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, Sikahake, 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 aslo 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**

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 ‘I’ & HoO reviewed a manuscript on Steirachne (Poaceae: Ergrostidinae) along with Dr. (Mrs.) Sangita Das Chowdhury, PDF for Journal of Economic Taxonomic Botany.

Sri Sampath Kumar reviewed a manuscript on Alecra sesiliflora (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. 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, Sindhururg; 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., AJCIBG 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 collge 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 Shchipur Dinobandhu 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, Ulubera, 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. Kanaiyal 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 Dhubagar 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. Chingkhei 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.

**Publications**


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Dr. P. V. Prasanna
Scientist ‘F’ & HoO
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 Zn= 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.

**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.
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

— 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 Convovulaceae 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 Oria, 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.

Publications
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 Rajbasha 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.
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.

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 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 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.

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.

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.

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

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.
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, 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, 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

Publication

— 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.

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.


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 Institue 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.
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).


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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).


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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


— Dr. G.P. Sinha
Scientist ‘E’ & HoO

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Approximately 200 seedlings were subcultured. Seed germination experiment of *Illex khasiana* was carried out. Data analyze, interpretation, literature survey for *Armodorum senapatianum*, *Cymbidium tigrinum* was done. Subcultured *Armodorum 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 khassiana* 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.

**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

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**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.
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.
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

SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. David Lalsama Biate, Scientist ‘B’ identified three Onagraceae species for the project, “Flora of Sikkim-Family Onagraceae”.

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**


– Dr. D.K. Agrawala
Scientist ‘C’ & HoO

**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.
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 determinavited 12 herbarium sheets belonging to the genera *Miluosa* (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 Bromiliaceae 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.

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 Fimbristyleae 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.

**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
Dr. J. Jayanthi, Scientist ‘D’ conducted field exploration tour to Biligirirangaswamy 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 Biligirirangaswamy Temple Wildlife Sanctuary, Karnataka”.

Herbarium specimen identification
Dr. Jeevan 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”. 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”. 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”. 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”.

Dr. A. Bennamin, 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 Senguptra, 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.

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.

Dr. Jalal also attended National Conference on “Recent Trends in Biology, Culture, Conservation, Commercialization, and Sustainable Utilization of Medicinally and Florculturally 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
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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