



Indian Council of
Forestry Research
and Education

ICFRE Newsletter

Vol. 19 No. 5
May 2019

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Significant Research Findings

Forest Research Institute, Dehradun

- Gas Chromatography – Mass Spectrometry (GC-MS) assisted chemical profiling of two populations (VAJ-04-MAW, VAJ-04-MKW) of *Valeriana jatamansi* collected from Arunachal Pradesh for volatile constituents of their rhizomes was done. This knowledge is new and is being used for analysis of chemical variability in the populations of *Valeriana jatamansi* and identification of its chemically superior population(s) for conservation and cultivation.
- Essential oil was extracted from *Cymbopogon citratus* using direct distillation methods and cohobation in pilot plant unit. The oil yield was higher using cohobation principle. The fractionation approach also resulted in fractions with different constituent ratios of monoterpenes and sesquiterpenes.
- Field surveys were carried out in Ramnagar (Pawalgarh), Nainital (Maheshkhan, Sattal, Kibury, Pangot & Kunja Kharak) & Haldwani (Nadhour) Forest Divisions of Kumaon Circle in Uttarakhand. Sampling was carried out in 22 transects in 8 forest Sub-types (3C/C2a Moist Shiwalik sal Forest; 5/1S2 Khair-Sissu Forest; 9/C1b Upper or Himalayan Chir Pine Forest; 12/C1a Ban Oak Forest; 12/C1b Moru Oak Forest; 12/C2a Kharsu Oak Forest; 12/C2c Moist Temperate Deciduous Forest; 3C/C3a West Gangatic Moist Mixed Deciduous Forest). Total 91 species were sampled with collection of 24 specimens of uncommon & rare species to Uttarakhand. Larvae of 3 species of butterflies were also collected on their larval food plants, *Circium* sp.; *Galatropis* sp. and a climbing shrub under the project “Butterflies associated with different forest types/sub-types in Uttarakhand”.
- Experiments on rearing of 14 larvae of 4 species of Lepidoptera namely, *Alcis variegata* (Geometriidae), *Artaxa guttata*, *Lymantria mathura* and *Calletria gerotei* (Erebidae) collected from ban oak trees during the field surveys for life history studies in the laboratory are in progress. Life cycle of one cerambycid stem borer, *Xylotrechus basifuliginosus* was studied on Kharsu oak logs for 2nd & 3rd instar larval stages.
- 110 species were digitized with stereozoom microscope (under the project “Digitization and enrichment of National Forest Insect Collection (NFIC) of Forest Research Institute, Phase-II (minute insects”). Photographs of 110 species were edited and stored. Information on 2282 species – their name, author, accession number, photograph etc in the database was scrutinized for any mismatch.
- Estimation of Total Tannin Content (TTC) of 35 clones of poplar completed and data recorded under the project “Screening of poplar clones for tolerance against poplar leaf defoliator, *Clostera cupreata* But”.
- Genomic DNA was isolated from 10 Trichoderma isolates. The Polymerase Chain Reaction (PCR) conditions for the amplification of *tef-1-alpha* have been standardized. Disease survey was conducted in Bampa, Gamsali, Niti, Mehar Gaon, Ruing village, Jelum village and nearby forest areas. Soil, bark, needle samples were collected from the symptomatic trees. Severe infestation of mistletoe was observed with many dead trees. Isolation of fungi is under progress.
- Survey was conducted for collection of soil samples for soil nutrient status in Alpine meadows of Kedarnath Wildlife Sanctuary of Gopeshwar Forest Division an altitude 3550m msl under Alpine pasture of Garhwal Himalaya. The soil samples were collected, processed and analysed. The preliminary findings revealed that the Bulk density ranges from 0.92 to 1.42 g/cm³ increasing with

soil depths, WHC ranges from 42.72 to 63.83% decreasing with soil depths, pH ranges from 5.2 to 5.5 with no trend with soil depths, the SOC, available Nitrogen and Potassium percent ranges from 2.14 to 4.82%, 0.0437 to 0.0591% and 0.0050 to 0.0156% respectively decreasing with increasing soil depths. The available Phosphorus ranges from 0.0014 to 0.0017% with no trends with soil depths.

Arid Forest Research Institute, Jodhpur

- Stable gus expression was observed as an indication stable transformation of Neem cell lines under the programme on Genetic improvement of Neem.
- *In-vitro* rooting was standardized in *Leptadenia reticulata* – a threatened medicinal plant.

Visit Abroad

Name of personnel	Institute	Duration	Place	Purpose of visit
Dr. Amit Verma & Mrs. Namitha N.K.	FRI, Dehradun	20 to 24 May 2019	France	World Forestry Congress

Consultancy

ICFRE presently works on ten consultancy projects, which are awarded by Tehri Hydro Development Corporation India Ltd; Himachal Pradesh Power Corporation Limited; Karnataka State Official Authority; Uttarakhand Jal Vidyut Nigam Limited (UJVNL); MoEF&CC, GoI, New Delhi; Coal India Limited, Kolkata; NTPC Ltd Noida; NMDC Ltd. Hyderabad; Chhattisgarh Forest Department, Raipur and Department of Forest & Environment Govt. of Odisha are in progress.

Exhibition

Institute	Participated	Duration	Place
IFGTB, Coimbatore	International Day for Biological Diversity 2019 exhibition	22 May 2019	Chennai



International Day for Biological Diversity 2019

Workshops/ Seminars/ Meetings

S.No.	Topic	Duration	Beneficiaries
Institute of Forest Genetics and Tree Breeding, Coimbatore			

- | | | | |
|----|---|------------|--|
| 1. | Silvicultural Systems - Stock Taking and Future Recommendations | 2 May 2019 | Senior Officers of J&K Forest Department and TNFD, CASFOS, Scientists of IFGTB |
|----|---|------------|--|

2. Research scholar monthly seminar

13 May 2019

JRF,FA,SRF of IFGTB



Seminar on Silvicultural Systems - Stock Taking and Future Recommendations at IFGTB, Coimbatore



Research Scholar Monthly Seminar at IFGTB, Coimbatore

Institute of Wood Science and Technology, Bengaluru

3. Status of Eucalyptus Plantation – Myths and Reality

28 May 2019

State Forest Departments and Pulp and Paper Industries

Tropical Forest Research Institute, Jabalpur

4. Wild Life and Snake myth in India

10 May 2019

Researchers

Arid Forest Research Institute, Jodhpur

5. Preparation of DPR for Rejuvenation of Luni River & Chambal River (Rajasthan part) through forestry Intervention

27 May 2019

93 Forest officers, NGOs, Scientists, Farmers and Academicians



Interactive workshop on Preparation of DPR for Rejuvenation of Luni River at AFRI, Jodhpur

Rain Forest Research Institute, Jorhat

6. Bamboo based Community Enterprise Development

6 May 2019

-

7.	Bamboo planting stock certification and nursery accreditation program	13 May 2019	-
8.	Promotional schemes for Herbal Gardens and Appraisal of Trade Environment for Medicinal Plants	22 May 2019	-

Himalayan Forest Research Institute, Shimla

9.	Quarterly meeting of Silviculture and Forest Management Expert Forum	29 May 2019	Scientists and Subject matter experts
10.	Ethnobotany: Retrospect and Prospects	31 May 2019	Scientists, Technical staff and Researchers



Monthly research seminar on "Ethnobotany: Retrospect and Prospects at HFRI, Shimla

Institute of Forest Productivity, Ranchi

11.	Insects for food security	24 May 2019	Officers, Scientists, Officials, Research Scholars and Students
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Institute of Forest Biodiversity, Hyderabad

12.	Rural management & Importance of farmers	22 May 2019	-
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Graining Programmes

S.No.	Topic	Duration	Beneficiaries
Institute of Wood Science and Technology, Bengaluru			
1.	Technology Demonstration	30 May 2019	Farmers and Forest department officials

Institute of Forest Genetics and Tree Breeding, Coimbatore

- | | | | |
|----|--|-----------------------|--|
| 2. | Short term training course on Forest Genetic Resources and Conservation | 13 to 17 May 2019 | B.Sc and M.Sc Students of Biochemistry and Biotechnology from different colleges of Coimbatore |
| 3. | “Microbiology, GIS & Remote sensing, Forest Genetic Resource Management, Research methods, Biostatistics & Scientific writing, Plant Biotechnology and Bioprospecting” | 13 May to 5 June 2019 | Students of UG, PG and B.Tech Biotechnology, Biochemistry & Microbiology from various colleges |



Short term training course at IFGTB, Coimbatore



Summer internship training program at IFGTB, Coimbatore

Rain Forest Research Institute, Jorhat

- | | | | |
|----|--|-------------------|--|
| 4. | Training and Demonstration on bamboo, nursery techniques, agarwood, vermicomposting etc. | 27 to 30 May 2019 | Forest Range Officer trainees from CASFOS, Byrnihat, Assam |
|----|--|-------------------|--|

Visit of Dignitaries

- Kenneth. I. Juster US Ambassdor to India visited FRI, Dehradun on 1May 2019.

Director General Visit

- Dr. Suresh Gairola, IFS, DG, ICFRE visited IFGTB, Coimbatore on 24 May 2019. He released a book on Insect Pests of Medicinal plants and their Management, Mobile App of Disease Management in Tamil and the Proceedings of the National Workshop on Securing Wood Demand though Enhancing Productivity of Planted Forest.



Director General, ICFRE visited IFGTB, Coimbatore



Prakriti Programme

- Facilitated visit of five groups of 80 students & 10 teachers of Kendriya Vidyalayas from different regions viz. Ranchi, Chennai, Lucknow, Kolkata and Gurugram at FRI, Dehradun on 24 May 2019. Brief introduction of the institute to students and their teachers was given by the scientists of FRI, Dehradun.
- Occasion of World Environment Day 2019 celebration, 30 students from different Kendriya Vidyalays of Lucknow, Patna, Chandigarh and Agra regions participated in the

competition on 25 May 2019 at FRI, Dehradun. The theme of the event was Air Pollution.

- A meeting was conducted on 31 May 2019 in FRI, Dehradun under the Chairmanship of Shri Arun Singh Rawat, Director, FRI with Deputy Commissioners & Assistant Commissioners of Navodaya Vidyalayas for preparation of the calendar of activities for promoting awareness among school children about forests and environment.



Students of KVs from different regions



Students of different KVs on the occasion of WED 2019

Awareness and Demonstration Programmes

- Research and development activities of RFRI, Jorhat: Bamboo Cultivation, Propagation, Nursery Management, Value addition & bamboo preservation techniques, Biotechnology and Tissue Culture, Lac Cultivation, Botanical Garden, Orchidarium, Vermicomposting etc. on 22 May 2019. 50 Students and

Teachers of Charaibahi Higher Secondary School, Charaibahi, Jorhat attended the programme.

- Environmental Awareness programme for National Cadet Core of Jharkhand organized by IFP, Ranchi on 14 May 2019. 200 candidate of 16th Jharkhand NCC Batalian participate in the programme.

Miscellaneous

Institute	Special day	Duration
FRI, Dehradun; IFGTB, Coimbatore; TFRI, Jabalpur; AFRI, Jodhpur; RFRI, Jorhat; HFRI, Shimla; IFB, Hyderabad	International Day for Biological Diversity -2019	22 May 2019
FRI, Dehradun	World Environment Day 2019	25 May 2019



International Day for Biological Diversity -2019 at HFRI, Shimla



IFGTB released a poster on IDB,2019

HR NEWS

Appointment

Name of Officer	Date of Appointment
Smt. Kanchan Devi, IFS, DDG (Edu.), ICFRE	01.5.2019

Repatriation

Name of Officer	Date of Repatriation
Sh. M.Z. Singson, DCF, RFRI, Jorhat	26.5.2019

Promotion

Name of Officer	Date of Promotion
Sh. Manoranjan Das, Under Secretary	06.5.2019

Retirement

Name of Officer	Date of Retirement
Dr. K. Palanisamy, Sci.- G, IFGTB, Coimbatore	31.5.2019
Dr. A. Balu, Sci.- G, IFGTB, Coimbatore	31.5.2019
Sh. Deepak Singh Thakur, PS., TFRI, Jabalpur	31.5.2019

Patron:

Dr. Suresh Gairola, Director General, ICFRE, Dehradun

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