

# BSI NEWSLETTER

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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

Dr. (Ms.) Monalisa Dey, Scientist 'B', Cryptogamic Unit visited Kalimpong, Sillery Gaon, Damsang Valley, Pedong, Rishi Khola, Rishap, Kolakham, Lava, Loleygaon of Darjeeling district, West Bengal from 25th February to 11th March 2017 and collected the Bryophyte specimens by utilising 195 field numbers.

Dr. Devendra Singh, Scientist 'D', Cryptogamic unit conducted one field tour to Kohima district, Nagaland (Khonoma, Dzokou Valley, Sihakake, Jelakia, Dzulardi and Tohiba) from 17th to 27th March 2017 and collected specimens of 166 field numbers.

In connection with the project, "Pharmacognosy of Indian Cycads", Dr. A.B.D. Selvam, Scientist 'D' prepared 15 photo plates with regard to habit, leaf anatomy, Leaf surface features and Pollen morphology studied under Light and SEM microscopes of three species of Cycads.

For the ongoing projects such as Algal Flora of Jharkhand, Studies on Wild Mushrooms of Sikkim, Studies on the Macrofungi of AJC Bose Indian Botanical Garden, Wood rotting fungi of Rajmahal hills. Revision of the family Metzgeriaceae in India and Liverworts and Hornworts Flora of Darjeeling District, West Bengal, scientists of Cryptogamic unit identified the specimens and made illustrations.

Sri Manoj Emanuel Hembrom, Botanist submitted Project Report on Fungi part of the project, "EIA studies on Rabindra Sarobar, Kolkata".

### Public service rendered

Dr. A.B.D. Selvam pharmacognostically studied and authenticated four crude drug samples received from M/s Imami Ltd., Kolkata, as detailed below:

*Azadirachta indica* (Meliaceae) – Seeds

*Curcuma longa* (Zingiberaceae) – Rhizome

*Curcuma zedoaria* (Zingiberaceae) – Rhizome

*Piper nigrum* (Piperaceae) – Seeds

Dr. A.B.D. Selvam also pharmacognostically studied and authenticated a root sample of *Saussurea costus* (Asteraceae), which was received from Regional Deputy Director, Wildlife Crime Control Bureau, Western Region, Mumbai.

### Seminar attended

The Scientists of Headquarters, BSI attended an "International Seminar on Forests, Sacred Groves and the Environmental Heritage of India", held at Ashutosh Centenary Hall, Indian Museum, Kolkata on 30.03.2017, which was jointly organized by Botanical Survey of India, University of Sussex, Royal Botanical Gardens, Kew, England and Indian Museum, Kolkata. Some of the important delegates attended the Seminar are Sri A.K. Naik, Regional Director, Forest Survey of India, Kolkata; Sri Agni Mitra, Regional Deputy Director, Wildlife Crime Control Bureau, Kolkata; Prof. Vinita Damodaran, University of Sussex; Prof. Felix Padel, Anthropologist, London; Dr. Rohan D'Souza and Prof. Arun Bandyopadhyay, University of Delhi.

### Publications

Das, S.K. and Singh, D. 2017. Colonization of algae and Cyanobacteria on calcareous remaining of animals in Larsemann Hills, East Antarctica. *Curr. Sci.* 112(5): 113–115.

## CENTRAL NATIONAL HERBARIUM, HOWRAH

In connection with the Lamiaceae of Flora of Bihar and Jharkhand, Dr. V. Sampath Kumar, Scientist 'D' visited the TMB college, Bhagalpur University and consulted the herbarium specimens from 28th to 29th March 2017.

Dr. Rajib Gogoi, Scientist 'D' undertaken local tour to Rabindra Sarobar Lake, Kolkata on 17.03.2017 with Dr. Sudipta Das, PDF and Sri Shyam Biswa, Bot. Asst. in connection with Environmental Impact Assessment (EIA) study of the lake.

### Herbarium identification

Dr. V.P. Prasad, Scientist 'D' identified seven field numbers of Cyperaceae from Bihar for Sri Vijay Mastakar, Bot. Asst. and one species of *Bolboschoenus* for the scientists of Arid Zone Regional Centre.

Dr. Vinay Ranjan, Scientist 'D', Dr. Gopal Krishna and Sri Anant Kumar, Bot. Assts. identified seven field numbers collected from Neora Valley National Park, Darjeeling district, West Bengal.

Dr. O.N. Maurya, Scientist 'C' identified six field numbers collected from Vikramshila Gangetic Dolphin Wildlife sanctuary, Bhagalpur, Bihar.

Sri Anant Kumar corrected identification of one specimen as *Symplocos racemosa* which was collected from Gorumara National Park, Jalpaiguri, West Bengal.

### Public Service rendered

Dr. Prasad identified nine Cyperaceae species for a research student from Department of Botany, LNM University, Darbhanga, Bihar.

Dr. Gogoi identified two species of *Impatiens* sent from Bodoland University, Assam.

Sri Mastakar identified two plant specimens of Leguminosae from CSIR- IICB, Jadavpur, Cancer Biology and Inflammatory Disorder Division, Kolkata.

Dr. P.V. Prasanna, Scientist 'F' & HoO reviewed a manuscript on *Steirachne* (Poaceae: Eragrostidinae) along with Dr. (Mrs.) Sangita Das Chowdhury, PDF for *Journal of Economic Taxonomic Botany*.

Dr. Sampath Kumar reviewed a manuscript on *Alectra sessiliflora* (Orobanchaceae) and sent the comments to the Editor of the *Journal of Economic Taxonomic Botany*.

Dr. Subir Bandyopadhyay, Scientist 'B' reviewed a manuscript for *Journal of Economic Taxonomic Botany*.

Dr. Bandyopadhyay helped Sri P.S. Shameer, Research Scholar, Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Kerala in clarifying some of his taxonomic doubts in *Garcinia* and Pramod Lawand, Shivaji University, Kolhapur to understand the reviewer's comments on the typification of *Argyreia sericea*.

Dr. Bandyopadhyay provided PDF of the protologue of *Eriocaulon xeranthemum* Mart. [in Wall., Pl. Asiat. Rar. 3: 29. 1832] to Dr. Vijay Ashruba Paithane, Assistant Professor, Dept. of Botany, Anandibai Raorane Arts, Commerce and Science College, Vaibhav Vadi, Dist. Sindhudurg, Maharashtra; protologue of *Garcinia oxyphylla* Planch. & Triana – [Ann. Sci. Nat., Bot. sér. 4, 14: 342. 1860] to Sri P.S. Shameer, Research Scholar, Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Kerala.

Dr. Avisek Bhattacharjee, Scientist 'B' provided images of the types of *Eriocaulon xeranthemum* Mart. to Dr. Vijay Ashruba Paithane, Assistant Professor, Dept. of Botany, Anandibai Raorane Arts, commerce and Science College, Vaibhav Vadi, Sindhudurg; of *Xerospermum echinulatum* Radlk. Boonchuang Boonsuk, from Khon Kaen University, Thailand; specimen-images (type and general) of *Bulbophyllum sarcophyllum* J.J. Sm. to Dr. Pankaj Kumar, Conservation Officer, Orchid Conservation Section, Flora Conservation Department, Kadoorie Farm and Botanic Garden (KFBG) Corporation, Hong Kong.

### Meetings/conference attended

Dr. Prasanna attended a meeting with Secretary, MoEF & CC to appraise the land related matter of BSI-DRC at Hyderabad.

Dr. Gogoi attended meeting on EIA of Rabindra Sarobar as Expert Committee member in Najrul Manch, KIT, Kolkata on 25.03.2017.

Dr. Gogoi also attended Capacity Building Workshop on –“Long Term monitoring of Himalayan Biodiversity for stakeholders of Himalayan Region” organized by BSI, ZSI and G.B. Pant Institute of Himalayan Environment & Sustainable Development at Gangtok on 29.03.2017.

Dr. Sampath Kumar attended the National Workshop on ENVIS Centres: Summary Evaluation and Roll out of revamped ENVIS scheme held on 17th and 18th March 2017 at Gandhinagar, Ahmedabad, Gujarat.

CNH officials attended one day International Seminar on Forests, Sacred Groves and the Environmental Heritage of India at Ashutosh Birth Centenary Hall, Indian Museum, Kolkata on 30.03.2017.

Dr. Pushpa Kumari, Scientist 'D' along with Sri Anand Kumar and Dr. Basant Kumar Singh, Presv. Asst., AJCBIBG attended meeting with Principal Chief Conservator of Forests, Bihar; Division Forest Officer, Nawada; Conservator of Forests, Gaya for development of Botanic Garden at Gaya and also visited Floral Biodiversity Park, Gaya (Botanic Garden, Gaya).

### **Hindi Karyashala**

*Hindi Karyashala* was conducted on 29.03.2017 in which Sri Navin Chowdhery, former Hindi Officer, BSI, taught various technical terms in Hindi.

### **Visitors/students**

20 students from K.S P.G collage Faizabad on 01.03.2017. 45 students of B. Sc. Botany (Hons. and General) from Lady Brabourne College, Kolkata on 03.03.2017. 12 students of B.Sc. from Gour Mohun Sachin Manda Mahavidyalaya, Breshwarpur, South 24 Parganas, West Bengal; 15 students of B.Sc. 3rd year (Honours) from Kharagpur Science College, Kharagpur, West Bengal on 06.03.2017. 20 students of B.Sc. from Dr. APJ Abdul Kalam Government College, Newtown, Kolkata, West Bengal; 20 students of Class IXth and Xth standard from Shibpur Dinobondhu Institution on 07.03.2017. 21 students of Class 10th from Arya Bani Mondir Girls High School, Kona, Howrah, West Bengal; 22 students of Class Xth standard from Jagatpur Adarsha Vidyalaya, Uluberia, West Bengal; 27 students of B. Sc. Botany (Hons. and General) from Shree Shikshayatan College, Kolkata on 08.03.2017. 06 students of B.Sc. 2nd year (Honours) from Dr. Kanailal Bhattacharyya College, Ramrajtalla, Santragachi, Howrah, West Bengal on 09.03.2017. 22 students of B.Sc. from RBC College, Kolkata; 33 students of B. Sc. Botany (Hons. and General) from Brahmananda Keshab Chandra College, Bon Hooghly, Kolkata on 10.03.2017. 36 students of Class 10th from Bainan Girls High School, Bainan, West Bengal on 15.03.2017. 40 students of B. Sc. Botany (Hons. and General) from Bidhan nagar Govt. College, Salt Lake, Kolkata; 21 students of Class Xth standard from Dhulagari Adarsha Vidyalaya, Howrah, West Bengal on 17.03.2017. 5 students of B. Sc. Botany (Hons.) from Hiralal Mazumdar College for Women, Kolkata on 20.03.2017. 34 students of B. Sc. Botany (Hons. and General) from Netaji Nagar Day College, Tollygunge, Kolkata; 6 students of B. Sc. Botany (Hons. and General) from Harimohan Ghose College, Kolkata on 21.03.2017. 24 students of B. Sc. Botany (Hons. and General) from Bankim Sardar College, Canning, West Bengal on 22.03.2017. 14 students of M.Sc. from Lady Brabourne College, Kolkata; 12 students of B. Sc. Botany (Hons.) from Nabadweep Vidyasagar College, West Bengal; 5 students of B. Sc. Botany (General) from Sundarban Hazi Desant College, South 24 Parganas, West Bengal on 24.03.2017. R.K. Chingkhel from Dept. of Forestry and Environment Science, Manipur University; 14 students of M. Sc. from Manipur University on 27.03.2017. 28 students of B. Sc. Botany (Hons. and General) from South Calcutta Girls College, Kolkata; 23 students of B. Sc. Botany (Hons.) from Handique Girls' College, Guwahati, Assam; 30 students of B. Sc. Botany from South Calcutta Girls College on 28.03.2017. 35 students of B. Sc. Botany from R.K.M.V.C College, Rahara, Kolkata on 29.03.2017.



**Hindi Kayashala at CNH on 29.03.2017**

### **Publications**

Bandyopadhyay, S. and Bhattacharjee, A. 2017. Doctoral studies carried out at Botanical Survey of India – Part I. *Phytotaxonomy* 16: 143–146.

Bhattacharjee, B., Lakshminarasimhan, P., Mukherjee, S.K. and Bhattacharjee, A. 2017. A new species of *Strobocalyx* (Asteraceae: Cichorioideae: Vernoniae) from India. *Phytotaxa* 299 (2): 280–284.

Bandyopadhyay, S., Krishna, G. and Venu, P. 2017. Names of new taxa published and types deposited – A second case study. *Ann. Pl. Sci.* 6: 1585–1589.

Gogoi, R. and Borah, S. 2017. *Impatiens rugosipetala* sp. nov. (Balsaminaceae) from Arunachal Pradesh, northeast India. *Nord. J. Botany*. doi: 10.1111/njb.01351, ISSN 1756-1051.

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

## CENTRAL BOTANICAL LABORATORY, HOWRAH

Dr. Harish Singh, Scientist 'D' & HoO and Dr. P.A. Dhole, Bot. Asst. identified 65 plant species collected from Nuapada district of Odisha; Sri A.C. Halder, Botanist and Sri P.K. Baske, Botanist, identified 40 plant species collected from Baudh district of Odisha. Dr. K.A. Sujana, Scientist 'D' identified 18 plant specimens collected from Andaman and Nicobar and Sri R. Saravanan, Bot. Asst. documented five endemic trees of Western Ghats. Dr. Monika Mishra studied vegetative and reproductive characters of *Clerodendrum infortunatum* (Lamiaceae) counted chromosome no  $2n= 52$ . Ms. Sagari Chaudhury, SPF analysed Nutraceutical study (total phenolic content, DPPH Radical scavenging activity, ABTS Radical scavenging assay, Estimation of Flavonoid content, Flavonol content estimation, Estimation of Reducing property) of six plants.

### Public service rendered

Dr. K.A. Sujana reviewed one article each for *Taiwania* and for *Annal of Plant Science*.

### Hindi Rajbhasha

Dr. Harish Singh, Dr. K.A. Sujana, A.C. Halder, P.K. Baske, R. Saravanan, Dr. P.A. Dhole and Monika Mishra organized and attended Hindi Workshop on '*karyalaya mein Hindi ka vyavaharik prayog*' at CBL on 17.03.2017.



Dr. Harish Singh delivering welcome speech in Hindi Workshop



Smt. Poonam Dixit, AD, Hindi Rajbhasha teaching to CBL officials

### Seminar attended

Ms Sagari Chaudhury, SPF attended a seminar 'Plants and microbial resources: utilization and conservation', from 15th to 16th March 2017 at Visva-Bharati, Santiniketan and presented a paper on "Evaluating the effects of indigenous migration on the ethnobotanical knowledge of Lodha tribe, West Bengal, India".

Dr. Harish Singh presented a paper on 'Traditional Conservation of some plants in Rural and Tribal Areas of India' and Dr. K.A. Sujana presented a paper on 'Bio-Cultural perspectives of the Sacred Groves and Serpentine Worship' during an International seminar on 'Forests, Sacred groves and Environmental Heritage of India' at Indian Museum Kolkata on 30.03.2017.



Dr. Harish Singh presenting a paper in international Seminar at IM, Kolkata

**Visitors/students visited**

14 Students and two Teachers from Jogamaya Devi College, Kolkata; 29 Students and 02 Teachers from Pingla Thana Mahavidyalaya, Paschim Medinipur; 72 Students and three Teachers from Bangabasi Morning College, Kolkata; 38 Students and four Teachers from Fakir Chand College, 24 Parganas (South); 52 Students and three Teachers from Dinabandhu Andrews College, Kolkata; 45 Students and three Teachers from Ramananda College, Bishnupur, Bankura; nine Students and one Teacher from Lady Brabourne College, Kolkata; six Students and two Teachers from Harimohan Ghose College, Garden Reach Kolkata; 11 Students and one Teacher from Lady Brabourne College, Kolkata; 15 Students and two Teachers from Nabadwip Vidyasagar, Nabadwip; 20 Students and two Teachers from Pantihal Damodar Institution, Howrah, West Bengal and 34 Students-34 and two Teachers from K.S. Saheb PG College, Ayadhya, Faizabad, Uttar Pradesh were visited ethnobotanical museum, CBL Howrah.

**Publications**

Sujana K.A. and Pramanik, A. 2017. Notes on status and distribution of *Combretum pilosum* Roxb. ssp. *razianum* (K.G. Bhat) Chakrab. & P.G. Diwakar. *Ann. Pl. Sci.* 6(3): 1594–1597.

– Dr. Harish Singh  
Scientist 'D' & HoO

**INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA**

The botanical paintings by Roxburgh are being interpreted with updated nomenclature. Under this project, final manuscript of all interpreted taxa from family Zingiberaceae has been prepared and manuscripts of family Convolvulaceae and Cucurbitaceae have been submitted.

**Database of Herbarium Specimens**

As a part of preparing a database of herbarium specimens at BSIS, 140 numbers of Dicot herbarium specimens were listed and documented.

**Updating of Nomenclature of digitized Herbarium Specimens at BSIS**

931 numbers of Digitized Herbarium specimens were updated with valid botanical names, basionyms/synonyms.

**Public service rendered**

Under the Narcotic Drugs & Psychotropic Substances (NDPS) Act, Four samples received from West Bengal Police were identified.

**Workshop/Seminar organised/Exhibition attended/visit made**

Dr. A.K. Sahoo, Scientist 'D', attended a National Seminar at Centre of Excellence, Dept. of Oriya, Visva-Bharati, Shantiniketan and delivered a lecture on "Medico-religious belief and traditional use of some plants of tribal community of Odisha, India" from 2nd to 4th March, 2017 and another National Seminar at North Orissa University, Baripada from 22nd to 23rd March, 2017 and delivered a lecture on "Traditional Knowledge in pursuit of conservation of some plants by tribal community in Odisha".

Sri D.L. Shirodkar, Botanist attended a national seminar on "Understanding Himalayan Phytodiversity in a changing climate" held at SHRC, Botanical Survey of India, Gangtok from 9th to 10th March 2017.

Dr. M. Bhaumik, Scientist 'D' & HoO and Sri B.C. Dey, Sr. Presv. Asst. arranged for group of Dum Dum Kishore Bharti High School students visit of Botanical Gallery & Exhibition on 'Joseph Dalton Hooker: Botanical Trailblazer and the Botanical Heritage of India' as a collaborative scientific exhibition programme of CWEH, University of Sussex, UK with BSI and Sri B.C. Dey delivered a lecture on 'Potential dye yielding plants of India' on 18.03.2017.

All scientists and scientific staff participated in “International Seminar on Forests, Sacred Groves and the Environmental Heritage of India” jointly organized by Botanical Survey of India, University of Sussex, England and Indian Museum, Kolkata on 30.03.2017 at Ashutosh Birth Centenary Hall, Indian Museum, Kolkata. Sri Ajaya K. Naik, Regional Director, Forest Survey of India, Sri Agni Mitra, Regional Deputy Director, Wildlife Crime Control Bureau, Eastern region, Kolkata, Prof. Vinita Damodaran, Prof. Felix Padel, Prof. Arun Bandhopadhyay, Prof. Subhasish Biswas, Dr Rohan D’souza, Prof. Mahua Sarkar and Prof. Sutapa Sarkar visited Botanical Gallery and J.D. Hooker’s Exhibition at ISIM on 30.03.2017.



Dignitaries on the stage during International Seminar on Forests, Sacred Groves and the Environmental Heritage



Welcome address by Dr. P. Singh, Director, BSI during International Seminar



Address by Chief Guest Sri Ajaya K. Naik, Regional Director, Forest Survey of India



Prof. Felix Padel, Anthropologist, London visiting Botanical Gallery at ISIM



Participants of International Seminar on Forests, Sacred Groves and the Environmental Heritage of India

**Publications**

Bhaumik, M., Langhu, T., Dey, S., Deb, C.R. and Jamir, N. S. 2017. Two new species of *Monolophus* (Zingiberaceae) from India. *Kew Bull.* 72: 6. DOI 10.1007/S12225-017-9687-4.

– Dr. Manas Bhaumik  
Scientist ‘D’ & HoO

## ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. C.P. Vivek, Bot. Asst. conducted a tour to New Kesaridera Dam Reservoir (Middle Andaman) and Old Kesaridera Dam site (Middle Andaman) from 02.03.2017 to 05.03.2017. Listed a total of 231 plant species belong to 111 families from the dam sites with 231 photographs of the same, identified them and submitted the final report in the office.

Dr. Vivek also conducted a tour to Dhanikhari dam site, South Andaman on 16.03.2017. Listed a total of 147 plant species belong to 63 families growing at the dam sites with 207 photographs of the same, identified them and submitted the final report in the office.

Dr. T.A.M. Jagadeesh Ram, Scientist 'D' conducted a herbarium consultation tour to Agharkar Research Institute, Pune (AMH) from 19.03.2017 to 26.03.2017 and consulted the Holotypes of 87 species which were described from the Andaman and Nicobar Islands preserved in AMH.

### Herbarium identification

Dr. Sanjay Mishra, Scientist 'B' identified eight herbarium specimens.

Dr. C.P. Vivek identified 10 herbarium specimens.

Sri Gautam Anuj Ekka, Pres. Asst. identified eight herbarium specimens.

### Digitization of herbarium specimens

**Herbarium sheets Scanned:** 52 nos. of family Myristicaceae.

**Herbarium details computerized in EXCEL format:** 750 herbarium specimens of families Verbenaceae, Avicenniaceae, Lamiaceae, Nyctaginaceae, Amaranthaceae, Polygonaceae and Aristolochiaceae were fed in the computer in a prescribed format.

**Bar code label pasting:** 200 sheets.

### Public service rendered

Dr. Lal Ji Singh, Scientist 'D' & HoO delivered an invited lecture on 'Floristic diversity & Endemism and its Conservation in Andaman and Nicobar Islands and its conservation' on 18.03.2017 during one week thematic course for frontline staff (Foresters) at Forest Training Institute, Wimberlygunj, South Andaman.

Seedling of *Mangifera andamanica* King (1 no.), seeds of *Areca triandra* Roxb. ex Buch.- Ham. (15 nos.), *Cycas rumphii* Miq. (10 nos.), *Horsfieldia glabra* (Blume) Warb. (20 nos.), *Knema andamanica* (Warb.) de Wilde ssp. *andamanica* (20 nos.), *Pterocarpus dalbergioides* Roxb. ex DC. (25 nos.) and fruit of *Cerbera odollam* Gaertn. (3 nos.) were provided to Dr. R. Gurav, Assistant Professor, Department of Botany, Shivaji University, Kolhapur.

### Rajbhasha meeting

Quarterly meeting of Rajbhasha held on 10.03.2017 at ANRC, BSI, Port Blair.

### Hindi workshop

Two days Hindi workshop was organized at main office, as well as Dhanikhari Experimental Garden cum Arboretum (DEGCA), Nayashahar on 29.03.2017 and 30.03.2017 respectively.

### Foundation Day celebration

Foundation Day of ANRC was celebrated on 30.03.2017.

Photo: C.P. Vivek



Celebration of 45th Foundation Day of BSI, Andaman and Nicobar Regional Centre, Port Blair

### Meeting/conference/function attended

Dr. Lal Ji Singh, Scientist 'D' & HoO attended three-day National Conference on Climate Change, Biodiversity and Bio-resource management as a guest of honour and participant at JNRM, Port Blair.

Dr. Singh attended the passing out ceremony of 50th Forest Guards at the Forest Training Research Institute, Wimberligunj on 02.03.2017.

Dr. Singh participated State Board for Wild Life Advisory Committee Meeting at Raj Niwas, Port Blair under the Chairmanship of Hon'ble Lt. Governor, Andaman and Nicobar Islands on 08.03.2017.

Dr. Singh participated meeting of the wetland committee at the Department of Environment and Forests, Andaman and Nicobar Islands on 22.03.2017.

Dr. Singh attended National Workshop on Mainstreaming Coastal and Marine Biodiversity of India at Port Blair from 23rd to 25th March 2017.



**Dr. Lal Ji Singh, delivering lecture during training program for Forest Guards at the Forest Training Research Institute**

### Visitors/students

Sri P.S. Shameer, Senior Research Fellow and Sri Govind, Research Fellow, Jawaharlal Nehru Tropical Botanic Garden and Research Institute National Botanical Research Institute, Thiruvananthapuram visited garden on 03.03.2017.

Dr. R. Gurav, Assistant Professor along with 4 students, Department of Botany, Shivaji University, Kolhapur visited Library and Herbarium on 10.03.2017.

Sri Brajen Gogoi, M.Sc. Final year student visited garden on 15.03.2017.

Sri Subrata Deasi, AAO, PAO (BSI/ZSI), Kolkata along with 4 members visited Library and Herbarium on 15.03.2017.

Dr. M. Subba Rao, Pr. Scientist, ANGR Agriculture University, Perumalla, Triputi, Andhra Pradesh along with 4 members visited garden on 20.03.2017.

Sri Rajesh, CCF, Department of Environment and Forest, Port Blair visited Library and Herbarium on 22.03.2017.



**Sri Rajesh, CCF, Department of Environment and Forest, Andaman & Nicobar Islands at Herbarium, ANRC**

Photo: G.A. Ekka



**Forest Trainees along with Instructors, Forest Training Institute, Wimberligunj at Garden, ANRC, BSI, Port Blair**



Photo: C.P. Vivek

**Dr. P.M. Padhye, Scientist 'F' at  
BSI Garden, ANRC, Port Blair**



**Sri Anil Sant, Joint Secretary, MoEF & CC viewing  
recently described new species *Musa paramjitiana***

Sri A.K. Rastogi, Chief Engineer, Govt. of India, MoEF & CC, New Delhi visited Library and Herbarium on 22.03.2017.

Two instructors along with 21 foresters, Forest Training Institute, Wimberligunj visited Garden on 23.03.2017.

Dr. P.M. Padhye, Scientist 'F' and HoO, BSI, Kolkata visited Herbarium, Library and garden on 23.03.2017 and 24.03.2017 respectively.

Sri Anil Sant, Joint Secretary, MoEF & CC visited Herbarium and Library on 24.03.2017.

Ms. M. Meenu, M.Sc. final year student, JNRM College visited Library and Garden on 27.03.2017 and 31.03.2017 respectively.

55 students, Tagore Govt. College of Education, Port Blair along with 4 faculty members to visit Garden, ANRC, BSI on 29.03.2017.

Dr. Tao Chen, Dy. Director, Shenzhen & Chinese Academy of Sciences, China visited Office and Garden on 29.03.2017 and 30.03.2017 respectively.

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

## ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

The final project report for Flora of Pakhui Wildlife Sanctuary, East Kameng district was submitted by Sri B.B.T. Tham, Botanist.

Dr. Krishna Chowlu, Scientist 'B' identified and description prepared along with coloured photo plates for four species of Orchids and entered collection data in 40 herbarium sheets in connection with 'Red listing of orchids of Arunachal Pradesh as per IUCN criteria'.

Dr. Souravjyoti Borah, Botanist prepared descriptions for 26 species in connection with 'Flora of Lohit District and Flora of Kamlang WLS, Arunachal Pradesh'.



***Dendrobium vexabile* (Orchidaceae)**



***Dendrobium nobile* (Orchidaceae)**

### Herbarium Specimen Identification

Dr. Manish K. Kandwal, Scientist 'D' is on herbarium tour to ASSAM, Shillong from 31.03.2017.

Dr. Umeshkumar Tiwari, Scientist 'B' identified 16 species in connection with "Flora of East Kameng, Arunachal Pradesh" and another 15 old unidentified collection deposited in ARUN.

### Programme attended/conducted

Dr. V.K. Rawat, attended a conference organised by Indian Fern Society at IISER, Pune from 3rd to 4th March 2017.

Dr. Krishna Chowlu went to SHRC, BSI, Gangtok, as a member in organizing committee for the seminar on "Himalayan Biodiversity in changing Climate" and gave oral presentation on *Diplomeris pulchella* D. Don.

### Public Service rendered

Dr. Chowlu visited Institute of Advance Study in Science and Technology, Guwahati as consultant for setting up of Orchidarium in the institute.

### Visitors/students

Two research Scholar from Rajiv Gandhi University, on 07.03.2017 for Library consultation.

– Dr. V.K. Rawat  
Scientist 'D' & HoO

## ARID ZONE REGIONAL CENTRE, JODHPUR

Sri Vinod Maina, Scientist 'D' & HoO, Dr. Ramesh Kumar, Scientist 'C' and Dr. C.S. Purohit, Scientist 'B' undertaken field tour to Great Runn of Kutchh Biosphere Reserve, Bhuj, Gujarat from 23rd to 29th March 2017 and collected relevant information and taken photographs of different landscapes and plants for writing a book chapter on Great Runn of Kutchh Biosphere Reserve, Gujarat as desired by the Director, BSI and MoEF & CC, New Delhi.



A view of white Rann from Kaladungar, Gujarat

### Herbarium identification

Specimens of 171 field numbers identified during the month of March 2017, which includes 123 field numbers of Flora of Shoolpaneshwar WLS, Narmada Dist., Gujarat by Dr. S.L. Meena and Dr. Peddi Harikrishana, 10 field numbers of Flora of Todgarh-Raoli WLS, Rajasthan by Dr. C.S. Purohit, 38 field numbers of Flora of Sariksa Tiger Reserve, Alwar Dist., Rajasthan by Dr. M.K. Singhadiya and Sri Ravi Prasad.

### Public service rendered

Identified one herbarium specimen of *Tephrosia purpurea* (L.) Pers. for Miss Arpana Choudhary, M.Sc. Student, Lachu Memorial College, Jodhpur on 20.03.2017.

### Hindi workshop

A Hindi workshop was organised on Biotechnology and its uses at this office on 31.03.2017 and Dr. D.D. Ozha, Retd. Scientist 'G', Central Ground Water Board, Jodhpur was the main speaker.



*Capparis decidua* in blooming at Kutch Biosphere Reserve, Gujarat



Lifestyle in Dolavera village, Kutch, Gujarat

### Seminar/exhibition attended

Sri Ravi Prasad, Bot. Asst. participated in National seminar on “Understanding Himalayan Phyto-diversity in Changing Climate” organised by SHRC, BSI, at Chintan Bhawan, Gangtok, Sikkim during 9th to 10th March,



Dr. D.D. Ozha, Ret. Scientist 'G', Central Ground Water Board, Jodhpur delivering speech at Hindi workshop



Dr. Ramesh Kumar delivered lecture at Gujarat Institute of Desert Ecology, Bhuj

2017 and presented a paper on Zingiberaceae – the new hope for farmers in Lepcha dominated Tarzon and Lanku villages of Darjeeling district in West Bengal. Sri Prasad participated in the Workshop on “Organic Farming in connection with ‘One World Award’ at Samman Bhawan, Gangtok organised by Chief Minister’s Office of Sikkim in presence of Hon’ble Chief Minister of Sikkim Sri Pawan Kr. Chamling on 10.03.2017.

Dr. C.S. Purohit, Sri Ravi Prasad, Dr. P. Harikrishna and Sri Ranjeet Meghwal, MTS participated and represented the BSI stall in Vriksha Utpad Mela cum exhibition at AFRI, Jodhpur on 21.03.2017 and displayed the museum specimens and ethno-botanical artefacts, BSI publication, live plants and aware visitors about BSI activities, plant importance, herbarium, ethno-botany etc. Sri Vinod Maina, Dr. Ramesh Kumar and Dr. M.K. Singhadiya, Botanist also visited the stall.

Dr. Ramesh Kumar delivered a lecture on “Ginger Diversity in India-A great hope in Pharmaceuticals” at Gujarat Institute of Desert Ecology (GUIDE), Bhuj on 27.03.2017.

### Plant conservation

Recorded phenological data for 41 plants species of desert botanic garden, AZRC, Jodhpur.

### Visitor

Dr. D.D. Ozha, Ret. Scientist 'G', Central Ground Water Board, Jodhpur visited this office on 31.03.2017.

### Publication

Purohit, C.S., Kumar, R. and Maina, V. 2017. A Note on occurrence of the Genus *Porteresia Tateoka* (Poaceae) in Gujarat. *Indian J. Forestry* 39(4): 377–380.

– Sri Vinod Maina  
Scientist 'D' & HoO

## CENTRAL REGIONAL CENTRE, ALLAHABAD

In connection with the project, 'Floristic Diversity of Bhoj Wetland, M.P.', a herbarium consultation tour was conducted by Dr. Arti Garg, Scientist 'D', to SFRI, Jabalpur and Sagar University, Sagar from 1st to 7th March 2017.

For the project 'Floristic Diversity of Kishanpur Wildlife Sanctuary, Lakhimpur, Kheri'- U.P.' a field tour was conducted by Dr. Neelam K. Gautam, Scientist 'B' from 24th February to 2nd March 2017, a total of 151 field numbers were collected along with GPS data and about 200 field photographs.



*Woodfordia fruticosa* (Lythraceae)



*Elephantopus scaber* (Asteraceae)

### Herbarium identification

A total of 103 species belonging to 216 specimens were identified in connection with the projects, 'Floristic Diversity of Bhoj Wetland, M.P.', 'Floristic Diversity of Chandraprabha Wildlife Sanctuary, U.P.', 'Floristic Diversity of Kishanpur Wildlife Sanctuary, Lakhimpur, Kheri, U.P.' and 'Floristic Diversity of Parvati Aranga Wildlife sanctuary and adjoining Tikri forest area, Gonda, U.P.'

For the project 'Lichens of Rajasthan, and Kutch Gujarat' a total of 10 species belonging to 32 specimens were also identified. For Flora of India Project 'Taxonomic studies on lichenized non Thelotremoid Indian Graphidaceae' and Lichens of Terai regions of Uttar Pradesh' 18 species and 14 specimens respectively were identified. Eighteen specimens collected by Dr. G.P. Sinha from Pachmarhi Biosphere Reserve, Madhya Pradesh during October 2016 were also identified in to 14 species.

Completed taxonomic description of 31 species for the ongoing projects 'Flora of Chhattisgarh Vol. I', 93 species for 'Flora of Chhattisgarh' Vol. II., 23 species for 'Flora of Chandraprabha Wildlife Sanctuary, Chandauli, UP.', 10 species for 'Floristic Diversity of Parvati Aranga Wildlife sanctuary and adjoining Tikri forest area, Gonda, U.P.' In addition, 48 earlier collected specimens housed at BSA were also identified.

Dr. A.N. Shukla, Scientist 'B' recorded phenological data of 21 species growing in Associated Botanic Garden of this regional centre.

Sri Vineet Kumar Singh brought live germplasm of *Pterocarpus marsupium*, *Dalbergia latifolia* and *Litsea glutinosa* for introduction in Associated Botanic Garden of the regional centre.

### Seminar/workshop attended

Dr. G.P. Sinha, Scientist 'E' & HoO, Dr. A.N. Shukla, Dr. Ashutosh Kumar Verma, Scientist 'B', Sri Vineet Kumar Singh, Bot. Asst. and Dr. Nitisha Srivastava, Bot. Asst. attended a National Seminar on 'Agro-forestry- An approach for Livelihood Improvement' organised by Centre for Social Forestry and Eco-rehabilitation, Allahabad, held at National Academy of Sciences, Allahabad on 03.03.2017.

Sri Vineet Kumar Singh attended a training workshop on "Ecological Field Techniques" from 28th February to 2nd March 2017 at TFRI, Jabalpur (M.P.).

### Identification services rendered

Dr. Nitisha Srivastava, Bot. Asst. authenticated 38 specimens: 1 each received from Shambhunath Institute of Pharmacy (SIP), Jhalwa, Allahabad collected by Ms. Priyanka Verma and Institute of Pharmacy, Bundelkhand University, Jhansi collected by Sri Rahul Pant and 36 received from National Center for Natural Resources, Pt. Ravishankar Shukla University, Raipur, Chattisgarh.

### Public service rendered

Dr. Neelam Gautam conducted practical examination of B.Sc. III as an External Examiner in S.S. Mahavidyalaya, Raebareli on 03.03.2017 and D.B.D.C, Bachhrawan, Raebareli on 04.03.2017.

Dr. A.N. Shukla served as an External Examiner at Department of Botany, S.K.M. University in connection with Ph.D. viva-voce examination of Mrs. Anuradha Das, Research Scholar, Department of Botany, S.K.M. University, Dumka, Jharkhand.

### Publications

Tiwari, A.P. 2017. Lectotypification of *Indopiptadenia oudhensis* (Leguminosae: Mimosoideae). *Phytotaxa*. 297(3): 282–284.

Tiwari, A.P., Gavade, S. and Mujaffar, S. 2017. Lectotypification of *Lophopogon kingii* (Poaceae: Andropogoneae). *Phytotaxa*. 296(3): 295–296.

Mujaffar, S., Tiwari, A.P. and Chandore, A.N.A. 2017. New species of *Chlorophytum* (Asparagaceae) from Madhya Pradesh, India. *Phytotaxa*. 291(2): 159–162.

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

## EASTERN REGIONAL CENTRE, SHILLONG

Three field tours were conducted: Tawi Wildlife Sanctuary, Aizawl, Mizoram from 7th to 15th March 2017, Sohra and Sumer forest areas of Ri-bhoi District, Meghalaya on 25.03.2017, by Dr. M. Murugesan, Scientist 'B' and Sri L.R. Meitei, Bot. Asst.) collected 45 live plants species for introduction in EBG. and Dr. A.V. Prabhugaonkar, Scientist 'B' to Mawsynram forest on 19.03.2017 for collection of plant litter.

During this period, identified 12 species for Flora of Eastern Nagaland (Dr. N. Odyuo, Scientist 'D' and Dr. R. Daimary, Bot. Asst.), 22 species for Flora of West & South-West Khasi hills district, Meghalaya with reference to the sacred groves (Dr. Chaya Deori, Scientist 'D' and Sri S.R. Talukdar, Bot. Asst.), 10 for Flora of Amchang Wildlife sanctuary, Kamrup, Assam (Dr. A.A. Mao, Scientist 'F' & HoO and Nandita Sarma, Sr. Presv. Asst.) and 10 species described for Flora of Yangoupokpi Lokchao WLS, Manipur (by Dr. A.A. Mao and Sri L.R. Meitei) and Dr. A.A. Mao, Dr. N. Odyuo and Dr. D.K. Roy, Bot. Asst. Collection of literature related to flora of Nagaland for *Flora of Nagaland* (Vol. I & II).

Bryoflora of Mizoram: Prepared generic Key for all the 58 genera and 289 species found in the Mizoram and finalising the report on Bryoflora of Mizoram; taxonomic description completed 6 species of *Riccia*: *Riccia beyrichiana* Hampe, *Riccia billardieri* Mont. & Nees, *Riccia discolor* Lehm. & Lindenb, *Riccia grollei* Udar, *Riccia sorocarpa* Bisch., *Riccia stricta* (Gottsche, Lindenb. & Nees) Perold by Dr. S.K. Singh, Scientist 'D'.

Dr. M. Murugesan, Scientist 'B' and Sri L.R. Meitei recorded phenological data of flowering and fruiting of 56 plant species, viz., *Aesculus assamica* Griff., *Allamanda cathartica* L., *Alpinea malaccensis* (Burm.f.) Roscoe, *Areca triandra* Roxb. ex Buch.-Ham., *Artocarpus heterophyllus* Lam., *Bauhinia variegata* L., *Berginia ciliata* (Haw.)Sternb., *Bougainvillea glabra* Choisy, *Bulbophyllum delitescens* Hance, *Bulbophyllum polyrhizum* Lindl., *Bulbophyllum umbellatum* Lindl., *Callistemon citrinus* (Curtis) Skeels, *Caryota urens* L., *Cerasus cerasoides* (Buch.- Ham.ex D. Don) S.Y. Sokolov, *Citrus medica* L., *Coelogyne cristata* Lindl., *Coelogyne flaccida* Lindl., *Coelogyne fimbriata* Lindl., *Coelogyne punctulata* Lindl., *Coelogyne viscosa* Rchb.f., *Coffea arabica* L., *Cunninghamia lanceolata* (Lamb.) Hook., *Cycas pectinata* Buch-Ham., *Dendrobium fimbriatum* Hook., *Dendrobium nobile* Lindl., *Dendrobium ruckeri* Lindl., *Dracaena angustifolia* (Medik.) Roxb., *Duabanga grandiflora* (DC.) Walp., *Elaeagnus latifolia* L. *Elaeocarpus floribundus* Blume, *Eria amica* Rchb.f., *Eria biflora* Griff., *Eria lasiopetala* (Wild) Ormerod, *E. paniculata* Lindl., *Erythrina arborescens* Roxb., *Esmeralda cathartii* (Lindl.) Rchb.f., *Eurya accuminata* DC., *Gmelina arborea* Roxb., *Gnetum gnemon* L., *Goodyera procera* (Ker-Gawl.) Hook., *Hibiscus rosa-sinensis* L., *Iris latifolia* (Mill.) Voss, *Melastoma malabathricum* Linn., *Micromelum integerrimum* (Buch.-Ham. ex Candolle) Wight & Arnott ex M. Roemer, *Ocotea lancifolia* (Schott) Mez, *Paphiopedilum venustum* (Wall. ex Sims) Pfitzer, *Phaius flavus* (Blume) Lindl., *Phaius tancavilleae* (L'Her.) Blume, *Syzygium jambos* L.( Alston), *Syzygium tetragonum* (Wight) Wall. ex Walp., *Tainia minor* Hook.f., *Vanda bicolor* Griff., *Wendlandia wallichii* Wight & Arn. and *Zanthoxylum acanthopodium* DC. and *Zeuxine affinis*.

Approximately 200 seedlings were subcultured. Seed germination experiment of *Illex khasiana* was carried out. Data analyze, interpretation, literature survey for *Armadorum senapatianum*, *Cymbidium tigrinum* was done. Subcultured *Armadorum senapatianum*, *Nepenthes*, callus of *Cymbidium tigrinum*. Under the project Micro-propagation of RET Plants of Northeast India (by Dr. A.A. Mao, Scientist 'F' & L. Ibemhal Chanu, Bot. Asst.). Under Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species by Dr. Deepu Vijayan, Scientist 'B', Well rooted *in vitro* raised plants of *Pyrenaria khasiana* was transferred to green house for acclimatization (30 numbers).

#### Public service rendered

Identified about five samples of specimens received from various institutions. Dr. A. A. Mao and Dr. S.K. Singh visited Nonglwai Orchid Conservation Society at Nonglwai village, West Khasi Hills on 28th March 2017 and identified 53 Orchid species which were flowering.

#### Function/lecture attended/delivered

Dr. Deepu Vijayan delivered a lecture on "Conservation of forest resources and biodiversity" on the occasion of "International Forestry Day" conducted by North East Regional Institute of Education, NCERT, Shillong on 21.03.2017.

Ms. R.K. Nilasana Singha, SRF, Presented poster on "In vitro callus induction and regeneration of shoots from seed cotyledons of *Ormosia robusta* Baker, a rare and threatened plant of north eastern India" at North- Eastern Hill University, Shillong on 23.03.2017.

Smt. R.K. Nilasana Singha, SRF, Attended lecture series on "Emerging Horizons in Life science" by Prof. S.K. Sopory and Prof. A.N. Lahiri Majumder at North-Eastern Hill University, Shillong on 24.03.2017.

#### Visitors/students

Four professors, two lecturers, four research scholars, seventy eight students, one Deputy Secretary and one Under Secretary, MoEF & CC, six other visitors from various Institutions, Colleges and Universities visited the Centre.

– Dr. A.A. Mao  
Scientist 'F' & HoO

### NORTHERN REGIONAL CENTRE, DEHRADUN

Identified total 71 species and made descriptions for 65 species of plants for the projects on Flora of Uttarakhand Vol. V; Floristic Diversity and Phytosociological study of Simbalbara National Park; Flora of Nandhour Wildlife Sanctuary; Flora of Sonanadi Wildlife Sanctuary; Flora of Sechu-Tuan Nala Wildlife Sanctuary, Himachal Pradesh; Trees of Dehradun city and its vicinity; Revision of family Cyatheaceae and genus *Adiantum* in India.

#### Function/symposium attended

Scientists of BSI, NRC attended "Spring Festival, 2017" on 4th and 5th March 2017 as competition Judge at Raj Bhavan, Dehradun.

Drs. K. Ambrish and R. Manikandan, Scientist 'D' attended a National Conference on "Medicinal Plants: Cultivation and Marketing" on 17th March 2017, organized by Dept. of Extension, ICFRE, Dehradun.

Dr. Brijesh Kumar, Bot. Asst. participated in National Symposium on "The Genomic Age Challenges and opportunities in Taxonomy and Biology of Indian Pteridophytes" organized by BSI and The Indian Fern Society at Pune from 3rd to 4th March, 2017 and presented a poster on topic entitled, "Genus *Adiantum* L. in Western Himalaya" and secured first prize.



Photo: P.K. Pusalkar

*Ranunculus hirtellus* var. *humilis* (Ranunculaceae) –  
New Record for India



Photo: WRC

Dr. Brijesh Kumar receiving first prize in poster presentation in National Symposium organised by BSI and The Indian Fern Society at Pune



Photo: ICFRE

Dr. K. Ambrish and Dr. R. Manikandan at National Conference on Medicinal Plants: Cultivation and Marketing organized by ICFRE, Dehradun

### Visitors/students

Dr. S.N. Hegde from State Forest Research Institute, Itanagar visited the centre.

A group of M.Sc. students from GGS Indraprastha University visited the herbarium and garden of the centre.

A group of 30 students from Doon Public School visited the center.

### Publications

Manikandan, R., Kumar, P., Srivastava, S.K. and Panwar, G.S. 2017. *Threatened Medicinal Plants in Govind Pashu Vihar Wildlife Sanctuary, Western Himalaya*. Proceeding Workshop on High Altitude

Medicinal Plants organized by ICRFE, Dehradun, held during 21–22 March, 2016, pp. 64–67.

Panwar, G.S., Manikandan, R., Kumar, P. and Srivastava, S.K. 2017. *High Altitude Medicinal Plant Diversity and Conservation Strategies in Uttarakhand: An Overview*. Proceeding Workshop on High Altitude Medicinal Plants organized by ICRFE, Dehradun, held during 21–22 March, 2016, pp. 68–79.

Kumar, P., Manikandan, R., Panwar, G.S. and Srivastava, S.K. 2017. Diversity of high altitude ethno-medicinal plants in Himachal Pradesh. *Indian For.* 143(2): 165–179.

Pusalkar, P.K. and Srivastava, S.K. (2016) 2017. *Ranunculus hirtellus* var. *humilis* W.T. Wang - A New Record for Indian Flora. *Phytotaxonomy* 16: 21–22.



Photo: P.K. Pusalkar

Dr. S.N. Hegde, Former Director, State Forest Research Institute, Itanagar at NRC, BSD, Dehradun

Dr. S.K. Srivastava  
Scientist 'E' & HoO

## SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. David Lalsama Biata, Scientist 'B' identified three Onagraceae species for the project, "Flora of Sikkim-Family Onagraceae".

Dr. Sankararao Mudadla, Scientist 'B' identified five specimens for the project, "Flora of sacred groves.

Sri S.K. Rai, Bot. Asst., identified 08 species from 14 unidentified herbarium sheets.

### Digitisation of Herbarium specimens

550 herbarium sheets were scanned and meta data of 550 sheets belonging to Fabaceae and Rosaceae.

### Seminar/workshop organized

Dr. D.K. Agrawala, during 9th to 10th March 2017, organized the National Seminar on "Understanding Himalayan phytodiversity in a changing climate" as the Convenor-cum-Organizing Secretary.

Dr. D.K. Agrawala during 29th to 30th March 2017, assisted in organizing and participated in the Capacity Building workshop on 'Long term monitoring of Himalayan biodiversity for stakeholders of Himalayan region' under NMHS scheme jointly organized by BSI, ZSI and GBPNIHESD at Gangtok.

#### Training programme/workshop attended

Dr. D.K. Agrawala on 24.03.2017 participated in the training programme on "Organic Farming/Natural Farming and Cow-Based Economy" under Unnat Bharat Abhiyan organized by NRC-Orchids Pakyong.

Dr. D.K. Agrawala on 10th March 2017 participated in the workshop on Organic Farming organized by Hon'ble Chief Minister of Sikkim in connection with "One World Award".

#### Visitors/students

Dr. Tapan Seal, Scientist 'C' from BSI, Howrah visited SHRC from 13th to 17th March 2017.

Five M.Sc. Botany students from Sikkim University visited this center for herbarium consultation on 24.03.2017.

Dr. Rajib Gogoi, Scientist 'D', CNH, BSI, Howrah visited this center for herbarium consultation from 28th March to 3rd April 2017.

#### Publications

Agrawala, D.K. 2017. *Souvenir* of the "National Seminar on Understanding Himalayan Phytodiversity in a Changing Climate", Botanical Survey of India, Sikkim Himalayan Regional Centre, Gangtok. 79 pp.

Agrawala, D.K. and Singh, P. 2017. Rehabilitation of Epiphytic Orchids – a conservation modality. In *Souvenir of National Conference cum Workshop on "Recent Trends in Biology, Culture, Conservation, Commercialization, and Sustainable Utilization of Medicinally and Floriculturally Important Orchids"* organized by The Orchid Society of India (TOSI) jointly with and at Graphic Era University (GEU), Dehradun (Uttarakhand), during March 24–26.

Agrawala, D.K., Singh, P. and Singh D.R. 2017. Orchids: the indicator of climate change. In *Souvenir of Kishan Mela* organized by ICAR-NRC-Orchids, Pakyong.

– Dr. D.K. Agrawala  
Scientist 'C' & HoO



Souvenir release during National Seminar at Chintan Bhavan, Gangtok on 9th March 2017

### SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. J.H. Franklin Benjamin, Scientist 'C' and Sri Rakesh G. Vadhyar, Bot. Asst. undertaken a field tour to Kanniyakumari WLS, Tamil Nadu from 27th February to 8th March 2017 and vouched 162 field numbers. Dr. J.V. Sudhakar, Bot. Asst. and Dr. S. Arumugam, Bot. Asst. conducted a field tour to Kolli hills (Namakkal District) and Shevaroy hills (Salem district), Tamil Nadu from 6th to 11th March 2017 and vouched 57 field numbers of Cyperaceae.



Photo: J.V. Sudhakar

Collection of Cyperaceae from Shevaroy hills, Tamil Nadu

### Identification of Herbarium specimens

Dr. C. Murugan, Scientist 'D' and Dr. S. Arumugam identified 37 field numbers of previous collections in connection with Floristic Assessment of Meghamalai WLS, Tamil Nadu. Dr. M. Palanisamy, Scientist 'D' and Dr. S. K. Yadav, Bot. Asst. identified 119 field numbers of seaweeds and collected 4 references in connection with Seaweed Flora of Karnataka coast. Dr. K.A.A. Kabeer, Scientist, 'D' and Sri A. Ravi Kiran, Bot. Asst. identified 80 field numbers from previous collection for Floristic studies of Kodaikanal WLS, Tamil Nadu. Under the documentation of Phytodiversity, Dr. C. Murugan, Dr. J.V. Sudhakar and Dr. S. Arumugam vouched 57 field numbers and identified six field numbers for Cyperaceae of Tamil Nadu. Dr. C. Murugan also determined 12 herbarium sheets belonging to the genera *Miliusa* (Annonaceae) at MH. For the flora of Kerala vol. 6, Dr. M.Y. Kamble, Scientist, 'D' and Dr. T. Saravanan, Bot. Asst. are involved in the finalisation of the Manuscript for the families from Bromeliaceae to Burbaniaceae (excluding Dioscoreaceae & Amaryllidiaceae) whereas Sri R.K. Singh, Botanist and Dr. S. Pradeesh, Bot. Asst. completed nomenclature for 35 species and database for 7 genera of the family Commelinaceae. Dr. J.V. Sudhakar and Ms. A. Anantha Lakshmi, Sr. Pres. Asst. completed descriptions of *Wiesneria triandra* (Dalz.) Micheli and finalising the manuscript for the families Hydrocharitaceae, Najadaceae and Aponogetonaceae.

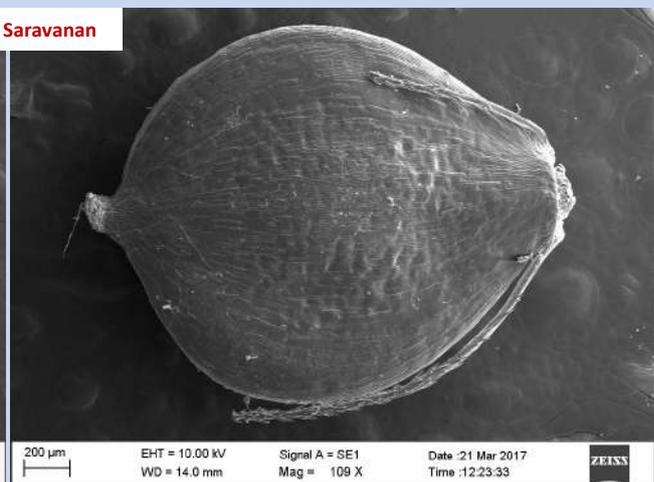


Photo: J.V. Sudhakar

*Scirpus mucronatus* (Cyperaceae) from Shevaroy hills



*Fimbristylis schoenoides* – nutlet



*Schoenoplectus mucronatus* – nutlet

### Scanning Electron Microscopy (SEM)

Dr. J.V. Sudhakar took 20 SEM images of achenes from 5 species of *Ficus*. Dr. Sudhakar along with Ms. Anantha Lakshmi also collected nutlets from 22 species of the tribe Cyperae and Fimbristyledeae from South India for SEM study.

### Digitisation of Herbarium specimens

During this month, 12,723 herbarium sheets were barcoded. Two collections namely *Crotalaria filipes* Benth. var. *trichopora* (Benth. ex Baker) Cooke; *Ocimum basilicum* L. var. *pilosum* Benth. were segregated from general herbarium and deposited into R.Wight herbarium of MH.

### Ex-situ conservation

Dr. S. Kaliamoorthy, Scientist 'D', Dr. M.Y. Kamble, Scientist 'D' and his team at the National Orchidarium and Experimental Garden (NOEG), Yercaud multiplied 82 samples belonging to 16 taxa, developed 11 cuttings, transplanted 11 samples and recorded the phenological data of 33 species including 23 orchids and 10 other angiosperms. Dr. Kamble introduced 5 endemic tree species obtained from the Lead Botanical Garden, Shivaji University, Kolhapur, Maharashtra into the garden. Dr. C. Murugan and Dr. M. Palanisamy inspected and monitored the National Orchidarium and Experimental Garden, Yercaud on 10th March 2017.

### Public service rendered

8 digital images of *Neolitsea*, *Plectranthus* and *Coleus* were sent to Dr. A.J. Robi, Dept. of Botany, Bishop Abraham Memorial College, Pathanamthitta Kerala and Dr. Alan Paton, Head of Science (Collections), Royal Botanic Gardens Kew, UK after receiving MoU form.

Dr. C. Murugan served as Chief Guest and inaugurated the *National Seminar on Biodiversity Conservation and Sustainable Utilization*, organized by the Department of Botany, Bharathiar University, Coimbatore on 20th March 2017. He also attended the Board of studies meeting at the Botany Department, Sarah Tucker College (Autonomous), Triunelveli as Manonmaniam Sundaranar University on 27th March 2017.

Sri R.K. Singh, Botanist delivered a lecture on BSI history, MH, type concept, endemic plants and importance of Plant taxonomy to 40 students and staff of Ayya Nadar Janaki Ammal College, Sivakasi, Tamil Nadu on 16.03.2017.

Dr. Arumugam S. attended the Board of studies meeting at Botany department, Kongunadu Arts and Science College, Coimbatore on 04.03.2017.

Dr. T.S. Saravanan explained the garden activities and conservation methods to the Faculties and students from Bishop Heber College, Trichy visited the garden on 07.03.2017.

### Meeting/programme attended/conducted

The 4th Quarterly Meeting of the Official Language Implementation Committee (OLIC) held at SRC, BSI, Coimbatore on 20.03.2017. On this occasion, various decisions were taken to promote the usage of Hindi in official correspondences.

One day program was organized at SRC, BSI, Coimbatore to release BSI publication entitled "Flora of Kerala Vol. II" (Eds. G.V.S. Murthy & V.J. Nair) by Sri Ajay Narayan Jha, Secretary, Ministry of Environment, Forest and Climate Change, New Delhi on 25.03.2017.



Dr. C. Murugan explaining Type to Sri Ajay Narayan Jha, Secretary, MoEF & CC, New Delhi



Hon'ble Secretary, MoEF & CC, Sri Ajay Narayan Jha planting a sapling in SRC, BSI garden, Coimbatore

### Visitors/students

During the March 2017, 68 students/research scholars and 5 scientific personnel/officials visited the museum, herbarium and library of this regional centre whereas 995 persons in 74 parties visited the NOEG, Yercaud.

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

## WESTERN REGIONAL CENTRE, PUNE

Dr. J. Jayanthi, Scientist 'D' conducted field exploration tour to Biligirangaswamy Temple (BRT) WLS, Karnataka during the period 6th to 24th March 2017 and collected a total of 130 field numbers for the project "Floristic diversity of Biligirangaswamy Temple Wildlife Sanctuary, Karnataka".



*Elaeocarpus tuberculatus* (Elaeocarpaceae) in Biligirangaswamy Temple WLS, Karnataka

Photo: J. Jayanthi



*Erythrina suberosa* (Fabaceae) in Biligirangaswamy Temple WLS, Karnataka

### Herbarium specimen identification

Dr. Jeewan Singh Jalal, Scientist 'D' has identified 25 specimens of orchids from Goa for the project, "An Assessment of Orchid diversity of Central Western Ghats". Dr. Priyanka Ingle, Scientist 'B' identified seven specimens from Wan Wildlife Sanctuary for the project, "Floristic Diversity of Wan Wildlife Sanctuary, Maharashtra". Dr. C.R. Jadhav, Botanist has identified 15 field numbers collected from Someshwara Wildlife Sanctuary for the project, "Floristic survey of Someshwara Wildlife Sanctuary, Karnataka". Sri S.C. Patil, Bot. Asst. identified 12 species of plants collected from Pushpagiri Wildlife Sanctuary for the project, "Flora of Pushpagiri Wildlife Sanctuary, Karnataka".

Dr. A. Benniamin, Scientist 'D' identified 5 Pteridophyte species collected from Karnataka for the project, "Ferns of Karnataka" and also studied the spore morphology of three Pteridophyte species under Scanning Electron Microscope (SEM). Sri D. Jesubalan, Bot. Asst. identified 2 Pteridophyte species collected from Pushpagiri Wildlife Sanctuary and studied the spore morphology of one Pteridophyte species under Scanning Electron Microscope (SEM) for the project, "Pteridophytic flora of Pushpagiri Wildlife Sanctuary, Karnataka with 10% periphery". Sri D. Tripathi, Senior Project Fellow identified 4 Pteridophyte species collected from Kudremukh National Park, Karnataka for the project, "Pteridophyte flora of Kudremukh National Park, Karnataka with 10% periphery".

Dr. Rashmi Dubey, Scientist 'D' processed two litter samples collected from Sanjay Gandhi National Park, Mumbai and isolated on different media by applying particle filtration method. Three soil samples collected from different sites of SGNP, Mumbai were isolated on different media by applying soil dilution method for the project, "Taxonomic Studies of Microfungi of Sanjay Gandhi National Park along with its 10% peripheral area". Smt. Shreya Sengupta, Senior Project Fellow examined 101 slides of micro fungi collected from Biligiri Rangaswamy Temple Wildlife Sanctuary for the project, "Microfungi of Biligiri Rangaswamy Temple wildlife Sanctuary, Karnataka".

### Public service rendered

During this month 21 plant species identified and issued authentication certificates to students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

**Symposium/conference/programme attended/organised**

A National symposium, “The Genomic Age Challenges and Opportunities in Taxonomy and Biology of Indian Pteridophytes” was organized by Botanical Survey of India at Pune from 3rd to 4th March 2017, wherein there were 14 lead lectures, 25 oral and 18 poster presentations. Total 77 participants including one from Bhutan and 14 senior pteridologists.



Photo: R.R. Mohare

**National Symposium on Pteridophytes organized by Botanical Survey of India at WRC, Pune**

Dr. P. Lakshminarasimhan, Scientist ‘E’ & HoO attended the inauguration research laboratory of Naoroji Godrej Centre for Plant Research at Shindewadi, Satara district, Maharashtra on 11.03.2017.

Dr. Jeewan Singh Jalal, Scientist ‘D’ attended National Conference on “Understanding Himalayan Phytodiversity in a Changing Climate” at Sikkim Himalayan Regional Centre, Gangtok during 5th to 11th March 2017 and performed duty for organizing the technical session and poster session during the conference.



Photo: J.S. Jalal

**Dr. J.S. Jalal in The Orchid Society of India conference**

Dr. Jalal also attended National Conference on “Recent Trends in Biology, Culture, Conservation, Commercialization, and Sustainable Utilization of Medicinally and Floriculturally Important Orchids”, organized by The Orchid Society of India (TOSI) at Graphic Era University (GEU), Dehradun during 24th to 27th March, 2017 and presented a paper, “Ecological Niche Modeling for Conservation of *Habenaria suaveolens* - an endemic orchid in Western Ghats: A case study”.

**Visitors/students**

Dr. C.R. Fraser-Jenkins a renowned Pteridologist visited WRC, BSI for studying the pteridophytes housed in BSI during this month. Four visitors visited WRC, BSI, Pune during this month from different parts of Maharashtra for Museum, herbarium and library consultation.

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



**Dolichandrone spathacea** (L.f.) Seem. (Bignoniaceae), commonly known as Mangrove Trumpet tree, native to Indian subcontinent and SE Asian countries. The flowers are trumpet shaped with good fragrance and bloom one at a time in the cluster. It is cultivated in the gardens, although its natural habitat is swamps, but it easily adapts drier areas.

Photo: D.L. Sirodhkar

# अण्डमान निकोबार द्वीप समाचार

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पोर्ट ब्लेयर,

बुधवार, 29 मार्च 2017

web: www.ans

## भारत सरकार के संयुक्त सचिव ने किया वनस्पति सर्वेक्षण का दौरा

### द्वीपों की अद्वितीय पादप विविधता पर विचार-विमर्श

पोर्ट ब्लेयर, 28 मार्च।

भारत सरकार के पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय के संयुक्त सचिव श्री अजय नारायण ने हाल ही में पोर्ट ब्लेयर स्थित भारतीय वनस्पति सर्वेक्षण के क्षेत्रीय केन्द्र का दौरा किया और क्षेत्रीय केन्द्र के वैज्ञानिकों द्वारा लगभग पांच दशकों में किए गए कार्यों की समीक्षा की।

अंडमान निकोबार क्षेत्रीय केन्द्र के उप निदेशक एवं कार्यालय अध्यक्ष डॉ. लाल जी सिंह ने संयुक्त सचिव का स्वागत करते हुए द्वीपों की पादप विविधता एवं संकटग्रस्त पादप प्रजातियों के संरक्षण की दिशा में केन्द्र द्वारा किए जा रहे प्रयासों पर प्रकाश डाला। इस मौके पर वनस्पति सर्वेक्षण के उप निदेशक डॉ. पी.एम. पादो भी उपस्थित थे। डॉ. सिंह ने वैज्ञानिकों द्वारा विज्ञान जगत की मूल्य प्रजातियों एवं पर्यावरण जागरूकता के संकट में केन्द्र की पहल के बारे में जानकारी दी।

संयुक्त सचिव ने इस केन्द्र के वैज्ञानिकों द्वारा हाल ही में इन द्वीपों में खोजी गई केलों की अमोघी प्रजाति, जीवित जीवाणु, अयनास्तर युग में पाई जाने वाली नम्र बीजी कृष की प्रजाति, अदरक जैसे आर्किड गहलू के पौधों, वनस्पति सर्वेक्षण के उद्यान में द्वीपों के दुर्लभ, संकटापन्न तथा स्थानिक प्रजातियों के संरक्षण एवं बहुलीकरण, उद्यान के शिक्षित अनुभागों के औषधीय पौधों, स्थानिक दुर्लभ, खतरनाक, फर्न, अदरक, ऑर्किड तथा कैक्टोरियम संग्रहण वाटिक और द्वीपों में खोजे गए पर्यावरण अनुकूल प्राकृतिक फेब स्ट्रों पर विस्तार से विचार-विमर्श किया।

संयुक्त सचिव ने द्वीपों के स्थानिक विरल पाम (बैंगलिनिया निकोबारिका) का रोपण द्वारा पादप संरक्षण एवं संकटों का संदेरा दिया।

भारत सरकार के पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय



के मुख्य अभियंता श्री ए.के. इरसंगी ने भी कार्यालय में स्थित अभियांत्रिकी से संबंधित कार्यों पर विशेष रूप से बर्चा की।



Sri Ajay Narayan Jha, Secretary, Ministry of Environment, Forest and Climate Change, Government of India releasing the Book, "Flora of Kerala, Vol. II" at SRC, BSI, Coimbatore

*Thanks to all the scientists and staff of regional centres and units of Botanical Survey of India for contributing to this newsletter*

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