



# BSI NEWSLETTER

The monthly electronic newsletter of Botanical Survey of India

## Director's column

The scientists of BSI published two new species, *Euphorbia seshachalamensis* (Euphorbiaceae) from Andhra Pradesh and *Ramaria subalpina* (Gomphaceae, an edible coral fungus) from Sikkim. Besides, scientists reported *Plagiochila ptychanthoidea* (Plagiochilaceae, Marchantiophyta), *Diplazium proliferum* (Woodsiaceae, Pteridophyta) and *Impatiens mengtzeana* (Balsaminaceae) for the first time from India. Apart from this, *Heterostemma dalzellii* (Apocynaceae) was recorded as a new generic record to the Flora of Gujarat. Moreover, *Crepidium calophyllum* and *C. khasianum* from Arunachal Pradesh; *Emilia javanica* and *Inula falconeri* from Uttar Pradesh were reported for the first time from these states.

The Western Regional Centre, Pune participated in the campaign on 'Plastic Waste-Free Pune' launched on 13th February 2016 by Sri Prakash Javadekar, Hon'ble Union Minister of State (I/C) for Environment, Forest & Climate Change, Government of India at DES's New English School, Ramanbagh School, Pune.

In Botanical Garden of Indian Republic, NOIDA flower show and exhibition for "Awareness programme on Curious and Useful plants of India" was organized from 25th to 28th February 2016. In this show NRC, AJCBIBG, CBL, CNH, ISIM and Publication Section, BSI (Hqrs.) have also participated. The flower show was concluded by celebrating the 'National Science Day' on 28th February, in which series of events like Sit & Draw and Poster competitions, Best from Waste, Documentary film shows and Nature walk were organized. The participants were from different schools of Delhi NCR (New Delhi, Greater NOIDA and Ghaziabad).

Happy browsing!

**Paramjit Singh**

Director, Botanical Survey of India, Kolkata



## HEAD QUARTERS, KOLKATA

Dr. Sudipta Kumar Das, AJCBPDF conducted a field tour to Lower Dibang Valley and Dibang Valley districts of Arunachal Pradesh from 31st January to 15th February 2016, in connection to the project, 'Taxonomic diversity and ecology of cyanobacteria and algae in the alpine regions of Eastern Himalayas'.

For the project, 'Pharmacognostic studies on Medicinal Aconites of India', Dr. A.B.D. Selvam, Scientist 'D' made Powder microscopic studies on the mother roots of 5 species of *Aconitum*, viz., *A. ferox*, *A. chasmanthum*, *A. laeve*, *A. nagarum* and *A. rotundifolium*.

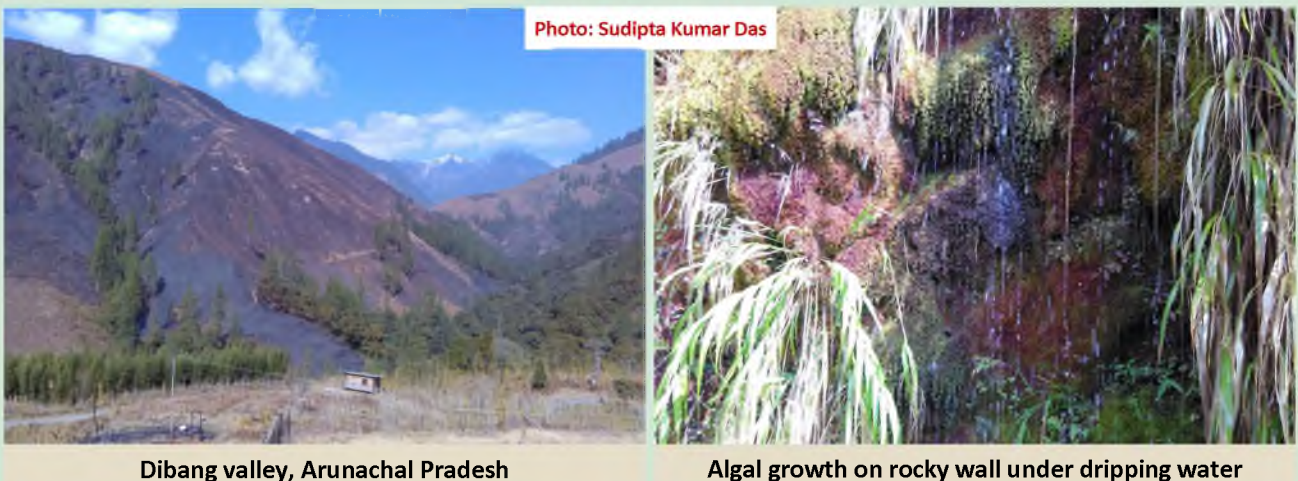
In connection with the project on, 'Algal Flora of Jharkhand', 'Taxonomic diversity and ecology of cyanobacteria and algae in the alpine regions of Eastern Himalayas', 'Studies on wild mushrooms of Sikkim', 'Studies on the macrofungi of AJCBIBG', 'Wood rotting fungi of Rajmahal hills' and 'Moss Flora of Darjeeling District' identification of specimens, making of descriptions and illustrations were carried out by the scientists, scientific officials and research students.

Dr. W. Arisdason, Scientist 'C' edited the manuscript, Taxonomic account of the subtribe Andrographideae consisting 4 genera, 46 species and 4 varieties, for Flora of India.

Dr. Monalisa Dey, Scientist 'B' identified total 9 field numbers of unidentified specimens collected from Andaman and Nicobar Islands by Dr. D.K. Singh housed at CAL as *Cheilolejeunea longiloba* (F. No. 61620C), *Cololejeunea ceratilobula* (F. No. 61612B), *C. desciscens* (F. No. 61615A), *C. floccosa* (F. No. 61612A), *C. jelinekii* (F. No. 61620A), *C. karnatakensis* (F. No. 61620D), *C. planissima* (F. No. 61615B), *Leptolejeunea epiphylla* (F. No. 61615C), and *L. maculata* (F. No. 61620B).

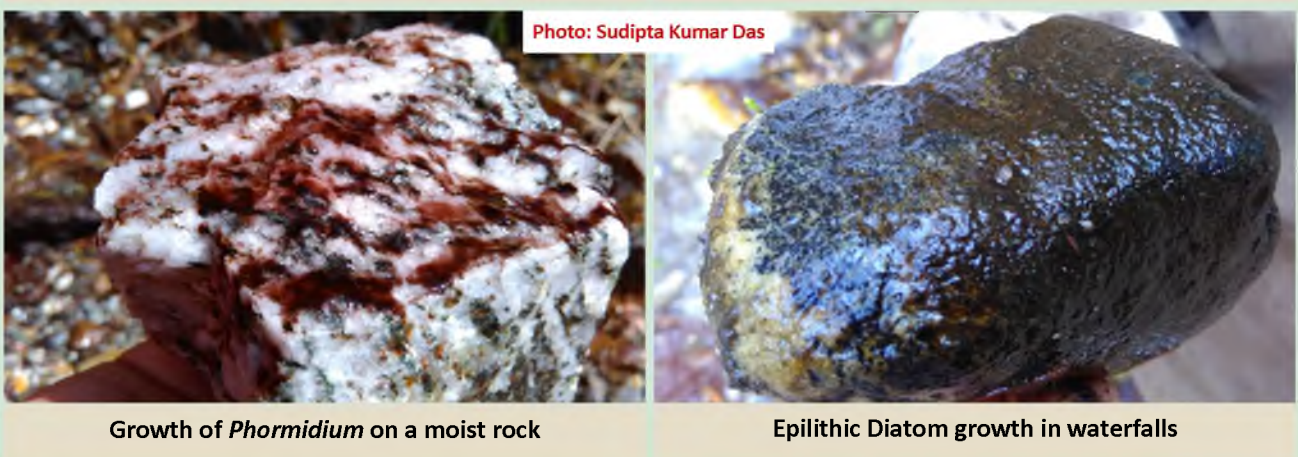
The holotype specimen *Ramaria subalpina* (Acc. No. 1273) was accessioned and incorporated in the Fungi section.

In connection with the data basing of specimens at Cryptogamic unit, CAL, Smt. Shobha Rudra, Botanist entered data of 210 Lichen specimens, Sri Kaju Majumdar, Presv. Asst. compiled data of 400 Pteridophytes and Ms. Pamela Saha, SRF entered data of 30 moss specimens collected from Darjeeling District, West Bengal.



Dibang valley, Arunachal Pradesh

Algal growth on rocky wall under dripping water



Growth of *Phormidium* on a moist rock

Epilithic Diatom growth in waterfalls

Dr. Devendra Singh, Scientist 'C' is presently on an expedition to Larsemann Hills, Antarctica for collecting bryophyte specimens. Dr. Singh is expected to return to India in the first week of March 2016.



Photo: Devendra Singh

A view of iceberg in Larsemann hills



A moss bed at Larsemann hills

### Public service rendered

Dr. A.B.D. Selvam pharmacognostically studied and authenticated a woody stem of *Tinospora cordifolia* (Menispermaceae), received from Sri Prabir Kumar Sinha Mahapatra, Institute of Pharmacy & Technology, Salipur, Cuttack, Odisha.

### Meetings attended

Dr. Paramjit Singh, Director, BSI attended the programme and exhibition on 'World Wetland Day' at Gosaba and delivered lecture on 02.02.2016. The Director attended the programme, 'Inauguration of Marine Museum and National Seminar on Coastal Zone Management and Marine Biodiversity' at Marine Aquarium and Regional Centre, ZSI, Digha, West Bengal on 03.02.2016. The Director also attended the Ecosensitive Zone Expert Committee meeting in MoEF & CC, New Delhi on 04.02.2016. He delivered 4th Prof. H.K. Baruah Memorial Lecture on "Plant Taxonomy in India – Future and Challenges" at Gauhati University on 19.02.2016. The Director attended a National Seminar organised by the Orchid Society of India at Dr. Y.S.R. University, South Godavari District, Andhra Pradesh and delivered Prof. S.P. Vij award lecture on Orchid Diversity in India on 26.02.2016.



Photo: B.K. Singh

Dr. Paramjit Singh, Director, BSI delivering lecture during the celebration of World Wetland Day 2016



Dr. Hem Pandey, Spl. Secretary, MoEF & CC visiting the BSI stall during the celebration of World Wetland Day



Photo: B.K. Singh

Inauguration of Marine Museum and National Seminar on Coastal Zone Management and Marine Biodiversity



Photo: A. Bhattacharjee

Release of 'The journal of the orchid society of India' during the conference of the Orchid Society

### Programme conducted

At Central National Herbarium, Howrah progress of research work done by the AJC Bose PDF was evaluated on 24.02.2016. Total 7 PDFs presented their work report (including Dr. Monalisa Dey, presently Scientist 'B'), which was assessed by Prof. N.D. Paria, Calcutta University, Dr. Paramjit Singh, Director, BSI and Dr. P.V. Prasanna, Scientist 'F' & HoO, CNH, BSI.



AJC Bose PDFs presenting their work during evaluation at Central National Herbarium

Photo: A. Mondal

### Visitors / students

16 students and 3 teachers from Raghunathpur College Raghunathpur, Purulia District, West Bengal on 04.02.2016.

20 students of B.Sc. 2nd year and 3rd year, Raja Narendra Lal Khan Women's College, Midnapore, West Bengal on 24.02.2016.

### Publications

Das, K., Hembrom, M.E., Dutta, A.K., Parihar, A., Paloi, S. and Acharya, K. 2016. *Ramaria subalpina* (Gomphaceae): a new edible fungus from India. *Phytotaxa* 246(2): 137–144.

Das, S.K. and Gupta, R.K. 2015. Cyanobacterial diversity and their colonization at different temperature gradient in a remote hot spring of Jharkhand, India. *Bioglobbia* 2(2): 12–17.

Pagare, R.S. and Arisdason, W. 2016. Lectotypification of *Dioscorea listeri* Prain & Burkill (Dioscoreaceae) from India. *Ann. Bot. Fennici* 53: 67–68.

## AJC BOSE INDIAN BOTANIC GARDEN, HOWRAH

Dr. A. Pramanik, Scientist 'E' & HoO, Dr. S.P. Panda, Scientist 'B' and Dr. Basant Kumar Singh, Sr. Presv. Asst. conducted a field collection tour to Agartala and adjoining areas in Tripura from 17th to 23rd February 2016 to collect plant saplings for the project, "Development of Division no. 25". 60 plant saplings belonging to 27 species were collected and introduced in Nursery I of AJCBIBG for acclimatization.

Dr. Basant Kumar Singh went on tour to Sunderbans from 31st January to 1st February 2016 to accompany Dr. Hem Pandey, Spl. Secretary, MoEF & CC, who visited in connection with the 1st Meeting of Consultative Committee of Members of Parliament on Vivada Cruise.

The Great Banyan Tree developed a new prop root. 27 encaged roots were repaired with new bamboo caging. 6 aerial roots were supported with bamboo.



Photo: A. Bhattacharjee

**Dr. C.M. Sabapathy during discussion with Hon'ble Minister Sri Prakash Javadekar at Jharkhali, Sunderbans**



Photo: B.K. Singh

**Dr. A. Pramanik gifts a plant sapling of *Ficus krishnae* to Dy. Speaker, Tripura Legislative Assembly**



Photo: B.K. Singh

**Lush green vegetation along Gomati River, Tripura**



**Plant Saplings procuring from Forest Nursery, Agartala**

### Public service rendered

Dr. A. Pramanik gifted a plant sapling of *Ficus krishnae* to the Hon'ble Dy. Speaker, Tripura Legislative Assembly which is planted in the vicinity of Chaturdasha Temple in Agartala.

Dr. Basant Kumar Singh along with Sri Anand Kumar, Bot. Asst. went on tour to Gaya district, Bihar and Hazaribagh district, Jharkhand for Biodiversity Assessment (Flora) of proposed Railway Corridor by Dedicated Freight Corridor Corporation of India Ltd., from 3rd to 8th February 2016.

Dr. C.M. Sabapathy, Botanist acted as liaison officer during 1st meeting of Consultative Committee of Members of Parliament, accompanied Sri S. Thangavelu, Hon'ble Member of Parliament to Sunderbans on 1st February 2016.

### Programme /workshop attended

Dr. A. Pramanik and Dr. Basant Kumar Singh participated in an exhibition on the celebration of World Wetlands Day on 02.02.2016 at Gosaba, Sunderban.



Bagai forest through which the proposed Railway Corridor will pass

Photo: Anand Kumar



Sri Anand Kumar and Dr. B.K. Singh during Biodiversity Assessment (Flora) at proposed Railway corridor

Photo: B.K. Singh

Dr. A. Pramanik attended the Hindi Workshop as Chief Guest organized by CBL, Howrah on 04.02.2016.

Dr. M.U. Sharief delivered Dr. T.K. Palaniswami Endowment Guest Lecture on 12.02.2016 at Dr. N.G.P. Arts and Science College, Coimbatore on "Flora and Cultural Diversity of Andaman & Nicobar Islands".

Dr. C.M. Sabapathy, Botanist participated with exhibits from AJC Bose Indian Botanic Garden, Howrah in the Flower Show and attended National Science Day held at BGIR from 25th to 28th February 2016.

Dr. Basant Kumar Singh delivered lecture as Invited Speaker on Plant Conservation (*ex-situ* & *in-situ*) in the State Level Seminar organized by Bhairab Ganguly College, Belgharia, Kolkata on 29.02.2016.



Dr. M.U. Sharief delivering Dr. T.K. Palaniswami Endowment Guest Lecture

Photo: Karthik



A view of stall at BGIR, Noida during the Annual Flower Show 2016

Photo: C.M. Sabapathy

### Visitors/students

40 students from Ramanagar College on 02.02.2016; 100 students from Scottish Church College on 02.02.2016; 45 students from Chandarnagar College on 04.02.2016; 16 students from Raghunathppur College on 04.02.2016; 25 Students from Bhairab Ganguly College, Kolkata on 14.02.2016; 20 students from Jhargram Raj College, Jhargram, Medinipur on 16.02.2016; 50 students from Netaji Nagar College on 17.02.2016; 20 students from Durgapur Government College on 17.02.2016; 100 students from Sarasuna College on 23.02.2016.

### Publication

Panda, S.P., Sharief, M.U., Hameed, S.S. and Pramanik, A. 2016. Mangroves: A Threatened Coastal Ecosystem of Odisha, India. In: Proceedings of the National Conference on Marine Bioresource of East Coast of India and their Bioprospecting held on 10th–12th February 2016 Organised by F.M. University, Balasore, Odisha. Pp. 54–55.

– Dr. A. Pramanik  
Scientist 'E' & HoO

## CENTRAL NATIONAL HERBARIUM, HOWRAH

Sri Anand Kumar, Bot. Asst. (also Dr. Basant Kumar Singh, Sr. Presv. Asst., AJCBIBG) went on tour to Gaya district, Bihar and Hazaribagh district, Jharkhand for Biodiversity Assessment (Flora) for the proposed Railway Corridor by Dedicated Freight Corridor Corporation of India Ltd., from 1st to 8th February 2016.

One field tour to Silchar, Assam from 19th to 22nd February 2016 was undertaken by Dr. Pushpa Kumari, Scientist 'C' in connection with the project, "Taxonomic Revision of *Poaceae: Bambusoideae* in India" and collected 8 samples of bamboos including *Bambusa vulgaris* (in flowering) and *Melocalamus compactiflorus* (in flowering and fruiting). The gregarious flowering and fruiting of *M. compactiflorus* was observed from last year in this region nearly after 95 years. Rhizomes of *Melocanna clarkei* and culm cuttings of *Melocalamus compactiflorus*, *M. gracilis* and *M. indicus* were brought for macropropagation and planted in nursery no.1 of the AJCBIBG, Howrah.

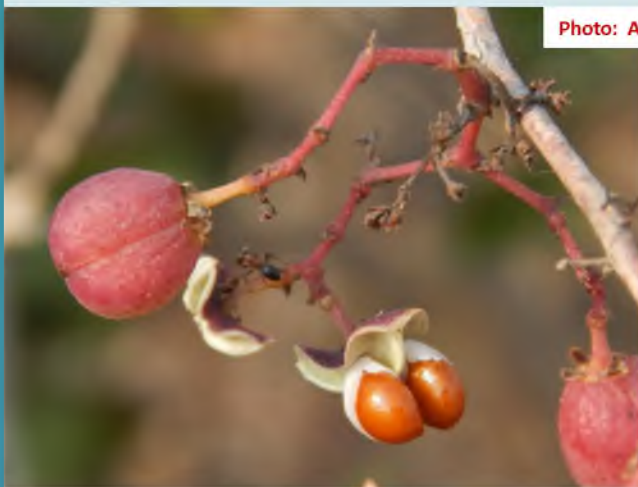
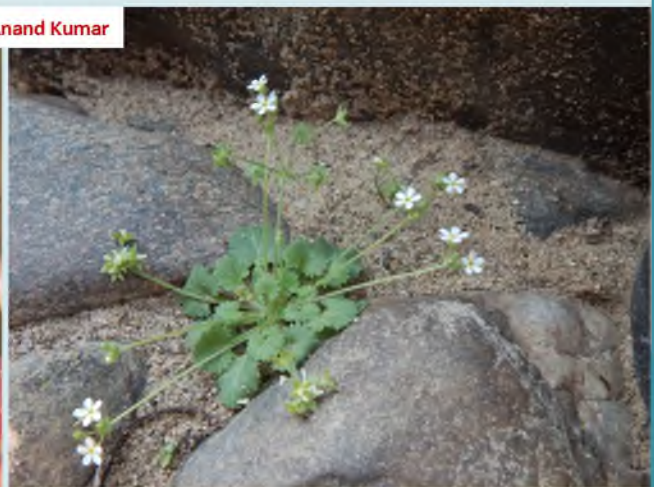


Photo: Anand Kumar



*Gymnosporia montana* (Celastraceae)

*Androsace umbellata* (Primulaceae)



Photo: Pushpa Kumari



*Bambusa vulgaris* (Poaceae: Bambusoideae) in flowering

*Melocalamus compactiflorus* (Poaceae: Bambusoideae) in flowering and fruiting

### Herbarium specimen identification

In connection with Flora of Vikramshila Gangetic Dolphin Wildlife Sanctuary, Dr. O.N. Maurya, Scientist 'C' identified specimens of five field numbers. Dr. Subir Bandyopadhyay, Scientist 'B' handed over 6 specimens to the Type Section from Hall no. 1 which were identified as types of 6 names of Chinese *Berberis* by Dr. Julian Harber and annotated 20 collections of George Forrest of *Berberis* from China as determined by Dr. Harber.

### Scanning Electron Microscopy

A total of 91 plant specimens have been scanned by Dr. Kanad Das (1 sample of *Scleroderma nitida*), Dr. P. Kumari (5 samples of Bamboo leaf), Ms. Shankhmala Mitra (16 samples of pollen), Ms. S. Shalini (18 samples of *Argyreia* spp.- Seeds, leaf and pollens), Ms. Piu Das (24 samples of *Pteris* spp.- Spores and Leaf), Ms. Pamela Saha (22 samples of Moss capsules and spores) and Ms. Liza Mallick (5 samples of seed surface).

### Public Service rendered

Dr. V. Sampath Kumar, Scientist 'D' identified two *Leucas* specimens as *L. lanata* and *L. decemdentata* for the students of Ramakrishana Mission, Rahara, which were collected from Arakku Valley, Vishakapatnam Dist. of Andhra Pradesh.

Dr. Kumar acted as liaison officer during 1st meeting of Consultative Committee of Members of Parliament, accompanied Sri C.N. Jayadevan, Hon'ble Member of Parliament, from Kolkata to Jharkhali on 01.02.2016. In Jharkhali, the Hon'ble MPs along with Union Minister of MoEF & CC, Sri Prakash Javadekar, boarded the Cruise/Ship, where the meeting was arranged. The Minister and MPs were again received on the same day at Namkhana jetty and came back to Kolkata via Diamond Harbour by road.

Similarly, Dr. O.N. Maurya and Dr. Avishek Bhattacharjee acted as liaison officers accompanied Sri Janardan Mishra, Hon'ble Member of Parliament and Sri Ajay Nishad, Hon'ble Member of Parliament respectively from Kolkata to Jharkhali and back to Kolkata from Namkhana on 01.02.2016.

Dr. Subir Bandyopadhyay provided PDF of the protologue of *Operculina tansaensis* to Dr. Manoj Lekhak, Shivaji University, Kolhapur, Maharashtra and information regarding two authors of plant names [Drs. S.S. Bir and V.B. Hosagoudar] for incorporation in the Author Query database of IPNI.

Dr. S. Bandyopadhyay reviewed manuscripts one each received from Executive Editor, *Bangladesh Journal of Plant Taxonomy* and Editor, *Issues in Biological Sciences and Pharmaceutical Research*.

Sri Shyam Biswa, Bot. Asst. identified total 11 plant samples for Dr. S. Bhattacharya, Grunanak Institute of Pharmaceutical Sciences and Technology, Kolkata; Deputy Excise Collector, Balarampur Range, Purulia and for Principal, BIT, Meshra, Ranchi.

Sri Biswa assisted Scientists from Birbal Sahni Institute of Paleobotany, Lucknow, during their herbarium consultation from 31st January to 12th February 2016.

Photo: A. Bhattacharjee



Dr. A. Bhattacharjee discussing with Sri Prakash Javadekar, Hon'ble Union Minister for Environment, Forest and Climate Change at Jharkhali, Sunderbans

Secretary, MoEF & CC, Directors, BSI & ZSI along with the Members of Consultative Committee of Members of Parliament visiting Jharkhali, Sunderbans

### Meetings/workshop conducted/attended

Organized lecture on 'Microfungal taxonomy' by Dr. V.B. Hosagoudar, former Scientist JNTBGRI at Central National herbarium on 17.02.2016, which was attended by scientists, scientific staff and Research scholars.



Dr. V. Sampath Kumar, Scientist 'D' attended the 'National Interaction-cum-Evaluation Workshop' for ENVIS centres held at New Delhi from 16th to 20th February 2016. On 17th February, the Hon'ble Union Minister of State for Environment, Forest & Climate Change, Sri Prakash Javadekar launched the ENVIS Portal and also viewed the exhibits of ENVIS information. As directed by the ENVIS Secretariat, the exhibits of the ENVIS centre on floral diversity were displayed at the Banquet Hall, The Ashok, New Delhi, where the Hon'ble Union Minister of state for Environment, Forest and Climate Change visited and viewed the exhibits. Dr. Kumar explained about the activities of ENVIS centre on floral diversity to the Hon'ble Minister by showing the exhibits, the flex banners and publications.

As the Hon'ble Minister was impressed with the exhibits of the different ENVIS centres, the Minister has directed the officials of MoEF & CC to display the same in the Indira Paryavaran Bhavan Complex, Jorbagh Road, New Delhi for two days for the benefit of the public. Accordingly, the same exhibits were displayed at the Indira Paryavaran Bhavan Complex on 18th and 19th February 2016 and the ENVIS team explained about the exhibits as well as the activities of the ENVIS centre on floral diversity, Howrah to the visited public. In the Evaluation Workshop, on 19th February 2016 at Venue II (Indira Paryavaran Bhavan Complex), in front of the Expert Committee, the contents in the website of the ENVIS centre on floral diversity were demonstrated 'online' in the allotted 40 minutes time slot from 10.10 to 10.50 AM. Further, the publications published during the period 2015–16 by ENVIS centre on floral diversity were also shown to the evaluators.

Dr. S. Bandyopadhyay rendered help in organizing a one-day workshop on 'Hands on Training in Herbarium Techniques' on 19.02.2016. 20 Post Graduate students from Botany Department, Serampore College, Hooghly, West Bengal attended the said workshop. As a resource person, Dr. Bandyopadhyay delivered a talk on 'Herbarium Techniques' to PG students.

Dr. Sampath Kumar assisted Scientist 'F' & HoO, CNH in organizing a interactive session between Prof. Anupam Dikshit, Head, Dept. of Botany, Allahabad university and the Scientific officials of BSI at CNH committee room on 26.02.2016.



**Dr. V.S. Kumar explaining about BSI ENVIS centre to Hon'ble Minister, MoEF & CC during Workshop**



**Dr. V.B. Hosagoudar delivering lecture at Central National Herbarium, Howrah**



**Dr. S. Bandyopadhyay delivering lecture to PG students of Serampore college, Hooghly, W. Bengal**



**Sri Gopal Krishna imparting training to PG students of Serampore college, Hooghly, W. Bengal**

Dr. Avishek Bhattacharjee, Scientist 'B' and Sri Gopal Krishna, Bot. Asst. attended the National Conference cum workshop on 'Advances in Orchid Biology with Focus on Climate Change, Medicinal and Floricultural Plants and Sustainable Economic Utilization & Orchid Show' at Dr. Y.S.R. Horticultural University, Venkataramannagudem, Andhra Pradesh from 26th to 28th February 2016. Dr. Bhattacharjee delivered a presentation entitled, 'Contributions to Indian orchid flora' at the conference on 26.02.2016.

Sri Shyam Biswa and Sri Vijay Mastakar, Bot. Assts. attended and displayed Roxburgh's painting posters in the Flower show exhibition held from 25th–28th February, 2016 at BGIR, Noida.



Photo: A. Bhattacharjee

Dr. Avishek Bhattacharjee delivering lecture on 'Contributions to Indian orchid flora' during the conference at Dr. Y.S.R. Horticultural University

Exhibition of paintings, posters, portraits displayed by BSI during the conference at Dr. Y.S.R. Horticultural University, South Godavari Dist., Andhra Pradesh

### Visitors / students

Dr. Mahesh Prasad and Dr. S.K. Singh, Birbal Sahni Institute of Paleobotany, Lucknow from 31st January to 12th February, 2016; Sri G. Chandrasekaran, Deputy Conservator of Forests, along with 30 trainee forest range officers; Ms. Priyanka Tukaram Giranje, Research Scholar, Naoroji Godrej Centre for Plant Research, Shirval on 03.02.2016; 20 students (B. Sc. Honours) of Derozio Memorial College, Kolkata on 05.02.2016; 71 students (B.Sc. Honours and Pass) of Raja Narendra Lal Khan Women's College, Midnapore on 10.02.2016; 30 students (B.Sc. Honours and Pass) of East Kolkata Girls' College, Kolkata on 10.02.2016; 42 students including 11 Botany Hons. students from Bidhannagar College, salt Lake, Kolkata on 17.02.2016; Dr. V.B. Hosagoudar, ex-Scientist JNTBGRI, Pallode, Kerala on 17.02.2016; 22 students of Botany Hons. from Nabadwip College, Nadia on 18.02.2016; 38 students (M.Sc. Botany) of Shivaji University, Kolhapur on 19.02.2016; Dr. (Mrs.) Niranjana Chavan, Professor, Botany Department, Shivaji University, Kolhapur on 19.02.2016; 24 students of Serampore College, Howrah on 19.02.16; 70 students of Botany Hons. and Pass from Sarsuna College, Kolkata on 23.02.2016; Dr. S. Prabhu, AJCBPDF, SRC, Coimbatore from 24th to 26th February 2016; Dr. Romita Ray, Associate professor, Art history, Director of Undergraduate Studies, Art history, Syracuse University, Department of Art & Music Histories, New York, USA for consulting Roxburgh Icones, Wallich correspondences, and General Herbarium regarding Tea (*Thea sinensis*) on 25.02.2016; Prof. Anupam Dikshit, HOD, Dept. of Botany, University of Allahabad on 26.02.2016; 37 students of Botany Pass from South Calcutta Girls' College, Kolkata on 26.02.16; 52 students of Botany Hons. and Pass from Bangabasi Morning College, Kolkata on 26.2.2016; 60 students of Botany Hons. and Pass from South Calcutta Girl's College, Kolkata on 29.02.2016.

### Publication

Prasad, K. and Prasanna, P.V. 2016. *Euphorbia seshachalamensis* (Euphorbiaceae), a new species from Andhra Pradesh. *Ann. Bot. Fenn.* 53: 73–76.

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

## CENTRAL BOTANICAL LABORATORY, HOWRAH

Dr. Harish Singh, Scientist 'D' & HoO, Dr. Dhole Pankaj Arvind, Bot. Asst. and Sri R. Saravanan, Bot. Asst. identified 26 plant species collected from Nuapada district, Odisha. Dr. K.A. Sujana, Scientist 'C' identified 44 plant species collected from Malkangiri district, Odisha. Sri A.C. Halder and Sri P.K. Baske Botanists identified 60 plants collected from Nayagargh district of Odisha. Dr. K.A. Sujana, Sri R. Saravanan and Ms. Monika Mishra, Bot. Asst. made descriptions for 282 plants collected from Kuldiha Wildlife Sanctuary, Balasore district, Odisha. Dr. A.K. Verma, Scientist 'B' and Ms. Mishra documented data from 113 Herbarium sheets of cytological voucher specimens on MS Excel sheets.

### Hindi Rajbhasha

Organized a 'Hindi workshop' in CBL, Howrah on 'Hindi mein aane wali kathinaiyan evam unaka samadhan' on 04.02.2016.



BSI officials delivering talk during Hindi Workshop organized by Central Botanical Laboratory, Howrah

### Visitors/ students

Information service was rendered on Ethnobotany to total 418 students and 41 teachers visited from Shyampur Siddheswari Mahavidyalaya, Ajodhya, Bagnan, Howrah; Derozio Memorial College, 24-Parganas(N), West Bengal; BKC College, Kolkata; Ananda Mohan College, Kolkata; Tamralipta Mahavidyalaya, Tamruk, Purba Medinipur; Vidyanagar College, 24-Parganas (S), West Bengal; Pingla Thana Mahavidyalaya, Paschim Medinipur, West Bengal; Gurudas College, Kolkata; Sabang Sajanikanta Mahavidyalaya, Paschim Medinipur, West Bengal; East Calcutta Girls' College, Lake Town, Kolkata; Bhairab Ganguly College, Kolkata; Jhargran Raj College, Jhargram, Paschim Medinipur, West Bengal; Durgapur Govt. College, Durgapur, West Bengal; Netajinagar College for Women, Kolkata; Ghatal Rabindra Satabarsiki Mahavidhyalaya, Ghatal, Paschim Medinipur, West bengal; and 25 trainees from Tamil Nadu Forest Academy, Coimbatore, Tamil Nadu.



Sri Arun Halder delivering talk about Ethnobotany to students at CBL, Howrah

Sri R. Saravanan demonstrating ethnobotanical exhibits to forest trainees at CBL, Howrah

### Publication

Sujana K.A., Dhole P.A. and Mishra, M. 2016. A note on occurrence of *Aponogeton crispus* Thunb. (Aponogetonaceae) in Odisha. *Zoo's Print* 31(2):14–15.

– 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 two species of *Eugenia* (Myrtaceae), five species of family Moraceae (*Ficus scabrella*, *F. obtusifolia*, *F. cordifolia*, *F. asperimma*, *Artocarpus echinatus*), and six species of family Convolvulaceae (*Convolvulus bicolor*, *C. malabaricus*, *C. pescaprae*, *C. blandus*, *C. pentagonus*, *C. calycinus*) were interpreted with updated nomenclature and description.

### Herbarium Specimen Database

As a part of preparing a database of herbarium specimens at BSIS, 330 specimens of monocot and 40 specimens of dicot were listed and nomenclature updated.

### Programme attended

At BGIR, NOIDA Flower show and Exhibition for "Awareness programme on Curious and Useful plants of India" was held from 25th to 28th February 2016. Dr. A.K. Sahoo, Scientist 'D' and Sri S.K. Sharma, Presv. Asst. participated in this programme by displaying of 12 numbers of exhibit materials, posters, Botanical Gallery booklets, etc. The students from local schools of NOIDA and researchers of Delhi visited the pavilion, to whom about the exhibits were explained.

– Dr. Manas Bhaumik  
Scientist 'D' & HoO

## ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. Lal Ji Singh, Scientist 'D' & HoO visited forest area of Jheenga Nalah, Ferrargunj, South Andaman and collected 11 RET plant species and introduced in the Dhanikhari Experimental Garden cum Arboretum (DEGA) on 22.02.2016.

### Herbarium specimen identification

Dr. T.A.M. Jagadeesh Ram, Scientist 'D' identified 84 specimens of Graphidaceae into 16 species.

Dr. Sanjay Mishra, Scientist 'B' identified four specimens of the family Cyperaceae at PBL as *Cyperus diffusus* (F. No. 14817, 2 specimens) and *Fimbristylis miliacea* (F. No. 9046, 2 specimens).

### Digitization of Herbarium Specimens

159 numbers of herbarium sheets of the family Scrophulariaceae was scanned and 1068 numbers of herbarium specimens of the family Apocynaceae, Asclepiadaceae, Convolvulaceae, Ehretiaceae, Gentianaceae and Loganiaceae were fed in the computer in a prescribed format.

### Public service rendered

Dr. Sanjay Mishra visited Baratang, Ranghat, Mayabundar and Diglipur Divisions of the forest department as a member of the Independent Third Party Monitoring and Evaluation Committee, State Compensatory Afforestation Fund Management and Planning Authority [CAMPA] for monitoring CAMPA activities of Forest department from 3rd to 6th February 2016.

The leaf, flower and fruit samples of *Garcinia andamanica* var. *andamanica*, *G. cowa* and *G. dhanikhariensis* were provided to Sri P.S. Shameer, Research Fellow, Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Thiruvananthapuram in connection with his research work on 16.02.2016.

The seeds (50 nos.) and seedlings (2 nos.) of *Pterocarpus dalbergioides* were supplied to Dr. P.G. Diwakar, former Joint Director, BSI on 25.02.2016.



Photo: Lal Ji Singh

*Diplazium proliferum* reported for the first time from India based on collection from Little Andaman

### Meetings /programme attended

Dr. Sanjay Mishra attended the Ph.D. synopsis presentation of Sri Bitopan Malakar on 01.02.2016 at Pondicherry University, School of Life Sciences, Department of Ocean studies and Marine Biology, Brookshabad campus, Port Blair.

Dr. Jagadeesh Ram attended Biannual Meeting of TOLIC in CIARI – ICAR, Port Blair on 02.02.2016.

Dr. Jagadeesh Ram attended the Synopsis presentation of the Ph.D. thesis entitled, 'Bionomics of Sea Anemones from Andaman Coast' in Zoological Survey of India on 03.02.2016.

### Visitors/students

Six M.Sc. Final year students of JNRM College, Port Blair visited ANRC main office for consulting herbarium and library on 01.02.2013. Dr. A. Anuraj, Scientist, CIARI visited ANRC main office for consultation of library and herbarium on 08.02.2016. Sri P.S. Shameer, Research Fellow, Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Pallode, Thiruvananthapuram visited DEGA, Nayasahar on 16.02.2016. Sri Muruganathan, Research Fellow, Pondichery University visited ANRC main office for consultation of library on 17.02.2016. Prof. Uma Pal, Department of Botany, University of Calcutta along with 22 Faculty members of Burdwan University and Various Colleges of Calcutta visited DEGA, Nayasahar on 24.02.2016. Dr. P.G. Diwakar, former Joint Director, BSI, along with 22 members of various research organizations visited ANRC main office on 25.02. 2016.



Photo: Gautam A. Ekka

Professors and Research Scholars from Universities of Calcutta and Burdwan at ANRC Museum



Professors and Research Scholars from Universities of Calcutta and Burdwan at Herbarium, ANRC



Professors and Research Scholars from Universities of Calcutta and Burdwan at DEGA, Nayasahar



Dr. P. G. Diwakar along with members of various research organizations at ANRC Museum

### Publications

Singh, L.J., Kumar B., Kholia B.S. and Joshi, P. 2016. *Diplazium proliferum*: An Addition to the Indian Pteridophytic Flora from Little Andaman. *J. Jpn. Bot.* 91: 57–60.

Ram, J.T.A.M. 2015. Additional new species in *Roccellaceae s.l.* from the Andaman and Nicobar Islands, India. *Phytotaxa* 246(4): 281–286.

– Dr. Lalji Singh  
Scientist 'D' & HoO

## ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

Dr. Souravjyoti Borah, Botanist carried out one Herbarium consultation tour to ERC, Shillong from 19th January 2016 to 5th February 2016 and studied 208 specimens collected from Lohit district, housed at ASSAM in connection with 'Flora of Lohit District and Flora of Kamlang WLS, Arunachal Pradesh'.

### Herbarium specimen identification

Dr. Umesh Kumar L. Tiwari, Scientist 'B' identified and made descriptions for 13 species in connection with 'Flora of East Kameng District, Arunachal Pradesh'.

Dr. Krishna Chowlu, Scientist 'B' identified 28 species and entered data sheet for 4 specimens in connection with 'Study of Orchids of Arunachal Pradesh (Red Listing)'.

Dr. S. Borah identified 140 species in connection with 'Flora of Lohit District and Flora of Kamlang WLS, Arunachal Pradesh'.

Dr. P. Satyanarayana, Scientist 'D' & H.o.O and Sri B.B.T. Tham, Botanist made descriptions for 20 species in connection with 'Flora of Pakhui Tiger Reserve and Wild Life Sanctuary'.

Dr. Vineet Kumar Rawat, Scientist 'C' made descriptions and key for 15 species in connection with 'Taxonomic study of the family Polypodiaceae of North East India'.



*Angiopteris crassipes* (Marattiaceae)

*Brainea insignis* (Blechnaceae)

### Public Service rendered

Dr. U.K.L. Tiwari identified 23 species (46 herbarium sheets) for Gyati Yam, Research Scholar, Forestry Department, North East Regional Institute of Science & Technology, Arunachal Pradesh.

### Lecture attended

Dr V.K. Rawat and Dr. Borah attended one lecture delivered by the Director, Botanical Survey of India, Kolkata on "Plant Taxonomy in India – Future and Challenges" at Gauhati University on 19.02.2016 on the occasion of 4th Prof. H.K. Baruah Memorial Lecture.

### Botanic Garden Inspection

Dr. U.K.L. Tiwari submitted the inspection report of Botanic Garden, Chessa, SFRI - a project Funded by MoEF & CC, New Delhi to the Director, Botanical Survey of India, Kolkata.

### Publication

Angela, N., Sharma, H.B., Chowlu, K. and Nageswara Rao, A. 2015. Foliar anatomy in some species of *Bulbophyllum* Thou. *J. Orchid Soc. India* 29: 67–74.

– Dr. P. Satyanarayana  
Scientist 'D' & HoO

## ARID ZONE REGIONAL CENTRE, JODHPUR

In connection with the project, Ethnobotany of Dang District, Gujarat Sri Vinod Maina, Scientist 'D' & HoO and Sri Ravi Prasad, Bot. Asst. identified specimens of 13 field numbers. For Flora of Shoolpaneshwar WLS, Narmada District, Gujarat Dr. S.L. Meena, Scientist 'D' and Dr. Harikrishana Peddi, Bot. Asst. identified specimens of 64 field numbers. For Flora of Navsari District, Gujarat, Dr. Ramesh Kumar, Scientist 'C' and Sri Vinod Maina identified specimens of 62 field numbers.

### Public service rendered

Identified 175 plant specimens brought by Dr. Jayesh Bhatt, Scientist, Terrestrial Ecology Division, Gujarat Institute of Desert Ecology, Bhuj, Gujarat.

### Visitors

Dr. Jayesh Bhatt and Sri Bhagirath of Gujarat Institute of Desert Ecology, Bhuj, Gujarat consulted herbarium from 8th February to 12th February 2016.

Sri D.P. Sharma, PCCF (Research), Jaipur along with 2 staff members of Forest Trainee Institute, Jodhpur and 18 forest guard trainees visited on 11.02.2016.



AZRC staff explaining about processing of specimens to forest guard trainees



Sri D.P. Sharma, PCCF, Jaipur with Forest Trainees at AZRC herbarium, Jodhpur

### Publications

Meena, K.L. and Meena, S.L. 2016. *Hygrophila ringens* (L.) Steud. (Acanthaceae): A new record to the Flora of Western tribal Madhya Pradesh (Malwa region), India. *J. Econ. Taxon. Bot.*, 39(2): 299–296.

Meena, S.L. and Hari Krishna, P. 2016. *Heterostemma dalzellii* Hook.f. : A new Generic record to the Flora of Gujarat State. *J. Econ. Taxon. Bot.*, 39(2): 305–309.

– Sri Vinod Maina  
Scientist 'D' & HoO

## CENTRAL REGIONAL CENTRE, ALLAHABAD

A field tour to Raigarh and adjoining districts of Chhattisgarh state was undertaken by Dr. A.N. Shukla, Scientist 'B' and Dr. A.P. Tiwari, Presv. Asst. from 22nd January to 3rd February 2016 and 130 field numbers of plant specimens were collected for the project "Flora of Chhattisgarh".

### Herbarium specimen identification

A total of 24 species with as many field numbers were identified under the projects, "Floristic diversity of Parvati Aranga Wildlife Sanctuary and adjoining Tikri forest area, Gonda" and "Flora of Chandra Prabha Wildlife Sanctuary, Chandauli, U.P."

Under the flora of India project, "Taxonomic studies on lichenised non-Thelotrema Indian Graphidaceae" and "Lichens of Terai regions of Uttar Pradesh" a total of 16 species were identified. In addition, 21 earlier collected specimens housed at BSA were also identified.

Photo: A.N Shukla



*Drosera burmanni* (Droseraceae) – a carnivorous plant collected from Raigarh district, Chattishgarh



*Radermachera xylocarpa* (Bignoniaceae) – a threatened species from Raigarh district of Chhattisgarh

### Public service rendered

Dr. Neelam Gautam, Scientist 'B' as external examiner conducted practical examination of University of Allahabad for B.Sc. II at I.S.D.C, Allahabad and S.S.D.C., Raebareli respectively on 12.02.2016 and 21.02.2016.

Dr. G.P. Sinha, Scientist 'E' & HoO as external examiner conducted practical examination of University of Allahabad for B.Sc. I at C.M.P. Degree College, Allahabad on 23.02.2016 and 24.02.2016.

Dr. Arti Garg, Scientist 'D' as external examiner conducted practical examination of University of Allahabad for B.Sc. II at S.S. Khanna Degree College, Allahabad on 26.02.2016 and 27.02.2016.

Dr. G.P. Sinha vetted a project under assistance to Botanic Garden Programme of MoEF & CC submitted by Prof. Anupam Dikshit, Head, Department of Botany, University of Allahabad and report sent for incorporation of suggestions and final submission.

Two herbarium specimens received from Sri Manish Kumar Pathak, Research Scholar, Dept. of Pharmaceutical Science, SHIATS, Allahabad and five specimens brought by Dr. K.K. Soni, Assistant Professor, Dept. of Botany, Barkatullah University, Bhopal were authenticated by Dr. A.P. Tiwari, Presv. Asst.

Five herbarium specimens brought by Ms. Pooja Jaiswal, Research Scholar, Department of Botany, Mahila Maha Vidyalaya, Banaras Hindu University, Varanasi were identified into two species by Dr. A.P. Tiwari.

Three lichen specimens received from Prof. Nripendranath Mandal, Bose Institute, Kolkata were identified and authenticated by Dr. Pooja Gupta, Senior Project Fellow.

### Visitors / students

Two Professors and four students of Homeopathic College, Allahabad working on medicinal plants visited associated garden of the regional centre.

Ms. Archana R. Mesta of Kumadvathi First Grade College, Shikaripura, Shivamogga, Kuvempu University, Karnataka consulted lichen herbarium and library of this centre on 23rd and 24th February 2016.

### Seminar attended

Dr. G.P. Sinha, Sri Vineet Kumar Singh, Bot. Asst. and Dr. Nitisha Srivastava, Bot. Asst. attended the inaugural session of National Seminar on "Science and Technology for Indigenous Development in India" organized by Allahabad chapter of Indian Science Congress Association at D.D. Pant Auditorium, Department of Botany, University of Allahabad on 19.02.2016.



Dr. Neelam Gautam, Scientist 'B' delivered a lecture as a resource person on "Confronting Agricultural Crisis and Climate Change" in National Seminar on "Role of Agriculture in the Development of Rural India: Its Challenges and Possibilities in 21st Century" which was held from 19th to 20th February 2016 at Govt. Degree College, Pihani, Hardoi (Department of Higher Education), Uttar Pradesh.

### Publications

Garg, A. and Joshi, B. 2015. New record of *Emilia javanica* Rob. and *Inula falconeri* Hook.f. (Asteraceae) in Uttar Pradesh, India. *Indian J. Forest.* 38(4): 351–352.

Garg, A. and Singh, V. 2015. Alien Invasive Elements of Upper Ganga Ramsar site in Uttar Pradesh, India. *Indian J. Forest.* 38(4): 383–386.

Joshi, P., Kumar, B., Shukla, A.N. and Srivastava, S.K. 2015. Vascular cryptogams of Cold Desert of Western Himalaya. *Phytotaxonomy* 15: 33–43.

Srivastava, N. and Kumar G. 2016. Effect of water logging stress on meiotic course, tetrad formation and pollen fertility of *Sesbania pea*. *Cytology and Genetics* 50(1): 28–31.

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

## DECCAN REGIONAL CENTRE, HYDERABAD

Dr. L. Rasingam, Scientist 'C' and Sri S. Nagaraju, Bot. Asst. conducted one field tour to Nagarjunasagar and Markapur divisions of Nagarjunasagar–Srisailem Wildlife Sanctuary from 2nd to 9th February 2016 and collected 51 field numbers of plant specimens. Dr. J. Swamy, Bot. Asst. conducted one field tour to Sacred Groves of Prakasam district (Isukagundalu, Nemaligundla Ranga Swamy and Palanka Veerabhadra Swamy) from 2nd to 9th February 2016 and collected specimens of 89 field numbers.

Sri S. Nagaraju identified 17 species for the Flora of Seshachalam Biosphere Reserve, Dr. J. Swamy identified 110 species for Sacred Groves of Andhra Pradesh, Sri K. Chandra Mohan, SRF identified 22 species for Flora of Satkosia Tiger Reserve and Mrs. P.S. Annamma, SRF identified 6 species and made description for 10 species for Flora of Kawal Tiger Reserve.

### Digitization of herbarium specimens

In connection with digitization of herbarium specimens at BSID, 400 herbarium specimens of Malvaceae, Cyperaceae, Lamiaceae, Selaginellaceae, Pteridaceae, Gleicheniaceae, Nephrolepidaceae and Isoetaceae were scanned and data entry of label information were completed.

### Public service rendered

Dr. L. Rasingam and Dr. J. Swamy identified 7 plant species for Professors and students of various institutions.



***Barleria strigosa* from Nemaligandla Ranga Swamy Sacred Grove, Prakasam district, Andhra Pradesh**



***Andrographis beddomei* from Isukagundalu Sacred Grove, Prakasam district, Andhra Pradesh**

Photo: J. Swamy



Dr. J. Swamy and Sri S. Nagaraju collecting specimens from Palanka Veerabhadra Swamy Sacred Grove, Prakasam district, Andhra Pradesh

### Meeting/Workshop attended

Dr. K. Prasad, RA attended two-day workshop on 'Concepts of Plant Taxonomy' at Department of Botany, Nagarjuna Government College, Nalgonda, Telangana from 5th to 6th February 2016 and delivered a lecture on 'Salient Features of Families of Monocotyledons with special reference to Orchidaceae'.

Dr. M. Ahmedullah, Scientist 'E' attended the Telangana State Biodiversity Board's Techno-Legal Advisory Group (TLAG) meeting on Access and Benefit Sharing, held on 18.02.2016.

Dr. P. Venu, Scientist 'G' & HoO attended DPC for Botanical Assistant positions in BSI from 22nd to 24th February 2016.

Dr. L. Rasingam and Sri S. Nagaraju attended a National Conference cum workshop on "Advances in Orchid Biology with focus on Climate Change" held at Dr. YSR Horticultural University, Venkataramannagudem, Andhra Pradesh from 25th to 26th February 2016.

### Visitors

Dr. B.M. Reddy and Mrs. Neeraja, Assistant Professors of Kakatiya University visited the herbarium and Library on 29.02.2016.

– Dr. M. Ahmedullah  
Scientist 'E' & HoO

## EASTERN REGIONAL CENTRE, SHILLONG

one tour to Anjaw District of Arunachal Pradesh was conducted by Dr. A.A. Mao, Scientist 'F' & HoO from 13th to 19th February 2016.

### Specimen identification

Identified total 24 species and 27 documentation for Flora of Eastern Nagaland by Dr. N. Odyuo, Scientist 'D' and Dr. R. Daimary, Bot. Asst.; Flora of Amchang WLS by Mrs. Nandita Sarma, Sr. Presv. Asst.; and Flora of Yangoupokpi Lokchao WLS (Manipur) by Sri R. Meitei, Bot. Asst. Compiling of final manuscript is continued for Flora of Laokhowa WLS by Dr. Chaya Deori, Scientist 'D' and S.R. Talukdar, Sr. Presv. Asst., Flora of South Garo Hills Dist., Meghalaya by Dilip Kumar Roy, Bot. Asst. In connection with revision of Bryoflora of Mizoram, taxonomic description was completed for 8 species of *Radula* and study of the genus *Riccia* (Marchantiophyta) in India is continued by Dr. S.K. Singh, Scientist 'D'. Finalization of manuscript for Checklist of Flora of Nagaland by Dr. A.A. Mao and Dr. Odyuo is continued.

For Taxonomy, phylogeny and *ex-situ* conservation of Micro-fungal diversity from north-east India with special emphasis on fungi associated with endemic and threatened plants of Meghalaya, Dr. Ashish Venkatesh Prabhugaonkar, Scientist 'B' identified some of the endophytic fungi isolated from *Zanthoxylum* sp. viz., *Diplodia* sp.; *Pestalotiopsis* sp.; *Phoma* sp.; *Phomopsis* sp.; *Vermiculariopsiella elegans*; *Vermiculariopsiella* sp., *Paecilomyces divaricatus*, *Panicillium* sp., *Paecilomyces divaricatus*, *Panicillium* sp. One rust fungus associated with *Zanthoxylum* sp. was observed at upper shilling forest, specimen is being studied. *Meliola uncariae* was observed growing on *Uncaria sesilifructus* (Rubiaceae): One interesting litter fungus isolated from litter of *Aquilaria* sp. is being studied.

For Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species, Dr. Deepu Vijayan, Scientist 'B' subcultured multiple shoots (60 numbers) of *in vitro* raised seedlings of *Pyrenaria khasiana* in WPM medium. Standardized PCR conditions for ISSR and rbcl primers. Dr. Vijayan also completed PCR analysis of *Paphiopedilum venustum* (both Arunachal Pradesh and Meghalaya) using rbcl primer.

#### Public Service rendered

Assisted one excursion team of 32 college students from of Assam Homeopathic Medical College, Nagaon, Assam.

#### Exhibition attended

Dr. R. Daimary, Botanical Assistant and Sri H.K. Das, Sr. Library & Inf. Asst participated in Science Exhibition held on 26th and 27th February 2016 organized by State Council of Science, Technology and Environment, Meghalaya at NEHU, Shillong.

#### Visitors/students

Two lecturers, six Research Scholars, two Scientist and 22 students visited the Centre from various Institutions, Colleges and Universities.

#### Publications

Singh, S.K. and Majumdar, S. 2015. Less known *Plagiochila ptychanthoidea* newly recorded species from India with new morphological details. *J. Bryol.* 37(4): 332–335.

Singh, S.K. and Pocs, T. 2016. Reinstatement of *Cololejeunea indica* Pande & Mishra a name previously synonymous with *C. spinosa* (Horik.) Pande & Mishra. *Cryptog. Bryol.* 37(1): 27–32.

– Dr. A.A. Mao  
Scientist 'F' & HoO

### NORTHERN REGIONAL CENTRE, DEHRADUN

Identified total 73 species and made description for 82 species of Angiosperm in connection with the projects, Flora of Uttarakhand Vol. V, Floristic Diversity and Phytosociological study of Simbalbara National Park, Flora of Nandhour Wildlife Sanctuary, Flora of Sonanadi Wildlife Sanctuary, Revision of family Bignoniaceae, Cyatheaceae and genus *Lepisorus* (Sm.) Ching in India.

#### Digitization of Herbarium specimens

Scanned and digitized 107 specimens of the family Cappariaceae and of Pteridophytes.



*Prunus cerasoides* blooming in Chakrata

Photo: K. Ambrish



*Rhododendron arboreum* blooming in Chakrata

### Public Service rendered

Identified 3 species viz., *Catunaregam spinosa* for Dr. Rashmi Bhaskar, *Amaranthus viridis* for Dr. Ritu Singh and *Scindapsus officinalis* for Dr. Nigamanand Bal, Dept. of Dravyaguna, Rishikul Campus, Haridwar.

### Meetings/Programmes attended

Drs. P.K. Pusalkar, Scientist 'D', Kumar Ambrish, Scientist 'D', R. Manikandan, Scientist 'D', Puneet Kumar, Scientist 'B', and Manas Ranjan Debta, Scientist 'B' attended 4th IIRS User Interaction Meet (IUIIM-2016) at Indian Institute of Remote Sensing (IIRS), Dehradun on 18.02.2016. Dr. Manikandan, Scientist 'D', Dr. G.S. Panwar, Scientist 'C' and Sri Amber Srivastava, SRF have attended and presented their respective field of Research articles on 10th Uttarakhand State Science and Technology (UCOST) Congress 2015-16 held on 10th to 12th February 2016 at Dehradun.

Photo: Him. Ayur. College



Amber Srivastava and Sachin Sharma along with visiting team from Himalayan Ayurvedic College

Photo: Punjab Univ.



Sri V.K. Madhukar explaining about the importance of Herbarium to students from Punjab University, Chandigarh

### Visitors / students

180 students from Times World School, Dehradun; 35 students from Punjab University, Chandigarh; 5 members from Himalayan Ayurveda College, Dehradun.

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

## SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. Dinesh Kumar Agrawala, Scientist 'C' & HoO identified and illustrated two orchid species. Dr. Agarwala finalized 10 other orchid specimens in respect of their identity, geo-coordinates and entry in the excel sheet for the project, "Red listing of Orchids of Eastern Himalaya as per IUCN criteria".

Dr. David Lalsama Biata, Scientist 'B' identified two specimens *Epilobium wallichianum* (Banerjee 2433) and *E. cylindricum* (M. Gangopadhyay 37533) for the project, "Flora of Sikkim – family Onagraceae".

Sri S.K. Rai, Presv. Asst. identified 24 species from 54 unidentified herbarium sheets.

Sri Subash Pradhan, Field man, identified 3 species from 12 unidentified herbarium sheets.

### Digitization of Herbarium specimens

Metadata entered in the excel sheet for 1200 specimens of Ranunculaceae.

### Public Service rendered

Dr. D.K. Agrawala reviewed a manuscript received from *Bangladesh Journal of Plant Taxonomy*.

### Meetings/ programme attended

Dr. Agrawala attended as a Chairperson in an interview board for selection of project staff in G.B. Pant Institute for Himalayan Environment and Development, Gangtok on 19.02.2016.

### Visitors/students



Photo: Sankara Rao Mudadla

15\_02\_2016

Dr. D.K. Agrawala delivering a lecture to the visiting students from Shivaji University, Kolhapur, Maharashtra

Sri Om Prakash and Sri R.L. Meena from IHBT-CSIR, Palampur visited this centre for herbarium consultation on 05.02.2016. From Shivaji University, Kolhapur, Maharashtra 39 students and two faculty members visited this centre on 15.02.2016 as a part of their study tour. Alexander R. O'Neill, Fulbright-Nehru Research Fellow visited the herbarium on 23.02.2016. Dr. Rinchen Yangzom, Biodiversity Centre, Bhutan visited this centre for herbarium consultation from 23rd to 26th February 2016. Dr. Kailash Chandra, Director-in-Charge, ZSI, Kolkata visited on 28.02.2016.

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

## SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. M. Palanisamy, Scientist 'D' conducted a field tour to Karnataka coastal areas for seaweed survey and collection from 17th to 29th February 2016 and collected 310 field numbers of seaweed specimens. Dr. J.V. Sudhakar, Bot. Asst. conducted one day (16.02.2016) field trip to Nilgiris along with Tamil Nadu Forest Department officials for the collection and introduction of *Ficus* species in Ficatorium, at Sircarpathy (Pollachi), Coimbatore District and Brookhampton Medicinal Plant Garden, Ooty, Nilgiri District.



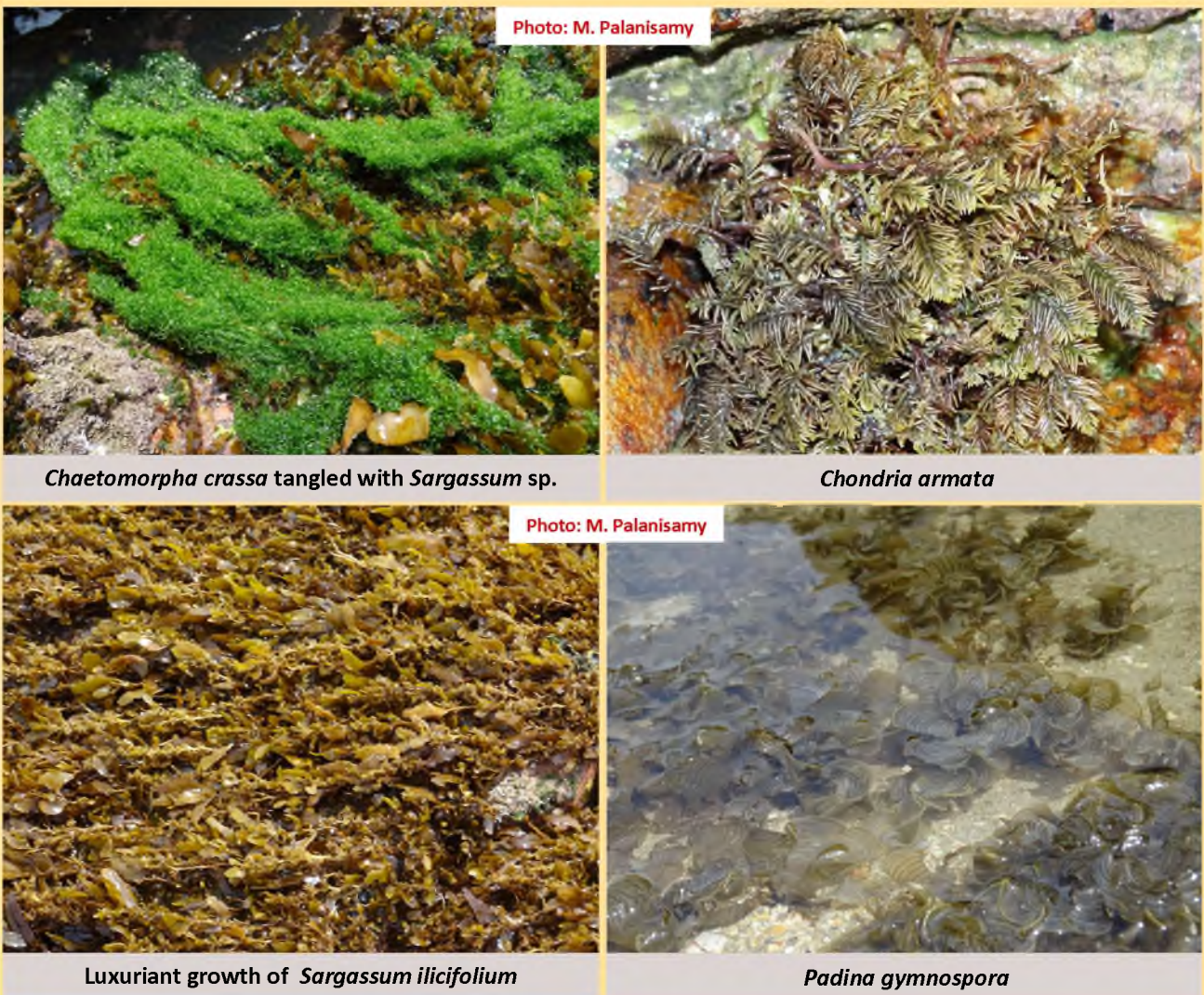
Dr. M. Palanisamy collecting seaweeds at St. Mary's Island, Karnataka Coast

Photo: S.K. Yadav



*Caulerpa sertularioides* (seaweed) at Karnataka coast

Photo: M. Palanisamy



### Herbarium specimens Identification

Dr. M. Palanisamy, identified 13 field numbers of seaweed specimens for seaweed Flora of Karnataka coast. Dr. K.A.A. Kabeer, Scientist 'D' and Sri A. Ravi Kiran, Bot. Asst. identified 20 field numbers of specimens collected from Kodaikanal Wildlife Sanctuary, Tamil Nadu. Dr. J.H. Franklin Benjamin, Scientist 'B' and Sri R.G. Vadhyar, Bot. Asst. identified specimens of 34 field numbers collected from the Malabar Wildlife Sanctuary, Kozhikode, Kerala. Under the documentation of Phytodiversity, Dr. G.V.S. Murthy, Scientist 'G' & HoO and Sri K. Yarrayya, Presv. Asst. completed the author citation for 80 species of Cyperaceae (5 species of *Bulbostylis*, 65 species of *Fimbristylis* and 10 species of *Eleocharis*). Dr. C. Murugan, Scientist 'D' documented *Caryota urens* and *Corypha umbraculifera* at MH in connection with 'Flora of Kerala (Vol. 6), family Arecaceae.

### Ex-situ conservation

Dr. S. Kaliamoorthy, Scientist 'D' introduced 5 plant samples of orchids (*Vanda* species) in National Orchidarium and Experimental Garden (NO & EG), Yercaud collected from Ooty. In addition, Dr. Kaliamoorthy and his team multiplied 29 plant samples (including 21 samples of orchids and 8 samples of other plants), developed 13 seedlings and 62 cuttings. The team also recorded the phenology of 23 species including 16 orchids and 7 other angiosperms.

### Databasing and Digitization of herbarium specimens

Details of 200 herbarium specimens collected from Satyamangalam Forest were added in MH database. In addition, one Isotype of *Salacia wayanadica* (Celastraceae) was accessioned and added into type data base.

### Public service rendered

During this month, a total of 54 plants were identified for research scholars and students from various institutions.

### Meeting/programmes attended

Dr. S. Kaliamoorthy attended the INSA Academic series lecture organized by the Department of Botany, St. Joseph's College, Tiruchirappalli on 12.02.2016.

Dr. M. Palanisamy and Sri Sudhir Kumar Yadav attended the National Conference on "*Perspectives and Prospects in Aquatic Research*" on 16.02.2016 held at Kongunadu Arts and Science College, Coimbatore. In this conference, Dr. M. Palanisamy delivered lecture on "*Seaweed Resources of India – Applications*" and chaired a scientific session.



Photo: S.K. Yadav

Dr. M. Palanisamy delivering lecture

### Visitors/students

A total of 424 students, research scholars, scientists, professors/officials visited the museum, herbarium and library of this regional centre, whereas 1099 persons in 106 parties visited the NO & EG, Yercaud.

– Dr. G.V.S. Murthy  
Scientist 'G' & HoO

## WESTERN REGIONAL CENTRE, PUNE

During this month, Dr. J. Jayanthi, Scientist 'D' visited the herbarium of the French Institute of Pondicherry (HIFP) from 15th to 19th February 2016 and documented about 500 herbarium specimens pertaining to collections from Biligirirangan hills, Karnataka.

### Specimen Identification

Dr. A. Benniamin, Scientist 'D' identified four pteridophyte species under the project "Ferns of Karnataka". Sri D. Tripathi, SRF identified five pteridophyte specimens collected from Kudremukh National Park, Karnataka. Ms. S. Sengupta, SRF studied about 82 slides for identification of microfungi collected from BRT Wildlife Sanctuary, Karnataka.

### Public service rendered

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO evaluated a Ph.D. thesis entitled, "Floristic and Ecological studies on Madayippara Lateritic Plateau of Northern Kerala" received from University of Calicut.

Dr. Lakshminarasimhan also evaluated and sent comments on project report entitled, "Stabilisation and conservation of the Wallich Correspondences held at Central National Herbarium, Botanical Survey of India, Howrah, India (CAL)" under INTACH (International Trust for Art and Cultural Heritage), UK Scholar.

Dr. Lakshminarasimhan reviewed manuscripts for *Bangladesh Journal of Plant Taxonomy* and *Ethnobotany Journal*. Dr. J. Jayanthi reviewed a manuscript for the *Journal of Economic and Taxonomic Botany*. Dr. J.S. Jalal, Scientist 'C' reviewed manuscripts for *Journal of Threatened Taxa* (JoTT) and *Rheedea*.

During this month, identified and authentication certificates were issued to 29 students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

As part of the “Science Day” celebration, Dr. Priyanka Ingle, Scientist ‘B’, Dr. C.R. Jadhav, Botanist, Sri S.C. Patil, Bot. Asst. and Ms. Prachiti Mule, Bot. Asst. visited St. Cathedral Vidya School, Lonavala on 26.02.2016 and explained students about role of Botanical Survey of India and identification of medicinal plants.

### Meetings /programmes attended

Dr. P. Lakshminarasimhan, attended the Peer Review Committee / Assessment Board meeting as expert member of level 2 screening (External) under Modified Flexible / Complementing Scheme at Agharkar Research Institute, Pune on 01.02.2016.

Dr. Lakshminarasimhan delivered a talk entitled, “Botanic Gardens in Conservation of Threatened Tree species of India” at the National Seminar on “Conservation of Trees – Perspectives and Strategies” on 02.02.2016 at Bhavan's College, Mumbai.

Dr. Rashmi Dubey, Scientist ‘D’ and Dr. Priyanka Ingle, Scientist ‘B’ attended a meeting on “Plastic waste-free India’ campaign” at Balgandharv, Pune on 04.02.2016.

Dr. Lakshminarasimhan, Dr. Rashmi Dubey and Dr. Priyanka Ingle attended a programme on “Jivdhatta Mahotsav” 2015 – 2016 and a photographic exhibition on “Biodiversity of Western Ghats”, organized by Dr. Sachin Punekar, President, Biosphere on 09.02.2016.

Dr. Lakshminarasimhan received the Hon'ble Sri Prakash Javadekar, Union Minister of State (I/C), Environment, Forest & Climate Change, Govt. of India, New Delhi at Pune airport on 12.02.2016.

Dr. J.S. Jalal, attended the National Conference on “Advances in Orchid Biology with focus on Climate Change, Medicinal and Floricultural Plants and Sustainable Economic Utilization” at Dr. Y.S.R. Horticultural University, West Godavari Dist., Andhra Pradesh, from 26th to 28th February 2016 organized by The Orchid Society of India (TOSI). Dr. Jalal presented a paper on “Orchid Diversity of Madei Wildlife Sanctuary, Goa” in the conference.



Photo: Gopal Krishna

**Dr. J.S. Jalal presenting paper in The Orchid Society of India (TOSI) conference at Y.S.R. Horticultural University, Andhra Pradesh**

Dr. P. Lakshminarasimhan, Dr. J. Jayanthi and Dr. C.R. Jadhav attended the function “Launching of the website on Digital Herbarium of Angiospermic Plants of Western Ghat Regions of Maharashtra” at Modern College of Arts, Science and Commerce, Pune on 29.02.2016. Dr. Lakshminarasimhan officially launched the website and delivered the inaugural address during the function.



Photo: Aneeta Kindre

**Launching of website on ‘Digital Herbarium of Angiospermic Plants of Western Ghat Regions of Maharashtra’**



### Plastic waste-free India campaign

The scientists of WRC, Pune participated in the campaign on 'Plastic Waste-Free Pune' launched on 13.02.2016 by Sri Prakash Javadekar, Hon'ble Union Minister of State (I/C) for Environment, Forest & Climate Change at DES's New English School, Ramanbagh School, Pune. The Western Regional Centre, Pune took initiatives in creating awareness about 'Plastic Waste Free Pune' campaign by printing banners and posters for displaying in WRC office campus and experimental garden at Mundhwa. The Plastic Waste-free pamphlets were also printed and distributed to the schools and colleges.



Plastic Waste-free campaign at Pune, launched by Sri Prakash Javadekar, Hon'ble Union Minister for Environment, Forest & Climate Change and participation of Western Regional Centre

Photo: C.R. Jadav



**Plastic Waste-free pamphlet distributed to the schools and colleges in Pune by Western Regional Centre**

**Visitors/students**

Prof. M.K. Janarthanam, Dept. of Botany, Goa University visited WRC on 01.02.2016 and 02.02.2016 for herbarium consultation. Dr. Janarthanam was also shown the WRC museum by the Scientists of that centre. Participants of the event, “Virasat Pune” visited WRC on 12.02.2016 as part of the Pune Heritage Festival. 23 B.SC, 3rd year students and 5 faculty members from Sir P. P. Institute of Science, Bhavnagar, Gujarat visited on 12.02.2016. 18 PG students and 5 faculty members from Department of Botany, Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra visited on 15.02.2016. Sri Alok Chorge, ex-SRF, Deccan Regional Centre, Hyderabad visited.



Photo: P. Ingle

**Prof. M.K. Janarthanam visiting museum at WRC**



Photo: S.C. Patil

**Visit of BSI officials to St. Cathedral School, Lonavala**



Photo: S.C. Patil

**Students visiting museum at WRC**



**Students visiting Herbarium at WRC**

**Publication**

Singh, G., Rai, I.D., Rawat, G.S., Goraya, G.S. and Jalal, J.S. 2015. Addition to the Flora of Great Himalayan National Park, Western Himalaya. *Indian J Forest.* 18(4): 175–181.

**– Dr. P. Lakshminarasimhan**  
Scientist 'E' & HoO



## PLANT OF THE MONTH



*Maniltoa polyandra* (Roxb.) Harms (CAESALPINIACEAE) is distributed in India, Bangladesh, Myanmar, Thailand, Cambodia and Malaysia. The lofty tree with timber value is introduced in the gardens.

By Dr. B.K. Singh

THE ASSAM TRIBUNE, GUWAHATI 5

## Prof HK Baruah memorial lecture

GUWAHATI, Feb 21: The 4th Professor HK Baruah Memorial Lecture, organised by the Department of Botany, Gauhati University, and the Botanical Forum, Gauhati University, in collaboration with the NERIM Group of Institutions, was held on February 19 at AT Hall of Gauhati University.

Dr Paramjit Singh, Director, Botanical Survey of India, Kolkata, delivered the memorial lecture on the topic, 'Plant Taxonomy in India – future and challenges'.

Dwelling on different aspects of this discipline of Botany, Dr Singh unveiled the historical background, development and past and modern trends in plant taxonomy. From his vast experience, he urged the students and research scholars to make both intensive and extensive studies on the subject so that many hidden truths may come out.

The university anthem was sung by the students of Botany Department, GU at the very beginning, which was followed by offering of floral tributes in front of the portrait of Professor HK Baruah by Dr Mridul Hazarika, Vice Chancellor, GU, Prof HP Sarma, Rector, GU, Dr Paramjit Singh, Director, BSI, Kolkata, Prof PP Baruah, Head, Department of Botany.

Prof PP Baruah delivered the welcome address, while VC Dr Mridul Hazarika inaugurated the memorial lecture. Prof HP Sarma, Rector, GU, also spoke on the occasion. Dr TC Sarma, one of the seniormost faculty members of the Department of Botany, GU, spoke on the life and achievements of Prof HK Baruah, founder professor and head, Botany Department, and ex-Vice Chancellor, Gauhati University.



Dr. Paramjit Singh, Director, BSI receiving 'Prof. S.P. Vij Memorial Award, 2016' at the National Conference cum Workshop on 'Advances in Orchid Biology with Focus on Climate Change, Medicinal and Floricultural Plants and Sustainable Economic Utilization & Orchid Show' held at Y.S.R. Horticultural University

Photo: Avishek Bhattacharjee

### PROMOTIONS

Er. A.K. Pathak, Scientist 'F' promoted under the FCS as Scientist 'G' w.e.f. 16.02.2016.  
Dr. G.V.S. Murthy, Scientist 'F' promoted under the FCS as Scientist 'G' w.e.f. 16.02.2016.

*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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