In this issue

Silky States

Survey shows promise

Traditionally, Andhra Pradesh, Karnataka, Tamil Nadu, Jammu and Kashmir and West Bengal are considered the most important mulberry sericulture states. Besides Mulberry, Eri, Tasar and Muga silks are also produced in India, though in smaller quantities.

In 1988, the Central Silk Board collaborated with ISRO to survey the area under sericulture with remote sensing satellite IRS-1A. Though it was a coarse mapping, it was clear that India had potential to extend silk production to many more districts. And silk production increased to nearly 29 million tonnes during 2014–15. Presently, about 8 million people are involved in sericulture and silk production. To improve the livelihood of people in areas that have the potential to become producers of silk, a more detailed survey was carried out recently covering 108 priority districts from 24 states.

A General Article in this issue, points out that Mizoram, Meghalaya, Madhya Pradesh and Himachal Pradesh have untapped potential for silk production. Tamil Nadu has the potential to increase the coverage of mulberry sericulture. Bihar and West Bengal have potential for eri sericulture. Areas that can support muga silk production have been identified in West Bengal and Uttarakhand. Tropical tasar holds promise of livelihood for the people in Orissa and Jharkhand.

The information necessary for new people to enter sericulture in the areas identified has been brought together in a portal that is now available in 12 Indian languages. Read more, on **page 1312**.

Methoxybenzaldehydes' Aroma

Food, beverage and pharma

What is common between vanilla ice cream and a sherbet containing sarasaparilla?

They both contain food flavours. One is from the pods of an orchid genus originally from Mexico and the other from the roots of the *Hemidesmus indicus*, called ananthmool – endless root – in India. Both contain flavouring agents that are, chemically, methoxybenzaldehydes.

A single 'methoxy' group in the *ortho*, *para* or *meta* position of the benzene ring of benzaldehyde seems to confer desirable flavours and, at times, pharmacological importance. Antibacterial, antifungal, larvicidal, antileukemic, exerting effects on the nervous and immune systems, these molecules are of economic importance.

But why do plants make these molecules? What are the metabolic pathways in plants that lead to the production of these compounds? How can we increase the production of the methoxybenzaldehydes in plants?

A Review Article on **page 1325** in this issue brings together research done so far.

Oriental Magpie Robin

Dialects of songs in Thailand

The oriental magpie robin, *Copsychus saularis*, the national bird of Bangladesh, got its species name from Hindi. The name means a hundred songs. And indeed the songs of these birds, found in different parts of South and South East Asia, have large variations.

It is said that when you travel across India, you will find a different dialect used every hundred kilometres traversed. The oriental magpie robin also seems to have a large repertoire of 'dialects'.

Scientists explored the variations in the songs of the bird, found in eight sites in the mountainous regions of northern Thailand. The geographical separation between the different populations of the bird seems to have given an impetus to the diversity of the songs.

The male birds have a complicated song, characterized by element, strophe and syntax structure. When males from other regions hear the song, they behave aggressively, whereas when they hear a song from a male neighbour, they tend to respond with their own song. A tendency that we can see in humans too.

Musicians, linguists and ethologists may like to read the Research Communication on **page 1400** in this issue.

Treating Cadmium Toxicity

Ayurveda and Homeopathy

Cadmium is a heavy metal, used in paints, batteries and a host of other industrial and consumer products. It contaminates soil and water, is taken up by plants and is further concentrated in animals that eat those plants. It builds up in our body and, in extreme cases, results in kidney, blood, lung and brain disorders. Though some chelating agents have been experimented with for treating cadmium toxicity, the results leave much to be desired.

Scientists from Kolkata and Midnapore got together to tackle the problem using clues from Ayurveda and Homeopathy. Ayurveda ascribes a wide repertoire of beneficial effects to amla juice. And Lycopodium 200c is a well known Homeopathic remedy with a wide range of applications. In a Research Communication on **page 1368** in this issue, they report the results of their experiments with mice. One set is fed a normal diet, and three other sets of mice a diet highly contaminated with cadmium. One set of mice that received cadmium was given amla juice and another, amla juice as well as Lycopodium 200c. And the results are there, for everybody to see.

Ayurveda and Homeopathy are strange bedfellows with their own philosophies of health, disease and treatment. And when it comes to treating patients in the system of modern medicine, both are held in contempt for lack of scientific rigour. But now data in this issue should enable communication between these disparate communities of medical practitioners.

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