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## CONSERVATION



# KAAS CONSERVATION

## Abstract

**Vishal** explains impact of tourism on beauty of Kaas plateau. Kaas is a biodiversity hot-spot in Western Ghats. Due to high degree of endemism and its threatened species, UNESCO has declared it a world natural heritage site. This article talks about Kaas's unique habitats, endangered flora and fauna, recent updates, discoveries and threats and conservation strategies.

**Keywords:** Kaas Pathar, Satara, Biodiversity, Flora, Ecotourism, Plateau, World Heritage Site

Kaas Plateau is globally famous as 'Maharashtra's Valley of Flowers' and is part of the UNESCO's World Natural Heritage Site in Western Ghats. It is a heaven for nature photographers, wildlife enthusiasts and botanists. Recently, Kaas has been included in one of the seven wonders of Maharashtra. Not only the plateau, but also its lake and miles of magnificent valleys, which makes Kaas an ideal destination for many travelers. Several photographers, naturalists, researchers

and tourists from all across the country and abroad visit Kaas to enjoy and see mass bloom of millions of vivid wild flowers and their interactions with pollinators from mid of August till beginning of October every year.

Kaas plateau, locally known as a "Kaas Pathar" is situated in Sahyadri mountain range, 25 km away from Satara District. There are few folklores behind why the plateau is named as "Kaas". A flower with name Kaasa (*Elaeocarpus*



Beauty of Kaas Plateau (Photo Courtesy: Vandan Jhaveri)



*glandulosus*) is found in Kaas forests, this could be the one reason for the place being named “Kaas”.

It is a vast lateritic flatland at around 1216 m from msl in the North Western Ghats. It is

Waytura species (Photo Courtesy: Rahul Jain)



situated between 17° 42' - 17° 45' N and 73° 47' - 73° 56' E. It is a hot-spot of biodiversity due to its unique ecosystem and high degree of endemism. It contains important natural habitats that sustain biological diversity of outstanding universal value and it has been assessed as biodiversity hot-spot on the basis of diversity modeling. Most species seen here need high humidity and abundant water for survival and therefore depend on the monsoon. Just after the first monsoon rains the plants break out of their dormant phase and the dry plateau turns lush green, thereafter spreads out a beautiful carpet of vivid flowers all across. The Plateau receives an average annual rainfall of more than 2,000 – 3,000 mm. The rocky laterite plateau does not hold water while much of it seeping down, but numerous small water pools and streams are formed resulting in a boon for these water dependent ephemerals.

Around 700 species of wild flowering plants and their flowers bloom to cover 1,792 ha of Kaas into an incredible carpet of colours. Most of the herbaceous plants here are ephemerals and are seen from mid July to mid October. Kaas plateau is an outstanding example of significant ecological and biological processes in terrestrial and freshwater ecosystem, and the association of plants and animals. This diversity is an attribute of the lateritic soil, abundant rainfall, wind, bright sunshine, macro-climate and high humidity of this surrounding.

This area is predominantly of insoluble deposits of iron and aluminium oxides; soil cover is very thin; growth of big trees is therefore curbed. The lack of minerals in the soil is balanced by the presence of insectivorous species like *Utricularia* and *Drosera*. The major colours seen here are purples of *Utricularia purpurascens* (Bladderworts) and *Pogostemon deccanensis* (Catkins), white of *Eriocaulon sp.* (Ball flower),

*Ceropegia jainii*



pinks of *Impatiens sp.* (Balsams), yellows of *Smithia hirsuta* (Mickey mouse), *Senecio grabamii* (Groundsel). This beautiful expanse changes its hues with every passing day, depending on the dominant flowers of that period.

As a matter of fact, there are more than 33-38 species of wild flowering plant which should be given immediate protection as they are threatened on IUCN red data list and considering this issue, UNESCO has given Kaas the status of World Natural Heritage site. Many species of wild flowers seen here are endemic, like *Murdannia lanuginosa*, *Rotala ritchiei* (critically endangered), *Smithia agharkarii*, and rare like *Drosera Indica*, *Drosera Burmanni*,



*Ceropegia media*

*Ceropegia jainii* (critically endangered), *Ceropegia vincifolia* and *Ceropegia media*, *Ceropegia oculata*. Around 11 species of Ground Orchids, 7-8 species of *Impatiens* (Balsams), 5-6 species of *Utricularia* (Bladderworts) and 5 species of Karvi are found here. *Aponogeton satarensis* (Waytura) is acute endemic and critically endangered species of herb on IUCN red data list. Some of the plants have high medicinal properties which help in treating diseases like Kidney-Stone, Respiratory and ENT disorders etc. It is also believed that tree locally known as Narakya (*Nothapodytes nimmoniana*) is useful to treat cancer.

Many people think that biodiversity of Kaas is constituted of flora only but this is not the

*Flemingia nilgiriensis*



case. In recent years several species of animals have been reported from this region. Butterflies and other pollinating insects, Reptiles, Birds and Mammals of Kaas form an important part of this delicate and unique ecosystem. Sloth Bear, Gaur, Leopard, Barking Dear, Mouse Dear and Civets have been sighted here. Apparently, on seeing the increase in number of Tiger sightings in the surrounding forest of Kaas near Dhavali village, it has been declared as buffer zone of Sahyadri Tiger Reserve. The herpetofauna diversity is also very high here e.g. endemic Geckos like *hemidactylus satarensis*, Cobras, Pit Vipers, endemic Shieldtails; in Amphibians – *Fejervarya rufescens*, Indian Cricket Frog & Bombay Bush Frog. Two new species of Amphibians named Denial's Night frog (*Nyctibatrachus deniali*) and very recently discovered Ghatei's Shrub Frog (*Raorchestes ghatei* - a new species of shrub frog found in Nov 2013) are found on Kaas plateau.



*Rotala ritchiei* in Kaas Talav





Bombay Bush Frog

(c) Vishal Prasad 2013

In recent years, increasing **mass tourism** is affecting all life forms at Kaas. Road kills and other ecological threats are common as Kaas is a scenic and ideal get away from the monotonous life of cities. Every year several thousands of tourists travel in their motor vehicles to visit Kaas, due to the vehicular pollution and with the emission of green house gases like CO<sub>2</sub>, CO, oxides of nitrogen and sulphur and harmful particulate matter; the temperature of fragile plateau increases significantly. This results in severe disturbances in the life cycle of flora and fauna. In 2013, on every Sunday of September, more than fifty thousand visitors had visited Kaas and massive traffic jams had occurred on the plateau. The vehicles coming from distant places carry the seeds of invasive weeds and plants like *Lantana camara*, Congress Grass etc in their tyres. Potentially harmful invasive alien weed of *Eupatorium* sp. is seen on the Kaas plateau. The tourists drink, party, cook (the plateau is covered with dry grass during the dry months and fires are not rare during this

period), and litter the entire area. There are villages around this plateau such as Kasani, Ghatai, Eki and other sub villages. Locals need to be given opportunities to safeguard their traditional knowledge and values. When tourists started arriving in large numbers during the flowering season - especially in the last few years - the harmony of local people and ecological balance has been distressed. Scores of vehicles and coarse tourists leave the magic land as a junkyard by the end of the season, only to be disturbed with more vigour as the popularity of the place increases.

Worse than that, Kaas Lake, the main drinking water source to the residents of Satara City is another victim of man's intrusion in



Ghatei's Shrub Frog

PHOTO: VISHAL

nature. Due to reckless tourist activities like cooking, boozing and breaking empty wine bottles, campfire in the dry grass, scattering rubbish all over, driving on the green cover etc. are changing Kaas Lake surroundings into a dumping ground. There are no serious measures taken by Satara Municipality, the responsible authority to keep this ecologically rich area protected and clean. Installing dustbins on the spots wherever necessary in this area can help making it litter free. A solid waste management plan is urgently needed to mitigate the alarming situation in peak flowering season. Installing Mobile Washrooms & Restrooms for visitors can ensure the cleanliness. Most importantly,



by making Kaas a motor vehicle free zone. the air and sound pollution can be largely controlled. This will help the sensitive flora to grow normally. To do this task local villagers can be employed. Some local NGOs like Biodiversity Research and Conservation Foundation (BRCF); botanists Dr. Aparna Watve, Prof. Shekhar Mohite, Dr. B.V. Jadhav;

committed local volunteers like Sudhir Bhole, Sachin Suryavanshi, Nitin Shinde, Duttatray and many more are united to conserve this natural heritage. But to preserve this pristine plateau of flowers appropriately, more helping hands and ethical behavior from visitors & local people along with effective conservation management is required.



### Useful Links

[http://en.wikipedia.org/wiki/Kaas\\_plateau](http://en.wikipedia.org/wiki/Kaas_plateau)  
[http://en.wikipedia.org/wiki/World\\_Heritage\\_Site](http://en.wikipedia.org/wiki/World_Heritage_Site)  
<http://www.kas.ind.in>  
<http://brcfindia.org/>

### Author Biosketch

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BRCF Kaas Campaign 2013