

Erratic monsoons, vanishing vipers

The Malabar pit viper is encountered less frequently in the Western Ghats, worrying conservationists

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The Malabar pit viper, one of India's many snakes found only in the Western Ghats may be responding to erratic monsoons and spells of water scarcity with a reduction in size. It is also less frequently encountered in the forests.

The many facets of the snake were on show at an exhibition titled 'The Malabar Pit Viper - a wonder of the Western Ghats' organised by conservationists, herpetologists and artists in Goa.

"It is for the first time that 35 conservation photographers, researchers and herpetologists have come together to showcase the uniqueness of this species," said herpetologist, conservationist and member of the Goa State Biodiversity Board, Nirmal Kulkarni.

A flagship species of the ghats, he said, the viper was chosen because there is a lot of colour around it drawing visitors, to whom "we can talk about this and other snakes."

The viper's life-cycle is linked to water. But in the entire Western Ghats landscape, monsoon patterns are becoming erratic, affecting habitats and in turn the species. "Because altered monsoons affect water availability, the immediate impact on Malabar pit vipers seems to be reduction in size."

Need for full study

"To prove a hypothesis like this we will need a bigger sample size and research done over, say, 15 years. But by raising concerns over size and diminishing numbers, we are raising a red flag," said Mr. Kulkarni.

Population size in reptiles cannot be estimated easily. But frequency of sighting of species like the Malabar pit



Slithering away: A Malabar pit viper with a praying mantis in Mhadei wildlife sanctuary in Goa, photographed by Nirmal Kulkarni, right.



Nilgiris hosts rare horseshoe pit viper

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Wildlife biologists sighted, and photographed the rare horseshoe pit viper *Trimeresurus strigatus* on August 2 at Udhagamandalam in Tamil Nadu. The snake is thought to be endemic to the Nilgiri hill ranges in the Western Ghats in south India.

"We spotted the pit viper basking on a rock in an open grassland in the afternoon," says wildlife biologist Shashank Dalvi, who photographed the snake. Snakes being cold-blooded (poikilothermic), need to



Horseshoe pit viper

sun-bask to maintain their body temperatures. "Most records of this species are from around Ooty and the Silent Valley-Mukurthi landscape," he adds.

The venomous horseshoe pit viper gets its name from

viper have definitely reduced. The likely reasons are irreversible habitat change, loss of freshwater ecosystems due to erratic rainfall and rise in monsoon temperatures, Mr. Kulkarni said.

Moreover, these snakes are live-bearers. Therefore, with large scale deforestation and death of females the impact on their reproduction would be big.

The Malabar pit viper is a

pale beige horseshoe-shaped mark on its nape. Not many studies have been done on the locally-common snake which is found only in the open grasslands of the threatened shola grassland ecosystem in the Nilgiris above elevations of 1000 metres above sea level.

The Horseshoe pit viper is one of the three pit vipers endemic to the Western Ghats. India is home to 21 species of pit vipers. These snakes are named after the infra-red sensing pit between their nose and eyes which they use to identify warm-blooded prey.

single species with varied colour morphs (appearance). Research observations say this could be due to habitat adaptation. Wet evergreen forests have darker shades and dry deciduous,

light ones. Proximity to water, age and prey base also have a role to play.

No sub-species classified

As of now no sub-species have been classified but future DNA systematics could split up the species by various ghat ranges.

Villagers know it as a venomous species and though deaths have not been reported, people call it "Chabde" (the one that bites). Those who suffer a bite take herbal medicine and sleep for long.

"This is our eighth year and we have been able to collect about 300 individuals. Once you have a large sample size, the study can have scientific strength," Mr. Kulkarni said.

The pit viper initiative has four research stations and each has about 3 or 4 scientists. Wider access to photography has brought in citizens and volunteers too, who provide pictures and data.

Volunteers pay to help

"Half of surveyors are researchers and the other half people who pay to participate. We do the expeditions with that money," he said. Except for technical support from the Viper Specialist Group of the International Union for Conservation of Nature (IUCN), of which he is a member, the initiative gets no external help. IUCN's Red List puts the snake under 'least concern' as of 2013. The Goa-Karnataka tussle over Mahadayi water diversion may affect reptiles and amphibians, he said.

The exhibition will travel from Goa to Pune, Mumbai and Bengaluru till December.