



**On the cover**

Bright, unpalatable 'Hitler' bugs, part of our little-known, but threatened diversity. Photographer: Hira Punjabi

# Call of the wild Sanctuary

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A S I A

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## Cover Story

### 30 **Wildlife:** Blueprint for Survival

India has some of the world's best wildlife laws. What we must work on is better enforcement. The Ministry of Environment and Forests has instituted several initiatives, some well known (Project Tiger) and others lesser known, such as the Environmental Information System (ENVIS). On the occasion of National Wildlife Week 1999, *Sanctuary* examines the potential of India's Wildlife Action Plan.



### 14 **Travel:** The Untamed Forest Forts of Rajasthan

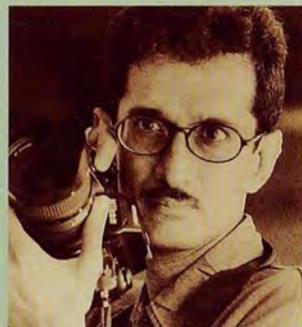
Shailendra Yashwant visited the forest forts of Rajasthan on assignment for *Sanctuary*. In this, the second of a two-part report, he writes of this rich historical and ecological heritage and of government plans to restore the forts. When the battlements of yore were constructed they were designed to ward off enemies. What is more, the forts were constructed so as to ensure an uninterrupted water supply to withstand long sieges. Forest officers, well versed in the art of managing forests to enhance water reserves, suggest we have a lot to learn from history.



### 44 **Tiger Secrets:** Science for Conservation

To find out how modern science is being used to save the tiger, Anish Andheria visited Nagarahole, where Dr. Ullas Karanth and his team with 'Wildlife First!' are involved in conducting long-term ecological studies. He writes of changing technologies and of the interrelated nature of the forest upon which creatures great and small are dependent. Walking along line transects and checking infra-red camera traps, he learned about the ranging behaviour of tigers and of the many species like spiders and giant squirrels that have made Nagarahole their home.

## Contributors



### Shirish Shete

A freelance photographer who works out of Mumbai, he is currently pursuing a career in photo-journalism with the Press Trust of India. **8**



### Taej Mundkur

After working for seven years on the ecology of waterbirds in Gujarat, he is now the Asia Pacific coordinator for Wetlands International. **40**



### Anish Andheria

Aside from pursuing a Ph.D in surface chemistry, he is also an expert photographer with a passionate interest in wildlife. **44**

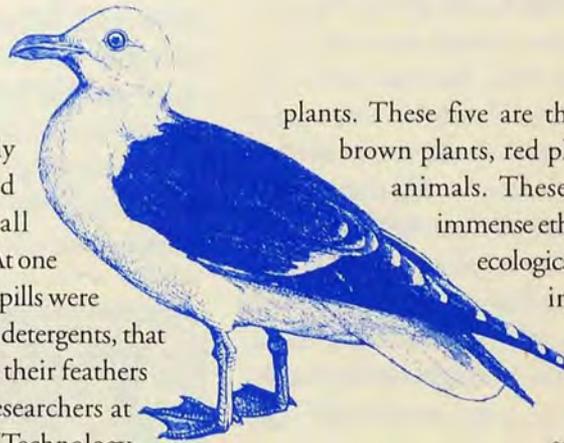
# THE SANCTUARY PAPERS

## Magnetic solutions

Oil spills are probably the most harmful and difficult-to-rectify of all environmental problems. At one time, birds trapped in oil spills were cleaned up using powerful detergents, that had unpleasant effects on their feathers and the environment. Researchers at the Victoria University of Technology in Melbourne have now demonstrated that oily feathers can be cleaned in a more eco-friendly manner, by dusting them with fine iron powder and then combing them with a magnet. Oil, it seems, sticks to iron powder more readily than to feathers.

## Plant confusion

The discovery hundreds of years ago that the sun is only one star among hundreds of billions completely overturned man's conceptions of space and led to the exploration of the cosmos. The findings of a team of over 200 scientists, announced at the recently concluded International Botanical Congress in St. Louis could have the same effect on our preconceptions about life on Earth. Their contention is that all biodiversity as we know it, is only one tiny branch on the tree of life on earth. After working for five years on the evolutionary relationships among all plants on earth, the team came to the conclusion that the group traditionally thought of as plants is in reality composed of four separate kingdoms. One of these, fungi, is more related to animals than plants. The team has also overturned the belief that all existing plants originated from sea plants. Their research led them to the conclusion that it was in fact primitive freshwater plants that were the source of all green plants. According to the new research, there are five main branches of organisms on earth, four of which are presently classified as



plants. These five are the green plants, brown plants, red plants, fungi and animals. These findings have immense ethical, intellectual, ecological, and economic implications for science, medicine, industry, and society in general.

## Mosquito killers

Over the last century, mosquitofish, a relative of the common guppy, have been used in many parts of the world to control mosquito populations. But recent research indicates that the fish, native to the southeastern US, could also be responsible for declining amphibian populations in parts of California where they have been artificially introduced. Lee Kats of Pepperdine University and Jefferson Goodsell discovered that mosquitofish consume tadpoles as well as mosquito larvae, showing no preference between the two. As a result, naturally occurring organisms such as tadpoles, fish fry, etc. could be at risk. If the results of the study are validated, it could mean that many amphibians in other parts of the world could be in danger from introduced mosquitofish.

## Good news, bad news

Until recently, the only known population of Javan rhinos still in existence was thought to be a group of 50 or 60 in the Ujung Kulon National Park in Java, Indonesia. But a WWF team has recently confirmed reports of rhino-like animals in Vietnam. The Javan rhino

was considered extinct in Vietnam ever since the end of the Vietnam war, when the habitat of the small remaining population was devastated by Agent Orange and land mines. But even after the war, reports of sightings in the hills of Southern Vietnam persisted. These reports were confirmed when a team of WWF scientists concluded, after measuring footprints, that at least seven rhinos still existed, with one confirmed female. They were even able to photograph one of the animals in the Cat Tien National Park. The bad news is that the future of the resurrected Javan rhino of Vietnam is precarious, as it is threatened by the dangers of inbreeding, habitat loss and conflict with the large number of settlers who share its habitat.

## Dance of death

Scorpions have an undeserved reputation for deadliness. In truth, most are relatively harmless, with only a few species capable of killing humans. The largest specimens live in India and Africa, and can measure up to 30 cms! But these are the exception, as most scorpions are relatively small. The North African species *Androctonus australis* is one of the few species with venom potent enough to

