

Editorial

All life is precious, visible or invisible to us; microbial, floral, faunal; known and unknown. Life seeks energy from non-living sources like sunlight, soil, water and such like. Life can be protected only out of our love and respect for life and life giving sources. Education is the only way that can kindle both, because man is conscious, intelligent, curious and above all receptive.

Ela is the Sanskrit name for Earth, Mother Earth, because she bears all known life forms. *Ela* also means to speak. We shall speak for Mother Earth in *Ela Newsletter* and help connect people to nature. We shall endeavor to present honest views, avoid harsh statements and inspire thought to promote conservation.

Culture has saved much of our natural heritage and the theme of 'Ancient Wisdom' shall convey this aspect. *Ela*-Earth is an infinitesimal fraction of the unfathomable cosmic expression, and 'Life and Stars' intends to paint a larger perspective in relation with life. Zooming in on Planet Home, 'Habitat Problems' conveys a deep concern, because species are dependent on habitats. Today, we are playing with habitats, like 'flies to wanton boys; who kill us for their sport', if I may quote Shakespeare. Human progress is challenging the very right of existence of species. Can we survive without oxygen that only plants can give unto us? Newsletter gives you tips on nurturing endangered plants and bird-trees.

Life is wonderful and in the 'Science' section in this issue, you shall enjoy amazing glimpses of insects, our most populous taxa. Reviews, events, updates, how-can-I-help - are here, but importantly we have a 'Kids Section', not only because future belongs to our kids but also because a child hides in each one of us! In 'Naturally with Nature', you will meet inspiring nature caring people from our region.

Committed scientists concerned about conservation are our editors, advisors and contributors. We nurture a global view with conservation focus. The newsletter is intended to be an educational tool that our precious members may also utilize to attract more people to our side.

I request each member of Ela Foundation to invite one new member to our family to widely disseminate the message of conservation and to strengthen the conservation opinion that can be heard by our policymakers.

In the newsletter we connect with our continent, Asia, in 'Asia Speaks', where we understand conservation problems of our neighbors. We believe in cooperation and collaboration to safeguard the natural bounties for our unborn generations. All life is important in human perspective, and also for life's own sake. *Ela Newsletter* is an attempt to promote respect for Life.

- Satish Pande

In This Issue

- ◆ Ancient Wisdom - India
- ◆ Life and Cosmos
- ◆ Habitat Problems
- ◆ Asia Speaks
- ◆ Range Extension
- ◆ Travel
- ◆ Kids Section
- ◆ Book Review
- ◆ Science
- ◆ Naturally With Nature, **and more..**

Bharat Mallav



Days to Remember

- ◆ World Wetland Day -- 2 February
- ◆ World Bee Day -- 5 February
- ◆ Earth Day -- 22 April
- ◆ Migratory Bird Day -- 3 May





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The Sanskrit language has two aspects – the Vaidika (vedic) and the Laukika (secular). The tradition of Sanskrit literature goes back to thousands of years (according to various scholars this is estimated to be between 6000 BC to 10000 BC) and the base it has given Indian culture and philosophy is still very much alive. The Upanishadas represent a great tradition which is universally relevant and applicable. There are more than 200 Upanishada texts presently available. The word Upanishada means 'sitting near' – it refers to the divine wisdom that is passed on from guru to pupil. Upanishadas are also called Vedaanta (the end of the Vedas) as they contain the gist of the Vedas. During the age of the Upanishadas, no importance was given to the caste system. Rather, importance was given to the highest standards of knowledge of the inner and outer reality, truth, righteousness and purity, irrespective of any differences.

Man is an integral part of nature. The Upanishadas teach that the individual self (vyashti) and all other aspects that are beyond the individual self (samashiti) are one and the same. Therefore, there is harmony, unity and respect for the entire nature and self, but at the same time there is no attempt to exploit nature and its resources. This series in Ela Newsletter is written with the intention of rekindling the deeply philosophical and respectful attitude of our forefathers, which is imbibed in our rich culture, so that the present overexploitation of nature may slow down and eventually stop.

In our forthcoming issues of the Ela Newsletter, I will present a few examples from the Upanishadic wisdom such as this one.

The Isha Upanishada says,

“Hiranmayena paatrena satyasaapihitam mukham |Tattvam pushannapaavrunu satyadharmaaya drushtaye ||” II15II

'The face of Truth is hidden
By the lid of the golden orb.
Please remove it, O Thou,
Who nourishes the world,
So that I may see Thee
I who am devoted to Truth.'

Here, the sage prays for divine revelation. The Vedic seers respected the Sun as a source of all energy. Pushaa is the name given to the Sun, which nourishes the world. The Rigveda describes Pushaa as the protector of animals. Pushaa knows all routes, and can search for lost animals. Pushaa is the deity to light. Life on earth sprouts due to sunlight. When the sage says, 'O Sun, please remove that attractive golden lid, so that I may see your True form', we are taken to the subtle levels of spiritual and ecological thinking. It means that one is not satisfied with appearances but needs to go to the roots. 'Golden orb' also means the alluring physical aspects of things. People are engrossed in the perishable beauty of the so-called luxurious, synthetic life. The world we live in snatches away the inner power to understand the importance of nature. That's why we need to know the path to effulgent reality through the omnipresent Sun. The path of Truth enables us to become compassionate and caring.

* Suruchi Pande, PhD (Philosophy), PhD (Sanskrit), is a post-doc research scholar presently working on “Owl in Indian Culture”





As we appreciate the beauty of a Painted Stork, a Brahminy Shelduck or any of the myriad other birds that inhabit our planet - from the tiny humming bird to the large ostrich, we continue to be amazed by their striking forms and colours. These and other life forms are ultimately sustained by the energy from the Sun. Our ability to see them and appreciate their beauty is also due to the radiation we receive from the Sun. Let us reflect briefly on these two aspects.

Our view of the Universe is largely due to the electromagnetic radiation that we receive from celestial objects, whether it is from exotic objects billions of light years away or from a very nearby object such as the Sun. For thousands of years, our understanding of the Universe was confined to the visible region of the spectrum, whose wavelength ranges from approximately 380 to 740 nm. Radiation or 'light' in this very narrow window comes through without significant absorption in our atmosphere. For most other wavelengths, except for a major part of the radio window, the radiation is strongly attenuated or absorbed in our atmosphere and we have to make observations of celestial objects from satellites, mountain tops or balloon-borne instruments.

We are fortunate that the Sun emits primarily in the visible region, with its radiation peaking at approximately 500 nm, which is near the middle of the visible range. The spectrum of emission from the Sun is close to that of a 'black body', corresponding to a temperature of approximately 5770 K ($100^{\circ}\text{C} = 373.15\text{ K}$). The close correspondence between the spectrum of the Sun and the relative transparency of our atmosphere to 'light' in this wavelength range makes it possible for us to appreciate the beauty of the birds and the rest of nature that surrounds us. Our ability to view the Universe and our surroundings in 'visible light' must be due to the biological evolution of the human eye.

The Sun and other stars produce energy in their central regions via nuclear fusion where temperatures are large enough for these reactions to take place. In the Sun, which has a mass of 1.99×10^{30} kg, the central temperature is ~ 16 million K, and energy is produced by the fusion of four protons to form a helium nucleus. Helium nuclei combine via nuclear fusion to form carbon and later helium combines with carbon to form oxygen. Heavier elements are synthesized in the interiors of more massive stars where central temperatures are higher. Except for the light elements including lithium and beryllium, which are synthesized in the early phases of the Universe, heavier elements which make up the objects of our everyday experience have been synthesized in the interiors of stars. Oxygen and carbon, two of the main constituents of our bodies, have also been synthesized in stellar interiors. The relative abundance of the different elements is governed by the subtleties of quantum physics, with oxygen and carbon being two of the most abundant elements after hydrogen and helium in the solar system. For example, if helium could combine easily with oxygen to form a neon nucleus, most of the oxygen and carbon would be transformed to neon, an inert gas. Fortunately this was not to be.

The physics of fusion had to be just right for the appropriate abundance of elements for life to form and evolve, and for us to be able to see and appreciate nature and the birds around us.

* D. J. Saikia is a Professor at the National Centre for Radio Astrophysics, TIFR, Pune, Editor BASI, and a student of the 8th 'Certificate Course In Basic Ornithology' (2011-12) conducted by Ela Foundation and M.E.S. Abasaheb Garware College, Pune.

Habitat Problems

The Deccan Grassland - Amit Pawashe *

Grasses are the predominant plants in grassland. The Deccan Plateau of Maharashtra, to the east of the Western Ghats, comprises of semi-arid regions which support several species of grasses following the destruction of once flourishing forests. This semi-arid region forms a major ecosystem. These grassy scrub lands are considered poorly productive for agriculture and are termed as "fallow lands". Due to thin soil cover and low rainfall such regions harbor grassy areas intercepted by few thorny bushes. Interestingly, several birds and mammals have adapted to these regions, leading to a rich diversity of vertebrates and invertebrates. Birds like Great Indian Bustard, Lesser Florican, Indian Courser, Yellow-wattled Lapwing, and other like larks, pipits, warblers, buzzards, kestrels, harriers; and mammals like wolves, hyenas, foxes, gerbils, field mice; so also, reptiles like geckoes and lizards; and invertebrates like spiders, scorpions, grass hoppers, stick-insects, and other insects flourish in these areas. Greater degree of adaptation confines some species like Great Indian Bustard and Wolf to these open habitats and hence loss of this habitat leads to loss of such habitat specific species.



Burnt grassland.

© Amit Pawashe

In the vicinity of every village some part of grassy scrub land was traditionally conserved as common grazing land (gaai - raan) for domestic cattle. They were once threatened due to overgrazing. Today, rearing of cattle on small scale is not considered beneficial. Modern animal husbandry recommends rearing of cattle in closed sheds that are fed on nutrient supplements. Thus, traditionally conserved grazing lands are now threatened as they are no more required. These traditionally protected grazing lands are now being converted into non-agricultural, residential and industrial zones. Local peoples are selling these lands to outsiders. These new buyers are neither aware of the inherent values of such ecosystems nor are they dependent on them for survival. People staying in cities are interested in purchasing such land, as a means of economic investment. Large patches of these important ecosystems are now owned by city dwellers that modify and fence them to prevent encroachment, and knowingly or unknowingly, restrict movements of regional wild mammals. The essential safety and privacy needed by nocturnal and secretive animals to raise their young is also lost. Antelopes like chinkaras sometimes entangle in barbed fences, and such incidences are reported in local news papers. Large and once continuous patches of land are now fragmented into smaller pieces by crisscrossing network of roads. Mammals, reptiles and birds are commonly hit by the speeding vehicles at an alarming rate. Chinkara and Striped Hyena killed on roads are common news in local news papers, and such items are not carried by the urban newspapers, where they should be conveyed more than in rural areas, because the speeding vehicles are often from the cities.

The scrub lands that are protected by law are also not really safe. They are under the threat of another kind of conservation activity of plantation, where till recently, exotic trees and non-native plants were widely planted not to mention unwanted weeds. Though the intention behind such programs was good, the alien planted species disturb the delicate balance of the ecosystem rather than maintaining it. Specialists trained in habitat specific conservation of flora and fauna should consult with planners to formulate guidelines and frameworks before the implementation of conservation programs, particularly so for the semi-arid ecosystem.



Hyena road kill.

In villages and small towns, no program is implemented by the local governing bodies to control the population of stray dogs. The stray dogs move in packs in these scrub lands, preying on smaller mammals like the Black-naped Hare and fawns of Chinkara gazelle. Sadly, hunting has also not stopped and the once abundant Black Bucks are today surviving with critical populations in some reserved pockets in Western Maharashtra. The problem is reversed in other areas where they have become a menace due to absence of natural predators.

There are other threats to this unique ecosystem. Particularly during the summer, which is the breeding season of several grassland dwelling birds like larks, buntings, pipits, quails, lapwings, and francolins, fires are purposely lit in the grassy expanses by local people. This leads to large scale destruction. Active nests get scorched along with the local vegetation already struggling to survive in harsh climatic conditions of semi-arid regions. Fire also exposes the shelters of some wild mammals and puts them to jeopardy.

We have already lost the cheetah from the grassland ecosystem. Great Indian Bustard, Black Buck, Wolf, Chinkara, and Monitor Lizard, and some endemic grasses, to mention but a few species, are on the same path. Let us make efforts to protect our semi-arid grassland habitats, more than ever before. Protection of natural habitats in natural states by caring people is the only solution for long term conservation.

* Amit Pawashe is a post graduate in Environmental Sciences and is working for nature conservation in Saswad, Pune District.

Asia Speaks

Conservation in Singapore - Tan Gim Cheong *

By the time it gained independence in 1965, Singapore had already lost most of its natural forest cover. To support a growing economy and population, even the rural areas slowly got converted into high-rise urban housing and industrial estates. However, the authorities wisely embarked on a drive to make the city-state green and thereby mitigate the harshness of city living. In fact, from 1986 to 2007, during which the population increased from 2.7 million to 4.6 million, the green cover on the island increased from 36% to 47%.

Today, Singapore is one of only two cities with a patch of primary rainforest right at its doorstep. The 163-hectare Bukit Timah Nature Reserve is Singapore's oldest nature reserve. In 2002, Singapore gazetted two additional areas as nature reserves – the 130-hectare Sungei Buloh Wetland Reserve, which is an important bird area for migratory shorebirds, and the 10-hectare Labrador Nature Reserve, which holds the only rocky sea-cliff left on the main island of Singapore.

The efforts to make the island state green and liveable has paid off in unexpected ways – for example, the Brown Wood Owl which was not previously known in Singapore was found breeding in 2010. Human needs may be the top priority for land-scarce Singapore but conservation is definitely gaining a foothold in the city-state.

* Tan Gim Cheong is a committee member of the Nature Society Singapore Bird Group & is Raptor Coordinator for this country.

Popular Science

Amazing Facts - Amphibians
Neoteny - Forever Young - Dr. Anand Padhye *

In amphibians, the larvae undergo metamorphosis by shedding their tails and gills, as they move from aquatic life to terrestrial life. One amphibian species from the Salamander group, the Axolotl, is an exception to this rule. The Axolotl *Ambystoma mexicanum*, is a neotenic salamander, closely related to the Tiger Salamander. Larvae of this species fail to undergo metamorphosis, hence the adults remain aquatic and gilled, and never become terrestrial. The species originates from numerous lakes, such as Lake Xochimilco near Mexico City. Axolotls exhibit neoteny, meaning that they reach sexual maturity without undergoing metamorphosis. Neoteny, also called juvenilization, is the retention of juvenile traits in adult life. The word neoteny is borrowed from the German Neotenie. (Greek *Neos* - young and *teínein* - tend to; meaning tending to be young).

Axolotl *Ambystoma mexicanum*

Many species within the Axolotl's genus are either entirely neotenic or have neotenic populations. In the Axolotl, metamorphic failure is caused by a lack of thyroid stimulating hormone, which is normally responsible to induce the thyroid gland to produce thyroxine, for causing metamorphosis in salamanders.

In some species of the Tiger Salamander, some populations may not metamorphose at all, and become sexually mature while still in their larval form. These are the neotenes, and are particularly common where terrestrial conditions are unsuitable. Since iodine is the principal element essential for regulating the thyroid function, neoteny usually occurs in the populations that dwell in streams that are deficient in iodine. Neoteny is also recorded in animals other than amphibians including humans.

* Dr Anand Padhye is Assoc.Prof. in Zoology, MES Abasaheb Garware College, Pune, and member IUCN group for Amphibians.

Range Extension

A Rare Visitor to Satara – Great Pied Hornbill
- Milind Halbe * & Dhairyasheel Dayal *

The Great Pied Hornbill *Buceros bicornis* (Garud in Marathi) is the largest of all hornbills. It is found in the evergreen and moist-deciduous forests of India, in the Western Ghats of Maharashtra, Karnataka, in the North East India, and the Himalayas.

For the last 5 years during the end of the monsoon, we have recorded this hornbill in the middle of the Satara city, the district headquarters, in western Maharashtra, during September and October, staying here from 3 days to two weeks. Though the solitary male was a regular visitor, only once did we record a pair in the city 4 year ago. When this large hornbill arrived in Satara for the first time, people were frightened and thought that a strange flying dinosaur had entered the city! This clearly indicated their ignorance about the birds.

During its short stay, the hornbill was quite bold and was not afraid of hundreds of wonderstruck people following it from tree to tree. We could approach the bird up to 6-7 meters for photography. It fed on the figs of large Peepal *Ficus religiosa* trees, some of which were sadly fell two years back, and also on small coconut *Cocos nucifera*. Closest to Satara, and outside the Sahyadris, this hornbill is seen at Medha, the eastern foothills of the Mahabaleshwar town, about 25 km from Satara; and in the foothills near Pratapgad Fort, near Mahabaleshwar, in Raigad district.

We noticed that Red-vented Bulbuls, flowerpeckers, Coppersmith, juvenile Indian Grey Hornbill and the Flying Foxes shared the same tree with the Great Pied Hornbill.

In the early morning it basked in the sunlight, twisted the neck resting it on the back. It fed in early morning and evening, and in the afternoon it took rest in the canopy of mango or rain trees. The night was spent on Peepal or rain tree. It hopped while feeding and one jump was about a meter long. We estimated that one hornbill devoured up to 1000-1200 figs per day. It plucked the fruit, tossed it upward and swallowed whole. The large beak was surprisingly very dexterous.

After the initial fear was over, people admired this wonderful bird, but occasionally a few urchins' pelted stones for fun. To assure the safety of the rare avian visitors we created public awareness and have tried to conserve the trees that it visited. People of Satara are indeed lucky and privileged because such sighting of the Great Pied Hornbill in the heart of a busy city is very rare, and at least we are not aware of such reports from elsewhere in India.

* Milind Halbe is production Engineer interested in bird photography & nature conservation.

* Dhairyasheel Dayal is an under-graduate student in science faculty. Both are from Satara.



Travel

The Little Rann of Kutch - Winged Paradise - Rajgopal Patil *

Located in the Kathiawar peninsula of Gujarat, the Little Rann of Kutch (LRK) is the last refuge for the Indian Wild Ass. The Rann, also known as the Indian Wild Ass Sanctuary, is a vast expanse of salt marshes and cracked ground but is surprisingly rich in bird life. The sanctuary is well known for Greater and Lesser flamingoes, which are seen on the huge shallow lakes. The famed flamingo nests are found in the Greater Rann of Kutch.

Birdlife

The water bodies in the Little Rann are full of birds like flamingoes, pelicans, cranes, storks (especially the Painted Stork), ibises, spoonbills, ducks, herons, egrets and several waders. The surrounding vegetation and agricultural land houses doves, Hoopoe, coursers, francolins and quails. Larks, sandgrouses, babblers, stonechats, wheatears and raptors like Pallid, Pied and Montague's Harriers are found in the thorny vegetation and grasslands on the edge of the Rann.

The rare birds in the Rann include the MacQueen's Bustard, Syke's Nightjar, Great Crested Grebe and Hoopoe Lark. If you are lucky, you may spot the Short-eared Owls, Peregrine Falcon, Red-necked Falcon and Imperial Eagle too. Apart from the Indian Wild Ass, one may see the Desert Fox, Indian Fox, Indian Wolf, Nilgai, Jungle Cat, mongooses and hedgehogs.

How to reach, where to stay and when

The Little Rann of Kutch is about 120km from Ahmedabad. A journey by road from Ahmedabad takes around 3 hours. The nearest big town is Viramgaon. Safaris in the Rann are organised by groups like 'Rann Riders' near Dasada, 'Desert Coursers' in Zainabad and 'Eco Tour Camp' near Dhragandhra. Ponds, scrub and grasslands, rich in birdlife, are found in the vicinity of the hotels and other accommodations in the Rann. However, a jeep is required to cover the entire Rann, which is a really large area. The hotels arrange for safaris too. Make sure you follow the rules and avoid disturbing the wildlife.



MacQueen's Bustard.

The entire Rann is a low-lying area and becomes a swamp during the monsoon. In summer, the temperatures can be unbearably high. The best time to visit the Rann is during winter, but make sure you carry warm clothes. It would require at least two or three days to cover all habitats, but even a week would be less for an enthusiast. This trip could be combined with a visit to Thol, Nal Sarovar or the Greater Rann of Kutch near Bhuj, depending on the number of days at one's disposal. The Little Rann of Kutch is an unforgettable experience for any birdwatcher. It is indeed a wonder how life survives even in seemingly inhospitable areas.

* Rajgopal Patil is an IT Professional presently focused on Bio-Acoustics.

Interesting Places to visit (Veer Dam) - Raghvendra Manavi *

If you wish to see migratory birds near Pune, Veer Dam is the place to visit. It's just 60 km from Pune, near Shirwal on the Lonand road. The dam is built on Nira River. During winter, this place is full of migratory Bar Headed Geese, Ruddy Shelducks, and Little Ringed Plovers, and if you are lucky also a few Graylag Geese. Demoiselle Cranes arrive here every year along with Eurasian Spoonbills. Apart from these winter migratory birds you can witness bee-eaters, shrikes, drongos, doves, bulbuls, coursers and other birds. You may witness the pied kingfisher hunting for food. Of course don't forget to carry your binoculars and Bird Guides. 'Birds of Maharashtra' is recommended. Happy Birding!!!

Best Time to Visit: October-January (For Migratory Birds), any time during the year (for resident birds).

Preparations: Start early and reach by 6:30 AM to get the most of the bird activities. Food is available in Shirwal. Don't forget to carry drinking water.

An Appeal: Please do not carry plastic bags and do not litter in the dam area. Birds will visit us every year if we keep their habitats clean and healthy. Please help in protecting their home.

* Raghvendra Manavi is an IT Professional interested in Nature Conservation.



Bar-headed Geese.

Blurring Images - Indian Bustard *Ardeotis nigricaps*



kids section



my drawing

Woodpecker at work - Radha Haldule



Shilpa Mahabal

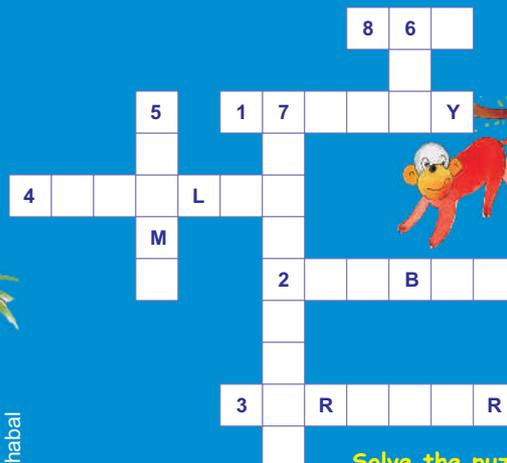
The Primate Puzzle

Horizontal:

- 1. jumps on tree, has a long tail
- 2. lives in NE India, long hands
- 3. long leged primates of SE Asia
- 4. Tarzen's friends
- 8. us

Vertical:

- 5. Jane Godall worked on them.
- 7. human relatives
- 6. our alike from forest of Borneo and Sumatra



Solve the puzzle & send it to us to try your luck & win a prize.

NATURE

When the silk cotton leaves fall
 And the river rushes blue,
 Listen to Mother Nature
 Calling for you!

Black and yellow stripes
 Silently on the prowl,
 Hiding in the green
 Giving a growl!

What a beauty is nature
 With animals and flowers
 We could observe and watch
 For hours and hours!

The lush dense canopies
 The grass so green,
 Life is beautiful
 In a colorful scene!

The deer pick their ears
 The wild boar shoo;
 The birds fly away
 Even the little ones flew!

- Shalmali R. Patil

my photo

Darters - Janhavi Bhide



Please send your drawings, photos, poems & short notes to us. We will consider them for publication.

Book Review

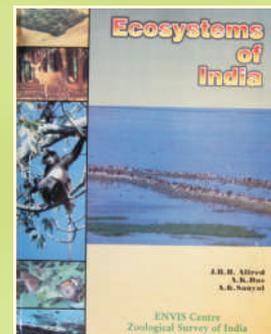
Dr. Anil Mahabal *

“Ecosystems of India’.

Authors: Alfred, J. R. B., A. K. Das and A. K. Sanyal.

ENVIS Centre of Zoological Survey of India: Kolkata. Pp. 1-410. Rs. 2000/-

In ecology, the various natural habitats are classified as ecosystems. Ecosystem can be defined as a dynamic complex of interactive biotic communities such as plants, animals and microbes and their abiotic physico-chemical environment functioning as a unit within a boundary. The boundary could be biogeographic zones (10 in India), biotic provinces (26 in India), land regions and biomes. The descriptions of major ecosystems and micro-habitats within them are described in this book. The book has 18 chapters on various ecosystems like mountains, deserts, forests, grasslands, wetlands, estuaries, mangroves, coral reefs, islands, Western Ghats and Deccan peninsula. The physiography, habitat diversity, species (flora and fauna), affinities, threats and conservation for each are given. Maps, tables, colour photographs are incorporated. Understanding the ecosystems is vital to conservation and the book is recommended for libraries – institutional and personal.

**Marathi****“Srishtidnyan”.**

Published by: Mahatma Phule Vastusangrahalaya, 1203, Shivajinagar, Ghole Road, Pune.

This magazine is devoted to popularization of science and is in Marathi language. It published the 100th issue in July 2011. The magazine was launched by Prof. Paranjape in 1928 and is publishing numbers for the past 84 years. June issue is devoted to environment.



* Dr. Anil Mahabal retired as Additional Director, Zoological Survey of India, W.R.C. Pune.

New Arrivals

‘Gad Killyanvaril Vanaspati’ in Marathi. Author: Mandar Datar. 4 colour plates. Pages 120. Price Rs. 100/- Publisher: Snehal Prakashan, Pune. Contact-24450178, 9850057605.

Whats News in Ornithology

The theme of the 7th Asian Raptor Research and Conservation Network (ARRCN) Symposium (13 to 16 January, 2012) held in South Korea was ‘Raptor Migration’. 125 participants from Asia and all over the world attended the event. Dr. Satish Pande read a paper on ‘Niche Partitioning in five co-inhabiting owl species from Western Maharashtra, India’, at the Symposium. The abstract is available at the website: www.elafoundation.org

Presently, 29 countries are the members of ARRCN. The previous symposia were held in Japan, Indonesia, Taiwan, Malaysia, Vietnam, Mongolia and South Korea. Symposia are held every two years. The aim of the ARRCN which was established in December 1998 in Japan is to exchange information about raptors amongst members, compile a database on Asia and other raptors, coordinate research on migratory and resident raptor species and conduct training programs for conservation of raptors.

Ela Foundation, has been given the honour and responsibility to host the 8th ARRCN Symposium in India in February, 2014 for the first time in our country. Students, researchers and planners shall benefit from the event.

Ela Events


Participants of the 8th ‘Certificate Course in Basic Ornithology’ planted 500 trees in Valvan Garden premises, Tata Power Co. under the guidance of Vivek Vishwasrao. Till date the course participants have planted about 3000 trees with 90 % survival rate.

Only indigenous trees were planted. The trees were graciously provided by R. M. Dhole, participant of Ornithology Course. This is an important ongoing activity of Ela Foundation.

The trees were selected such that they would be useful for our birds.

Special care is being taken by watering the trees periodically and preventing them from grazing and forest fires.

Tree Plantation.



Science

Build it like Ants!! - Rohan Joshi *

Ants (Hymenoptera: Formicidae) are a diverse and specialized group of eusocial insects. They dominate almost every ecosystem on earth with their sheer numbers, diverse forms and functions. They live in a social system called an "ant colony". The queen forms the core of the colony and performs the important function of laying eggs that hatch and develop into workers, soldiers and more queens. Ants are intricately connected with their environment. They have mutual associations with other insects and plants on which they live. One of the important aspects of an ant's life is nest-building. Almost all the ground dwelling and several arboreal ant species build characteristic nests. The ground dwelling ants burrow into the soil. Arboreal ants, like the Weaver Ants *Oecophyla smaragdina*, build their nests by stitching leaves together with the help of silk secreted by their larvae.



The nest fortifications.

The nests of ground dwelling ants are peculiar surface structures. These structures may have varied forms like domes, craters or heaps of soil piled around the nest openings. The nests of South American Leafcutter Ants *Atta vollenweideri* are subterranean labyrinths extending to as much as 6 metres underground and containing as many as 8 million adult individuals (Hansell 2007). Some seed collecting Harvester Ants build complex nests that have a unique intricate architecture.

The Harvester Ants *Monomorium aberrans* from central and south India are accomplished sculptors. They feed primarily on grass seeds and small insects. They have a mutual association with aphids, a group of tiny, sap-sucking insects. The ants build characteristic surface nests that are found in dry deciduous to semi-evergreen habitats, mostly on slopes. The surface structure consists of concentric walls, bridges and rings made of soil. The walls have an average thickness of 1.7 cm. The nest has a main central opening through which the ants pass in and out and conduct all their activities. In addition, there are several small openings around the nest which are also used by the ants. The ants start the nest-building activity immediately after the first rains, in the first week of June. For four months through the monsoon season, the ants maintain this above ground structure by regularly repairing it in case of damage. The walls of the nests are tough and remain intact even in heavy torrential rains. The component of the nest that goes below the soil surface consists of a central shaft that opens in the centre of surface fortifications. This shaft immediately splits into several small subterranean chambers, just below the ground surface, while there are a few large chambers at various depths up to the bottom. The average depth of the nests is 60 cm from the ground surface.

There is hardly any information on the functions of these complicated nests. It is believed that the fortifications may be protecting the subterranean nests from flooding. I have noted that these nests are efficient in thermoregulation, as the temperature inside the nest is always 8° to 10° C below the outside temperature even in summer. Interestingly, other ground dwelling insects crawl up the wall, lose their sense of position within the jigsaw, get trapped and are taken by soldier ants from the colony. Though the functions of these complicated nests remain shrouded in mystery, it is uniformly agreed that the ants are excellent architects in nature.

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"Walking Debris" are actually Bug Nymphs !! - Girish Pathak*

Assassin Bugs are predators of insect world. They exhibit an interesting camouflaging strategy. These bugs live in soil beneath the rocks and are themselves at a risk of predation by other insects, reptiles, birds and animals. The nymphs or young ones of these bugs, carry the leftover food material and soil on their back, lending them a perfect camouflage. Thus they blend with their surroundings. The strategy serves the dual purposes of self protection and predation on other insects. While the bug nymphs feed on small arthropods like ants by sucking their body juice, they simultaneously pile the remnant carcasses on their backs as a cover. This is known as 'corpse camouflaging' or 'backpacking'! The nymphs use their specially modified hind legs to attach such debris to the body and the nymphs produce sticky secretions to hold the debris in position. I have observed these nymphs in dry regions around Pune city. Since I could not rear them to adulthood the species remains un-identified. However, a great deal of work has been done on the related species, the Masked Hunters *Reduvius personatus* (Linnaeus, 1758), in the USA, (Weirauch 2006).

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Trees to attract birds

R.M. Dhole *

With growing urbanization and vanishing trees our birds are finding it tough to survive. Also many non-indigenous trees are planted with little thought to their place in our ecology. Here is a list of indigenous trees that are integrated in lives of our birds. You can plant and grow these indigenous trees to provide food, shelter for roosting and nesting for many bird species.

Common Name	Botanical Name	Use
Red Silk Cotton	<i>Bombax ceiba</i>	N
Banyan	<i>Ficus benghalensis</i>	F,T
Peepal	<i>Ficus religiosa</i>	F,T
Goolar Fig	<i>Ficus racemosa</i>	T,L,F
Flame of the Forest	<i>Butea monosperma</i>	N, T
Mango	<i>Mangifera indica</i>	T,L
Jamun	<i>Syzygium cumini</i>	T,F
Neem	<i>Azadirachta indica</i>	T,F
Indian Coral Tree	<i>Erythrina variegata</i>	N
Tamarind	<i>Tamarindus indicus</i>	T

N-Nectar; F-Fruits, T: Twigs; L-Leaves

* R.M. Dhole, MSc. is a horticulturist & has a nursery in Pune.

A Brush with Raptors

Indian White-backed Vulture - Dilip Navalkar



Drawing is based on a photograph by Prashant Deshpande

Naturally With Nature

Long ago, the chief of a Red Indian tribe uttered these profound words of wisdom, "Every part of the earth is sacred to my people. Every shining pine needle, every sandy shore, every mist in the dark woods, every clearing and humming insect is holy in the memory and experience of my people ..."

Amit Pawashe and Dr Murlidhar Mahajan from Saswad and Kumar Pawar from Jejuri, both places in Maharashtra, India, believe in the spirit of these thoughts and work to protect nature.



Amit Pawashe



Dr. M.N. Mahajan



Kumar Pawar

Pawashe has a Masters in Environmental Science and runs private tuition classes for rural children. He learnt the art of observing nature from his late father, Pramod Pawashe, who was an ardent wildlife enthusiast. Pawashe sketches wildlife, conducts slide shows in schools, treats injured birds and animals and conducts nature trails to show children how and what to observe in nature. He participates in the projects of Ela Foundation.

A medical practitioner, Dr Mahajan not only tends to patients from remote villages but also educates the village folk and school children about nature conservation. He says that his childhood interest in wildlife was greatly enhanced when he rescued and rehabilitated a flap-shell turtle under the guidance of Dr Satish Pande. Dr Mahajan works on owl conservation in Purandar taluka, Maharashtra.

Kumar Pawar is a volunteer of 'Seva Dal', which has been dedicated to serve humanity by promoting harmony. Pawar has been rescuing snakes for over two decades now. He conducts nature conservation camps in schools, encourages children to plant trees and educates them about hill forts. He operates a local TV cable network in Jejuri, through which he screens educational nature and wildlife films for viewers in various villages. He works with Ela Foundation in the rural areas for the eradication of superstitions and misunderstandings about owls. He also collaborates with the local forest department.

Pawashe, Dr Mahajan and Pawar have saved the lives of innumerable injured birds, snakes and other animals. Thanks to their efforts, villagers now know not to kill snakes that enter their houses. The trio is indeed tuned in to each other and to nature.

Honours in Conservation



'Birds of Maharashtra' - the first ever photographic guide to the state is conceived and published by 'Ela Foundation', in collaboration with the 'Burhani Foundation, India' and 'HH Dr. Syedna Taher Saifuddin Memorial Foundation'. The authors, Dr. Satish Pande, Pramod Deshpande and Niranjana Sant have dedicated the book to the highest spiritual leader of the Dawoodi Bohra community, Dr. Syedna Mohammed Burhanuddin (T.U.S.), on the occasion of his Historical 100th birthday celebration, with a thought that social responsibility and affection are the true teachings of that great teacher - Nature.

Dr. Satish Pande had the great honor to have a personal audience with HH Dr Syedna Saheb (TUS), on 30 January, 2012 and to present the book to Aka Maula in person and to seek his blessings to continue this fruitful collaboration with the Dawoodi Bohras, that shall take the important cause of Nature Education and Conservation further. This cause concerns us all and without wider

Left to right : Shabbir Furniturewala, Hon. Abdeali Bhaisaheb Nooruddin (President Dawoodi Bohras, Pune), Dr. Moiz Bhaisaheb Nooruddin, Dr. Satish Pande presenting the book 'Birds of Maharashtra' to HH Dr. Syedna Saheb (TUS), highest spiritual leader of the Dawoodi Bohras, worldwide.

Communication

Raptors on Hills of Pune

I go for my daily walk to the Taljai Hill, a wooded hilltop right in the Pune city. On Friday 6th January 2012 I saw a Coppersmith Barbet, a Purple Sunbird, couple of Small Green Bee-eaters, an Indian Peafowl, 10-15 Red-vented Bulbuls, an Ashy Prinia and a family of Satbhai-Large Grey Babblers. Around 4.45PM, I witnessed a very interesting incident. A Short-toed Eagle was perching on the ground and devouring a snake. It flew off with the prey in its talons when it noticed me. I was spellbound with the sight of the majestic eagle. But more was in store. Immediately after this incidence, I saw another raptor eating a parakeet on a branch of a tree. Angawar kata alaa. I was thrilled. It was a unique experience to watch two raptors, each with a different prey. These beautiful wooded hills in the city are not only lungs of fresh air but also home to variety of life forms. I was enriched in one day.

- Prabhakar Mehendale

