India Wilds®

Newsletter

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Climate Crisis & heat wave:

India is boiling. Our cities have become a cauldron. The temperatures in New Delhi have touched 48 deg centigrade in June 2019. Most of the cities in India recorded their maximum temperatures this june. In the last 30 days 10 cities in India have recorded the hottest temperatures on earth. In most of the places the average temperatures are higher by 5-7 degrees centigrade. And that is more than what human body can tolerate. When such an unprecedented heat wave singes the country, it takes its toll.

In Bihar 184 people have died due to heat wave. To prevent people from moving out into the open and face heat stroke, the Government has invoked Section 144 to mandatorily force people to remain inside their homes. All construction work between morning 11 am and afternoon 4 pm has been banned.

Four people traveling in Kerala Express died due to heat when the train was approaching Jhansi. (LiveMint, 11 June) Such is the heat that traveling in non-air conditioned compartments means inviting death.

Between 2010 and 2018, 6000 people are officially declared dead due to heat waves in India. This was stated by Minister for Earth Sciences Dr. Harsh Vardhan in Lok Sabha. There are many more deaths which go unreported or remain unclassified.

There is no denying the fact that the heat waves are becoming more and more intense and frequent. This was also admitted by the Hon'ble Minister Dr. Harsh Vardhan in Lok Sabha on Jan

Cracked mud of the dried up fields due to famine in India

Inside this issue:

Cover Page Photograph:

Indian Fox cubs by Vipin Sharma

3rd 2019.

Since 2004, India has seen 11 of the 15 warmest years. (Business Insider, June 12). This is due to Climate Crisis where extreme weather events are becoming more intense and frequent. As a country we have to wake up to the reality that the Climate crisis has made our cities as boiling pots. Unfortunately the Government is only looking at this issue from a very narrow perspective and reacting to it. The Government is talking about early warning systems to communicate people about the heat wave and to prevent deaths. There is no effort to acknowledge the root cause of the issue and resolve it.

Where are the trees in my city?

We are increasingly concretising our planet. Cities have become concrete jungle. Even smaller towns these days have lost their trees and are increasingly resembling the urban concrete jungles. Over a period of time we have lost our trees in cities under the pretext of road widening and new buildings and infrastructure creation. In 2000 when the local authorities in Bangalore cut down trees standing in the road dividers, many people protested. However, others justified that it is important to cut down the big trees standing in the road dividers. Same thing happened in all the cities. So we don't see any trees in the road dividers. After that, came the road widening spree and the tall hard growth trees standing on the road sides were mercilessly cut down. There is technology available to relocate and replant these trees. However, the Government prefers to simply cut down the trees. No amount of plantations of saplings can replace the carbon sequestration and other ecosystem services rendered by a hard growth tree.

Manicured Lawn Photo Courtesy - online media

People these days also cut down the trees as they complain that they need to sweep the fallen leaves and twigs. I found this stunning as these complaints are from various cities as well as smaller towns. Gone are the days when we used to have garden resembling a mini jungle. These days everybody wants their yard clean ie devoid of trees and plants. Even planting of plants has to be in a pattern with clean rows.

No one ever thinks that there are no straight lines or squares in nature. A river meanders and flows. A bird creates a nest, which is never square, or rectangle or shaped like a box. A next with eggs will survive a fall. However a square or rectangle shaped object created with the same nesting materials used by birds will not survive a fall. The reason for the same is rooted in simple physics as stress builds up in the corners. If there is a flooding then it will hurt square or rectangle shaped houses.

However, water can easily flow around cylindrical/round shaped houses. Wish we remember this traditional knowledge and use it like other species.

In the big cities, bunglows have given way to multi-storied apartments and residential apartments have become converted to commercial spaces. The offices in the first floor feel that the trees are blocking their name boards and customers can miss it. So they too prefer to cut down the trees. One way is to concretise the entire area around the tree so that the tree is choked and dies. The other modus operandi is to slowly hack away at the trunk, so that the tree haemorrhages and dies. Then it becomes easier to cut it down.

Our cities are growing bigger and becoming mega cities as job opportunities are only concentrated in bigger cities. This leads to increased population density and increased concretisation where every effort is to utilise each inch of space. The cities look like concrete jungles with hardly any earth visible for rainwater to percolate. The concrete gets heated up and increases the ambient temperatures of the cities. With increased use of Air conditioners, the temperature increases further as

studies have shown that use of ACs increase the temperature by about 2 degrees centigrade.

Studies in USA have shown that temperatures of rural areas are as much as 7 deg lower than the urban areas as the temperatures of urban areas increase due to heat island effect. (Climate change and heat island; IndiaWilds Newsletter May 2015, ***https://www.indiawilds.com/diary/indiawilds-newsletter-vol-7-issue-v/***)

Planting of trees and waterbodies is very important and should be mandatorily included in our urban planning. People should be sensitised about the benefit of the shade given by trees as well as their role in carbon sequestration. It is very important that the city parks are again planted with native trees and allowed to grow big. Lawns need more water. So focus should be to convert all the parks into big woody areas with native bushes as undergrowth. Let the areas appear wild and green as that will help us more than the lawns.

Climate Crisis & Water shortage:

As our big cities have become mega cities, they have over exploited the ground water. These cities are now dependent on water brought through canals from long distances. With an exploding population, the need for water has skyrocketed. And in summer with the unprecedented heat wave, there is massive shortage of water.

Many localities in big cities are already dependent on water supplied through tankers. These tankers are filled by extracting ground water from borewells which is illegal. However, the tanker mafia under political patronage does that. In this heat wave, the tanker mafia has tripled the price of water. As a consequence, people are suffering. Water wars have started in Chennai. IT companies are asking their employees to work from home or bring water to office. Hotels are shutting down.

Government and people don't understand that the single biggest thing that can destroy our economy is lack of water. Civilisations have perished due to lack of water when a river has changed course or run dry. Without water the sanitation and hygiene conditions can deteriorate. And that is a sure shot invitation to diseases. The Harappa civilisation had collapsed because 4200 years ago the annual monsoons continuously failed for 200 years. History has a nasty habit of repeating itself if we don't learn lessons from it.

As a nation we have to now urgently change our lackadaisical attitude about our environment and forests and immediately rethink our approach to industrialisation at the cost of diverting forests. Wake up before it is too late. Since politicians with their narrow focus on making money for themselves and their cronies will not listen, it is the people who have to take action and force their public representatives to act and save our forests and environment and ultimately save ourselves as our well being is intricately linked with the wellbeing of our environment and forests.

Conservation News -

Climate change devastates permafrost of Canadian High Arctic

Climate change is showing its impact around the world. The record heat waves killing hundreds of people in India is not an isolated phenomenon. Climate Change has become a full blown Climate Crisis. The entire earth is being heated up. Even the very cold high arctic areas of Canada, which is always covered under very thick layers of ice called permafrost, is bearing the brunt of this climate crisis and is heating up.

A research paper published in Geophysical research letters (Climate change drives widespread and rapid thermokarst development in very cold permafrost in the Canadian High Arctic; Louise M. Farquharson et al., doi: 10.1029/2019GL082187) has found the due to the climate warming there is widespread development of thermokarst in the ice-rich permafrost. The researchers observed thermokarst development in very cold permafrost at 3 monitoring sites along a 700 km transect in the Canadian High Arctic. The rapid landscape response to above average summer warmth is due to limited thermal buffering from overlying ecosystem components and near-surface ground ice.

The researchers write that "In the Canadian High Arctic between 2003 and 2016, a series of anomalously warm summers caused mean thawing indices to be 150 – 240 % above the 1979-2000 normal resulting in up to 90 cm of subsidence over the 12 year observation period." The greatest thawing was observed in Mould Bay. The research data illustrates "that despite low mean annual ground temperatures, very cold permafrost (<10°C) with massive ground ice close to the surface is highly vulnerable to rapid permafrost degradation and thermokarst development. We suggest that this is due to little thermal buffering from soil organic layers and near surface vegetation, and the presence of near surface ground ice. Observed maximum thaw depths at our sites are already exceeding those projected to occur by 2090 under RCP 4.5."

With such a massive amount of melting of permafrost resulting in upto 90 cm ie. 2.95 feet subsidence will lead to many coastal cities going under water. Lot of roads, internet cables, power cables etc will get inundated. It is a very alarming situation, which is going unnoticed by our politicians and Government agencies. We have to remember that we are living in a connected world. Politicians will continue to bicker over the work needed to be done as hard decisions need to be taken to rein in on the high carbon lifestyle that we have become used to. Unless we act, together we will sink.

Minister claims India will lead by example in Combating desertifiction

Union Environment Minister said that we as a country make targets not under any global pressure but for our own country's real sustainable development, and as in the past India will play a leadership role and will lead by example in combating desertification. Speaking at an event in New Delhi on the occasion of World Day to combat desertification and drought Shri Javadekar announced that India will be hosting the fourteenth session of Conference of Parties (COP - 14) from 29th August – 14th September 2019.

The Union Minister further highlighted that with about 30% of country's total geographical area being affected by land

Conservation News -

degradation; India has high stakes and stands strongly committed to the Convention. Shri Javadekar said that various schemes have been launched by the Government of India such as: Pradhan Mantri Fasal Bima Yojana (PMFBY), Soil Health Card Scheme, Soil Health Management Scheme, Pradhan Mantri Krishi Sinchayee Yojna (PKSY), Per Drop More Crop etc. which are helping to reduce land degradation. Unfortunately, despite these claims, the Government is sacrificing forests at a relentless pace for industries and mines. The Ministry of Environment and Forests is acting as a clearing house for projects. So it is a mystery that the ministry is claiming success in fighting land degradation.

The Union Minister also unveiled the logo of COP-14 on the occasion.

The Union Minister also launched a flagship project on enhancing capacity on forest landscape restoration (FLR) and Bonn Challenge in India, through a pilot phase of 3.5 years implemented in the States of Haryana, Madhya Pradesh, Maharashtra, Nagaland and Karnataka. Ministry of Environment, Forest and Climate Change (MoEFCC) in partnership with The International Union for Conservation of Nature (IUCN), through this flagship project aims to develop and adapt best practices and monitoring protocols for the Indian states and build capacity within the five pilot states on FLR and Bonn Challenge. This will be eventually scaled up across the country through subsequent phases of the project.

The Bonn Challenge is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030.At the UNFCC Conference of the Parties (COP) 2015 in Paris, India also joined the voluntary Bonn Challenge pledge to bring into restoration 13 million hectares of degraded and deforested land by the year 2020, and additional 8 million hectares by 2030. India's pledge is one of the largest in Asia.

United Nations has 3 Rio Conventions namely, United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity (CBD) and United Nations Convention to Combat Desertification (UNCCD). Established in 1994, the United Nations Convention to Combat Desertification (UNCCD) is the only legally binding international agreement linking environment and development issues to the land agenda. In 1994, the United Nations General Assembly declared 17 June the "World Day to Combat Desertification and Drought" to promote public awareness and the implementation of the UNCCD in the desertification affected countries.

India is hosting the Fourteenth session of Conference of Parties (COP - 14) from 29th August - 14th September 2019 at India Expo Mart Limited, Greater Noida. One of the primary functions of the COP is to review reports submitted by the Country Parties detailing how they are carrying out their commitments. India will take-over the COP presidency from China for two years until the next COP is hosted in 2021.

Over 5,000 representatives from over 197 countries drawn from national, regional and local governments, science and research communities, the private sector, international and non-governmental organizations and all forms media will address the issue of combating desertification, land degradation and drought during the two-week event.

Conservation News -

Wind turbines a threat to birdlife

By Susheela Srinivas

Bengaluru, May 27 : Although wind is a green source of renewable energy, a new study has revealed that wind turbines are posing a threat to lives of birds in their vicinity. Birds colliding with turbine blades are dying.

Researchers were invited by two windfarm owners — one in Samakhiali in Kutch, Gujarat and the other in Harapanahalli, Davangere, Karnataka — to investigate bird mortalities in their farms.

The study found 47 carcasses of birds belonging to 11 species in Samakhiali, among which were threatened species. In Harapanahalli area, seven dead birds belonging to three species were uncovered.

The team scanned a radius of 130 m from the turbines, choosing a spiral path from the base of the windmill. This ensured that all surrounding areas were covered, and no carcass was missed. Researchers looked for bird cadavers, signs of injuries on the bodies and remains of feathers and bones around the wind energy tower. Data was recorded based on the condition of the remains, species, and the distance from the turbine. The study had to consider removal rates due to scavenger animals.

Overall, 59 turbines of the Kutch windfarms were studied, and 23 cycles of searches were conducted at each turbine, with an average gap of 40.5 days between two consequent searches.

This region is close to four biodiversity areas, with diverse bird population, and is an important wintering site for migratory birds from the Arctic, Europe and central Asian regions. Among the 47 deaths, 43 were recorded in the migratory season, with maximum carcasses found within 20 m from the turbines. While Eurasian collared doves recorded the most mortalities, bodies of Dalmatian pelican and painted storks — both threatened species — were also found.

“The surrounding grassy plains support species of raptors like Harriers, Eagles and Kestrels that glide in a circular movement. This increases its chances of colliding with the windmill blades. Raptors are long-living species that lay few eggs. Increasing deaths of these birds can endanger them as a species,” pointed out Dr Ramesh Kumar Selvaraj, ornithologist and team member, while speaking to *India Science Wire*.

In Davangere, the wind farm is located near a deciduous forest area with a rich avifaunal biodiversity of 115 bird species. During 2014-2015, 24 turbines areas were searched over nine cycles. Seven carcasses were found with four of them during the migratory season. All were seen within 60m from the windmill.

“Our investigation indicates approximately 0.5 deaths per turbine, which may be an underestimation, as only collision deaths were recorded at 40-day intervals. Constant monitoring will escalate the figures significantly,” the researchers said.

The scientists suggest appropriate mitigation options should be taken up. Detailed bird monitoring studies, careful selection of wind farm sites keeping in mind bird habitations can help reduce the impacts of windmills on birds to a large ex-

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tent.

The team comprised Ramesh Kumar Selvaraj (Bombay Natural History Society, Mumbai); Anoop V, Arun P R, Rajah Jayapal, and A Mohammed Samsoor Ali (Salim Ali Centre for Ornithology and Natural History, Coimbatore). The study results have been published in the journal Current Science.

Photo: Birds around a windmill in Samakhiali (Courtesy: A Mohammed Samsoor Ali)
(*India Science Wire)*

Study throws new light on evolution of northern Indian Ocean

By Sunderarajan Padmanabhan

New Delhi, May 28

An international team of scientists has unearthed ancient rock samples from the seabed near Laxmi Basin located on the western margin of the Indian continental plate. An analysis of these samples shows that the evolution of the northern Indian Ocean was far more complex than previously thought.

The tectonic evolution of Laxmi Basin has been a subject of intense study for over two decades. Scientists have been using geo-dynamic models to describe it as they did not have access to any physical rock samples buried in the deep ocean floor.

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The Laxmi Basin is a 300 km wide, marginal depression enclosed by the Indian continental shelf and the Laxmi Ridge on either side.

It was believed by some that the basin was formed by the extension of the Indian continental tectonic plate, while another theory held that the surface of the basin composed of an oceanic crust overlying an extinct spreading centre formed due to drifting of two tectonic plates.

Based on the newly found samples, scientists have now concluded that a short-lived subduction event had occurred around 70 million years ago in Laxmi Basin.

"The new knowledge will help us determine precisely as to how the Indian plate moved away from Madagascar and Seychelles just prior to the Deccan volcanism. These findings will have implications for a better understanding of how subduction zones begin and evolve," explained Dr. Dhananjai Pandey of the Goa-based National Centre for Polar and Ocean Research, while speaking to *India Science Wire*.

Dr. Pandey and Prof. Peter D. Clift of Louisiana State University had jointly led the International Ocean Discovery Program (IODP), which found the samples. During the 60-day expedition, a team of 30 scientists and technicians conducted drilling and coring operations. They collected samples of basement rock after drilling through 1100 meters deep into the sea floor in a part of Laxmi Basin.

The expedition was followed by post-cruise study by Dr Pandey in collaboration with Dr Anju Pandey and Prof. Scott Whattam of King Fahd University of Petroleum and Minerals, Saudi Arabia. The study showed distinctive geochemical imprints of igneous rocks in the area, indicating that there was subduction of an older oceanic crust under a younger oceanic crust.

Dr Pandey said "the finding provides glimpse of a convergent plate motion in the area which is otherwise dominated by divergent tectonics that had led to the breakup of super continent Gondwanaland into three parts: Madagascar, Seychelles, and India." The study results have been published in journal *Nature Communications*.
(*India Science Wire)*

A fungus that can degrade endosulfan identified

By Dr. Aditi Jain

New Delhi, May 30 : The excessive use of chemicals used as pesticides and insecticides poses danger to the environment as well as human health. A group of scientists at Delhi University has now identified a fungus that can help degrade residue of one such insecticide.

Conservation News -

Endosulfan was a commonly used insecticide until its ill effects came to light in Kasaragod district of Kerala. The insecticide was used to get rid of insects in cashew plantations there and exposure to it is reported to have led to several health impacts in humans.

Although there is a general ban on its use, authorities allow its use for some cases such as to take care of bollworm infestation in cotton fields, in the absence of any alternative. In such a scenario, it is important to develop strategies to degrade excess endosulfan in soil and environment so that it does not reach water bodies and ultimately humans.

Researchers first searched the protein database online for an enzyme that can bind and thereafter degrade endosulfan and its other toxic form of endosulfan sulphate, which is formed when microbes act on it. Based on the results from this survey, scientists speculated that two enzymes phenol Hydroxylase from fungus *Trichosporon cutaneum* and bacterial CotA laccase from *Bacillus subtilis* (3ZDW) may be effective in neutralizing the toxic chemical.

To prove their hypothesis, the scientists got the fungus *Trichosporon cutaneum* from the Microbial Type Culture Collection and Gene Bank at Institute of Microbial Technology, Chandigarh. It was grown in a medium deficient in sulphur so that it can utilize endosulfan and endosulfan sulphate as source of sulphur for its growth. The fungus degraded endosulfan, which is composed of alpha and beta endosulfan differentially. The fungus degraded 60.36 % alpha-endosulfan, 70.73 % beta-endosulfan and 52.08% endosulfan sulphate in 15 days. This finding validated that the fungus can be used for cleaning areas polluted with endosulfan.
“Our work can be used in the development of bio-remediation technology. We can use this knowledge to clean the environment,” says Dr. Dileep K Singh, Professor at Delhi University and leader of the research team, while talking to *India Science Wire*.

The research team also included Ngangbam Sarat Singh and Ranju Sharma. The findings have been published in journal *Enzyme and Microbial technology*.
(*India Science Wire)*

Equipment Discussions -

Sony launches FE 200-600mm f5.6-6.3 telephoto zoom

Sony has launched a 200-600 mm f5.6-6.3 mm lens to augment its super-telephoto lens line up.

Salient features:

This lens features a direct Drive Super sonic wave motor for fast and near silent AF. It also has full time manual over ride.

Comes with image stabilization called Optical SteadyShot.

11 blade diaphragm for pleasing bokeh.

Weather sealed design and fluorine coated front element to prevent smudges and fingerprints.

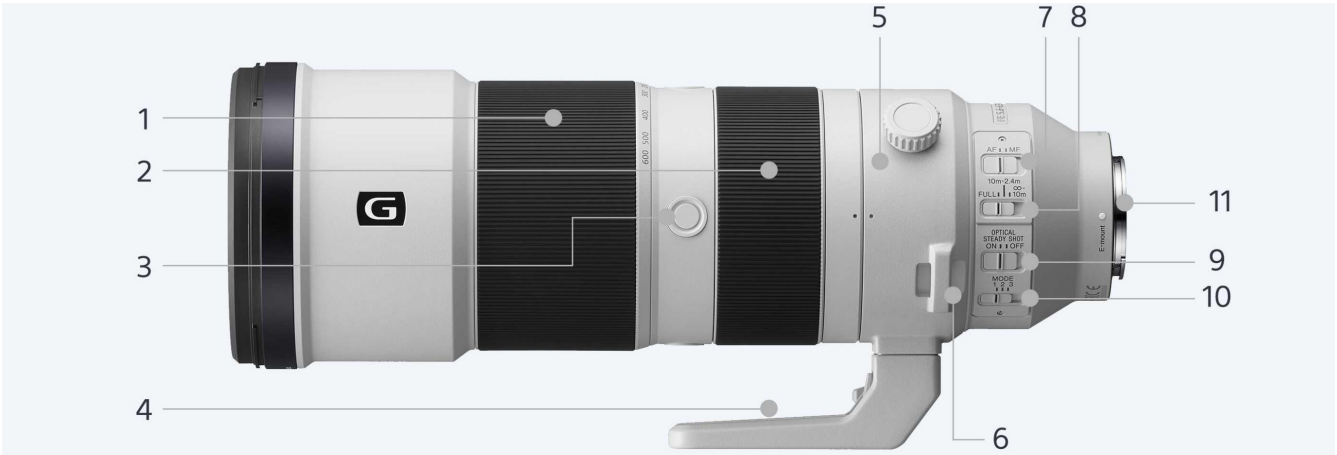
Contains Five extra-low dispersion elements for controlling chromatic aberration, reducing colour fringing and better colour and clarity.

One aspherical element at the rear to reduce distortion and spherical

One Nano AR coating to control reflections, ghosting and flare.

Minimum focusing distance of 7.9' helps in close focusing.

Compatible with optional 1.4x and 2x FE teleconverters in case one needs to use in extreme situations. Though the light will drop by one stop or two depending on the teleconverter used.



1. Zooming ring 2. Focusing ring 3. Focus hold button 4. Tripod mount 5. Tripod collar ring 6. Strap eyelet 7. Focus-mode switch 8. Focus-range limiter 9. Shake compensation switch 10. Shake compensation mode switch 11.Mounting index

Price: **$1998 US Dollars.**

https://www.bhphotovideo.com/c/search?Ntt=sony%20fe%20200-600mm%20f%2F5.6-6.3%20g%20oss%20lens&N=0&InitialSearch=yes&sts=ps&BI=19990&KBID=13252&KWID=EZ

Equipment Discussions -

PRESS RELEASE

Sony Announces New FE 200-600mm F5.6-6.3 G OSS Super-Telephoto Zoom Lens

Sony today announced another new lens for its expanding full-frame FE lens line-up; the new FE 200-600mm F5.6-6.3 G OSS super-telephoto zoom lens (model SEL200600G).

Sony's furthest reaching E-mount zoom, the new G Lens™ series model utilises many of the company's most advanced lens designing technologies to ensure excellent image quality, high-performance AF, and outstanding control. When paired with any of the latest, fastest E-mount camera bodies, it will reliably track and accurately capture all types of moving subjects including birds, wildlife, athletes in motion and much more.

"*We will continue to innovate and expand upon our E-mount lens line-up, which now features 33 full-frame models and 51 lenses in total. The new 200-600mm super-telephoto zoom lens gives Sony's camera users yet another powerful tool to realise their vision," said Yann Salmon-Legagneur, Director of Product Marketing for Digital Imaging, Sony Europe. "For wildlife or bird photographers, sports photography enthusiasts and many others, it offers a new level of creative freedom, striking the ultimate balance between performance and portability*."

Key Features – New FE 200-600mm F5.6-6.3 G OSS super-telephoto zoom lens

- Extended reach with built-in stabilisation
- Versatile tele-zoom range from 200mm telephoto to 600mm super-telephoto
- Compatible with Sony's 1.4x and 2.0x teleconverters, extending the reach to a maximum of 840mm at F9 or 1200mm at F13 with outstanding image quality and AF performance
- Built-in optical stabilisation with three different mode settings allows images to be sharp and in-focus at extended super-telephoto focal lengths
- High resolution and corner-to-corner sharpness throughout the entire zoom range
- Five ED (Extra-low Dispersion) glass elements and an aspherical element, arranged in a new optical design that minimises chromatic aberration
- 11-blade circular aperture mechanism that ensures beautiful bokeh
- Coated with Sony's original Nano AR coating to suppress any unwanted reflections, glare, or ghosting in images
- Fast, precise and quiet autofocus
- Equipped with Sony's DDSSM (Direct Drive SSM) focusing system, which has the power and precision needed to drive the lens mechanism for remarkably fast, accurate focusing
- Advanced focus system allows exceptionally quiet operation, avoiding any unwanted noise that can disrupt an unpredictable subject like a resting bird or any other form of wildlife
- Internal zoom mechanism for reliable and stable handheld shooting

Equipment Discussions -

- Overall length of the lens does not change while zooming, maintaining consistent balance and distance between the front of the lens and desired shooting subject
- A fixed-length structure – internal zoom mechanism - is adopted to retain high resistance to dust and moisture to deal with difficult outdoor conditions
- Quick zoom operation with light zoom ring torque
- Refined control and reliability for use in the field
- Focus ring that features Linear Response MF for fine, responsive manual focus control
- Equipped with three customisable focus-hold buttons plus a Focus Range Limiter

Dust and moisture resistant designii and fluorine coating on the front element to resist dirt and fingerprints

Pricing and Availability

The FE 200-600mm F5.6-6.3 G OSS will ship in Europe in August 2019 priced at approximately **£1,800 and €2,100** and **$1988 US Dollars**

Equipment Discussions -

Sony 600mm f4 GM OSS Super-telephoto prime lens:

This is the first time Sony has launched a 600mm prime lens. And in doing so, it is now fully competing with Canon and Nikon in terms of super-telephoto lenses. There was a time when Sony was a pretender and all the leaders were Canon and Nikon. With the success of its mirrorless cameras, now Sony is poised to take a leap with its super-telephoto offerings.

According to Sony nomenclature all lenses which bear the G Master brand bear high standards with very good contrast across the lens at high spatial frequencies.

The Sony 600mm f4 GM OSS lens weighs 3040 grams. Along with the 400mm f2.8 the 600mm f4 will give professional wildlife photographers, sports shooters another option.

The Sony 600mm f4 GM OSS lens comes in the Sony E mount and covers 35mm full frame. The angle of View is 4°10'.

The Sony 600mm f4 lens has 24 elements in 18 groups. The lens has a large aperture XA (extreme aspherical) element and three Flourite elements. This will help to minimize axial chromatic aberration as well as lateral chromatic aberration. This results in very fine subject details. Sony has also included Nano AR coating which will help in reducing ghosting and un-wanted reflections. The front lens element has a fluorine coating so that it becomes easy to clean finger prints and smudges.

The lens has 11 aperture blades for a smooth bokeh. At the minimum, it focuses at 14.8 feet or 4.5m away. It has a filter of dia 40.5 mm. This lens comes with image stabilization which is branded as Optical SteadyShot. 5 axis image stabilization is available when used with Sony alpha cameras.

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The lens aperture can be set from f4 to f22. It has four customizable multi-function focus hold buttons. After focus is adjusted, pressing one of the four hold buttons will ensure that the lens holds focus in that focus plane.

Sony has included two Extreme Dynamic linear motors for fast and precise autofocus.

Dimensions: The Sony 600mm f4 GM OSS lens is 163.6mm wide and 449 mm long (6-1/2 inches wide x 17-3/4 in. long)

Price: In US it is priced at 12998 US Dollars.

B&H Link: ***https://www.bhphotovideo.com/c/search?Ntt=sony%20fe%20600mm%20f%2F4%20gm%20oss%20lens&N=0&InitialSearch=yes&sts=ps&BI=19990&KBID=13252&KWID=EZ***

PRESS RELEASE

Sony Introduces the New Super-Telephoto 600mm F4 G Master™ Prime Lens

Sony today announced another impressive addition to its flagship full-frame G Master series lens line-up, the new FE 600mm F4 GM OSS super-telephoto prime lens (model SEL600F40GM).

Sony's longest reaching prime lens, the new 600mm includes many of the company's most advanced optical and mechanical technologies, producing exceptional image quality with extraordinary focusing speed and precision. The lightest in its class[i], weighing in at only approx. 3040g, the FE 600mm F4 GM OSS features an extremely balanced design to ensure the best possible shooting experience. Along with the acclaimed FE 400mm F2.8 GM OSS lens, the new 600mm gives professional sports, wildlife and news photographers more options for capturing subjects at great distances with extreme accuracy and detail.

"With two new lenses announced today, our growing E-mount lens line-up now includes 33 full-frame models and 51 lenses in total. The 10th model from our flagship G Master series, the new 600mm F4 raises the bar for speed, mobility and control in a super-telephoto prime lens," said Yann Salmon Legagneur, Director of Product Marketing, Digital Imaging at Sony Europe. "Combining the extensive 600mm reach with features like 20 fps shooting and AF/AE calculations at 60 times per second on the α9 or extremely high resolution, high speed performance on the α7R III allow professional photographers to create images that were simply not possible to capture before."

Fast, Precise and Quiet Autofocus[ii]

To take best advantage of the highly evolved autofocus systems of Sony's latest full-frame E-mount cameras, the new FE 600mm F4 GM OSS lens features two XD (extreme dynamic) Linear Motors that drive the lens' focus group to provide fast, precise AF and reliable subject tracking. These motors are supported by specially developed motion algorithms to minimise lag and instability, as well as to control noise levels, resulting in exceptionally quick, accurate and quiet autofocus perfor

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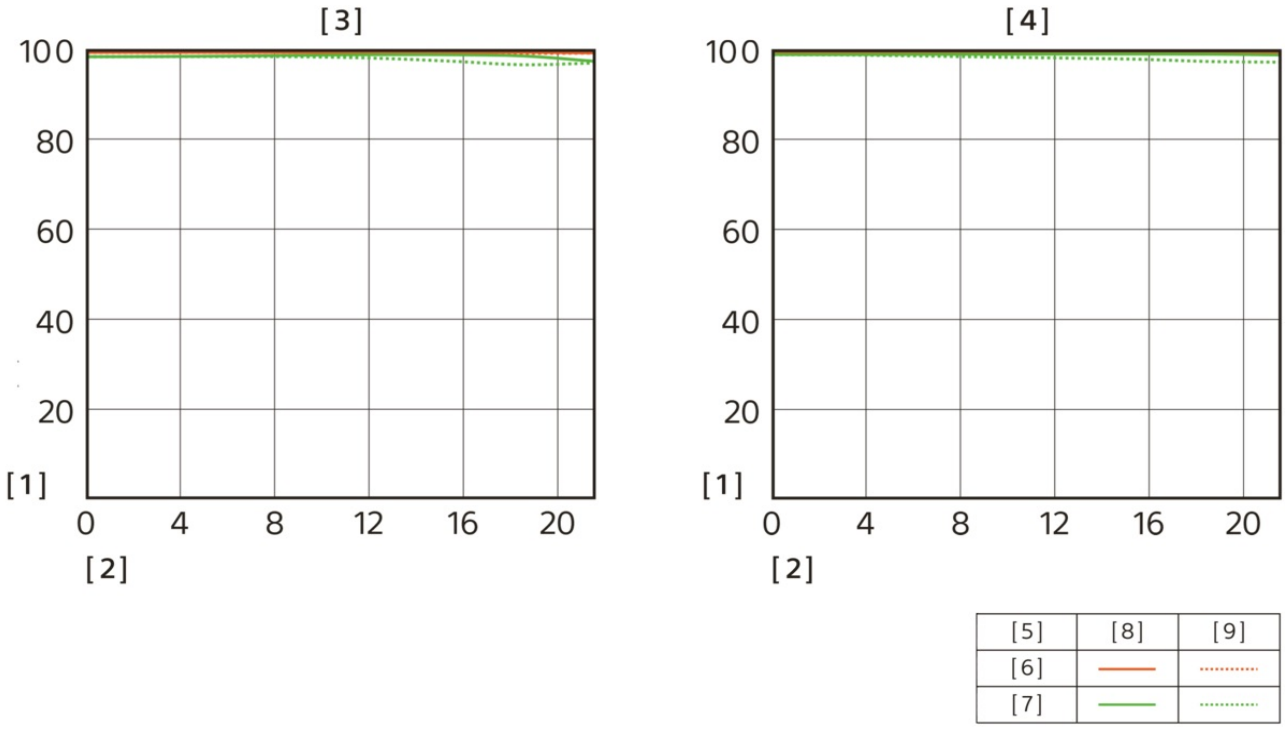
mance, allowing the lens to capture dynamic, fast moving athletes or wildlife with ease.

Superb G Master Image Quality and Bokeh

As a member of Sony's flagship G Master series lenses, this new large aperture super-telephoto prime lens features an incredible level of image quality and detail, with outstanding contrast and resolution maintained all the way to the corners of the image. The unique optical design includes a large XA (extreme aspherical) and an ED (extra-low dispersion) element that effectively suppress all common telephoto lens aberrations, plus three fluorite elements that help to minimise chromatic aberration and suppress any amount of colour bleeding. Sony's latest bokeh simulation technologies and XA element are also utilised to control spherical aberration and help achieve exquisite bokeh.

The lens also features an 11-blade circular aperture mechanism that contributes to the high quality of bokeh in images, and has been coated with Sony's original Nano AR coating to suppress any unwanted reflections, glare, or ghosting in images.

The new FE 600mm F4 GM OSS is compatible with Sony's 1.4x and 2.0x E-mount tele-converters, producing outstanding imaging performance at extended focal lengths[iii] while maintaining fast, precise AF performance.



Sony 600mm f4 GM OSS Lens MTF chart

The MTF (Modulation Transfer Function) describes how well a lens can reproduce fine details, measured as the degree of

Equipment Discussions -

contrast achieved between finely spaced lines.

[1] Contrast (%) [2] Distance from optical center of lens (mm)

[3] Max. aperture [4] F8 aperture [5] Spatial frequency

[6] 10 lines pairs / mm [7] 30 line pairs / mm

[8] Radial values [9] Tangential values[/caption]

Lightweight, Balanced Design

Weighing in at only approx. 3040g, the new super-telephoto prime lens is the lightest in its classi, providing a level of portability and manoeuvrability that has never been achieved before in a lens of its style. Based on technology from the acclaimed FE 400mm F2.8 GM OSS lens, the lightweight design of the new 600mm lens is achieved through the usage of three fluorite elements, with a reduced number of elements deployed at the front of the barrel. Magnesium alloy is also used throughout the lens to help minimise weight and bulk.

Also inherited from FE 400mm F2.8 GM OSS, the new 600mm lens features a lens design that is not front-heavy, reducing moment of inertia that resists rotation, ensuring quicker, more precise panning when shooting handheld or on a monopod.

Durability, Reliability and Control

To withstand the harsh conditions of sporting events and wildlife photography, Sony's new FE 600mm F4 GM OSS is built with a durable magnesium alloy and a strong, lightweight carbon fibre hood. The lens is also dust and moisture resistant [iv], and its front element is coated with fluorine to resist dirt and fingerprints.

Magnesium alloy barrel

Equipment Discussions -

There is also an ample number of hard controls on the lens, including customisable focus-hold buttons in four different locations on the lens barrel, which can be programmed for control of features, if desired. There is also a 'Full-Time DMF' switch to immediately engage manual focus at any point, and a focus ring that features Linear Response MF for fine, responsive manual focus.

Customisable focus hold buttons Customisable focus hold buttons

Additionally, the new lens includes built-in optical stabilisation for dynamic action and three different 'Mode' settings, including a Mode 3[v] setting with an advanced algorithm that ensures easier framing when following moving subjects. It also features a function ring with selectable 'Preset' and 'Function' settings, and a drop-in filter slot that accepts ø 40.5mm ND and other filter types, as well as the optional VF-DCPL1 Drop-in Circular Polarising Filter. The VF-DCPL1 filter can be rotated to achieve the desired polarisation while installed in the lens.

Pricing and Availability

The FE 600mm F4 GM OSS will ship in Europe in August 2019, priced at approximately €14,000. USA price is 12988 USD.

Equipment Discussions -

Hasselblad launches Medium Format Camera X1D II 50C and other lenses

Iconic camera company Hasselblad, a leader in medium format imaging, has launched an update to its X1D 50C camera. The new camera is called X1D II 50C. The X1D II 50C is also a mirrorless camera with a sensor size that is 1.7x larger than 35mm full frame sensor.

The X1D II 50C has a new 50 Mega pixel sensor. The sensor size is 43.8 x 32.9mm. Consequently the pixel size is a massive 5.3x5.3 µm. Hasselblad claims that the camera has 14 stops of dynamic range. And coupled with the 16 bit RAW, the imagery is true to life.

The X1D II 50C has an upgraded electronic platform and sports a higher resolution 3.6-inch size 2.36-million-dot touch display. The X1D II 50C also has a OLED electronic viewfinder (EVF) with 3.69-million dots. The rear display screen has (1024x768) pixels to give a vivid and true to life image viewing experience.

The refresh rate has been increased, shutter lag reduced including black out time between frames and time to start up the camera has been reduced by half. With the new Phocus Mobile 2 which connects via USB-C and wifi to transfer files from the X1D II 50C to their iPad Pro or iPad Air for editing and sharing.

The Hasselblad X1D II 50C has a leaf shutter system. It can sync at 1/2000 sec.

The X1D II 50C can be set at ISO 100 to ISO 25600. It can shoot at up to 2.7 fps.

The camera has Dual SD UHS-II memory card slots for recording.

The camera manufacturer hasn't paid enough attention on video. If needed one can shoot video in 1080p at 25fps or 30fps.

Equipment Discussions -

Overall the camera looks compact with neat layout and nice. I would love to have an articulating LCD. As a photographer one can do some serious work with this X1D II 50C.

Availability: The Hasselblad X1D OO 50C camera is available immediately for order.

Price: The Hasselblad X1D II 50C is priced at **$5750 US dollars**.

XCD 35-75 mm f3.5-4.5 zoom lens:

Hasselblad has also launched a zoom lens XCD 35-75mm f3.5-4.5 zoom lens. Hasselblad claims that this lens has the same superb image quality from edge to edge as the XCD prime lenses. If that is indeed true then it would be a big achievement. The lens is internal focusing, so the dimensions remain constant. Like the rest of the XCD lens range, the XCD 35-75 features an integral central lens shutter, offering exposure times from 68 minutes to 1/2000s with full flash synchronisation throughout.

Price: **$5175 US Dollars.**

Availability: **October 2019**

Equipment Discussions -

PRESS RELEASE

HASSELBLAD EXPANDS REACH OF MEDIUM FORMAT IMAGING FOR EVEN MORE CREATIVE VERSATILITY

Introducing the X1D II 50C, XCD 35-75 zoom lens, Phocus Mobile 2, and revealing details of the upcoming CFV II 50C digital back and 907X camera body

Following the revolutionary introduction of the world's first mirrorless medium format digital camera, the X1D-50c, Hasselblad introduces new additions to its product portfolio that bring the joy of medium format photography to image makers with the capabilities to support their creative endeavours. This includes the evolved X1D II 50C camera, the eagerly awaited XCD 3,5-4,5/35-75 Zoom Lens and Phocus Mobile 2. In addition, Hasselblad reveals the development details of the upcoming CFV II 50C digital back and 907X camera body. Hasselblad's newest offerings yet again expand the potential of medium format photography with modularity and flexibility, all while offering the brand's renowned, stunning image quality.

X1D II 50C – AN EVOLVED MEDIUM FORMAT PHOTOGRAPHY EXPERIENCE

In the pursuit to continue the journey of taking medium format outside of the studio, Hasselblad is pleased to announce the next installment of the X System – the X1D II 50C Mirrorless Medium Format Digital Camera. Dedicated to optimising the X System for a wider audience of creatives, Hasselblad has listened to user feedback and improved upon the first generation with enhanced electronics for a quicker and more intuitive medium format experience.

Continuing in the legacy of being the most portable and lightweight digital medium format camera, the X1D II 50C lets you take the power of medium format in a footprint smaller than most full frame DSLRs in a beautifully designed, compact package. Its large, high resolution 50-megapixel CMOS sensor (43.8 x 32.9 mm) is 1.7 times larger than 35mm full format sensors, packing in huge pixels (5.3 x 5.3 µm) for capturing images with superb tonality. With outstanding colour depth and an impressive dynamic range of 14 stops, which allows for capturing immense details in both shadows and highlights, the photographer is left with plenty of room for adjustment in post-processing. With Hasselblad Natural Colour Solution (HNCS) technology integrated into the camera's system, exceptional, true-to-life tones are delivered that match what the human eye sees. Building upon the award-winning first generation, the X1D II 50C blends form and function with mini-

Equipment Discussions -

malistic, Scandinavian design aesthetics with a graphite grey exterior and a smooth handling experience with its ergonomic grip. The new X1D II 50C continues to provide creatives with incredible Hasselblad image quality, with 16-bit RAW images and now full resolution JPEGs, in a compact, lightweight design.

Developing upon the first generation of the X System, the X1D II 50C's upgraded electronic platform includes a higher resolution 3.6-inch 2.36-million-dot touch display, which is physically the largest LCD display currently available on a digital medium format camera. Additionally, the X1D II 50C features a higher resolution enhanced OLED electronic viewfinder (EVF) with 3.69-million dots and a high magnification of 0.87x, letting you see the bigger picture. The much higher resolution of the rear display screen (1024x768) gives a more vivid, true to life image viewing experience.

The X1D II 50C's live view features a faster refresh rate, reduced shutter lag and black out time between frames, an improved continuous capture rate, and a startup time cut almost in half from the first generation. Building upon the highly-intuitive Hasselblad User Interface (HUI) of the previous model, further refinements have been made to the X1D II 50C to improve the camera's handling experience, including the ability to access the menu system when looking in the EVF, giving greater usability in the sunniest conditions.

Enabling an even more portable medium format workflow, Hasselblad's post production solutions now include the new Phocus Mobile 2. Connected via USB-C and Wi-Fi, photographers can transfer RAW and full quality JPEG files directly from the X1D II 50C and edit RAW images on their iPad Pro or iPad Air (2019) while out on the field.

THE NEW XCD 3,5-4,5/35-75 – PRIME LENS PERFORMANCE IN A COMPACT ZOOM

The ninth addition to the X System lens range is the eagerly awaited XCD 3,5-4,5/35-75 Zoom Lens. Delivering the same superb image quality from edge-to-edge as the XCD prime lenses, this extremely high performance, compact mid-range zoom covers moderate wide angle to short telephoto focal lengths. Its internal focusing keeps the lens' dimensions constant, delivers quick autofocus and additionally keeps the overall weight down. Ideal for shooting anything from wide angle landscapes to portrait images, this lens is perfect for photographers who are looking to keep the amount of equipment they carry when travelling to a minimum but don't want to compromise on image quality. "This really is the best lens Hasselblad has developed – its performance is extremely high, competing with our prime lenses. I can even go as far to say that it's probably the best zoom lens currently available on the market," says Per Nordlund, Hasselblad Lead Optical Designer. Like the rest of the XCD lens range, the XCD 35-75 features an integral central lens shutter, offering exposure times from 68 minutes to 1/2000s with full flash synchronisation throughout.

PHOCUS MOBILE 2 TAKES IMAGE PROCESSING WORKFLOW TO A NEW PORTABLE LEVEL

Expanding the possibilities of the Hasselblad workflow, Phocus Mobile 2 takes the image editing process to a new, portable level. Compatible with the X1D II 50C via either USB-C or Wi-Fi, this application is currently supported on iPad Pro and iPad Air (2019) models, enabling the traveling photographer to have a quicker, more mobile workflow. With Phocus Mobile 2, users can import, edit and rate RAW images and import and rate full quality JPEG images directly on their portable device. In addition, Phocus Mobile 2 supports full quality image export, tethered shooting and direct camera control.

THE CFV II 50C AND 907X CONNECT HASSELBLAD'S PHOTOGRAPHIC HISTORY INTO ONE SYSTEM

Equipment Discussions -

Hasselblad proudly announces the development of the modernised CFV II 50C digital back and the brand new 907X camera body, which together will connect Hasselblad's photographic history into one system.

The CFV II 50C digital back, which will have an outstanding medium format 50-megapixel CMOS sensor (43.8 x 32.9 mm), will enable use with most V System cameras made from 1957 and onwards in addition to third party technical or view cameras. Improving upon the user experience of the previous generations, the CFV II 50C will feature a brilliant tilt screen with full touch support and Hasselblad's renowned user interface for settings, image review, and menu navigation. Users of previous CFV digital backs will appreciate a new fully-integrated battery, the same used on the X System, which will reduce overall size and with the option to recharge in-camera via the USB-C port. Combining its iconic aesthetics with modern technology, the CFV II 50C gives a nod to Hasselblad's history combined with the brand's world-renowned image quality.

Coupling the CFV II 50C with Hasselblad's smallest medium format camera body ever, the 907X, creates a highly compact package. This combination will offer a truly distinct photographic experience, including the classic waist-level shooting style of the V System enabled by the CFV II 50C's tilt screen. With the 907X, the photographer will gain access to all of the high-quality X System Lenses in addition to a vast range of Hasselblad optics via adapters, including the H System, V System, and XPan Lenses. In addition, the 907X will enable compatibility with a wide range of third-party adapters and lenses. Planned accessories to beautifully complement the combination include the 907X Control Grip and 907X External Optical Viewfinder.

HASSELBLAD CONTINUES ITS CELEBRATION OF MEDIUM FORMAT ARTISTRY IN JULY 2019

July 2019 marks the 50th anniversary of the first humans landing on the Moon – not only a historic milestone for NASA, but for Hasselblad and photographic history. As the camera selected and built to document the legendary journey, Hasselblad will celebrate this remarkable moment that helped launch the Swedish photography brand to another level. More information will come soon on this exciting commemoration.

The X1D II 50C has an **MSRP of € 5000 / $ 5750 / £ 4500 excl. VAT**. Delivery in **July 2019**. Available to order immediately.

The XCD 3,5-4,5/35-75 Zoom Lens has an MSRP of **€ 4500 / $ 5175 / £ 4050 excl**. VAT. Estimated delivery in **October 2019.** Ordering information will be released shortly before.

Phocus Mobile 2 can be downloaded free of charge by Hasselblad users starting in July 2019.

The CFV II 50C and 907X product information details, including pricing and availability, will be announced later in the year.

Natural History -

COUNTRY NOTEBOOK: Fish, Feathers and Oil : M.Krishnan:- 26 July 1970

The Sunday Statesman (shared by Shri. Saktipada Panigrahi)

FISH, FEATHERS AND OIL

" FISH as everyone knows, lives in the water and naturally the creatures that live by hunting them have to seek their prey beneath the surface, in rivers and lakes and estuaries. However, not all these hunters, particularly among the birds, swim submerged in hunting their prey.

Egrets and Herons and their tribes wade in the shallows, catching their victims with a lightning down-ward thrust of their beaks, their long, retracted necks being violently extended to power the movement.

Kingfishers and Raptorial fish-eaters (such as Sea Eagles and Ospreys) plunge down from the air at the surfacing fish, grabbing the prey in their beaks and talons, and Pelicans often hunt in company (as cormorants also do at times) driving the fish towards one another and scooping them up in their capacious beaks.

Darter or Snake Bird Photographed by - Vipin Sharma

The Darter, however, is a true underwater hunter, and a bird that hunts alone. It drops quietly from its perch into the water with hardly so much as a splash, and goes scouting for fish under water, lifting its dagger-billed head and long, snaky, powerfully-kinked neck above the surface from time to time to breathe or to have a look around, or to swallow its catch - the popular name that it has, " Snake-bird ", come from the resemblance that it has then to a snake in the water raising its head above the surface.

It does not spear its prey, spitting it through on the point-ed bill, as was once supposed but catches it like any other fish-eater, between its mandibles. It swallows its prey in the air, raising its head above the surface, and flicking the fish deftly into the air to catch it, usually head down and swallow it.

After a spell of hunting, it leaves the water and flies up to some convenient perch, an exposed branch of a waterside tree or a column or deadwood projecting from the surface, and spreading its ample wing and long tail, sits airing them. And when they are properly dry, it oils its plumage carefully, rubbing its bill over the gland just above the tail to smear it with oil, and then rubbing it all over its feathers.

A water-bird does not take kindly to overmuch oiling of its plumage, for once the delicate but firm inter-meshing of the hair-like bards that make up each feather gets clogged with oil, the bird cannot fly and loses the airiness of its feathers. It is because of this the pollution of the sea with waste oil from coastal factories kills off great numbers of oceanic birds. What is needed is just a little oil on the feathers, to keep the water from rendering them soggy, and not too much of it, and the oil-gland of the bird produces the right grade and quantity needed for this thin insulating film.

Cormorants (close relative of the Darter) have the same habit. After a spell of underwater hunting, they too sit atop exposed perches and hangout their wings to dry before oiling the plumage. But they lack dagger bill and long, strong snaky neck, and almost reptilian plumage pattern of the Darter."

M. Krishnan

This was published on 26 July 1970.

Wildlife Photography -

Tiger Mating by Vipin Sharma

Leopard by Shyamala Kumar

Wildlife Photography -

Greater Rann of Kutch by Mrudul Godbole

Large-tailed-Nightjar by Sandipan Ghosh

Wildlife Photography -

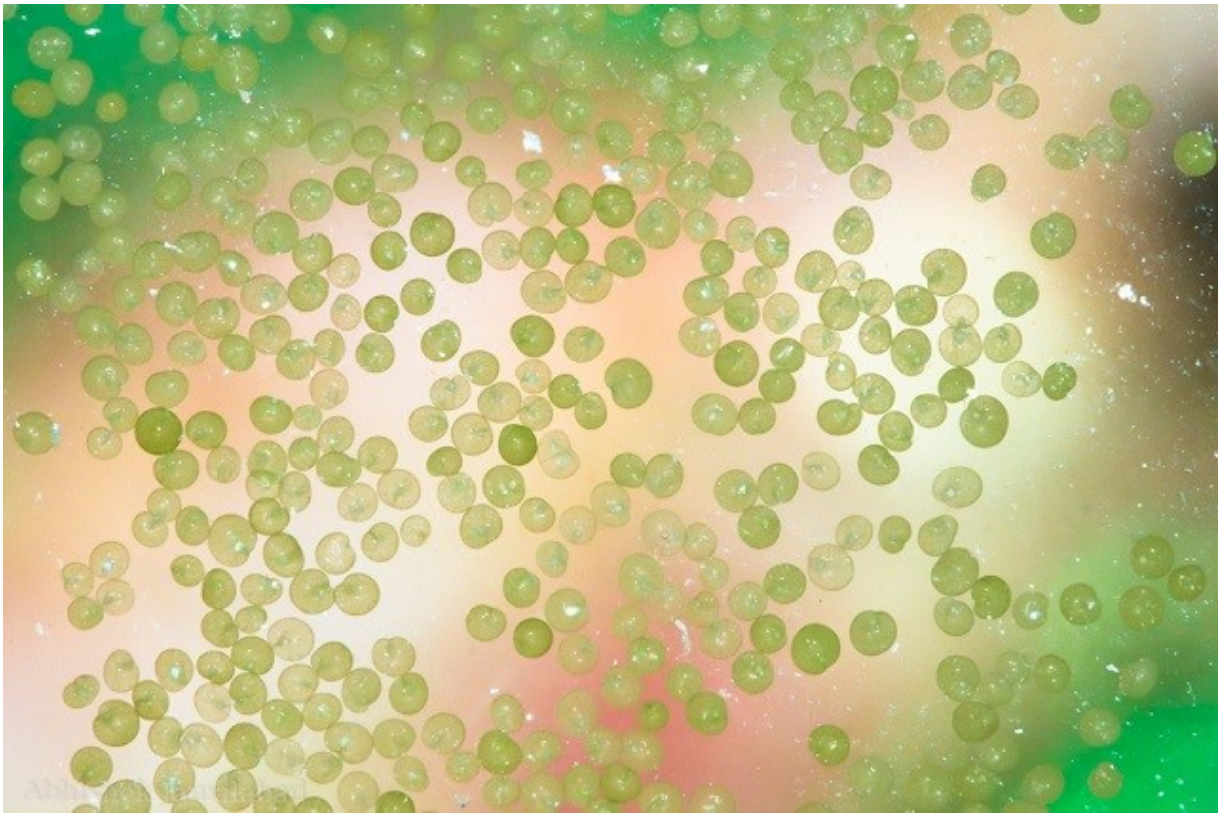
Yellow-Wattled-Lapwing by Murugan Anantharaman

Northern-Pintail-Ducks by Sudarsan Yennamalli

Wildlife Photography -

Wasp by Prajwal Ullal

Noctiluca (bioluminescent plankton) by Abhishek Jamalabad



This is the 126th issue of IndiaWilds. The photo of two cute desert fox pups playing adorns the cover page of this issue. Games is the medium through which these pups learn vital life lessons. It is also a part of their growing up and many times decides the sibling who will dominate in future. The desert fox lives in harsh conditions and has to endure a lot of pain to raise its kids. So we humans need to be careful when any of our actions trample upon their habitat. These days car companies encourage testing of their vehicles to set speed records in the desert. Such activities results in trampling of the vegetation as well as eggs of ground nesting birds and dens of lesser carnivores. Hopefully such car companies and speed enthusiasts come to their senses.

This lead article in this issue talks about the climate crisis and the present heat waves. We humans are not adapted to high temperatures that prevail in the desert landscapes like wild animals of the desert areas like Rann of Kutch. Like the desert fox that lives in a burrow on the earth, houses constructed with mud and local materials are better suited for desert like heat waves than our concrete houses. Hopefully we humans do more research on our nature to learn survival techniques and also to plant trillions of trees to help us save from the vagaries of Climate Crisis.

I look forward to your inputs and support in preserving the last tracts of wilderness and wildlife of our beautiful country. For other interesting articles and images check - ***http://www.indiawilds.com/forums/***

To post in the IndiaWilds forums, you can register free of cost using your Full Name as user id at -

http://www.indiawilds.com/forums/register.php

If you are already a member of IndiaWilds and have forgotten you user id and/or password you can mail administrator@indiawilds.com

Regards,
Sabyasachi Patra

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Publisher's address: - **Plot No. 1, Akarpuri Colony,**
Near Vaithal Temple, Old Town,
Bhbuaneshwar, 751002
Odisha
Mobile - +919910900446
