

## PAGES FROM A NATURALIST'S DIARY

## Dippers: water-loving mountain birds

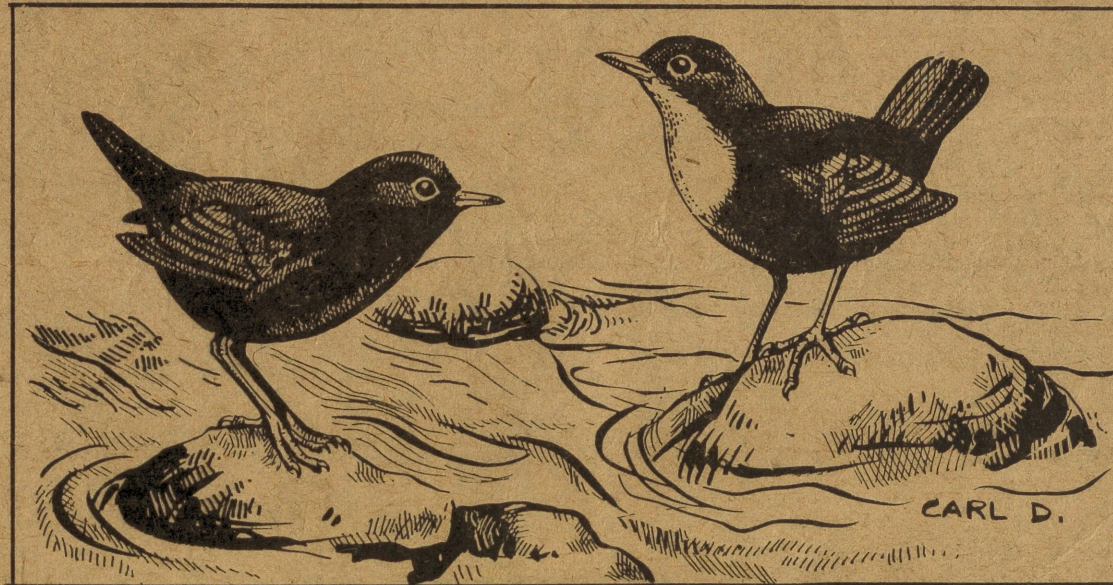
By Sunjoy Monga

The Himalayas are the bird watchers' paradise. Every vegetation zone here has its own distinct population of bird species. Hundreds of streams dot the Himalayas along their entire length and birds like redstarts, chats, fork-tails and numerous thrushes frequent the vicinity of such streams. Besides these, there are certain other birds which are seen at the wildest of the streams. These are the dippers—the kings of the Himalayan torrents.

Dippers, also known as water-ouzels, are water-loving birds of the mountain brooks. Two species are found in the Indian region. They are both found throughout the length of the Himalayas but they have altitudinal differences. The brown dipper (in the accompanying illustration on the left) is the common species from about 1,200 to 10,000ft. altitude.

The whitebreasted species is a higher altitude bird, normally found above the range of the brown dipper. Both species are myna-sized, short-winged and very short-tailed birds, the tail being cocked (up-raised) for most of the time. The brown dipper is a sober, chocolate-brown bird while the other has a sparkling white throat and breast.

Dippers are birds of the most wild and roaring rivulets. Where the water moves lazily, the dippers are not seen. In the tumultuously tumbling streams you will almost certainly see the dipper. Maybe before the bird has been sighted, it will be heard. The shrill dzit...dzeit...



Dippers: Birds of the wild mountain streams

calls of the dippers can be heard over the roar of the hurrying waters.

It will not take very long to spot the source of piercing calls. Settled on a rock or a moss-covered boulder right in the middle of the gushing torrent, the dipper frequently bobs and bows. Every few seconds the bird nods, its curious jerky actions lending it a very amusing charm. However, in spite of all their wild surroundings, dippers are generally very shy birds and if an intruder approaches close the bird flies away, very straight and swift, either upstream or down, often only a few in-

ches over the thundering waters, calling sharply as it flies away—as if cursing the intruder.

Observing the dippers feeding must be the most delightful part of these birds. They must be the only birds that can walk, run, float and swim in the water. Suddenly, from its perch on the rock, almost half immersed in water, the dipper slides or drops into the snow-fed, ice-cold waters in the wildest parts of the streams. And if the observer is above the level of the bird and the stream, it can be clearly seen that the dipper quickly moves to the bottom using

its short wings. It either walks or creeps along the bottom, frequently against the flow of the water. It checks under small stones and debris for possible food in the form of aquatic insects and their larvae. It can remain underwater for as long as 28 seconds and it may come up for a breather though sometimes it floats with only the head jutting out of the water.

Dippers are normally solitary birds though a second bird is never far away along the stream. The birds keep to certain stretches of the waters where they stick to their frolics in the water, diving, resurfacing,

shaking off the water from the very dense plumage, bobbing and re-diving.

Come spring, and the dippers are in mating spirits. From some perch on a rock or a broken log in or around the water, the bird blasts forth a very rich and trilling song which, I presume, has few, if any, competitors in quality. The long-drawn, vibrating song, accompanied by the roar of the mountain streams lends a most captivating charm to spring in the mountains.

The photograph of the chameleon in last week's column was by Isaac Kehimkar

I have often observed a striking display along with the song, particularly in the brown dipper, characterised by much showing-off—fluttering the short wings, singing with beak pointed towards sky, continuous dipping and bobbing and circling. The birds hold certain stretches of a stream as territory and chase away any intruders of the same species.

The breeding time is generally between March and May, somewhat later higher up. The nest looks like a mass of accumulated debris. It is a large ball of grass, leaves and weed stalks and is located between boulders or in a crevice of a rock or in the heart of other collected debris and is not a very easy thing to find. Three or four pure white form, the clutch. And everytime I come back from the Himalayas, I bring back with me memories of the dippers—the daring birds of savage mountain streams, unconcerned of the rigors of their ice-cold environs.

AFTERNOON, BOMBAY

13 AUG 1985

PAGES FROM A NATURALIST'S DIARY

# Romantic call of the Monal pheasant

By Sunjoy Monga

The term 'pheasant' implies a group of chicken-like birds of the family Phasianidae characterised by short, rounded wings and unfeathered legs. Included in this family are pheasants, partridges and quails. Of these, the latter two have very short tails and a more roundish shape. These are also smaller than the longer-tailed pheasants in which the males are brilliantly coloured.

However, all the birds of the family are exceedingly difficult to observe. They spend almost all their time on the ground, scampering into the undergrowth at the approach of any danger. They do not take to the wing very easily but once they do, then they do not fly very far. But they fly fast and soon crash into the vegetation. Many of these birds are sought after for the table and collectively the group is also known as game birds. The junglefowls and our national bird the peacock also belong to this group.

My numerous trips to the Himalayas have given me ample opportunities to observe pheasants which reach their greatest diversity in the Sino-Himalayan area. Over a dozen species are found in the Himalayas within Indian limits and at least five to seven species of these are found in every part of the Himalayas.

What I mean is that not all species are found throughout the Himalayan range. Some are found only from Kashmir to Garhwal, others further east and so on. Moreover, each species has its own altitudinal range so that a sort of distinct stratification is created. A few of the species are well distributed all along the Himalayas and the gorgeous monal is one of them.

The Monal or the Impeyan must

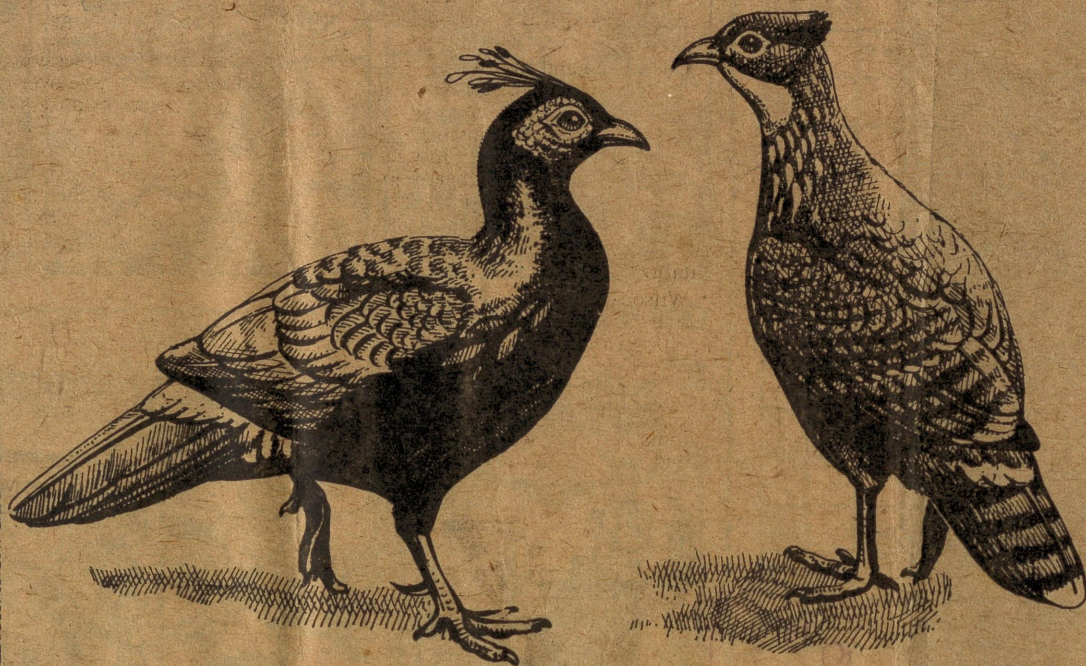


ILLUSTRATION: CARL D'SILVA

## Monal pheasants: their calls remain in one's mind

be the commonest pheasant distributed throughout the Himalayas from eastern Afghanistan to as far east as Arunachal Pradesh. It is a bird of the high altitude sub-alpine zone and breeds between about 9,000 to 13,000 ft altitudes, in forests of oak, rhododendrons and open conifers. In winter it descends somewhat lower and may be seen between 6,500 to 10,000 ft.

The best areas to see this bird are open coniferous forests of fir and spruce, interspersed with open glades and pastures and on the snow-covered slopes of kharsu oak forests. The lowest that I can remember ob-

serving this bird was at slightly under 6,000 ft, at McLeod Ganj, Upper Dharamsala, right above the Tibetan temple.

The male monal is unlike any other bird of comparable size. It is a brilliantly coloured bird, with the metallic, glistening green, purple, blues and black contrasting sharply with the white rump (lower back) and the chestnut tail. On its head is a crest of feathers that are proving to be detrimental to its survival in certain areas. After a look at the male, it becomes difficult to believe that the female is actually of the same species.

Compared to the magnificence of the male, she is a drab affair of brown and buff and white. They are hardy birds and are found at high altitudes almost throughout the year, unless very severe weather drives them lower.

Monals are seen either singly or in small parties. There are instances of several dozens seen together but such days, I presume, are not easy to come by. Reading the accounts of English shikaris during the days of the Raj offer some fascinating reading on how abundant this gem of a bird must have been once. One Mr. Wilson (quoted by Hume and Mar-

shall, 1879) mentions shooting a dozen of these pheasants in an hour and killing 1,000 to 1,500 every year, probably mainly in the Garhwal.

Monals prefer the vicinity of melting snow where they dig vigorously for tuberous roots with their strong and curved beaks, often using their strong claws. Large patches of the ground may be dug by these birds which also feed on grass seeds and insects. They are very cautious birds and it is not easy to observe them for long. They rise with a great flutter of their wings, flying very fast and calling in flight and there is no more romantic bird-call I know of than the wild, ringing, longdrawn, shrill whistles of the monal. The calls remain in one's mind long after the bird has vanished.

Male pheasants, in most species, are brilliantly coloured and they have a remarkable courtship display to attract a female. Most pheasants are polygamous. The females, since they incubate the eggs without any help from the showy males are very well protected on the ground on account of their drab colouration. The female scratches a shallow hollow in the ground, preferably under a rock or a fallen tree, almost always in vegetation. This female lines with some leaves and here she lays the clutch of three to five buff coloured eggs, spotted and freckled with deep reddish brown.

Most pheasants are much persecuted birds, none of them more so than the monal, the male of which is hunted in large numbers for the few crest feathers on its head. These are in great demand in parts of Himachal Pradesh for adorning native caps on the human head. In fact, the crest feathers are costlier than the big bird itself.

# The drumming 'carpenters'

By Sunjoy Monga

There is an amazing diversity of birds to be found in the forest. In the grass and undergrowth of the forest floor will be found pheasants, quails and partridges. A host of passerines (perching birds) and others occupy the various layers or storeys of the forest, beginning from the lower bushes and reaching the canopy. And there are birds on the tree stems and branches too.

While walking in a forest, it is quite likely that you will experience a repeated tapping sound that can be likened to your fingertip hitting on a table. Track this very prominent sound in the forest and you should be able to locate a bird clinging onto the stem of a tree and pecking at the wood with its beak, thus producing the tapping sound. The bird is a species of a woodpecker and save for the nuthatches and tree-creepers, there are hardly any other competitors for the kind of living the woodpeckers lead.

Woodpeckers are a very specialised group of birds, better known as 'carpenters of the forest' due to the spectacular hole-nests that they drill in tree stems. Along with the piculets and wrynecks, woodpeckers belong to the family Picidae. There are about 200 species of this family—well distributed almost all over the entire land area of this planet, excepting Australia.

## Pleasing species

Over 30 species are found in the Indian region. Some of the species may be seen out of forest areas, often around villages and towns. I have observed Golden-backed woodpeckers in the heart of New Delhi, a pair was nesting just by the side of the busy road in Lodi estate. This species is one of the most pleasing and beautiful of Indian woodpeckers. It is larger in size than the common mynah and has a brilliant golden back and this coupled with the black and white of the plumage and the bright crimson of the head-crest attract immediate attention. Yet another common species, normally avoiding forests and often seen in country side is the Mahratta woodpecker, a smaller bird, spotted white and sooty-brown on the upper body. The male of this species has a reddish crest.

Almost all the species of woodpeckers found here are rather colourful birds and the males of most of

the species have brightly coloured, generally scarlet or yellow, crests. Woodpeckers are normally resident birds wherever found though a few of the species are known to travel good distances everyday while foraging for food. Though, occasionally, some of the species do descend onto the ground to feed (on ants, termites etc.), the majority of them obtain their food on the tree-trunks and boughs.

## Modifications

For climbing and progressing on the tree-trunks and for feeding on the ants and beetles in bark crevices, the woodpeckers have certain modifications in their structure. The tail is stiff and graduated (longest feathers are in the centre of the tail) and is used as a support by the bird as it clings to the stem, holding firmly into the bark crevices with the powerful claws. The body slants backward and hence the longish neck is in a perfect position for the powerful beak to tap and hit on the wood. Moreover, the tongue is very long and is used to collect food.

Drumming is a characteristic feature of woodpeckers. Drumming on the stems and branches is a kind of advertising signal, used by these birds during the breeding season to communicate with others of the species in a certain distance range. Drumming is different from making the tunnel nest or from tapping for food and begins by raising the head high and bringing the tough beak down very sharply, not once, but many times and very quickly, resulting in a spurt of 'vibratory' hammering on the wood.

Such bursts are repeated after every few seconds and if you stand and listen carefully it is quite possible that you will hear another bird responding to the drumming. These calls can be heard for a great distance and serve as an invitation to a female of the species to join the male, and apparently also a warning to rival males that "I am the owner of this territory".

It seems quite surprising how the woodpecker's head and beak can withstand the powerful hammering. But then, the framework of this drummer's skull is rather special. There is firm but elastic connective tissue linking the skull bones to the root of the beak and it is this highly adaptable tissue that faces and tames the shock that results when the



chisel-shaped beak is struck on the wood of the tree. In the other birds the bones between the skull and the beak are inflexible.

The woodpecker makes holes in tree stems and branches and everyone knows this. If you enter the Borivli National Park from Goregaon, you will observe, hardly a kilometer from the gate, several dead palm trees with a series of holes in them. Some of these were made by Black-backed woodpecker, but several other birds, notably rose-ringed and Large parakeets have worked on some of these holes and even breed in some.

## Hardworking

Woodpecker nest-holes serve as homes to so many other birds which occasionally even drive away the true owners of the hole—the hardworking woody—and occupy the hole. Depending on the species, the nest-holes vary in size and in diameter of the entrance hole. From the roundish entrance the tunnel normally runs horizontally for a few inches and then drops down into a largish chamber, generally somewhat ovalish in shape. This cavity can be as much as a-foot-and-half deep and if the bird has bumped into a natural cavity in dead-wood then the hole might be deeper still. The glossy white eggs are laid on a bed of

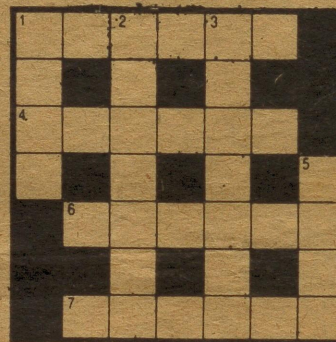
tiny wood chips and dust that has collected on the cavity floor during the tunnelling operations. These birds do not bring any external materials for the nest.

The Rufous woodpecker is different from the family. It is quite common in the Borivli National Park.

This black barred, chestnut bird with its very high-pitched cackling call makes its nesthole in the big, ball-like nest of the cremastogaster tree-ants. These nests are papier-mache like and the bird makes the hole, lays its eggs and rears the young while the swarming ants are still actively using the nest too.

The food of this and the other woodpeckers consists predominantly of ants and their pupae, termites and beetles. Berries and flower nectar sometimes supplement the diet. Some woodpecker species are a natural control on the populations of certain destructive wood-boring beetles. One need not go very far to observe the delightful birds that woodpeckers are. Half a dozen species are found in the Borivli park itself and the best time of the year to observe them here is between early December and mid-April. During this period all of these are nesting and are generally very active. And if you are observant, and lucky, it is quite possible that you will see all the six species in one day.

## MINI CRYPTIC—77



### ACROSS:

1. It might make a big difference (6).
4. Keep gratitude in check (6).
6. They might provide overhead protection (6).
7. One of them is perfect (6).

### DOWN:

1. Boast of getting a rise in cover (4).
2. Sketch the route to be followed in an emergency (7).
3. Disturbed rest when taking in fuel workers (7).
5. Customs applications (4).

### SOLUTION TO MINI CRYPTIC—76

ACROSS: 1. Foam. 5. Satchel. 6. Ensure-d. 7. A-yes.

DOWN: 1. Foster. 2. At-test. 3. Sherry. 4. Blades.

AFTERNOON

10/9/85

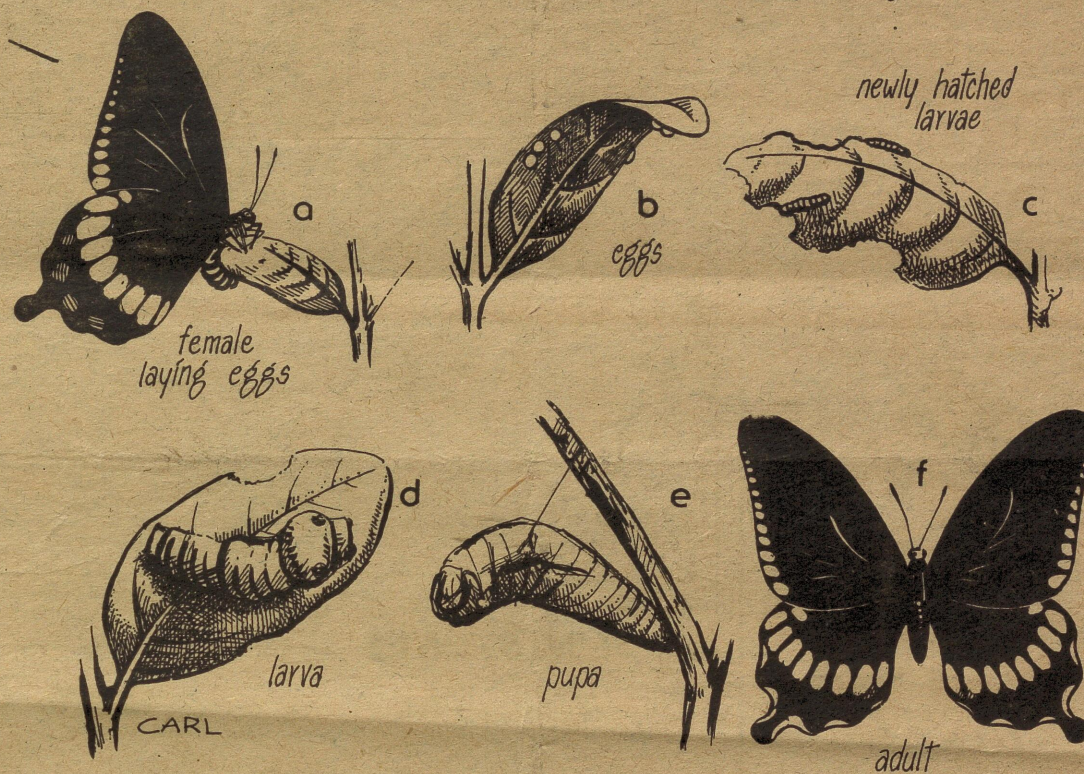
# A butterfly is born

By Sunjoy Monga

Recently when on a nature outing with a group of students, most of them expressed complete ignorance about the birth of a butterfly. Some of them were astonished when told that the crawling caterpillars that they so often see is actually one of the stages in the life cycle of a butterfly or a moth, that these caterpillars would, in a few weeks turn into elegant butterflies or moths.

The Indian region is a paradise for butterfly watching. Well over a thousand species have been recorded here, the north-eastern region of the country being particularly rich in butterflies. All butterflies lay eggs which hatch into any caterpillar or what we know as the larval stage and of which there are usually several phases. The larval stage is followed by the pupal stage from which the adult butterfly emerges. Thus, none of the stages in the butterfly life cycle resembles the adult. This group of insects, characterised by the earlier stages being distinct from the adult is known as the 'Endopterygota' and other members of this group are the moths, beetles, bees and wasps. In another group—the Exopterygota—comprising the cockroaches, grasshoppers, mantises, bugs etc., the larva is a miniature adult which then progresses into an adult by a succession of moults.

To fully understand a butterfly life cycle let us start from the eggs. It should be noted that though some butterflies lay eggs at any time of the year, most of them begin laying once



the rains have well set in. July to October are the best months to look for butterfly eggs. After a pair has mated, the female, in many species, may be observed flying rapidly, darting from plant to plant, sort of beating on the leaves with her

forelegs. She is examining the correct plant on which to deposit the eggs. This is because the larva which comes out from the egg, feeds on the leaves of the very plant on which it is born.

Once the female has got the correct plant, she settles on a leaf and bending her abdomen, lays an egg on the leaf underside. In some species the egg is laid on a leaf surface. At laying time, the egg is coated with a sticky substance, the purpose of which is to attach it to the leaf surface. Eggs of most species vary in colour and size, the smallest being hardly visible to the naked eye and the largest slightly over a millimetre in size. The female normally lays only one egg on or under a leaf and indeed not many may be found on the same plant. This is understandable because the larvae which come out are gluttons and they could run short of food (green leaves) if many eggs were laid on the same leaf. There are exceptions to this, however. Certain species lay down the eggs in bunch and the caterpillars live together.

In about a week's time the eggs hatch and the tiny caterpillar comes out. The caterpillars (larval stages) must be familiar to most people, caterpillars have marvellous appetites and in a few days their size increases to remarkable proportions. They are tiny eating machines, many of the species being known to eat as much as their body weight, and even more, in one day. In fact, even from a distance one can know the presence of caterpillars on a tree

or a bush by the large number of leaves that have been eaten. All this heavy-eating though, serves a purpose of reserving for the resting, non-feeding, immediately following pupa stage.

Caterpillars of different species exhibit a remarkable diversity in their form and colour—their survival strategies. Some of them are the most outrageously coloured of creatures. Others are thickly covered with hair and a splash of riotous colours. These are nature's warning schemes, such gaudy colours and features in nature generally associated with some unpleasant characters, like a toxic secretion or a odour or some other form of irritation. Some appear like the droppings (faeces) of a bird and thus escape detection by predators of which there is no dearth.

## Seems surprising

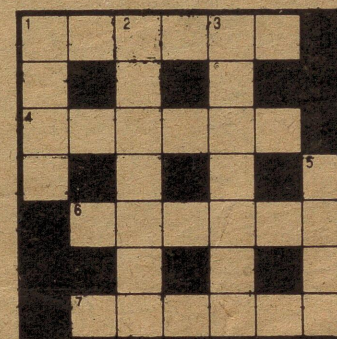
It might seem surprising that in spite of such amazing self-protection devices evolved for the caterpillar stage of butterflies, we often see birds feeding on caterpillars. How amazing must be the manner in which birds hunt every leaf and branch and corner for food? But there are always enough caterpillars left save for the species to continue. How incredibly well-organised is nature!

There are several phases of the caterpillar or larval stage and all of these are famous for their voracious appetite. In a few days, however, after the larva has reached its last

phase, a most striking change occurs. The caterpillar which has been doing little else besides eating now enters a resting and absolutely non-feeding stage known as the pupa. A silky envelope called 'cocoon' spun by the larvae of many insects at this stage and serves as covering during the pupal stage. This pupa, also known as chrysalis in butterflies does not feed at all and does not move too. It is attached to the branch or to the leaf stalk by silken strands and is normally well camouflaged. Depending on the species it remains so for one to two weeks (occasionally much longer). It might appear to be lifeless and very much a part of the plant. It is but, pulsating with life and indeed how marvellous is the life that comes out of the drab pupa.

All the final changes are taking place inside the resting pupa, the almost magical transformation from a leaf-eating beastly caterpillar to a dainty butterfly that does not feed at all on leaves but comes back to a leaf to begin another life cycle. One need not go very far looking for butterfly eggs. According to Mr. Naresh Chaturvedi of the BNHS, over a hundred species of butterflies are resident in and around Bombay. And when you do find some tiny, often semi-transparent eggs on a leaf, try observing for the next couple of weeks.

## MINI CRYPTIC—83



### ACROSS:

- Decorated with gold at one point and put away (6).
- Great enthusiasm for two natural products (6).
- Journalism as a part of the build up? (6).
- Doesn't need to change to get to a Belgian port (6).

### DOWN:

- King of organised football (4).
- Point between the poles where there's not much room to manoeuvre (7).
- Distorting what's true after reaching a point of agony (7).
- She puts me in at last (4).

### SOLUTION TO NO. 82

- ACROSS: 1. Vein. 5. sA-muR-AI (rev). 6. Outcome. 7. Seed.  
DOWN: 1. Vision. 2. In-mate. 3. Groove. 4. Gilead.

## Bhubaneswar eyes up in arms

■ contd. from p. 7

to complain about physical and mental torture, the three policewomen were quite astonished at the intensity of the complaints.

In her petition to chief justice P. N. Bhagwati, Prativa Manjari Das writes, "As most of the inmates protested against the illegal actions of the board authorities, and registered their peaceful protest by gathering the police officials and the executive magistrate, for torturing them, by preventing their entry into the hostel from 2 p.m. to 7 p.m., by locking up the main entrance.

"Strangely the hostel authorities, instead of honouring the sentiments of the wronged inmates and taking action against the erring officials, have served show cause notice on a number of inmates making false and fabricated allegations against them."

This particular incident was witnessed by a number of journalists belonging to the local as well as the national press. And all of them could not help commenting on the belligerent

attitude of the police officials and the executive magistrate. However, as soon as the policewomen and the magistrate saw that they were outnumbered they apologised, profusely for their past misdeeds to the inmates. But no sooner had the gherao been lifted, than they were back at their old game. Notwithstanding intense pressure from the newspapers in Bhubaneswar, the hostel authorities show no signs of coming to their senses.

While the women in the hostel have now been forced to move the Supreme Court, the hostel authorities deny all charges. Claiming that they are being unnecessarily victimised by the press that is out to create a sensation, the hostel authorities are now taking protection under the plea of "No one is being forced to stay here".

But with the case likely to come up for hearing in this session perhaps J.B. Patnaik's government may just have to answer a few embarrassing questions.

Afternoon Sep 17-85.

# The problem called Enuresis

Enuresis, the medical term for bed-wetting, is the unintentional loss of urine, usually during sleep at night.

Infants do not have a sufficiently developed nervous system to control urination voluntarily until they are about two-and-a-half or three years old. It is usually not till the age of three that a child learns to control urination through the night. A child who wets his bed recurrently after he has learned to control urination has the problem of enuresis!

Urination is considerably more complex than simply emptying a bag of water. There are two valves in the bladder called 'Sphincter'—one is at the base and opens automatically when the bladder is distended. The second is a little lower and is under voluntary control. When the first sphincter or valve opens it sets in desire to urinate and the opening of the second sets events in motion. Controlled opening of this second valve must be learned in early childhood. Until then a mother has a bed-wetter on her hands.

## Variety of causes

Bed-wetting has a variety of causes. It may occur because of a delay in normal development or as a result of emotional stress. About 15 per cent boys and 10 per cent girls are bed-wetters at the age of five. By nine about 5 per cent of all children still have the problem, but most children

outgrow it by the time they reach puberty. Children who are bed-wetters should be examined to rule out any physical abnormality in the urinary tract. An obstruction at the neck of the bladder where it joins the urethra or an obstruction at the end of the urethra may cause uncontrollable dribbling of urine, but this usually occurs during the day as well as night.

Diseases of the nerves controlling the bladder, sometimes hereditary can cause loss of urinary control. It can also occur in children who are mentally retarded or mentally ill, or because of an acute or chronic illness. In the latter cases, the problem disappears when the child regains his health.

## Emotional problems

If all physical abnormalities for bed-wetting have been explored and eliminated as possible causes, the emotional problems of the child and his family should be examined. An understanding attitude rather than a hostile or punitive one on the part of the parents is extremely important in helping a child who is a bed-wetter. He may be anxious about school or resentful of a favoured younger child, or he may feel insecure about parental acceptance. In such cases, an effort to bring the child's hidden feelings into the open and to deal with them sympathetically along with mild gentle nerve soothing

## THE MEDICINE CHEST



By Dr. Shirin J. Wadia

homoeopathic pills usually causes the problem to disappear.

In homoeopathic treatment we pay great importance to 'the mental symptoms of a patient. It has been found that nocturnal enuresis normally occurs in children due to some psychosomatic problems.

A five-year old boy was brought to me for bed-wetting with the following symptoms. According to his mother, the child was regular in his

urine and stool habits till the age of three. Then suddenly he started bed-wetting. For the parents it was sudden but according to me it started because of an addition to the family—a sister. Since the mother's attention was diverted to the newborn child the boy developed an insecurity which triggered the problem.

Phosphoric Acid was indicated in these symptoms, so Phosphoric Acid corrected his bed-wetting.

## Totality of symptoms

Another very interesting case: a man aged 34, came to me for this problem of bed-wetting. According to his history, his father, who was a very dynamic and successful businessman, was extremely dominating. He said he respected his father's achievements but at the same time hated him. He felt useless and unwanted. His father constantly criticised him and therefore he just wanted to leave home and business and go away. All this he could do because of his mother.

He came to me because his father was adamant about getting him married and was not aware of his son's problems! This man was also suffering from chronic headaches, which were labelled "migraine". Now this was a typical case for homoeopathic treatment because a true

homoeopath just does not prescribe on one or two symptoms or on the name of the disease but tries to find out the patient's totality of symptoms: causative factors, pathological and physiological problems, his likes and dislikes, aggravations and ameliorations, and most important his mental symptoms and along with that his behaviour and attitude towards life. This 34-year-old man had twice tried to kill himself. My first prescription was Homoeopathic Gold i.e. Aurum Metallicum.

Metallic Gold and the second prescription, Gelsemium. This man at the end of the treatment was a changed human being. He was full of confidence and was ready to share and take decisions along with his father in all business matters.

Homoeopathic Gold (Aurum Metallicum): Gold was first used as a medicine by Arab physicians but they were scorned, condemned and rejected by the orthodox medical experts. But Hahnemann revealed its mighty powers by the method of trituration, potentiation and provings.

Some of us could tell tale after tale of patients, in these days of worldwide commercial depression, who, reduced to despair by straightened means and anxiety, threatened suicide, and yet were readily restored to life, to hope, to renewed effort by a few doses of Homoeopathic Gold.

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# Swoop! It's the vultures

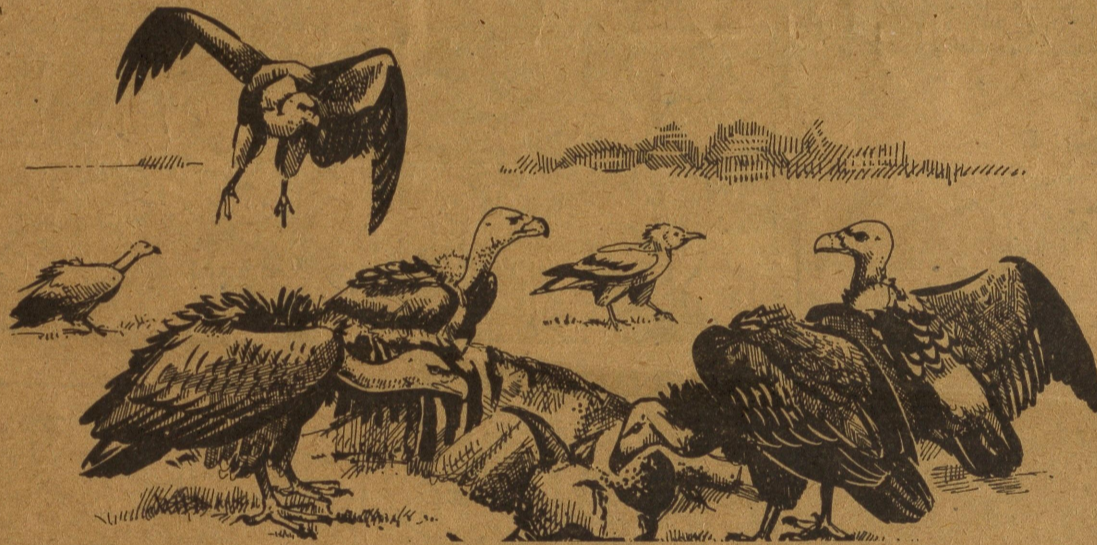
One cannot miss vultures. They are the large birds, so clumsy looking on the ground, observed sitting around carcasses, slaughter houses and livestock skinning centres, be it along a busy road or railway tracks or in the very heart of a bustling town. Often these birds are in large gatherings and thanks to their large size, they immediately attract attention.

Vultures are big birds. The smallest of them is as large as the common kite. This is the Egyptian or the scavenger vulture, also known as the 'Pharaoh's chicken' because of its resemblance to a big, old hen. The vulture group is known to contain the largest of flying birds; the two species of condors—Andean and the Californian—have wingspans of, as much as ten feet and weigh about 12 kilos.

Eight species of vultures are found in the Indian region. While four of these are resident in peninsular India, the remaining four breed in the Himalayas, two of these Himalayan birds—the Cinerous and the Indian Griffon—wander in winter into the plains, often straying as far south of Maharashtra. The two other Himalayan birds, the Lammergeyer or the Bearded vulture and the Himalayan Griffon are strictly mountain birds, spending all their time in the hills.

The commonest species in the plains are the whitebacked and the Egyptian vultures. Indeed none of the other species are so commonly seen around human habitations as these two. The former even nests in the most crowded and frequented localities of Indian towns and cities, building their huge, irregular platform of sticks high up in a tree. The Egyptian vulture usually makes its nest on cliffs, old forts and even on buildings occasionally on trees. Some of the other species like the Longbilled vulture normally nest on cliff faces, their nests located in rather inaccessible areas.

Most of the species lay a solitary egg and the nesting trees and rock faces are frequently sprayed with the droppings of these birds. I am told that the nitrogenous content of these droppings when fresh is unusually high and the repeated spraying of these kills the tender vegetation below the nest—trees



## Vultures surround a carcass

and rocks, sometimes the tree itself. Many of the species have favourite roosts and the areas under these roosts are normally generously whitewashed by the bird's droppings.

I remember a roost of about a dozen Himalayan Griffons in Himachal which is visible from a considerable distance because a large part of the cliff has been stained white by the droppings of the massive birds which regularly roost there.

Vulture are among the most efficient of nature's scavengers. Whether in busy town or miles away in the surrounding countryside, if there is an animal carcass, vultures will soon find it. At times the birds arrive even before the animal has breathed its last. The huge birds keep coming in and soon there is a big mob gathered around the corpse.

Amazing though it may sound, but where till a few minutes ago not a bird was in sight, there suddenly are to be seen several dozen now. What happens is that when an animal dies it sets off a kind of reaction in the vicinity. Crows and dogs first find it and are in turn observed by the kites. This soon catches the eyes of one of the vultures that is soaring up in the skies, which then begins to circle over the area. It does not take very long for the other vultures to arrive. And after a short wait beside the dead animal, the vultures begin their feast, several species feasting together.

And what a chaotic feast it is, with all the hissing and screeching and jumping and pushing. But each one of the birds, so well-known for their gruesomeness, gets its share.

Indeed so amazing is the hunger of these birds that a fairly good sized flock can finish off a huge bull in well under an hour, leaving only clean bones. So stuffed are they then with food that they often find great difficulty in rising up and flying into the trees. In fact some even spend the night on the ground if they have overateen. The Lammergeyer of the Himalayas does not even dispute with the other vultures over a dead animal. Rather, it prefers to wait till the greedy relatives have gorged themselves and then it arrives to feed on the left-over bones. Surprising it may seem but the Lammergeyer is also known as the bone-breaker for it carries large bones high up in the air and then drops them on the hard rocks below. The bones thus crack and the bird later feeds on the tiny bits that have spread below.

## Slaughter houses

Vultures are abundant around most of the towns in northern and central India. Almost all the towns have slaughter houses and livestock skinning centres and these provide adequate food for the vultures. Moreover, during the afternoons, vultures rise on the warmer currents

(thermals) and soar effortlessly for hours, often several species together. The birds begin to rise a few hours after sunrise and by the afternoons they have congregated into large flocks. With so much food available in the immediate vicinity of the aerodromes and this coupled with the soaring flights of the birds over the airports makes vultures extremely hazardous to aircraft.

Dr. Robert Grubb, project scientist of the BNHS Bird Hazard Project informs me that their very large size, abundance and soaring flights over airports and environs in flocks makes the vultures particularly dangerous to aircraft and constitute a good percentage of bird hits to aircraft. Studies at almost a dozen Indian airfields have revealed that barring a couple, vultures are invariably present around most of our airports, being particularly abundant in the massive Indo-Gangetic plain.

Vultures have been feared and respected by man since long. History is full of accounts on vultures and these birds were accorded a place of honour by the Greeks and Romans. As in the past, even today these birds play the part of 'undertakers' in certain areas.

Vultures on the ground are generally considered repulsive creatures. But once in the air their grace is unparalleled, aptly described by W.L. Finley as 'mighty creatures that in matchless flight cleave the heavens'.

## A-ward labour staff lauded

By A Staff Reporter

The Colaba-Cuffe parade Citizens' Group presented utility items to the labour staff of A-ward, particularly the conservancy and drainage department, as a token of appreciation of the fine work they were doing.

At the presentation function held on September 23, the president of the Group, Mr. P. Navin Kumar, stated that citizens groups were not mere complaining bodies. He said that they were set out to solve the civic problems of the area in close cooperation with the ward staff.

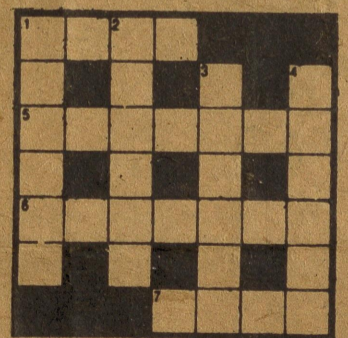
## Sena mite for drought-hit

By A Staff Reporter

The Shiv Sena is to collect donations from Bombay's industrialists to assist the drought-affected areas of the state.

This was announced by Mr. Bal Thackeray, the Sena chief, at a convention of some 400 district and taluka presidents and sarpanches from 13 districts in the state. The convention was held in the city during the weekend.

## MINI-CRYPTIC—94



### ACROSS:

- Country bumpkin left off bondage (4).
- Greyhounds? (7).
- Work at a cut rate? (7).
- The girl had taken off (4).

### DOWN:

- Not daring to cry out with pain (6).
- Fish that should help you to sleep well (6).
- Alkali drug on deposit (6).
- Doesn't need to change to get a Belgian port (6).

### SOLUTION TO NO. 93

ACROSS: 1. (immo)r|Al-Arm. 4. A-mass. 5. No-tes (Set, reversal).

DOWN: 1. Again (st). 2. AB-a-ft. 3. Mo-S-es.

## PAGES FROM A NATURALIST'S DIARY

# Going bats

By Sunjoy Monga

Soon after I had learnt to use my camera flash, I obtained my first pictures of bats in the dark of the night. Luckily, there was a very good place for observing fruit bats very close to my house in Kandivili, a suburb of Bombay. The guava, custard-apple and papaya trees in the neighbourhood garden attracted a fairly good-sized party of bats.

For the first few days I was faced with the problem of focussing correctly in the dark. This was mainly because the bats had no fixed favourite fruits and would visit many, thereby destroying a lot of the fruit. They preferred the custard-apples more than the guavas. So we removed most of the ripe apples, leaving just a few for the bats. And the problem of focusing was solved too. Another advantage was that the bats would finish these remaining ripe fruit, not allowing any to go waste. In fact, after a few days we even tied some apples and guavas for the bats.

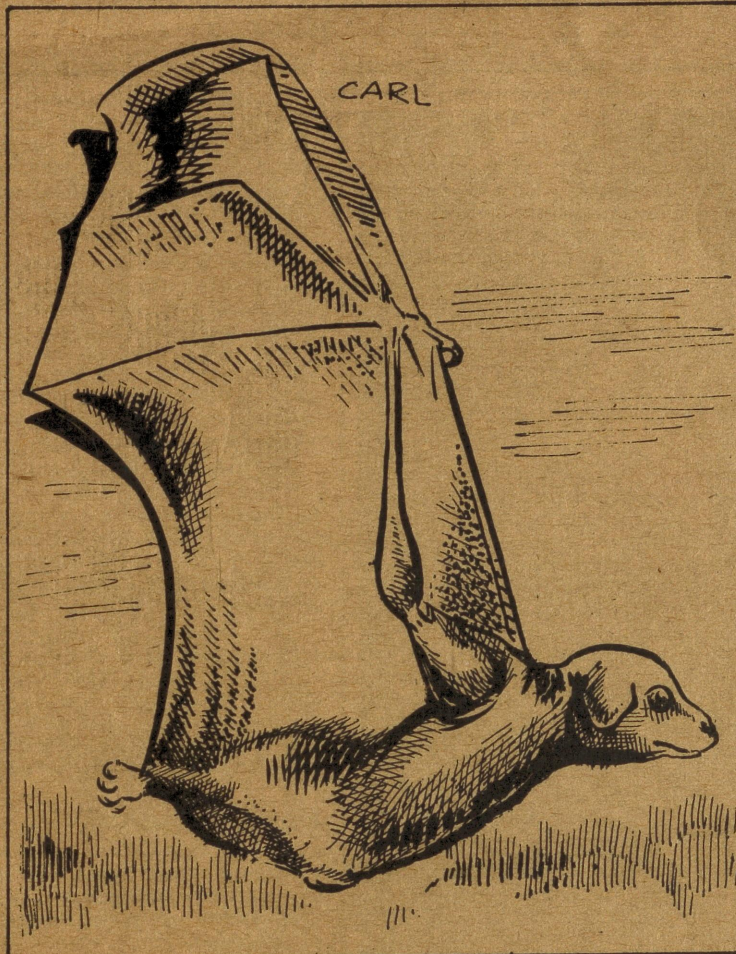
During those nights I often had the opportunity of observing bats feeding from barely three feet away. Sometimes, I noticed that a second bat would arrive on a fruit on which there was already one settled. This would spark off a fight, with a little bit of vicious screaming and snapping out at the intruder, one of the two soon darting off to another fruit. Occasionally both the bats would come tumbling down, sort of locked in a fight and break off just before they hit the ground.

During several such close encounters, I was almost tempted to hold one of those cuddly little creatures in my hand and show friends around that these ghostlike animals are actually mammals, and they are not repulsive and ghastly to look at, at-terall.

There was something fascinating about them, particularly the way they avoided obstacles, the tree branches and the house walls in the near-dark, despite flying so fast and haphazardly. Try looking around in your garden, particularly if there are fruiting trees around. Bats love figs, guavas, custard-apples and bananas and though it is not very easy locating them in the dark, that very slight rustle of leaves may give away their presence. Better still if there is a road light nearby, even a trace amount of light reaching the vicinity should enable you to at least see these mammals flying about. You would be surprised to know that there are several species in Bombay itself.

### Mammalian wonders

Bats are nocturnal mammals and indeed they are the only mammals that can actually fly. Unfortunately, these mammalian wonders of the night have, along with owls (the nocturnal birds), been the targets of an overdose of irrational condemnation by man. By no means the very-easy-to-see mammals during the day, bats seem to normally escape both, attention and appreciation. They get active at dusk when they leave their



day-time roosts which may be in trees, below the bark of trees, in house roofs or in caves.

The tiny bat, so often seen flying fast and seemingly uncertainly as though about to bang into a building wall, is the Indian Pipistrelle, one of the smallest of the lot. This one even enters houses because its food is predominantly insects. Another insect-feeding bat is the Bearded Sheath-tailed bat, a small colony of which lives in one of the larger caves

at Kanheri in Bombay's national park.

It is but the fruit bats that are commoner, there being several species of smaller fruit bats and also a larger one, better known as the 'flying fox', with a wingspan about four feet. Two of the smaller fruit-bats species are fairly common here and both, these as well as the flying fox may be observed on the fig trees around the maidans in south Bombay, it being particularly interested

to see these bats during the numerous well-illuminated exhibitions on Cross maidan. Most of the species are gregarious, roosting in parties or in large flocks, often several thousand together as observed in Rajpipla forests of Gujarat. There are roosting colonies of the huge flying fox behind St. Xavier's college and another in the Victoria gardens (Byculla zoo).

The bat is a very peculiar mammal. Its arms and hands are sort of converted to form the wings and indeed so perfect are the modifications for flight that a bat in flight appears to many to be even more graceful than a bird. Free from the main wing is a thumb, generally used as a support, for walking and climbing. Fruit bats even hold the fruit in the fold of their highly flexible and long wings. The legs are tiny and rather weak, and obviously not much used by the bat, except to get a good hold at landing time and in some for the little bit of climbing and walking that they do.

### Flight paths

Most remarkable of all bat characteristics, however, is their ways in the dark. It is now well-known that vision does not play any important role in most bat species. So how do the bats fly about in the dark without banging into any of the obstacles in their flight paths?

The answer to this lies in echolocation—a kind of radar mechanism, so highly developed in bats. These mammals emit super-sonic sounds that vibrate through the air and strike any obstacle in their flight path, only to return back and be quickly picked up by the bat. This obviously means that bats have not only very well developed vocal system but also a sharp sense of hearing, particularly in the insect eating bats. The picked-up returning echoes thus make it possible for bats to avoid obstacles in their path and bats even find their food in this manner.

# Combating your hair problems

Rapunzel Rapunzel let down your hair. Beautiful strong tresses fell out the window and the prince climbed up to meet his beloved. Fairytale nonsense reflects the importance of nature's adornment. For centuries man has been most concerned with the appearance and condition of his hair. Hair styles reflect personality, we are told, but of this we are sure. If our hair is not right, we don't feel right. It affects our mood, self image and confidence. With this in view, let us examine what exactly our hair is all about.

Normal hair growth: Each strand of hair consists of three layers. The outer layer or cuticle protects the interior hair shaft. The secret of super hair is to keep the cuticle in good condition. The next layer contains the pigments which give hair colour, and cells which give elasticity to hair. The inner most layer is mainly spongy tissues. The hair follicle just below the skin surface is the essential growth structure. If a hair follicle is destroyed, no new hairs can form. If hair is plucked or cut, but the follicle remains then new hair will grow. The number of hair follicles decreases with age.

### Cycle duration

Each follicle grows hair in cycles and the duration of the cycle is different in each part of the body. In the scalp, for instance each hair grows steadily and continuously for three to five years. Growth then stops and after three months the hair is shed. After about three months time a new hair starts to grow from the same follicle.

On an average, half-an-inch (1 cm) of hair grows a month. It grows faster during the warm weather and faster at night. On an average, we have 90,000 to 1,40,000 individual hairs on our head.

We normally lose 50-100 scalp hairs per day—as new hair coming out from the follicle pushes the old hair out. That means normally hair is shed to make room for the new ones.

Nutrition: Healthy hair is part of a healthy body. The texture of your



hair is inherited but its strength and condition are influenced by what it is fed, lot of vegetables, fruits and fresh nuts with vegetable oil for vegetarian. For non-vegetarian, restricted amount of chicken and fish. Animal proteins contain a material called phenylalanine. Phenylalanine is the basis of melanin and other pigments of the body—which gives natural colour to hair and prevents premature greying of hair.

**Homoeopathic shampoos:** Hair should be handled and washed in a gentle way with natural hair cleansers. After a lot of research a homoeopathic shampoo has been introduced, which has natural herbal ingredients mixed and prepared in the homoeopathic way. This shampoo not only helps in removing the dirt but it also repairs the damaged hair follicle and leaves a protective film on the scalp which protects hair from sunlight, polluted air and chlorinated water, etc. This shampoo has also anti-dandruff preparation and helps in keeping the scalp healthy and clean. Hair should be washed whenever found dirty.

**Dandruff:** It is in adolescence that dandruff usually begins. It is not a disease, but it is simply a build up of

dead skin cells that refuse to go away through normal washing and brushing. At times due to an excess of dandruff hair starts falling out.

In homoeopathic science there are specific medicines for the treatment of dandruff. If dandruff is not checked on time it may lead to a lot of harm to the hair follicle.

**Mezereum:** This is one of the specifics for dandruff when it is in very large quantity. Hair gets entangled, scabs are formed on the scalp. After some time these scabs fall out along with the hair from that area also falls out. This leads to a condition called "Alopecia Partial" i.e. loss of hair in circles from the scalp. Beneath these scabs there is accumulated a thick fluid which cause septic condition of the scalp

and weakens the hair follicle. Along with the above symptoms there is intolerable itching of the scalp with burning pain. Mezereum 200, five pills four times a day helps in getting rid off dandruff.

### Hair fall

**Calcarea sulphurica:** This is a specific when dandruff is yellowish in colour. This dandruff when in excess falls on the face and causes acne, and irritation of eyes. There is irritation on the scalp leading to scratching and hair fall. Calcarea Sulph in 200 potency five pills four times a day is found very effective.

A young college girl came to me for her hair treatment. She had dry, lusterless, rough hair with an excess of hair fall. She had dirty looking dry

rough facial skin. She was extremely upset not only because of the above problem—but there used to be a very offensive smell coming from her hair. This smell used to make her and others very sensitive about it. Psorinum 200, five pills four times a day along with the 'homoeopathic shampoo' proved extremely effective in combating her hair problem.

The idea of writing this article is to enlighten the readers that Homoeopathic medicines are most ideally suited to human hair, because hair thrives on "natural ingredients of nature". Homoeopathic treatment offers the best treatment for hair.

If you have any problem with your hair take a second opinion—consult your nearest homoeopath!

# Indian women victims of environmental crisis

Round about the beginning of each year, the women of the Song valley, high in the foothills of the Himalayas, make a special pilgrimage into the oak forests.

They hold a religious festival and plant seedlings that will grow into new trees. And for the rest of the year they keep guard on the forests, banning cattle and goats, and regulating the cutting of grass and lopping of branches.

To Western eyes it may seem a charming example of concern for nature. To the women themselves it is a matter of sheer survival.

For all over the country the forests are falling. As the trees come down, there is nothing to hold the soil on to the land, or to stop the rains running straight off the mountain-sides. Crop yields fall, water sources dry up, and fodder and firewood from the forests disappear.

A remarkable new report, chronicles what is happening, and its devastating effect on women—for

Two new reports show Indian women as victims of environmental crisis, says GEOFFREY LEAN

though the whole community suffers, it is the women, who fetch the water and wood, and do most of the work on the land, who suffer the most.

The 400-page *State of India's Environment 1984-5* is, in effect, a doomsday book for the home of a sixth of the world's people.

Ten years ago, before the women of the Song valley set up their guard, their area was deteriorating like everywhere else. Now, long-dead streams have sprung to life and agricultural productivity has increased by a fifth.

Government experts told them that it was impossible to plant new oaks and expect them to live. The women have achieved it. Of all trees,

the oak does most to bind the soil on the hillsides and allow rainwater to filter gently down into the ground. And its leaves make vital fodder and compost.

The report shows that more than 3,000,000 acres of forest are cleared for agriculture and industry each year. Wood is becoming so scarce in many parts that even ploughs and bullock carts are becoming too expensive for local farmers, and mud huts cannot be built because there is no timber for their frames. One third of the country is now virtually barren, because the soil has been washed away. And the report quotes evidence to show that almost the entire country will face a massive water shortage within a decade.

These figures are no exaggeration; if anything they understate the crisis. Another report *India's Environment* by top civil servants and scientists sounds an even starker warning.

■ contd. on p. 13

# SCIENCE & MEDICINE

## Food allergies

Sneezing, itching, weeping, wheezing, a majority of people experience these miserable symptoms of allergy. In a rather casual way people often say they are allergic to this or that substance when they are not truly allergic at all. For example, many so-called food allergies result from the inability to digest a particular food in a normal way. In other cases, an irritant may produce discomfort which is not based on an allergic response.

**What is an allergy:** The word allergy means "altered reactivity to a specific substance" meaning that one person can react to something differently from his fellows and as a result become ill. The term should only be applied to someone who is sensitive to things which, for most people, do not produce any abnormal symptoms at all. It is really hypersensitivity since the person who is allergic becomes sick as a result of substances most people do not notice at all.

To give a specific example: in winter most people feel healthy and comfortable but there are a few who find difficulty in breathing, along with sneezing and coughing. These are the people who have become sensitised.

The allergic person develops in-

side him a protein called 'antibody', which is a specific irritant known as an allergen — in this case dry cold air. When this antibody comes in contact with the allergen they combine and various chemicals are released. The best known of these is 'histamine'. Some individuals are allergic to substances in soap, which produce a skin irritation. Other react to the smell of a rose by sneezing. Still other react with an outbreak of hives, diarrhoea or other symptoms to allergens in foods.

Foods are amongst the most common causes of allergic reactions. While nearly any food substance is a potential allergen to certain sensitive individuals, we will give a few interesting cases of food allergy.

A six-month-old child was brought to me for recurrent attacks of diarrhoea because of milk allergy. Till the time the child was on mother's milk he was alright. But from the day he was put on 'top-feed' he developed loose watery stools with blobs of mucus and in fact undigested milk with frothy looking sebum on top. Before passing stools



the child used to cry in agony because of abdominal pain. The most significant symptom was an ex-

remely sour smell — in the stools. Even the baby smelt sour.

Magnasea Carb is a homeopathic specific for milk allergy. Other important remedies are Natrum Carb and Rheum.

A business executive was getting recurrent sore throat — each time he travelled out of Bombay. He tried to find out the cause but couldn't, and each time he used to land up having a number of antibiotics and anti-inflammatory drugs which used to leave him very weak, when he came for homeopathic treatment we presumed that it was chilled orange juice that gave him immediate allergic reaction. In homeopathy there are four to five specific medicines for this allergy out of which Hepar-Sulphuris Caclareum matched his symptoms to get rid off his allergy.

Here are few remedies I would like to share with you.

Perrum met — allergy to eggs; Thuja — allergy to onions; Lycopodium — allergy to oysters; Saccharum-Off — allergy to sugar or anything sweet; Urtica Urens — al-

lergy to milk which causes skin allergy; Psorinum — allergy to wheat when it causes skin allergy. Fragaria Vesca — allergy to strawberries which produces urticaria; Pulsatilla — allergy to rich food, orange juice — mostly it affects the liver and causes biliousness; Thyroidin — an excellent remedy in allergic rhinitis causing excessive sneezing and swelling of nasal mucus membrane. At times urticaria is associated with rhinitis; Arsenic Alb — worse wet weather, from cold, cold drinks or food, fruit juices specially tinned fruit. Allergy may manifest in rhinitis or skin problem or gastrointestinal disturbances.

The list is a very long one, but these are the most common allergic reactions we come across. If any of the above mentioned drug matches your symptoms then please don't take it in very high potency, because at times if the drug is not well matched, a high potency can cause severe reaction. The safest potency is 200C. five pills in every two hours or depending on the severity you may take more frequently or less.

So next time you have any allergic problem, instead of taking 'antihistaminic' drugs take a second opinion go to a homeopath!

### PAGES FROM A NATURALIST'S DIARY

## A story of avian success

By Sunjoy Monga

To anyone living in India, whether in the cities and towns or in far-flung villages, the cattle egret must be a familiar bird. It is that snow-white, lanky bird so often seen attending to cattle, and of lately even in the vicinity of garbage heaps and around grass-cutters. A bird of the heron family, this egret is also known as the buff-backed heron because of the buff-orange colour it acquires on its head, neck and back, which makes identification of this species relatively simpler during the breeding season, generally between June and September.

The story of the cattle egret is one of the best examples of avian success. In the last few decades, this species has spread to all continents, excepting Antarctica. There is little doubt that this bird has expanded so much on its own and not by being introduced by man. Though herons are, as a rule, water-loving birds, not normally found far from water, the cattle egret has proved to be more adaptable than others of its family in that, it can survive very well away from water too and this, coupled with its amazing ability to associate with cattle (and also other large grazing mammals such as elephants, rhinoceros etc.) should be one of the major reasons for its phenomenal spread on this planet.

Of course, human interferences, such as the increasing irrigation and agriculture, as well as the vast expansion of cattle-farms and such other cattle-related activities, are also an important factor for the cattle egret explosion. This heron today is one of the few cosmopolitan birds.

### Preferred habitats

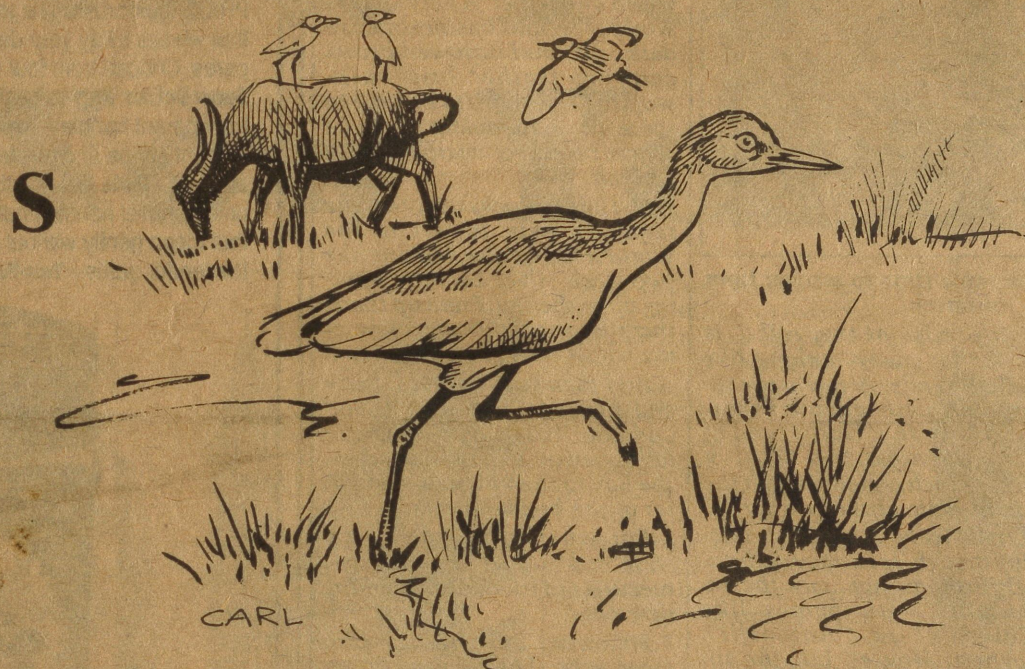
The preferred habitats of herons are the marshy and agricutlural lands, areas that are open and well-watered, and here one can often see several species together. The group of egrets can be very confusing in the field but the cattle egret can readily be identified by its being somewhat shorter and smaller than the others and also by its beak which is yellow always. The frequency with which this species is seen away from water, and around grazing mammals are additional pointers for its identification.

For Bombay and its neighbourhood, the cattle egret as a bird of along the railway-lines and in the vicinity of every tabala (cow-shed). In the open areas of north Bombay, this egret is often seen around the grass-cutters, following the people

as they go about in the grass (visitors to the National Park must have observed this while walking from the No.7 bus stop to the park entrance). The birds are feasting on insects that the people disturb in the grass. Good numbers of this bird can also be observed at Mahim and Thane creeks, sometimes associating with other egrets.

The cattle egret is now also competing with crows, kites and even vultures at garbage-dumps and one of the best such sites is half-way down to Marve beach, along the Marve road. This site, once a vast, open marsh is, for the past couple of years, being slowly filled up with tonnes of garbage, brought in dozens of trucks from all over Bombay. People passing by have to normally hold their noses, so horrible is the stench. But a few species of birds have found a gold mine in this newly-formed garbage dump. I noticed that though crows and kites were the first to arrive, it did not take very long for the cattle-egrets to locate this spot.

When perched, the cattle egret normally remains hunched, but while feeding the neck is extended. The bird stalks steadily, feeding typical heron-style, with that sudden lethal move whence the long neck is stretched and the pointed heron-beak shot forward, stabbing



the victim. The menu of this bird is large insects, frogs, small lizards and fish, all being readily taken. By far, the most interesting characteristic of this bird is its relationship with grazing cattle and other mammals. The lanky birds keep very close to the animals, at times strutting between those giant legs, occasionally enjoying free rides on animal back. You may have wondered, what exactly are the delicate looking birds doing with the ponderous animals?

As the animals move in grass, they disturb insects, like grasshoppers and flies, and it is these insects that the birds are after. The birds follow

people in grass for the same reason. So successfully have these egrets exploited this food source that it been found now that the cattle egret spends very little of its energy and procures more food by associating with the animals. When riding on animal-back, the birds pick off ticks, blood-sucking flies, sometimes even exploring the insides of the animal's ears, and occasionally even the mouth-sides. Wherever this bird has spread, it has taken to associating with grazing animals and hence also the name of the bird. The bird has also been observed following tractors at ploughing times, also for dis-

turbed insects.

June to October is the period when this and all other egrets are breeding here. By late May the cattle egrets have acquired the rich buff on their backs and heads and are all set for nesting times. Large mango, tamarind and banyan trees are preferred for nesting and several species frequently nest together in colonies, creating quite an uproar with all their chattering and guttural croaks. Their white droppings splash the ground below the tree and often such colonies are built on trees in crowded city localities.

## Pocket liquid-crystal TV sets proving popular among Japanese

By A Staff Reporter

Japanese people can now carry their colour televisions around with them thanks to the appearance on the market of compact liquid-crystal sets that are small and light enough to fit into a pocket.

Three leading watchmakers came out with liquid-crystal colour TV sets during the summer, and the product seems to be catching on. Indeed, some observers predict that it will eventually become as ubiquitous as the transistor radio.

The Seiko group put out the first of these pocket liquid-crystal colour TV sets in August last year. Despite its rather expensive price of 84,800 yens (\$385), the two-inch set sold well among management-class people over 30 years of age, probably because of its novelty.

The Seiko group put a new model on the market last May, and the cheaper price of 58,800 yens (\$267)

attracted a wider range of consumers, particularly young people. It became less of a rarity to see an office worker returning home by train in the evening with earphones plugged into a professional baseball game on a liquid-crystal TV set.

Hot on the heels of the Seiko group came not the electric appliance makers as might be expected but two other companies in the watchmaking field: Casio Computer Co. and Citizen Watch Co. Casio came out with a 2.6-inch model priced at 58,000 yen (\$264) in May, and Citizen followed with a 2.7-inch set at 54,800 yens (\$249) in June.

With the price of these colour sets steadily coming down, the cost of pocket black-and-white TV sets that went on the market in 1982 have now dropped to less than 20,000 yens (\$91). As a result, Japan's production of liquid-crystal TV sets, including both black-and-white and

colour, is expected to exceed 600,000 for 1985.

Liquid crystal is a viscous liquid that also possesses qualities similar to those of solid crystal. There are several varieties, but from the point of view of optics, most are transparent. When electricity is applied to the liquid crystal, however, the particles of the liquid crystal shift to shut out the light, much in the manner that the slats of a window blind shift angles to cut out the light when the rope is drawn.

A pocket liquid-crystal TV set with a 2-inch screen utilises about 50,000 dot-like particles of liquid crystal. This liquid crystal is inserted between two transparent electrode plates so that when electricity is either applied or out, the liquid crystal particles rearrange themselves accordingly, becoming white where light is passing through and black when light is shut out.

This is how black-and-white liquid crystal TV works.

In the case of colour TV, a colour filter is applied to the basic black-and-white TV device. Three filters for the three basic colours red, green, and blue are placed at the light-entry point, and the liquid crystal particles respond to TV colour signals by allowing designated amounts of light to pass through the respective filters. For instance, when the TV signals red, the particles let the light through the red filter so that red appears on the screen. In other words, the liquid-crystal TV utilises the liquid crystal as a sort of shutter to differentiate in the use of the colours.

The time will soon come when home TV sets are liquid-crystal sets that hang on the wall. Electric appliance makers and others are now busily engaged in research and development along this line.

## PAGES FROM A NATURALIST'S DIARY / Sunjoy Monga

## Encounter with the Hanguls

I was comfortably settled atop a fallen log on the banks of the gurgling Dagwan river in Kashmir's famed Dachigam National Park. With a 500mm lens fitted on my camera, I was waiting for the yellow-billed blue magpies (beautiful, long-tailed birds of the crow family) to come to the water. All of a sudden, there was a crashing sound from just across the river, only 20 feet wide at this spot. A deer smashed its way through the vegetation on the other side and came to the water. Six more followed. They had their drink of the cold water and throwing a cursory glance at me went their way into the forest.

The incident occurred a few weeks ago and I had many similar encounters with the deer in Dachigam. The deer I am talking about is the Hangul or what is also known as the Kashmir stag. I have been fortunate enough to spend more than two of the past five months in Kashmir, almost a month of this in Dachigam which is the home of the Hangul. And what magnificent home it is!

The Hangul is a race (sub-species) of the European Red deer, there being another race called Shou, found in certain valleys of Bhutan and in the Chumbi valley of Tibet. However, it is the Hangul that is the better known Indian race.

## Population dropped

Found only in certain parts of the vale of Kashmir, the total Hangul population had dropped to a miserable 140 in 1970. The magnificent animal has only recently been saved from near and sure extinction.

The dedicated efforts of Mir Inayat Ullah, the dynamic chief wildlife warden of Jammu and Kashmir, and his enthusiastic staff have been key factors in ensuring the conservation of the Hangul and its home—Dachigam—itsself a very important region for Srinagar and the valley.

Though several reasons have been put forth for the drastic condition the Hangul and its home was brought in, by far the most serious factor that nearly put the Hangul on

the 'extinct list' has been poaching by man.

From the all-time low of barely over a hundred animals in 1970, the population of this splendid deer is today believed to be in the region of a reasonably healthy 600. E.P. Gee, the well-known naturalist of yesteryears, had estimated between three to five thousand animals early this century. A couple of thousand animals were present even till 1947, after which the poaching incidents shot to an all time high.

Though Dachigam—one time hunting grounds of Maharaja Hari Singh—is the stronghold of the Hangul, the deer has of lately been observed in the Oweria sanctuary near the hill-resort of Pahalgam and in several other nearby valleys, adjacent to Dachigam. Good signs at last. However, good 'ol Kasim Wani, the grand old man of Dachigam (he has seen more decades in Dachigam than any other person living and even at his 70 plus age, he has retained his magnificent eyesight and hearing) informed me that till about four decades ago there were so many deer that during the October-mid-November rutting months, one could hardly get any sleep because of the incessant 'roaring' calls of the males at this period. I could only nod in astonishment.

I am told that during the critical period for the Hangul when its population has slashed to very low, sightings of the deer were very difficult. Today, one can almost be guaranteed of seeing the deer (well, almost always) in a few hours on entering Dachigam. Indeed, at times people have seen Hanguls immediately on entering the park, hardly a couple of hundred metres from the main gate, barely 20 kilometres from the heart of congested Srinagar.

Dachigam can be divided into lower and upper Dachigam. In July-August this year, I had gone to upper Dachigam. Remote, breathtakingly beautiful meadows covered with dozens of kinds of flowers and awesome rocks greeted



Hangul stag in velvet (Photo: Sunjoy Monga/Sanctuary Magazine)

me when I reached Marsar, the origin of the Dagwan river which then flows through lower Dachigam and into the Dal lake. The Upper Dachigam areas, between 9000-14000 feet are the summer homes of the Hangul. I saw deer here in August at heights of well over 12500 feet. August and September are the times when Hanguls are in velvet (getting their new horns) and are approaching the rutting season which

commences in October. I was very lucky to be able to spend an entire rutting season with the Hanguls. Rut is the periodical sexual excitement in deer. It is at its peak in October in the Hangul.

The handsome males, their majestic antlers now in full glory, blast forth their loud, roaring calls that are so commonly heard all over the area now, more frequently between 5 p.m. and 10 a.m., though intermit-

tent calling may continue throughout the day.

Each male now establishes his territory and has got his harem which may consist of three to six females, won over by the stags following stag fights that can be a treat to watch. Many deer are now in lower Dachigam and as autumn—with all its incredible colours—passes into the bleak winter, many more deer have begun to come down. In particularly bad winters, the deer can collect in large flocks and it is during the winter that sightings of Hangul are easiest, the deer at this time coming just outside the bungalows and the interpretation centre in lower Dachigam. Many can be observed together at the various saltlicks where park authorities regularly put salt for the animals to lick.

## Freaks out

Just at the approach to winter, the horse chestnut trees are loaded with ripe nuts which begin to fall onto the forest floor. The Hangul, to put it lightly, simply freaks out on these nuts, and on the flowers, feasting on these till they can eat no more. In fact, the Hangul is known to have got its name because of its love for the horse chestnuts. 'Han' is the Kashmir term for horse chestnut. By early November Himalayan langurs too have arrived in lower Dachigam from their higher homes and Hanguls have formed large herds. By mid-March, the stags have dropped their antlers and are now ready to move up, to the higher reaches of Dachigam, in the open rolling meadows of Kashmir. The young are born sometime in May.

When I left Dachigam on a cold November morning for the Srinagar airport, a male, now past his rut, along with his harem of four females, reached me almost to the gate. I obtained some pictures from barely 20 feet away, with just my normal lens, because I had packed most of the other equipment. For 15 minutes, the grand stag stood looking at me. Eventually, I had to take leave. The Hangul stag remained there.

**Sulphur:** Dermatitis caused by hair dyes.

**Bovista:** Dermatitis in bakers, specially around fingers.

**Kali Bichromicum:** Dermatitis after consuming alcohol.

**Antimony Crud:** Dermatitis after eating meat.

All the above mentioned medicines should be taken in 200C potency, five pills every two hourly till the allergy subsides.

I have mentioned some of the common allergies but there are a number of hidden allergies as well.

Very often people try to treat these allergies with standard anti-allergic drugs (antihistamines) available in the market. These can give only temporary relief because they do not cure the root cause of the allergy. And once the allergy becomes chronic, even that relief cannot be obtained along with anti-histamines. This can be dangerous, leading to side effects which could be worse than the original problem.

The point to remember is that each allergy is different according to the individual who has it and therefore it has to be treated differently, one from another.

Homoeopathy has a way with allergies that is unique, effective and free from side effects.

## Safe way to cure skin allergies

Allergies affecting the skin take many forms, the most common being eczema, urticaria (hives), angioedema (swelling of subcutaneous tissues), and contact dermatitis. Among the most common causes are foods, cosmetics, fabrics, metals, plants and flowers, plastics, insecticides, furs and leather, jewellery, and many industrial chemicals. Studies of patients who seem to be especially sensitive to skin allergies show that they have higher than average amounts of a body protein called 'immunoglobulin E' in their system.

## Cosmetics and jewellery

A wide variety of cosmetics and jewellery can cause allergic reactions through skin contact. Even jewellery that is presumably pure gold can contain a certain amount of nickel which will produce a mild reaction that causes a skin discoloration, sometimes aided by chemical activity resulting from perspiration in the area of jewellery contact.

Among cosmetics that may be involved in allergic reactions are certain permanent wave lotions, eyelash dyes, hair sprays, etc.

## Contact dermatitis

Dermatitis is the term used for an inflammation of the skin. The term used for allergic reactions of the skin resulting from surface contact with outside agents is contact dermatitis. This condition is characterised by a rash and may be brought on by sensitivity to cosmetics, plants, cleaning materials, metal, wool and so on. Other forms of dermatitis can be caused by excesses of heat or cold, by friction, or by sensitivity to various medicines. Dermatitis is usually accompanied by itching at the site of the rash.

## Emotional factor

Another important factor with regard to skin allergies is the effect of

**THE  
MEDICINE  
CHEST**



By Dr. Shirin J. Wadia

emotional perturbation. If you are worried, anxious, tense, if you strive too much and beyond your strength, then what your body's protective system may become your enemy, and you may suddenly develop a severe allergy to certain foods. The state of your emotions is a biochemical state and your body's state of health is also a biochemical state. Consequently they will affect each other. Indeed, in the most delicate yet inescapable scientific sense, they are one another.

## What to do if you have an allergy

Homoeopathic science is a more or less complete science which believes in treating each individual separately according to the symptoms of the patient. It is extremely difficult to find out the "al-

lergen" which causes the allergy—therefore it is best to treat the whole individual and raise his or her physical as well as mental health to such a level whereby allergic reactions are minimised.

Going through my old cases, I find among them a few extremely interesting ones which I would like to share with you.

A very attractive young wife of a business executive came to me with her problem. Every time her husband desired sexual relations she broke out into severe body rash—this problem was naturally breaking up their married life.

Now this was a case of emotional allergy. On probing I found out that she had developed an unconscious hatred for love, affection and sex after a disappointment in love earlier in her life. I treated her with one of the important homoeopathic remedies, **IGNATIA**, which is known for its usefulness in calming the mind and at the same time healing mental trauma.

Ignatia helped to a certain extent but **Natrum Mur** (common salt) gave back her happiness and emotional stability. Today the couple have children and are enjoying a happy married life.

In many cases I have found that some allergies are a convenient, though unconscious, means to gain attention, avoid social gatherings, and demarcate sexual relations. In the confines of a marriage problems have a way of being transmitted into acceptable forms. Direct sexual rejection may threaten status, but to suggest that an allergy is the cause leaves the allergic an escape route. Indeed, many psychiatrists identify hysteria as a major component of many so-called food allergies.

A 15-year-old boy was brought to me with an eruption on his index

finger of the right hand which at times used to ooze out. He had tiny water blisters with tremendous itching which made his life miserable. At times due to the eruptions he was unable to even write. All this started after a minor cut on his index finger. He was treated with various ointments and anti-allergic drugs but after temporary relief the problem would recur.

After probing I was very sure that it was the 'mercurio-chrome' which was applied to his finger that might have led to this allergic dermatitis. **Rhus Tox 200C** was given to him which cleared his fingers with tremendous speed and without any recurrences.

**Rhus Tox** is also very useful when skin allergy is due to soaps.

**Petroleum:** Contact dermatitis because of petrol, kerosene or petroleum products.

**Graphites:** Contact dermatitis in diamond merchants because of diamonds.

**Cantharis:** Dermatitis because of burns.

## INSIDE POLITICS

## ■ contd. from p. 7

Nehru. Those who float these stories forget that Rajiv Gandhi wishes to keep everyone in his place, claims of being 'very close' to the prime minister notwithstanding.

In fact, there is strong reason to believe that some of the tycoons who are perturbed by V.P. Singh's anti-tax evasion measures have themselves sold the idea of taking away the key enforcement and intelligence agencies from him and giving them to Arun Nehru with whom they think they can do business. Nehru was the custodian of

funds under Mrs. Gandhi in her last years, if you remember.

That he and V.P. Singh do not get along well is no secret. Their lack of mutual fascination stems from the days when Singh was U.P. chief minister and Nehru was Mrs. Gandhi's hatchetman in general and UP in particular. Nothing has happened to evoke any admiration in one for the other since then. V.P. Singh, however, has an unmatched reputation for integrity among Congress-I men, a sense of humour and a balanced approach to administration.

# Friendly neighbourhood spider

By Sunjoy Monga

During the monsoons and for a couple of months after that, my room is a paradise for observing spiders. Fourteen different varieties I have recorded here and very few houses must there be that escape the invasion of spiders, strange creatures with a small body and four clumsy pair of legs wobbling in all directions. 14 different varieties are recorded in my livingroom itself during the season. One cheeky little one, with a body barely two millimetres in size happens to be my favourite. This one seems to detest ants which also form a good chunk of the wildlife of my room. The little spider chases the catches ants, presumably paralysing them. It never goes to the tangled mass of webs that occasionally are such a prominent feature of the room.

It is commonly believed that spiders are insects. This is but a misconception. Spiders, along with mites, ticks and scorpions, belong to the group Araneida. Unlike the insects, spiders have eight legs and they lack wings and antennae. Moreover, spiders have a merged thorax and head, the abdomen being conspicuous. Insects have six legs and a distinct head, thorax and abdomen.

If there is any characteristic most readily associated with spiders, it is the remarkable webs they make. At first sight, many of these webs appear nothing more than highly disorganised complications built by crawling little creatures. Look closely and you will realise that these jumbles of webs are in fact highly systematic and competent traps in which insects get caught.

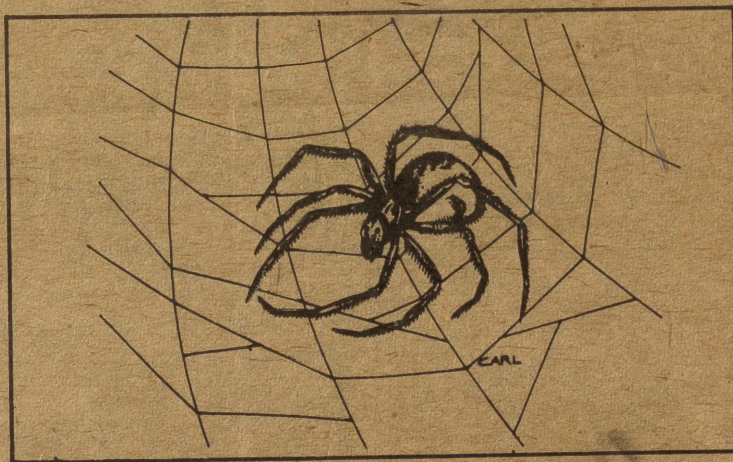
Every line and circle serves a purpose.

These webs are made of silk threads that are fabricated by spiders themselves. These very fine silk threads are discharged by spiders from special silk glands called spinnerets, located in their abdominal region. Though these threads are very fine (as thin as .00001 cms), and flexible, they are known to be many times stronger than a steel fibre of similar thickness.

## Great abundance

The silk plays a most important part in the life of spiders. It is because of this delicate looking silk and the great uses it is put to by spiders that almost everyone seems to know spiders. Encounters with a near-invisible web brushing across the face can be extremely irritating. At certain times of the year, spiders are to be found in great abundance. In the next few weeks the hills and the open country around Bombay would suddenly be teeming with spiders and their webs. Places where there was no activity of any kind in the past few days, there suddenly sprout silken snares.

The commonest of snares are circular in shape. Innumerable lines run from the centre to nearby branches and leaves, and, and there is a series of concentric silk circles with joints in between. In a few weeks from now the Giant Wood Spider would make its appearance in the National Park of Bombay. Its remarkable web, often several feet in diameter would then be a very common sight there, occasionally built right across park roads and



even across streams. One of the lines running from the centre of the web leads to a retreat, usually in some rolled leaf and here the spider is most likely to be seen if absent in the centre of the web. Watching spiders at work on the silk webs is a thrilling experience.

Not all spiders spin silk-webs though. Some, like the jumping spiders and wolf spiders stalk their prey on ground, either pursuing patiently or chasing. Their telescopic eyes are the key to their success in surviving without the complicated snares so typical of spiderland.

The circular and related snares are certainly amongst the most complicated. There are, however, many spiders that demonstrate fabulous diversity in web-weaving. Some build under stones and others make funnels in burrows in earth. Some

are called trapdoor spiders while there are others that first make a circular snare in a horizontal position and then proceed to raise the centre of this, thereby forming a tent or a dome. A few species live in communities and build the most chaotic webs imaginable. Orb spiders decorate their webs with more silk and are amongst the most beautiful of snares.

## Female spider

The female spider is invariably much larger than the male and she occasionally devours the tiny male and is generally more aggressive than the male. Courtship displays are known in many species and in some the male is known to gift the female with some insect—a 'snack'. Actual copulation among spiders is rather complicated and the tiny

male usually scampers away soon after mating.

The female spider makes the web and she also makes the cocoon for the protection of the eggs. This is yet another difference from insects where it is the larvae that make cocoons for the pupa stage (pupa is stage after larva). Spider cocoons too have a remarkable diversity in size, shape and location. Some are attached to leaves, yet others to grasses, stems and in burrows in earth and in the bark of trees. In some species the cocoon is attached to the main web itself and they are all so wonderfully elegant that they set us thinking as to how do these frail looking, monstrous creatures accomplish such marvellous work. The tiny male spider does no work in any of the building or caring tasks. On hatching, the young which emerge are an almost exact miniature of the adult.

Spiders are carnivorous and they feed largely in insects. They do not ingest solid food and suck the victims dry. Prior to this, the victim is paralysed.

Spiders are generally looked upon with contempt. They are unfortunate victims of baseless superstitions. But the fact is, that these little beasts play a very important role in nature. They are a natural check on insect populations. Spiders are today used in research work, particularly in human biochemistry and in medicine. Some spiders were even test subject in the skylab space programme in 1973 for studying the effects of weightlessness in space on the web-spinning ability of these tiny weavers of silken snares.

ARTHERA OON

## PAGES FROM A NATURALIST'S DIARY

## Cock roaches: The living fossils

By Sunjoy Monga

Of the myriad species of animals that survive in the immediate vicinity of man and his manifold activities, perhaps none force themselves so revoltingly (by odour) upon man, as do the cockroaches that live with him.

Related to the praying mantises, the cockroaches or roaches as they are popularly known, have been on earth for almost three hundred million years, thus making them amongst the oldest surviving animals on earth. Fossil finds show that several species were inhabiting the planet during the age of the great coal forests or what was also known as the Upper Carboniferous period. Because of this, the roaches, which have remained virtually unchanged for so long, are also known as 'living fossils'.

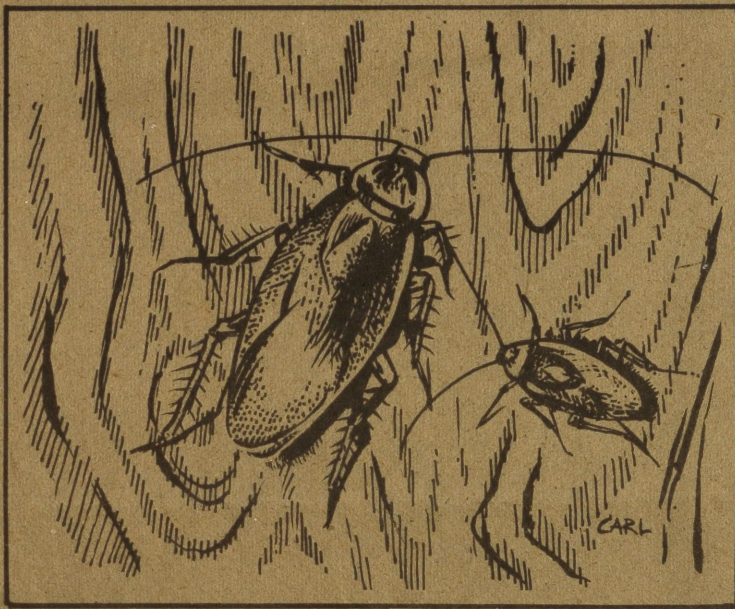
There are well over three thousand species of roaches, distributed almost all over the world. Ranging in size from less than a centimetre to more than two inches, most roach species are shades of brown and black, though a few are brightly coloured. Their very long antennae function as extremely competent sense organs.

**Protective covering**

Of their two pairs of wings, the fore-wings or the frontal wings are thickened and serve as a protective covering for the frail hind wings, just as in the beetles. It has been considered that roaches have, since earlier times, taken to a very subdued and simply way of living, a habit from which they have hardly changed. This could be an important reason for their very long existence.

A majority of the roach species are wild, living predominantly in decaying vegetation. Thriving in putrefying environs appears to be a characteristic trait of roaches. The wild ones are basically scavengers on other insects and on animals and fruits, largely among the leaves and rotting vegetation on the ground.

It is, however, the roaches found in and around our homes that we are more familiar with and which, we normally observe. Most of these are originally from the tropical and subtropical areas of the world. The



scavenging opportunities and the warmth provided by man and his many activities, have greatly profited these roaches, that have been living around man for a very, very long time now.

In fact, several of the species have spread their range on earth with the help of man himself, getting transported across the seas and oceans by ships, and of course by several modes on land.

Once these insects have established themselves around us, in our houses and stores and offices, they go about the task of making their presence felt. More than their appearance (which is good in some species), it is the fouling habits—the stench from droppings—that gets onto our nerves. And these terrible roach odours are mostly in kitchen drawers, cupboards and food-storages—places giving them ample warmth and facilities for scavenging.

And to top all their loathsome habits, the roaches are not at all finicky about their food. Anything edible serves the purpose and often these insects eat items that are far from edible: items like book-bindings, cloth, inks, paper, etc. The very flat body-form helps these roaches to take shelter in places

which are otherwise inaccessible. Places such as fine crevices, under barks, behind water-pipes. These insects can fly too, though most people may not have seen them flying the insects preferring to scuttle about to safety.

Most species of roaches are active by night though a few of the brightly coloured ones are diurnal or active by day. Though one often sees roaches moving about during daytime, it is most likely that they have been disturbed at their roosts in kitchen drawers, shoes and such other places.

Roaches lay eggs in a hard case called ootheca and anyone who has seen roaches (who hasn't) must have seen their egg-cases too. The sites for depositing these cases are many and the female may sometimes be seen carrying a case until she can find an appropriate site, generally in one of the drawers in your house and often

among books and clothes.

On an average, an ootheca contains between 12-30 eggs and these split after five to eight weeks. The tiny cockroachlings (my newly coined term) are pale-coloured (almost white) miniatures of the adults. The young lack wings, initially, but moult several times in the many months they take to mature.

Many kinds of insecticidal powders and sprays are regularly introduced into the market, to fight-off roaches. Most of these remain effective for short periods only, the roaches soon developing immunity to these anti-roach-campaigns.

Though the roach stench is not liked by anyone, I must say that none of the species are known to cause any kind of disease to man.

The common roach is widely used in laboratory work, as a kind of introduction for students, to entomology or the study of insects.

## Why smokers put on weight when they stop

By Pearce Wright

Doctors have discovered that people who smoke cigarettes expend 10 per cent more energy a day than non-smokers. Hence, when they stop they will put on weight unless they change their diet or increase their exercise routine.

This finding by a group of Swiss and Swedish scientists shows that the full benefits to be gained from stopping smoking require more than the willpower of abandoning the habit.

A large number of individuals return to smoking because they put on weight after stopping. A better understanding of the reason could encourage them, because they would know of the extra effort expected in their initial struggle.

Eight healthy, but cigarette-smoking, volunteers in their twenties, took part in the experiment. Each one spent two sessions of 24

hours in a metabolic chamber, in which diet and physical exercise were carefully monitored. In one session the volunteers were allowed to smoke, and in the other they were not.

The conclusion was that cigarette smokers expended more than 200 calories in 24 hours more than non-smokers.

**Potential weight**

When this is converted into potential excess weight, the scientists calculate that a gain of up to 10 kilograms could be expected unless the calorie intake or exercise regime changes.

An account of the experiment by a team working with Dr. John Wahren at Huddinge University Hospital, Stockholm, is published in the *New England Journal of Medicine*. The report says previous studies of cigarette smoking and energy ex-

penditure made measurements of periods of between five and 30 minutes.

The whole-body energy monitoring over 24 hours also noted when the physiological effects due to cigarettes stopped. Within 24 hours, the excess energy expenditure also stopped.

The scientists are not certain about the mechanism of cigarette-induced stimulation of energy but they believe it is at least based in part on the response of the nervous system. That was observed by an increase in the amount of the hormone, norepinephrine, produced by the body.

## Spinning power for spacecraft of future

By A Correspondent

The physical effect that allows skaters to spin more quickly by folding their arms across their chests, or more slowly by extending them, lies behind an intriguing proposal for making a new generation of spacecraft.

The ideas were discussed last week by scientists engaged on the advanced space flight programmes of the American National Aeronautics and Space Administration (NASA), while they were waiting for the troubles which delayed the latest shuttle flight to be ironed out.

The new machines have futuristic names such as launch loop and star bridge, in their most advanced form, the vehicles would tap the kinetic energy of the earth, the planets and objects in motion about them.

Tentative steps have been taken toward this goal, with tests planned for 1988 when the space shuttle unreels a 62-mile cable to which a satellite is tethered.

The intention is to unreel the cable above the shuttle. When extended fully the line will be tightened, and if the principle is correct the satellite will rise. When the cable is released the satellite should continue moving to a higher orbit.

By the same token, the shuttle should lose momentum and drop into a slightly lower orbit. A similar application of the principles of angular momentum to manipulate the energy of the body due to its motion happens with skaters. If they grip weights in each hand, the principle can be exploited to enhance the rate of spin.

Employing the effect to design more efficient space vehicles must rank as an exercise in keeping with Dr. Edward de Bono's best lateral

■ contd. on p. 13

# Never neglect a sore throat

"The voice is the organ of the soul", said Longfellow.

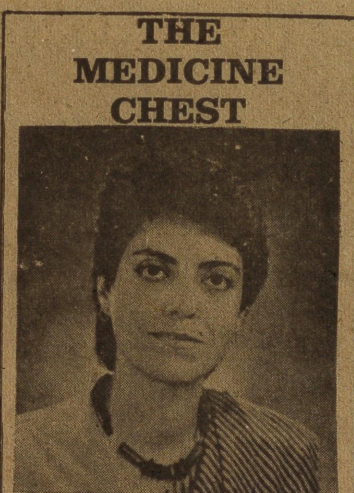
But Longfellow was not a physician, bless his vocal soul; or else he would have given you more mundane and imaginative descriptions like I am going to do today.

Nor did he have to handle voice problems like I do when post-election politicians, over-worked ghazal singers and harassed teachers hoarsely whisper their problems to me. Longfellow's "organ of the soul" has many enemies today, cigarette smoke, chemical gases, fungi, bacteria, viruses, anti-exhaust, over-work and even emotional strain—all of which can result in hoarseness.

The problem is the modern man thinks he has ready answers to hoarseness in things like throat lozenges which only give him a deceptive sense of temporary relief. The problem of hoarseness very often needs more specific handling. To understand hoarseness and how to handle it we will have to look at those mundane descriptions of the mechanism that produce the voice.

**The voice organ:**

The voice is produced by an organ called the larynx or the voice box. It is a cartilagenous box in the upper part of the trachea. This box has bands of ligaments extending across it. These are the vocal cords. When air from the lungs is forced through these vocal cords sounds are produced. These sounds are what we call the voice. The quality and pitch of the voice are controlled by an intricate muscular system which either narrows, or opens wide these



By Dr. Shrin Wadia

vocal cords to produce either high pitched or deep sounds respectively.

**Laryngitis:**

The voice gets distorted when the larynx is inflamed because of any one of the already mentioned "enemies" or even by more serious problems like polyps, tumors, cysts or even cancer. An inflammation of the larynx is called laryngitis. Homoeopathy has a wide range of medicines to offer for the treatment of laryngitis or hoarseness which may be due to various reasons. The relief obtained with the help of the right homoeopathic medicines is longer lasting and without side effects. However the medicines must be given according to very specific symptoms.

**Hoarseness due to over work:**

The recommended medicine is *Arnica*. Whenever you experience a sudden loss of voice due to loud singing, constant speaking or screaming, *Arnica 1,000 C*, five pills every two hours will give you your voice back.

When the loss of voice becomes a chronic problem as in the case of a public speaker and professional speakers, *Argentum Nitricum* is recommended. The symptoms are loss of voice accompanied by pain and a feeling of something being struck in the throat which you try to clear. Thick mucous comes out while coughing. The throat feels worse after eating, especially sweets and cold food. Take *Argentum Nitricum 200 C*, five pills six times a day.

**Hoarseness due to colds:**

This starts with a cold and discharge from the nose which cause raw and sore feeling in the nose. There is a raw feeling even at the roof of the palate with harshness of voice. The voice becomes worse after talking. In such cases *Arum Triphyllum* is indicated.

When hoarseness is due to exposure to dry cold winds, *Spongia* is indicated. The symptoms are dryness in all air passages including the throat, loss or hoarseness of the voice with a dry barking cough which seems to get better on drinking warm liquids, and a feeling of constriction and choking in the throat.

**Hoarseness due to emotional strain:**

Sometimes you can lose your voice due to sudden fright. Like a

12-year-old boy who was brought to me for treatment. For two years he could not speak. He lost his voice after a burglary in his home to which he was a witness. I gave him *Opium* in 10M potency which brought back his voice.

*Ignatia* is indicated in cases of hysteria when the slightest emotional strains can cause hoarseness or loss of voice.

**Hoarseness due to getting wet:**

In the rainy season a lot of people develop severe colds. They develop hoarseness specially at the beginning of a speech but as they continue talking the voice becomes normal. *Rhus Tox* is recommended. The other remedy is *Dulcamara* for the same symptoms but when the voice does not return to normal after continuous talking.

Children who develop hoarseness after measles or children pox have been successfully treated with *Malandrimum*.

**The cancer scare:**

The larynx is one of the most vulnerable spots for cancer. Therefore never neglect a hoarse throat especially if it is prolonged. Get a thorough check done, because once cancer gets out of hand you will have to remove the larynx. This means the end of your voice.

All other cases of hoarseness however can be easily and effectively treated by homoeopathy. Only, make sure of your symptoms and the medicines you take.

## PAGES FROM A NATURALIST'S DIARY / Sunjoy Monga

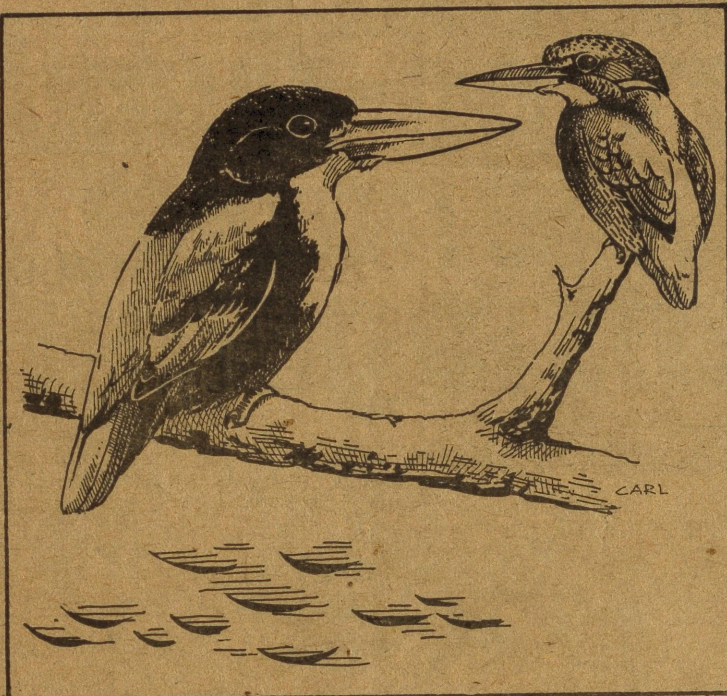
## Kingfishers—models of patience

A couple of weeks ago I had taken an Australian friend to see the Byculla zoo (Jijamata Udyan). While my friend was busy deploring the horrid conditions of Bombay's rathole of a zoo, an earsplitting cackle shattered whatever peace there was.

The next instant, the screaming devil settled over us. It was a bird and the Aussie was overjoyed. He could not believe that a bird so fabulously coloured could survive 'wild' amid the stink-pot of filth and humanity that is Bombay. And central Bombay, where Byculla lies, is as bad as bad can be. The bird was a white-breasted kingfisher, a member of one of the most brilliantly coloured bird families of the world.

Now the zoo is not the only spot in congested Bombay where I have seen this bird. Often, when travelling by train, I have had the pleasant surprise of observing this massive-billed, blue bird with a prominent white shirtfront, perched on the overhead wires along the tracks. I have seen it so perched in the very heart of the heavily-gassed textile belt of Bombay, between Elphinstone and Mahalaxmi railway stations, occasionally in the vicinity of the Shakti mills compounds. And at times, I've got a glimpse of this ricketeer in the Malabar Hill environs, in the Raj Bhavan grounds and further south, in the US club grounds and neighbourhood. And in north Bombay, this is a fairly common kingfisher. It is in fact the kingfisher that is normally seen away from water and were it not for its typical kingfisher-like appearance, there is very little of the other preferences, so characteristic of the family.

Besides the white-breasted species, there are at least four others that I have observed here. None of these others however, have the white-breasted's knack of making



their presence felt. Two varieties which visit Bombay on and off are the Black Capped and the Pied kingfishers. The former is a gorgeous bundle of radiant purplish-blue, black and rust, with a coral red bright beak. A bird more or less restricted to the sea coast, the black-capped in flight shows prominent white patches in its wings, just like in the white-breasted. The Pied kingfisher is a very uncommon visitor, I presume, for I have seen it only twice at the Powai and Vihar lakes, it being a common bird on the mainland (across Bombay).

When one talks about kingfishers, none of the above-mentioned species come to mind. What then, one recalls, is that flashing streak

of electric blue over the water surface, on some pond or lake or river. That tiny blue bird is the champion kingfisher and is appropriately called the common or the little-blue kingfisher. Only its small size and silent nature, save for a shrill call in flight, make this species less often seen than its boisterous white-breasted cousin.

## Common bird

The little blue kingfisher never really moves far from water. It is a fairly common bird on all the lakes here and only rarely does it wander to the seafront. This little gem has been observed robbing exotic fish from a fish tank on the tenth floor of

a high rise apartment in south Bombay and I have observed this bird at 5,000 mts altitude in Ladakh. This is also the commonly seen kingfisher on the famous Dal lake of Kashmir where one may see this bird from very close quarters.

Kingfishers with their spearlike beaks are a treat to observe. Settled on a perch, such as a tree stump or a rock, over the waters, the bird is one of the best examples of patience. Often it remains so, unmoving, for several hours at a stretch and when a suitable quarry has been sighted in the water, the bird plunges like a bullet and for a few seconds it has vanished underwater. At times the bird hovers over the water. The charming Pied kingfisher, a common bird on the Indian rivers, is the hovering maestro.

## Feeds on fish

It feeds only on fish and generally flies between 10 to 25 feet over the water, uttering a twittering note as it flies, which once heard is unmistakable. Suddenly, on sighting fish, the bird kind of stops in flight and begins to hover. While hovering the wings beat rapidly and the long beak points straight down into the water. Then, after some inbuilt mechanism tells the bird that all systems are working fine and on target, the bird plunges headlong into the water at an astonishing speed. Often a dive is unsuccessful and the bird may start all over again. Occasionally the bird may even stop in the middle of a dive and hover once again, as though a final check and aim. The white-breasted kingfisher rarely feeds on fish and its main food items consist of frogs, insects and even lizards, the bird capturing these on the ground. It also remains on a lookout on some perch.

That dagger shaped beak performs

another very important and remarkable task besides fish catching. Kingfishers dig tunnels in the earth for nesting purposes and for the digging operations the fisher's beak serves as a drilling-cum-shovelling tool. A tunnel-nest is usually excavated on a mudwall, either along the roadside or along a water body. The bird clings on the earthwall and uses its long beak as a drill and shovel. Both sexes take part in nesting purposes and nests may vary in length from one to six feet. In a broadened chamber at the tunnel-end the white eggs are laid. Most species breed during the hot months of March to May and when one observes these brilliantly coloured gems flashing in and out of a hole in a mudbank, it could mean that there are hungry young ones to be fed inside. And kingfishers do not believe in nest sanitation, the droppings of the young and the uneaten fish bones accumulate in the nest, sometimes giving off a foul smell.

## Breeding

And when all the kingfishers have finished breeding and when the monsoons sets in, then arrives the smallest and most resplendent of our fishing kings. This is the Indian three-toed forest kingfisher and it comes to the National park to breed during the rains. Mr. Humayun Abdulali tells me that many many years ago, this bird used to breed during the rains in Chembur and in several other areas. Today the bird can be seen only in the National park where it keeps to the wooded *nallahs*. It is a very difficult bird to see, it being very small and generally silent save for a squeaky call. Though the peak monsoon months are not the best of times for birdwatching in the park, I have sometimes gone there merely to get a glimpse of this kingfisher.

## How to put the stye on the blink

"You have been winking at girls." Your grandmother says as you peer painfully at the world around you. A typical old world attitude, that says "It's only an insignificant stye, stop making a fuss. But a stye can be far from insignificant for the person who has it, perched like some avenging angel on the lids of his windows to the world. Let us then examine this hurtful interference and see what we can do about it.

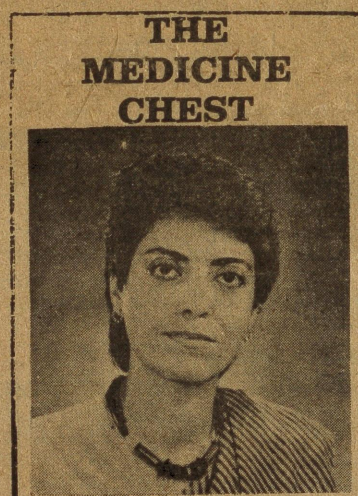
What are styes and where do they strike? The eyelids. The protectors of the eyes. Their opening and closing movements are controlled by muscles that lie outside the eye proper. These muscles can function both voluntarily and involuntarily. Blinking is an essential function of the lids. It helps the eye rest and keeps the cornea moist and clean. Tired eyes blink three to six times a minute. So you can see that anything that interferes with blinking can be quite an irritation.

A stye is an acute inflammation of a gland at the base of an eyelash, caused by bacterial infection. The gland becomes hard and tender and a pus filled cyst develops at its centre.

What do you do about styes? Normally people tend to take antibiotics to get rid of styes. At times antibiotics do not help and repeated attacks of styes take place. When the cyst refuses to dissolve they go in for surgery. This seems like the end of the story but it often isn't. A new stye may pop up at a completely different spot. So obviously getting rid of the stye is not the answer. Getting rid of the underlying infection is.

A lady came to me for treatment of a cyst situated on her left upper eyelid. According to her history she had already got these types of cysts removed by surgical methods. But after each removal a new one always came up, the only difference was that it came at different spots.

She said her symptoms always started with itching and burning in



By Dr. Shrin Wadia

the lids which provoked rubbing and scratching. She felt terrible dryness in her lids with a sensation of foreign body. Her itching and dryness of eyes was better by application of cold water. By evening she had a thick yellowish bland discharge. Then slowly a stye would develop which ultimately would become hard and cystic

*Pulsatilla* was given from low to high potency which gradually reduced the cyst completely.

Since *Pulsatilla* is also a constitutional homoeopathic remedy I gave it to her regularly for some time even after the cyst disappeared so that new one would not come. It has been five years since I have stopped the treatment but there is no sign of a new cyst.

*Chalazion* is a swollen sebaceous gland in the eyelid caused by chronic inflammation following blockage of the glands duct. The gland becomes converted into a jelly like mass, producing disfigurement of the lid. It may become secondarily infected,

where it will be painful and may emit discharges. Homoeopathic medicines can be used in helping the eye to normal. *Staphysagaria* is one of the specific medicines for this condition. It should be used in 200 potency to get quick results.

*Kali Carb.* This medicine is indicated when there is sharp tearing pain in the eyes with pressure above the eyelids. There is swelling and puffiness between brow and lid. Hot water fomentation gives temporary relief.

*Kali Carb* 200 potency will bring relief:

*Silicea* is a useful remedy when there is a cyst on the upper or lower eyelid with redness around the eye. There is aversion to light specially daylight which gives rise to sharp pain in the eyes. Eyes are very tender to touch and worse when closed. There is pressure in the upper eyelid with violent twitches like a splinter. Cold water application worsens the pain. Warm water gives relief. The patient gets relief on closing the eyes—because every time there is a draft of air, there is peering pain in the eyes.

*Silicea* 1M 5 pills every two hours

will help immediately.

The above mentioned drugs are normally used for treatment of styes. At times we homoeopaths come across complicated cases of styes and cysts. At times these cysts or styes come in the way of normal eye functions. People come to us when they are tired and fed up of repeated intake of antibiotics to subside the gland. When antibiotics don't help then they go in for surgery. In certain cases even after a surgical removal the stye shows up again.

My advice to you is spare the knife. Take to homoeopathy.

## Satellite to test Big Bang theory

By A Correspondent

The most ambitious attempt to test the theory that the universe was once squeezed into a volume the size of a table tennis ball is being prepared.

Scientists plan to produce a map of the sky which shows only the pattern of microwave and infra-red radiation that is believed to be a remnant of the Big Bang, which led to creation of the stars and galaxies.

The intention is to launch satellite called the Cosmic Background Explorer, COBE, which is being built for the American National Aeronautics and Space Administration (NASA). It will be ready in about two years.

A member of the design team, Dr. John Mather, of the Goddard Space Flight Centre, Maryland, in the United States, describes the equipment on board the spacecraft and its purpose in an article in the current issue of *New Scientist*. The scientists hope the investigation will test the popular idea that the universe started with a big bang.

The discovery of an all pervasive background radiation in the sky was made by Dr. Arno Penzias and Dr. Robert Wilson, from observations with ground-based microwave aeriels at the Bell Laboratories in the United States. The discovery earned them a Nobel prize 20

years ago.

An unusual and large scientific spacecraft has been devised to check, first, that the radiation is dispersed almost uniformly, as it seems, throughout the observable universe. In the process, the instruments will analyse the exact spectrum of this celestial back-cloth of radiant energy.

The measurements made since the original discovery shows the sort of radiation that would come from an object with an energy equivalent to 3K (three degree above absolute zero). The background radiation is described by Dr. Mather as the most important "fossil" of the Big Bang itself.

According to the theory, we now see distant galaxies receding from us and each other like fragments from an explosion. Although it is possible to deduce the event happened about 15 billion years ago, by in effect winding back the observed universal expansion, astronomers cannot say where the centre of the explosion was located because everything recedes from everything else as space-time expands.

In this picture of creation, the cosmic background radiation was the energy that filled the universe at the explosion, and it has since cooled as it expanded with the universe.

# The Great Indian Hornbill

By Sunjoy Monga

These pages are an appraisal of the various aspects and ingredients of nature. The observations are a result of the author's travels and experiences in different parts of the country. The diary begins with the Great Indian Hornbill, the logo bird of the Bombay Natural History Society (BNHS), one of the oldest scientific societies in India dedicated totally to the cause of natural history.

In 1894, a young one of the Great Hornbill arrived at the BNHS. For

hornbills found within India, the Great Hornbill is the largest. The adult measures slightly over four feet from the tip of the beak to the tail-end. This is the only hornbill with a white neck and white bars in the wings. The tail is white too, with a broad black band in the middle.

The rest of the plumage is largely black. The beak is crowned by a bulky, concave casque. The beak and the casque are largely yellow though in the male there is some black present.

It was during my recent trip to

barely six kilometres away. I never saw them enter Indian territory. The forests in which these huge birds are found are still intact and extensive in Bhutan. On the Indian side, in Assam and North Bengal, the habitat of this and numerous other species of hornbills is restricted to small pockets. The Great Hornbill is said to be hounded by the natives because its flesh is regarded as far better and tastier than that of any fowl or pheasant. This no doubt, is a very serious matter but far more depressing is the continuous and undiminished devastation of the huge stretches of forests. That is the main reason why this impressive bird is fast reducing in number. In India, this hornbill is found in the Himalayas from the Kumaon region (in UP) to Bhutan and Arunachal Pradesh and in the neighbouring areas of the north-east. It is also found in the western ghats from Kerala north to the neighbourhood of Khandala.

The birds fly high over the forested valleys and so noisy is their flight that they sound like a steam engine over the forest. One day in central Bhutan I observed two of them approaching a fruiting Ficus tree along the Manas river. The birds spent the next couple of hours gorging on the fruit. The Nepalese settlers in Bhutan joke that the 'homrai' (Nepalese name for this bird) gets intoxicated by the fruit. The birds certainly appeared very lazy after the big feed and this is when one can approach them quite close. They remain perched for several hours, appearing rather clumsy as they half open their beak and once in a while stretch their neck upwards, the beak open and pointing towards the sky as the bird blasts forth a guttural croak

which I presume is audible for at least a kilometre, if not more.

The principal food of the Great Hornbill is a large variety of fruits though it is also known to feed on small animals such as rats, lizards, young birds and snakes. The bird keeps to large trees.

A very interesting feature of this species is the remarkable punctuality in arriving on fruiting trees. On favourite trees, the birds arrive at almost the same time everyday. Much more remarkable however, are the breeding habits of this and the other species of hornbills. The Bombay Museum exhibit explains this well. When the female is ready to lay her eggs she enters a cavity and closes the door with a plaster of her own excrement which is strong and sticky. The males are known to help the plastering from outside. Finally only a narrow slit remains and through this the male feeds the female who is a complete prisoner till the eggs are hatched and the young are a few days old. The female then releases herself and once again the nest cavity is closed from the outside. The developing young are now the sole prisoners and they are continued to be fed from the outside. The birds maintain strict sanitation and they shoot out their droppings through the narrow slit. Hornbills breed between February and May and their nest holes are frequently utilised by certain other birds such as owls, parakeets and mynahs: an instance of maximum utilisation of resources in the world of nature.

**This column will appear every Tuesday.**



Illustration by Carl D'Silva

Bhutan that I became more familiar with this hornbill. I often observed the bird flying over the forests of the outer Himalayan slopes. Occasionally the birds would fly along the Ai river, towards the Indian border

the next 26 years he lived in the society's rooms. He was called 'William' and was affectionately known as the office canary. So intimately associated was he with those who knew him that he has now been rightly honoured in Bombay's Prince of Wales Museum's bird gallery. The museum exhibit shows the nesting habits of hornbills and the bird clinging on the outside is 'William'. Hornbill house (which houses the BNHS) is a permanent monument to this excellent bird.

Hornbills are so called because of their beaks, massive and horn shaped. Of the nine species of

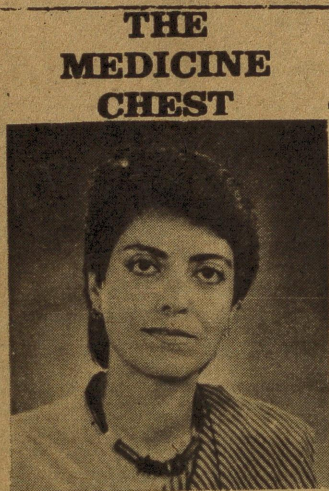
# Gout in women rare

Legend has it that gout afflicts the famous more often than ordinary people. Certainly many sufferers have been famous, for example, Benjamin Franklin, but gout can strike anybody, and there does not seem to be any scientific basis for the popular association of gout and fame. Some research suggests, however, a connection between I.Q. and uric acid, the level of which is elevated in gout patients.

Gout is an arthritic disease associated with an abnormality of body chemistry. There is an excessive accumulation of uric acid in the form of sharp urate crystals which may accumulate in the joints. Here they cause inflammation with symptoms like those of arthritis. A frequent target of urate crystals is the great toe, which is why we normally come across gout patients sitting in a bed with one foot propped upon a pillow.

**Primary gout:** There are two types of gout, primary gout and secondary gout. Primary gout is presumed to be linked to a hereditary defect in metabolism and afflicts mostly men. Women may experience the disease after menopause. The painful inflammation may develop overnight following an injury or illness, or after a change in eating habits. The patient may suddenly feel feverish and unable to move because of the tenderness of the affected joint, which becomes painfully swollen and red.

Although the great toe is a common site for the appearance of gout, it also may appear in the ankle, knee, wrist, hand, elbow or in other joints. A single joint may be affected, or several joints might be involved at the same time, or it may occur in sequence. The painful attack may last from one to two weeks or at times longer than that. The inflammation subsides even if it is not treated, but untreated gout may eventually result in deformity or



By Dr. Shirin Wadia

loss of use of the affected joint. During periods between attacks the patient may show no signs of disease except a high blood serum level of uric acid.

During acute attacks pain is very severe along with swelling and redness of the joint, which should be treated first. A homoeopathic doctor would treat the pain and inflammation along with uric acid. The main aim of a physician should be to treat gout with the idea of stopping repeated attacks.

**Belladonna:** This is one of the most important anti-inflammatory gout remedy. Suddenness is the key symptom. The patient is perfectly normal during the day, he goes to sleep and suddenly in the middle of the night wakes up with swelling and redness of joint along with throbbing pain. The slightest movement of the part results in excruciating pain. Repeated dosage of Belladonna in high potency will bring down the pain and inflammation very rapidly.

## THE MEDICINE CHEST

**Arnica:** This remedy is a specific one for athletes, sportsman, labourers and those who work in factories and workshops. In short, for people in whom gout develops after too much muscular and body strain. There is sore bruised feeling of the inflamed joint. The patient is very restless. Can't settle in one particular place because everything feels too hard and uncomfortable, there is also a great fear of being touched. He therefore becomes impatient and keeps people away. Arnica will help.

**Gout and alcohol:** Should patients with gout ever drink? In moderation, alcohol is not likely to give you any trouble. But if you are a heavy drinker alcohol is likely to give you lots of trouble. Even if you are on strong medicines and keep on consuming alcohol your life is going to be punctuated with repeated attacks of gout.

In homoeopathy, there is a remedy called Kali Biochromium which tries to reduce the effects of alcohol on gout sufferers. After consuming alcohol, the patient wakes up at night with severe pain in any joint. Severe pin-point pain. There is severe nausea and vomiting which is bitter and bilious in nature. Here, pains fly from one joint to another. Hot fomentation relieves the pain.

**Ledum Pal:** This is a specific medicine for gout when the affliction travels from down to up. There is deposit of chalk stones in the finger joints, wrists and toes—along with redness and swelling. Pains are relieved by applying ice. Normally, this pain is caused due to an excess of alcohol.

**A rich man's disease:** Gout appears to be an inherited metabolic disorder which prevents the body from dealing correctly with purines and substances which are either taken in as food or manufactured inside the body. One byproduct of

purine metabolism is uric acid. Normally, the body excretes the uric acid, it produces by metabolising purines, but the gout sufferer seems unable to get rid of the uric acid in his blood. The uric acid collects and begins to break down into sodium urate, which then causes inflammation of the joints, most characteristically the big toe.

Food rich in purine are sweet breads, ice creams, mithais and pork, organ foods like liver, kidney and brain—a diet for privileged class!

**Women don't get gout?** They do, but much less frequently than men do. The actual ratio is about 20 male victims for every woman with gout. Women usually do not develop the disease until after menopause, there seems to be a real basis for Hippocrates' assumption that gout is sex-related, which to Hippocrates meant that eunuchs did not get it nor did young boys.

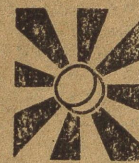
**Meadow saffron prevents gout:** Meadow saffron, an herb which has been used ever since the time of the Greeks to alleviate the symptoms of gout, is the source of homoeopathic drug 'Colchicum', which can help ease the pain of gout attack within hours. This has been used, in low potency.

Attacks of gout get aggravated in cold damp weather and during the rains. The striking feature of this affliction is its tendency to move about from one joint to another, from one side to another, from below upwards, or from above downwards with swelling or without swelling—first here, then there. Pain is worse in the evening from sundown to sunrise. Touch and movements cause excessive pain. Patient feels very weak and cold.

If the above symptoms match, Colchicum will not only relieve the pain but its regular use will bring down the serum uric acid level.

## Science in a capsule

### Hidden worries about the Pill



A bizarre anomaly exists in Japan of the prescribing of the contraceptive pill. The Pill is legal for contraceptive purposes but doctors are asked to prescribe it for gynaecological problems. For example, a woman who has irregular periods.

Initially the Pill was marketed because of the fears of sex, although now it seems to be used by those who run abortion clinics. Particularly vociferous women have moved to legalise and widen prescribing.

What is particularly worrying is that the Pills which can be prescribed on medical grounds are the ones that contain high doses of oestrogen—the very formulations which carry most risk of blood clots and other side effects. Needless to say there are plenty of women, with connivance of their doctors, who do take the Pill for contraceptive purposes, sadly they have no option but to take the ones that may cause them problems.

### How tea could be a killer



Take care if you like to drink scalding tea without milk. A report from the US, in the *Journal of the National Cancer Institute*, claims that the high rate of cancer of the throat found in Uruguay, especially among women, may be due to their predilection for mate tea.

This is an infusion of *Ilex paraguariensis*, and the hotter it is drunk the better. In other parts of the globe where there are high rates of cancer of the throat—including Iran and China—hot tea is also the order of the day.

### Deafness: it's in the blood



A blood disorder could be the cause of a common form of deafness, research at Britain's Royal Infirmary and the Medical Research Council Institute of Hearing Research suggests. The discovery could mean it will eventually be possible to treat and prevent the problem.

Sensineural deafness affects 12 per cent of adults and occurs when cells in the inner ear (known as hair cells), which translate sound from a vibration into a nerve impulse, cease to function. Until now there have been few clues to its cause although evidence from animal work has suggested that poor blood supply to the hair cells may be to blame.

Now, in a study of 140 people, Dr. George Browning and his colleagues have discovered that sensineural deafness is linked to the stiffness of red, oxygen-carrying blood cells. Normally red blood cells are quite deformable as they have to get through very tiny blood vessels. The team has found that people with sensineural deafness tend to have red blood cells that are stiffer than usual. They think this could mean that the red cells, and hence oxygen, are not getting through the tiny blood vessels of the inner ear to keep the hair cells alive.

Red cell stiffness may be caused by something else, the researchers say in a recent edition of *The Lancet*. If they can discover the primary defect they may soon tackle this important cause of hearing problems.

## PAGES FROM A NATURALIST'S DIARY/Sunjoy Monga

# Owls: Eerie birds of the night

PICTURE: T.N.A. PERUMAL

About 70 km. north of Baroda is a place called Timba. There are many quarries and though quarrying still goes on, a large chunk of the area is a private sanctuary—a sort of haven for birds. The lakes that have formed attract many birds. A year ago, I was fortunate enough to be able to spend over a week in this place. On the rock faces in the area are to be found several pairs of the Great Horned Owls. It is these owls that I was after. The birds could be observed by moving about in the small paddleboats in the lake. Here it was that I learned more about owls than from any book I've read.

Owls. Silent predators of the dark night, they stand far apart from all other bird families in having certain unmistakable characteristics. Baseless superstitions and legendary powers are associated with owls. They are often considered signs of ill-omen. Unfortunately, because many of the owls live in and around ancient ruins and so-called ghost houses where their deep hooting calls pierce the nights. Man has, over the ages, associated owls with all kinds of eerie happenings.

### Myths & folklore

Myriad myths and folklore revolve around owls. One story from Brittany tells us of why the owl became a night bird. Once when the wren had lost all its feathers, each of the other birds gave it a feather. The owl alone refused to give a feather for reasons best known to it. This refusal by the owl annoyed the king who cursed the owl to a life in the dark. The owl was also destined to be persecuted and tortured by the other birds if it was found during the hours of daylight.

One could almost begin to believe the story because the owl is indeed harassed by other birds if it has been spotted during the day. And many people must have observed this. But the owl has become a night bird through a very complicated evolutionary ladder. And, believe



me, owls are very important birds because they are nature's very efficient control on the population of rodents and insects.

Bombay is well-known for its very night-life and owls are part of this. Two species of owls are fairly common almost throughout the city, including in the most congested localities. One of these is the spotted owl, a squat myna-sized bird that is equally at home in hollows in trees and in cavities and roof-undersides of houses. This is the common owl particularly around the Navy Nagar and nearby areas, Malabar Hill, Byculla, Dadar Parsi colony, Malcolm Baug in Jogeshwari and in most parts of the suburbs. It is quite common in the National Park

too, though here one may also come across the Banded Jungle Owl, a handsome little owl better known by its musical whistling calls, heard in the forests so often during the day-time.

The other common owl of Bombay is the Barn Owl. This one has been seen at Colaba/Navy Nagar, Byculla, Churchgate, Malabar Hill, Vikhroli, Kandivli etc. Across Bombay, at Mandwa on the mainland, may also be seen the Great Horned Owl, a bird which I have so far not been able to sight in Bombay. Over two dozen species have been recorded within Indian limits and over a 130 species over the world.

The night is for owls what the day

is for us. Well almost. And since the owls catch prey and thrive in conditions of low light, it is only natural that they have certain special adaptations and modifications to penetrate the darkness of the night. An owl's eyes are very large and are the most front-facing of all bird eyes. Now without going into the very complicated details of the functioning of owl eyes, I need only say that it is a very special retinal structure that makes it possible for the owls to make great use of whatever little light there is. An owl's ears too are unlike those of most other birds and are highly specialised. Moreover, owls are very soft-plumaged birds and hence have an extremely silent flight. They can fly past you and you would never know.

### Hooting calls

During the day, owls remain in tree holes or on a branch amidst dense foliage. They hardly move during the day. When dusk approaches, they emerge from their roosts, signalling their presence with their great assortment of chattering and hooting calls. Their call notes are often the only indications of their presence in an area. Spotted owlets may occasionally be observed at roadside lights, feeding on insects that have been attracted by the lights. And in flight, owls have a distinct silhouette—big-headed, silent fliers on rounded wings.

Almost everything concerned with owls has to be different from other birds. Even their feeding habits. Unlike other birds of prey, owls swallow their prey (rodents, birds, insects, fish) entire, the fur, feathers and bones all included. Later the owls throw out the indigestible stuff in the form of elongated pellets that are removed from the mouth. The ground below owl roosts is normally littered with pellets. In fact I first came to know of a barn owl pair in the loft of the school in the Godrej complex at Vikhroli by

■ contd. on p. 18