

Editorial

Esteemed Readers,

Wishing you all a very happy and prosperous New Year 2016!

In this quarter, Prakriti Mobile Bus a mobile exhibition on biodiversity visited Saifai, Etawah on the occasion of International Conference on Conservation of Sarus and Wetlands. During its visit, over 200 students and 250 other visitors were benefitted from the mobile exhibition.

"Wetlands for our Future: Sustainable Livelihoods" is the World Wetlands Day theme for 2016. We celebrated this day on 02nd February, 2016 in collaboration with Biodiversity and Wildlife Conservation Lab, Department of Zoology and University of Lucknow. The programme aimed at creating awareness for the wetland conservation among the students of schools and colleges and local people of the Uttar Pradesh, in which college students had the opportunity to visit wetlands and study them.

Uttar Pradesh Forest Department organized an event to raise awareness about sparrow conservation on World Sparrow Day, March 20, 2016 at Janeshwar Mishra, Gomti Nagar Lucknow under the campaign - "Green U P Clean U P". Hon'ble Chief Minister of Uttar Pradesh, Shri Akhilesh Yadav along with sparrow experts of national and international level appreciated this initiative.

Besides, U P State Biodiversity Board, Lucknow also celebrated World Sparrow Day by organizing a sparrow week in collaboration with Biodiversity and Wildlife Conservation Lab, Department of Zoology, University of Lucknow from 15th to 20th March, 2016 in Regional Science City, Lucknow. In sparrow week, various events like poster making, Rangoli, Poetry, greeting card making, quiz, slogan writing, tattoo making, nukkad natak etc. were organized and about 400 students of 35 schools from class 5th to 12th participated actively in various competitions.

Your comments, suggestions to improve this issue are most welcome at upstatebiodiversityboard@gmail.com.

Regards,

– Editor



Rangoli Competition :
First prize : Jyoti Sharma,
Class 9th, VMHHS, Lucknow

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“Each species is a masterpiece, a creation assembled with extreme care and genius.”

– E. O. Wilson

1- Mud Puddling in Butterflies

Amita Kanaujia and Adesh Kumar

Biodiversity & Wildlife Conservation Lab, Department of Zoology,
University of Lucknow, Uttar Pradesh

A butterfly cannot live on sugar alone; it needs minerals, too. To supplement its diet of nectar, a butterfly will occasionally sip from mud puddles, which are rich in minerals and salts. This behavior, called puddling, occurs more often in male butterflies, which incorporate the minerals into their sperm. These nutrients are then transferred to the female during mating, and help improve the viability of her eggs.

Puddles moistened with NaCl solution. Both species landed preferentially at puddles with a decoy present rather than at unabated puddles, demonstrating very strong local enhancement, a form of social facilitation. Nitrogen is equally important nutrient for puddling butterflies. Nitrogen was the main stimulus for species that visited the fish baited traps.

Facts about Mud puddling

- ❖ Mud-puddling can be seen more in an undisturbed patch rather than disturbed patch and so there is a need to conserve forests.
- ❖ Usually male butterflies do mud-puddling and often young ones
- ❖ Females mud-puddle singly (Berger and Lederhouse).
- ❖ The groups involved in mud-puddling generally include several species, particularly members of the families Papilionidae and Pieridae followed by members of the families Nymphalidae and Lycaenidae.
- ❖ The members of family Papilionidae, Pieridae and Nymphalidae prefer to mud-puddle in groups while the members of family Lycaenidae mud puddle solitarily.



2- Journey of Biodiversity Bus

During its travel in Uttar Pradesh Prakriti Bus a mobile exhibition on biodiversity of the State reached to Etawah district. The bus was invited to be displayed during the International Conference on Wetlands and Sarus which was being organized by UP Forest Department at Saifai, Etawah. Over 200 students and 250 other visitors were benefitted from the mobile exhibition. Students participated in various competitions like quiz, skit and painting competition etc, with zeal. The winners were awarded with prizes and certificates by Shri Rupak De, Principal Chief Conservation of Forest -Wildlife, UP Forest Department. After the event, bus travelled to schools and community locations in the district. During its stay, bus covered more than 20 schools benefitting around 14231 visitors and making them aware about the biodiversity and its importance.

On the occasion of International Day for Forests, CEE North organized biodiversity awareness and tree plantation programme among Army officials and cadets at Army Medical Core Centre, Army Cantt. Lucknow. Shri S. S. Garg, Brigadier and Smt. Rampreet Kaur, Lt. Col welcomed bus to their cantonment and planted 5 saplings for creating Panchwati in army campus.

Army officers expressed their gratitude towards CEE and UP State Biodiversity Board for taking Prakriti Bus to their campus and to celebrate the Forest Day among Army cadets. Communicators with the Prakriti bus interacted with Army officers and cadets about the information displayed on the mobile exhibition on biodiversity of Uttar Pradesh. Participants were told about significance of natural forest cover and protection to existing wetlands and rivers. Team also responded to questions of the cadets regarding medicinal plants and organic farming and role of beneficial insects in the natural environment. Army officials took pledge to celebrate Holi in eco friendly manner by saving wood and water and also contribute in increasing the green cover of the city.

Month wise School Visit Details of Prakriti Bus from January 2016 to March 2016

Month of January 2016

1.	04.1.2016	Uttar Pradesh Pravasi Diwas Samaroh, ITC Mughal, Agra	200
2.	05.1.2016	Uttar Pradesh Pravasi Diwas, Shilpgram, Agra	350
3.	06.01..2016	Samar Public High School, Chandan, Indira Nagar, Lucknow	240
4.	07.01.2015	Canossa School, Faridinagar, Lucknow	681
5.	08.01.2015	Canossa School (Senior Section), Faridinagar, Lucknow	454
6.	12.01.2016	Purva Madhyamik Vidyalaya, Hardhaorpur, BKT, Lucknow	126
7.	13.01.2016	Purva Madhyamik Vidyalaya, Jaiti Khera, Sarojani nagar, Lucknow	170
8.		Prathmik Vidyalaya, Jaiti Khera, Sarojani nagar, Lucknow	147
9.	15.01.2016	Central Academy, Indira Nagar, Lucknow	1260
10.	18.01.2016	Delhi Public School, Indira Nagar, Lucknow	275
11.	19.01.2016	Purva Madhyamik Vidyalaya, Gajadharpur, Phakarpur, Bahraich	258
12.		Primary School, Gajadharpur, Phakarpur, Bahraich	251
13.	21.01.2016	Saraswati Shishu Vidya Mandir, Raja Baundi, Bahraich	416
14.		Community Visit Silauta, Phakarpur, Bahraich	70
15.	22.01.2016	Community Visit Silauta, Phakarpur, Bahraich	250
16.	23.01.2016	Government High School, Baundi, Bahraich	104
17.		Community site visited: Baundi Bazar, Raja Baundi, Bahraich	275

18.	24.01.2016	Community visit to Kayampur, Mahasi, Bahraich	250
19.		Community visit to Golaganj, Phakarpur, Bahraich	300
20.	25.01.2016	kanya ups raja baundi, Bahraich	146
21.		janta laghu madhaymik vidhalaya	117
22.		Community-joga pur baudi, Behraich	225
23.	26/01/2016	PMV Sehganv Prakharpur Behraich	245
24.		UPS Sehganv Prakharpur Behraich	191
25.		Prakharpur Community	500
26.	27.01.2016	PMV Ratanpur Beharaich	378
27.		Primary Ratanpur	122
28.	28.01.2016	Purva Madhyamik Vidyalaya, Husepur, Phakarpur, Bahraich	115
29.		Prathmik Vidyalaya Husepur, Phakarpur, Bahraich	93
30.		Purva Madhyamik Vidyalaya, Jarwal, Bahraich	356
31.		Prathmik Vidyalaya, Jarwal, Bahraich	112
32.		KGVB, Jarwal, Bahraich	314
33.	29.01.2016	Purva Madhyamik Vidyalaya, Parsohar, Bahraich	134
34.		Prathmik Vidyalaya, Parsohar, Bahraich	290
35.		Purva Madhyamik Vidyalaya, Jataura, Jarwal, Bahraich	369
36.		Kanya Purva Madhyamik Vidyalaya, Jarwal, Bahraich	63
37.		Prathmik Vidyalaya II Jarwal Road, Jarwal, Bahraich	42
38.		St. Joseph School, Ali Nagar, Jarwal, St. Joseph School, Ali Nagar, Jarwal, Bahraich	222
39.		Prathmik Vidyalaya I Jarwal Road, Jarwal, Bahraich	123
40.		Purva Madhyamik Vidyalaya, Tapesipah, Jarwal	236
41.		Prathmik Vidyalaya, Ghaghra Ghat, Jarwal, Bahraich	340
			Total 10810

Month of February 2016

1.	02.02.2016	International Conference on Conservation of Sarus and Wetlands, Saifai, Etawah	430
2.	03.02.2016	Saint Vivekanand Sec. Public School, Alampur, Hauz, Etawah	1400
3.	04.02.2016	S.S. Memorial Senior Secondary School, Saifai, Etawah	1840
4.		Sughar Singh Memorial Shiksha Niketan Inter College, Saifai, Etawah	1217
5.	05.02.2016	UPS, Kadkaulli, Etawah	64
6.		Primary School, Kadkaulli, Etawah	120
7.	06.02.2016	Saint Vivekanand Sec. Public School, Alampur, Hauz, Etawah	5200
8.	07.02.2016	Kasturba Gandhi Avasiya Balika Vidyalaya, Civil lines, Etawah	123
9.	08.02.2016	Suditi Global Academy School, Vicharpur, Agra road by-pass, Etawah	1862
10.	09.2.2016	Baba Saheb Dr. Bheem Rao Ambedkar Agriculture Engineering University, Etawah	385
11.	10.02.2016	Delhi Public School, NH-2, Agra by-pass, Etawah	495
12.	11.2.2016	Kanya Junior High School, Udi, Etawah	48
13.		Prathmik Vidyalay, Udi, Etawah	147
14.		Bhadawar Vidya Mandir Junior High School, Udi, Etawah	107
15.		Purva: Madhyamik Vidyalay Garhyaita	143
16.	12.02.2016	Seven Hills, Pakka bagh, Etawah	875

17.	13.02.2016	Baba Sahab Dr. B.R Ambedkar college of Agricultural Engineering and Technology, Etawah (U.P)	270
18.	15.02.2016	Ambedkar Samajik Stahl 1090, Gomtinagar, Lucknow	150
19.	16.02.2016	GGIC, Gomti Nagar, Lucknow	168
20.	17.2.2016	Bal kalyan academy, gomtinagar, lucknow	107
21.		Janhit public school, gomtinagar, lucknow	89
22.	18.02.2016	Prathmik Vidyalaya, Lalnagar Khera, Kakori, Lucknow	90
23.		Purva Madhyamik Vidyalaya, Sarai, Kakori, Lucknow	36
24.	19.2.2016	Mahamana Malviya Vidya Mandir, Vivek Khand-1, Gomti Nagar, Lucknow	320
25.	22.02.2016	G.C.R.C Memorial Trust's Group of Institutions, Bakshi Ka Talab Lucknow	170
26.	23.02.2016	Sunrise Public Academy, Viramkhand-1, Lucknow	241
27.	24.02.2016	Annie Besant Inter College, Vinay Khand 1, Gomtinagar, Lucknow	235
28.	25.02.2016	Indian Public Inter College, Viraj Khand-4, Gomtinagar, Lucknow	742
29.	26.02.2016	Prathmik Vidyalaya, Karimabad, Kakori, Lucknow	76
30.		Purva Madhyamik Vidyalaya, Baragaon, Kakori, Lucknow	90
31.		Prathmik Vidyalaya, Baragaon-1, Kakori, Lucknow	86
32.	29.02.2016	K.R. Open Heart High School, Dashari, Kakori, Lucknow	264

Total 17590

Month of March 2016

1.	01.03.2016	Diamond Public Senior Secondary School, Chinhat, Lucknow	1040
2.	02.03.2016	New Wisdom Way Progressive Inter College, Chinhat, Lucknow	943
3.	03.03.2016	Lucnow public school, anand nagar, lucknow	282
4.	04.03.2016	Prathmik Vidyalaya, Muzzaffar Nagar, Kakori, Lucknow	112
5.		Purva Madhyamik Vidyalaya Muzzaffar Nagar Kakori, Lucknow	71
6.	07.03.2016	Ashiyana, Kanpur Road, Lucknow	80
7.	08.03.2016	Prathmik Vidyalaya, Muzzaffar Nagar, Kakori, Lucknow	176
8.		Purva Madhyamik Vidyalaya Muzzaffar Nagar Kakori, Lucknow	161
9.	09.03.2016	SRS International School Manas Vihar, Indira Nagar, Lucknow	150
10.	10.03.2016	Sarvagin Vikas Public College Kanausi, Manaknagar Lucknow	480
11.	11.03.2016	P.L.V.D Public School, Saidpur, Kakori, Lucknow	463
12.	14.03.2016	Vibgyor High School, Gomti Nagar, Lucknow	245
13.	15.03.2016	Purva Madyamik Vidyalay, Alambagh, Nagar Kshetra, Lucknow,	75
14.	16.03.2016	Mayur Vihar Colony-A, Faridi Nagar, Lucknow	80
15.	17.03.2016	Hajipur, Nindura, Barabanki, Lucknow	80
16.	18.03.2016	Community location Vibhuti Khand, Gomti nagar, Lucknow	70
17.	21.03.2016	Army Medical Core Centre, Army Cantt. Lucknow	1500
18.	22.03.2016	Kendriya Vidyalaya, Army Medical Core Centre, Army Cantt. Lucknow	1094
19.	28.03.2016	Vishal Child Academy, Indira Nagar, Lucknow	64
20.	29.03.2016	Sarvagin Vikas Public College, Kharika, Telibagh, Lucknow	730
21.	30.03.2016	Arbindo Park, Sector-14, Indira Nagar, Lucknow	70

Total 7966

3- World Wetlands Day

02nd Feb, 2016

The Ramsar Convention chose Theme: **“Wetlands for our Future: Sustainable Livelihoods”** as the World Wetlands Day theme for 2016.



The U.P. State Biodiversity Board celebrated World Wetland Day on 2nd February, 2016 in collaboration with Biodiversity and Wildlife Conservation Lab, Department of Zoology and University of Lucknow. The programme aimed at creating awareness for the wetland conservation among the students of schools and colleges and local people of the Uttar Pradesh.

The theme chosen for World Wetlands Day 2016 is **“Wetlands for our Future; Sustainable Livelihoods”**. There will be an emphasis on the agriculture and wetland sectors working together along with the sustainable livelihoods services provides by the wetlands.

On 2nd February 2016, the programme started with flagging off of wetlands awareness and wetlands birds' diversity surveying cars by Prof. Amita Kanaujia, Department of Zoology, and University of Lucknow motivated the volunteers to explore the wetlands and the probable threats. Four teams with



View of Awareness Campaign in Etawah District

volunteers set out at 6:30 am to various places to discover the wetland's biodiversity.

The aim of the survey was to explore wetlands in Uttar Pradesh i.e. (Sitapur, Shahjahanpur, Etawah, Safai and Mainpuri Districts), to study the flora and fauna in the identified wetlands, to study the threats to wetlands and its biodiversity and aware local community and students about the wetlands, their threats, biodiversity and conservational requirements. Several research scholar, students and volunteers went at different sites of

Uttar Pradesh via awareness cars to search, explore new wetland areas and study the wetlands



Creating Awareness among Schools and Students

biodiversity, their threats as well as to create awareness in students (4000) and local people.

The awareness cars visited following areas in Uttar Pradesh and explore 23 wetlands in following districts:

Shahjahanpur: 3 wetlands

- ❖ Nagara Hazi Wetlands, Shahajhanpur- 33of wetlands birds species
- ❖ Kalana Wetlands-31of wetlands birds species
- ❖ Umarganj Wetlands, Shahjahanpur-24 of wetlands birds species

Etawah: 4 Wetlands

- ❖ Lohia KalaPokhar, Safai- 39 of wetlands birds species
- ❖ Sarsai Naagar, Etawah- 75 of wetlands birds species
- ❖ Baralok Taalab, Etawah- 23 of wetlands birds species
- ❖ Jaitpur Totaram Taalab, Etawah- 21 of wetlands birds species

Mainpuri: 2 wetlands

- ❖ Sahas Taal, Mainpuri-59 of wetlands birds species
- ❖ Bujia Taal, Mainpuri-43 of wetlands birds species

Sitapur: 14 wetlands

- ❖ Dubainiya Taal, Kursinpurwa, Sitapur- 29 of wetlands birds species
- ❖ Bada Taal and Sanaiya Taal, Mujjaffarpur, Sitapur-44 of wetlands birds species
- ❖ Bhabhni Taal, Gaudapur, Sitapur- 33 of wetlands birds species
- ❖ Jamayattpur ka Taal, Sitapur-34 of wetlands birds species
- ❖ Kakroha , Tikariya, Sitapur- 45 of wetlands birds species
- ❖ Dhibatti and Dhigwaha, Persendi Sitapur- 44 of wetlands birds species
- ❖ Badakka and Ramkundi taal, Itahari, Sitapur- 43 of wetlands birds species
- ❖ Bhella and Chamraiyya, Angresi, Sitapur-55 of wetlands birds species
- ❖ Tendua Jheel, Tendua Sitapur- 52 of wetlands birds species

All these above jheels / ponds are varying from areas about 15-500 hectares in range. The biodiversity studied in these areas include Phytoplankton's like Algae, Typha, green algae, Ricinus, Calotropis, Ichornia, water lily, Lantana, Ipomia, Dhatura, Acascia, Saptrparni, Lotus, Hydrilla, Shawni, Jalrani, Sarataphillum, Water clove, Heliotropium, Riccinus, Madar etc. Fishes like Rohu, Grass cutter, Girai, Channa, Heteropneustis fossilis, Clarius, Puntius and many others also. Some snails like apple snail, amphibians like Skipper frog, Turtle like Lyssimus punctata, Dragonfly, and other insects, and earthworm also were seen during the survey. Birds such as Lapwing, Jacana, whistling Duck, Little cormorant, Great cormorant, Peacock, Red Crested Pochard, Grey leg goose, Purple morehen, Common Pochard, Indian pond heron, Purple heron, Little greeb, Common pygmy goose, Gadwall, Spot bill Duck, Eurasian wigeon, Northern pintail, Lesser whistling Duck, Garganey, Asian open bill, Painted storks, Sarus crane, pied Kingfisher, White throated kingfisher, Common Kingfisher, Common Coot, Painted storks. Most of the areas studied are unconserved and if maintained can prove to be a beautiful ecotourism place in this way these wetlands can be conserved which will further conserve the floral and faunal diversity which have been studied.

4- World Sparrow Day

20th March, 2016

The House Sparrow or Gauraiya is one of the most common birds found in many parts of the world and they belong to the family of small passerine birds-Passeridae. They are characterized by short legs and thick conical bill.

Therefore, the conservation of the house sparrow and its habitat will also help save much of the common biodiversity, which shares the habitat of the house sparrows. The goal is to collectively inspire others to join the celebrations and to get as many people as possible involved in the conservation of house sparrows and their habitat across the planet.



This year on 20th March 2016, World Sparrow Day was celebrated with great enthusiasm and fervor. A noble initiative of Chief Minister of U.P., who is so active in conserving the State natural habitat besides achieving sustainable development. The event was inaugurated by Hon'ble Chief Minister of Uttar Pradesh, Shri Akhilesh Yadav. Some of the highlights of the World Sparrow Day celebration are as follows:

- ❖ On this special occasion, a book and a CD on sparrows was released on the theme of sparrows that would promote the message of conservation of sparrows.

- ❖ A photo exhibition on sparrows had also been held on the same day.
- ❖ Those people who have a great contribution towards the conservation of sparrows had been honored on this auspicious occasion and awarded the "Gauriya Mitra Puraskar". This award is presented only to those who manage to conserve the highest number of sparrows in the state.
- ❖ Many officers have been given the role in monitoring the houses with sparrow nests so that they remain in a well-functioning condition.
- ❖ The event witnessed mass participation and around 1 Lakh nests were restored. A cycle rally was organized to take forward the message for sparrow conversation and a film and an exhibition were displayed for the protection of sparrow population.

Besides, Uttar Pradesh State Biodiversity Board in collaboration with Biodiversity and Wildlife Conservation Lab, Department of Zoology, University of Lucknow started a mass awareness program in and around the Lucknow city. During this program various awareness campaigns were organized along with the distribution of artificial nest boxes and awareness drives in the city. In which around 300 nest boxes were distributed in different schools of Lucknow, Meerut University and Jhansi. For the

installation of nest boxes an initiative program “Gharaunda 700” was also been started by Biodiversity and Wildlife Conservation Lab, Department of Zoology, University of Lucknow, whose aim was to install 700 artificial nest boxes in the city for sparrow conservation.

In continuation with this awareness program, a sparrow week was also celebrated from March 15th to 20th, 2016 in Regional Science City, Lucknow. In sparrow week, it was inaugurated by Prof. Amita Kanaujia by lamp lighting and a lecture. Various events like poster making, Rangoli, Poetry, greeting card making, quiz, slogan writing, tattoo making, nukkad natak etc. were organized during this week about 400 students of 35 schools from class 5th to 12th were Participated in various competitions. Numerous schools like C.M.S., Jaipuria, Tagore memorial, Vandana Montessori etc. participated very enthusiastically in the competitions and most of the students won the prizes and have taken an oath to conserve sparrow. By the end of sparrow week a stall was put on Regional Science City to distribute bushy plants, artificial sparrow nests and awareness materials to local peoples for the sparrow conservation.

Glimpses of Sparrow Day Celebration



Glimpses of Sparrow Day Celebration



5- Newspaper Clippings

(i) International News

The Hindu: 18 Jan 2016

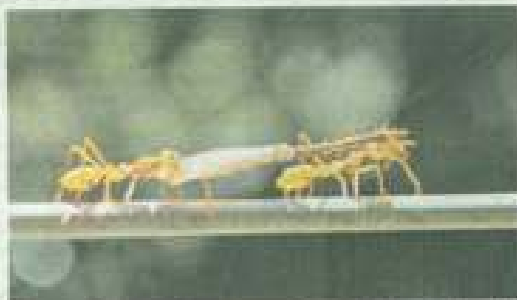
Ants don't respond to social information on the move

LONDON: Ants fully respond to social information when at rest and do not get distracted by it when on the move, a new study has found.

Such sporadic monitoring of the social environment may reduce information overload and enhance the robustness of complex societies, researchers at the University of Bristol in UK said.

They tracked the movement patterns of lone rock ants (*Tenodromus albipennis*) exploring a large arena outside the nest, both when the arena was clean and when it contained chemical information (pheromones or other cues) left by previous nest-mates.

The researchers discovered a relationship between the duration and average speed of an ant's movements, and also established that movements mostly fluctuated around a constant average speed. The average speed increased in anticipation of a longer movement, suggesting that movement durations were somehow determined in advance.



A new study shows that ants respond fully to information only when they are at rest. — THE HINDU

This was the case both when chemical information was absent and when it was present, suggesting ants probably only fully respond to social information in between movements.

"An intermittent response to social information would help the individual ant by reducing the burden of information it has to process when moving around in its crowded society," said Edmund Hunt from University of Bristol.

"It could also benefit the colony as a whole by moderating positive feedback effects,

which may otherwise propagate social information of poor quality through the system," Mr Hunt said.

"This would compromise the effectiveness of the ants' decentralised task allocation system. Such intermittent responsiveness to aspects of the social environment during movement may have implications for the way we understand other complex adaptive social systems, including human ones," he said.

The findings were published in the journal *Royal Society Open Science*. — PTI

Times of India: 23 Jan 2016

THE TIMES OF INDIA, LUCKNOW
SATURDAY, JANUARY 23, 2016

Pak SC lifts ban on hunting Houbara bustard

Islamabad: Pakistan's supreme court on Friday lifted a ban on the hunting of the Houbara bustard, an endangered migratory bird, whose meat is prized by elite Arab sheikhs for its aphrodisiac value.

The ban on the Houbara bustard, about the size of a chicken, was imposed by former chief justice Jawwad S Khawaja on August 20 last year, who also ordered the cancellation of all existing permits issued by government to



The petitioners had pleaded to the SC that issuing permits for hunting of the endangered bird to Arab dignitaries was part of foreign policy

Arab rulers. The federal and provincial governments in October had challenged the ban, pleading that sustainable hunting should be allowed.

A five-member larger bench headed by chief justice Anwar Zaheer Jamali lifted the ban in a verdict on the reviled petitions, although the decision was not unanimous, with one dissenting note by justice Qazi Faez Isa, who opposed the bench's order.

The petitioners had plea-

ded that issuing hunting permits to Arab dignitaries was part of foreign policy. The attorney general Salman Butt asked the SC to allow "sustainable hunting" of the bird. Pakistan enjoys good ties with elite Arabs who love hunting Houbara using falcons and travel to Balochistan every winter to kill the bustard. The bird is listed in the Convention on Migratory Species of Wild Animals and is declared as an endangered species. —

Newspaper Clippings

Times of India: 15 Feb 2016

Iceberg grounding in Antarctica kills 150,000 penguins



Between 2011 and 2013, nearly 150,000 penguins died after a 100 sq km iceberg grounded near their colony in Antarctica. They were forced to trek more than 60 km to find food, impeding their breeding attempts.

Sydney: Some 150,000 penguins died after a massive iceberg grounded near their colony in Antarctica, forcing them to make a lengthy trek to find food, scientists say in a newly published study.

The B09B iceberg, measuring some 100 square kilometres, grounded in Commonwealth Bay in East Antarctica in December, 2010, the researchers from Australia and New Zealand wrote in the *Antarctic Science* journal.

The Adelie penguin population at the bay's Cape Denison was about 160,000 in February 2011 but by December 2013 it had plunged to an estimated 10,000, they said.

The iceberg's grounding

meant the penguins had to walk more than 60 km to find food, impeding their breeding attempts, said the researchers from the University of New South Wales (UNSW) climate change research centre and New Zealand's West Coast Penguin Trust.

"The Cape Denison population could be extirpated within 20 years unless B09B relocates or the now perennial fast ice within the bay breaks out," they wrote in the research published in February.

The researchers said the study had "important implications" for the wider East Antarctic if the current trend of increasing sea ice continued. ■

The Hindu: 25 Feb 2016

Dodos may have been fairly smart, says study

WASHINGTON: The dodo, an extinct bird whose name has entered popular culture as a symbol of stupidity, may have been actually quite intelligent. A study has found that the size of its brain in relation to body size was on par with pigeons — birds whose ability to be trained implies they are no dummies. The dodo (*Raphus cucullatus*) was a large, flightless bird that lived on the island of Mauritius in the Indian Ocean, where they were last seen alive in 1662.

When sailors discovered the island in the late 1500s, the dodo did not fear these new arrivals. That led to the birds being herded onto passing boats as an easy meal for passing sailors.

"Because of that behaviour and invasive species that were introduced to the island, they disappeared in less than 100 years after humans ar-



An illustration of the extinct Dodo.

rived," said Eugenia Gold, a research associate at The American Museum of Natural History's Richard Gilder Graduate School.

"Today, they are almost exclusively known for becoming extinct, and I think that's why we've given them this

reputation of being dumb," said Ms. Gold.

Though the bird has become iconic in popular culture, most aspects of the dodo's biology are still unknown, partly because specimens are extremely rare, researchers said.

To examine the brain of the dodo, Gold tracked down a well-preserved skull from the collections of London's Natural History Museum and imaged it there with high-resolution computed tomography (CT) scanning, which can produce images of the brain inferred from the shape of the skull.

Ms. Gold CT-scanned the skulls of seven species of pigeons for comparison, while colleagues at the Natural History Museum of Denmark and National Museum of Scotland sent her the endocasts for the dodo's closest relative, the now-extinct Rodrigues solitaire (*Pezophaps solitaria*). The results found that the dodo's brain was about average for its body size.

"So if you take brain size as a proxy for intelligence, dodos probably had a similar intelligence level to pigeons," said

Ms. Gold, also an instructor at the Stony Brook University. "Of course, there's more to intelligence than just overall brain size, but this gives us a basic measure," Ms. Gold said. While the brains of dodos might not have been small, they did show some unexpected surprises, researchers said.

The study found that both the dodo and the Rodrigues solitaire had large and differentiated olfactory bulbs, an unusual trait in birds, which depend on sight and thus usually have more heavily developed optical lobes.

The researchers suggest that because dodos and solitaires were ground-dwellers, they relied on smell to find food, making an oddly large olfactory lobe an asset.

The study was published in the *Zoological Journal of the Linnean Society*. — PTI

Newspaper Clippings

Times of India: 27 Feb 2016

Pollinators' no. falls, to hit global food supply

Study Says Crop Production Worth \$577Bn Faces Risk

John Schwartz

The birds and the bees need help. Also, the butterflies, moths, wasps, beetles and bats. Without an international effort, a new report warns, increasing numbers of species that promote the growth of hundreds of billions of dollars' worth of food each year face extinction.

The first global assessment of the threats to creatures that pollinate the world's plants was released by a group affiliated with the United Nations on Friday in

Kuala Lumpur, Malaysia.

Pollinators, including some 20,000 species of wild bees, contribute to the growth of fruit, vegetables and many nuts, as well as flowering plants. Plants that depend on pollination make up 85% of global crop production, with a value of \$577 billion a year. The agricultural system, for which pollinators play a key role, creates millions of jobs worldwide.

Many pollinator species are threatened with extinction, including some 10% of vertebrates like birds and bats, according to the study.



HELPERS NEED HELP: The agricultural system, for which pollinators play a key role, creates millions of jobs worldwide.

monet. Hummingbirds and some 2,000 avian species that feed on nectar spread pollen as they move from flower to flower. Extinction risk for insects is not as well defined, the report notes, but it warned of

"high levels of threat" for some bees and butterflies, with at least 9% of bee and butterfly species at risk.

The causes of the pressure on these creatures include: aggressive agricultural

practices that grow crops on every available acre—eliminating patches of wildflowers and other crops that provide food for pollinators. Farming exposes the creatures to pesticides, and bees are under attack from parasites and pathogens, as well.

Climate change has an effect, as well, especially in the case of bumblebees in North America and Europe, said Sir Robert Watson, vice chairman of the group and director of strategic development at the Tyndall Centre for Climate Change Research at the University of East Anglia.

A warming world changes the serenity of plants and pollinators, and changes the plants' time of flowering, as well, leading to a widening

gap, as well, between the pollinators and the plants they need them.

The group, the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services, includes the Intergovernmental Panel on Climate Change, with a focus on providing analysis and policy proposals to promote biodiversity.

The report says the contribution of controversial models known as "business as usual" is currently "unresolved." Research suggests that even when the pesticides are present in levels that do not have lethal effects on individual bees, concentrations in the hive may have long-term effects on colonies of wild managed bees, the report notes.

The Hindu: 01 Mar 2016

Mambas with a sharp bite!

The Black Mambas, an all-female award-winning patrol, has managed to achieve a reduction in rhino poaching in South Africa

Jessica Allmar

MAMBA: "The Black Mambas are winning the war on poaching," insists Sophie Sibole. "We have absolutely zero tolerance for rhino poaching and the illegal wildlife trade. The poachers will fall — but it will not be with guns and bullets."

Sibole and Felicia Mogkane are members of South Africa's Black Mambas, the world's first all-female anti-poaching unit that has captured the public's imagination.

But it's their success in reducing rhino deaths and breaking down the barriers between poor communities and elite wildlife reserves that is their most powerful weapon in the war on poaching, and has seen them pick up their second international conservation award from UK charity Helping Rhinos. The award recognises projects "with an inspiring and innovative approach" that have shown positive results in protecting rhino populations.

Since forming in 2003, the Black Mambas have seen a 76 per cent reduction in rhino poaching incidents within their area of operation in Bulele nature reserve in the country's north-east.

As well as the famous big five of rhino, lion, elephant, buffalo and leopard, the 40,000-hectare private reserve is home to zebra, antelope, wildebeest, cheetah, giraffe, hippo, crocodile and hundreds of species of trees and birds.

Thousands of snares to catch animals for bushmeat have been removed, 10 poacher camps destroyed, three bushmeat kitchens put out of action and six poachers arrested.

Such is their success that South Africa's national parks



Rhinos are at risk from being poached for their horns.

— AFP PHOTO: GETTY IMAGES

authority is looking at replicating the model, with plans for another team of six female rangers.

Last year the Mambas won the Champions of the Earth prize, the UN's highest environmental honour, awarded to those showing outstanding courage in fighting the illegal wildlife trade at community level.

Encouragement

"Winning these awards is good because it's about knowing that people from South Africa love and appreciate what we are doing and they are so happy that there are Mambas," says Mogkane, 28, who has been with the team from the start. "Unlike some years ago when they used to say this job is for men, now there are women who are working to protect the wildlife. It means a lot to us and makes us continue to do our job because we know that people are behind us, supporting us."

The Mambas were founded by Craig Spencer, head warden of Bulele, to act as an unarmed but visible frontline presence in the ongoing battle against the poaching of rhino

and other endangered species — like the idea of "bobbies on the beat".

The 26 Mambas, all from disadvantaged communities on the border of the park, have been given six weeks of paramilitary training and wildlife education and work alongside 29 armed guards and an intelligence team that seeks to strip the poachers before they can kill. People come for rhinos, because they want to get rich, drive some fancy cars and build a nice house.

South Africa has the largest population of rhinos in the world, estimated at 19,000. The country has seen a huge spike in the rate of rhino poaching in recent years, with many of these incidents taking place in protected national parks like Kruger.

Last year 1,275 rhinos were poached — the first year that numbers had not risen since the alarming trend began after 2007, when just 13 were killed.

Rhino horn has become so valuable that conservationists warn the species could become extinct in 10 years. — © Guardian Newspapers Limited, 2016

The Hindu: 07 Mar 2016

Ghost-like octopus found in the deep off Hawaii



This image courtesy of the National Oceanic and Atmospheric Administration (NOAA), Office of Ocean Exploration and Research, Hawaii Marine, shows a small translucent octopus. It does not have any pigment cells. — AP/WIDEWORLD

NOAH: Scientists have discovered a "ghostly" octopus in deep water off Hawaii that appears to belong to a previously unknown species, researchers said.

A preliminary research team spotted the small, hairless octopus by chance around four kilometers offshore of French Island in the southwestern end of the Hawaiian Archipelago, the US National Oceanic and Atmospheric Administration (NOAA) said.

Sitting on a rock

"As the remotely operated vehicle was traversing a flat area of rock interspersed with sediments at 4,200 meters, it came across a remarkable little striped sitting on a flat rock dotted with a light sea of sediment," the NOAA's Michael Vecchione said.

"The appearance of this animal was unlike any published records and was the deepest observation ever" for this type of marine creature, he added, in a statement released on March 7.

The octopus — nicknamed "Casper the Friendly Ghost" — was found by a NOAA-led expedition to the Hawaiian Islands, which the NOAA uses to explore underwater geology and marine life in volcanic parts of the world's ocean.

Single row of suckers

Vecchione said the newly discovered octopus has a single row of suckers on each tentacle instead of the usual two, but is "physiologically similar" to other octopuses.

The octopus was nicknamed "Casper the Friendly Ghost" on social media.

Vecchione said, called chromatophores, typical of most cephalopods, and it did not seem very muscular.

"It is almost certainly an undescribed species and may not belong to any described group," he said.

Two distinct groups

Deep-sea octopuses are rarely spotted, but two distinct groups, the abyssal, or deep-sea, octopuses, characterised by five on the sides of their bodies and fringed tentacles, and the abyssal, or deep-sea, octopuses, which lack both and are similar in appearance to common shallow-water octopuses.

The octopus found in Hawaii was a member of the second group, the abyssal. A distinctive characteristic was that the suckers were in two rows rather than three, seven or eight rows.

Cephalopods have been reported to depths of over 6,000 meters.

However, the deepest published reports for octopuses are all less than 4,000 meters. "We are now considering combining this observation with some other very deep-sea octopus observations by a German cruise in the eastern Pacific into a manuscript for publication in the scientific literature," said Vecchione.

Newspaper Clippings

(ii) National News

The Hindu: 06 Jan 2016

Tiger roar grows louder in Karnataka wildlife sanctuaries

MOHIT M. RAO

BENGALURU: At one point of time, it was the gunshots of brigand Veerappan that rang through the forest ranges of M.M. Hills and Cauvery Wildlife Sanctuaries. Now, it could finally be the time of the roar of tigers.

At least 15 tigers are believed to inhabit the vast swathes of the 2,000-sq km area of the sanctuaries in Chamarajanagar, according to a study by Nature Conservation Foundation.

Claiming it to be the first time the population of the endangered species has been enumerated in the region, Sanjay Gubbi, conservation biologist who led the camera trapping exercise, says the time is ripe to declare the areas tiger reserves.

According to the study, 10



A tiger snapped by a camera trap installed by the Nature Conservation Foundation in the M.M. Hills and Cauvery Wildlife Sanctuaries.

to 12 tigers, along with nine cubs below the age of two, were spotted in M.M. Hills, while Cauvery Wildlife Sanctuary had two male tigers. "What is encouraging is that sub-adult population, cubs below the age of two, were found in M.M. Hills park. This means that there

is breeding and a healthy population in the area... These big cat numbers are larger than that in most declared tiger reserves," Mr. Gubbi said.

The large presence of prey species seen in the camera trap also gives credence to the viable tiger habitats of

the parks. Sambar, wild pig and gaur were found in M.M. Hills; while, chital, four-horned antelope and wild pig dotted the Cauvery Wildlife Sanctuaries, making the landscape suitable for the large cats.

For the tiger, the protected area spread out as verdant, virgin forests. The territory of a large male cat, for instance, was found to be more than 359 sq km, or nearly half the size of Bengaluru.

Apart from the tiger, the study captured 27 species of mammals, while around 15 tuskers were spotted, which was a good sign after Veerappan's gang had poached many elephants in the area.

Small corridor

M.M. Hills, which borders BRT Tiger Reserve, can serve as a vital sink to absorb the populations of endan-

gered creatures in the park, the study says. However, the migration between the two protected areas was through a narrow 1-km Doddasampige-Yediyaralli forest patch. It was critical for this patch to be protected and expanded, Mr. Gubbi said.

State treading cautiously

Though the National Tiger Conservation Authority (NTCA) had given an in-principle approval for the declaration of the two sanctuaries as a tiger reserve a year ago, the State government has yet to sign it or give its assent. Senior officials in the Department of Forest, Ecology and Environment said the proposal had been kept on hold with the Cabinet believing it "could become a political issue". Chamarajanagar district in-charge Minister H.S. Maha-

deva Prasad said the opinions of locals would be taken before extending complete support for the proposal.

Spotting honey badgers and poachers

The multitude of cameras that dot the Cauvery Wildlife Sanctuary not only offered a glimpse of the elusive honey badger, for the first time in Karnataka, but also netted nearly 20 poachers, including Sarvanana, a notorious elephant poacher, said Mr. Gubbi.

At the end of 2014, when the camera trap exercise was under way, a pair of honey badgers (*Mellivora capensis*), with their distinctive black and white stripes, were spotted. Eventually, 41 such records were obtained all across the Cauvery and M.M. Hills wildlife sanctuaries.

The Hindu: 22 Jan 2016

New thrush species found in eastern Himalayas



The Himalayan Forest Thrush calls out in musical notes.

— PHOTO: CHAIRS BIRDS

MUMBAI: An international team of scientists have described a new species of the thrush in northeastern India and adjacent parts of China. The species was distinguished by its musical song.

The Himalayan Forest Thrush (*Geothlypis trichas*) is common in the eastern Himalayas range but was overlooked till now because of its similarity in appearance to the plain-backed thrush, now renamed as Alpine thrush.

"This is the first Indian bird to be named after late Dr. Salim Ali, who was closely associated with Bombay Natural History Society as researcher, honorary secretary and president. The bird has been named after him in recognition of his huge contribution to the development of modern Indian ornithology and wildlife conservation," a BNHS press note said.

"New bird species are rarely discovered in science nowadays, when most natural habitats are shrinking. Since 2000, an average of five new species have been discovered globally every year, mostly from South America. The Himalayan Forest Thrush is only the fourth new bird species described from India by modern ornithologists since inde-

pendence," the BNHS release said. Scientists from India, Sweden, China, U.S. and Russia worked on the project.

Scientists Per Alström and Shashank Datta first found the bird between May and June 2009, while studying the thrushes at high elevations in western Arunachal Pradesh. They realised that instead of a single species of plain-backed thrush (*Geothlypis trichas*), there were two different species in the eastern Himalayas.

"What first caught the attention of the scientists was the fact that the ones found in forests (Himalayan forest thrush) had a rather musical song, whereas those found in the same region on bare rocky habitats above the tree-line (Alpine thrush) had a much harsher, scratchier and unmusical song," the BNHS said.

Studies of specimens in 13 museums across seven countries revealed consistent differences in plumage and structure. "This confirmed that the Himalayan forest thrush, found to be breeding in the coniferous and mixed forests of the eastern Himalayas, had not been separately classified."

A third species called Sichuan forest thrush is present in China, said scientists.

5 Oct. 2014, Times of India : A two and half year old dumba (T

Newspaper Clippings

Hindustan (Hindi): 23 Jan 2016

राज्यनामा: उत्तराखंड

टाइगर रिजर्व का हिस्सा बनेगा उत्तराखंड का जंगल

पौलीभोट। जाल्द ही उत्तराखंड के तीन राज्ज सुरु, खटीमा और पिल्लुगु भी पौलीभोट टाइगर रिजर्व का हिस्सा होंगे। इससे टाइगर रिजर्व के क्षेत्रफल में करीब 200 वर्ग किलोमीटर का इलाका हो जाएगा। स्थानीय स्तर पर बाधों के बाद उत्तराखंड सरकार ने इस आराध का प्रस्ताव भी केंद्र सरकार को भेज दिया है। रजिस्ट्रार आते ही तीन राज्ज को बाहर जोन में शामिल कर रिजर्व के मानक अनुरूप बनाने की सुरक्षा की जायेगी। राज्य सरकार ने नौ जून 2014 को पौलीभोट टाइगर रिजर्व की घोषणा की थी। उस वक्त इसका क्षेत्रफल 73240 हेक्टेयर था और इसमें पौलीभोट के पंच राज्ज महोदय, माला, बगाली, हथौर, दिगोरीया का क्षेत्रफल 71288 हेक्टेयर



था। इसके अलावा गढ़महापुर के खुदर राज्ज 1736 हेक्टेयर पणिया भी शामिल किया गया था। इस संरक्षित क्षेत्र का कुल पणिया 60745 हेक्टेयर माना जाता है, बाकी क्षेत्र खपार जोन में है। पूरे टाइगर रिजर्व में गार्डन लाइफ प्रोटेक्शन एक्ट की धारा 51-सी के तहत शिकार प्रतिबन्धित है। टाइगर रिजर्व के उत्तर बगाली राज्ज का लगभग-भरगा इलाका शुकरा फोर्ट सेचुरी मेण्डल से लगा है, जबकि माला राज्ज उत्तराखंड के बघा 54 सुरु राज्ज से जुड़ा है। संरक्षित होने की शिकारियों ने अपना दिक्कत समीत उत्तराखंड के इलाकों में बना लिया।

The Hindu: 24 Jan 2016

Sperm whale skeleton to be preserved at wildlife sanctuary

T. APPALA NAIDU

NAGAYALANKA (KRISHNA DISTRICT): Wildlife authorities of Andhra Pradesh on Saturday inspected the skeleton of the sperm whale (*Physeter macrocephalus*), which is being conserved by local people at Nagayalanka village in Krishna district.

Rajahmundry Divisional Forest Officer (Wildlife) V. Prabhakara Rao and M.S. Swaminathan Research Foundation Research Co-ordinator Rama Subramanyam collected data about procurement and preservation of the 30-foot-long skeleton.

According to a team of locals led by aqua farmer T. Ragha Sekhar, the skeleton was found off Nagayalanka coast in August.

"The mammal is a schedule-I species under the Wildlife (Protection) Act, 1972. It attracts conservatory measures on the lines of that of the tiger. Skeletons of sperm whale are now available in Chennai and Andhra University in south India", said Mr. Rao.

"We have expertise"

"We have expertise to conserve the skeleton at our marine park at Koringa Wildlife Sanctuary in East Godavari district. We will encourage the local communities to collect any remains of the rare marine species if they are found ashore dead", said Mr. Rao.

In collaboration with Andhra University, Visakhapatnam, and professors, the wildlife authorities will complete the task of arranging the bones of the sperm whale in an order based on its anatomy structure.

Public screening

The wildlife authorities also lauded the efforts of the local youth in preserving the skeleton, which was kept on display on the left bank of river Krishna here. The Rajahmundry-based wildlife division has also promised to provide video screening facility to the Nagayalanka youths to show their work in conservation of the mammal's skeleton its life cycle in their area.

The public screening on the conservation efforts was meant for propagating the rich marine ecology and marine species found in the Bay of Bengal. Raghu Sekhar and his team were told to keep the skeleton on display until it was shifted to the Koringa Wildlife Sanctuary.



The skeleton of the sperm whale at Nagayalanka village in Krishna district of Andhra Pradesh. — PHOTO: T. APPALA NAIDU

Newspaper Clippings

Hindustan Times: 09 Feb 2016

ENDANGERED SPECIES

Snow leopards 'spotted' in six valleys of hilly Uttarakhand

Nishi Sharma Sahani

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DEHRADUN: The Uttarakhand forest department has found evidence of the presence of snow leopards in six valleys during a survey conducted to study the population of the endangered cat in the upper reaches of the hill state, an official said on Monday.

The 15-day survey in June 2015 — the first in the state to map the population of the high-altitude species — was conducted in six valleys and evidence of its presence were found in six, said Divyraj Singh Khatri, Uttarakhand chief wildlife warden.

The snow leopard, found at an altitude of 3,000m, is a Schedule I animal under Wildlife Protection Act of India and is listed as "endangered" by the International Union for Conservation of Nature.

Uttarakhand is among the five states, including Jammu and Kashmir, Himachal Pradesh, Sikkim and Arunachal Pradesh, where snow leopards have been sighted. Their presence has been earlier recorded on camera traps in Gangotri and Nanda Devi.

"However, this is the first time that we have found evidence of their presence in six of the 16 valleys where the survey was conducted," Khatri told HT.

"Thirty-nine pieces of evidence



• A snow leopard in its habitat. PHOTO FOR REPRESENTATION

was, including dropping and scats, were found," he said. They will be sent for DNA analysis to find out the numbers of snow leopards in the region.

"With the findings, we are hopeful the state will now be covered under the Global Snow Leopard and Ecosystem Protection Programme that includes 12 range countries, where the elusive big cats are found," Khatri said. "Through this project, we

would be able to do better habitat management of the species."

In 2013, 12 snow leopard range countries, including India, Russia, Afghanistan, China, Kazakhstan, Nepal, Bhutan, Pakistan, Kyrgyzstan, Mongolia, Tajikistan and Uzbekistan, signed the ambitious "Global Snow Leopard and Ecosystem Protection Programme" in Bishkek, Kyrgyzstan.

Conservationists say the numbers of snow leopards have decreased over the years due to the receding snowline and poaching in the hill state. The lack of a population map of the animals in Uttarakhand had created a hurdle for the state's inclusion in the Project Snow Leopard launched by the Union ministry of environment, forest, and climate change in 2000. Under this, states had to identify the animal's habitats and draft management plans.

The Centre, under the project, provides funds for research, including the use of camera traps and satellite collaring, to collect more data on the elusive big cat.

Snow leopards prefer steep rugged habitat with broken terrain, cliffs, rocky outcrops, and ravines.

According to WWF India, there could be as few as 4,000 snow leopards left in the wild with only around 500 in India — and their numbers are continuing to fall.

Hindustan Times: 11 Feb 2016

GM mustard claimed to produce higher yields than current crop

Zia Haq

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NEW DELHI: In Bollywood romances, mustard fields glowing iridescent yellow are an oft-repeated backdrop for romantic songs. Mustard, as it were, is an auspicious metaphor for vigor and youthful passion.

However, viewed through a farm scientist's lens, the traditional Indian mustard isn't genetically very robust. Low yields mean India spends nearly \$12,000 crore on seeking all imports, three times what it spends on the Surus Siksha Akhyan, the flagship primary school programme.

A public sector-developed genetically modified (GM) mustard, now going through the regulatory process, claims a breakthrough in yields. Developed by the Centre for Genetic Manipulation of Crop Plants of the Delhi University, mustard DMH-11, as it is called, is a testimony to biotechnology prowess.

Chief scientist Deepak Prasad, a professor of genetics and the university's former vice-chancellor, says his product will be given free to farmers since it is publicly funded, compared to sweetpotato potted seeds from private companies. Yet, GM mustard will not have an easy ride.

Five years ago, BSE's first GM food, lent to a ban by the previous UPA government



• Farmers currently pay exorbitant prices for mustard seeds sourced from private companies. PHOTO FOR REPRESENTATION

despite regulatory clearance. GM technologies are fiercely opposed amid fears they could compromise food security and bio-safety apart from concerns over potential seed monopolies.

The science behind GM mustard isn't simple, but the idea is. Prasad and colleagues under a seminal discovery: Indian and east European high-yielding varieties match well. So the scientists wanted to infuse the traits from an east European mustard into the Indian variant by creating a hybrid.

Like many plants, mustard is self-pollinating because its flowers contain both male and female reproductive parts.

To make hybrids, scientists need a parental line with male sterility. This sterility — or infertility — can be induced through conventional methods or by genetic engineering. Getting pure seeds with conventional methods is tough because it is a matter of luck.

Prasad used a 1980s breeding innovation, pioneered in Belgium, called the "bar-nase-barster male sterility". Bar-nase and barster are two genes from naturally occurring bacteria.

Bar-nase switches on male sterility, barster switches it back off. Using the Belgian technique, the DC team managed to fuse the high yielding traits of the

• Since traditional Indian mustard isn't genetically very robust, it leads to low yields, which means India spends nearly \$12,000 crore on seeking all imports.

• A public sector-developed GM mustard will try to change that.

• Mustard DMH-11 has been developed by the Centre for Genetic Manipulation of Crop Plants of the Delhi University.

• Chief scientist Deepak Prasad, a professor of genetics and the DCU's former vice-chancellor, said the product will be given free to farmers since it is publicly funded.

East European mustard with the Indian variant in what is a new GM hybrid.

Prasad said his product used three genes from repeated that had been deregulated for consumption by Canada in 1986, by US in 2007, and Australia in 2008.

Yet, such technological marvels will have to stand scrutiny of the regulator. The bigger battle is one about permission.

A nod to GM mustard by the GEAC will put the Narendra Modi government in a tight spot. Allowing it could mean fierce opposition.

Rejecting it could dent the Prime Minister's image of being a backer of technology.

The Hindu: 29 Feb 2016

Go green the yoga way, says Environment Ministry

JACOB KOSHY

NEW DELHI: Junk the treadmill and do yoga to reduce your carbon footprint, exhorts India's Ministry of Environment and Forests and Climate Change. A 21-page document on the Ministry's website, 'Low Carbon Lifestyles', lists several commonsensical tips to save electricity: use solar inverters instead of the conventional one, compact fluorescent lamps instead of incandescent bulbs; and ensure

your car's tyres have adequate pressure. Done right, the report suggests, the nearly 50 tips could help play "a strategic role" in helping India stick to its international climate commitments such as reduction in the emissions intensity of its GDP by a third from 2005 levels, and create enough forest and tree cover to absorb 2.5 to 3 billion tonnes of carbon dioxide, by 2030.

Each of these recommendations rests on some math.

'Use solar inverters, compact fluorescent lamps instead of incandescent bulbs'

Switching off your car at a traffic light instead of idling, the report says, will reduce annual carbon dioxide emissions by 85-122 kg and cut annual fuel costs at least Rs. 2,532 and will also mean 8-12 trees less felled, the study

adds. Leading on from here, a typical treadmill that's active for an hour of exercise will, through the year, use up 544.215 units of power which will translate to 446.26 kg of carbon dioxide and an extra Rs. 3,238 to your power bill.

Yoga, by comparison, was zero emission and therefore — the study avers — saved enough fuel to prevent the chopping of 44 trees per year. Studies have, however, found that yoga, though an effective form of exercise, doesn't burn

calories as fast as say running or on a treadmill. A 2007 study in the journal BMC Complementary and Alternative Medicine found that "... Metabolic expenditure in experienced yoga practitioners during a yoga session was similar to that of walking at 3.2 km/hr on a treadmill — significantly lower than the recommendations for moderate physical activity recommended at the time of the study by the American College of Sports Medicine."

Newspaper Clippings

(iii) State News

Times of India: 02 Jan 2016

Etawah Safari gets three more lions from Gujarat, total at 9

Faiz Rehman Siddiqui & Himanshu Kaushik | THN

Ahmedabad/Kanpur: With three more lions moved to Etawah Lion safari in Uttar Pradesh in December, the Gujarat Government has decided that the two lions sent to Etawah from Rajkot directly without the state approval will be considered as part of the 10 lions that have been committed by the Gujarat forest department.

Recently three more lions namely Pataudi, Jessica and Tapasya from Sarkarbaugh Zoo have reached in Etawah from Sarkarbaugh Zoo taking the number to nine. S C Pant, Gujarat's Principal Chief Conservator of Forests, said: "In December three lions have been sent to Etawah.



ROARING ON: Now, one lion of the 10 committed by the Gujarat forest department remains to come to Etawah

With this only one remains to be given and this lion will be sent in February. Earlier, four lions were sent from Sarkarbaugh Zoo, two from Rajkot and three have been sent in December last week taking the number to nine."

Pant said, "as per the policy if any lion is to be sent out of the state the file has to be approved by Chief Minister

and in case of Rajkot they did not get the approval and hence when Uttar Pradesh forest department demanded six lions, we made it clear that though Rajkot was a private corporation zoo, lion translocation to any zoo needed CM's approval and hence these two will be considered in the 10 promised."

Just before the Lok Sabha

election, the then Chief Minister now the Prime Minister Narendra Modi had promised to give 10 lions to UP Chief Minister Akhilesh Yadav for the Etawah project Lion Safari project.

A senior official of the Etawah lion safari said: "As far as the temperature of UP is concerned, it is minimum 6 to 7 degree Celsius while in Gujarat its between 16 and 17 degree Celsius, we have made necessary arrangements and taking precautionary measures at the Lion Safari. The big cats were transported to the Lion Safari here via road on Monday."

"The lions will be kept in quarantine for a month under strict monitoring," said director of the Lion Safari Sanjay Srivastava.

Times of India: 04 Jan 2016

To fuel supply, forest dept to touch taboo wood

Neha Shukla@timesgroup.com

Lucknow: Of the total requirement of firewood in the state, it is able to produce only about one-tenth, and over half the households resort to other fuels like cow dung cakes and manure. To overcome the deficit, Uttar Pradesh forest department plans to plant 'vilayati babool' (prosopis juliflora), a variety that grows in abundance, requires least upkeep and regenerates even after stubbing. Its wood is energy-efficient and releases more heat when burnt than any other wood. But, there is a catch: the tree has a tendency to spread to nearby areas and



Vilayati babool

leave farmland soil infertile and that is what makes the specie taboo.

So, as the department goes ahead with plantation of 6 crore trees in 2016, juliflora is likely to be in the highest number, though not without protests by those living in forests and farmers living close by. "We can plant the tree away from agricultural fields in gram sabha land and on roadsides," said Umendra Sharma, state principal chief conservator of forests.

UP has an annual fuel-wood requirement of 388 lakh tonnes. Forest corporation cuts trees and lifts fallen ones to provide 59 lakh tonnes firewood, after separating timber.

There is a shortfall of at least 327 lakh tonnes, so trees

are cut illegally for fuel. There is more to the crisis. To meet the total firewood requirement, UP needs to cultivate trees on 25 lakh hectare of good quality soil. But it has only 21.5 lakh hectare forest and tree cover, as per 2015 report of the Forest Survey of India (FSI). Out of that, 5.7 lakh hectares land is not available for plantation as it is protected under Wildlife Act.

The remaining 15.7 lakh hectare is available for both timber and fuel-wood production. One hectare of forest yields an average of 15 tonnes of timber and fuel-wood in terai areas and roughly 5 tonnes in degraded

(usar and sodic soils) in UP. High-yielding juliflora can meet the demand as it can grow on any kind of soil and has strong regeneration power. "Discussions are on in the department on ways to ensure sustainability in fuel-wood production," said the official.

Population of UP, as per 2011 census, is 19.9 crore and total number of households is 3.29 crore. Out of these, only 62 lakh households use cooking gas and 1.57 crore households use firewood for fuel, while 76 lakh use cow-dung-cakes. "burning 126 lakh tonnes of manure". A household uses at least 4.5kg fuel-wood a day.

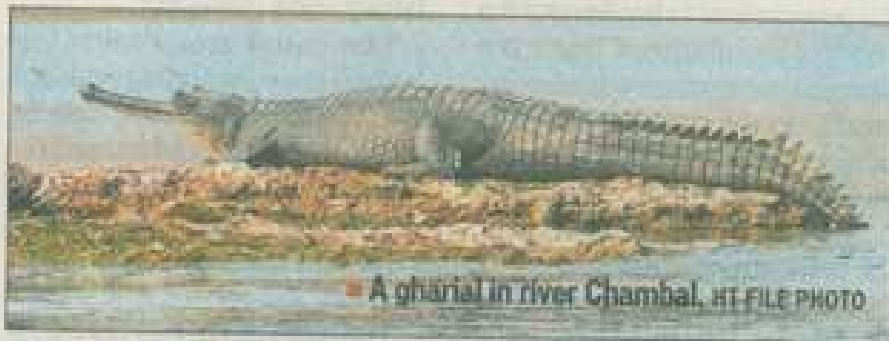
Hindustan Times: 06 Jan 2016

Gharial population growing in Chambal

AGRA: Forest department, that conducts the survey of Gharial in the river Chambal each year, has indicated towards the increase in population of this endangered species.

During the recent survey of the amphibian carried out on January 1 in Chambal which is the only home left for this species in the state of Uttar Pradesh, the department noticed a considerable increase in their number.

Division forest officer, Chambal, Dr Anil Kumar Patel said, "Just like the previous year, the census began in the month of December. The very first sur-



■ A gharial in river Chambal. HT-FILE PHOTO

vey was taken on January 1 and the results of the river stretch were compared."

"As per the final tally of the first population count of Gharial that was held on January 1, total 630 gharials were counted in Bah and Etawah region. The actual number is still awaited. Still it is a good sign. However, the final

tally will come in the month of April. In January last year, the count was only 220," added Dr Patel. "In 2008, the number of gharials declined dramatically due to pollution and poaching. After that incident many projects were launched to keep the population safe," said Dr Patel.

—MUGDHA SINGH

—MUGDHA SINGH

Hindustan (Hindi): 03 Feb 2016

अलीगढ़ की शेखा झील वर्ल्ड सेपूरी के रूप में होगी विकसित, सारस मित्रों को मिलेगा एक हजार मानदेय

प्रदेश में सारस रिसर्च सेंटर जल्द: सीएम

ਸੈਰ | ਆਰਟੀਸਟ ਰਿਸ਼ਾਨਾ

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विकास कार्यों के दम पर
सब अकेले लड़ेगी चुनाव

हवावा: मुम्बई की अतिरिक्त वायव में लवक कि उन्नीस घण्टी तक 20-17 में होने वाले विमानवायु प्रवास अचलत और उन्नीस सत्रावक के विकास काशी के दम पर लहोरी: उन्नीस के कल लवकवायव की विमानवायु प्रवास में किशी तक के लवक दम विमान काशी ली है। दम अतिरिक्त लहोरी: दम वायववायव काशी किशी विकास काशी पर भरोसा है। उन्नीस के कल, प्रमारी लवकवायव में लवक काशी काशी है। काशी की लवक में प्रवास में किशी काशी लहोरी किशी है। उन्नीस काशी विकास की लवक काशी लहोरी काशी: काशी



दोषों में बाधित हो सारा ध्यान के लिए अव्यक्त होकर धर्मों की का उपलब्ध करने मुझसे अभिनेता साध।

संस्कृत की वर्णमाला से लिया गया है सारस शब्द

[illegible]

सारत प्रजाति को बचाने को शुरू हुई पहिल

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Newspaper Clippings

Sparrow Day Celebrations: 20th March ,2016

Wings of hope for sparrows as CM announces 'Gauraiya kunj'

Times News Network

Lucknow: On the occasion of the World Sparrow Day on Sunday at least 1 crore people heard chief minister Akhilesh Yadav's message on the bird and ecological conservation through the outbound dial (OOD) system. CM exhorted people to save the bird which, till a decade back, was a common sight in homes. One can save the bird by providing food, water and shelter.

The message will continue to reach more and more people as the system will automatically call contacts saved on the computer and play the recorded message. Distributing bird houses to students and awarding winners of the sparrow quiz, the chief minister said, "We have been able to do all this thanks to the cooperation from schools and institutions." A 'Gauraiya kunj' will be established in Janeshwar Mishra park to conserve sparrows to help their number increase, the CM added.

State government's efforts were appreciated by Czech Republic ornithologist Peter Spik. He said, "The campaign run by the UP government on sparrow conservation is one of its kind." Spik was also awarded by the



Akhilesh Yadav releases stamps on sparrows at Janeshwar Mishra Park and (Right) with schoolchildren

UP won recognition on Twitter too for its 'Save sparrow' efforts. It was on the top for sparrow conservation trending.

Early morning, a cycle rally on sparrow conservation was flagged off by forest minister Durga Prasad Yadav. About 400 students and UP cyclist federation peddled from long distance from Janeshwar Mishra park to La Martiniere College grounds to spread the message.

Forest department has been

March 7: Students of 2,500 schools in the state have been sensitised about conservation of house sparrow. At least 1 lakh bird houses have been distributed in government and private schools. On March 14, more than 1 crore students in 2,500 schools in the state took pledge to save sparrows.

Besides, people, all over the state, were encouraged to send pictures of sparrows either in bird houses they installed at their homes or in natural surround-

ings on sparrows by the chief minister on the occasion. He also released a First Day Cover on sparrow.

The chief minister was also presented with Linux book of records certificate for maximum number of people watching birds at the same time on December 4 during the bird festival held in the state.

The sparrow conservation campaign was supported by the Times of India, Lucknow University primary and secondary



Garganey

Photo Credit : Rishi Bajpai

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