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Your Saturday Magazine

Green Diary

**Scared to death**  
Fright is the likely cause of death of thousands of birds which dropped onto a small town in Arkansas, officials claim. As many as 5,000 birds began falling over the small town of Beebe shortly before midnight on New Year's Eve. "We right now are pretty confident that the trauma is what caused the die-off," said the state veterinarian. A local resident reported hearing loud booms that night and saw a huge flock of frantic birds when he went outside.



**Return of the otter**  
The comings and goings of otters in Norfolk, England have become a big online attraction. Mundy Ellis has recorded and photographed the doings of otters at South Walsham in the Norfolk Broads day by day. Until recently otters' numbers have fallen steadily, reaching a low point in the early 1980s when your only hope of seeing one would be to travel to one of the few remote areas where they still thrived. The reason was pesticides, toxic chemicals, predators, low breeding capacity and pollution.



**Tracking turtles**  
The ocean-spanning 4,700 mile journeys of the gigantic leatherback turtle have been revealed for first time by satellite tracking. Experts at the Centre for Ecology and Conservation (Cornwall) at the University of Exeter, UK, led a study to find out more about these rare creatures and inform conservation efforts. The research has shed light on their little-known migration behaviour following their movement from the world's largest breeding colony in Gabon, Central Africa.



**Creatures of the sun**  
Hornets can harness the sun's energy to create electricity, scientists have discovered. A study has found the Oriental hornet can harvest solar power through its shell. Previous research has shown they are active in the afternoon rather than the morning when the sun rises. They noticed that the hornet digs more intensely as the sun's intensity increases. Lab tests using weather conditions found the sun's radiation dictated a change in the its behaviour.



**Great garbage lies**  
Environmental scientists have been criticised for exaggerating the size of an "island" of plastic waste said to be swirling around in the Pacific Ocean after a study finds that it is 200 times smaller than claimed. Claims that the "Great Garbage Patch" between California and Japan is twice the size of Texas is "grossly exaggerated" said the research which reckons it is more like one per cent the size. Reports that the oceans are filled with more plastic than plankton, and that the patch has been growing since the '50s are equally misleading.

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**D**rop the words 'migrant birds' in a conversation and nine times out of 10 the person opposite will envision Siberian cranes, or colourful ducks. True, these large, charismatic birds are the face of migration in the public consciousness. While migrations made by these birds are indeed iconic, a majority of migratory birds are small, nondescript, and hence less celebrated. These are thrushes, redstarts, shrikes, bluethroats, and the tiniest of them — warblers, dull green or brown in plumage and weighing just a few grams. They throng the Indian subcontinent by the million every autumn coming from the Himalayas and beyond — Central Asia and Europe. Within weeks, like the monsoon, they envelope the entire country. And, you needn't travel to a far-off lake or wetland to see these migrants. Just ramble into your neighbourhood grove and you'll find these tiny warblers cheeping away, flitting busily.

Greenish warblers and lesser whitethroats are drab things compared to celebrated migrants like the Siberian crane, the colourful mallard duck, or the dapper bar-headed goose. But the journeys made by them are awesome feats for birds weighing less than 15 g.

A typical greenish warbler or whitethroat begins its journey from its birthplace somewhere across the Himalayas in late summer or early autumn. In fact, the itch to move south begins even earlier. Hormonal changes triggered by the shortening days feed the little bird's wanderlust. It feeds a lot and puts on a lot of fat. Then, one day when the restlessness crosses a threshold, the bird takes off south.

With the end of summer, as food becomes scarce in their temperate breeding areas, many bird species travel to wintering grounds that have more favourable conditions, often traversing 1,500-3,000 km. The trip may be done as a rally with several stop overs or it may be non-stop marathon of 80-100 hours.

Flying is an extremely energy-guzzling exercise. During its migratory flight, a bird may lose as much as half of its body weight! Fat stored in summer gives handy calories. But stored fat alone may not see a bird through its long trip. Therefore, most smaller migrants need to stop in between to replenish themselves en route.

And migration is not a business class flight. A bird's journey is fraught with dangers and uncertainties. There are high ranges as formidable as the Himalayas to cross, without much foliage. Predators like hawks lurk in ambush. Then, there is the weather also — a stormy spell can carry the flier way off course and leave it marooned in unfriendly territory. There is also the danger of starvation that the bird faces if it is unable to find food at stopovers. Finally, it may be hit by sheer exhaustion — a 1,000-km-long journey could eventually stress the bird out.

Still not much is known about this amazing phenomenon. Just how do they navigate? How do these tiny birds know where to go? It has been found that some birds navigate by stars, some follow geographical landmarks and some simply follow their hardwired instincts. Yet others use the earth's magnetic field to orient their flight paths. Of course, some help from prevailing air currents is welcome, and some species have evolved timing their movement with prevailing winds.

Timing is critical. Fly too fast and you burn out your energy resources rapidly and exhaust your reserve before reaching the destination. Flying too slow means a late arrival at the wintering grounds. Which means the best areas would already have been taken by competitors and you have to contend with scraps

Raman Kumar sheds light on the seasonal migratory trips that small birds make, in daunting conditions, to end up in an Indian neighbourhood

# Tiny birds, big journeys



The warbler



The whitethroat



The thrush

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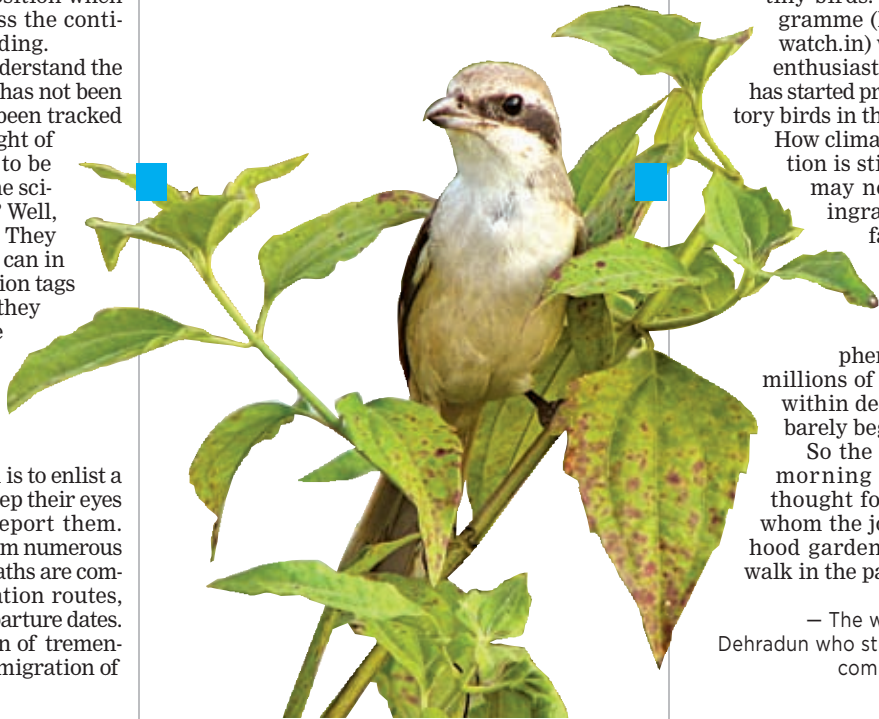


The redstar

— certainly not a welcome proposition when you have done a marathon across the continent with the sole purpose of feeding.

Scientists are trying hard to understand the phenomenon of migration, and it has not been easy. While the larger birds have been tracked using radar or satellites, the weight of a transmitter does not permit it to be put on smaller birds. So how do the scientists track these smaller birds? Well, they do something very low-tech. They try and net as many birds as they can in the breeding areas, put identification tags on them and release them. Then they hope and pray that some of the tagged birds can be netted again at other locations during the migration. The chance of a small bird being recaptured is one in a thousand.

Another way to track migration is to enlist a large number of observers who keep their eyes open for migrating birds and report them. Sighting records of key species from numerous volunteers across the migratory paths are compiled to get an idea about migration routes, movement speeds, and arrival/departure dates. This painstaking process has been of tremendous help to us in learning about migration of



tiny birds. One such nationwide programme (MigrantWatch — migrant-watch.in) with support from scores of enthusiastic volunteers all over India has started producing good data on migratory birds in the subcontinent.

How climate change will affect migration is still uncertain. Many species may not be able to change their ingrained migration behaviour fast enough to match changing climatic conditions. Such birds would be hard hit. It will be a pity when this amazing ecological phenomenon, which has taken millions of years to evolve, goes awry within decades, even before we have barely begun to understand it.

So the next time you go for your morning walk in winter, spare a thought for the humble warbler, for whom the journey to your neighbourhood garden has been anything but a walk in the park.

— The writer is an ecologist based in Dehradun who studies human impacts on bird communities. cyornis@gmail.com

Letters to the editor  
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## A war to be won for the Endosulphan victims

When searing visuals of Endosulphan victims bombard the public eye every other day, where is the need for a fresh study? ("The curse of Kasargod", *Zeitgeist*, January 8). Let authorities not sleep any longer. "Corporatrics" is certainly behind it all: as a vulnerable section plunges deeper into suffering, there are obviously some who stand to gain by making a fast buck. — **C Divakaran, Thiruvananthapuram**

### A total ban is needed

The article is indeed heart-wrenching to read as it exposes the unique and sad condition of people of Kasargod district of Kerala who were affected by the use of Endosulphan spray on cashew crops. Endosulphan is acutely neurotoxic to both insects and mammals including humans. Because of its threats to environment, a global ban on the use and manufacture of Endosulphan is being considered under the Stockholm convention. It is no doubt a fact that no chemical pesticide is without toxicity. Hence, a total ban on the manufacture and use of the pesticide is a more welcome move rather than a ban on the spray of the chemical. Alternatively, a rare organic chemical that is not harmful to humans should at best be used to kill pests that affect the crops.

— **B H Indu Sekhar, Hyderabad**

### Treatment for victims

After a big fight, Endosulphan was banned in Kerala in 2005. But it was not effective because it is smuggled from neighbouring states. It has affected the mango orchards of Palakkad district and the people too. There are reports from other parts of the country too. So it is to be banned in the entire country before "The curse of Kasargod" turns into the curse of India. Steps should be taken so that compensation and free and appropriate treatment is available to all victims. Required statistics of victims should also be built up.

— **Jacob Sahayam, Thiruvananthapuram**

### Indifferent governments

The article has highlighted the ill-effects of Endosulphan, despite the ban of the pesticide by the National Human Rights Commission. The

indifferent attitude of the state and central governments and indiscriminate use of Endosulphan has resulted in many casualties in Kerala's Kasargod district. Urgent action is required to ban the pesticide across the country.

— **Krishna Chandran, by email**

### What about other creatures?

Excessive and indiscriminate use of pesticides will adversely affect the environment and the living creatures both alike as discussed in the article. Though the ill effect of Endosulphan has been noticed for over three decades, corrective actions against this polluting practice has not started, despite protests and legal measures being initiated against Plantation Corporation of Kerala. The authorities concerned do not seem to have reacted to this calamity, as a result of which at least 10,000 victims had to face death. The toll on other creatures is likely to be

much more. Nature does not look after men alone. Other creatures have right to live too.

— **O B Nair, Kochi**

### A lesson learnt?

It is a pity that the killer pesticide Endosulphan is still in use even though it affected so many people. The authorities were only interested in how they would benefit. When activists tried to stop the aerial spraying of this pesticide, the authorities turned a deaf ear to them. That at least NGOs are finally waking up and looking into the issue is heartening, and good news for victims. The government should learn from this and check before introducing such deadly products into the environment.

— **Ravi Nair, Kollengode**

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