



# BSI NEWSLETTER

The monthly electronic newsletter of Botanical Survey of India

## Director's column



During this month, scientists of BSI published a new fungal genus, *Mycorrhaphoides* and a new species *M. stalpersii* and two flowering plant species, *Brachystelma seshachalamense* (Apocynaceae) and *Glochidion talakonense* (Phyllanthaceae) based on the collection made from different parts of India. Apart from this, report of the species *Beesia calthifolia* (Ranunculaceae) forms a new generic record for India.

Scientists and scientific staff conducted field tours to various geographical zones in connection with the ongoing projects. Important ones to mention are: Anjaw, Lohit and Namsai districts of Arunachal Pradesh, North Bengal and Netravali Wildlife Sanctuary and Baghwan Mahaveer Wildlife Sanctuary and adjacent areas in Goa to collect Orchid species, Ri-bhoi district of Meghalaya to collect live plants for introduction in the Experimental Garden and different parts of Andhra Pradesh to collect *Cycas* species (for pharmacognosy studies)

Two crude drug samples, viz., root of *Glycyrrhiza glabra* (Fabaceae) and bark of *Symplocos racemosa* (Symplocaceae), were studied and authenticated, which was received from Institute of Post Graduate Ayurvedic Education and Research, Kolkata.

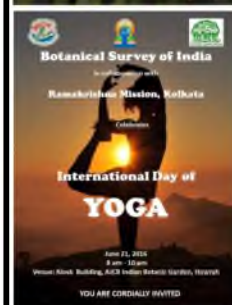
On 5th June, the World Environment Day was celebrated in various units and regional centres of BSI, in which Sit & Draw competitions for the school children, plantation programme, plant sapling distribution and screening of documentary films were arranged.

Similarly, the International Day of Yoga (21st June) was also observed and in this programme the officials from different units/regional centres of BSI participated and practiced warm up exercises, yoga postures and pranayama.

Jai Hind!

**Paramjit Singh**

Director, Botanical Survey of India, Kolkata



## HEAD QUARTERS, KOLKATA

In connection with the Project on “Pharmacognosy of Indian Cycads”, Dr. A.B.D. Selvam, Scientist ‘D’ visited different parts of Andhra Pradesh from 4th to 13th June 2016 and collected three species of *Cycas* (leaves, male and female cones), which includes 3 field numbers of *Cycas beddomei*, an endemic species, categorized as Endangered and included in the Appendix I of CITES, in addition to Negative list of Exports (1998). Dr. Selvam also collected *Cycas circinalis* (male cone and leaves) from AJC Bose Indian Botanical Garden, Howrah for pharmacognosical study.



*Cycas beddomei* (Cycadaceae): Male plant with cones (right) and Female plant with cones (left) Photo: A.B.D.Selvam

In connection with the ‘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’, ‘Revision of the family Metzgeriaceae in India’, ‘Liverworts and Hornworts of Darjeeling District, West Bengal’ and ‘Wood rotting fungi of Rajmahal hills’, identification, description and illustrations are being carried out by the scientists, scientific officials and research students.

Dr. Devendra Singh, Scientist ‘C’ identified six species of liverworts and mosses collected from Larsemann Hills, East Antarctica and also prepared the data base for total 46 specimens collected from Sikkim by him as well as specimens housed at CAL.

Dr (Ms.). Monalisa Dey, Scientist ‘B’ studied and photographed two specimens obtained on loan from Friedrich-Schiller-Universität Jena, Germany (JE): *Drepanolejeunea spicata* (JE04009815) and *Rhaphidolejeunea yunnanensis* (JE04002963, Isoeotype). Dr (Ms.). Monalisa Dey attended the B.Sc. Part II students of Maulana Azad College on their educational visit to Central National Herbarium on 16.06.2016.

Smt. Shobha Rudra, Botanist prepared database of 250 numbers of Lichen specimens. Sri Kaju Majumdar, Presv. Asst. compiled 440 Database sheets of Pteridophytes. Ms. Pamela Saha, SRF prepared database of 25 moss specimens collected from Darjeeling District deposited in General Herbarium of Cryptogamic Unit in CNH building.

### Lecture delivered

Dr. Kanad Das, Scientist ‘D’ delivered a talk on “Wild Mushrooms: Diversity, Threat and Conservation” at National Library on 06.06.2016 in connection with the celebration of World Environment Day.

### Public service rendered

Dr. A.B.D. Selvam studied and authenticated two crude drug samples, viz., root of *Glycyrrhiza glabra* (Fabaceae) and bark of *Symplocos racemosa* (Symplocaceae), which were received from Department of Dravyaguna Vigyan, Institute of Post Graduate Ayurvedic Education and Research, Kolkata.

### Publication

Hembrom, M.E., Das, K., Nilsson, R.H., Parihar, A., Baghela, A., Mehta, N., Singh, S.K. and Hallenberg, N. 2016. Morphology and phylogeny reveal a novel hydroid taxon from India: *Mycorrhaphoides stalpersii* gen. and sp. nov. *Nordic Journal of Botany*. Dryad Digital Repository. <http://dx.doi.org/10.5061/dryad.9t6t0>

## AJC BOSE INDIAN BOTANICAL GARDEN, HOWRAH

Regular maintenance of different divisions and aquatic plants in different lakes, de-weeding and cleaning in various divisions and vantage points were carried out.

### World Environment Day

Celebrated World Environment Day in AJC Bose Indian Botanical Garden on 05.06.2016 by organizing various programmes including Sit & Draw competition, free plant sapling distribution, plantation, and mass rally. More than 400 students from different schools in Howrah, Kolkata, Hooghly and Medinipur participated in Sit & Draw competition under four different age groups. The topics for competition were selected as per the various age groups and this year's theme, "Go wild for life - Zero tolerance for the illegal wildlife trade". Dr. B.K. Mahapatra, Chief Scientist & In-Charge, Central Institute of Fisheries Education, Kolkata was the Chief Guest while, Sri V.K.S. Sastry, AGM, Union Bank of India graced the occasion as Guest of Honour. Er. A.K. Pathak, Scientist 'G', Dr. P.V. Prasanna, Scientist 'F', Dr. B.K. Sinha, Scientist 'F' and other senior scientists and staff of Botanical Survey of India were present in the programme. Union Bank of India partially sponsored the programme by providing school bags to all the children participated in Sit & Draw competition. A cultural programme related to environment awareness was presented by the Kolkata based dance troop PRATIDHWAANI, a NGO actively engaged in environmental awareness programme.

### International Day of Yoga

International Day of Yoga was observed in AJC Bose Indian Botanical Garden on 21.06.2016 at Curator Office. Swamy Yadavendranada, In-charge of Ideology Section, Ramkrishna Mission Institute of Culture, Kolkata was the guest and inaugurated the Yoga day by giving speech on significance of yoga and spiritual life. Prof. Dibakar Addy, Physical Therapy Consultant, "Dibya Sundar Yoga Darsho", Kolkata demonstrated various yoga postures to the participants. Dr. Paramjit Singh, Director, Botanical Survey of India, Er. A.K. Pathak, Scientist 'G', Dr. P.V. Prasanna, Scientist 'F', Dr. A. Pramanik, Scientist 'E' along with 100 officials from different units of Botanical Survey of India located in Howrah and Kolkata participated in the yoga day celebration.

### Meetings attended

Dr. A. Pramanik, Dr. M.U. Sharief, Dr. C.M. Sabapathy and Dr. B.K. Singh attended meeting in connection with the development of new gallery at ISIM on 10.06.2016 at CNH Committee room. Dr. B.K. Singh gave power point presentation on the concept and use of modern techniques in the development of new gallery. Officials of AJCBIBG conducted a meeting with Sri Niranjana Das, Chief General Manager, Coal India Ltd. and discussed about the possible support to be rendered by the Coal India Ltd. for the development of AJCBIBG on 21.06.2016 in the chamber of the Director at CNH, Howrah.



Photo: M.U. Sharief

Leaf of *Victoria cruziana* in its full growth, which holds up to 40 kg weight, at AJCB Indian Botanical Garden

### Public service rendered

Dr. M.U. Sharief acted as an external examiner for M.Sc., Practical Examination on Molecular Biology & Plant Genetic Engineering in Sikkim University, Gangtok on 08.06.2016.

Provided weaver's ant nest to the students of Zoology Department, Calcutta University for their research purpose on 10.06.2016.

Provided leaf samples of nine Orchid species to Prof. S.N. Sinha, Kalyani University on 22.06.2016.

Provided saplings of *Victoria cruziana* to Calcutta University for introduction in lake at Ballygunj Science College, Kolkata on 23.06.2016.

Around 500 grams of Seeds from two trees of *Swietenia* were sent on request made by Dr. M.V. Durai, Research Officer, Institute of Forest Research and Tree Breeding (ICFRE), Coimbatore.

### Visitors

VIPs and dignitaries visited the botanical garden including Japanese Management Team of Nikon company (11 persons) on 04.06.2016.

### Publication

Hameed S.S., Panda S.P., Sharief M.U., Sreekumar P.V., Mahapatra H.S. and Pramanik A. 2016. published, "A Preliminary Survey of the Herbaceous flora of the Acharya Jagadish Chandra Bose Indian Botanic Garden, Howrah, W.B. *Ann. Pl. Sci.* 5(5): 1335–1343.

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

## CENTRAL NATIONAL HERBARIUM, HOWRAH

In connection with SERB-Young Scientist project [Inventorization of Indian *Calanthe* R. Br. (Orchidaceae), with focus on micro-morphology of pollinia], Dr. Avishek Bhattacharjee, Scientist 'B' conducted a field tour to different places in North Bengal from 15th to 22nd June 2016. Dr. Bhattacharjee also consulted the herbarium of the Lloyd Botanical Garden, Darjeeling on 16.06.2016.

Sri P.P. Ghoshal, Botanist undertaken a field tour to Betla National Park, Jharkhand from 16th to 27th June 2016 along with Sri Anand Kumar, Bot. Asst.



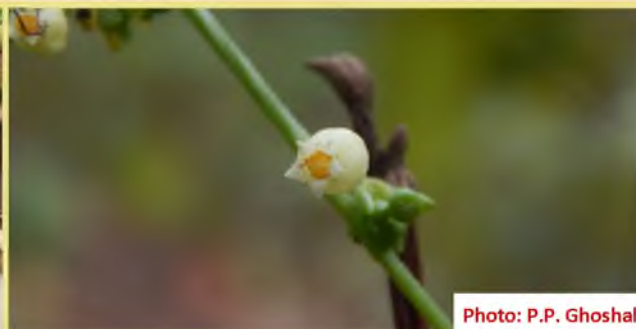
*Cordia dichotoma* (Boraginaceae)



*Miliusa velutina* (Annonaceae)



*Phoenix acaulis* (Arecaceae)



*Solena amplexicaulis* (Cucurbitaceae)

Photo: P.P. Ghoshal



Photo: A. Bhattacharjee

*Calanthe trulliformis* (Orchidaceae)*Calanthe puberula* (Orchidaceae)

### Herbarium specimens identified

Dr. Vinay Ranjan, Scientist 'D' identified 7 field numbers collected from Newada and Aurangabad districts, Bihar. Dr. K. Karthigeyan, Scientist 'D' identified 64 Herbarium specimens collected from Jaldapara National Park. Dr. O.N. Maurya, Scientist 'C' identified 8 field numbers collected from Vikramshila Gangetic Dolphin Wildlife sanctuary, Bhagalpur, Bihar. Dr. Subir Bandyopadhyay, Scientist 'B' identified an image of a specimen as *Bauhinia tomentosa* received from Dr. Hussain Barbhuiya, BARC, Mumbai. Sri V.K. Mastakar, Bot. Asst., identified 11 old unidentified specimens; Sri Anant Kumar, Bot. Asst. identified 2 specimens viz., *Woodfordia fruticosa* (Lythraceae) and *Ipomoea nil* (Convolvulaceae) collected from Aurangabad and Nawada districts, Bihar.

### Scanning Electron Microscopy

35 plant specimens have been scanned by Mrs. Piu Das, SPF (Spores and Leaves of *Pteris excelsa* and *P. aspuicaulis*); Mrs. Shankmala Mitra, SPF (Pollen & seeds of species of Fagaceae) and Mrs. Sutrishna Kar (*Festuca* sp.- whole plant).

### Public Service rendered

Dr. P.V. Prasanna, Scientist 'F' & HoO evaluated a Ph.D. thesis and sent report for Yogi Vemana University, Vemanapuram, Kadapa, Andhra Pradesh.

Dr. V.P. Prasad, Scientist 'D' functioned as examiner to conduct the practical examination of M.Sc. 4th semester students in Vidyasagar University on 23.06.2016.

Dr. V. Sampath Kumar, Scientist 'D' reviewed 2 manuscripts, one for *Phytotaxa* and the other for *Nordic Journal Botany*.

Dr. Bandyopadhyay reviewed a manuscript for *Phytotaxa* and Provided PDF of 2 pages from *Blumea* 21(1): 1973 to Dr. S.K. Das Das; 11 pages on *Smithia* from Flore du Cambodge, du Laos et du Viêtnam, Volume 23 and 2 pages on *Smithia* from Fl. Java to Dr. M. Sanjappa, former Director, BSI.

Dr. A. Bhattacharjee sent images of 9 icons to Sri Aniket Sengupta, Doctoral Candidate of the Hileman Lab of Plant Evolution and Development, Department of Ecology and Evolutionary Biology, The University of Kansas, U.S.A.

Dr. Bhattacharjee provided (from a rare book of Central Library) two illustrations of *Smithia* to Dr. M. Sanjappa, former Director, BSI and prepared a document (with Dr. D.K. Agrawala, Scientist 'C') on 27 orchids (along with photographs) for Commemorative Postage Stamp (Thematic) on Orchids of India. Postal department have selected 6 orchids out of them for postal stamps.

Dr. Karthigeyan and Dr. Mahua Pal, Bot. Asst. sent image of Roxburgh Icon of *Arum cuspidatum* as requested by Manudev K. Madhavan, Asst. Professor, Department of Botany, St. Joseph's College, Kozhikode.

Sri Shyam Biswa, Bot. Asst. with Dr. W. Arisdason, Scientist 'C', Sri G. Krishna and Sri V.K. Mastakar, Bot. Asst. identified 7 specimens jointly, which were received from Bengal College of Pharmaceutical Sciences & Research, Bidhan Nagar, Durgapur, West Bengal; C.V. Raman University, Kota, Chattishgarh; Department of Pharmaceutical Technology, West Bengal and Emami Ltd., Kolkata, West Bengal. Sri Mastakar identified 3 species of genus *Mucuna* (Leguminosae) received from Tripura University and one endemic & rare plant species of *Polygala bolbothrix* var. *pulniensis*.

Scientists and staff have attended and rendered help to various visitors/delegates/students/teachers and professors, who have visited CAL.

### Meeting/programme attended

Dr. Prasanna attended a meeting at CNH committee room in connection with display of exhibits at ISIM galleries on 10.06.2016.

CNH officials participated in International Yoga Day at curator office, AJCBIBG on 21.06.2016.

### Visitors/students

Dr. John Zemki, University of Missouri, Columbia, USA on 02.06.2016.

Mr. Arunava Datta, DAAD Scholar, Martin Luther University, Halle, Germany on 06.06.2016.

Sri Rajiv Goyal, Sr. Accounts Officer, MOEF & CC visited Type Herbarium on 10.06.2016.

Ms. Diptimayee Samal, K.B. College, Bavanga, Bhubaneswar on 15.06.2016.

Mr. Vincent Wesley Templeraud and his partner from Chatilcon, France on 15.06.2016.

8 students of B.Sc. III year, from Maulana Azad College, Kolkata on 16.06.2016.

Sri Khumukcham Ronald, Research Scholar, NERIST, Dept. of Forestry, Nirjuli, Arunachal Pradesh on 17.06.2016.

Sri Niranjan Das and Sri Bidyut K. Chattopadhyay, Coal India Limited, Kolkata on 21.06.2016.

Ms. Morgana Jordak, Germany on 22.06.2016.

Mr. Lukas Biehle, Germany on 22.06.2016.

Ms. Laura Tavalaca from University of California, Davis, USA on 29.06.2016 to 30.06.2016.

Prof. Ch. V. Ramana, University of Hyderabad and Prof. Ch. Sasikala, Jawaharlal Nehru Technological University, Hyderabad on 29.06.2016.



Mr. Vincent Wesley Templeraud and his partner  
viewing paintings at CNH Photo: S. Sachan



Ms. Laura Tavalaca, University of California at Type  
Herbarium, CNH Photo: Mahua Pal

Ms. Debamit Bhattacharya, Kolkata on 30.06.2016.

16 students of B.Sc. Botany (Hons.) from Narasinha Dutt College, Howrah on 30.06.2016.

### Herbarium specimens digitized

Sri Anand Kumar incorporated details of 11 dicot type species in proper format and also barcoded, scanned and edited 20 type herbarium sheets.

Sri Amar Mondal, Photographer Gr. I, scanned 150 type specimens belonging to the families Dioscoreaceae, Malvaceae, Musaceae and Sterculiaceae.

Dr Arjit Ghosh, NPDF validated and entered about 250 type specimens, belongs to the families Amaranthaceae, Aristolochiaceae, Asteraceae, Balsaminaceae, Euphorbiaceae, Fabaceae, Fumariaceae, Hyacinthaceae, Lauraceae, Olacaceae, Papaveraceae, Phytolaccaceae, Piperaceae, Plantaginaceae, Podostemaceae, Polygonaceae, Primulaceae, Tiliaceae and Zingiberaceae

### Publications

Bandyopadhyay, S. 2016. Lectotypification of *Bauhinia galpinii* (Fabaceae: Caesalpinioideae). *Phytotaxa* 263 (2): 165–166.

Bhattacharjee, A. 2016. *Zeuxine rolfiana*. The IUCN Red List of Threatened Species 2016: e.T72010421A72010424.

Nerlekar, A.N., Kumar, A. and Venu, P. 2016. *Jatropha nana*. The IUCN Red List of Threatened Species 2016: e.T88425992A88425995.

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

## CENTRAL BOTANICAL LABORATORY, HOWRAH

Dr. Harish Singh, Scientist 'D' & HoO and Dr. Dhole Pankaj Arvind, Bot. Asst. identified three plant species collected from Nuapada district, Odisha; Dr. K.A. Sujana, Scientist 'C' identified 74 plant species collected from Malkangiri district, Odisha; Sri A.C. Halder, Botanist, Sri P.K. Baske, Botanist and Dr. D.P. Arvind identified three plant species collected from Nayagargh district of Odisha and Sri Halder and Sri Baske identified 25 plant species collected from Baudh district of Odisha. Dr. Sujana and Sri R. Saravanan, Bot. Asst. collected secondary data on 14 endemic trees of Eastern Ghats. Dr. Monika Mishra, Bot. Asst. completed chromosome count in *Solanum torvum* ( $2n=24$ ). Ms. Sagari Chaudhury, Senior Project Fellow identified five plant species.

### World Environment Day/International Day of Yoga

Dr. Harish Singh attended World Environment Day programme as judge for 'Sit and Draw competition' in AJCBIBG, Howrah on 05.06.2016. Dr. H. Singh, Dr. Sujana, Dr. Dhole and Dr. Mishra participated in 2nd International Day of Yoga celebration at AJCBIBG, Howrah on 21.06.2016.

### Hindi Rajbhasha Karyanawan samiti

Organised a quarterly 'Hindi Rajbhasha Karyanawan samiti meeting' at CBL on 24.06.2016.

### Visitors/ students

Dr. Harish Singh demonstrated ethnobotanical exhibits to Mr. Jana, Dy. Director, Audit, Nizam Palace, Kolkata on 09.06.2016 and to Mr. Vincent Wesley Templeraud with an associate from France on 15.06.2016



Dr. H.Singh explaining to Mr. Vincent Wesley Templeraud about ethnobotanical exhibits

Photo: P. Dhole

– Dr. Harish Singh  
Scientist 'D' & HoO

## INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA

As a part of preparing a database of herbarium specimens at BSIS, 291 specimens of Dicot herbarium specimens were listed and documented.

### Nomenclature Update of digitized Herbarium Specimens at BSIS

Digitized Herbarium specimens amount to 85 nos. were updated with valid Botanical names, Basionyms/ Synonyms.

### Interpretation of the Icones Roxburghianae

Two species of Family Myrtaceae were studied and interpreted (*Eugenia glandulifera*, *E. inophylla*).

### Public service rendered

Under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, identified three samples received from different police stations of West Bengal.

### International Day of Yoga

Dr. Manas Bhaumik, along with Dr. A.K. Sahoo, Mrs. Geeta Chaudhury, Botanist and other officials of ISIM participated in 2nd International Day of Yoga organized by Indian Museum, Kolkata, Ministry of Culture at ABC Hall, Indian Museum on 21.06.2016.

### Programme attended

Dr. M. Bhaumik, Scientist 'D' & HoO, Dr. A.K. Sahoo, Scientist 'D' attended a special lecture on "Some Geo-Archaeological issues: Human environment adaptation from Alamgirpur during the Harappan time and water management across time and space in East and South" by Dr Y. Zhuang, Lecture University College, London and Dr. S. Neogi, Post Doctorate Fellow, University of Cambridge at conference room, Indian Museum, Kolkata on 27.06.2016.

– Dr. Manas Bhaumik  
Scientist 'D' & HoO

## ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. T.A.M. Jagadeesh Ram, Scientist 'D' identified 24 specimens of Graphidaceae into 6 species. Dr. Sanjay Mishra, Scientist 'B' identified three species at PBL – *Piper clypeatum* (F. Nos. 4663, 19329, 19329), *Piper miniatum* (F. No. 4080) and *Piper pedicellosum* (F. No. 3987).

### Digitization of Herbarium Specimens

Total 446 herbarium specimens of Acanthaceae, Bignoniaceae and Pedaliaceae were scanned and 1034 herbarium specimens of the families Alangiaceae, Apiaceae, Araliaceae, Bignoniaceae, Caprifoliaceae, Caricaceae, Cornaceae, Crypteroniaceae, Cucurbitaceae, Lecythidaceae, Lythraceae, Melastomataceae, Memycylaceae, Onagraceae, Passifloraceae, Punicaceae, Sonneratiaceae, Rubiaceae and Turneraceae were fed in the computer in a prescribed format.



Photo: Lal ji Singh

*Etlingera fenzlii* (Zingiberaceae) bloomed at Dhanikhari experimental garden cum Arboretum, Nayashahar

### Public service rendered

Dr. Lal Ji Singh, Scientist 'D' & HoO acted as an examiner to evaluate theory answer copies of Botany for the Forest Training Institute, Wimberligunj.

Dr. Sanjay Mishra functioned as an expert to evaluate and screened out the applications in various categories for CIARI awards 2016 as a member of screening committee on 20.06.2016.

### World Environment Day

Organized a tree sapling planting programme on the occasion of World Environment Day at BSI Residential Colony, Shadipur on 05.06.2016.

### Swachh Bharat Abhiyan 'Swachhta Pakhwada' (Cleanliness drive fortnight)

Organized Thematic Cleanliness Drives as a part of Schwach Bharat Abhiyan fortnight from 1st to 15th June 2016. As a part of nationwide sanitation and cleanliness campaign on *Swatchh Bharat Abhiyan* to achieve the goal of clean India, a massive drive of cleaning the surrounding area of main office ANRC, Port Blair as well as residential colony was undertaken by the Scientists and the staff.

### International Day of Yoga

Observed the International Day of Yoga on 21.06.2016 at the seminar hall of ANRC main office. The Chief Guest of the function, Dr. Meena Kalyan Kadbhane, Medical Officer, School Health, Directorate of Health Science, Andaman & Nicobar Administration, Port Blair delivered a lecture on benefits of practicing Yoga. Sri Ashish Kumar Mondal, *Vibhag Pracharak, Rashtriya Swayam Sevak Sangh, A & N Islands*, demonstrated some simple Yoga practices known for disease prevention and lifestyle related disorders. The resource persons Sri Chandra Kumar, Sri Udai Kumar, Sri Nilesh Rao and Master Kaushik shown the various asanas in accordance with common Yoga protocol. All the officers and staff of BSI participated in the programme and practiced yoga. The information brochures and CD's were distributed to the participants.



Scientists and staff members during Schwach Bharat Abhiyan fortnight

Photo: C.P. Vivek

### Meetings/programme attended

Dr. Sanjay Mishra attended the research Advisory committee (RAC) meeting held at Van Sadan, Haddo under the chairmanship of APPCCF (P&D) on 02.06.2016.

Dr. Mishra attended General council meeting of Andaman Science Association (ASA) at ICAR-CIARI, Port Blair on 08.06.2016.

Dr. Jagadeesh Ram attended the meeting of the State Level Steering Committee for Great Nicobar Biosphere Reserve (GNBR) held at the Secretariat, Port Blair to finalize the Management Action Plan for GNBR on 13.06.2016.

Dr. Lal Ji Singh participated in State Medicinal Plants Board advisory committee meeting at the Office of the Chief Conservator of Forests, Research & Working Plan, Port Blair on 22.06.2016. Dr. Singh also participated in advisory committee meeting of Institutional Ethical Committee (IEC), Andaman and Nicobar Islands at District Health Service (DHS), Port Blair on 22.06.2016.

Dr. Singh attended 38th Foundation Day Celebration of ICAR-Central Islands Agricultural Research Institute, Port Blair on 23.06.2016.

### Hindi workshop

Two days Hindi workshop was organized at main office from 29.06.2016 to 30.06.2016.

### Visitors

Mrs. Ankita Bundela Mishra, Secretary Tourism, Sri Narendra Singh, DIG, Police, Sri Amit Anand, Director, Tourism and Dr. C. Sivaperuman Scientist 'D', ZSI visited garden on 04.06.2016.

Dr. Sheo Kumar, Scientist 'E' & HoO, Botanic Garden of Indian Republic, Noida along with 3 members visited Herbarium, Museum and Library on 21.06.2016.



Photo: C.P. Vivek

Two days Hindi workshop at BSI, ANRC, Port Blair

### Publication

Jagadeesh Ram, T.A.M. and Sinha, G.P. 2016. A world key to *Cryptothecia* and *Myriostigma* (Arthoniaceae), with new species and new records from the Andaman and Nicobar Islands, India. *Phytotaxa* 266 (2): 103–114.

– Dr. Lalji Singh  
Scientist 'D' & HoO

## ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

Dr. Krishna Chowlu, Scientist 'B' conducted a field tour to Anjaw, Lohit and Namsai Districts of Arunachal Pradesh from 5th June 2016 to 2nd July 2016 and collected 50 live plants in connection with 'Red listing of Orchids of Arunachal Pradesh as per IUCN criteria'.

### Identification

Dr. Manish Kandwal, Scientist 'C' identified specimens of 6 field numbers in connection with 'Grass Flora of Arunachal Pradesh'.

Dr. Umesh Kumar L. Tiwari, Scientist 'B' identified 27 field numbers in connection with 'Flora of East Kameng District, Arunachal Pradesh'.

Dr. P. Satyanarayana, Scientist 'D' & HoO and Sri B.B.T. Tham, Botanist written descriptions for 38 species in connection with 'Flora of Pakhui Tiger Reserve and Wild Life Sanctuary'.

Dr. Vineet Kumar Rawat, Scientist 'C' made descriptions for 9 species and identified specimens of 18 field numbers in connection with 'Taxonomic study of the family Polypodiaceae of North East India'.

Dr. S. Borah, Botanist made descriptions for 15 species in connection with 'Flora of Lohit District and Flora of Kamlang WLS, Arunachal Pradesh'.



*Arundina graminifolia* (Orchidaceae)

Photo: S. Borah



*Vanda bicolor* (Orchidaceae)

### Public service rendered

Dr. Umesh Kumar Tiwari attended a request for plant identification of medicinal plants species collected in and around Along, West Siang district of Arunachal Pradesh from Ms. Gode Kamum, M.Sc. (Plant Science and Herbal Health) of Mount Carmel College, Bengaluru, doing internship at G.B. Pant institute of Himalayan Environment and Development, North East Unit, Itanagar.

### International Day of Yoga

Dr. P. Satyanarayana, Dr. Vineet Kumar Rawat and Sri Brajesh Meena participated in International Day of Yoga at Indira Gandhi Park, Itanagar on 21.06.2016.

### Meetings attended

Dr. P. Satyanarayana attended a meeting of the technical committee for the protected areas on 29.06.2016 in the office of the PCCF (WL & BD) & CWLW, Itanagar.

### Publication

Tiwari U.K.L. and Mao, A.A. 2016. *Beesia calthifolia* (Maximowicz ex Oliver) Ulbrich. (Ranunculaceae): A New generic record for the India. *Indian For.* 142 (5): 507–508.

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

## ARID ZONE REGIONAL CENTRE, JODHPUR

In connection with the projects, Ethnobotany of Dang District, Gujarat, Sri Vinod Maina, Scientist 'D' & HoO and Sri Ravi Prasad, Bot. Asst. identified 8 field numbers. For Flora of Shoolpaneshwar WLS, Narmada District, Gujarat Dr. S.L. Meena, Scientist 'D' and Dr. Harikrishana Peddi, Bot. Asst. identified 20 field numbers. For Flora of Navsari District, Gujarat Dr. Ramesh Kumar, Scientist 'C' and Sri Vinod Maina identified 24 field numbers. For Flora of Sariska Tiger Reserve Alwar Dt., Rajasthan Sri M.K. Singhadiya, Botanist and Sri Ravi Prasad, Botanical Asst. identified 8 field numbers.

In connection with Flora of Shoolpaneshwar WLS, Narmada Dt., Gujarat, Dr. S.L. Meena, Scientist 'D' conducted one Herbarium consultation tour from 29th May to 10th June 2016 to Pune (BSI), MS University, Vadodara (BARO) and Sardar Patel University, Anand (SPU). Dr. Meena identified about 100 field numbers. Besides, Dr. Meena also collected literature for the said project.

### Public Service rendered

3 plant species identified for the researchers, which is received from other organisations.

### World Environment Day

World Environment Day was celebrated on 05.06.2016 and students of M.Sc, Dept. of Botany, Mahila P.G. college and Lachoo memorial college, Jodhpur participated. On this occasion, plantation in Desert Botanical Garden was organised. Dr. P. Harikrishna, Bot. Asst. given a lecture on 'Herbarium techniques and its importance', Dr. C. S. Purohit, Scientist 'B' delivered a talk on 'Rare and threatened plants of Indian Desert, Rajasthan' and Dr. Ramesh Kumar also given a presentation on 'Family Zingiberaceae: present status and future perspective'. The chief guest, Dr. Avinash Bohra and Dr. Priyanka Vyas also given a talk on environmental awareness and conservation.

### International Day of Yoga

International Day of Yoga was celebrated on 21.06.2016. All the officers and staff of AZRC participated. Sri Vinod Maina, given a demonstration on Yoga asanas and pranayama and explained importance of yoga in our daily lives.

### Meetings/programmes attended

Sri Vinod Maina attended a workshop of Rajasthan State Wildlife conservation plan preparation on 30.06.2016 at Salim Ali Centre Keoladev National Park, Bharatpur, Rajasthan.

### Unicode training workshop

All the staff members participated in one day (29.06.2016) programme on Unicode Office training under the supervision of Dr. Murli Lal Mathur, Scientist 'G' and Mrs. Kanchan Bala, Junior Hindi translator, Desert Medical Research Institute (DMRC), Jodhpur. They explained about theoretical as well as practical usage of Unicode software.



Unicode training programme at AZRC, Jodhpur

Photo: P. Harikrishna

### Visitors/students

Two lecturers, Dr. Rekha Purohit, Dr. Priyanka Vyas and three students of M.Sc., Department of Botany, Mahila P.G. Mahavidyalaya, Jodhpur visited this regional centre.

– Dr. S.L. Meena  
Scientist 'D' – I/C

## BOTANIC GARDEN OF INDIAN REPUBLIC, NOIDA

Dr. Sheo Kumar, Scientist 'E' & HoO visited Andamans from 16th to 22nd June 2016 and Chennai from 22nd to 26th June 2016 and collected plants and seeds for introducing in the garden. The orchid species, *Geodorum appendiculatum* collected from Middle Andaman is reported for the first time from Andaman and Nicobar Islands (in India it is known earlier only from Assam).

Of the different plant species introduced in BGIR, two seeds of *Gyrocarpus americanus* (Helicopter/ Propeller tree) brought from Port Blair and about 50 and 25 seeds of *Combretum albidum* (Bush willows) and *Ecbolium viride* (Udajati, Nilkanta) respectively from Mahabalipuram, Chennai are of interesting ones.

In connection with the celebration of *Vanmahotsav* in July 2016, 85 pits were prepared in Green Belt area for plantation and more than 900 plant individuals of 15 species were transferred from beds to pots/poly-bags for distribution.

### World Environment Day

The World Environment Day was celebrated on 06.06.2016 for the first time in the BGIR. During the celebration, a documentary Film on 'Vanishing Vulture' was shown and fruit yielding plants, *Annona squamosa* (Sarifa, Custard Apple) and *Citrus × sinensis* (Santra, Orange) were planted in the 'Fruit Section' of the Garden.

### Public service rendered

Dr. Sheo Kumar acted as one of the judges in the painting competition conducted for the school children by the National Museum of Natural History, New Delhi on 05.06.2016 on the occasion of the World Environment Day.

– Dr. Sheo Kumar  
Scientist 'D' & HoO

## CENTRAL REGIONAL CENTRE, ALLAHABAD

A total of 45 species under 110 specimens were identified under the projects, 'Flora of Chandra Prabha Wildlife Sanctuary, Chandauli, Uttar Pradesh', 'Flora of Chhattisgarh' and 'Flora of Parvati Aranga Wildlife Sanctuary and adjacent Tikri forest area, Gonda, Uttar Pradesh'.

Completed taxonomic description of 6 species for 'Flora of Chhattisgarh Vol. II and 8 species for 'Flora of Parvati Aranga Wildlife Sanctuary and adjacent Tikri forest area, Gonda, Uttar Pradesh'. In addition, 27 earlier collected specimens housed at BSA were also identified.

Under the projects, 'Taxonomic studies on lichenised non Thelotrema Indian Graphidaceae' and 'Lichens of Terai regions of Uttar Pradesh' a total of 28 species from 58 specimens were identified.

Dr. Ashutosh Kumar Verma, Scientist 'B' initiated analysis of morphometric data of 40 accessions of *Gymnema sylvestre* (Project- DST-SERB-Young Scientist project).

### World Environment Day

World Environment Day was celebrated in the regional centre on 06.06.2016. Plantations were made including plantation of *Indiptadenia oudhensis*.

### International Day of Yoga

International Day of Yoga was celebrated on 21.06.2016. A Yoga teacher Sri Ram Murti Shukla was invited to demonstrate various '*ashanas*' and '*pranayams*' at CRC, Allahabad.

### Public service rendered

Dr. G.P. Sinha, Scientist 'E' & HoO imparted training on identification techniques of lichens to Sri P.C. Lamremruata, Research scholar, Department of Botany, Mizoram University, Aizawl from 9th to 16th June 2016.

Dr. A.N. Shukla, Scientist 'B' attended two farmers from Jhalwa, Allahabad and provided the basic information about the medicinal plants of Allahabad.

Dr. A.N. Shukla Visited Jhansi along with Dr. Kumud Dubey and Sri K.P. Dubey, IFS for collection of specimens of *Adansonia digitata*. Later, a letter was also written to state Forest Department for conservation of the very old tree of *Adansonia digitata* located at Jhansi, Allahabad along the bank of river Ganga.

Dr. A.N. Shukla identified plant species viz., 1. *Justicia adhatoda*, 2. *Strychnos nux-vomica*, 3. *Stereospermum chelonoides*, 4. *Premna serratifolia*, 5. *Centella asiatica*, 6. *Boerhavia diffusa*, 7. *Ocimum basilicum*, 8. *Blumea eriantha*, 9. *Clitoria ternatea*, 10. *Hyptis suaveolens* and 11. *Tinospora cordifolia* brought by researchers from different organizations.

### Programme attended/lecture delivered

Dr. G.P. Sinha and Dr. A.N. Shukla attended a programme organized by National Academy of Sciences (NASI), Allahabad on World Environment Day on the theme entitled, 'Fight against the illegal trade in wildlife for life' wherein lectures concerning the theme were delivered by eminent scientists viz., Prof. J.S. Singh, BHU, Dr. Manju Sharma, Prof. A.S. Raghuvansi, BHU, Dr. Akhilesh K. Tyagi, NIPGR, New Delhi, Dr. L.M.S. Palni, former Director, G.B. Pant, Himalayan Environment Research Institute, Almora, Prof. P. Tandon, CEO, Biotech Park, Lucknow, Dr. Samrat Mondal, Scientist 'D', WII, Dehradun, Prof. Tapan Chakrabarti, VNIT, Nagpur, Dr. Natesan Manickam, IITR, Lucknow and Prof. K.J. Nath, Sulabh International Social service Organization.

Dr. G.P. Sinha delivered a lecture, "Researches on Taxonomical aspects of Flora of India with special reference to Central India" as a resource person in Refresher Course of Guru Ghasidas Vishwavidyalaya, Bilaspur, Chattisgarh on 25.06.2016.

### Visitors/students

Sri Chandra Shekhar Singh, Research Scholar, Department of Botany, BHU visited CRC and on 15.06.2016. Prof. (Retd.) M.L. Naik, National Center for Natural Resources, Pt. Ravishankar Shukla University, Raipur visited CRC along with one Research Scholar for herbarium consultation on 22nd and 23rd June 2016

### Publication

Srivastava, N. and Kumar, G. 2016. Seed germination, survival and growth in two leguminous crops *Sesbania cannabina* and *Crotalaria juncea*. *J. Biol. Nature* 6(1): 24–27.

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

## DECCAN REGIONAL CENTRE, HYDERABAD

Dr. J. Swamy, Bot. Asst. conducted one day field tour to Nagarjuna Konda Sacred Grove of Andhra Pradesh on 17.06.2016 and collected six field numbers.

Dr. J. Swamy and Sri S. Nagaraju, Bot. Asst. identified 18 species in connection with the Seshachalam Biosphere Reserve, Andhra Pradesh; Dr. J. Swamy also identified 15 species in connection with the Sacred Groves of Andhra Pradesh; Sri K. Chandramohan, SPF identified 21 species for Flora of Satkosia Tiger Reserve and Ms. P.S. Annamma, SPF identified 13 species for Flora of Kawal Tiger Reserve.

Sri S. Nagaraju made descriptions for 25 species in connection with the Flora of Seshachalam Biosphere Reserve; Dr. L. Rasingam, Scientist 'C' documented 16 species in connection with the Flora of Nagarjunasagar – Srisailem Wildlife Sanctuary; Dr. J. Swamy documented 87 species in connection with Sacred Groves of Andhra Pradesh; Sri K. Chandramohan made descriptions for 30 species in connection with the Flora of Satkosia Tiger Reserve; Dr. K. Prasad, RA mapped the detailed distribution of the endemic plant *Habenaria ramayyana* as part of conservation studies. Three associate species namely *Nervilia plicata*, *Ceropegia omissa* and *Impatiens rosea* were also studied by Dr. Prasad.

Dr. G. Swarnalatha, Bot. Asst. studied morphological, anatomical and chemical details of five lichen specimens obtained on loan from Central Regional Centre, BSI, Allahabad. Thin layer Chromatography (chemical analysis) of 30 specimens was completed by Dr. G. Swarnalatha in connection with Inventory of Macrolichen diversity of Odisha.

### Digitization of herbarium specimens

In connection with digitization of herbarium specimens at BSID, 500 herbarium specimens of 21 genera of Acanthaceae family were scanned and data entry of label information completed. About 150 scanned images were converted from TIFF to JPEG format.

### Programmes conducted

Conducted a cleaning drive at forest department land, Attapur, and Medicinal and Aromatic Plant Research Station (Herbal Garden),

SKLTS Horticultural University, Rajendra Nagar, Hyderabad, in association with 30 school children from Vidyanikethan High School, Beeramguda as part of SWATCHH BHARAT MISSION on 09.06.2016.

Photo: K. Chandramohan



Cleaning drive at forest department land, Attapur on 9th June 2016

Organized 'International Yoga Day' on 21.06.2016; Dr. Debnath, Yoga teacher of National Academy of Agricultural Research Management (NAARM), Rajendra Nagar, Hyderabad, delivered lecture on 'Integrated Yoga Concept' and 'Common Yoga Protocol' and also provided Yoga demonstration to officials of Deccan Regional Centre, Hyderabad.

#### Public service rendered

Dr. J. Swamy identified 10 plant specimens for Ms. D. Divya, Ph.D. Scholar of Acharya Nagarjuna University, Guntur, Andhra Pradesh viz., *Sesuvium portulacastrum*, *Suaeda maritima*, *Acanthus ilicifolius*, *Rhizophora mucronata*, *Suaeda nudiflora*, *Excoecaria agallocha*, *Avicennia marina*, *Suaeda nudiflora*, *Bruguiera cylindrica* and *Halosarcia indica*.

#### Publication

Prasad, K. and Prasanna, P.V. 2016. *Brachystelma seshachalamense* (Apocynaceae), A new species from Andhra Pradesh, India. *Bangladesh J. Plant Taxon.* 23 (1): 53-57.

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

### EASTERN REGIONAL CENTRE, SHILLONG

One field tour was conducted to Sumer and nearby areas, Ri-bhoi district, Meghalaya on 28.06.2016 and collected about 120 live plants by Dr. M. Murugesan, Scientist 'B' and Sri L.R. Meitei, Bot. Asst.

#### Herbarium specimen identification

Identified 33 species for 'Flora of Eastern Nagaland' by Dr. N. Odyuo, Scientist 'D' and Dr. R. Daimary, Bot. Asst. and for 'Flora of Amchang WLS' by Dr. A.A. Mao, Scientist 'F' & HoO and Mrs. Nandita Sarma, Sr. Presv. Asst. and described 16 species for 'Flora of Yangoupokpi Lokchao WLS (Manipur)' by Dr. A.A. Mao and Sri L.R. Meitei; Identified one species of *Riccia glauca* collected from Tripura for Taxonomic Revision of genus *Riccia* (Marchantiophyta) in India by Dr. S.K. Singh, Scientist 'D'.

Dr. Ashish Venkatesh Prabhugaonkar, Scientist 'B' isolated 10 fungi from samples collected at Omaling lake, West Kameng district, Arunachal Pradesh. Permanent slides were prepared, photo-documented and attempted for culturing. Dr. Prabhugaonkar collected *Citrus indica* and *Citrus letipes* from Experimental Botanical Garden (EBG), Barapani and Upper Shillong forest. Processed by 3 step sterilisation for isolation of seven distinct cultures of endophytic fungi.

Fungi isolated and photo-documented during period are *Menisporopsis* sp. and *Myrothesium* sp. from *Citrus letipes* litter, *Paecilomyces* sp. and *Pestalotiopsis* sp. as endophyte of *Zanthoxylum* sp., *Redbia* Sp. on *Aquilaria* litter, *Cryptophiale kakombensis* on *Pinnanga* litter.

For *ex-situ* conservation of endemic, threatened and economically important plants of the region and recording phenological data on flowering and fruiting of species growing in the Garden, Dr. M. Murugesan, and Sri L.R. Meitei observed and recorded phenological data of flowering and fruiting of 29 plant species. For Micro-propagation of RET Plants of Northeast India, Dr. A.A. Mao and L. Ibemhal Chanu, Bot. Asst. subcultured callus of *Rhododendron coxianum*, *Armorum senapatianum* and *Cymbidium tigrinum*, seedlings and Rapid the nodal culture of *Ilex khasiana* continued. Study and recorded experiment data of *Armorum senapatianum* and *Cymbidium tigrinum*. Sprayed fungicides in greenhouse.

For Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species by Dr. Deepu Vijayan, Scientist 'B' cultured rhizomes of *Paris polyphylla* on half strength

MS medium with two growth regulator combinations; subculturing of *Pyrenaria khasiana* (*in vitro* raised shoots) on Woody Plant Medium with different concentrations of growth regulator for multiple shoot induction studies. PCR amplification of *Paphiopedilum venustum* (Arunachal Pradesh and Meghalaya) and different species of *Rhododendron* using matK primer. PCR analysis of *Rhododendron wattii*, *Rhododendron macabeanum* and *Rhododendron arboreum* using rbcL and matK primers.

### World Environment day celebration

A cleaning drive programme was held at ERC on 05.06.2016 on the occasion of World Environment Day.

### Workshop attended

Dr. A.A. Mao, Dr. N. Odyuo, Dr. Chaya Deori, Scientist 'D' and Sri Dilip K. Roy, Bot. Asst. attended the workshop organized by the State Council of Science, Technology & Environment Meghalaya (SCSTE) in collaboration with BSI and ZSI for world Environment day on 07.06.2016.

### Training organised

One day Photographic training programme was conducted at ERC office, Shillong. Mr. Joseph Weilguny, Photographer cum Paintographer from Australia provided training, which was attended by the officers and scientific staff on 09.06.2016.



Group photo taken during photography training provided by Mr. Joseph Weilguny from Australia

### International Day of Yoga

International Day of Yoga was celebrated on 21.06.2016 and the yoga session was attended by all the officials from ERC, Shillong and Experimental Botanic Garden (EBG), Barapani.

### Public service rendered

Identified four samples of specimens received from different institutions.

### Students/visitors

One Professor, two students from College and University visited the Centre.

### Publication

Jadhav D.C., Prabhugaonkar, A. and Nandikar, M.D. 2016. Nomenclature notes on the genus *Salacia* L. (Celastraceae) in India. *Phytotaxa* 265 (2): 121–130.

– Dr. A.A. Mao  
Scientist 'F' & HoO

## NORTHERN REGIONAL CENTRE, DEHRADUN

Identified total 148 species and made descriptions for 32 species of plants in connection with 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; Trees of Dehradun city and its vicinity; Revision of family Cyatheaceae and genus *Adiantum* in India.

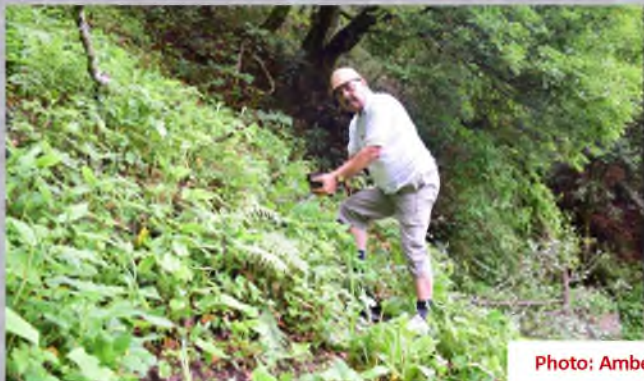


Photo: Amber Srivastava

**Dr. S.K. Srivastava Planting propagated sapling of *Lilium polyphyllum* in wild habitat**



***Ferula jaeskeana* (Apiaceae) growing near Gangotri**



Photo: Amber Srivastava

**Flower of *Lilium polyphyllum* (Liliaceae)**



Photo: K. Ambrish

***Taraxacum officinarum* (Asteraceae) in Dhanolti**

### Official Language meeting

Dr. S.K. Srivastava, Scientist 'E' & HoO convened quarterly meeting of Official Language Implementation Committee on 28.06.2016 and reviewed the correspondence done during the first quarter of 2016-17.

### Meetings/Programme attended

Dr. Griraj S. Panwar Scientist 'C' attended the Museum committee meeting at Anthropological Survey of India, Dehradun on 01.06. 2016.

Dr. S.K. Srivastava, Scientist 'E' attended half-yearly meeting of Town Official Language Implementation Committee (TOLIC) held at Survey of India, Dehradun on 17.06.2016. During the meeting "DOONVANI" 2015-16 (Annual Hindi magazine published by TOLIC) was also released by Dr. S. Subba Rao, Surveyor General of India, Mrs. Pratibha Malik, Deputy Director (Implementation), Department of Rajbhasha, Regional implementation Office, Ghaziabad, Dr. S.K. Srivastava, and Sri Dhoom Singh, Asstt. Director (OL), TOLIC, Dehradun.

### International Day of Yoga Celebration

The officers and staff of this centre celebrated International Day of Yoga and performed yoga on 21.06.2016.

### Hindi Karyasala

Officials of NRC, Dehradun attended *Hindi Karyasala* on 30.06.2016. Dr. S.N. Pandey, Rajbhasha Adhikaari, Archeological Survey of India, Dehradun delivered a lecture on *Daftar ke karyon ko sampadit karne me aevam samvad krne me hindi ki anivaryata*.



Photo: TOLIC

**Dr. S.K. Srivastava during the release of “DOONVANI”**



Photo: S. Uniyal

**Staff of NRC during Hindi Karyashala**

### Public services rendered

Identified *Rauvolfia serpentina* for Sri Somesh from Sant Guru Ram Rai Institute of Technology and Sciences, Dehradun.

Identified *Chenopodium album*, *Melia azedarach*, *Cuminum cyminum*, *Trianthema portulacastrum*, for Dr. Nirbhay Kumar from G. B. Pant University of Agricultural Technology, Pant Nagar, Uttarakhand.

### Visitors/students

Ms. Anna-Lena Tack, Diploma student from Royal Botanic Gardens, Kew; three Research Scholars from H.N.B. Garhwal University, Srinagar; one Research scholar each from FRI, Dehradun and Delhi University visited NRC to consult the BSD herbarium.

### Publication

Kumar, P., Singh, V.K. and Srivastava, S.K. 2016. Chromosome counts and Male Meiosis in two species of *Pleurospermum* Hoffm. (Apiaceae) additional comments on the Cytogeographic pattern of the genus. *Caryologia* 69 (2): 273–282.

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

## SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. Dinesh Kumar Agrawala, Scientist 'C' & HoO identified 11 Orchid species and illustrated five species for the project, “Red listing of Orchids of Eastern Himalaya as per IUCN criteria”.

Sri S.K. Rai, Bot. Asst. identified 26 species from 53 unidentified herbarium sheets.

### Digitisation of Herbarium specimens

521 herbarium sheets of Menispermaceae, Berberidaceae, Fumaricaceae and Brassicaceae were digitized and 694 herbarium sheets Meta data were entered into Excel -worksheet.

### Programmes organized

Organized the celebration of World Environment Day at SHRC on 05.06.2016.

Observed the “Swachh Bharat fortnight” at SHRC from 1st to 15th January 2016.

Celebrated “International Day of Yoga” on 21.06.2016.

### Public service rendered

Dr. D.K. Agrawala attended NRC, Orchid, Pakyong as a member of Departmental Promotion Committee in connection with the promotion of Technical Assistants on 09.06.2016.



Photo: SHRC

**Swachh Bharat Abhiyan at SHRC campus, Gangtok**

Dr. D.K. Agrawala attended ARRI, Gangtok as a member of interview committee for selection of various project staff on 23.06.2016. Dr. Agrawala attended GBPIHED, Sikkim Unit, as a member of interview committee for selection of various project staff on 24.06.2016. Dr. Agrawala also attended NRC, Orchid, Pakyong as a member of interview committee for selection of various project staff on 27.06.2016.

### Meeting/programme attended

Dr. D.K. Agrawala, attended one-day lecture on “Measuring Eco-system level carbon flux over forest canopy” at Sikkim University on 02.06.2016.

### Visitors

Dr. M.U. Sharief, Scientist ‘E’, AJCBIBG, BSI, Howrah on 08.06.2016. Dr. Krishnendu Acharya, University of Calcutta on 08.06.2016. Dr. N.B. Singh, Dean, College of Agricultural Engineering, Shillong on 22.06.2016.

### Publication

Sankara Rao, M., Swamy, J.S., Nagaraju. S., Padal, S.B., Tarakeswara Naidu, M., Chandra Mohan, K. and Thulasiah, T. 2016. *Glochidion talakonense* sp. nov. (Phyllanthaceae) from Seshachalam Biosphere Reserve, Andhra Pradesh, India. *Bangladesh J. Plant Taxon.* 23(1): 59–63.

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

## SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. M. Palanisamy, Scientist ‘D’ identified 17 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 34 field numbers collected from Kodaikanal Wildlife Sanctuary, Tamil Nadu.

### Ex-situ conservation

Dr. S. Kaliamoorthy, Scientist ‘D’ and his team in National Orchidarium and Experimental Garden (NOEG), Yercaud introduced 22 plant species including 3 species of orchids. The team multiplied 27 orchid samples including the endemics (*Goodyera procera* and *Coelogyne prolifera*) and 21 samples of other plants. The team developed 25 seedlings and 30 cuttings and transplanted 12 plant samples. The team recorded the phenology of 28 species including 18 orchids and 10 other angiosperms.

NOEG, Yercaud participated in the 41st Flower Show organized by the State Horticultural Department, Govt. of Tamil Nadu on 25th and 26th June 2016 at Yercaud and displayed 120 potted plants representing Ornamental, Fern, Medicinal, Cacti, Peperomia, Endangered and Orchids.

### Scanning Electron Microscopy

Dr. J.V. Sudhakar, Bot. Asst. examined the achenes of *Ficus fulva* and taken four SEM images.

### Public service rendered

During this month, a total of 25 plant specimens were identified for research scholars and students from various institutions.

### World Environment Day

Celebrated World Environment Day on 05.06.2016 by inviting 34 students and 2 teachers from Jaycee Higher Secondary School, Coimbatore and 10 Internship M.Sc., students from St. Joseph's College, Trichy. The programme started with plantation by students, followed by an exhibition and concluded with a film show on North East India.

### International Day of Yoga

The centre celebrated International Day of Yoga on 21.06.2016. Dr. Thilakavathy from Integral Yoga Institute Nature Cure Centre, Coimbatore was invited as a resource person. She delivered a talk on yoga followed by Yoga demonstration. All the staff participated and performed the yoga exercises.

### Training conducted /attended

Herbarium Methodology Training was conducted from 23rd May to 3rd June 2016 to the college staff. Five candidates from different colleges of Kerala attended the training, to whom the certificates were issued on successful completion.

Dr. M. Palanisamy attended one-week 'Geospatial training for Biodiversity Conservation in Western Ghats, India' at IIIT, Hyderabad organised by OS Geo-India from 20th to 25th June 2016.

The regional centre provided Internship to 11 M.Sc. students for one month. 2 students from Madras Christian College, Chennai worked on *Pterospermum* and *Rungia*; 3 students from St. Joseph's College, Trichy worked on *Amaryllidaceae*, *Asparagus*; 2 students worked on Marine Algae; 4 students worked on Tissue culture.



College staff from Kerala during 'Herbarium Methodology Training' course

### Visitors/students

A total of 69 students, research scholars, scientists, professors/officials visited the museum, herbarium and library of this regional centre, whilst NOEG, Yercaud Garden was visited by 1994 persons in 276 parties.

### Publications

Singh, R.K. 2016. Plants of Associated Botanic Garden, Botanical Survey of India, Central Regional Centre, Allahabad. *J. Non-Timber For. Prod.* 23(1): 37–54.

Singh, R.K. 2016. Typification of fourteen names of twelve recognized taxa in *Leucas* R. Br. (Lamiaceae) and one new combination. *Bangladesh J. Plant Taxon.* 23(1): 33–43.



Students viewing exhibits displayed at SRC

Photo: SRC

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

## WESTERN REGIONAL CENTRE, PUNE

Dr. Jeewan Singh Jalal, Scientist 'C' conducted one field exploration tour to Netravali Wildlife Sanctuary and Baghwan Mahaveer Wildlife Sanctuary and adjacent areas in Goa from 6th to 18th June 2016. Dr. Jalal collected about 45 field numbers of orchids and recorded a total of 265 GPS locations for orchid population occurrences.

### Public service rendered

During this month identification and authentication certificates were issued to 12 students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

### Herbarium Specimen Identification

Dr. J. Jayanthi, Scientist 'D' identified four plant species under the project, "Floristic diversity of BRT Wildlife Sanctuary, Karnataka". Dr. C.R. Jadhav, Botanist identified 31 angiosperm species under the project, "Floristic survey of Someshwara Wildlife Sanctuary, Karnataka". Dr. A. Benniamin, Scientist 'D' identified six Pteridophyte species and studied spore morphology of seven species under the project "Ferns of Karnataka". Sri D. Tripathi, SPF identified five Pteridophyte specimens collected from Kudremukh National Park, Karnataka. Smt. S. Shreya, SPF identified seven microfungi under the project "Microfungi of BRT Wildlife Sanctuary, Karnataka".

### Rajyabhasa

A Hindi workshop on 'Use of computers in Hindi Rajyabhasa' was organized at WRC on 03.06.2016.

### World Environment Day

On the occasion of World Environment Day, plantation programme was conducted on 05.06.2016 in Mundhwa Experimental Garden.

### Swaachh Bharat

The centre has taken initiative in organising cleaning drive at Bhimashankar Wildlife Sanctuary, Pune under the Swaachh Bharat Mission launched by Government of India in line with the World Environment Day (5th June) under the theme "All Popular Forest Sanctuaries/Reserved Forest Areas/Parks and Animal Wee Establishments" with suggested activities "Sensitization Drives Against Littering in Sanctuaries and Forest Areas/ Cleaning Drives in parks and recreational places". In this connection WRC, Pune team officials visited the Bhimashankar Wildlife Sanctuary from 6th to 8th June, 14th to 15th June and on 22nd June 2016 and removed the garbages and plastic wastes.



Photo: D. Tripathi



Posters displayed at Bhimashankar WLS, Maharashtra

Collection of Plastic wastes at Bhimashankar WLS

### International Day of Yoga

Celebrated International Day of Yoga on 21.06.2016 at WRC office, Pune. In this programme, officials participated and practiced warm up exercises, light yoga postures for back strengthening and relief pranayama for balancing breathing practice and meditation and yoga nidra for calmness of mind. This was conducted by Sri Vikram Singh Tomar, a Yoga Expert from Abs Fitness Wellness Centre, Pune.

### Visitors/students

Dr. S. L. Meena, Scientist 'D', Arid Zone Regional Centre, BSI, Jodhpur visited for herbarium consultation. Two research scholars from the Dept. of Botany, Siddharth College Fort, Mumbai visited during this month for herbarium consultation.

Seven research scholars from the Dept. of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad visited for Library and Herbarium consultation.

One student visited for Library consultation from Abasaheb Garware College of Arts and Science, Pune.

Two students visited from Informatics Publishing Ltd., Bengaluru, Karnataka.

14 visitors from Kondhwa, Bosco Samajik Santha and Balbhim College, Beed visited museum.

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

## GLIMPSES OF WORLD ENVIRONMENT DAY CELEBRATION

चलें संकल्प लें, वृक्षारोपण करें  
पीढ़ियों के लिए, पथ प्रदर्शक बनें।  
खुशबू, फल-फूल, छाया हो परिवेश में  
जैव-विविधता के पोषक संवर्धक बनें॥

**विश्व पर्यावरण दिवस 5 जून, 2016 एवं जैव-विविधता दशक**



के अवसर पर जैव-विविधता  
के अध्ययन एवं संरक्षण में  
अग्रेसर भारतीय वनस्पति सर्वेक्षण,  
मध्य क्षेत्रीय केन्द्र, इलाहाबाद द्वारा  
वृक्षारोपण एवं स्वच्छता अभियान के  
अन्तर्गत जन हित में जारी सन्देश

**‘वृक्षारोपण कर जलवायु परिवर्तन  
के कुप्रभाव से पर्यावरण को बचायें’**

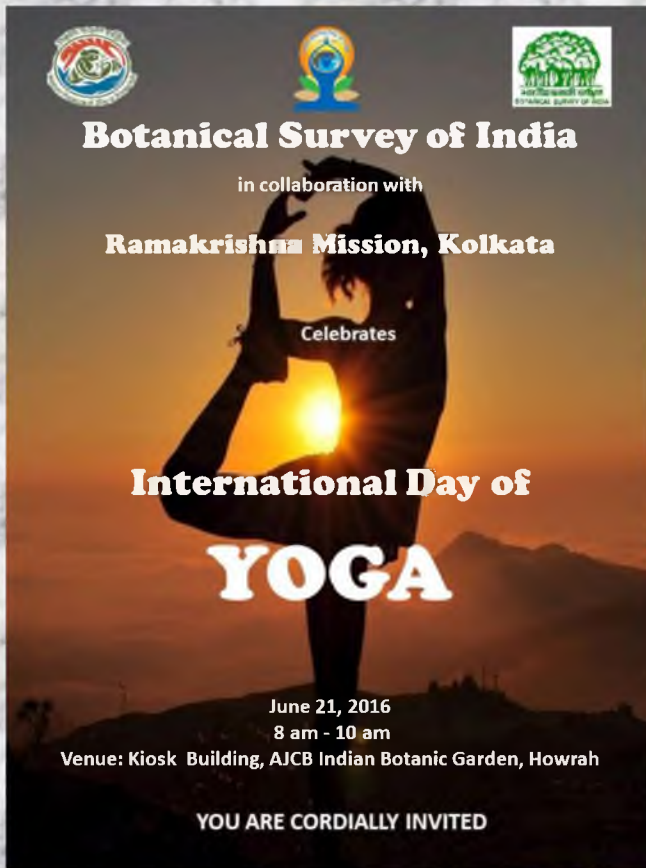
सौजन्य से: भारतीय वनस्पति सर्वेक्षण,  
10 चौथम लाइन्स, इलाहाबाद







## GLIMPSES OF INTERNATIONAL YOGA DAY OBSERVED







## PLANT OF THE MONTH



*Syzygium malaccense* (L.) Merril & Perry (MYRTACEAE) known as Malay rose apple or Mountain Apple is native of Malaysia Indonesia (Sumatra and Java) Vietnam, Thailand, New Guinea and Australia. The flowers are considered sacred to Pele, the fiery volcano goddess and is much admired for the beauty of the tree its flowers and its colorful glistening fruits. Ripen fruits and flowers are edible. Bark is used medicinally for the treatment of wounds, itching, dysentery, etc.

By Dr. C.M. Sabapathy

# THE ECHO OF INDIA

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BSI REGIONAL CENTRE PORT BLAIR, ANDAMAN

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PORT BLAIR, THURSDAY, 1 JUNE 2016

## BSI observes World Environment Day



PORT BLAIR, JUNE 6 / - / Botanical Survey of India, Andaman and Nicobar Regional Centre, celebrated World Environment Day on 5th June in a briefing man-

ner for the occasion. A plant-

ation programme was organized at the BSI Residential colony at Shadipur. During the programme saplings of endangered endemic palm, *Bentleya pandurifolia* (Cycas) - Palm - was

planted. Along with this various ornamental plants were also planted. All the officers and staff and students participating in the programme.



Photo: C.P. Vivek

Cleanliness drive conducted by Scientists and staff members at Andaman & Nicobar Regional Centre, Port Blair as a part of *Schwach Bharat Abhiyan* fortnight

*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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