings, camouflaging themselves very effectively – ensuring their survival. They either use it to protect themselves from being preyed upon or in order to catch their prey. The famous Chameleon & its colour changing tricks is something we all know about. But there are others who are far greater magicians. The Blue Oak Leaf Butterfly for example is almost undetectable when it sits in dry leaves with its wings closed. Try identifying the Leaf Insect in the Photograph, sitting on a green leaf.



**Devgiri Fort, Aurangabad**



**Raigadh Fort**



**Flora of the Sahyadris**





**Sahyadri Mountains**