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BLACK BUCK

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NEWSLETTER
of
HYDERABAD NATURE CLUB



HYDERABAD NATURE CLUB

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Join the Hyderabad Nature Club, help conserve the wild.

BLACK BUCK Newsletter.

HYDERABAD NATURE CLUB

VOL. II No.1

Jan - Feb'80.

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A census of Large Pied Wagtails.
- K.Narayan

The IndiraPark situated in the heart of the City, within an area of 80 acres, hosts a large number of species of birds, insects and other animals. It was here that I saw the large pied Wagtail in its natural environment enjoying their meals of insects found in the artificial pond.

The large pied Wagtail is a common bird found throughout India. It is a black and white bird i.e. with white underparts, prominent white eye brows and white stripe on wings and edges of the tail. The size of the bird is that of a bulbul. They are usually seen in pairs near smooth flowing streams, village

tanks, irrigation reservoirs etc. with grassy banks or islets. They feed on insects, worms and titbits found in their habitat.

I decided to conduct a census work on this species of birds - the large pied Wagtails (*Motacilla maderaspatensis*). The places which these birds habit were found. They used to appear at about 6.00 a.m. and stay till 6.30 am or a little later and then went back to their nests because their privacy were being intruded by the people coming for their morning walks and the people who jog up and down the path along the artificial pond and the lawns. Moreover the sirens of the nearby factories make too much noise and their chimneys puff out too much smoke polluting the clean and serene morning. These ugly things replace the Wagtails when they go into hiding around 6.30 a.m.

The procedure followed for the estimation of their number was - a big six feet square was drawn on a grassy patch beside the artificial pond. This was divided into six squares of one foot each. Feed was spread for them in this area. Hiding behind a rock I could watch the Wagtails coming to feed and count. Two such sectors (six feet square) - Sector AAO and Sector AAI - were used to take this census on two sides of the pond, often they quarelled among themselves over the feed.

I found that these birds were very sensitive to temperature. They did not venture out on a cold day or a rainy day. Hence it has not surprising even I counted only six birds on a rainy day.

In an interval of fifteen minutes for fourteen days and for the same time for eight days in Sector AAO and AAI 161 birds and 86 birds were recorded. This included birds which could have visited twice after having their fill.

The assumption that for every ten birds two birds were repeated, reduces the number to 129 birds and 69 birds in Sector AAO and AAI respectively.

From these I conclude that there about 198 large pied Wagtails present in the Indira Park in Winter.

It has been a very interesting and exciting experience working on this census and watching these birds at close quarters. There are many more species of birds in the Indira Park and I hope to have a census done on all of them in all seasons.

LANJAMADUGU (SIWARAM) SANCTURY

The Sanctury is located along the River Godavari in Adilabad and Karimnagar Districts of Andhra Pradesh. It is 280 Kms. from Hyderabad. It is a crocodile Sanctury along with the River Godavari and occupies forest areas on both banks of the river, which is mainly of deciduous type. In the territorial area of the sanctury are also found tigers, panthers, spotted deer, sambar, Nilgai, Pythons, monkeys, Jackals, sloth bears and wild bears. Members of the club - Mr.M.Narayan, Mr. Prabhakar, Mr.Prenesh S.Badami and Mr.Sukhdham - visited the sanctury with Mr.Binod Choudary and Mr.Prasad of the A.P. Forest Department.

The purpose of this was to conduct a right census of the muggers (a species of crocodile) along the river Godavari.

The team set off on 23rd Jan.80 and camped at the Ekulasapur forest rest house in the night on the 23rd. 24th Morning the team went to Lanja Madugu 6 miles away from the rest house. The team reached the river bank by 9.50 am and were on the lookout for any basking Crocodiles. Around 11.00 am next to a triangular rock on the opposite bank 100 metres apart from this bank a crocodile was seen.

We crossed the river in a small boat called Tedd^h hewn out of a tree trunk and holding our lives we crossed it as nobody amongst the team except two and the fishermen knew swimming. On reaching the other bank we started exploring from the height of 30ft to the river bank for crocodiles. We saw a crocodile majestically swimming fast a flock of teals. The bird watchers of the team had a good time and could see the white necked stork, the gullbilled tern or River tern and the vulture.

The team after exploring the island started back to the rest house. In the evening we started at 5.30 pm and we reached the river bank by 6.45 p.m. The team distributed themselves into 2 taddus. One carrying a car battery for our (12V) search light.

By 7.00 p.m. we started our perilous journey of tracking crocodiles. Around 7.40 our search light reflected two burning red spots, the eyes of a crocodile. After an interval of fifteen minutes, we could spot another crocodile. We could see three crocodiles other than this and the last one we almost came 3 ft. near it when it disappeared. At that we started our journey back and reached the bank just before 11.00 pm.

After that we reached the rest house, had our dinner and went in the jeep to see wild life in the night. We passed through the forest department eucalyptus plantation and at last we spotted

wild life they were a few barking deer, jungle cats and hares - we returned back to the rest house by 12.45 P.M.

Next day morning we started at 7.30 A.M and reached Hyderabad via Hanmakonda. The Crocodile census ended with 5 muggers on the river Godavari near Lanja Madugu.

The whole trip was so exciting that nobody felt like going back.

THE WONDER OF THE FIRE-FLY
- PRANESH S. BADAMI

Fire flies are not true flies, but beetles. Generally brownish black in colour, there is nothing remarkable about these insects during the day. But at dark in summer, when the temperature is optimum, the mechanism starts working.

The light produced is perfect illumination i.e. light without heat. It is a greenish blue coloured glow, flashing like a beam.

The illuminating organs are of two layers: 1) A layer of granules near the surface, and 2) a layer of crystal cells below, which act as reflectors. A net work of an tubules and nerves is present between the granules. The Granules contain an oxidisable substance called LUCIFERIN. This combines chemically with Oxygen producing the glow as soon as it is oxidised. The granules also contain an enzyme luciferase. This enzyme can deoxidise luciferin forming an unexhaustable source of power. When the air rushes through the tubes, the granules glow.

The purpose of this light is a mystery. A North American Species, the *Pyratis*, does it as a mating signal. The male signals every 5-3/4th of a second as it flies over the grass. When the female sight it, she responds, flickening every 2.1 seconds.

It isn't a guiding light as it is at the tail.

Instead it makes the insect more conspicuous to its enemies.

A few species lay luminous eggs. The intensity of light differs from species to species and also depends upon the temperature and climate.

They are some times used as subjects of decoration by tribal girls. The natives of West Indies tie them to their toes to illuminate their path in jungles.

The Japanese conduct a 'Firefly festival' in which flies raised in cages are let out at night over the lakes. In Thailand the flies collect in the ton lampo, trees along the river and flash their light at 120 times a minute with perfect synchronisation.

Dr. William C. Gorgas, Completed an operation in the African jungles by the light of a bottle of 'Cucoyos' when the electricity failed.

When the summer ends, the fire flies lay their eggs in rotten, decomposing wood and pensh, leaving behind a hope for another brilliant summer by a new generation.

NOTES FROM THE EDITOR.....

January - February has been very busy for the Hyderabad Nature Club in many ways, the most exciting being the eclipse.

The most prominent visitor to the Hyderabad Nature Club during this period was Mr. Kamal Naidu. He was the guest speaker at our meeting of the 31st January. He spoke to the club about 'The role of Zoos in Conservation'. The members were enlightened to a lot of things about zoo and their role by Mr. Naidu, Curator Nehru Zoological Park.

The eclipse of Feb. '80 found the members in the Nehru Zoological Park with the project 'Animal Behaviour during total Solar Eclipse '80' with the Zoology Department of Osmania University and the A.P. Forest Department (A consolidated report on the project will appear in the next issue of BLACKBUCK).

May I at this place invite a participation from the readers in the BLACKBUCK?

HOW BIRDS HELP US.

- Aasheesh Pittie.

Birds can exist without man, but man would not survive without them. All of us, as nature lovers and also as intellectuals, know that this is true. We dread to hear the last words of the remark that 'But for the trees the insects would perish, but for the insects the birds would perish, but for the birds the trees would perish, and...but for the trees the world would perish.'. Very few people in this world know that their lives depend upon this close and interdependent structure called eco-structure. Most of them assume that such a calamity would not result as long as man is master of the world. Unfortunately - atleast in India - the power to pass laws for conservation, and ensure the safety and continuance of the human race on earth, is in the hands of the latter type of people.

They do not want to put animals above man in **priority**. We have to make them understand and realise that man cannot exist for long without his fellow creatures.

How do birds help man? There are some **birds** which are pests and destroy crops in day light. Well meaning laymen condemn them as the farmer's foes. Many people have thus got an idea that all birds are generally - pests. How do we convince them that they have a biased point of view? Here are some arguments based on facts.

In India alone, there are over 30,000 forms of insects! Insects, as we know, are one of man's prime enemies for they destroy the crops on which he subsists. Insects multiply with such astounding speed as is unimaginable. And what voracious eaters they are! A caterpillar eats twice its weight in a day! The food taken by a single work in 56 days equals 86,000 times its original **weight** at hatching! How can man control such growth and such destruction? Man cannot do anything when compared to birds - in the destruction and irradiation of insects.

Birds consume insects in large scale. The marauding locust hordes are consumed in vast quantities by the White Stork and the **Rosy Pastor**. Not only are the full grown locusts eaten, but also the eggs and the young ones are harvested. An idea of the good birds do to man while they consume insects, and the number they destroy may be had from the fact that many young birds in their first days of life consume more than their own weight of food in 24 hours. A pair of starlings has been observed to bring food to their nest 370 times in a day. This food consisted mainly of locusts, **grasshoppers** caterpillars, etc. A single pair of tits and their off-spring destroy annually at least 120 million insect eggs or 150,000 caterpillars and pupae! This war between the birds and the insects is going on always, without a halt or even a check in speed. Therefore birds are the prime friends of farmers.

Rats and mice are a constant threat not only on **farms** but also in store houses. They multiply at express speeds and consume tons of food. Besides this, rats and mice are the carriers of some of the deadliest diseases known to man. Owls, kestrels, hawks and other birds of prey are **becoming** the most important of Nature's checks upon these pests and more often than not, menace. Some birds of prey (Owls) feast exclusively on rats and mice. Even some of our diurnal birds of prey regularly cut down their (rats and mice) population. Since digestion is a continuous and rapid process in birds, it is possible that the remains of at least 2-3 rats or mice, if not more, be found in them.

The scavengers are invaluable. Vultures, kites and crows come under this category. In India, where the system of organised sanitation and disposal of carcasses of cattle, etc. are notoriously inadequate, these birds indeed perform a valuable service, which if not done, would

become breeding grounds for disease carrying germs. During epidemics and famines, when cattle die in great numbers, the services rendered by scavenging birds to mankind is tremendous. The speed and thoroughness with which a party of vultures will despatch or consume carrion is truly astounding.

Birds are not given as much appreciation in the pollination of plants, as bees and butterflies. There are a number of birds who subsist mainly upon the sweet and nutritious nectar of flowers. When the specialized beak is inserted into the flower to reach the nectar, the head and shoulders of the bird come into contact with the anthers. The pollen gets dusted onto the feathers, and when the birds visits the next flower, the mature stigma is fertilized by the pollen grains. The flowers of the coral tree are fertilized chiefly if not exclusively by birds of several species.

In the distribution of seeds and plant life birds play a prominent part. The seeds of berries are not affected by the digestive juices in the bird's intestines and are thus passed out with the waste matter. Very soon they germinate under favourable conditions.

Guano, which is the excreted matter of sea birds - gannets, cormorants and pelicans - is used as fertilizer. The real guano is found on vast accretions on rainless islands off the coast of Peru. Though no similar deposit is found on our coasts, the possibilities of the 'liquid guano' of colonial nesting water birds have not been seriously exploited in India.

As Dr. Salim Ali puts it, "Quite apart from the purely materialistic aspect, however, it must not be forgotten that man cannot live by bread alone. By the gorgeousness of their plumage and the loveliness of their forms, by the vivaciousness of their movements and the sweetness of their songs, birds typify life and Beauty. They rank beyond a doubt among those important trifles and that supplement bread in the sustenance of man and make living worthwhile".

"Frankie", the 12½ Feet gharial from Frankfurt has been a victim of a well meaning child marriage. The poor fellow found his allotted wife "Nessie" too young and small at the Nehru Zoological Park.

After finding nothing 'positive' between Frankie and Nessie, the Forest Department of A.P. has passed him on to the forest Dept. of Orissa. Let's hope that he finds a suitable mate there for the 'next honeymoon'. We wish him and the Orissa Forest Department best of luck.

VANISHING WILDLIFE OF INDIA - 3

The fourhorned Antelope

The fourhorned antelope, as the name goes, is the only member of the antelopes with two pairs of horns. Called 'Chowsingla' in Hindi, live in hill country, sheltering in open jungles and in tall grass. These terrain is more suited to a deer than an antelope. Hence it has developed some habits of the deer. It has a low whistling call, which the bucks repeats frequently in hot weather. Their alarm call is similar to the barking deer but in a lower tone.

The fourhorned antelope are found in the peninsular India, south of the Himalayas, where the country is wooded and hilly but not too thickly forested.

The height of these little animals is generally 25 inches. Their posterior horns are longer than the anterior pair, growing to about 4 inches in length. The anterior horns are just $\frac{1}{2}$ to 1 inch in length. The fourhorned antelope and their close cousin the nilgai are distinguished from the true antelopes by their horns not being ringed. The horns keel in front and the females are hornless. They have a pair of well-developed glands between the false hooves in both sexes.

The colour of their coarse coat is dull reddish-brown above and white below. The colour turns yellowish in old bucks. There is a dark stripe down the front of each leg. This is broader in the fore legs.

These little animals are usually seen in pairs or alone or sometimes a pair accompanied by one or two young ones. They are more dependant on water than others of their kind. There are usually found in jungles close to a village tank. They have a habit, like the rhinos of defecating in one place.

The breeding season is in the hot weather and monsoon. The gestation period is 8 to $8\frac{1}{2}$ months and the young ones are born from October to February. By the onset of rains the young ones leave their parents.

The major cause of their being on the endangered list, is in the erosion of their habitat - the forest land and the tanks - being used for cultivation. These animals have few defences against man and are easily slaughtered for their skin and meat. But declaration of reserve forest areas and sanctuaries are a positive step towards the maintenance of healthy number of these little animals. Such measures are imperative to save these beautiful and graceful animals from oblivion.

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THE SOLAR ECLIPSE '80

The singular most spectacular event of the century - The Solar Eclipse '80 occurred on the 16th of February, 1980. In the afternoon of this eventful day the arrogant sun went into hiding behind the shadow of the bashful moon, throwing into a mild confusion the unsure spectators on Earth.

Place : The Nehru Zoological Park, Hyderabad.

At 2.30 in the afternoon the birds and animals around, first felt something being different this day, something momentous about to happen. The most noticeable among them were the Crows. They started getting restless making a lot of noise. 2.45 found the crows flying about in all directions cawing loudly in apparent confusion. At 3.00 the light around began to dim. There was a fragrance in the air and the flowers on the nocturnal trees began to open. The nocturnal insects arrived buzzing around the flowers. The poor crows started behaving in a funny manner around 3.15. They clustered in shadows silently, some of them hiding behind large leaves. One curious thing I noticed about this time

was a couple of Squirrels hiding in a hole low on a tree. Now and then they would run out into the dimming sun light, look up at the sun, and then around and return to their hiding place. They repeated this manoeuvre many times before settling in their hiding place for a long wait.

Suddenly from 3.30 there was a deathly silence with no movement around except the waving of the branches of trees in the wind in the dim eerie light (more like a dull glow). This unearthly situation continued through the peak (totality) of the eclipse to about 4.00' Clock.

Then slowly - ever so slowly - every thing unwound back to normal like the melting of wax on a candle. The insects disappeared slowly. 4.20 brought the birds back - the Crows arrived very noicely. The first tawny eagle appeared at 4.30.

The most beautiful things I observed during the eclipse were the small patches of light that filtered through the leaves of the trees. Each patch of light was in the shape of a crescent, the curve corresponding to that of the visible area of the sun. Initially ascending during the earlier part of the eclipse and later descending.

- Sunil Guptan

The members of the Club were at the Zoological Park observing the reactions of the various animals during the eclipse. Here are some of the reports based on their observations of their activity two days prior and two days after the eclipse and on the day of the eclipse.-

Animal : Civet

"The Civets are closely related to the Cats but are not perfectly adapted as the Cats for a predatory life. They are omnivorous and usually eat rodents, small birds and fruits. They are chiefly nocturnal.

The animal observed was a semi-capture state enclosed in an open area with one tree surrounded by a moat. The Civet usually sleeps during the day in a fork of the tree. It usually looks around and cautiously when disturbed and occasionally changes to a more comfortable position. It is fed at around 3.00 p.m. with bananas and slices of bread. In the evening it wakes up at 6.32 p.m.

and after going about the branches once, descends to the ground and explores earnestly. It also drinks water after descending and eats the remaining food. It is very active then.

On the day of the eclipse it woke up at 3.31 p.m. and climbing to a higher branch settled down once again. That night it woke up at 6.44 p.m. and came down straight away. The Civet was not fed on this day.

On the days after the eclipse it acted normal. There was no drastic change in the behaviour of the animal during the eclipse"

- Madhukar Reddy

Bird : Budgerigars

"Budgerigars are very small birds, a kind of parakeets. They are beautiful birds which are active all the time, and are very pleasing to look at. There were about 25 - 30 birds in the large enclosure.

On the first day of observation of the birds, a week before the eclipse, what I observed was that they were quite active throughout the afternoon. Some of the birds started to settle down and by 6.30 in the evening all the birds settled down for the night.

During the eclipse there wasn't any remarkable change in the behaviour of the birds. 10 - 15 minutes before totality the light intensity decreased in the surroundings and some of the birds appeared to try to settle down. The activity of the birds were comparatively less. During the totality a few birds had already settled down. But 15 - 20 minutes later the behaviour of the birds returned to normality.

The only significant change in behaviour observed was that some birds came under the impression that dusk had already fallen and tried to settle down for the night during the totality"

- C.P. Vishnu Kumar.

Bird : Pied Hornbill

"The normal behaviour of the bird include preening, scratching, perching, flying and calling. On all other days the bird

exhibited all these activities fairly regularly within its aviary.

Normally the calls the bird make doesn't exceed more than 15-20 seconds but on the day of the eclipse the calling at sometimes was for more than the normal time.

The bird flying, which was not rare but was usually done once or twice in each five minutes, was over done during the eclipse. The bird kept flying and calling almost continuously from 2.15 to 4.50 p.m.

Finally the sleeping time which was 6.32 p.m. was extended by 12 minutes on the 16th of February.

The above listed abnormalities must have been either the effect of the eclipse or due to the sudden temperature and climatic variations"

- K. Narayan

Animal : Spotted Deer (Chital)

"We usually started our observation from 2.00 p.m. onwards. At that time the intensity of the heat will be more, for that reason, many Deer used to be in the shady places, usually under the trees. Only odd ones were observed feeding. Normally in the afternoons, most of the Deer retire to the shades, either to bed (sleep) or rest. In the evening the sun's heat is considerably low and the animals come out to feed. In the late evenings (about 6.45 p.m.) we never observed a single specimen doing anything but feeding.

On the day of the eclipse, we observed that all the animals were resting in the shade in the afternoon. But when the eclipse started i.e., when the moon started shadowing the sun slowly one by one the Deer got up from their rest and started feeding. When the moon completely shadowed the sun, the sun's intensity was less and many animals were observed feeding. One peculiar behaviour, during the eclipse was that the Deer moved and fed collectively. Once during this time we observed many deer running collectively.

- Venugopal and Kiran Kumar.

Animal : Mugger Crocodile.

"Six animals in a semi-captive state- four males and two females in an open area with a moat around - were the object of my observation during the eclipse. These animals were confined in this area for an attempt at breeding in captivity.

Normally these animals were basking on the land or floating in the water in the moat, if not feeding. In the afternoon most of them were basking.

The only significant activity of these animals that was observed on the day of the eclipse, not normally exhibited during that time on other days, was that most of the animals were found basking with their mouth open (gaping).

The Crocodiles being cold blooded animals, derive warmth from the sun - the logical reason for their basking. During the eclipse most of them were gaping, probably to expose a maximum surface area to increase the absorption of heat due to the drop in the temperature caused by the eclipse.

Another significant thing was that they were fed at around 3.30 p.m. on other days. It would have been interesting to note the stimulus of food during the near totality of the eclipse, but they were not fed on that day"

- Sunil Guptan

NOTES FROM THE EDITOR

The need for conservation has never been felt so strongly as it is today. As each species staggers towards the brink of extinction, the awareness of its importance in the ecosystem is made more strong. The lament over the loosing of a species for ever so over whelms us today that we strive to fortify the world around us against such loses in the future. Conservation is a much maligned and misunderstood concept today, specially by those arrogant, self-styled guardians of human progress.

"Conservation, in its essence, is not just a retention of the existing resources (fauna and flora) but a judicious management of it so that it is not only self-supporting but also productive."

It was on this concept that Mr. A.K. Mathur, Addl. Chief Conservator of Forest (Wild life management). A.P. talked

to the Club on 6th of March. He also spoke about the steps taken for conservation in Andhra Pradesh.

The article 'Conservation - Why?' by Mr. Aasheesh Pittie is based on the talk by Mr. Mathur.

CONSERVATION - WHY?

- Aasheesh Pittie.

We are sure that the layman often wonders why things should be conserved. How will we progress if we conserve? The wheel of industry will groan to a halt. What can we - as conservationists tell him? Have we thought it over? Anyway let us begin.

All the religious books - be they of any religion - and we ourselves know that man survives on three extremely important elements. These three are the factors of his life. If even one is taken away from him - no one knows what the chaos will be like. These three elements are air, water and earth.

The Newton of Natural Science - Charles Darwin - published his theory of evolution a century ago and revolutionised modern thought. Darwin believed that man was just a representative of one among many Families of the order Primates in the class Mammalia. We conservationists too believe that man is not the ultimate link in the great chain of evolution. That man is perhaps the strongest link in this chain is not doubted. The very fact that he has been able to cling onto life and overpower the other stronger living things on earth is a miracle. How has man - puny man - without the elaborate defences of his fellow creatures been able to not only survive the torrents of age but also succeed in subjugating them? The miracle, lay in his head. The powers of thought and analytical action were his to utilize and he - thank god - did use them. Only this power has been able to sustain him from the furies of nature. If he is not very careful now - careful in both thought and action, then the results of the same could ring his death knell.

What type of foolish action could wipe man off the slate of evolution? Those very essential elements - water, air and land. Mankind - for that matter any other living organism - cannot survive their physical agonies of any one of these elements is denied him. Let us take each one at a time. First lets take the component of the heavens - air. The two gases which form a major part of air are oxygen and nitrogen. The others being carbondioxide, etc. What is being done daily to

this pure air? Industry - the organ of mankind which has measured his progress since time immemorial - picked up momentum after the industrial revolution and has turned onto the path of dirtying the atmosphere. While thousands of chimneys smoke into the sky and millions of trucks and others motor vehicles spurt gases into the atmosphere, while man puffs on endless cigarettes and sends blue smoke spiralling into the living part of earth takes a step back in progress. Cities have become cauldrons of smoke and impure atmosphere where to live is to be poisoned slowly. Is not the villager healthier than the city dweller? He eats well, works hard and sleeps soundly. We too do the same. But in what an atmosphere? He works under a clean and pure blue heaven with the sunshine on his body. We in the cities work in smoke filled rooms and under a sun made hazy by pollutants. Is it progress when physical capacities and natural well-being deteriorates though material and industrial gain persists? If this continues, who will be left to enjoy the gains?

Now let us take the other element - water. Two thirds of the earth is covered with water and one thirds by land. Yet how much of this two thirds can we or do we consume? Of course life without water is not even conceivable. I am sure none of us like salt in the water we drink. Where then does this water which is so necessary for the continuity of human life upon earth, come from? It drops as the gentle rain from heaven upon the place beneath. It tumbles from craggy mountains into the rivers beneath. It melts from snowy tops and makes rivers murmur and gurgle with delight. And the prosperous populations of man descend to consumer it in hasty greed. Man consumes rivers without his eternal thirst being quenched. When will mankind be weaned from mother nature? Never. But he can control his passion for water. Atleast he should control the urge to waste. This urge arises from the wrong notion of abundance. The palatable water quantity upon earth is limited and man is not, nor is his consumption of the same.

Now the third element - land. Man atleast in his present form cannot live in the sea. For evolution does not work in leaps and bounds. Man marks earth with ruin - his control stops with the shore. How long can anyone live on a ruined earth? When populations increase they reside on land and subsist on what it gives them. When land is over-cultivated or when the trees are mercilessly and thoughtlessly cut down - land gets denuded. The extremely rich top-soil on which food can be grown is washed away by persisting rain. It takes a thousand years to remake one inch of the washed away top-soil. How long will artificial fertilizers work? Too much fertilizer will result in deterioration of food quality. The natural

VANISHING WILDLIFE OF INDIA - 4

The Indian Gazelle

The Indian Gazelle (*Gazella gazella*), also called the Chinkara, is one of the most graceful of the antelopes. The usual haunts of the Chinkara are the open Waste lands traversed by ravines, scattered bush and thin jungles. They also adopt to the lower desert zones of Punjab and Rajasthan. They are shy of man and are not frequently seen near cultivations.

The Chinkara are found in most parts of India except the Eastern region. They habit the open plains of the North-Western and Central India and are found in the Deccan as far South as a little beyond the Krishna river.

The Chinkara is a small gazelle with a slender graceful body. Their coat is light chest nut-brown in colour, the colour deepens along the flank and hind quarters where it joins the white under parts. Like all gazelles they have a white stripe running down either side of the face. The most distinctive feature are their horns. About 10-12 inches long, though they look almost straight from the front, make a slight S-shaped curve in profile. The horns have 15-25 rings. Horns in females are smooth though hornless females are not uncommon.

The food of the Chinkara consist of grass, various types of leaves, and fruits such as melons and pumpkins. They can servive long periods without water. In the desert country they can do without it deriving moisture from the herbage and dew.

They are less gregarious than other antelopes. They usually live in small herds of 10 to 20 animals. When alarmed the herd takes off in panic and stop about 200 metres away to discover the cause of the alarm.

They have no particular breeding season. One or two fawns may be born at anytime of the year.

With rapid expansion of the areas under cultivation and increasing number of human settlements in the open plains and waste-lands, these once numerous animals are steadily declining in numbers. The time wouldn't be far off when these animals are seen only in Zoos unless determined efforts are made to encourage an increase in their number in the wild by protecting them in forest reserves, sanctuaries and parks.

For private circulation only.

Edited by SUNIL GUPTAN with AASHEESH PITTIE

taste and flavour of food will be overcome by the artificial. What would happen if the whole earth - the beautiful earth - was to become barren, where nothing grew - like Hiroshima? We shudder to think.

By these arguments we hope that some of our readers have understood why man should conserve, and briefly what is it that he should conserve. In that discussion we feel that conservation is a dismal science. But, it is not. When with the help of that power eternal - to think - bestowed on man, he conserves his surroundings and the elements of his survival, instead of being dismayed he would certainly be overjoyed both by the ability of his control of himself and by the thought of continued existence upon dear earth.

= -----DETACH HERE -----

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The Secretary,
Hyderabad Nature Club
14-7-370, Begum Bazar
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BLACK BUCK

VOL. 11 NO. 3 MAY-JUNE '80



NEWSLETTER

O

HYDERABAD NATURE CLUB



HYDERABAD NATURE CLUB

Starting on the 22nd of November, a little over a year ago, by a small group of students, Hyderabad Nature Club has grown in its membership and excellence to the proposition it is today. Members of the club come from various colleges of the city, and from various faculties like sciences, arts, commerce, medicine, etc, whose most common interest is an active love for nature and its various manifestations. The members meet every fortnight to discuss plans of the next project and to share their experiences of the past fortnight with others.

The Hyderabad Nature Club is affiliated to the Nature Clubs of India, of the World Wildlife Fund-India, based in Bombay.

The primary objective of the club is to learn more about nature in all its forms - fauna and flora - and to aid in its conservation.

The club strives to create an interest in the young boys and girls in nature and to learn to enjoy its freshness and beauty without destruction of it.

The club motivates its members to revel in the freedom and joy of outdoor far from the bustle of impersonal cities.

The club helps to pass on the message of conservation everywhere.

The club endeavours to acquaint the layman with the uses of nature and its conservation and to help understand its needs.

The Hyderabad Nature Club aims to bring people closer to nature,

Join the Hyderabad Nature Club, help conserve the wild.

Was it not an astonishing feat? I would say for I was sure about one thing, that the kingfisher was the kind among the fishers and I was also sure about another thing that no human being could attempt an act like this. So perfect was it's timing that in a split of a second a chain would be completed.

Often I could see birds like the crow, Pond herons and little egret envy this small bird and sometimes would not allow it to dive, but nonchalantly the kingfisher waited and it's patience was rewarded with a fish.

Other than the Pied kingfisher, I could see a cousin of this bird, the White breasted kingfisher (Halycon senyrensis) the most colourful amongst the three kingfishers I studied. This differed from it's cousin the Pied kingfisher in many ways. It could glide over the water surface and when it spotted a fish, would dive at a certain angle and come up with the prey caught in it's beak.

The other type of kingfisher I saw was the Small blue kingfisher (Alcedo atthis) which was the smallest amongst the kingfishers I studied. Though I could not observe it's feeding habits, I could identify a particular act of it's, which I relate now.

It would perch on a branch of a tree near the water front and constantly nod it's head like a Bharatanatyam dancer, would now and then open it's beak, and call - chee chee. It looked as if the bird was dejected either with it's performance in catching fish or it's failure to impress it's mate.

The two month long 'census' I conducted, proved to be fruitful and is presented in Table I.

Table - I

Kingfisher census results carried out at Indira Park, Hyderabad.

Birds	Number	Remarks
White breasted kingfisher	6	Residential
Pied kingfisher	2	Non-residential
Small blue kingfisher	4	Residential

MANGROVES

- B.C. Chaudhury

Mangroves are the vegetations that grow in saline muddy swamps along the coasts and estuarine banks in the tropical and subtropical regions of the world. Restricted into such a limited zone their distribution is again influenced by the patterns of warm and cold water currents. The topography of the bays, lagoons and estuarines are well protected from wave actions and as such allow luxuriant growth of gvegetations with special adaptations to survive in this surroundings. Mangroves, unlike other habitats are very limited all over the world and are found only in the coasts of West Africa, Atlantic USA, Pacific America, East Africa, Australia, Asia and Ocenia. As many as 110 species of specialised plants are found in the mangroves. The fauna includes species that are tolerant of both saline and fresh water.

Mangroves are one of the most productive zones in the world and according to scientists working on mangrove productivity, produce as high as 4 tonnes of organic plant detritus per acre per year. This detritus, enriched with bacteria, fungi and protozoans gives rich particulate organic matter that forms food for crabs, worms, shrimps and small forage fishes.

The special microenvironment created by the proproots and pneumatophores of the mangrove vegetation provide shelter for juvenile fish and substrate for growth of epiphytic algae and shelter for many small organisms on which many post larval stages, juvenile and adult fishes feed on. Mulletts - one of the most important commercial fish from mangroves also feed on the detritus. Mangroves are also the places where major aquaculture projects are taken due to the availability of fish seeds and prawn seeds. Oysters are also cultured and sheltered in mangrove areas.

Mangrove vegetations provide raw material for many a medicine, used as fodder for domestic stock, as timber, manufacture of materials of soft wood and also as fuel. There are also countless other uses of mangrove vegetations all along their distribution range.

Most important of all - mangrove root systems contribute to land building and conserve the land from sea-erosion (This has been a major problem in the coastal areas). The thick mangrove vegetation also acts as a barrier against the cyclonic storms that are so common along the coast.

Mangroves in India

Mangroves in India are restricted to the tropical coastline on the east coast in the deltas of river Ganges; Brahmaputra, Godavari-Krishna, Cauvery and Brahminy-Baitarani. With no major deltas in the west coast mangroves are not found in the west coast but small patches exist near Bombay region and Saurashtra and Kutch coasts. Compared to the 5100 Km. of coastline of mainland India the mangrove habitat is very limited covering only 266,500 hectares, of which the largest portion is in the Sunderban of West Bengal covering some 200,000 ha. The other largest area of mangrove is found in the Andaman and Nicobar Islands with a total cover of 100,000 ha.

With population density exceeding 500 inhabitants per square Kilo meter in the coastal area the mangrove habitat is disappearing at an alarming rate. Biotic factors such as cutting mangroves as fuel wood and over grazing in the mangrove area contribute the two singularly largest factors of decline of mangroves in India.

Added to it, the clearing of forests along the river banks has caused in rapid silting of deltas. This, combined with the violent rains from June to November aggravates the situation still further. On the eastern coast the mangroves of Cauvery and Godavari are now separated from sea by coastal sandy spits not allowing entry of sea water into the region which is so very necessary, for a healthy estuarine system.

The alluvial soil built up by the mangrove ecosystem when reclaimed provide very high quality fertile land and this has been the way by which most of the mangroves have gone. Again, the protection of mangroves has always been a low priority since mangrove timbers are not considered commercially valuable.

With the rapid loss of this habitat some of the important fauna restricted to this region are also facing extinction. The single most important example is the Estuarine or the Salt-water crocodile (Crocodylus porosus). This reptile once had a distribution range from south of Cochin in the west coast to all along the east coast in India is now extinct in the state of Kerala, Tamil Nadu, Andhra Pradesh and remains in very small isolated populations in the mangroves of the Orissa and West Bengal coast.

Luckily efforts are now in progress to save the mangroves at least by declaring them Wildlife Sanctuaries. Sunderban in West Bengal is a major Tiger Reserve under the Project Tiger and also a Estuarine Crocodile area. The mangroves in the Orissa coast has been declared a wildlife Sanctuary as also the mangroves in the Godavari delta.

It is high time to think seriously about conservation of mangroves not because by so doing we are saving a few endangered species but for the importance of this habitat as such.

CONSERVATION - WHAT & HOW?

- Aasheesh Pittie.

Wildlife today consists of all the members of the various families in the animal kingdom. The insects, the fishes, the amphibians, the reptiles, the birds and the mammals. Even those little creatures, which were of no significance until recently - the people at large - have come into the limelight. These creatures are representatives of protozoan, papazoa, metazoa, molluscs, arthropods, etc.

The word conservation is used for all living things, both plants and animals, other than domestic ones. Flora ~~and~~ has come into the sphere of conservation only recently, since it was free from the ravage of spreading civilizations. Since there are so many living things which conservation embraces, and which should be conserved, many ignorant people often ask, "What is the use of a rhino? Who needs those ugly pigs? We certainly do not need the nuisance of crows and the devilish face of the vulture." Conservationists are indeed faced with a formidable task. We have to make these people understand the intricacies of ecology which safeguards mankind if left along and undisturbed. The pig and the vulture are the cleaners of rural India, the ubiquitous crow, the cleaner of garbage in cities. The speed with which a flock of vultures dispatch a carcass is astonishing and the refuse which a pig consumes - and as a result cleans the environment - are facts which should ensure a place for them in the world of today.

A very important subject being discussed by education committees all around the world and in India is to include Ecology in the school curriculum so that the child has a basic foundation about his surroundings and his own place and standing in the environment. Conservation cannot be left to the government - completely - because the government does not give it the importance it deserves. Conservation becomes a possibility only when it is taken up by societies which advise the government on it's actions and decisions so that they may not endanger the environment. The effects of decisions taken by Governments has often been devastating on the land. 'Large-scale projects are frequently undertaken for short-term gain, and without sufficient thought being given to their long-term effects on the environment in which we must continue to live. Even when thought is given, we know so little of all the complex inter-relationships, that often the resulting answer is wrong.

Man, in his search for more and more land has changed the whole surface of the earth, except for those small pieces here and there which he could not conquer. Man never realised the nature can never be commanded except by being obeyed. And now mankind itself is at stake. 'Now it is too late to keep large areas in their original condition. But we can set aside suitable representative samples of the earth's surface, in the form of national parks, nature reserves or wilderness areas, and safeguard not only individual species, but even whole ecosystems.

The decisions which can safeguard the natural heritage of this world can be taken only by the governments of the various countries comprising it. What can we as citizens who care for their environment and their fellow beings, do to ensure a clean environment, healthy to roar in and beautiful to look at and enjoy? The alarming decline of trees, so essential in so many ways for the good health of man, should be abated. The declining greenery of the towns should be stopped, more trees planted and looked after until they are big enough to fend for themselves.

Wherever man settles, a town forms, and wherever civilization begins, refuse and wastes pile up outside the periphery of the towns. What causes concern is that these wastes are not limited to the circumferences of civilized land any more. They have spread throughout the world, in places where they were not even heard of. In the water we drink in cities and in the water which courses through the arctic, in the food we eat and in that which is eaten by all creatures great and small, throughout this world, pesticides are found. It is our duty to stem the flow of this filth, to ebb the rising tide in which we may drown. We should build recycling centers and compost heaps. The marvellous success which great countries, Sweden and West Germany, have achieved and the fantastic economic gains they have been able to realise as a result of recycling and using the recycled goods is not only laudable, but should be the * guiding torches of those countries which have not started recycling on a national basis. We can collect bottles, cans, tins, paper, plastics, etc., and sell them to people who resell them to manufacturers. These items are again processed usefully. Many people are engaged in this task, ignorant of the great benefit they do to the society. Take the paper collectors and bottle and tin collectors of our own city as examples.

The use of pesticides should be the result of deep thought. One can never say how much these pesticides have destroyed, instead of saving. Rachel Carson, the author of *Silent Spring* (a book on environmental pollution due to pesticides) has written about the effects of pesticides as, '.....what we have to face is not an occasional dose of poison which has accidentally got into some article of food, but a persistent and continuous poisoning of the whole human environment'. She goes on to say that 'the best and cheapest controls for vegetation are not chemicals but other plants.' It is always better to control nature by natural ways and means. When artificial things are applied to control one thing, they may have adverse effects of some other thing. Even natural remedies should be the result of contemplation for long term effect. Poisons to do away with rats in a barn do kill the rodents, but they also kill the crows who eat them. This leads to a dirtier city, because the crow is a major scavenger of the cities, and consumes almost anything it can find - sometimes even wet newspaper.

I often wonder how many of us contemplate the result of wasting electricity and water. The amount of water wasted by an extra wattage bulb or a light left burning through the night can be made up only in the next monsoon. If the amount of power wasted so carelessly were saved, we would certainly not have the all too frequent power cuts. Every paper which is thrown away unused, was the product of a felled tree. When we discard scraps of paper, which could be used for rough work, do we ever think of the tree from whose bark it was made? What a waste!

Thus when we conserve, we not only make our environment more liveable and pleasant for ourselves, but even for the generations to come. To leave behind a beautiful heritage of which we can be proud. Instead of concrete and glass, let our environment be that of trees, of flowers and let us see a world in a grain of sand, and a heaven in a wild flower, hold infinity in the palm of our hand, and eternity in an hour. This is nature, the world which conservation leads to.

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VANISHING WILDLIFE OF INDIA - 5

The Swamp Deer (Barasingha)

The Swamp Deer (Cervus duvauceli), also known as 'Barasingha' in Hindi, attains it's first development in Madhya Pradesh. An average stag stands 135 Cms. at the shoulder and weighs 170-180 Kgs.

The Swamp deer is limited to India in distribution. Two different races are recognised - differentiated by their hooves. The deer (duvauceli) found in the Terai, U.P., Assam and the Sunderbans, Swampy areas, thus having splayed hooves for a good grip on the slippery ground. The race (brandori) found in Madhya Pradesh lives on hard ground and thus have small well-knit hooves.

The coat of the stag is almost woolly in texture, the colouration varying from brown to yellowish brown. Stags are mottled and darker than the hinds. In summer the coats of both become lighter in colour and may develop spots. The young are spotted. The antlers of the stag have 10-14 points, though cases of 20 points have also been known.

Swamp deer are highly gregarious and in the Terai, thousands of these deer congregate in a few miles of swamp. The barasingha feed till late in the morning, rest during the day and again feed in the evening. The sense of smell in these deer is acute, although their sight and hearing is moderate. The whole herd takes flight when alarmed and sets up a shrill baying sound which continues even in flight.

The encroaching hand of human civilization has considerably reduced the populations of this magnificent animal - to the extent that conservation is the only answer to their continued existence.

=====

NEWS

* * After a one and a half year long wait, the officials at the Nehru Zoological Park, Hyderabad have finally succeeded in breeding Mugger Crocodiles (Crocodylus palustris) in captivity. The attempt with five males and two females, confined to an open moat (Black Buck- Mar-Apr '80) produced 10 eggs laid by the smaller female of which 4 hatched in the natural nest itself. The hatchlings are now being reared at the Crocodile Complex at the Zoo. The officials are hopeful of better success in the years to come now that they are planning to shift the breeding group to a new, larger and more congenial breeding pool.

* * We wish to announce the arrival of 'MAYURA' the newsletter of the Bird Watcher's Club of Andhra Pradesh. The first issue of the quarterly appeared in April '80. The Bird Watcher's Club, to which some of our members also belong, has created a keen interest in bird watching among many people of the city. We wish 'MAYURA' many issues.

* * In our Mar-Apr '80 issue we wrote about 'Frankie' the male Gharial from Frankfurt being sent to his new brides in Orissa. The news has reached us that he has successfully mated and the credit of the first ever captive Gharial breeding goes to Nandan Kanan Biological Park, who provided the ideal partner in an ideal breeding pool. His mate laid a clutch of 25 eggs of which 24 hatched in the first of May. Crocodile conservationists and herpetologists all over the world and the Government of India Crocodile Projects are all happy over this.



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Notes from the Editor

For the greater part of the past two months the club has had very little activity. Mainly because most of our members were in the midst of their academic examinations. But in the later half of June a major project has been undertaken - to monitor the pollution levels in different parts of the Musi, the river that flowed on this land long before Hyderabad existed as a city, at different times of the year. The club has sought the aid of the FreshWater Biological Station at Hyderabad of the Zoological Survey of India, for the more technical aspects of the study. This being a long term project, would keep some of the members busy throughout the year.

The club is glad that Mr. Binod C. Choudhury has finally agreed to be our advisor. He is a crocodile researcher with the Andhra Pradesh Forest Department Crocodile Conservation Project, and is an avid naturalist, conservationist and a wildlife photographer. He suggested a new series on "Habitats" and wrote the first article on 'Mangroves'.

Continuing "Conservation - Why" (Black Buck- Mar-Apr '80) based on the talk by Mr. A.K. Mathur Additional Chief Conservator of Forests and Chief Wildlife Warden of Andhra Pradesh, is the article "Conservation - What and How?" by Aasheesh Pittie, appearing in this issue.

MAY I HERE, INVITE INTERESTING ITEMS OF NEWS OR HAPPENINGS FROM OUR READERS.

FOR PRIVATE CIRCULATION ONLY.

Edited by Sunil Guptan and Aasheesh Pittie.

To,
The Secretary,
Hyderabad Nature Club,
14 - 7 - 370,
Begum Bazar,
Hyderabad - 500 012.

Oral -

Published by :

HYDERABAD NATURE CLUB

Cover Photo : Striped Hyena (*Hyaena hyaena*)

Photo Courtesy : Mr. Binod C. Choudary

Hyderabad Nature Club, 14-7-370, Begum Bazar, Hyderabad - 12.

BLACK BUCK

Binnay

VOL. 11 NO. 4

JUL - AUG '80



NEWSLETTER
OF

HYDERABAD NATURE CLUB

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OUR EXCURSION TO THE SOUTH

- Madhukar Reddy

Usually an outing from a nature club is expected to be to a zoo, forest or sanctuary, but on the contrary, this trip of ours wasn't the type where one could enjoy the tranquility of a forest or where nature could be observed, appreciated and adored. Our primary goal was to keep to the road and reach Madras quickly. This had to be done as we did not have much time at our disposal. Another reason for not enjoying nature as its best was the fact, that we opted for a route taking us through the eastern coastal plain which is fertile and densely populated, and naturally it is difficult to see even a stretch of greenery worth calling a forest.

It all started one gloomy, wet July afternoon when my Colleague, Nagraj and I met. We had been thinking of going out somewhere, cycling, since quite some time. We decided on Madras, and on a not-so-fine morning, we found ourselves pedalling furiously away from the bustling din of Hyderabad. Getting out of the city can be very relaxing and refreshing, especially during the monsoon, with a green carpet of grass all around. The drizzle of the morning stopped during the noon and our spirits soared. The undulating Deccan Plateau, dotted with trees and occasional streams, was quite enchanting. We rested in the afternoon under a tree. This became our daily routine. That night we spent in a Traveller's Bungalow

at Narkatpally, a small town, on national highway 5.

Next day we started early, and as we passed through Nalgonda district the landscapes was covered with thorny bushes, but later we found the countryside waterlogged with green paddy fields stretching as far as the eye could see. That night we found ourselves stranded in a sleepy village, on the banks of the river Krishna. We spent the night there in an old bungalow beside a police station.

Next day we crossed the Krishna in a boat, which was full and we had a scary as well as exhilarating crossing. Later the countryside was enchanting with frequent streams of clear water flowing over rocky ground. It was sadly devoid of trees. From the next day our travel was along the tree (tamarind) lined national highway 9. The Eastern Ghats towered on one side and the flat east coast/^{was} on the other. We travelled through fast developing towns like Gudur, Kavali, Ongole, Nellore and Sulempet. The Pulicat Bird Sanctuary and Sriharkota, lately in the news, passed to the left of us.

We entered Tamil Nadu. The eastern part of Tamil Nadu was lusciously green. We passed vast cashew plantations and groves of Casuarina along the seaside. We entered Madras with the dusk of 31st July. After staying for 3 days, we went to Tirupati by bus. From Tirupati we hiked to Tirumala. It was tiring, though the green valleys and the lovely view of distant hills brought us some relief. Once while strolling through the beautiful gardens being developed there, some clouds descended to shroud the seven hills with a thick white blanket. It was no doubt a unique and unforgettable experience.

The train in which we returned passed through fairly thick forests whose edges, to our horror, were retreating under the onslaught of man, to give way to orchards, factories, fields and settlements. The effects of deforestation were clearly visible in the severely eroded banks of streams, rivulets and rivers.

We spotted many common birds. The noisy Myna, Brahminy Myna, Pied, Whitebreasted and small blue Kingfishers, Coucals, Babblers, Bayas, Tailor-birds, Blue-Jays, Lapwings, Egrets, Pond Herons, Waterfowl, Parakeets, Drongos and Indian Robins. We spied only 3 raptors, which indicates the ^{extent of} degradation of their habitat. The number of snakes squashed under speeding tyres was alarming!

. . . .Contd., on page 9..

IDENTIFYING TARA (A tigress in the wild)

- Hashim Tyabji

Background.

- N.S. Tyabji

This rough draft of a note prepared by Hashim Tyabji (who is with a Wild Life and Adventure Tourism Organisation) has its basis in a difference of opinion among wild life experts regarding the feasibility of re-introducing a tiger, bred in captivity, into the wild and its chances of survival in the wild environment. The crux of the issue was the firmly held belief among cat experts, that the young are taught to hunt by the mother and that there is no alternative to this natural process. The specific case which has aroused considerable interest among tiger ecologists is that of an abandoned female tiger cub which had been found in the Dudhwa Sanctuary (U.P.) by Mr. Billy Arjun Singh*, reared under his personal care till the age of two years and then released back into the wild. Mr. Arjun Singh has been tracking this tigress ever since and was absolutely certain, all along, that she was alive and well and had succeeded in adapting herself fully to her natural environment. However, there were others who were not convinced and were somewhat doubtful if she could, in fact, have survived. What follows, constitutes part of Hashim's report on his assignment to obtain photographic evidence of the tigress' survival. The confirmatory evidence is the facial markings of a tiger which are distinct for each individual and, therefore, sound evidence for purposes of identification.

* * * * *

We got to Tiger Haven with Billy on the evening of 6th April 1980. As soon as we had had a glass of water, Billy and I, accompanied by Billy's head shikari Jackson, went off to check the bait site where a tiger had killed a few nights before. In the summer heat the carcass had begun to rot very fast and was already covered with maggots. Jackson also informed us that a tiger had come to feed at the kill in the middle of the afternoon and showed us the tracks on the path as we walked up. These were of a large male Billy had named Crooked Foot, because his right forepaw always appeared to be twisted. The bait-site is about 10 minutes brisk walk from Tiger Haven, due west. The path to the sit runs parallel to the Neora river along the south bank, and about a hundred yards from the bait sight the path bifurcates. One forks left and goes through a grove of jamun and 'trewia' trees to the machan, and the other carries on straight to the bait-site. At this fork the path is also

closest to the river and here Billy has had a small hide built which gives a view up-river. This spot in the river is often visited by tigers who want to cool off between courses, and is only about 30 yds. north of the bait-site. The site itself is situated in the middle of a grove of jamun trees and the ground around it is mostly covered with short grass and a few small bushes. It is a cleared, sanded circle about 10-12 yds. in diameter and the only disadvantage for photography is that the bait is tied to a large tree trunk which is in the centre of the site. The machan is built on a couple of trees about 25 mts. east of the site and is a fairly large permanent structure. About 30yds. south and 100yds. west of the site is tall elephant grass and the tigers often approach from the south or from the west, though they do occasionally use the path from the east. Anyway, on that first day we decided to place the camera to the south of the site as the tigers almost invariably dragged the kill as far as the tether would allow, towards the west and then settle down to eat.

On the 7th I went to Pallia and got the camera hood which Chuck* had lent me, reinforced with another layer of cotton wool, and got a few odds and ends which I needed. I had planned to start off the same day and after lunch went off to fix the camera. I placed the camera on its tripod about 7mts. from the center tree and the flash about two feet to the right of it. I had lashed the flash unit onto a forked stick and placed it right next to a jamun tree, which arrangement looked after the camouflage. From the camera I stretched a wire upto the machan. This wire was attached to the electric firing cord of the motor drive and all I had to do to fire the camera, was to bring the two wires together. This I did by attaching a bedside switch to the wires and so I just had to press a switch to take a picture.

That night I went up to the machan at about 6.00pm accompanied by one of Billy's shikaris, the plan being that we would take two hour watches. This did not quite work out, as, with two people in the machan, we did tend to make a lot more noise and my companion was unfortunately afflicted with a racking cough. However, the tigers were in the vicinity of the site, as we heard a tiger growling quite close to us, and the next morning we saw tracks of the female we thought was Tara, close to the kill. Nothing happened the next day, and on the 9th a new buffalo was tied. However, at about 7 in the evening the flash suddenly fired twice on its own, and thereafter refused to work. There was no point in my staying on and so I collected my blank-

et and food and returned to Tiger Haven. This was most unfortunate as the tigers made an appearance that night and the bait was killed by the male (Crooked Foot), and Tara had also eaten with him. There was quite a lot of the bait left, however, and we were almost certain that they would re-appear the next night. I had, by now, abandoned the other shikari and decided to sit up alone. That night, at about 8, I heard a tiger calling and growling about 50mts. behind the machan and to the left. A few minutes later came the unmistakable sound of a tiger walking through thick layer of dry leaves and approaching the kill. The other tiger was still calling in the same position, so they were obviously two tigers around and I immediately concluded that the tiger that was calling was the male the other one, approaching the kill was Tara. This turned out to be correct, as events were to prove. Tara approached very cautiously, stopping for long periods and walking slowly around the bait. At one point I became somewhat anxious as to whether she would be feeling hungry and eat at all. I needn't have worried. At about 8.45 she began to eat. As soon as I heard the grass which the bait had been covered with, moving, I fired the camera. At this time the bait was only about 5mts. from the camera and obviously Tara had got a shock both by the flash as well as the noise of the motor-drive, muted though it was, for I heard her scamper off. For a long time she wandered round the bait, while I waited absolutely still and more than a little anxious. After about 30 minutes she did return, and this time I allowed her to settle down a bit before taking a picture. However, when I did fire the camera, the reaction was the same. This carried on for about 2½ hours. At about 10.30 I sensed that there were more than just one tiger and I took a picture which eventually turned out to be one of the best of the lot, for it was a full right side shot of Crooked Foot standing right in front of the camera and Tara feeding to the right. When the tigers had eventually left at about 12.30a.m. I had only taken 10 pictures and had not taken anything in the last hour so as not to frighten them too much. For, even Crooked Foot, a big tiger by any standards, seemed to react to the camera.

The next morning Billy and I rushed off to Pallia and found a little hole-in-the-wall studio and handed the owner our film with injunctions to develop immediately and be very, very careful. In 15 minutes he had developed it and we saw that there were pictures of tigers and nothing had gone wrong as I had feared. We asked him to have the prints ready for us the next day. When we went to collect them, it turned out that

most of them were underdeveloped. They were, however, good enough for our purpose. At Tiger Haven, Billy had old pictures of Tara taken by the T.V. camera team from Anglia, before she had returned to the wild. She was now 4 years old and much larger and her body stripes would have changed, but the facial stripes should still be the same. We got out the pictures and as we had taken photos only of Tara's left side, it took some time to find other pictures of the left side. But we did eventually find a very good one, and as soon as we began to compare them, it became obvious that Tara was alive and well, and was the same tigress that Billy had been tracking ever since she left him. This was great news, and we decided that now we should try and get pictures of her right side. We positioned the bait in such a manner that when the tigers came to eat they would present the right side to the camera. They came and presented the right side, but I had been careless in loading the camera and we got only three pictures, two of them were of Tara - with her back to the camera and quite useless for identification.

From then on I stayed at Tiger Haven till the beginning of May, and took a fair number of pictures. Tara came only once, and then the only picture of hers is a fairly good one where she is feeding with Crooked Foot. It was not a very good identification picture though Billy and I could make out that even her right side corresponded with the pictures of her as a cub. This removed any doubts that we had about Tara's identity.

There were, however, other high points. On three occasions I saw Crooked Foot at the kill in the morning - and, he is an enormous tiger. On one wonderful occasion, when I had gone to change the position of the camera at 4.30 in the afternoon, I found a tiger eating at the kill. This was not Crooked Foot but another large male, which Billy had named 'Long Toes'. Another thing we discovered from the photographs, was the reason for Crooked Foot's crooked foot; low down on his right fore-leg, he carried the unmistakable marks of where a trap had wounded him. This upset Billy very much, but at least he had got away and was still obviously healthy and unaffected by the wound.

Of late there has been a growing concern by conservationists all over the world on the fate of the tropical rain forests. In India the lingering controversy as to whether a good stretch of rain forest (the now famous Silent Valley) should be sacrificed or not for a hydro-electricity project in the western ghats has made everyone realise the issue concerning the conservation of tropical rain forests. Until recently the general belief was that the rain forests have unlimited growth and therefore are an almost infinite resource. But, recent attempts by conservationists to compile the amount of tropical rain forest present all over the world, showed this to be untrue and the magnitude of rain forest destruction was viewed with concern.

Tropical rain forests are confined to the low altitude zones near the equator. As the name implies, rainfall usually exceeds 80 to 90 inches a year and is distributed over the year with one or more 'dry' seasons. Rain forests occur in 3 main areas of the world; 1) The Indo-Malay-Borneo-New Guinea regions, 2) The Congo-Niger-Zambesi basins in Central and Western Africa and Madagascar, and 3) the Amazon and Orinoco basins in South America, where one finds the largest continuous mass of rain forest. The variety of life reaches its maximum in tropical moist forest, though one finds different species in the 3 regions mentioned (since they occupy different biogeographical regions) but the ecology of the forests are similar in all three areas. Rain forests are stratified into 3-layers, the first being very tall emergent trees, second the 80-100 feet tall continuous evergreen carpet forming the canopy layer and finally the understory stratum, discontinuously dense corresponding with the break in the canopy layer. In some areas the rain-fall during the dry season is less than 2in and the emergent trees lose their leaves during this time, forming a semi-evergreen rain forest. The number of plant species is very high in a rain forest. There are seldom less than 15 and sometimes over 30 species of trees over 30cm in diameter, in a single hectare. The Indo-Malayan rain forest is richer in species than either tropical America, or Africa. The African rain forest being the poorest and most uniform in flora. The understory stratum of shrub and herb layer often contains a number of ferns and palms, usually less massive because of the dense shade. There are protective climbers which often hide the outlines of trees. The tall trees are very shallow rooted and often have swollen bases or 'flying buttresses'. A rain forest is also called "Forest that never burns" (in its natural condition) because of the high humidity.

Combined or linked to this diversity of plantlife one finds a great diversity of animals in rainforests. Tall trees being dominant, there are a large number of arboreal life forms followed by ground dwellers and amphibious forms. Most of the primates all over the world are confined to the rain forests. There

is also an abundance of chameleons, monitors, geckos, snakes, frogs and birds and insects, so much so that in a six square mile area on Barro Colorado rainforest in the Panama Canal zone, there are 20,000 species of insects compared to only a few hundred in all of France. Most of the tropical forest fauna are dependent on fruit and termite diet and therefore one finds a large number of fruit eating birds like parakeets, hornbills, toucans, birds of paradise, etc. Except for a few brightly coloured birds and insects, the general colour pattern of the life forms is inconspicuous and nocturnal.

Rain Forests In Indian Region.

In all South Asia (covering India, Bangladesh, Sri Lanka) the total area of rain forest is 12 million ha, according to a recent FAO report. Rain forests in India are confined to the Western Ghats, the north eastern India and the Andaman and Nicobar Islands. Till recently the Western Ghats, considered to be one of the best rain forest areas in India, is now reduced to an area of only 98,000ha. The situation in north-eastern India and Andamans is fast going to be worse.

Some of the main factors that contribute to the decline of rain forests is 1) Conversion of forests into agricultural land, 2) Largescale commercial exploitation for timber and plywood industry and 3) Clearing of rain forests for raising cash-crops like spices, coffee and tea.

The Western Ghats, one of the major water catchment areas with numerous rivers, is the favourite ground for erection of hydro-electricity dams and other such projects that clear or submerge large stretches of rain forests. The famous Silent Valley might face the same fate.

With the decline of rain forests it is but natural to lose the unique life forms associated with this habitat. To quote Dr. Alf Leslie, Reader in Forestry Economics, University of Canterbury, New Zealand: "Study on the tropical forest wildlife have hardly started, so that evaluation of the economic implications is sheer guess work."

Unfortunately, before such studies are off the ground this habitat is disappearing. What chance have the life forms got?

There are many wild and beautiful places around our city where once can enjoy the wilderness, hike or cycle, in the cool, calm, serene and tranquil countryside, to relax and refresh. And most important of all - to associate with nature and learn her beautiful, intricate ways.

DISSECTION OF A BLUE ROCK PIGEON'S NEST

- Aasheesh Pittie

When I took it down, the nest had been abandoned for 2 months. Three clutches of eggs were laid, all three stolen by crows. The nest was situated in the angle of two walls, on a ledge, about 20ft. above the ground and partially open to the sky. There was a slight depression in the platform of enmeshed twigs, where the eggs were laid. The nest could be reached by a ladder, from a verandah, midway between and the ground. Following are the items collected from the nest.

Dry leaves	10	Broom stick twigs	14
Decayed leaves	50	Tablet packing (2.9cmx1.9cm)	1
White string	3	Twigs with thorns	404
Red string	1	Twigs without thorns	16
Orange string	1	Thin wooden pieces	3
Green string	1	Barkpieces	78
Feathers(all, of the birds)	33	Dry stalks and grass	2
Coconut husk (13cmx1cm)	1	Very fine nylon strings	<u>624</u>
Purple cloth strip	1	Total	
Polythene strips	4		
Shoelace, white (9½ cm)	1		

This nest was collected on the 19th of August, 1980.

Sir,

I wish to become a subscriber member of the Hyderabad Nature Club, and receive the issues of 'BLACK BUCK'.

Name
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Signature

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NOTES FROM THE EDITOR

As man spreads his dominions and his progenc surge over the earth in search of more and more land, the wilderness disappears. Without the wilderness the homo sapien cannot live long. More and more people are beginning to realise this and have commenced to prenent such a disaster from occuring. Some find joy in the aesthetic part of nature, some in the sdientific.

The article by Mr. Madhukar Reddy represents the aesthetic side of the wilderness. The spirit of adventure and the joy of nature coexist in it.

Mr. Hashim Tyabji's article represents the scientific side of nature. To prevent ecological mishaps by the folly of man, from occuring, scientific studies have to ascertain ways to safeguard the environment. Mr. Tyabji's article is part of such a study. It is a very small part - a drop in the ocean. But without such drops - however small they be - can an ocean be made? Mr. Hashim Tyabji is the son of Capt. N.S.Tyabji, the Hon. Rep. of World Wildlife Fund-India, in Andhra Pradesh.

Mr. Binod C. Choudhury continues the serial on Habitats.

Vanishing Wildlife of India will appear in the next issue.

FOR PRIVATE CIRCULATION ONLY.

Edited by Sunil Gupta and Aasheesh Pittie.

To,
Aasheesh Pittie,
Secretary, Hyderabad Nature Club,
14 - 7 - 370,
Begum Bazar,
Hyderabad - 500 012.



HYDERABAD NATURE CLUB

Starting on the 22nd of November, a little over a year ago, by a small group of students, Hyderabad Nature Club has grown in its membership and excellence to the proposition it is today. Members of the club come from various colleges of the city, and from various faculties like sciences, arts, commerce, medicine, etc., whose most common interest is an active love for nature and its various manifestations. The members meet every fortnight to discuss plans of the next project and to share their experiences of the past fortnight with others.

The Hyderabad Nature Club is affiliated to the Nature Clubs of India, of the world Wildlife Fund-India, based in Bombay.

The primary objective of the club is to learn more about nature in all its forms - fauna and flora - and to aid in its conservation of it.

The club motivates its members to revel in the freedom and joy of outdoor far from the bustle of impersonal cities.

The club help to pass on the message of conservation everywhere.

The club endeavours to acquaint the layman with the uses of nature and its conservation and to help understand its needs.

The Hyderabad Nature Club aims to bring people closer to nature.

Join the Hyderabad Nature Club, help conserve the wild.



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Photo Courtesy : Mr. Binod C. Choudary

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BLACK BUCK

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NEWSLETTER

OF

HYDERABAD NATURE CLUB

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AWARENESS OF CAMPAIGNS TO CONSERVE WILDLIFE: A STUDY IN HIGH SCHOOL CHILDREN.

- Sunil U. Guptan

It is an arrogant assumption that human beings are lords and masters of the lower creation. On the contrary, being endowed with greater things in life, they are the trustees of the lower animal kingdom.

- Mahatma Gandhi

Conservation of nature, far from being a luxury, is a vital necessity, if all people are to enjoy a worthwhile life.

- John Loudon

On these themes are the campaigns to conserve wildlife fast gaining their vital impetus, as more people become conscious of the diminishing wildlife and nature around them. During the past few years the campaigns have increased many folds.

Campaigns to conserve wildlife are aimed at getting the people to know - what is wildlife, - how important it is, - why it should be conserved, - how it is being conserved, - what one can do to help.

The campaigns have increased, but have they been able to reach their targets?

The only systematically organised section of the society, towards which most of the campaigns to conserve wildlife have been aimed are the schools. Organisations that campaign for the conservation of nature, design specific programmes for children. The message of conservation is conveyed through an increasing number of media like, - movies, slides, posters, zoos and sanctuaries and programmes like, - nature clubs, competitions, exhibitions, etc., by different bodies like the A.P. Forest Dept., the WWF-India, the Hyderabad Nature Club, etc.

But are the children aware of the campaigns?

It is to seek an answer to this question that this study was undertaken. Attempt was also made in this study to find out if there exists any relationship between - sex & awareness - educational level (class) and awareness - and urban or rural background & awareness.

This study is bound within the limits of the high school sections of the three schools viz., Vidyaranya High School, Gujrati High School (Sec'bad), Kendriya Vidyalaya, Picket.

10% of the high school section of the three schools were surveyed taking equal number of boys and girls from the 8th, 9th and 10th classes. (Selected by a system of stratified cluster sampling, care was taken that the selected sample was representative of the whole.) The survey was based on questionnaire, which was designed keeping in mind that the educational level of the children did not exceed the high school level. It consisted of 24 questions covering the scope of information to be obtained. The information sought in the questionnaire, was kept within the scope of the high school children, and covered by the campaigns directed at them.

Awareness was taken as an exposure to a minimum of 3 of the media or the programmes and having knowledge of any one of the information sought in the questionnaire.

Based on the data obtained on the systematised analysis of the information gathered through the questionnaire, certain conclusions were drawn:-

In this study, 29.2% of the children were aware of the campaigns to conserve wildlife. Boys were more aware than girls. 41.67% of the boys were aware, while only 16.67% of the girls were aware. Educational level (class) had a positive relationship with the awareness of campaigns to conserve wildlife. While 16.67% of the children of 8th class were aware, 25% of the 9th and 45.83% of the 10th class were aware. In this study, the level of the total family income had a positive relationship with awareness. 20% of the children who come from families with total income Rs500 or below were aware. 22.22% of these who come from

families with total income between Rs501-1000; 25% of those from families with total income between Rs1001-1500; 44.44% of those from families with total income between Rs1501-2000; 63.64% of those from families with total income of Rs2001 or above - were aware. The percentage of children aware goes up as we move from the group of total income of Rs500 or below up to the group of the total income Rs2001 or above.

Membership of parents of organisations engaged in wildlife conservation did not play any significant role in the awareness of the children. 20% of the children whose parents were members of organisations engaged in wildlife conservation were aware, while 30.8% of the children whose parents are not members, were aware. Urban or rural background did not make any substantial difference in the childrens' awareness. 30.19% of the children with an urban background were aware of the conservation campaigns while 26.3% of the children with a rural background were aware.

Certain additional data was also obtained, which does not necessarily have anything to do with the study of the awareness of the children of campaigns to conserve wildlife. Based on these data, the following conclusions could be drawn:-

With more than 90% of the children feeling that hunting should be banned, that wildlife should be preserved in the forests, and 'hungering' to know more about wildlife, the first half of the campaign objectives are already achieved - before the start of the campaign itself. What is needed is to build on the existing foundations and channelise the willingness into an enthusiasm for the full realisation of the campaign objectives.

Though the posters produced by the A.P. Forest Dept. and the WWF-India are good and attractive, more than three quarters of the children have not seen any. This is because there are not enough posters available to the children and those posters that could be available are too highly priced or not properly distributed.

Despite the fact that there are a large number of wildlife sanctuaries in A.P., most of the children are not able to name any. This is due to the inadequate publicity given to the sanctuaries and the lack of free information available.

More than $\frac{3}{4}$ do not know of any wildlife exhibitions in the city. The Forest Dept. officials claim to have sent circulars to all the schools. The school authorities claim to have displayed them. Yet the children do not know about it. More care should be taken by the officials of the For. Dept. and the school authorities to ensure that the message is received by the intended receiver.

Only a little over 1% of the children have taken part in the competitions of the For. Dept. More than $\frac{3}{4}$ of the children did not know about them being conducted. Here again, the For. officials have sent the circulars. But they have not reached the

children. The school authorities don't seem to take enough care to let the children know about the competitions and prepare them for the same.

More than half of the children who are not members of any nature clubs, gave 'Having no facility' as their reason for not being members. Capt. N.S.Tyabji, Hon. Rep. of the WWF-India in Hyd'bad says that there are not enough talented teachers with genuine interest in wildlife to run the nature clubs. The school authorities blame the WWF-India officials as being unresponsive. What is needed is, instead of blaming one another for the existing problems, a more constructive approach be adopted to work together.

With more than 80% of the children interested in wildlife, and only less than 30% of them aware of the campaigns to conserve wildlife, despite the fact that more than 90% of them want to know more about wildlife, the existing campaigns are just not good enough.

ETIPOTHALA - A CROCODILE HAVEN.

- Pranesh Badami

Etipothala waterfalls are situated about 18kms from the Nagarjun Sagar Dam, on the Chandravanka stream, which joins the River Krishna after 3kms. The water falls from a height of 70 feet, and is at the eastern most end of the Nagarjuna-Srisailem Sanctuary - the general vegetation being scrub forest. Wildlife here consists of small mammals, common birds, and ofcourse, Mugger Crocodiles (Crocodylus palustris).

The Crocodile Conservation Project started in late June 1976, was approved by the Govt. of India, and receives aid and expert technical advise from the FAO/UNDP crocodile experts posted in India.

This project was implemented for the conservation and rehabilitation of crocodiles into their wild habitats, which were being threatened by man.

The first release of 4 Muggers was on 7th Feb. 1977, the 2nd and 3rd releases of two each, on 2nd Dec. '78 and 3rd Sept. '79 respectively. Thus, the total number of crocodiles is now 8.

The reason for Etipothala being chosen for rehabilitation of the Mugger was; Firstly, due to its ideal conditions of habitat, and also, being close to the Nagarjuna Sagar Dam, could be developed into a tourist spot.

A group of 10 members; Mr. Prabhakar, Mr. Sukhdham and myself, from our club, headed by Mr. Binod C. Choudhury, our advisor, made a trip on Nov. 9th, 1980 to this place.

Travelling in a comfy landrover, we left Hyd'bad at 7.45am. We stopped at Vijay-Vihar, a 10-acre Deer Park with Black Buck (Antilope cervicapra), Chinkara (Gazella gazella) and Spotted Deer (Axis axis). A small pool, similar to the enclosures at the Nehru Zoological Park, has been constructed. Initially a tourist attraction, it may be converted into a breeding pond in the future.

We proceeded to Etipothala Falls and spent 2 hours there. There were quite a few tourists. The falls were really a spectacular sight. Descending down a few steps, we came to the river bank. Further up, near the bathing ghat, there is an old cave temple. In an adjacent cave, we saw many Fruit Bats (Cynopterus sphinx?) We ascended again and walked about 2kms through undulating scrub jungle. We reached the waters' edge and after a short rest, walked back, and had a 'picnic lunch'. We could spot a total of 3 Muggers, one near the falls, the other two, further downstream.

On our return, a group of school children were firing crackers at the bathing ghat. This type of disturbance to wildlife, specially in a sanctuary, comes from public ignorance. Sanctuaries are meant for protection of wildlife, and people could appreciate them more if they refrain from harming or endangering wildlife.

We left the falls and returned to Nagarjuna Sagar at 2.00pm, but missed the launch to Nagarjuna Konda, an island museum in the reservoir with Buddhist relics, and also an island Deer Sanctuary. Gate No. 10 of the Dam was open, and we stopped for $\frac{1}{2}$ an hour on the dam.

Then came the most spectacular and uncommon sight of our trip. We spotted a flock of about 52 Flamingoes (Phoenicopterus roseus)!! We were all very much pleased and excited about it. They must have been migratory birds, and flew away shortly.

We left Nagarjuna Sagar at 3.00pm and reached the city at 7.00pm, via Mahavir Harin Vanasthali (13Kms from Hyd. on the Vijayawada highway - see Black Buck Vol I No. 2), where we halted for 45 minutes and spotted Black Buck, Spotted Deer and a few Wild Boar plus some Crow Pheasants (Centropus sinensis). We were back at the Zoo at 7.45pm.

Though it was only for a day, the trip was worth every minute and we hope to visit the falls again.

Editor's Note:- According to a press note dated Nov. 10, over 20,000 Flamingoes were sighted at Point Calimere, coastal sanctuary. Could the birds seen at Nagarjuna Sagar be on their way to the same place?

MAN'S SURVIVAL IS IN DANGER.

K. Narayan

To the question whether man's survival is in danger, my answer is not a firm yes but a mixed yes and no. I would elaborate.

Prof. George Wald, retired Prof. of Biology, Harvard University, who took part in the Science Congress in Hyderabad, is of the opinion that nuclear weapons promise to bring 'Kaliyuga' to an end. What would happen if U.S.A. and U.S.S.R. start attacking each other for just half an hour utilising their nuclear weapons? Should such a major war occur nobody would escape. All the human beings and many other forms of life on the globe would suffer equally.

He recalls that the industrial revolution promised humanity abundance and endless leisure. But about a century ago it began to turn devastating. "Three billion years of life on this planet, three million years of man like creatures, some 10,000 years of civilisation and then a mere 200 years of Industrial Revolution has brought us to the brink of extinction of our species."

To many people now, "civilisation without petroleum is unthinkable." Some were now saying "We cannot live without nuclear power." Prof. Wald says "The reality is that we cannot live with nuclear weapons."

There is a tinge of sadness in him when he says, "I am sorry to say that my country demonstrated in the Vietnam war that one could commit both ecocide and genocide, with conventional weapons." Yet, however devastating those effects, when the war ended one could count the dead and add up the destruction. But the effects of nuclear weapons were not limited in either space or time.

Prof. Wald stresses that this qualitative difference between conventional and nuclear weapons extend to fossil fueled plants and nuclear power plants. When the fossil-fueled plants polluted the immediate environment for sometime, the nuclear power plants would eventually pollute the entire planet for thousands of years.

Nuclear power plants, according to him, threaten life in 3 distinct ways. The first is the danger of a major accident. The second, is the danger of producing Plutonium 239 by the nuclear installations as a by product. It is considered to be a toxic substance and a material to prepare fission weapons. "Inhaling one milligram, a good deal less than a pinhead, would cause death within hours, of massive fibrosis of the lungs. Inhaling one thousandth of that has the danger of eventual lung cancer."

The third danger comes from the disposal of the nuclear wastes. The US Govt. has "Generously taken over the shipping around of nuclear waste" at the cost of the tax payer again and not the industry. But it did not know where to dump the waste. The waste material would remain radioactive for upwards of 100,000 years.

The decommissioning of nuclear plants would also pose a major problem. Prof. Wald says, "A nuclear plant's life is 40 years. When it becomes obsolete, not only the spent fuel but the entire structure would be radioactive. All you can do is to bury the dead plant under mountains of earth. For how long can you bury the plant and stand guard over it?"

That would be very expensive operation, but not as expensive as going on using them." Then, why is it that the super powers continue to produce nuclear power weapons? "It is all economics. In US alone, it is a million dollar business. If we stop it, it will be the second American Revolution". Wherever he goes he utters a slogan which he says he heard in Australia, "Keep the uranium in the ground."

Not content with the danger to humanity from the nuclear hazards advanced nations are experimenting with deadly toxins and germ warfare which are considered many times devastating than the nuclear weapons. An article in the Reader's Digest recently published gives a vivid description of the devastation caused by an accident in a factory in Italy, which produced an abnoxious gas which settled round a small village. The pollutant was so devastating that the whole village was evacuated and it took a year for the Govt. to restore ecology.

These instances surely predict that man's survival is in danger. However I am not pessimistic. I have the belief in man's inherent goodness which would definitely make him realise the future hazards of playing with such devastating weapons and he will try to live with nature for the welfare of mankind and survival on this planet and therein my answer is no.

Comments on this article would be gladly accepted. Please write to Secretary, Hyderabad Nature Club, or K.Narayan, 1-1-216, Viveknagar, Chikkadpalli, Hyderabad-500020.

HABITAT - III

DECIDUOUS FORESTS

- B.C.Choudhury.

As a habitat the deciduous forests (both temperate and tropical) perhaps form one of the largest areas in the world. The deciduous forests are found in places with evenly distributed rainfall (30 to 60 inches) and moderate patterns.

The temperate deciduous forests which originally covered all of Europe, part of Japan, Australia, eastern North America and tip of South America are now much reduced. These type of forests are usually dominated by broad-leaved trees that are leafless during the winter over most of the area. However, depending on the area some may be evergreen. Usually this area represents a dense forest form with a closed canopy. But when it is in association with prairie type areas, gives way to savannas containing scattered groves. The scrub stratum is poor because of dense shade but well developed at the edge of the forests. The herb stratum is rich. The leaves of all vegetation are intolerant of freezing temperatures in winter and hence are shed. The temperate deciduous forests form extensive ecotones (where two type of vegetation meet) between deciduous forests and coniferous regions and between deciduous and grasslands. Since the herb and scrub layer are well developed, the soil fauna is rich. Large number of plants producing pulpy fruits and nuts are also to be seen. Important animals of these type of forests include Virginia Deer, Bear, Grey and Fox Squirrels, Grey Fox, Bobcat, Wild Turkey, Mountain Lion, Opossum and Chimmunk. The bird life is represented by Red-eyed Vireo, Woodthrush, Tufted Titmouse, Ovenbird and several Woodpeckers of which Overbird and Red-eyed Vireo are usually the dominant species.

In the tropics the major vegetation is (WAS?) the deciduous forests. Depending on the moisture conditions, the vegetation may be tropical scrub and thorn forests or tropical deciduous forests. A minimum of 65 inches of rainfall permits development of broad-leaved evergreen trees. Starting from scanty to high rainfall the tropical vegetation goes in the order of desert or thron scrub to savanna or tropical deciduous forests to broad-leaved evergreen or rainforest.

A tropical deciduous forest, including monsoon forest, is more or less leafless during the dry season, is less lofty than the broad-leaved evergreen forest, but has a higher and more continuous canopy than savanna forest. The forest has usually 2 tree strata. In the upper stratum the trees are scattered and strictly deciduous. A proportion of the lower stratum is evergreen. Eventhough there have been no detailed studies on the fauna of the tropical deciduous forests, it is believed that the total animal population in deciduous forest communities will be in the ratio (in

number) of 1 bird, 3 mammals, 13,000 snails and slugs, 20,000 centipedes, millipedes, etc., 35,000 arachnids and 225,000 large insects of individuals - per hectare.

Deciduous Forests In India.

The natural vegetation cover nearly all over India is the tropical deciduous or monsoon forest, with the exception of Himalayas, Thar and the Western Ghats. Deciduous forests are found in a long strip on the eastern side of the western ghats, in the north east of the peninsula (in Chota Nagpur, Orissa and Eastern Madhya Pradesh) and in a large strip along the Siwalik Hills in the Bhabar and Terai region. Since the leaf-fall period in different species differ, the forest is rarely ever absolutely leafless, even though in six to eight weeks most trees shed their leaves. In hot weather the forests have a burnt out appearance. The undergrowth in moister localities is evergreen and is usually denser than the rainforest. Climbers and bamboos are common. Sal (Shorea robusta), Teak (Tectona grandis), Sisso (Dalbergia sisso) are the famous tree species in this area and species like Terminallia, Santalum, Bassia and Acacia are also found. In fact depending on the abundance of Sal and Teak the Indian deciduous forests have been named as Sal or Teak forests.

Deciduous forest regions represent one of the most important regions of the world. In this region the "White man's civilisation" has achieved its greatest development. As such this area has been greatly modified and vast areas of deciduous forest have been replaced by cultivated land mostly by forest-edge communities. In India, pressure of population growth and unlimited demand of land has brought about the destruction of extensive areas of deciduous forests and much of former humid deciduous areas have been transformed into semi-arid deciduous forests or even into scrublands. Much of what remains now caters to the vast industrial needs like paper, rayon, etc., and with no alternate of fuel, a large quantity of this habitat is used as such. The typical Deciduous forests of India - where her magnificent fauna dwells - are fast vanishing. With the decline of this forest type quite a few animals that prefer good vegetational cover (large carnivores, Gaur, Sambhar, etc.) have only one alternative - to fade out of the scene! Of the vast stretch of deciduous forest in India what ultimately will remain are the few thousand square miles of discontinuous wildlife sanctuaries, each an island by itself.

"Nature's polluted,
There's man in every secret corner of her
Doing damn wicked deeds."

- Thomas Beddoes.

VANISHING WILDLIFE OF INDIA - 6.

Indian Wild Ass (Equus hemionus khur).

This little known animal that once roamed the plains of N.W. India, Pakistan and S.E. Iran, is now limited to the Little Rann of Kutch in Gujarat state. It has also been sighted in the Great Rann of Kutch.

The Indian Wild Ass belongs to the family of horses and zebras - Equidae. This animal is about 4 feet high at the shoulder and resembles the domestic ass, which is 3 ft. tall. The colour of its coat varies from reddish grey to fawn. The erect dark brown mane is continued as a dark brown stripe along the back upto the tail. Its lower parts are white.

The Little Rann of Kutch is a vast expanse of salty clay soil which during the monsoon forms a great stretch of water - the sea, blown and driven by the S.W. Monsoon, and the rivers emptying into it. Here and there some highlands called locally as 'bets' occur on which there is plenty of grass. The Wild Ass in the wet months is confined mainly to these bets which are unapproachable. In summer the Rann becomes one big 'desert' where nothing grows (due to the salinity of the soil). During these months the Wild Asses roam the vast plains either in herds of 10-20 or alone, and at night they graze on the lands bordering the Rann. They also raid nearby cultivated lands. These Asses can maintain a speed of 50kmph. for a considerable time when chased.

The breeding activity commences soon after the rains and takes place in the months of August-October. The period of gestation is 11 months and young foals are dropped (only 1 at a time) during the rainy season.

Their stature, sturdiness and speed suggest that an experiment to breed mules from these animals would be well worth consideration - yet another example of the probable future use of genetic resources which wildlife conservation provides.

These animals were estimated to number about 4,000 in 1954, but are now reduced to a mere 720. The main causes of this declination in their numbers are habitat destruction and competition by domestic livestock for grazing. Conservation measures have been initiated and the Little Rann and surrounding areas, extending over an area of 4840sq. km. has been declared as a sanctuary.

EDITOR'S NOTE:- A pair of Indian Wild Ass has been recently acquired by the Nehru Zoological Park in our city.

CLUB ACTIVITIES.

- The Chairman.

These last 4 months have been a busy time for HNC members. The 'Wildlife Week' celebrated annually (first week of October) by the Andhra Pradesh Forest Department, was a great show. Our members, to spread the message of conservation, also took up two projects in this week.

Films were shown in two schools of the city. The students of St. Paul's High School were shown 'Gorilla', while those of St. George's Boys Grammar School were enthralled by 'Saguaro'. We are thankful to the A.P. Forest Department for providing the films shown.

The club members also put up a stand in the Nehru Zoological Park, where they sold World Wildlife Fund-India products like posters, pamphlets, stickers, etc. The stand was up for two days, in that week, and sales to the tune of Rs 330/= were made. Capt. N.S. Tyabji's tremendous help is gratefully acknowledged. We also thank the Curator of the zoo, Mr. Kamal Naidu and his staff for their cooperation. Members who participated in the above projects are; Mr. Pranesh Badami, Mr. D. Bala Venkatesh Varma, Mr. Aasheesh Pittie, Mr. Sunil Guptan, Mr. Govind Kulkarni, Mr. K. Narayan and Mr. Venugopal. Mr. B.C. Choudhury, our advisor was also extremely helpful.

Talks In The Club:-

- 18th September 1980 - 'Operation Rhino', by Dr. J.B. Sale; about the Rhino census in Kaziranga.
16th October 1980 - 'Ecology of the Indian Tiger', by Mr. Hashim Tyabji.
4th December 1980 - 'Trekking Experiences in Some Indian Sanctuaries', by Mr. Rahul Chettri, and an audio-visual presentation by Mrs. Neela D'Souza - 'Our Heritage'.

Members from the club went to Etipothala Falls, in Brisailam - Nagarjunasagar Sanctuary with the Advisor, Mr. B.C. Choudhury, to do some crocodile spotting. A report is on page 4 of this issue, by Mr. Pranesh Badami. We thank the Central Crocodile Breeding and Management Training Institute for their help in providing transportation facilities.

- Contd. overleaf.....

Projects for 1981:-

Members proposed a number of projects for 1981. Two have been agreed upon.

1). Musi River Project:- It was decided to monitor the level of pollution in the Musi River which flows through our city. Technical assistance will be given by the Zoological Survey of India's Freshwater Research Station. Members responsible are Mr. K. Narayan, Mr. Pranesh Badami, Mr. Madhukar Reddy and Mr. Govind Kulkarni.

2). Bird Census in the Nehru Zoological Park:- It was proposed that there be a regular monthly bird census in the zoo. Members participating - Mr. Aasheesh Pittie, Mr. D. Bala Venkatesh Varma, Mr. Sunil Guptan and Mr. Prabhakar.

NOTES FROM THE EDITOR.....

We of the Hyderabad Nature club are extremely grateful to all you readers who have become one with us in raising our voices to avert the impending tragedy of our WILDLIFE HERITAGE, and also to support a club and its magazine, at their birth.

We believe our cause to be one of the greatest in the world today. We believe that by joint effort and loving care, knowledge and understanding, we can deliver our national Wildlife Heritage from the agony of a choking death to the abundance which Mother Nature has power to provide. We believe this because we have your support. We hope you will uphold this cause in the coming year, and continue to champion the Hyderabad Nature Club's newsletter - BLACK BUCK.

Our club meets on every first and third Thursday of the month at St. Paul's High School in Hyderguda. Meetings start at 5.30pm. The programmes are communicated to you via the engagement columns of The Hindu, The Indian Express and Deccan Chronicle. For all details contact The Secretary, Hyderabad Nature Club, 14-7-370, Begum Bazar, Hyderabad-500012.



HYDERABAD NATURE CLUB

Starting on the 22nd of November, a little over a year ago, by a small group of students, Hyderabad Nature Club has grown in its membership and excellence to the proposition it is today. Members of the club come from various colleges of the city and from various faculties like sciences, arts, commerce, medicine, etc., whose most common interest is an active love for nature and its various manifestations. The members meet every fortnight to discuss plans of the next project and to share their experiences of the past fortnight with others.

The Hyderabad Nature Club is affiliated to the Nature Clubs of India, of the World Wildlife Fund India, based in Bombay.

The primary objective of the club is to learn more about nature in all its forms - fauna and flora - and to aid in its conservation.

The club strives to create an interest in the young boys and girls in nature and to learn to enjoy its freshness and beauty without destruction of it.

The club motivates its members to revel in the freedom and joy of outdoor far from the bustle of impersonal cities.

The club helps to pass on the message of conservation everywhere.

The club endeavours to acquaint the layman with the uses of nature and its conservation and to help understand its needs.

The Hyderabad Nature Club aims to bring people closer to nature.

Join the Hyderabad Nature Club, help conserve the wild.

Published by

HYDERABAD NATURE CLUB

Cover Photo : Striped Hyena (*Hyaena hyaena*)

Photo Courtesy: Mr. Binod C. Choudary

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