

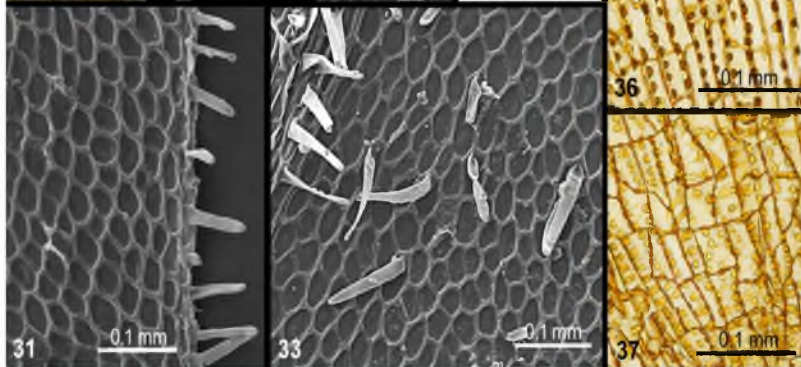
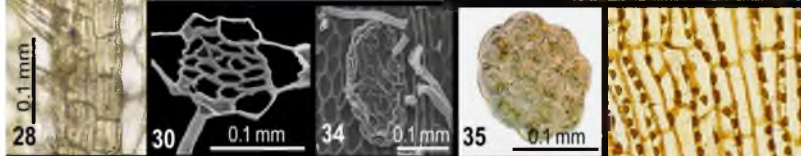
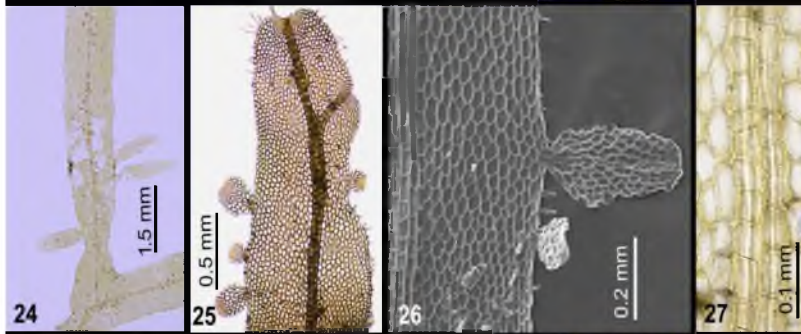
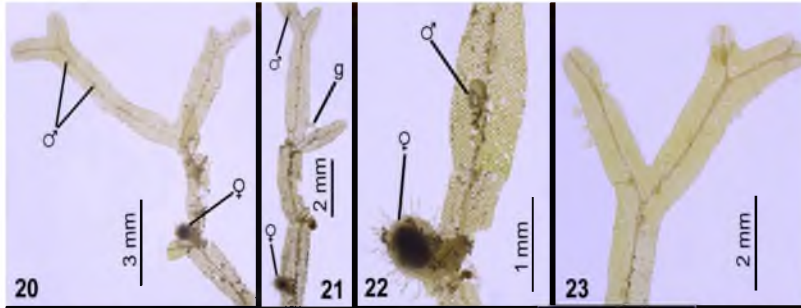
# BSI NEWSLETTER

The monthly electronic newsletter of Botanical Survey of India

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**Botanical Survey of India**  
CGO Complex, 3<sup>rd</sup> MSO Building, Block – F  
5th Floor, DF Block, Sector – I, Salt Lake City  
Kolkata – 700 064



## HEAD QUARTERS, KOLKATA

In connection with the studies on, “Hot spring Algae of Rajgir and Mungar, Bihar”, “Studies on Wild Mushrooms of Sikkim”, “Studies on the Macrofungi of AJCBIG”, “Wood rotting fungi of Rajmahal hills”, “Revision of the family Metzgeriaceae in India”, and “Liverworts and Hornworts Flora of Darjeeling District, West Bengal” identification of specimens were done by the scientific officials. Besides, illustrations/drawings, descriptions and microphotographs were made.

Dr. Devendra Singh, Scientist ‘D’ prepared the database of 112 general liverwort specimens at CAL.

Mr. Manoj Emanuel Hembrom, Botanist prepared ArcGIS map for two species *Hymenochaete boddingii* Hembrom, K. Das and Parihar (Hymenochaetaceae) and *Rhizochaete bambusicola* Hembrom, K. Das & Parihar (Phanerochaetaceae).

For the project, “Pharmacognosy of Indian Cycas” the anatomical features of the cross section on the leaf of *Cycas swamyi* Singh & Radha was studied by Dr. A.B.D. Selvam, Scientist ‘D’ under Light Microscope (LM), which was collected from Melkote, Mandya district of Karnataka (field no. 4995).

### Public service rendered

Dr. Kanad Das, Scientist ‘D’ delivered a lecture on “*Wild mushrooms: exploring the relevancy of morphological diversity in the era of molecular phylogeny*” in the National Seminar on “Urban Biodiversity: Documentation and Conservation” being held at Bethune College, Kolkata on 07.03.2018. Dr. Das also reviewed a manuscript for the journal *Mycologia*.

Dr. Monalisa Dey, Scientist ‘B’ reviewed a research article for *Plant Science Today*.

Dr. Selvam, A.B.D., 2018. rendered guidance to Miss. Tino Ammini, M.Sc. Botany student of Bharathidasan University, Trichy, Tamil Nadu for her final year project work, “Comparative phyto-pharmacognostic studies on the raw roots of *Hemidesmus indicus* (L.) R. Br. and *Decalepis hamiltonii* Wight & Arn.”

Dr. D. Singh helped the four students of Dr. K.P. Rajesh and Dr. Manju C. Nair from The Zamorin’s Guruvayurappan College Kozhikode, Kerala, who visited CAL herbarium for consulting Bryophytes and Pteridophyte specimens.

### Training programme attended

Dr. Monalisa Dey undergone “17th Foundation Training Programme For Scientists and Technologists” sponsored by Department of Science and Technology, Government of India, New Delhi, conducted by Indian Institute of Public Administration (IIPA), New Delhi, from 22nd January 2018 to 16th March 2018. During this training Dr. Dey attended the “National Resilient India Summit” at India Habitat Centre, New Delhi on 12.03.2018.

Mr. Manoj Emanuel Hembrom attended one training programme at BSI, Hqrs., Kolkata in connection with e-tender in government office.



## CENTRAL NATIONAL HERBARIUM, HOWRAH

Sri P.P. Ghoshal, Botanist conducted one field tour from 24th March to 3rd April, 2018 covering about 100 km<sup>2</sup> in different forest blocks of Baresand, Maromar, Saidhup and Betla forest ranges and collected ca 300 specimens under 120 field numbers along with ca 3500 snaps/photographs pertaining to the habitat and habit of plants, close up of leaves, flowers, fruits and landscape vegetation etc.

### Herbarium identification

Dr. Vinay Ranjan, Scientist 'D' and Sri Anant Kumar, Bot. Asst. identified nine species collected from Neora Valley National Park, Darjeeling district, West Bengal.

Dr. O.N. Maurya, Scientist 'C' identified 15 specimens collected from Udaipur Wildlife Sanctuary, West Champaran, Bihar.

### Public Service rendered

CNH scientific officials rendered identification/authentication services for 34 plant samples received from different institutes/organizations.

### Meetings/workshop/training attended/lecture delivered

Dr. Subir Bandopadhyay, Scientist 'B' attended workshop on Taxonomy of Vascular Plants: Principles & Practices (organized by CAS, Department of Botany, University of Calcutta) and delivered a lecture on 'Typification of plant names' in on 05.03.2018.

V. Sampath Kumar, Scientist 'D' attended a meeting at ISIM on 06.03.2018 in connection with the Global Strategy Plant Conservation (GSPC), which was chaired by the Ms. Amarjeet Ahuja, Retd. IAS and attended by the Directors of BSI and ZSI along with selected scientists of both the institutions.

Dr. K. Karthigeyan, Scientist 'D' delivered a lecture on 'Island Flora: Diversity and Endemism in the flora of Andaman & Nicobar Islands – an Overview' on 07.03.2018 in the workshop, "Taxonomy of Vascular Plants: Principles & Practices", held at University of Calcutta.

Dr. Karthigeyan attended a meeting as an expert for "evaluation support for mangrove plantation in Sunderban" under the aegis of Nature Environment & Wildlife Society (NEWS). He also attended a meeting at NEWS office regarding the mangrove afforestation project on 17.03.2018.

Dr. Pushpa Kumari, Scientist 'D' attended meeting of Man and Biosphere (MAB) Committee, BR Managers and lead institutes held on 13.03.2018 at Narmada Conference Hall, Indira Paryavaran Bhawan, MoEF & CC, New Delhi.

Dr. O.N. Maurya, Scientist 'C' attended a meeting on 'Consultative Committee on Forest Management' in Saranda and Ranchi division convened by PCCF, Jharkhand on 19.03.2018.

Dr. Avishek Bhattacharjee, Scientist 'B' attended training on e-tendering at BSI, HQ on 22.03.2018.

### Visitors/students

16 students of class X-th standard from Bauria Girls' High School, Bauria, Howrah on 05.03.18 on educational tour.

10 students of B. Sc. (Botany Hons.) accompanied by three teachers from Dr. Kanailal Bhattacharya College, Howrah on 06.03.2018.

20 students of B.Sc. (Botany Hons.) from Shri Shikshayatan College, Kolkata on 08.03.2018 on educational tour.

12 students of B.Sc. (Botany Hons.) from Jogamaya Devi College, Kolkata; 30 students of B.Sc. (Botany Hons.) from Surendranath College, Kolkata; 22 students of B.Sc. (Botany Hons.) from Gurudas College, Kolkata on 09.03.2018 on educational tour.

16 students of B.Sc. (Bot. Hons.) from Bankim Sardar College, Canning on 12.03.2018 on educational tour.

21 students of B.Sc. (Botany General) from Harimohan Ghosh College, Kolkata; 20 students of B.Sc. (Botany Hons. & General) from Muralidhar Girls' College, Kolkata on 13.03.2018 on educational tour.

14 students of B. Sc. (Botany Hons.) accompanied by five teachers from East girls' College, Lake town and 18 students of B. Sc. (Botany Hons.) accompanied by two teachers from Rama Krishna Mission Vivekananda Centenary College, Kolkata; 21 students of B.Sc. (Botany Hons.) from Shibpur Dinobandhu Institution College, Howrah on 14.03.2018 on educational tour.

Ms. Nandini Chatterjee, Mr. Holly Morgenroth and Mr. Andrew Russel from Victoria Museum; Dr. M. Umadevi, Tamil Nadu Forest Academy monocot type herbarium on 15.03.2018.

11 students of B.Sc. (Botany Hons.) from Kaliganj Govt. College, Nadia on 15.03.18 on educational tour.

31 Forest Range Officer Trainees from Tamil Nadu State Forest Academy, Coimbatore, Tamil Nadu for getting general idea about Herbarium and Herbarium techniques and also for seeing Roxburgh's Icons on 15.03.2018 as a part of their training programme.

22 students of B.Sc. (Botany Hons.) from Sripat Singh College, Murshidabad; 21 students of B. Sc. (Botany Hons.) accompanied by three teachers from Aghorkamini Prakashchandra Mahavidyalaya, Hoogly on 19.03.2018.

Sri Anil K. Jain, IAS, Additional Secretary, MoEF & CC, New Delhi on 20.03.2018.

Dr. Gyanesh, Joint Secretary, MoEF & CC, New Delhi and Dr. Sharath Kumar Palleola, Director, MoEF & CC, New Delhi and his team visited on 21.03.2018.

Seven students of B.Sc. (Botany Hons.) from Barrackpore Rastraguru Surendranath College, West Bengal on 21.03.2018 on educational tour.

13 students of B. Sc. (Botany Hons.) accompanied by two teachers from K.V. No.1, Kanchrapara on 26.03.2018.

14 students of B.Sc. (Botany General) from Gaur Mohan Sachin Mandal Mahavidyalaya, South 24 Parganas on 27.03.18 on educational tour.

### Publication

Arisdason, W., Nandikar, M.D., Lakshminarasimhan, P. and Bandyopadhyay, S. 2018. Important Websites for Conducting Research in Plant Taxonomy In: Maity, D. (Ed.) Taxonomy: Theory and Practice. Proceeding of first International Workshop under Taxonomy Training Centre, AICOPTAX, MoEF & CC, Govt. of India. Pp. 170-179.

– Dr. P.V. Prasanna  
Scientist 'F' & HoO

## ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. T.A.M. Jagadeesh Ram, Scientist 'D' conducted one field tour to Arunanchal Pradesh and Meghalaya during 27th February to 18th March 2018. A total of 82 field numbers of family Pyrenulaceae and 56 field numbers of allied families were collected.

Dr. Sanjay Mishra, Scientist 'B' and Dr. C.P. Vivek, Bot. Asst. conducted one field tour to Middle Andaman during 11th to 17th March 2018. During the exploration Plants/seeds/seedlings of 42 species were collected and introduced in the Dhanikhari Experimental Garden cum Arboretum, Nayasahar, South Andaman.

### Digitization of herbarium specimens

**Herbarium sheets Scanned:** 17 numbers of Arecaceae.

**Herbarium details computerized in Excel format:** 336 herbarium specimens of families Arecaceae were fed in the computer in a prescribed format.

**Public service rendered**

Dr. Lal Ji Singh, Scientist 'D' & HoO delivered an invited lecture on "Conservation and Management of RET & Endemic Flora of Andaman and Nicobar Islands" during one week Refresher Course for Dy. Rangers of the Department of Environment and Forests, Andaman and Nicobar Islands at Forest Training Institute, South Andaman on 07.03.2018.



Photo: FTI

**Dr. Lal Ji Singh delivering lecture during one-week Refresher Course for Dy. Rangers at Forest Training Institute, South Andaman**

Dr. Singh performed duties as an Observer for WOS-C Online Examination for 10th Batch, Patent Facilitating Centre (PFC), Technology Information Forecasting and Assessment Council (TIFAC), Department of Science & Technology (DST), Govt. of India at NSEIT LTD. Port Blair on 25.03.2018.

**Meeting(s)/lecture/workshop organized/attended**

Special lecture on "*Datura* in America and Asia - what does it have to do with Darwin or Wallace?" by Dr. R. Geeta, Department of Botany, University of Delhi was held on 05.03.2018 at BSI, ANRC, Port Blair.

Dr. Sanjay Mishra and Dr. C.P. Vivek attended the special lecture in JNRM College, Port Blair, on 07.03.2018 delivered by Prof. Dr. R. Geeta, Delhi University, on topic "Biodiversity and Bio-resources through the Evolutionary Glass".

Quarterly meeting of Rajbasha held on 09.03.2018 in the Chamber of Head of Office, ANRC.



Photo: Fouziya Saleem

**Dr. R. Geeta, Department of Botany, University of Delhi delivering lecture at ANRC, BSI, Port Blair on 05.03.2018**



Photo: C.P. Vivek

**Dr. Lal Ji Singh addressing participants during inaugural of two days Hindi Workshop at ANRC, BSI, Port Blair**

Dr. Lal Ji Singh attended the valedictory Function of the Green Skill Development Programme (GSDP) as the Guest of Honour at Zoological Survey of India, ANRC, Port Blair on 14.03.2018.

Two days Hindi workshop was organized at main office, as well as Dhanikhari Experimental Garden cum Arboretum (DEGCA), Nayasahar on 26.03.2018 and 27.03.2018.

Dr. Singh attended meeting of the working committee of the Andaman & Nicobar Medicinal Plant Board (ANMPB) at Department of Environment and Forests, Port Blair on 23.03.2018.

Dr. Singh attended the special lecture on "Zoological Studies and Research: Current Prospectives and Challenges" by Dr. K. Thiyagesan, Professor (Retd.), A.V.C. College, Mannampandal, Mayiladuthurai at Zoological Survey of India, ANRC, Port Blair on 26.03.2018.

**Foundation Day celebration**

46th Foundation Day of ANRC, BSI was celebrated on 30.03.2018.





Photo: Kumar

**Dr. Lal Ji Singh delivering felicitation address during Valedictory Function of GSDP–Advanced Course**



Photo: Sandeep Oraon

**Dr. Lal Ji Singh addressing during 46th Foundation Day Celebration at ANRC, BSI, Port Blair on 30.03.2018**

### Visitors/students

Ms. Nabanita Ganguly, DCF and Sri Joju P. Alappatt, Director, Forest Training Institute, South Andaman visited office on 01.03.2018.

Dr. K. Dharanirajan, HOD & In-charge, Assistant Professor, Department of Disaster Management, Pondicherry University, Port Blair visited office on 05.03.2018 and 08.03.2018.

Sri P. Naveen Kumar, DCF, visited office on 06.03.2018.

Prof. P.M. Mohan, Department of Ocean Studies and Marine Biology, Brukshabad Campus, Port Blair visited office on 07.03.2018 and 10.03.2018.

Prof. S.C. Chaturvedi, Department of Geography, JNRM, Port Blair visited office on 08.03.2018.

Sri Anit Majumdar and Sri Amit, B.Sc. students of Jawaharlal Nehru Rajkeeya Mahavidyalaya, Port Blair, visited herbarium, library and garden on 08.03.2018 and 09.03.2018.

Sri Joju P. Alappatt, Director, Forest Training Institute, and 20 Deputy rangers visited garden on 08.03.2018.

Dr. S. Balaji, Assistant Professor, Department of Disaster Management, Pondicherry University, Port Blair visited office on 09.03.2018 and 13.03.2018.

Dr. R. Mohanraju, Professor & Head, Department of Ocean Studies and Marine Biology, Brukshabad Campus, Port Blair and Dr. Gadi Padmavati, Department of Ocean Studies and Marine Biology, Pondicherry University, Port Blair visited office on 13.03.2018.

Sri Amit Jaiswal, Allahabad Bank, Baharaich, U.P. along with three members visited herbarium and library on 13.03.2018.

Dr. S. Jayakumar, Head, Department of Plant Science, JNRM, Port Blair visited office on 20.03.2018.

Sri Shashank Bhardwaj, Ambedkar University, Delhi-Kashmiri Gate, Delhi consulted herbarium and library on 22.03.2018 and 23.03.2018.

Sri Hari Singh, Deputy Secretary, Integrated Finance Division, MoEF & CC, Sri S.P. Singh Under Secretary, MoEF & CC and Sri B.K. Singh, Section Officer, MoEF & CC visited garden and office from 21st to 23rd March 2018.



Photo: G.A. Ekka

**Sri Hari Singh, Deputy Secretary, Sri S.P. Singh, Under Secretary and Sri B.K. Singh, Section Officer, Integrated Finance Division, MoEF & CC at ANRC office, Port Blair**

**– Dr. Lal Ji Singh  
Scientist 'D' & HoO**

## ARID ZONE REGIONAL CENTRE, JODHPUR

In association with Vegetation characterization and floristic studies in Bassi Wildlife Sanctuary, Rajasthan using remote sensing and GIS (2017 – 2020), Dr. Hari Krishna Peddi, Bot. Asst. and Sri Ramesh Kumar, Bot. Asst. conducted one field tour during 14th to 25th March 2018 and collected specimens of 145 field numbers.



Photo: C.S. Purohit

Seed collection of *Calligonum comosum* from Bikaner district, Rajasthan



Photo: P. Hari Krishna

*Butea monosperma* var. *lutea* at Bassi Wild Life Sanctuary, Rajasthan



Photo: P. Hari Krishna

*Crateva adansonii* subsp. *odora* at Bassi Wild Life Sanctuary, Rajasthan



*Soymida febrifuga* at Bassi Wild Life Sanctuary, Rajasthan

In association with GIS Mapping of EET (Endemic, Endangered and Threatened) species of Rajasthan (2017 – 2020). Dr. C.S. Purohit, Scientist 'B' and Dr. Ramesh Kumar, Scientist 'C' conducted one field tour during 23rd to 29th March 2018 (Nagaur, Bikaner, Sriganganagar, Hanumangarh and Churu) and collected specimens of 27 field numbers.

Sri Vinod Maina, Scientist 'D' & HoO, Dr. Ramesh Kumar and Sri Ranjeet, MTS, procured 1500 plant saplings from Jodhpur for plantation programme at BGIR, Noida during 13th to 17th March, 2018.

### Herbarium specimen identification

Specimens of 237 Field numbers has been identified during the period under report.

### Public service rendered

identified 56 plant species for different universities/colleges/organisations.

### Publication

Purohit, C.S. and Agrawal D.K. 2018. Observation on phenological behavior of orchids in Sikkim in Proceedings of current Trends in conservation, sustainable development, Biological and social benefits of medicinally and floriculturally significant orchids & orchid show, March 16-18, pp. 63–69.

– Sri Vinod Maina  
Scientist 'D' & HoO



## CENTRAL REGIONAL CENTRE, ALLAHABAD

Dr. Pushpi Singh, DST–SERB N-PDF conducted a tour to Udham Singh Nagar and Champawat district in Uttarakhand and Pilibhit district in Uttar Pradesh from 5th to 16th March 2018 and collected specimens of 270 field numbers in connection with the project ‘Taxonomic and phylogenetic reassessment and revision of the genus *Phaeographis* and allied genera in the family Graphidaceae (lichenized fungi: Ascomycota) of India’.

Under the project ‘Flora of Chhattisgarh’ Vol.-II, Dr. A.K. Verma, Scientist ‘B’ prepared identification key for the species of genus *Eleocharis*, *Fimbristylis*, *Scirpus* and Dr. Nitisha Srivastava, Bot. Asst. completed taxonomic description of following nine species of family Poaceae viz., *Eragrostis pilosa* (L.) P. Beauv., *E. poaeoides* P. Beauv., *E. riparia* (Willd.) Nees, *E. tef* (Zuccagni) Trott., *E. tenella* (L.) P. Beauv., *E. tremula* (Lam.) Hochst. ex Steud., *E. unioides* (Retz.) Nees ex Steud., *E. viscosa* (Retz.) Trin. and *E. zeylanica* Nees & Meyen.

Completed Cytological investigations of *Senna siamea* (Lam.) Irwin & Barneby & *S. alata* (L.) Roxb. for ‘Cytotaxonomical studies of selected taxa of Indian subtribe Cassiinae’ by Dr. A. K. Verma.

Completed updation of nomenclature, consequential changes in key to genera and editing of families Saururaceae, Lauraceae, Proteaceae, Loranthaceae, Viscaceae, Santalaceae, Euphorbiaceae, Urticaceae, Ulmaceae, Cannabaceae, Moraceae, Casuarinaceae, Salicaceae and Ceratophyllaceae, prepared Botanical names index and vernacular names index and finalized manuscript for submission for Flora of Uttar Pradesh, Vol.–II.

The manuscript of 182 tree species is being edited for submission under ‘Trees of Allahabad city and its Environs’.

### Herbarium specimen identification

A total of 88 specimens were identified in connection with the project ‘Identification of old unidentified specimens of BSA’.



Dr. G.P. Sinha delivering speech at inaugural session of International Symposium Indiscriminate Development: Current Scenario & Socio-Environmental Challenges— IDCSC 2018 (left) and the participants (right)

### Symposia/seminars/workshop organized/attended

CRC, BSI, Allahabad, organized an International Symposium, ‘Indiscriminate Development: Current Scenario & Socio-Environmental Challenges (IDCSC 2018) jointly in collaboration with Blue Planet Society and Govt. PG College, Saidabad, Allahabad on 18.3.2018 and 19.3.2018. About 350 delegates participated in the deliberations in oral and poster presentation belonging to different streams of Botany, Zoology, Environmental Science and humanities. The symposium was inaugurated by Prof. Rajendra Prasad, Vice Chancellor, Allahabad State University, Allahabad.





**Dr. G.P. Sinha receiving Life Time Achievement award from Blue Planet Society at IDCSC 2018**



**Dr. A.N. Shukla receiving Biodiversity Conservation Award from Blue Planet Society at IDCSC 2018**

Dr. G.P. Sinha, Scientist 'E' & HoO, during International Symposium Indiscriminate Development: Current Scenario & Socio-Environmental Challenges (IDCSC 2018) held at Botanical Survey of India, CRC, Allahabad felicitated with Lifetime Achievement Award from Blue Planet Society, Allahabad.

Dr. A.N. Shukla, Scientist 'B' received Biodiversity Conservation Award-2018 from Blue Planet Society, Allahabad during IDCSC 2018.

Sri Vineet Singh, Bot. Asst. made Poster presentation on 'Taxonomic Diversity of Climbers with special reference to their economical potential in PAWS and Tikri forest area, Gonda, U.P.' and was awarded the best Poster presentation award during IDCSC 2018.

Dr. Nitisha Srivastava, Bot. Asst. presented (Oral) two research papers, "Flora of Chandra Prabha Wildlife Sanctuary, Chandauli District, Uttar Pradesh" and "Laser rays induced chromosomal aberrations in green manure crop *Sesbania cannabina* Poir." and received best oral presentation award for the same.

Dr. Ashutosh Verma, Scientist 'B', participated in "Hands on Training Workshop on Cytological Techniques' during 12th to 16th March 2018 organised by WRC, BSI, Pune as Resource Person and delivered a lecture on "Cytology and its scope in Plant Taxonomy".



**Dr. Arti Garg delivering presentation during training course on S & T for Rural Societies at I.I.P.A., New Delhi**

Dr. Arti Garg, Scientist 'D', attended the training course on Science and Technology for Rural Societies, conducted by DST at Indian Institute of Public Administration (IIPA), New Delhi from 18th to 24th March 2018. Presented work of BSI in connection with services to mankind, mainly the rural societies and feedback of the training course.

### Public services rendered

Dr. Arti Garg reviewed a manuscript for the journal *Taiwania*.

Dr. Ashutosh Kumar Verma, reviewed manuscript for the journal *Cytologia*.

### Visitors

During IDCSC 2018, several guests including Prof. Rajesh Prasad, Vice Chancellor, Allahabad State University, Dr. Preeti Gautam, Additional Director, U.P. Higher Education and Prof. N.K. Labh, Head, Zoology Department, Tribhuvan University, Kathmandu Prof. D.R. Misra, Ex-Head, Botany department, University of Allahabad held on 18.3.2018 and 19.3.2018 at BSI, CRC, Allahabad visited this regional centre.



**Valedictory function of GSDP-Advanced Course-Parataxonomist at CRC, BSI, Allahabad**



**Interaction of GSDP Trainees during Valedictory function of GSDP-Parataxonomist at CRC, BSI, Allahabad**

Photo: CRC

### **GSDP: Advance Course for Para-taxonomists**

Dr. G.P. Sinha delivered a lecture to GSDP trainees on 'lichen collection, preservation and identification'; Dr. Arti Garg on 'CBD and CITIES'; Dr. A.N. Shukla, on 'Botanic Gardens; Dr. A. K. Verma, on 'ex- situ & in-situ conservation'; Sri Vineet Kumar Singh on 'Eco-restoration of Natural Habitats'; Dr. Nitisha Srivastava on 'consultation of floras, checklists and plant databases from library'.

Besides following eight lectures for GSDP trainees were also organized by Dr. A.N. Shukla, Coordinator.

Prof. D.R. Misra, Dept. of Botany, University of Allahabad delivered a lecture on 'Gymnosperms: identification, classification and uses for the GSDP trainees.

Dr. Anand Pandey, Dept. of Botany, University of Allahabad delivered a lecture on 'Medicinal plants: cultivation and marketing'.

Dr. Brijesh Kumar, Bot. Asst., BSI, NRC, Dehradun delivered a lecture on 'Pteridophytes: collection, identification and uses'.

Ms. Megha Shruti, Project Assistant, WII, Dehradun, delivered a lecture on 'GIS'.

Dr. Richa Tandon, Asst. Prof., S.S. Khanna, P.G. College Allahabad delivered a lecture on 'Algae: collection, identification and classification'.

Dr. Anand Pandey, Dept. of Botany, University of Allahabad delivered a lecture on 'Fungi: collection, identification and classification'.

Prof. S.N. Srivastava, Dept. of Botany, C.M.P. P.G. College, Allahabad delivered a lecture on 'Bryophytes: Identification, classification and uses'.

Dr. H.P. Pandey, Dept. of Botany, I.S.P.G. College, Allahabad delivered a lecture on 'Botanic Gardens'.

GSDP written examination, practical examination and viva-voce for GSDP trainees were conducted on 14.03.2018 and Valedictory function for GSDP trainees was organized on 17.03.2018 .

### **Publication**

Gupta, P. and Sinha, G.P. 2018. Lichen Flora of Assam. *Indian J. Forestry*, Additional Series 5, pp. 274.

**– Dr. G.P. Sinha**  
Scientist 'E' & HoO

## **DECCAN REGIONAL CENTRE, HYDERABAD**

In association with Non Detrimental Findings (NDF) studies on Red Sanders (*Pterocarpus santalinus* L.f) project, Dr. J. Swamy, Dr. Sankararao Mudadla and Sri. S. Nagaraju along with the Project Fellows and Project Assistants conducted one field tour to Proddatur Forest Division from 27th February to 7th March 2018 for the assessment of Red sanders.

Dr. J. Swamy Dr. Sankararao Mudadla and along with the Project Fellows and Project Assistants conducted one field tour to Nellore Forest Division from 19th to 26th March 2018 for the assessment of Red sanders.

Dr. G. Swarnalatha conducted one herbarium and library consultation tour to Central National Herbarium, Botanical Survey of India, Howrah from 4th to 10th March 2018.



### Herbarium identification

Dr. G. Swarnalatha studied and identified 14 micro lichen specimens.

### Digitisation of Herbarium specimens

500 herbarium sheets were scanned belonging to various families at BSID.

### Public service rendered

Dr. J. Swamy provided service to Mr. Mohd. Ghani, Research Scholar, Department of Botany, Kakatiya University on 14.03.2018.

Dr. L. Rasingam reviewed one research article each for Tropical Plant Research Journal and *Journal of Economic and Taxonomic Botany*.

Dr. Sankara Rao has given a herbarium technique demo to the Telangana University students on 15.03.2018.

Dr. L. Rasingam identified two plants for Shadan women's college of pharmacy, Hyderabad and Jagan's Pharmacy College, Nellore.

Dr. J. Swamy, identified two specimens for Vaageswari College of Pharmacy, Karimnagar, Telangana.

Organized one day Workshop on "Hands on training in Plant Taxonomy and Herbarium Methodology at DRC, Hyderabad on 15.03.2018. 50 students from Telangana University and its affiliated colleges were attended.



Dr. J. Swamy delivering talk on Herbarium techniques at DRC, BSI, Hyderabad



Dr. M. Sankararao delivering lecture at ASNM Govt. Degree College, Palakol, Andhra Pradesh

### Workshop/meeting attended/lecture delivered

Dr. G. Swarnalatha and Sri S. Nagaraju, attended Botanical Art Workshop organised by Botanical Survey of India, Eastern Regional Centre, Shillong from 12th to 24th March 2018.

Dr. L. Rasingam delivered a lecture to 50 students from Telangana University on role of Botanical Survey of India in plant conservation on 15.03.2018.

Dr. J. Swamy delivered two lectures on Herbarium Techniques and Construction of Keys & Identification of Flowering Plants to the Telangana University students on 15.03.2018.

Dr. L. Rasingam attended the 11th Inter-Agency coordination meeting organized by Wildlife Crime Control Bureau at Vijayawada on 21.03.2018.

Dr. Sankararao Mudadla, given a lecture on "Medicinal plants and its Conservation" as a resource person at ASNM Govt. Degree College, Palakol, West Godavari Dt., Andhra Pradesh on 29.03.2018.

### Publication

Rasingam, L., Swamy, J. and Sankararao, M. 2018. *Crotalaria nallamalayana* (Fabaceae: Crotalariaeae): a new species from Telangana, India. *Phytotaxa* 345(2): 159–164.

– Dr. L. Rasingam  
Scientist 'D' & HoO

## EASTERN REGIONAL CENTRE, SHILLONG

During this period two field tours were conducted 1. for Flora of West and South-West Khasi hills district, Meghalaya with reference to the sacred groves by Dr. Chaya Deori, Scientist 'D' and Dr. S.R. Talukdar, Bot. Asst. during 31st March to 5th April, 2018 and 2. for Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species of NE India by Dr. Deepu Vijayan, Scientist 'C' to South Garo hills and West Garo hills, Meghalaya for collecting mature/young leaves/rhizomes of *Molinaria garoense*, *different Zingiber* sp. and other medicinal plants etc. during 12th to 19th March, 2018 and one herbarium consultation tour for Taxonomic Revision of genus *Riccia* (Marchantiophyta) in India by Dr. S.K. Singh, Scientist 'D' to Lucknow University, CSIR-National Botanical Research Institute, Lucknow from 21st to 29th March 2018.

Identified 133 species for Flora of West and South-West Khasi hills district, Meghalaya with reference to the sacred groves by Dr. Chaya Deori and Dr. S.R. Talukdar; Flora of Eastern Nagaland by Dr. N. Odyuo, Scientist 'D' & Dr. R. Daimary, Bot. Asst. and Flora of Nagaland (Vol. I & 2) by Dr. A.A. Mao, Scientist 'F', Dr. N. Odyuo and Dr. D.K. Roy, Bot. Asst.

Observed and recorded phenological data of flowering and fruiting of 48 plant species viz., *Aesculus assamica*, *Allamanda cathartica*, *Alpinia malaccensis*, *Bixa orellana*, *Bombax ceiba*, *Bulbophyllum scabratum*, *Callistemon citrinus*, *Caryota urens*, *Catunaregam spinosa*, *Cephalantheropsis obcorda*, *Coelogyne flaccida*, *Coelogyne micrantha*, *Coelogyne ovalis*, *Coelogyne punctulata*, *Coelogyne schultesii*, *Coelogyne stricta*, *Coelogyne viscosa*, *Cymbidium eburneum*, *Cymbidium lancifolium*, *Dendrobium anceps*, *Dendrobium aphyllum*, *Dendrobium fimbriatum*, *Dendrobium nobile*, *Dendrobium ruckeri*, *Dillenia indica*, *Dracaena angustifolia*, *Elaeocarpus floribundu*, *Eria amica*, *Eria arunachalensis*, *Eria paniculata*, *Eria lasiopetala*, *Erythrina stricta*, *Esmeralda cathartii*, *Eurya acuminate*, *Exbucklandia populnea*, *Goodyera procera*, *Iris laevigata*, *Mahonia pycnophylla*, *Mucuna macrocarpa*, *Paphiopedilum insigne*, *Paphiopedilum venustum*, *Paphiopedilum vilosum*, *Phaius tancarvilleae*, *Phalaenopsis parishii*, *Rauvolfia serpentina*, *Tainia latifolia*, *Taxus wallichina* and *Vanda bicolor* which are available at EBG, Barapani by Dr. M. Murugesan, Scientist 'B' and Sri L.R. Meitei, Bot. Asst.

### Public service rendered

Identified five samples of specimens received from various institutions.

### Seminar/workshop organised/training attended

National Seminar on Himalayan Plant Diversity Taxonomy, Conservation and Sustainable Utilization organized by Eastern Regional Centre, Botanical Survey of India in collaboration with North Eastern Hill University and East Himalayan Society for Spermatophyte Taxonomy during 8th to 9th March, 2018. A total of 200 participants from all over India from various institutes participated in the programme.

Botanical Art workshop was organised by Eastern Regional Centre, Botanical Survey of India, Shillong during 12 to 24th March, 2018. 16 participants from all the regional centres/units of BSI (SRC, DRC, WRC, CNH, Headquarters, Kolkata, NRC, Guwahati University) along with local participants and two resource persons Sri Mahaveer Swami (National Awardee), Bikaner, Rajasthan and Sri Anurag Swami. The workshop was inaugurated by Dr. V.T. Darlong, Vice Chancellor, Martin Luther Christian University, Shillong and on 23rd and 24th March 2018 the paintings were exhibited at Mega gallery, Shillong.



Dr. Chaya Deori attended Training Programme on “Science and Technology for rural Societies (for scientist & Technologists)” during 19th to 23rd March 2018 sponsored by Department of Science & Technology, New Delhi and organised by Indian Institute of Public Administration, New Delhi.

### Visitors/students

Sri Ganga Prasad, Honourable Governor of Meghalaya visited ERC, Shillong.

10 scientists, seven lecturers, 38 students, six research scholars, 40 students and 150 other visitors from various Institutions, Colleges and Universities visited the Centre.

### Publications

Kumar, S., Singh, S.K. and Bondia, S.L. 2018. *Drepanolejeunea ternatensis* (Lejeuneaceae: Marchantiophyta) – a newly recorded species from Northeast India. *Indian J. Forest.* 40(4): 359-361.

Singh, S.K. 2018. Liverwort and hornwort diversity in botanic gardens of Botanical survey of India, Shillong and Barapani. In: P. Singh & S.S. Dash (eds.) *Indian Botanic Gardens Role in conservation.* BSI Kolkata, pp. 248-259.

Singh, S.K. and Singh, D.K. 2018. Bharat me vansh Coelogyne: Vartmaan paridrishya. In: P. Singh & al. (eds.), *Bharat Ki vanaspati vividhta ke naye ayaam.* BSI Kolkata, pp. 22-38.

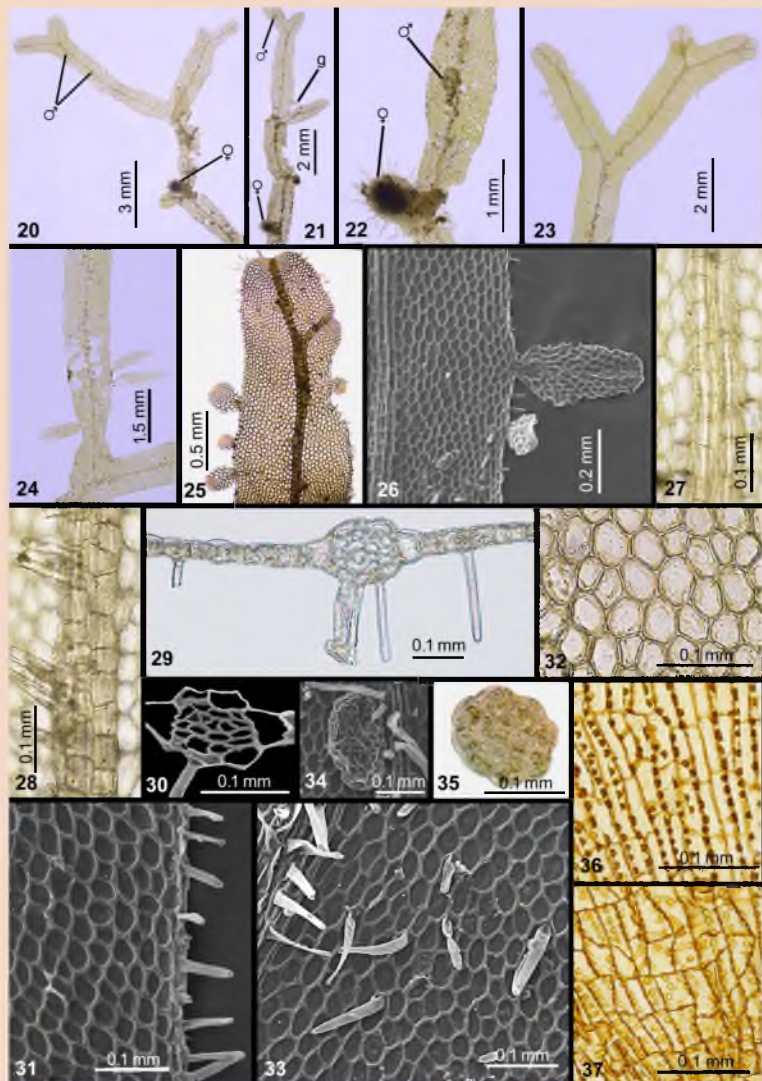
Singh, S.K. and Singh, D.K. 2018. Bharat me vansh Riccia (Hepaticae: Bryophyta) ki vartmaan sthiti. In: P. Singh & al. (Eds.), *Bharat Ki vanaspati vividhta ke naye ayaam.* BSI Kolkata, pp. 71-88.

Singh, S.K. and Kumar, S. 2018.

*Cololejeunea microscopica* var. *microscopica* (Marchantiophyta: Lejeuneaceae) – a new record for India *Bangladesh J. Plant Taxon.* 24(2): 233–236.

Singh, S.K. and Singh, D. 2018. A new species of the genus *Metzgeria* Raddi (Metzgeriaceae, Marchantiophyta) from India *Cryptogamie, Bryologie* 39(1) : 47-53.

Sinha, B.K., Singh, S.K., Kumar, R. and Pandey, S. 2017. Ex-situ conservation of orchids in experimental Botanical Garden, Barapani and Woodland campus, Shillong. In: P. Singh & S.S. dash (eds.) *Indian Botanic Gardens Role in conservation,* pp. 248-259. Botanical Survey of India, Kolkata.



***Metzgeria mizoramensis* Sushil K. Singh & D. Singh (A new species of Marchantiophyta from Mizoram)**

– Dr. S.K. Singh  
Scientist ‘D’ – in Charge

## SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. M.Y. Kamble, Scientist 'D' and Dr. T.S. Saravanan, Bot. Asst. conducted a botanical exploration to Kalakad Mundanthurai Tiger Reserve, Tamil Nadu from 26th February to 4th March 2018 and collected and introduced nine endemic tree species into NOEG, Yercaud.

Dr. S. Kaliamoorthy, Scientist 'D', Dr. T.S. Saravanan conducted a botanical exploration to Mukurthi National Park, Nilgiris, Tamil Nadu from 5th to 11th March 2018 and collected 35 species belonging to 21 genera under 5 families and introduced 30 species belonging to 17 genera under 1 family (Orchidaceae), 5 species belonging to 4 genera under 4 families into NOEG, Yercaud for *ex-situ* conservation.

### Herbarium Identification

Dr. C. Murugan, Scientist 'D' & Hoo and Dr. S. Arumugam, Bot. Asst. completed identification for 100 field numbers pertaining to Meghamalai WLS, Tamil Nadu.

Dr. K.A.A. Kabeer, Scientist 'D' and Sri A. Ravi Kiran, Bot. Asst. completed identification for 24 field numbers in connection with Kodaikanal WLS, Tamil Nadu.

Dr. J.H. Franklin Benjamin, Scientist 'C' and Sri Rakesh G. Vadhyar, Bot. Asst. completed identification for 74 field numbers pertaining to Kanniyakumari WLS, Tamil Nadu.

Dr. R. Manikandan, Scientist 'D' and Ms. R. Mehala Devi, Sr. Pres. Asst. completed identification for 30 field numbers pertaining to North Cauvery North WLS, Tamil Nadu.

Under fragile ecosystem, Dr. M. Palanisamy, Scientist 'D' and Dr. S.K. Yadav, Bot. Asst. completed identification for 141 field numbers of seaweed specimens from Goa coast and collected eight references pertaining to the study area.

In connection with documentation of Phytodiversity, Dr. C. Murugan and Dr. S. Arumugam completed identification for 10 field numbers of Cyperaceae of Tamil Nadu.

### Ex-situ conservation

Dr. S. Kaliamoorthy, Dr. M.Y. Kamble and his team multiplied 67 samples, belonging to 17 taxa, developed seven seedlings, 144 cuttings of three taxa, transplanted two taxa and recorded the phenological data of 29 plants, including 21 orchids and eight other angiosperms at the National Orchidarium and Experimental Gardens (NOEG), Yercaud.

### Scanning Electron Microscopy (SEM)

Ms. R. Mehala Devi and Ms. M. Ananthalakshmi, Sr. Pres. Assts. studied the nutlets of 28 taxa of the tribe Cyperae and Fimbristyledeae from South India.

### Database service

40 Type images were scanned into JPEG image and 21 type herbarium specimens were incorporated.

Database of Kerala grasses, Flora of Tamil Nadu grasses, Flora of Madurai District, Flora of Satyamangalam and Flora of Upper Bhavani (8858 Accession numbers) were normalized and printed for Ledgering.

Database of Indian Zingiberaceae (180) and Gulf of Mannar Biosphere Reserve (75) were normalized and printed for Ledgering.

Content for the Database of MH, Vol. 1 was prepared and finalized.

### Public service rendered

Identified 58 plant species for the students/research scholars of various institutions.

Digital images of *Tripogon jayachandranii* Arum. & Murugan and *Tripogon paramjitianus* Murugesan, Arum. & Kabeer were sent to Ms. Thoiba K., University of Calicut, Kerala and while three digital images of *Polyalthia malabaricus* (Bedd.) I.M. Turner Type: Beddome s.n., MH, accession no. MH561 & *Polyalthia bifaria* sent to Xue Bine, South China Botanical Garden, China, working on *Polyalthia* in Annonaceae.

Dr. M. Palanisamy delivered a guest lecture on Bio resources of Antarctica at Jamal Mohammad College, Trichy on 16.03.2018.



### Meetings/seminar attended

The valedictory function of the Green Skill Development Program (GSDP) – Parataxonomist course was held at this centre on 05.03.2018. Dr. A. Rajendren, Dean, Dept. of Botany, Bharathiar university was invited as the Chief guest, whereas Dr. R. Gopalan (Retd. Scientist, BSI), Professor & Head, Karpagam University, Dr. A. Rajasekaran, Sr. Scientist, IFGTB were invited as subject experts. All the trainees were well satisfied and provided with certificates and mementos.



Photo: SRC

**Releasing of Parataxonomist Course materials during the Valedictory function of GSDP**



**One of the trainees receiving course completion certificate of GSDP from Chief Guest, Dr. A. Rajendran**

Dr. C. Murugan attended convocation of 13th Professional Course (2016-18) of Forest Range Officer Trainees at the Central Academy for State Forest Service, Coimbatore On 13.03.2018.

Sri R. Suresh, Artist Gr 1 and Sri A.T. Durgadas, Artist participated in Botanical Art workshop held at BSI, Shillong, from 12th to 22nd March 2018.

Dr. M. Palanisamy and Dr. S.K. Yadav attended an International seminar on "Coastal and Marine Biodiversity and Conservation (ISCMBC-2018)" organized by CAS in Marine Biology, Faculty of Marine Sciences, Parangipettai, Annamalai University, from 15th to 16th March, 2018 and presented a paper, "Diversity, distribution and taxonomy of marine macro algae of Karnataka coast, India".

An Inspection committee from Bharathiar University visited and inspected the circle for Recognition of Part time Ph.D. and Increase in intake of Ph.D. Scholars at BSI on 26.03.2018.

Dr. S. Arumugam attended the Board of studies meeting, Botany department, Kongunadu Arts and Science College, Coimbatore on 10.03.2018.

### Rajbhasha

Sri S.K. Das, Asst. Director (Rajbhasha), visited SRC, BSI, Coimbatore on 09.03.2018 in connection with the inspection of Rajbhasha progress work at this centre and expressed his satisfaction on the progress made in this regard.

Dr. C. Murugan and Dr. R. Manikandan attended the half-yearly TOLIC meeting held at the BSNL office, Coimbatore on 16.03.2018.

The 4th Quarterly meeting of the Official Language Implementation Committee was held at SRC, BSI, Coimbatore on 20.03.2018.

### Visitors/students

During this month, 670 scientific personnel/officials/students/scholars visited the museum, herbarium and library of this regional centre whereas 947 persons in 62 parties visited the NOEG, Yercaud.



Photo: SRC

**Bharathiar University inspection team observing carpological collections at SRC, BSI, Coimbatore**

**– Dr. C. Murugan**  
Scientist 'D' & HoO

## WESTERN REGIONAL CENTRE, PUNE

Dr. A. Benniamin, Scientist 'D' conducted one herbarium consultation tour to IISC, Bangalore and MGM College, Udupi from 19th to 23rd March 2018 for the project, "Ferns of Karnataka".

Dr. Priyanka Ingle, Scientist 'B' conducted one herbarium consultation tour to Agharkar Research Institute, Pune on 26.03.2018 for the project, "Floristic diversity of Wan Wildlife Sanctuary, Maharashtra".

### Specimen Identification

Dr. J.S. Jalal, Scientist 'D' identified six orchid species and prepared description for the project, "An Assessment of Orchid diversity of Central Western Ghats: Goa".

Dr. C.R. Jadhav, Botanist identified specimens of 30 field numbers for the project, "Floristic survey of Someshwara Wildlife Sanctuary, Karnataka".

Dr. Priyanka Ingle identified specimens of 14 field numbers for the project, "Floristic diversity of Wan Wildlife Sanctuary, Maharashtra".

Sri S.C. Patil, Bot. Asst. identified specimens of seven field numbers for the project, "Flora of Pushpagiri Wildlife Sanctuary, Karnataka".

Ms. A.M. Neelima conducted SEM studies of pollinia of four orchid species for the project, "Seed morphology and cyto-taxonomy of some selected orchids of Northern Western Ghats".

Dr. A. Benniamin, Scientist 'D' identified eight species for the project, "Ferns of Karnataka".

Sri D. Jesubalan, Bot. Asst. identified specimens of four field numbers for the project, "Pteridophytic flora of Pushpagiri Wildlife Sanctuary, Karnataka with 10% periphery".

Sri D. Tripathi, Senior Project Fellow identified four species for the project, "Pteridophyte flora of Kudremukh National Park, Karnataka".

Dr. Rashmi Dubey, Scientist 'D' processed 15 samples and identified specimens of nine field numbers for the project, "Taxonomic Studies of Micro fungi of Sanjay Gandhi National Park along with its 10% peripheral area".

Ms. Shreya Sengupta, Senior Project Fellow identified three micro fungi for the project, "Microfungi of Biligiri Rangaswamy Temple wildlife Sanctuary, Karnataka".

### Public service rendered

During this month 22 plant specimens identified and issued authentication certificates to students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

### Workshop/meeting/seminar/programme attended

Dr. Maranko, Regional Director, Wildlife Crime Control Bureau, Mumbai along with Dr. R. Burman, Wildlife Inspector, Mumbai visited WRC and "Sensitization Program on Wildlife Crime" was conducted to the GSDP trainees and BSI staff on 01.03.2018.

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO has attended the one day workshop on the occasion of International Day of Forests (21st March) and World Water Day (22nd March) as a Guest of Honour organized by Maharashtra Forest Dept., Biospheres & Dept. of Botany, SPPU, Pune in Department of Botany, Savitribai Phule Pune University, Pune.

Dr. J.S. Jalal has attended National Conference on 'Current Trends in Conservation, Sustainable Development and Biological and Social Benefits of Medicinally and Floriculturally Significant of Orchids' at Wayanad, Kerala and presented a paper on "Status of Orchids in different Protected Areas of Goa" during 16th to 18th March 2018.

Dr. Priyanka Ingle has attended National Seminar on 'Himalayan Plant Diversity: Taxonomy, Conservation and Sustainable Utilization' at ERC, BSI, Shillong from 8th to 9th March 2018 and presented a paper on the topic 'Characterizing the potential weed from Onion fields that resembles high morphological similarities with Onion by using molecular techniques'.

Dr. Ingle also attended quarterly Hindi Rajyabhasha meeting on 15.03.2018 at CDAC, Pashan, Pune.

National Level Hands on Training Workshop on "Cytological Techniques" was organized by Western Regional Centre, Botanical Survey of India, Pune from 12th to 16th March 2018.





Field tour to Matheran Ecosensitive zone



Field tour to Alibaug mangrove ecosystem

### Green Skill Development Programme (GSDP)

For GSDP Advanced Course on “Parataxonomist” conducted one field tour to Matheran on 03.03.2018 and visited KF Bioplants on 06.03.2018. Conducted a field tour to Indian Institute of Geomagnetism, Alibagh as well as the mangrove ecosystem in Alibaug areas on 13.03.2018.



Green Skill Development Programme valedictory function and certificate distribution to the students

At the end of the course for assessment purpose, theory and practical exams were conducted to the trainees on 20.03.2018. Course completion Certificates were issued to the students by Dr. Rekha Deshmukh on the occasion of valedictory function of GSDP training course on 25.03.2018.

### Visitors/students

Prof. S.C. Verma, Prof. V. Irudayaraj and Dr. A.K. Verma visited WRC during the Cytological Workshop organized in WRC during 12th to 16th March 2018.

Four research personnel viz., Mr. S.A. Deshmukh, Shivaji University, Ms. Sneha Bramhanande, Dr. Mayur Nandikar NGCPR, Shirwal and Dr. Vijaykanth, St. Joseph College, Tirunelveli visited herbarium of WRC for consultation of specimens.

### Publications

Hoque, A., Lakshminarasimhan, P. and Maity, D. 2017. *Dioscorea polystachya* (Dioscoreaceae): A new record for India. *Rheedea* 27(2): 152–155.

Lakshminarasimhan, P. and Arisdason, W. 2018. History, Kinds and Importance of Herbarium In: Maity, D. (Ed.) Taxonomy: Theory and Practice. Proceeding of first International Workshop under Taxonomy Training Centre, pp. 72-95. AICOPTAX, MoEF & CC, Govt. of India.

Jalal, J.S. and Singh, P. 2017. Ecological Niche Modeling for Conservation of *Habenaria suaveolens* Dalzell and Endangered Orchid Species Endemic to Western Ghats: A Case Study. *J. Orch. Soc. India*. 31: 77–83.

Devendra T., Benniamin, A., Sundari, M.S., Jesubalan, D. and Singh, B. 2017. Medicinal Pteridophytes of Kudremukh National Park, Central Western Ghats, Karnataka, India. *Indian Fern J.* 34: 200–208.

Benniamin, A. and Sundari, M.S. 2017. *Arthromeris Lehmanii* (Mett.) Ching (Polypodiaceae) – A New Generic record For The Pteridophytic Flora Of Western Ghats, *India Indian Fern J.* 34: 196–199.

– Dr. P. Lakshminarasimhan  
Scientist ‘E’ & HoO





Visit of Sri Anil K. Jain, IAS, Additional Secretary, MoEF & CC, New Delhi to Central National Herbarium, BSI, Howrah, releasing of ENVIS Newsletter and distribution of certificates to the GSDP students



Participants of Botanical Art workshop organised by ERC, BSI, Shillong from 12th to 24th March 2018

*Thanks to all the scientists and staff of regional centres and units of BSI for contributing to this Newsletter*

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