



**Indian Council of
Forestry Research
and Education**

ICFRE NEWSLETTER

Content

World Environment Day	▼	01
Annual General Meeting of ICFRE Society	▼	01
Significant Research Findings	▼	02
Workshops/Webinars/ Meetings	▼	04
Trainings	▼	06
Prakriti Programmes	▼	06
Consultancy	▼	07
Awareness and Demonstration Prog.	▼	07
Popularizing Forestry through AIR/ DD	▼	07
Publication	▼	08
Miscellaneous	▼	08
HR News	▼	08

World Environment Day

ICFRE institutes celebrated World Environment Day on 5 June 2020. On this occasion, online virtual celebration organized by the MoEF&CC, in which Shri Prakash Javadekar, Hon'ble Minister of MoEF&CC, New Delhi and Shri Babul Superio, Hon'ble MoS gave their environment related messages was attended by all ICFRE institutes.

FRI, Dehradun organized online painting and essay competitions for KV and NVS. A cleanness sanitization drive was also organized in the FRI campus. AFRI, Jodhpur organized online competitions talk on AFRI's role in biodiversity conservation, quiz competition and poster making on "Plastic Pollution". IFGTB, Coimbatore started online series Part-I on High yielding *Casuarina* Clones. 1327 participants registered for the programme, while 1031 attended the live training session. HFRI, Shimla organized

26th Annual General Meeting of ICFRE Society

The 26th Annual General Meeting of the ICFRE Society was held on 27 April 2020 through video conferencing under the chairmanship of Shri Prakash Javdekar ji, Hon'ble Minister of Environment, Forest and Climate Change, Government of India and President of ICFRE Society. Along with other business, ICFRE Annual Report for the year 2018-19 was also adopted by the society in the meeting.

webinars on "Ecosystem Services & Climate Change", "Diversity of Medicinal Plants in North Western Himalayan Region" and "Role of Fungi in Forest Ecosystem". RFRI, Jorhat has organized plantation programme and TFRI, Jabalpur organized webinar for school students.



World Environment Day 2020 celebrated at FRI, Dehradun



Plantation programme on the occasion of World Environment Day at RFRI, Jorhat



Significant Research Findings

Forest Research Institute, Dehradun

- Spring alates (sexupare) emerged from the last generation of virginopare reared on the wheat roots planted in flower pots. These sexupare were supposed to be released on *Pistacia integerrima* trees in the field at Sayia (Chakrata) but could not be released due to COVID-19 pandemic lockdown. Morphometrics of *apterous virginopare* is being done under the project "Cecidology and nursery establishment of *Pistacia integerrima* for exploring possibility of *in situ* leaf gall production (Dabur India Pvt. Ltd.)".
- Twenty five samples of insect eggs were collected from Vikasnagar, Selaqui and nearby places of Dehradun from different trees i.e. *Dalbergia sissoo*, *Ficus benghalensis*, *Morus alba*, *Populus deltoides*, *Quercus leucotrichophora*, and *Tectona grandis*. One egg parasitoids was emerged out from the collected egg samples i.e. *Psilocera* sp. of family Pteromalidae from the bug eggs on *Populus deltoides*. Six egg parasitoids identified from the previously collected sweeping samples were *Megaphragma longiclavata*, *Gonatocerus aegyptiacus*, *Oligosita gilvus*, *Epoligosita* sp., *Prosoligosita* sp. and *Trichogrammatoidea fumata*.
- Digitized 424 insect types and about 1680 photos of these types were taken. Photographs were saved in Tiff, Jpeg and compressed forms. Corrections in the database records, based on the verification reports, of 405 accessions were done in cabinets 11 and 15 and of 807 accessions were done in cabinets 15 to 29. Records of 80 species in cabinet No. 54 drawer no. 2 were entered in the database under the project "Digitization and enrichment of National Forest Insect Collection (NFIC) of Forest Research Institute, Phase-II (minute insects)".
- Guar gum was cross-linked using citric acid to prepare high viscosity solutions.
- Quantitative analysis of shikimic acid was carried out from *Illicium griffithi* fruits using HPLC.
- A reference collection of pollinators inside FRI campus has been done to know the basic idea about the insect pollinator status and their interaction with the host plants in the month of April and May 2020. The main pollinators identified inside campus were honey bee, bumble bee, hoverfly and butterflies. Wasps and bumble bees were found near different type of wild shrubs and grasses. 31 butterfly species were collected from different vegetations inside campus and the main host plants were *Lantana camara*, Mexican devil and various type of wild grasses under the project "All India Coordinated Research Project (AICRP) on study of climate-driven effects on Indian forests through long term monitoring".
- Database of butterflies associated with different forest sub-types was updated and completed for past records for Garhwal. White-ringed meadow brown, *Hyponephele davendra* which is a rare and protected species known only from Spiti in Himachal Pradesh, adjoining areas of Tibet and reported only once from Kumaon 110 years back, was sampled during the field surveys and reported for the first time from inner valleys of Garhwal in Uttarakhand state, thus confirming its distribution in the state.
- Database on insect pests of western Himalayan oaks was updated and completed for 82 species of Lepidoptera. Field surveys were carried out in Deoban, Chakarata Forest Division, Dehradun district, Uttarakhand for collection of data and insect material. Collection of the cerambycid borer, *Xylotrechus basifuliginosus* was made on Kharsu oak, *Quercus semecarpifolia* trees in Deoban RF, Chakrata Forest Division for carrying out experiments on its biology. Emergence, mating and egg laying of the borer and its larval parasitoids were recorded. Life cycle of 2 species of lepidopteran defoliators was completed under the project "Insect pests of Western Himalayan Oaks and their Control".
- *Garella ruficirra* (Hampson) infesting young shoots of *Quercus lanata* in Kumaon region of Uttarakhand was reported for the first time. Database of Insect pest of western Himalayan oaks was updated for 40 species of Lepidoptera. Experiments on biology of the cerambycid borer, *Xylotrechus basifuliginosus* were carried out on Kharsu oak, *Quercus semecarpifolia* logs brought from the Deoban RF, Chakrata earlier and cerambycid borer, *Aphrodisium hardwickianum* on Ban oak, *Q. leucotrichophora* logs brought from Devli village in Thanu range, Dehradun District, in the laboratory for life history studies under the project "Insect pests of Western Himalayan Oaks and their Control".

- Field surveys were carried out in forest tracts for sampling butterflies in Barkot- Golatappar range, Dehradun district in moist Shiwalik sal forests; Rotu-ki-Beli and Devalsari in Tehri Garhwal in Moru oak forest and moist deodar forest and in Benog WLS, Mussoorie in Ban oak Forests. 98 species were sampled during pre-monsoon season including 4 new additions to the project database while 15 specimens of uncommon and rare butterflies and two plants were also collected. False color composite GIS based maps for 26 species of Papilionidae were generated depicting their seasonality, distribution and associated forest types in Uttarakhand. Genitalia for 4 congener species of genus *Lethe* of the sub-family Satyridae of butterflies were also dissected and slides prepared of male specimens for comparison and confirmation under the project “Butterflies associated with different forest types/sub-types in Uttarakhand”.
 - Reported the incidence of sal borer in compartment number 25, reserved forest of FRI Estate Canal Block. Recorded the observation on incidence of sal heartwood borer and general health of the forest in different forest ranges in Doon Valley i.e. Asharodi, Thano, Lachiwala, Rishikesh, Barkot, Jhajra, Timli and Malahan. Collected 21 adults from Thano, Jhajra and Dharoot (Timli) from sal forest and brought to the laboratory for behaviour studies under the project “Studies on semiochemicals for management of sal heartwood borer, *Hoplocerambyx spinicornis* (Coleoptera: Cerambycidae)”.
 - Experiments were carried out for isolation of fibre from *Pinus roxburghii* needles. The quantity of fibre from raw material (needles) was obtained as 40-45% using facile and green processes which can be replicated on large scale.
 - Total triterpenoid contents in the bark of 55 accessions of two populations of *Betula utilis* occurring in the forests of Pindari (Chamoli) and Darma valley (Pithoragarh) were determined.
 - Analysis and interpretation of data pertaining to quantitative estimation of limonoid constituents in neem seeds from selected progenies has been done.
- Vegetative propagation technique for *P. santalinus* was developed using stem cuttings. Different sizes of stem cuttings (< 3 mm girth to 1 cm: 7 cm height) collected from the terminal ends of branches of *P. santalinus* were raised in root trainers in poly tunnels for 60 days after standard treatments. 55.2% of rooting and sprouting from soft wood cuttings (<3mm) was standardized. This method is a successful vegetative propagation technique for *P. santalinus* mass propagation.
- Three species of long horned grasshoppers new to science (Orthoptera: Tettigoniidea: Phaneropterinae) viz. *Trigonocorypaha thenensis*, *T. ponmaniae* and *T. divyae* collected from Coimbatore, Jawadhu hills and Theni have been described, deposited in Zoobank and published in Zootaxa, Newzeland.

Arid Forest Research Institute, Jodhpur

- The assessment of biological diversity of Rajbhawans of Jaipur and Mount Abu, indicates that most dominant tree species at Jaipur area is *Polyalthia longifolia* with population 2.1 trees and basal 676.7 cm² per m² area. At Mount Abu, *Mallotus philippensis* dominates with highest Importance Value Index (IVI) and availability in 9 blocks with an average density of 0.7 and basal area of 70.5 cm² per 100 m². *Bougainvillea glabra* followed by *Tecoma stans* dominate at Jaipur, whereas *Lantana camara* followed by *Dendrocalamus strictus* dominate at Mount Abu among the shrubs. Dominant herbaceous species is *Cynodon dactylon*, followed by *Phyllanthus amarus* at Jaipur, and *Apluda mutica* followed by *Oplismenus burmannii* at Mount Abu. Least dominant tree species are *Ficus benghalensis* var. *krishnae* at Jaipur and *Michelia champaca*, *Crateva adansonii* subspecies *odora*, *Tamarindus indica*, *Eriobotrya japonica*, *Bauhinia variegata* observed in one block with lowest IVI values at Mount Abu.
- In IGNP plantations, average dry biomass per tree was 749.92 ± 599.15 kg for *E. camaldulensis* and 327.47 ± 242.55 kg for *Vachellia tortilis*. Partitioning of biomass in stem, branches and leaves were 68.36%, 29.04% and 2.59% in case of *E. camaldulensis* and 28.08%, 67.50% and 4.42% in case of *V. tortilis* respectively. The increase in total biomass favoured increasingly higher biomass allocation towards stem in *E. camaldulensis*, and in branches in *V. tortilis*. Total dry biomasses of both the species were significantly related with their girth at breast height by a power equation.

Institute of Forest Genetics and Tree Breeding, Coimbatore

- Vegetative propagation of *Pterocarpus santalinus* (Red sanders) is a difficult task as it is a very slow growing species usually propagated through seeds which attains harvestable size of 70 cm girth at the age of 80- 100 years.

Workshops/ Webinars/ Meetings

S.No.	Topic	Duration	Beneficiaries
Forest Research Institute, Dehradun			
1.	Second Consultative Meeting of DPR Yamuna	10, 11 and 22 June 2020	SFDs of Uttar Pradesh, Madhya Pradesh and Rajasthan
Rain Forest Research Institute, Jorhat			
2.	Utilization of Medicinal Plants and Herbs by the Munda and Santhal Communities of Tripura	10 June 2020	Traditional Healers, Senior Citizens and Panchayat Functionaries
Himalayan Forest Research Institute, Shimla			
3.	Final Consultative Meeting for finalization of Detailed Project Reports (DPRs) of Beas, Chenab, Ravi & Sutlej Rivers	26 June 2020	PCCF & HOFF, PCCF (WL), PCCF (Finance), CCFs, CFs, DFOs and SFDs and Directors, Nodal Officers
4.	Climate Change in Indian Himalayan Region – Impact on Forest Ecosystems and Implications for Forestry Research	30 June 2020	Scientists, DCFs, Technical Officers and other research staff



Workshop on Utilization of Medicinal Plants and Herbs by Munda and Santhal Communities of Tripura



Seminar on Climate Change in Indian Himalayan Region – Impact on Forest Ecosystems and Implications for Forestry Research



Arid Forest Research Institute, Jodhpur

- | | | | |
|----|---|--------------|----------------------|
| 5. | Exploiting Khejri and Lasora as horticultural crops | 26 June 2020 | Scientists and staff |
|----|---|--------------|----------------------|

Tropical Forest Research Institute, Jabalpur

- | | | | |
|----|------------------------------|--------------|--|
| 6. | Value Chain in Agro forestry | 29 June 2020 | Scientists & Research staff from TFRI, Jabalpur and FRC-SD, Chhindwara |
|----|------------------------------|--------------|--|



Webinar on Value Chain in Agroforestry

Institute of Forest Productivity, Ranchi

- | | | | |
|----|--|--------------|--------------------|
| 7. | Project Evaluation Committee Meeting of the project “Estimation of Soil Carbon stock in Dalma Wildlife sanctuary and Betla National Park in Jharkhand” | 12 June 2020 | Officers and Staff |
| 8. | Importance of Forest and its Relevance to Climate Change | 16 June 2020 | Officers & Staff |
| 9. | Fundamental Rights of the Citizens | 29 June 2020 | Officers & Staff |

Institute of Forest Biodiversity, Hyderabad

- | | | | |
|-----|----------------|-------------|------------------|
| 10. | Locust insects | 5 June 2020 | Officers & Staff |
|-----|----------------|-------------|------------------|

Trainings

S.No.	Topic	Duration	Beneficiaries
Rain Forest Research Institute, Jorhat			
1.	Raising of Bamboo Plantations	19 May 2020	Nursery growers
2.	Farmers training	26 May 2020	Farmers



Farmers' training at Nalchar, Agartala under NBM

Prakriti Programmes

- IFGTB organised "Online Knowledge Series – Know your Environment" commensurate with the theme of WED 2020, for school and college students under the "Prakriti" of ICFRE. The topics include the following;
 1. Facts about unknown locusts – Solutions from Nature
 2. Know your backyard Biodiversity
 3. Not all microbes are Harmful
- 43 students of class XII from G.D. Matriculation & Higher Secondary School, Coimbatore participated in the online knowledge series.



Online Knowledge Series on Know your Environment

Consultancy

ICFRE, Dehradun presently working on ten consultancy projects, which were awarded by Tehri Hydro Development Corporation India Ltd; Himachal Pradesh Power Corporation Limited; Karnataka State Official Authority; MoEF&CC Gol,

New Delhi; Coal India Limited, Kolkata; NTPC Ltd Noida; NMDC Ltd, Hyderabad; Singreni Collieries Company Ltd., Kothagudem; Chhattisgarh Forest Department, Raipur; Deptt. of Forest and Environment, Bhubaneswar.

Awareness and Demonstration Programme

- Forest Research Centre for Livelihood Extension (FRC-LE), Agartala organized a one-day awareness programme through video conferencing on social distancing awareness campaign with reference to COVID- 19. The awareness programme was organized in collaboration with Tribal Cooperative Marketing Development Federation of India (TRIFED) and Tripura Rehabilitation Plantation

Corporation Limited (TRPC LTD) on 17 April 2020, 57 members of tribal SHGs benefitted from the programme.

- FRC-LE, Agartala conducted demonstration programme on “Germination bed preparation for Bamboo Seeds” on 25 May 2020. 5 bamboo farmers attended the programme.



Demonstration on preparation of germination bed for bamboo seeds

Popularizing Forestry through All India Radio/ Doordarshan

Programme Topic	Channel	Date
Institute of Forest Genetics and Tree Breeding, Coimbatore		
Locust insects	Dinamalar	27 May 2020
	News 360 in Puthiya Thalaimurai	28 May 2020
Arid Forest Research Institute, Jodhpur		
Biodiversity day	All India Radio, Jodhpur	22 May 2020



Publication

A Technical bulletin on “Important insect pests in mangroves of Maharashtra and their management” by R. Raja Rishi and R. Sundararaj, IWST, Bengaluru was released.

Miscellaneous

Institute	Special Day/ Theme	Date
IFGTB, Coimbatore	Earth Day	22 April 2020
ICFRE institutes	International Day for Biological Diversity	22 May 2020
	International Yoga Day	21 June 2020



HFRI, Shimla celebrated International Day for Biological Diversity



Plantation of bamboo sapling on the occasion of International Day for Biological Diversity at RFRI, Jorhat

HR News

Appointment

Name of Officer	Date
Dr. V.S. Senthil Kumar, IFS ADG (Edu. & RB), ICFRE	11.06.2020

Retirement

Name of Officer	Date
Dr. V.P. Tiwari, Sci-G, IWST, Bengaluru	31.05.2020
Dr. Kishan Kumar V.S., Sci-G, FRI, Dehradun	31.05.2020
Sh. H.C. Sindhuveerendra, Sci-C, IWST, Bengaluru	31.05.2020
Dr. Uttam Kumar Tomar, Sci-G, AFRI, Jodhpur	30.06.2020
Dr. Mridula Negi, Sci-E, FRI, Dehradun	30.06.2020
Sh. I.L. Pache, Sr. Technical Officer, TFRI, Jabalpur	30.06.2020

Patron:

Shri. A.S. Rawat, Director General, ICFRE, Dehradun

Editorial Board:

Dr. Sudhir Kumar, DDG(Extn.), Chairman
 Dr. A.K. Pandey, ADG (Media & Extn.), Honorary Editor
 Shri Ramakant Mishra, CTO, (M&Extn.), Member

Disclaimer

- Published for private circulation only.
- The articles in the Newsletter do not necessarily reflect the views of the Editorial Board.
- ICFRE is not responsible for any loss or damage, whatsoever may be due to the information published here.