FRESHWATER, Baikal in Russia’s Siberia is a natural wonder

World’s deepest lake in peril

Lake Baikal is undergoing its gravest crisis in recent history, says experts. Holding one-fifth of the world’s unfrozen freshwater, Baikal in Russia’s Siberia is a natural wonder of “exceptional value to evolutionary science” meriting its listing as a World Heritage Site by UNESCO. Baikal’s high biodiversity includes over 3,600 plant and animal species, most of which are endemic to the lake. Over the past several years, however, the lake, a major international tourist attraction, has been crippled by a series of detrimental phenomena, some of which remain a mystery to Scientists. They include the disappearance of the Omul fish, rapid growth of putrid algae and the death of endemic species of sponges across its vast 3.2 million-hectare area. Starting in October, the Government introduced a ban on all...
ommercial fishing of Omul, a species of the Salmon family only found in Baikal, fearing “irreversible consequences for its population”, according to the Russian Fisheries Agency (The Hindu, 21 October, 2017)

**Hunter vs hunted: how different species react to smell of blood**

The faintest whiff of a molecule from mammal blood known as E2D sends some animals into a predatory frenzy but frightens others, including people, into retreat. Scientists have discovered. Never before has the same molecule been known to provoke diametrically opposite behaviours in creatures ranging from horseflies to humans, hinting at deep evolutionary roots, they reported in the journal Scientific Reports. Animals, especially mammals, use their sense of smell to find food, hook up with partners, and detect danger. Many of these chemical triggers are specific to one species, or work in combination with other odours. (The Hindu, 24 October, 2017)

**Yamuna in distress after immersions**

Government agencies in the National Capital have failed the dying Yamuna yet again this year, as the nine-day-long Durga Puja festivities, left the river in dire straits. Despite a strict order by the National Green Tribunal (NGT) in September, following a story by The Hindu on the state of the immersion ghats across the city almost over two weeks after Ganesh Chaturthi, no visible change can be seen. On the banks of south Delhi’s Kalindi Kunj Ghat and north Delhi’s Nigam Bodh Ghat, half submerged idols of Durga, most of them made of Plaster of Paris (PoP), were seen. The river water also saw a sea of plastic bags floating with glass bangles, flower petals and other decorations made of metal and plastic. Hans Raj, 35, a lifeguard sieving the debris to find food, hook up with partners, and detect danger. Many of these chemical triggers are specific to one species, or work in combination with other odours. (The Hindu, 2 October, 2017)

Scientists have obtained the first evidence of the elusive Snow Leopard in Arunachal Pradesh. Camera traps have captured images of the big cat at Thembang village’s Community Conserved Area, a community-owned reserve, in West Kameng district. The presence of the species outside a protected area highlights the importance of community support for conservation as well as landscape level planning, says WWF-India, which conducted the camera trap study. The camera-trapping, part of a State-wide survey initiated in March 2017 by WWF-India in collaboration with the Arunachal Pradesh Environment and Forest Department, focused on unexplored Snow Leopard habitats. (The Hindu, 6 October, 2017)

**Fish-lizard’ fossil from Kutch is a Jurassic first**

A near-complete Jurassic-era fossil of an intriguing animal that looks like a mash up of a Dolphin and Lizard has been unearthed in Kutch, Gujarat. Ichthyosaurs or ‘fish- lizards’ in Greek were large reptiles that lived at the same time as dinosaurs. While many Ichthyosaur fossils have been found in North America and Europe, the fossil record in the Southern Hemisphere has mostly been limited to South America and Australia. Guntupalli Prasad, a Geologist at the University of Delhi, said “when a fossil bone from the animal’s skeleton was first found by an Indo-German research team in Kutch in 2016, they suspected it to belong to a dinosaur. But the bone was too long and later the whole skeleton was unearthed. It’s the first Jurassic Ichthyosaur find in India”. (The Hindu, 20 October, 2017)

A joint effort to make a registry documenting the food crop diversity of the Perumala region of Kanthalloor Gramapanchayat in Idukki got under way with Sacred Heart College at Thevara dispatching a team of 21 students for an in-situ camp and documentation of the varieties. The Jaiva Jeevitham Collective, steered by the CPI (M), which has cultivated organically 46 types of fruits, vegetables, pulses and native grains on just an acre of land in the area, and the Organic Kerala Charitable Trust are joining hands in the effort. “Clearly, the region is a top food crop diversity hub. We cultivated 20 odd varieties of fruits, 10 types of winter vegetables, roots, and native varieties of rice, some under the threat of extinction” says M.M. Abbas of Jaiva Jeevitham. “Local people say they used to have some 100 food crop varieties earlier, but some just faded away, thanks to the issues with farming, global warming which has upped temperature in the region by a few degrees, pollution and unsustainable farming practices. The effort is to see if we can scientifically retrieve some of these lost varieties and popularise natural farming practices” says (The Hindu, 30 September, 2017).

**Neelakurinji set to cast its spell**

With another gregarious blooming of Neelakurinji (Strobilanthes kunthiana) expected in July next year, managers of the Eravikulam National Park (ENP) are drawing up plans to meet the rush of visitors. The mass flowering of the shrub, found in the shola forests of the Western Ghats, was a crowd-puller in 2006 as over five lakh visitors reached the Park during the season. During peak season, the Park received around 5,000 visitors a day, much above the visitor capacity of the region. The species flowers once in 12 years and the unusually long cycle of flowering
adds to its charm. Kunthina is usually found at an altitude of 1,600 metres. Munnar and Eravikulam offer the best view of the mass flowering of the plants, though the species can be seen up to the Nilgiri hills (The Hindu, 6 October, 2017).

**Chinnar echoes with butterfly flaps**

Within the Chinnar Wildlife Sanctuary (CWS) in Idukki district, the canopy is a butterfly kaleidoscope these days. There are millions of them and they are from the Lepidoptera order of butterflies. For them, the CWS is a transit point of their annual migration from the rain shadow forest regions of Tamil Nadu back to the higher elevations of Munnar. Stalking them are hundreds of insect eating birds. Many butterflies can be seen caught in spider webs. Still millions of them reach their destination. The migration is not undertaken at one stretch. They leisurely halt to feed and breed because en route the butterflies lay eggs on the larval host plants appropriate for their caterpillars. The migration is for avoiding the harsh monsoon rains in the Munnar region. The activity is now attracting nature enthusiasts apart from Lepidopterists (The Hindu, 10 October, 2017).

**Sawfish more threatened than Tigers, say Scientists**

The Sawfish, included in Schedule 1 of the Indian Wildlife (Protection) Act 1972 enacted to save them from exploitation, have been sighted off the Indian coast, less than 10 times in over a decade, and they appear to be more threatened than Tigers and Elephants, say Marine Scientists as the world observed the first Sawfish Day. A statement issued by the Central Marine Fisheries Research Institute said the Sawfish may be the most endangered fish species in India. Anecdotal evidence suggested they were once common along the Indian coast. However, an experienced Fisherman from Mumbai, Seshnath Koli, was cited as saying that Sawfish, considered “sacred”, were rarely seen over the last few decades (The Hindu, 18 October, 2017).

**More species of Snakehead fish found**

Confusions over Snakehead fish species identity need not bother Ichthyologists any more, as a global digital database of the species has been developed. A global collaborative initiative involving as many as 10 scientific institutions has barcoded these freshwater fish varieties, which got their name from their unique snakelike snout. The members of the species are found distributed from the Middle East to eastern Asia, Central and West Africa and the Nile. Earlier, it was widely believed that there were only 38 species in this group. However, DNA-level analysis showed that there were several more species than first thought. The species strength of Snakeheads could be 53 or even more, said Rajeev Raghavan, Assistant Professor at the Kerala University for Fisheries and Ocean Studies, Kochi, which is one of the partnering institutions in the project. The research findings were recently published in PLOS ONE (The Hindu, 21 October, 2017).

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**CHILDREN’S CORNER**

In October, we are observing Wildlife Week from 2nd to 7th. There are some words related to wildlife given as jumble. Try to unscramble it.

1. LFWDILEI  6. INGENST
2. ESSPIEC  7. CHEAOPSR
3. NIATORENSOC  8. NTREUH
4. IONTAETGVE  9. NIDGERBE
5. TOYRARIGM  10. CTNOITENXI

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**EXPERTS TALK**

**MUNNAR WOES**

We, as family spent the last three days of Onam holidays in Munnar. Actually we were there to attend a wedding. But then we visited some friend’s homes and other tourist locations also. The place was jam packed with tourists, especially being the holiday season. Munnar is on the international tourism map and must be the most prominent hill station in Kerala and India. But then, if we were to critically look at the place, you are in for a great shock. Some of the most distressing factors were

- There were no building codes for such an ecologically sensitive location. There were buildings everywhere - of all sizes, shapes and colors. It was so unplanned and unscientific.
- There were street side vendors anywhere and everywhere with no proper built-up space, but temporary shabby structures put up using blue plastic sheets, in long lines on both sides of the road which was a visual eye sore in almost all prominent tourist stopovers.
- There are local women sitting on the roadside selling cut pieces of pineapple, mango, cucumber and guava put in plastic pouches. All the tourists are buying these items, eating the contents and then carelessly throwing away the plastic pouches. And there are no visible litter bins also in the tourism locations.
- Vendors of other items like corn, cabbage, tender coconut etc. are just dumping all the waste materials after sales around the back and sides of the shops turning the whole place into a dump yard.
- The roads are constructed and tarred with very rough and deep edges and when two vehicles pass each other and if you have to go off the road, it is a dangerous situation.
The Southern Birdwing (Troides minos) is a large and striking swallowtail butterfly and it is the largest butterfly found in southern India. Its wingspan is larger than some of the smaller birds, and hence the name "birdwing". It was earlier considered a subspecies of the Common Birdwing (Troides helena) but is now recognised as a valid species. Southern birdwing is found abundantly in Kerala, especially within the forests of the Western Ghats and also in the fringe areas. They can be easily spotted in the gardens of both the cities and the villages in Kerala. In adult butterflies, the upper side forewing is glossy black with white-bordered veins. The hind wings have a golden yellow colour, with black borders, spots and veins. In females, the forewings have prominent grey-white vein stripes. On the hind wings, there are rows of large triangular black spots. The wingspan is around 140-190mm in both males and females. Southern birdwings are active in the early morning hours. They have a slow flight and usually prefer to fly above the trees. They feed only on honey. Mussaenda, Ixora and Lantana are their major host plants. Apart from India, Sri Lanka hosts Southern birdwings.

Shameena S
**Ozone Day 2017**

Senior Education Officer was invited by the Dept. of Environment and Climate Change to lead a session on the theme “Environment Education” in connection with International Day for the Preservation of Ozone Layer 2017 organised by DoECC at Thiruvananthapuram on 16th September 2017. Senior Education Officer presented the topic very well including all aspects of Environment.

Mr. Sivakumar, Senior Education Officer was invited by the Dept. of Environment and Climate Change (DoECC) to lead a session on the theme “Environment Education” in connection with International Day for the Preservation of Ozone Layer 2017 organised by DoECC at Thiruvananthapuram on 16th September.

The State Director was special invitee to the observation of the Ozone Day organized by AMAS Neyyattinkara on 19th September at Carmel Higher Secondary School, Vazhuthacaud.

Senior Education Officer was invited by CISSA, an NGO based in Thiruvananthapuram working in the field of biodiversity conservation, for conducting a quiz on Environment in connection with Ozone Day 2017 on 22nd September at Bharatiya Vidyapeedom, Parassala.

**Wild Wisdom Quiz**
City-level competition of Wild Wisdom Quiz was held at St. Mary’s School, Pattom on 21st September. This year, being the 10th edition, the competition witnessed very good participation of around 43 school teams in the Junior category and 42 teams in the Middle category. Adnan Nishad and Aswas R. from Jyothis Central School, Kazhakkoottam, emerged the winners in the Junior category with Abraham Tharakan and Indranil Menon from Devamatha Senior Secondary School, Thrissur and Ameya Madhavan V. & Niharika R. Menon from Bharatiya Vidya Bhavan, Poochatty bagging the second and third positions respectively. The Quiz Master of the day was Ms. Anjana Parameswaram from Thrissur. Mr. Renjan Mathew Varghese, State Director and Mr. A.K. Sivakumar, Senior Education Officer led the organizing team comprising of WWF Volunteers and Student Volunteers from the NSS Unit of St Mary’s School under the able leadership of Mr. Santhosh. The Chief Guest of the day was Ms. Padma Mahanty, IFS, Director, Department of Environment and Climate Change, Govt. of Kerala and she gave away the prizes to the winners. One of the other surprising bonus for the entire audience was the provision of Ice Creams by Milma free of cost. In the Middle Category Quiz, Siddharth Renjith and Udaya Paul from Bharatiya Vidya Mandir, Eroor, Ernakulam emerged the winners with Gopu Greesh & Jeremiah Mathew Darvy from Vimala Public School, Thodupuzha and Hrunayesh R. Krishnan & Thamanna Hari from St. Thomas HSS, Mukkola, Thiruvananthapuram coming in the second and third positions.

Rivers Day programme

WWF-India, Kerala State Office in partnership with the Association of Natural Science Teachers, University of Kerala conducted a Story Writing Competition exclusively for Teacher Trainees. The focal theme was the threats faced by our rivers. The entries received will be reviewed and the best 30 will be compiled into a resource material with the name “Puzhayude Kanneerkkathakal”, published jointly by acknowledging the contributors also.

Wildlife Week

Mr. Sivakumar, Senior Education Officer led a session on ‘Wildlife of Kerala and its Conservation’ on 5th October at Bharat Aviation Academy, Nedumangad. An exhibition on biodiversity and wildlife was also arranged at the venue.

The State Director and the Senior Education Officer took the lead in organising the observation of Wildlife Week at Govt. Women’s College, Thiruvananthapuram on 13th October. The State Director led the technical session titled ‘Wildlife of Kerala - Issues & concerns’ with State specific examples. The Senior Education Officer led the interactive quiz on wildlife.

Space Week Talk at Govt. HSS, Kumarapuram

The State Director was invited by Kerala State Remote Sensing and Environment Centre, Govt. of Kerala to deliver a talk on “Geoinformation Technology for Natural Resource Management” on 10 October, 2017 as part of observing Space
Week 2017. The State Director addressed the full school in the morning assembly session and also delivered a technical talk to a select group of 80 students.

**Eco Trail to Peppara Wildlife Sanctuary**

Kerala State Office conducted an Eco Trail to Chathancode forests falls under the Peppara WLS on 20th October 2017. 13 students and 2 teachers from L’ecole Chempaka participated in the Eco trail which was led by Senior Education Officer and two Volunteers - Govind and Shameena. The students were introduced to different type of vegetations, its biodiversity, values and services etc. They also interacted with the tribal people of the hamlets. The students got a chance to plunge into the cold waters of the wild stream which was really exciting along with the ecosystem exploration.

**Orientation trip to Kallar - Ponmudi forests in connection with Wipro earthian - Sustainability Education programme**

Kerala State Office conducted a single day Nature Orientation Trip to Kallar - Ponmudi forests on 21st October 2017 being the follow up of Wipro earthian - Sustainability Education Programme which is supported by CPREEC, Chennai. The 23 member team were of students who were doing the projects, guiding teachers, volunteers led by the Senior Education Officer. Fortunately it was a day with heavy rain which helped them to have an experiential learning on sustainability of water and biodiversity, which are the focal themes of the programme. Senior Education Officer and volunteers helped them to identify the plants, birds, butterflies etc. and explained about the value of biodiversity.

**Two-day Orientation Camp at Vazhachal Forests in connection with Wipro earthian - Sustainability Education programme.**
Kerala State Office conducted a two-days Nature Orientation Camp at Vazhachal Forests in Thrissur District on 23rd and 24th October being the follow-up of the Wipro earthian-Sustainability Education programme. The 20 member team were of students who were doing the projects, guiding teachers, volunteers and Senior Education Officer. The technical sessions were led by Sri. Tiju Thomas, Senior Programme Officer of WWF-India’s WGNL Office and Ms. Shameena S., VEP intern. Sri. Babu and Subramanyan, Members of the Kadar Tribal Colony had interaction with the participants. The field trips were led by Senior Education Officer and volunteers.