



# BSI NEWSLETTER

The monthly electronic newsletter of Botanical Survey of India

Volume 2  
Number 6

June 2015



## Director's column

During this month, three new species namely *Impatiens adamowskiana* (Balsaminaceae) and *Rhododendron pseudomaddenii* (Ericaceae) from Arunachal Pradesh, *Salacia wayanadica* (Celastraceae) from Kerala and *Gyalidea corticola* (Lichen - Ascomycota) from Sikkim were published by the scientists and scientific staff of BSI. Besides, one new subspecies *Adenophora capillaris* subsp. *dzukoensis* (Campanulaceae) was published from North East India. Apart from that *Pteris heteromorpha*, *Galium boreale* var. *ciliatum* and *G. boreale* var. *intermedium* were reported from Maharashtra, Uttarakhand and Jammu & Kashmir respectively for the first time. An algal species, *Prasiolopsis ramosa* is reported as a new addition to Asia from India by one of the AJCBPDF.

A field exploration tour to Naina Devi Himalayan Bird Conservation Reserve, Nainital and Pawalgarh Conservation Reserve, Ramnagar, Uttarakhand covering 140 sq. km. area of Temperate Himalaya and Shiwalik zones was conducted by the scientists and scientific staff of BSI. Another field tour was conducted to Karnataka coast under the project 'Seaweed survey of Karnataka coast' for about 12 days. Besides, one field tour was conducted to Amchang Wildlife Sanctuary, Assam (Tepesia beat Range, Pathalipani forest range, Sagoligaon, Nazirakhat and Patarkushi Forest Range) covering about 14 sq. km.

All the regional centres and units of Botanical Survey of India, celebrated World Environment Day on 5th June 2015 through lectures, presentations, quiz competitions, sit & draw competition, plantation and mass awareness rally.

In this month, scientists, scientific staff and research students of BSI brought out 25 publications, which include 20 scientific research papers in various national and international journals and two Bibliography and Abstracts of papers on floras of Karnataka and Goa.

Happy browsing!

**Paramjit Singh**

Director, Botanical Survey of India, Kolkata





## HEAD QUARTERS, KOLKATA

In connection with the on going projects viz., 'Algal Flora of Jharkhand', 'Taxonomic diversity and ecology of cyanobacteria and algae in the alpine regions of Eastern Himalayas', 'Studies on wild mushrooms of East and South Sikkim', 'Revision of the family Metzgeriaceae in India', and 'Wood rotting fungi of Rajmahal hills' the scientists and research scholars identified specimens, made descriptions and illustrations.

Dr. Kanad Das, Scientist 'D' submitted the final report of 'Studies on wild mushrooms of North Sikkim' comprising 110 species belonging to 62 genera of 35 families.

Dr. Devendra Singh, Scientist 'C' studied spores, cuticular surface of thallus and leaves of certain liverworts under SEM. Dr. Singh also identified 18 specimens housed at CAL herbarium, belonging to 10 species of liverworts, collected from Andaman and Nicobar Islands by J.P. Ghosh.

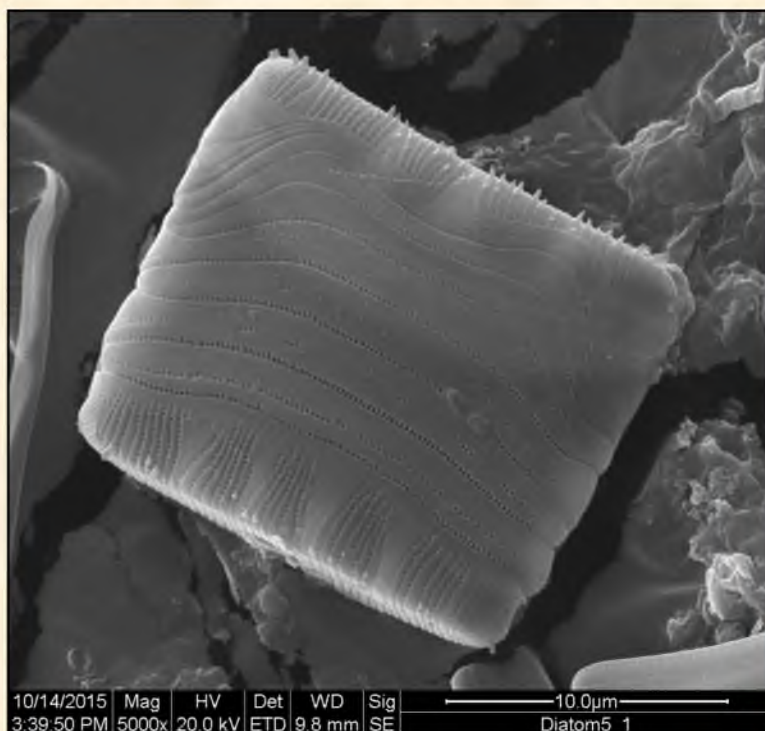
Dr. Monalisa Dey, Scientist 'B' studied the species of *Drepanolejeunea*, obtained on loan from other herbaria, which includes mostly type specimens. Dr. Dey also prepared database of 173 liverwort specimens in connection with Cataloguing of Epiphyllous Liverworts of Eastern Himalaya.

In connection with the project, 'Pharmacognostic studies on Medicinal Aconites of India', Dr. A.B.D. Selvam prepared 10 photographic plates related to anatomical studies of 5 species of Aconites (mother and daughter roots separately).

Sri Arvind Parihar, Pres. Asst. accessioned and incorporated 18 specimens (including 11 Holotypes) in fungal herbarium, deposited by Prof. P. Manimohan, Botany Department, Calicut University, Kerala.



*Asterocapsa divina* (Cyanophyceae)



*Diatoma mesodon* (Bacillariophyceae)  
Collected from Arunachal Pradesh

### Public service rendered

Dr. Kanad Das reviewed a manuscript for the journal *Kavaka*. Dr. A.B.D. Selvam studied 13 representative wood samples, which were received from Directorate of Revenue Intelligence, Jaipur, Rajasthan. Dr. Selvam also studied 5 representative wood samples suspected to be of Red sanders, which were received from Customs Division, Aizawl, Mizoram. Since the preliminary study did not match with the features of white and red sandalwoods, for further confirmation and detailed study, it was referred to Wood Science Laboratories located at Bangalore and Dehradun.

### Publication

Das, S.K. 2015. *Prasiolopsis ramosa* Visser – New addition to the algal flora of Asia. *J. New Biol. Rep.* 4 (2): 157–158.

## AJC BOSE INDIAN BOTANICAL GARDEN, HOWRAH

Maintenance is being done for the various plant saplings and orchids collected during the field collection tours by keeping them in Garden Nurseries and Mist Chamber. The Great Banyan Tree developed 7 new prop roots. About 10 encaged roots are repaired with new bamboo caging.

### World Environment Day

World Environment Day 2015 was celebrated on 05.06.2015 at the garden. More than 300 students from different schools participated in various competitions and awareness programmes conducted on this occasion. Prof. Goutam Das, Govt. Art and Craft College, Kolkata was invited as the Chief Guest and Dr. S.K. Basu, Ex-President, Agri-Horticultural Society of India, Kolkata was present as Guest of Honour in the programme. The programme was telecast in the news of Doordarshan (Bangla).



**Free Plant Sapling distribution on the World Environment Day at AJCBIG**



**Sit and Draw Competition held during the World Environment Day celebration at AJCBIG**

### Programme attended

Dr. A. Pramanik, Scientist 'E' & HoO attended the World Environment Day programme, organized by CESC Ltd., as a Chief Guest on 05.06.2015.

### Public service rendered

Dr. A. Pramanik acted as a member of Board of Examiner for Botany (Taxonomy) and Examiner for practical special paper examination in Scottish Church College, Kolkata on 4th and 5th June 2015.

### Visitors/students

Scientists and students from different academic institutions and schools visited the botanic garden during this month.

## CENTRAL NATIONAL HERBARIUM, HOWRAH

In connection with the 'Revision of the genus *Fimbristylis* (Cyperaceae) under Flora of India project', 'Taxonomic Revision of *Bambusoideae* (Poaceae)', 'Study of *Impatiens* of Arunachal Pradesh', 'Flora of Buxa Wildlife Sanctuary (ca 252 sq km)', 'Flora of Jaldapara Wildlife Sanctuary (ca 216.51 sq km)', 'Flora of Vikramshila Gangetic Dolphin Wildlife Sanctuary (ca 60 km segment of Ganges)' and 'Flora of Vikramshila Gangetic Dolphin Wildlife Sanctuary (ca 60 km segment of Ganges)' identifications and descriptions were made by the scientists and scientific staff.

### Type specimen received

The isotype specimen of *Lygodium andamanicum* was received from Dr. R. Mukhopadhyay, Ex-Professor, Department of Botany, The University of Burdwan, Burdwan for depositing the same at CAL.

### Public service rendered

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO reviewed one manuscript for *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, whilst Dr. V.P. Prasad, Scientist 'D' and Avishek Bhattacharjee, Scientist 'B' reviewed one each for *Rheedeia*.



In connection with the 'Strategy for holistic development of around 1200 inhabited and uninhabited Islands by the task force constituted in Ministry of Home Affairs, New Delhi', Dr. V. Sampath Kumar, Scientist 'D' prepared the account of Lakshadweep and submitted to Director, BSI to forward the same to the MoEF & CC. The account includes number of inhabited Islands, vegetation type, percentage of forest cover and medicinal plants.

Sent scanned image of the type specimens of *Casearia sikkimensis* (Flacourtiaceae) to Dr. Tharangamala Samarakoon, Department of Biological Sciences, University of Southern Mississippi, USA; the images of type of *Piper minutistigmum* to Dr. Chalernpol Suwanphakdee, Department of Botany Faculty of Science, Kasetsart University, Thailand and the image of authentic specimen of *Gomphostemma wallichii* collected by Dr. King's collector from Upper Burma to Dr. K. Ravikumar, Assistant Director, National Herbarium of Medicinal Plants and Repository of Raw Drug, Institute of Ayurveda and Integrative Medicines (IAIM), Foundation for Revitalisation of Local Health Traditions (FRLHT), Bengaluru.

Supplied Images of Type specimens of *Tropidia hegderaoi* (Orchidaceae) on request received from Sri Vikas Kumar, Research Scholar, Botanical Survey of India, NRC, Dehradun. Similarly, images of Roxburgh's Icones of *Urtica Parviflora* sent to Dr. Rajendra D. Shinde, Vice Principal, St. Xaviers College, Mumbai.

Sent pdf of papers published in various journals to Dr. M. Sanjappa (Ex-Director, BSI), CSIR Emeritus Scientist, Botanical Garden, University of Agricultural Sciences GKVK, Bengaluru; Dr Sam P. Mathew, Scientist, Jawaharlal Nehru Tropical Botanic Garden & Research Institute, Palode, Thiruvananthapuram, Kerala and Dr. W. Dinesh Albertson, Research Scientist, Centre of Excellence, C.E.M.D.E., University of Delhi.

Dr. Rajib Gogoi, Scientist 'D' identified 10 species for Ms. Arpita Bora, Research scholar, Assam University, Silsar, Assam. Dr. Rajib Gogoi also identified 6 species for Dr. Tapan Seal, Scientist 'C' of Plant Chemistry Section, BSI, Howrah.

Issued five plant identification certificates (13 species) to different institutes/ students/ researchers.

### Meetings attended

Dr. P. Lakshminarasimhan attended the State Board Wildlife meeting on 19.06.2015 at Patna, chaired by Hon'ble Chief Minister of Bihar Sri Nitish Kumar, as a representative of Director, BSI held at the Office of the Chief Minister.

Dr. Lakshminarasimhan also attended the Review Committee Meeting on 29.06.2015 regarding "Restoration of BSI building in Indian Museum campus at Kolkata" under the Chairmanship of Dr. R. Dalwani, Advisor, MoEF & CC (other members included Dr. Paramjit Singh, Director, BSI, Sri S.K. Rustagi, C.E., CCU, New Delhi, Sri L. Dung Dung, S.E., CCU, New Delhi, Sri A.K. Das, Deputy Secretary, MoEF& CC, officials of BSI and ZSI held at ISIM, BSI, Kolkata.

Dr. Lakshminarasimhan also attended the Review Committee Meeting on 30.06.2015 regarding "Review of progress of works in Central National Herbarium Building and A.J.C. Bose Indian Botanic Garden, BSI, Howrah" (fund sanctioned in Capital works) under the Chairmanship of Dr. Paramjit Singh, Director, BSI. In the meeting Sri S.K. Rustagi, Sri L. Dung Dung, Sri A.K. Das, officials of CPWD (Civil & Electrical), Kolkata and officials of BSI at Central National herbarium, BSI, Howrah were participated.



**During the meeting on "Review of progress of works in Central National Herbarium Building and AJC Bose Indian Botanic Garden, BSI, Howrah"**

### Visitors/students

Dr. Sardar Nasir Uddin and Mrs. Bushra Khan, Senior Scientific Officers, Bangladesh National Herbarium, Dacca, Bangladesh; Anirban Roy, Research Officer, West Bengal Biodiversity Board, Govt. of West Bengal; Sri Biswajit Sharma, Centre for Orchid Gene Conservation of Eastern Himalayan Region, Manipur; Ms. Tilotama Devi and Ms. Sampa Ghosh, Research Scholars, Department of Life Sciences & Bioinformatics, Assam University, Silchar, Assam; Jhuma Sutradhar, Research Scholar, Viswa Bharati University, Shantiniketan, West Bengal, Dr. Subhasish Panda, Asst. Prof., Darjeeling Govt. College, West Bengal and students (9 nos.) of class XII (Science) of Kendriya Vidyalaya, Kancharapara.

### Publications

Bandyopadhyay, S., Bhattacharjee, A. and Dey, S. 2015. (058–059) Proposals to add a new Recommendation and two Examples. *Taxon* 64(3): 656–657.

Karthigeyan, K. and Arisdason, W. 2015. *Ixora longibracteata* Bremek. (Rubiaceae), An addition to flora of India, with notes on its status and distribution. *Taiwania* 60(2): 95–98.

Kumar, A. and Paul, T.K. 2015. *Grewia villosa* Willdenow (Malvaceae): a new record for Eastern India. *Pleione* 9 (1): 240–243.

Lakshminarasimhan, P., Arisdason, W., Gantait, S. and Bandyopadhyay, S. 2015. Bibliography and abstracts of papers on flora of Karnataka. Compiled for ENVIS Centre on Floral Diversity, Botanical Survey of India, Howrah.

Lakshminarasimhan, P., Arisdason, W., Gantait, S. and Bandyopadhyay, S. 2015. Bibliography and abstracts of papers on flora of Goa. Compiled for ENVIS Centre on Floral Diversity, Botanical Survey of India, Howrah.

Pathak, M. and Bharati, K.A. 2015. Global research on genus *Adansonia*. *Elixir Lib. Sci.* 83: 33129–33134.

Srivastava, R.C., Lakshminarasimhan, P., Arisdason, W. and Sardesai, M.M. 2015. Angiosperms of India known only by type collection. *J. Threat. Taxa* 7(8): 7465–7470.

## CENTRAL BOTANICAL LABORATORY, HOWRAH

Scientists of this centre identified 40 species of angiosperms, and made descriptions for 7 species in connection with the Flora and Ethnobotany of Balasore district, Odisha. Scientists and scientific staff of CBL initiated Cytological studies on *Solanum diphyllum* growing in AJCBIBG, Howrah and digitized data provided in labels of cytological herbarium (254 nos.) . Ms. Sagari Chaudhury, JRF working on the project 'Ethnobotanical study of Lodha tribe of West Bengal and nutraceutical analysis of selected plant species' analyzed Fidelity level and Relative Frequency of Citation of her field data.



*Salacia wayanadica* — a newly described species from Wayanad, Kerala



*Discospermum abnorme* growing in Kuldiha Wildlife Sanctuary, Balasore, Odisha

**Visitors/students**

Twelve persons from South Calcutta Trekkers Association, Kolkata visited Ethnobotany museum of CBL.

**Publications**

Sujana K.A., Nagaraju S., Ratheesh Narayanan, M.K. and Anil Kumar N. 2015. A new species of *Salacia* (Celastraceae) from India. *Taiwania* 60(2): 91–94.

Mishra, M. and Khan, A.H. 2015. Comparative genotoxic potential of  $\gamma$  rays in two varieties of Isabgol (*Plantago ovata* Forsk.). *Chromos. Bot.* 10(1): 31–38.

**INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA**

In connection with the project on 'Interpretation of Families in Icones Roxburghianae', Cucurbitaceae, Moraceae and Myrtaceae are being done. Dr. Manas Bhumick, Scientist 'D' carrying out the work of editing of Poaceae manuscript for 'Flora of Uttar Pradesh'. Nomenclature update for 30 digitized Herbarium specimens was done by Dr. A.K. Sahoo, Scientist 'D'.

**Meetings**

The first Review Committee meeting on MoEF & CC funded Project on "Restoration of BSI building in Indian Museum campus at Kolkata" was held on 29.06.2015 at ISIM committee room. The meeting was attended by Dr. (Ms.) R. Dalwani, Advisor, MoEF & CC; Dr. P. Singh, Director, BSI; Sri S.K. Rustagi, Chief Engineer, CCU, MoEF & CC; Sri L. Dung Dung, Supt. Engineer (CCU, MoEF & CC; Sri A.K. Das, Deputy Secretary, MoEF & CC; Sri A.K. Roy, Dy. Gen. Manager, NBCC, Kolkata along with other officials of BSI.

**Public service rendered**

8 samples were identified under N.D.P.S. act.

**Publications**

Mao, A. A. and Bhaumik, M. 2015. *Rhododendron pseudomaddenii* (Ericaceae), a new species from India. *Edinburgh J. Bot.* 72(2): 209–213.

Datta, S., Paul, T.K. and Sinha, B.K. 2015. *Aeschynanthus angustiblongus* W.T. Wang (Gesneriaceae) an addition to Indian Flora. *Phytotaxonomy* 14:23–24.

**ANDAMAN AND NICOBAR REGIONAL CENTRE, PORTBLAIR**

Dr. Lal Ji Singh, Scientist 'D' & HoO recorded phenology of 20 tree species of Dhannikhari Experimental Garden cum Arboretum (DEGA), Nayashahar, South Andaman. Dr. T.A.M. Jagadeesh Ram, Scientist 'D' studied chemistry of 128 specimens of Lichens of Nicobar Islands.

**World Environment Day**

The World Environment Day was celebrated on 05.06.2015 at Dhannikhari Experimental Garden cum Arboretum. On this occasion the Scientists and the staff of the centre cleared the weeds of the Botanical garden.

Dr. Sanjay Mishra, Scientist 'B', delivered a lecture on 05.06.2015 in Anthropological Survey of India, Andaman & Nicobar Regional Centre under the theme "Issues & challenges of Island Environment" on the occasion of World Environment Day.

**Programme attended**

Dr. Lal Ji Singh, Scientist 'D' & HoO participated in 37th foundation day celebration of ICAR-CIARI at Central Islands Agricultural Institute, Port Blair on 23.06.2015. Dr. T.A.M. Jagadeesh Ram attended 48th Passing out ceremony of Forest Guards at Forest Training Institute, Wimberligunj on 18.06.2015.



### Meetings/workshops attended

Dr. Lal Ji Singh attended 45th meeting of the General Body of Andaman Adim Janjati Vikash Samiti on 22.06.2015 at Raj Niwas under the Chairmanship of Lt. Governor. Dr. Singh also attended DDC meeting of Forest and Environment at Vansadan, Forest and Environment Department, Andaman and Nicobar Islands on 23.06.2015. Dr. Singh also participated in National Workshop on Less Known Marine Animals of India, at Zoological Survey of India, Port Blair from 11th to 13th June 2015.

### Visitors

Er. Vikram, JTO, BSNL, Sub Station Garacharma, Port Blair visited Dhannikhari Experimental Garden cum Arboretum (DEGA), ANRC on 12.06.2015; Dr. Madhumita Biswas, Scientist 'F' & Director, MoEF & CC, New Delhi visited DEGA on 23.06.2015 and Sri B. K. Singh, Retd. Principal, RBDI College, Bhurkur, Ghazipur along with 5 members visited DEGA on 27.06.2015.

### Publication

Thangavel, P., Prabhu, S. and John Britto, S. (2014) 2015. High Frequency Shoots Regeneration from Nodal Explants of *Plectranthus barbatus* Andrews belong to the Lamiaceae. *J. Andaman Sci. Assoc.* 19 (2): 126–135.



**Dr. Madhumita Biswas visiting the Museum at ANRC, Port Blair**



**Dr. Madhumita Biswas visiting the DEGA, Nayasahar**

## ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

Dr. P. Satyanarayana, Scientist 'D' & HoO, Sri B.B.T. Tham, Botanist prepared descriptions for 21 species for Flora of Pakke Tiger Reserve and Wild Life Sanctuary.

Dr. Vineet Kumar Rawat, Scientist 'C', identified specimens of 15 field numbers for the family Polypodiaceae of North East India.

Dr. Manish Kandwal, Scientist 'C' identified specimens of 12 field numbers for Grass flora of Arunachal Pradesh.

Dr. Krishna Chowlu, Scientist 'B' collected 7 species from Namsai, Arunachal Pradesh.

Dr. Souravjyoti Borah, Botanist prepared descriptions for 15 species in connection with Flora of Lohit District and Kamlang Wildlife Sanctuary.

Dr. P Satyanarayana visited Vana Vigyan Kendra, State Forest Research Institute, Chessa, Arunachal Pradesh on 24.06.2015 and collected seedlings of 2 species of *Elaeocarpus* and 4 species of *Terminalia* for introduction at BSI, APRC, Itanagar.

Dr. Vineet Kumar Rawat visited Biodiversity Park, NHPC, Gerukamukh, Assam along with a team of scientists of State Horticulture Dept. on 20.06.2015.

### World Environment Day

Scientists and staff of the centre observed World Environment Day on 05.06.2015 and planted seedlings at BSI campus on this day.

### Swatchh Bharat Abhiyan

As a part of "Swachchh Bharat Abhiyan" the staff of the centre participated in clearing/cutting of weeds at BSI residential quarters complex on 20.06.2015 and 27.06.2015.

### Publications

Rawat V.K. and Satyanarayana, P. 2015. Taxonomic studies on the family Polypodiaceae in Mehao Wild Life Sanctuary, Arunachal Pradesh. *J. Econ. Taxon. Bot.* 39 (1): 1–15.

Gogoi, R. and Borah, S. 2015. *Impatiens adamowskiana* sp. nov. (Balsaminaceae) from Arunachal Pradesh, Northeast India. *Nordic J. Bot.* 33(5): 586–590.

## ARID ZONE REGIONAL CENTRE, JODHPUR

Sri Vinod Maina, Scientist 'D' and Sri Ravi Prasad, Bot. Asst. identified 20 plant species from their previous tour materials in connection with Ethnobotany of Dang District, Gujarat.

Prepared documentation on 16 Plant species which was submitted by Gujarat State to MoEF & CC for notification u/s 38 of the Biological Diversity Act 2002.

### World Environment Day

World Environment Day was celebrated at the centre on 05.06.2015 and a plantation programme was organized. Dr. P. M. Padhye, Scientist 'F' & Head of Offices, BSI, Kolkata participated in the programme.



### Ex-situ conservation

In connection with *ex-situ* conservation, several species namely *Alpinia galanga*, *A. malaccensis*, *A. sericeum*, *A. occidentale*, *Boesenbergia longiflora*, *Cheilocostus speciosus*, *Curcuma amada*, *C. angustifolia*, *C. caesia*, *C. latifolia*, *C. prakasha*, *Cheilocostus lacerus*, *Haldina cordifolia*, *Hedychium aurantiacum*, *H. aureum*, *H. coccineum*, *H. coronarium*, *H. flavescens*, *H. flavum*, *H. gardnerianum*, *H. hookeri*, *H. rubrum*, *Mitragyna parvifolia*, *Sterculia urens*, *Terminalia bellirica*, *Zingiber montanum* and *Z. rubens* were introduced in the Botanic garden.

### Public service rendered

Dr. S.L. Meena, Scientist 'D' along with Dr. Chandan Singh Purohit, Scientist 'B' and Dr. P. Harikrishna, Bot. Asst. identified 172 plant specimens for visitors/students/researchers.

### Publication

Satish, K.V., Vazeed Pasha, S., Hari Krishna, P. and Sudhakar Reddy, C. 2015. *Achyranthes coynei* Santapau (Amaranthaceae): An Endemic and Threatened Species from Kachchh Desert, India. *Natl. Acad. Sci. Lett.* 38: 281–282.

## CENTRAL REGIONAL CENTRE, ALLAHABAD

In connection with the ongoing project on Floristic diversity of Parvati Aranga Wildlife Sanctuary and adjoining Tikri forest area, Gonda, Uttar Pradesh, identification and description are being made. Similarly, for the Taxonomic studies on lichenized non thelotremoid Indian Graphidaceae, Lichen of Terai region, Uttar Pradesh, Lichens of Rajasthan and Kutch, Gujarat and Lichen flora of Kerala state a total of 15 species were identified. In connection with Flora of India project "Revisionary studies on family Roccellaceae (Lichens)" completed the detailed study of two type specimens received from CAL. In addition, a total of 148 earlier collected specimens housed at BSA were also identified.

### World Environment Day

World Environment Day was celebrated on 05.06.2015 and plant saplings were planted in the Garden on this occasion. Further, two advertisements were published in local Hindi News papers 'Dainik Jagran' and 'Dainik Hindustan' towards public awareness on environment on this day.



### Public services rendered

Identified a lichen specimen of Karnataka received from Dr. A. Tinabaye, Associate Prof. Kanchi Mamunivar Centre for P.G. Studies, Lowspet, Puducherry. Dr. A. N. Shukla, Scientist 'B' reviewed a manuscript for the journal *Indian Forester*.

### Meeting/training

A 'Departmental Rajbhasha Karyanvayan Samiti' meeting was held on 18.06.2015 wherein work in *Rajbhasha Hindi* was reviewed.

Hands on training programme on SEM techniques and methodology for the scientific staff of BSI, CRC was organised on 22.06.2015 and 23.06.2015.

### Visitors /students

Prof. Jyoti Kumar, Department of Botany, Ranchi University, Ranchi visited CRC- along with his Scholar on 23.06.2015.

### Publications

Singh, K.P. and Sinha, G.P. 2015. Replacement names of two Indian lichens. *Indian J. Forest.* 38(1): 99.

Gupta, P. and Sinha, G.P. 2015. A new *Gyalidea* species (Ascomycota: *Solorinellaceae*) from India. *Curr. Res. Environ. Appl. Mycol.* 5(2): 145–148.

## DECCAN REGIONAL CENTRE, HYDERABAD

Dr. L. Rasingam, Scientist 'C' and Sri S. Nagaraju, Bot. Asst. conducted a field tour to Nagarjuna Sagar-Srisailem Tiger Reserve Wildlife Sanctuary (NSTR WLS) from 1<sup>st</sup> to 7<sup>th</sup> June 2015 and collected specimens of 57 field numbers. Sri K. Chandra Mohan, JRF conducted a field tour to Satkosia wildlife sanctuary, Odisha (Pampasar and Raigoda ranges) from 9<sup>th</sup> to 24<sup>th</sup> June 2015 and collected specimens by utilising 45 field numbers and also identified 41 species. In connection with the Flora of India Project, Sri Alok Chorghhe, SRF conducted a herbarium consultation tour to DD and BSD, Dehradun from 19<sup>th</sup> to 29<sup>th</sup> June 2015.

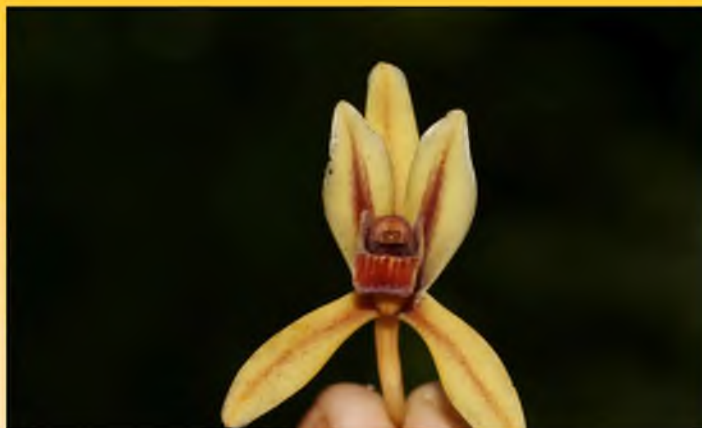
Dr. P.V. Prasanna, Scientist 'F' identified 39 species collected from Seshachalam Biosphere Reserve, whilst Ms. P. Annamma, JRF identified 15 species from Kawal Tiger Reserve. Sri J. Swamy, Bot. Asst. completed the descriptions for 11 species for "Shrubs of Greater Hyderabad", and also prepared "Island flora of Andhra Pradesh and Telangana States" for submission to the same to Headquarter, BSI, Kolkata.



**Grassland vegetation in Nagarjuna Sagar-Srisailem Tiger Reserve Wildlife Sanctuary**



**Sri S. Nagaraju collecting plants from NSTR WLS**



***Cymbidium aloifolium* from Satkosia  
Tiger Reserve, Odisha**

### Public services rendered

Dr. P.V. Prasanna reviewed 3 articles on the floristic diversity of different states for BSI-ENVIS, Howrah. Sri J. Swamy demonstrated about "Identification of Weed Species" to Dr. Vikas Tyagi, Scientist, DWSR-ICAR, Jabalpur, Madhya Pradesh and also identified 25 weed species.

## EASTERN REGIONAL CENTRE, SHILLONG

One field tour was conducted by Ms. Nandita Sarma Sr. Prev. Asst. to Amchang WLS (Assam) from 15<sup>th</sup> to 21<sup>st</sup> June 2015. During this period, identified 37 and documented 33 species from 'Flora of South Garo Hills Dist., Meghalaya' by Dilip Kumar Roy, Bot. Asst., 'Eastern Nagaland' by N. Odyuo, Scientist 'D' and Dr. R. Daimary, Bot. Asst., 'Amchang WLS' by Ms. Nandita Sarma', and 'Yangoupokpi Lokchao WLS, Manipur' by Sri. R. Meitei, Bot. Asst. Literature survey, and study of *Riccia* is being done for 'Taxonomic Revision of genus *Riccia* (Marchantiophyta) in India' by Dr S.K. Singh, Scientist 'D'. Dr. N. Odyuo consulted 620 specimens at Nagaland University in connection with the Checklist of Flora of Nagaland.

### Micro-propagation of RET Plants of NE India

Dr. A.A. Mao, Scientist 'E' & HoO and L. Ibemhal Chanu, Bot. Asst. prepared the solution and transferred approx. 500 small plants of *Armadorum senapatianum* from Lab to land. Dr. Mao also Prepared chart of RET plants of NE India viz., *Armadorum senapatianum* (Orchidaceae), *Cymbidium tigrinum* (Orchidaceae), *Ilex khasiana* (Aquifoliaceae), and *Paphiopedilum hirsutissimum* (Orchidaceae).

In connection with the 'Phytochemical Screening of Medicinal Plants and Molecular Characterization of selected species of NE India' Dr. Deepu Vijayan, Scientist 'B', subcultured *in vitro* raised seedlings of *Pyrenaria khasiana* into fresh WPM medium. Dr. Vijayan made observation of callus induced *in vitro* raised leaf explants of *Pyrenaria khasiana*. Dr. Vijayan also planted around 25 seedlings of *Ormosia travancorica* in green house, collected from Thenmala Reserve Forest, Kerala.

World Environment Day was celebrated by tree plantation at Shillong and Barapani gardens on 05.06.2015.

### Public service rendered

Identified about Eight samples of specimens received from various institutions. Dr. D. Vijayan supervised 2 students from Amity University (B.Sc. and B.Tech. Biotechnology) for molecular characterization of *Rhododendrons*. They extracted DNA from selected species of *Rhododendron* and performed PCR using RAPD primers.

### Students/visitors

4 Scientists, 1 Professor, 5 Research Scholars visited the Centre from various Institutions, Colleges and Universities.

### Publication

Mao, A.A., Sarma, N. and Roy, D.K. 2015. *Adenophora capillaris* subsp. *dzukoensis* (Campanulaceae), a new subspecies from North East India with a note on other Indian taxa of the genus. *Pleione* 9(1): 211–216.



## NORTHERN REGIONAL CENTRE, DEHRADUN

Dr. P.K. Pusalkar, Scientist 'D' conducted a field tour to Naina Devi Himalayan Bird Conservation Reserve, Nainital and Pawalgarh Conservation Reserve, Ramnagar, Uttarakhand from 8<sup>th</sup> to 17<sup>th</sup> June 2015 and collected 500 specimens, 10 Museum articles including specimens of fungi, lichens, carpological collections, fruits and collected 15 live plants. Dr. S.K. Srivastava, Scientist 'E' & HoO conducted field visit to Haldwani, Bastiya (Champawat), Ramnagar, Mohan in Almora and Bodmalla to visit the MPCAs as established by forest department in collaboration with State medicinal Plant Board and Technical consultation with FRLHT from 18<sup>th</sup> to 21<sup>st</sup> June 2015, as Terminal Evaluator of the project on "Mainstreaming Conservation and Sustainable use of Medicinal Plant Diversity in Uttarakhand state" funded by GEF-UNDP.

Identified 129 species and made descriptions in connection with 'Flora of Uttarakhand Vol. V', 'Floristic Diversity and Phytosociological study of Simbalbara National Park', 'Flora of Nandhour Wildlife Sanctuary', 'Flora of Sonanadi Wildlife Sanctuary', 'Revisionary study of Family Bignoniaceae in India', 'Tree ferns of India' and 'Genus *Lepisorus* (Sm.) Ching in India'.

### Digitization and scanning of Herbarium specimens at BSD

172 specimens of the family Brassicaceae were digitized and scanned.

### World Environment Day

The centre observed World Environment Day on 05.06.2015 and a programme on *Parthenium* eradication was also done.

### Meetings attended

Dr. S.K. Srivastava, attended meeting at State Biodiversity Board, Uttarakhand on 16.06.2015, also attended a meeting on 17.06.2015 as terminal Evaluator of GEF-UNDP project on "Mainstreaming Conservation and Sustainable use of Medicinal Plant diversity in three states" also had a meeting with Director, Forest Training Academy, Haldwani regarding the project on Medicinal Plant Conservation and Sustainable utilization in Uttarakhand State and discussed above the working plans of Champawat & Bageshwar and status of MPCAs in Uttarakhand and discussed about the training module and syllabus of village Botanists and front line staff.



**Sri Amber Srivastava, JRF collecting seeds of a threatened plant - *Incarvillea emodi***



***Lilium nepalense* (Liliaceae)**

### Meeting convened

Dr. S.K. Srivastava, convened a meeting with Heads of Office of ZSI and ASI in connection with the construction site of the VIP Hostel in the campus of BSI, ZSI and ASI on 02.06.2015. Dr. Srivastava also conducted meeting with ex-Editorial Board members of APT on 09.06.2015 and discussed various issues of the Association, Budget and status of publication of Vol. XIV of *Phytotaxonomy*.

### Assistance to Botanical Garden

Dr. S.K. Srivastava visited proposed garden at Department of Floriculture, Punjab Agricultural University, Ludhiana on 04.06.2015, to inspect the basic requisite for establishing *ex-situ* conservation garden in the Department of Floriculture, Punjab Agriculture University. Inspection report prepared and sent to the Director, BSI, Kolkata.

### Public service rendered

10 plant species (*Aconitum heterophyllum*, *Carissa carandas*, *Cissus quadrangularis*, *Cupressus torulosa*, *Juglans regia*, *Mallotus philippensis*, *Melothria scabra*, *Plumeria rubra*, *Saraca asoca* and *Sonchus arvensis*) were identified for researchers of different universities and institutions of Uttarakhand.

### Visitors/students

Eight students from Forest Research Institute, Dehradun and Doon University, Dehradun visited the centre for herbarium and Library consultation.

### Publications

Pusalkar, P.K. and Srivastava, S.K. 2015. Two new records for Indian flora. *Phytotaxonomy* 14: 150–151.

Chandrasekar, K., Pandey, A., Srivastava, S.K. and Giri, L. 2015. Invasive Alien Plant of Himachal Pradesh, India. *Indian Forest*. 141 (5): 520–527.

## SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. D.K. Agrawala, Scientist 'C' conducted two local field tours to Tingrihang, Kewzing and Kabi Sacred Groove, and collected specimens for introduction in the garden and analyzed population of 22 orchid species. Dr. Agrawala studied 10 orchid specimens and finalized their identity, assigned geo-coordinates and entered the data in excel sheet for the project, 'Red listing of Orchids of Eastern Himalaya as per IUCN criteria'. Dr. Agrawala identified 22 and illustrated 6 Orchid species for documentation.



*Dendrobium falconeri* growing on a tree trunk

### Meetings /Training attended

Dr. M. Gangopadhyay attended as a Special Invitee in State Level Research Advisory Committee meeting of the ICAR, Tadong on 25. June 2015. Dr. D. K. Agrawala attended Task Force Meeting of PPV & FRA at National Research Centre ( Orchid) , Pakyong on 29/06/2015. Dr. M. Gangopadhyay was a member of the interview panel for selection of project staff in Sikkim State Council of Science and Technology, Government of Sikkim on 30.06. 2015.

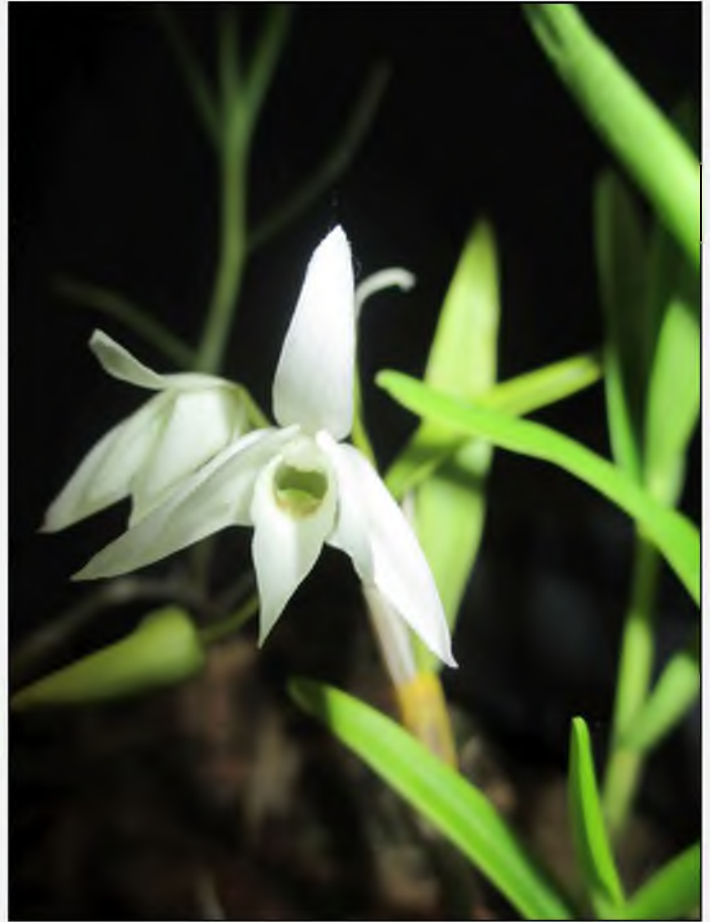
### International Yoga Day

Scientists and staff of this centre participated in the "International Yoga Day" at Paljor Stadium, Gangtok on 21.06.2015 .





*Cryptochilus lutea* (Orchidaceae)



*Dendrobium candidum* (Orchidaceae)

#### World Environment Day

On 05.06.2015, the World Environment Day was celebrated at this centre and saplings of *Rhododendron madeni* were planted in the premises. Dr. D.K. Agrawala was invited speaker at the World Environment Day celebration at GBPIHD, Sikkim unit on 05.06.2015.

#### Visitors/ students

Two M.Sc. (Horticulture) students from Sikkim University visited the centre.

### SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. M. Palanisamy, Scientist 'D' conducted a field tour to Karnataka coast from 3<sup>rd</sup> to 14<sup>th</sup> June 2015 and collected specimens of 170 field numbers and prepared 340 herbarium sheets. Dr. Palanisamy also preserved 35 field numbers of live specimens in containers for lab study.

Dr. J.H. Franklin Benjamin, Scientist 'B' and Sri R.G. Vadhayar, Bot. Asst. conducted a field tour to Malabar Wildlife Sanctuary, Kozhikode, Kerala from 22<sup>nd</sup> May to 2<sup>nd</sup> June 2015 and collected specimens of 158 field numbers in triplicate.

Under 'ex-situ conservation of endangered and threatened plants', Dr. S. Kaliamoorthy, Scientist 'D' and his team multiplied a total of 49 plants (including 33 samples of 10 species of orchids), developed 34 seedlings, 13 cuttings, re-potted and replanted 10 number, transplanted 7 number and recorded the phenology of 22 species including 10 species of orchids. Dr. Kaliamoorthy also conducted a Plant Tissue Culture Training Programme between 5<sup>th</sup> May to 10<sup>th</sup> June, 2015 for two postgraduate students of St. Joseph's College, Tiruchirapalli.

#### Public service rendered

The centre identified total of 37 plant samples for research scholars and students from various institutions.





Luxuriant growth of green seaweeds exposed during low tide



*Gelidium micropterum* (Rhodophyceae)



Reservoir in Malabar WLS, Kerala



*Gracilaria corticata* (Rhodophyceae)



Boundary of the Malabar WLS, Kerala



Dr. M. Palanisamy evaluated the Ph. D. thesis entitled "Potential of seaweed liquid fertilizer on growth and yield of *Vigna mungo* L. and antibacterial properties of silver nanoparticles from seaweeds", Department of Botany, Annamalai University. Dr. J.H. Franklin Benjamin, reviewed a manuscript for the Journal *Check List*.

**Scanning Electron Microscopy**  
Sri G. Gnanasekaran, Bot. Asst. studied the pollen grains of *Andrographis* species using SEM and assisted Dr. J.V. Sudhakar, Bot. Asst. for taking 8 SEM images of *Ficus* species. Dr.K.A.A. Kabeer, Scientist 'D' studied the caryopsis of 4 species of *Sporobolus* under SEM. Sri S.K. Yadav, Bot. Asst. taken 35 microscopic images of the genus *Psychotria* for Dr. R. Gopalan, ex-scientist, BSI.

### World Environment Day

The centre celebrated World Environment Day on 05.06.2015. On this occasion, poster and film presentations, exhibitions of live plants and classes were organised for the visited 180 students of various institutions in order to make awareness towards the environment and its conservation among the students.

### Meetings/ Programme participated

Quarterly meeting of Official Language (Hindi) Committee was conducted on 19.06.2015 and discussions were made to celebrate the forthcoming Hindi Day/Fortnight, to be held on 14<sup>th</sup> September 2015. The NO & EG, Yercaud participated in the 40<sup>th</sup> Flower Show, organized by the State Horticultural Department,

Govt. of Tamil Nadu on 6<sup>th</sup> and 7<sup>th</sup> June 2015 at Yercaud and displayed a total of 120 potted plants grouped under Ornamental, Fern, Medicinal, Cacti, *Peperomia*, Endangered and Orchids.

### Visitors/students

20 students, research scholars, lectures and scientists visited the herbarium and library of this regional centre whereas 1724 persons in 324 parties visited National Orchidarium and Experimental Garden (NO & EG), Yercaud.

### Publications

Palanisamy, M., Yadav, S.K. and Murthy, G.V.S. 2015. Diversity and distribution of seaweeds at Thikkodi coast, Kerala, South India. In: *Biodiversity Conservation: Aspects and Prospects*, (eds.), A. Rajendran and V. Aravindhan. ISBN: 978-3-659-69584-1, Lambert Academic Publishing, Germany. Pp. 28–51.

Yadav, S.K., Palanisamy, M. and Murthy, G.V.S. 2015. Distribution, diversity and conservation of seaweeds of Thiruvananthapuram coast, Kerala. In: *Biodiversity Conservation: Aspects and Prospects*, (eds.), A. Rajendran and V. Aravindhan. ISBN: 978-3-659-69584-1, Lambert Academic Publishing, Germany. Pp. 52–62.

Franklin, B.J.H. and Kabeer, K.A.A. 2015. Grasses of Tamil Nadu and Kerala: A Brief Analysis. In: *Biodiversity Conservation: Aspects and Prospects* (eds.), A. Rajendran and V. Aravindhan. ISBN: 978-3-659-69584-1, Lambert Academic Publishing, Germany. Pp. 140–146.

## WESTERN REGIONAL CENTRE, PUNE

During this month, identified about 85 angiosperm specimens collected from Biligiri Rangaswamy Temple Wildlife Sanctuary, Sharavathy valley Wildlife Sanctuary in Karnataka and from Koyna Wildlife Sanctuary, Maharashtra. About 5 pteridophytic specimens were identified from Kudremukh National Park, Karnataka. Identification of 15 fungal species was done and detail description of 123 fungal species was completed. About 31 host plants were processed using hand section techniques and moist chamber techniques.

### World Environment Day

On the occasion of World Environment Day on 05.06.2015, plantation programme was organized. Saplings of *Nothapodytes nimmoniana*, *Mesua ferrea*, *Oroxylum indicum*, *Ficus religiosa*, *Phoenix spp.*, and *Memecylon spp.* were planted in Office and at Mundhwa Experimental Garden.

### Public service rendered

Identified and authentication certificates were issued for 29 students from B. Pharm, M. Pharm., Ph.D. and P.G. students from different institutions.



**Karanjwade, Koyna Wildlife Sanctuary, Maharashtra**



**Kusumalata Plateau , Koyna Wildlife Sanctuary, Maharashtra**





*Elaeocarpus serratus* in Biligiri Rangaswamy Temple Wildlife Sanctuary



*Holigarna grahamii* in Sharavathy Valley WLS



Plantation programme at WRC office garden, Pune

#### Visitor

Prof. A.K. Pandey, Department of Botany, Delhi University visited WRC for consulting herbarium specimens of the family Cucurbitaceae.

#### Publications

Benniamin, A., Jothi, G.J. and Sundari. M.S. 2015. Rapid In vitro Propagation of *Dodonaea viscosa* (Sapindaceae) through axillary bud multiplication and indirect organogenesis. *J. Non Timber For. Prod.* 22 (1): 33–35.

Benniamin, A., Tripathi, D. and Kale, P. 2015. *Pteris heteromorpha* (Fee) Bedd. – New record for Maharashtra. *Bioinfolet* 12(2A): 1–2.

Jayanthi, J. and Jalal, J.S. 2014 (2015). Life-form and Biological Spectrum of Semi-arid grassland: Great Indian Bustard Wildlife Sanctuary, Maharashtra. *Phytotaxonomy* 14: 44–60.



## PLANT OF THE MONTH



**Mansoa alliacea (Lam.) A. H. Gentry (BIGNONIACEAE)** Known as Garlic Vine or Ajos-sacha, is native to Amazon Rain Forest. Cultivated for its beautiful flowers is also a medicinally important plant.

By Dr. B. K. Singh

# अण्डमान निकोबार द्वीप समाचार

संख्या 180

पोर्ट ब्लेयर

गुरुवार 02 जुलाई 2015

web: www.and.nic.in

## भारतीय वनस्पति सर्वेक्षण में हिन्दी कार्यशाला सम्पन्न

पोर्ट ब्लेयर, 1 जुलाई।

भारतीय वनस्पति सर्वेक्षण, अण्डमान एवं निकोबार क्षेत्रीय केन्द्र पोर्ट ब्लेयर के मुख्य कार्यालय में 29 एवं 30 जून 2015 को प्रथम त्रैमासिक दो दिवसीय हिन्दी कार्यशाला का आयोजन किया गया।

कार्यशाला का उद्घाटन करते हुए डॉ. लालजी सिंह,



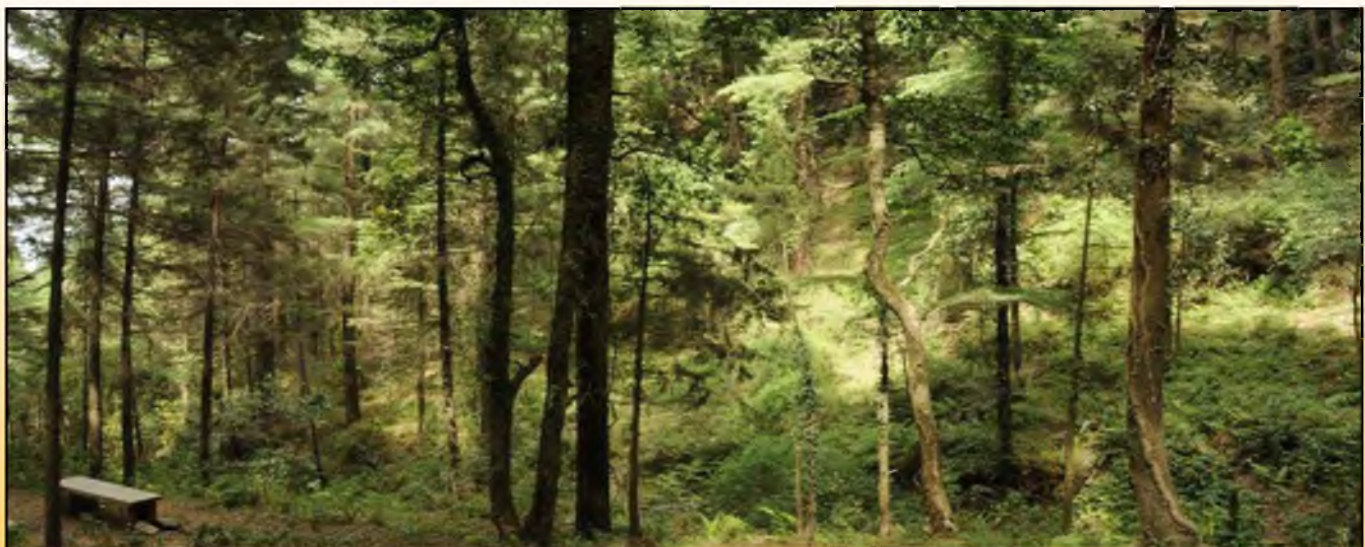
वैज्ञानिक 'डी' व कार्यालयीय ने समस्त अधिकारियों व कर्मचारियों को अधिकाधिक हिन्दी का प्रयोग करने का आह्वान किया।

इस अवसर पर प्रशिक्षण का कार्य डॉ. संजय मिश्रा, वैज्ञानिक 'बी', भारतीय वनस्पति सर्वेक्षण, अण्डमान एवं निकोबार क्षेत्रीय केन्द्र, पोर्ट ब्लेयर द्वारा किया गया, जिन्होंने राजभाषा अधिनियम 1963 की धारा 3(3) के अंतर्गत, पत्राचार, प्रशासनिक शब्दावली / टिप्पणियाँ, वैज्ञानिक कामकाज में प्रयुक्त टिप्पणियाँ एवं प्रारूपण की महत्वपूर्ण सूक्तिका पर प्रकाश डाला।

कार्यशाला का शुभारम्भ डॉ. लालजी सिंह, वैज्ञानिक 'डी' के स्वागत भाषण के साथ हुआ। कार्यक्रम के अन्त में राजभाषा सम्पर्क अधिकारी डॉ. संदीप कुमार बेहरा, वैज्ञानिक 'बी', ने धन्यवाद ज्ञापित किया।

### NEW RECRUITMENT

- ♦ Dr. Dr. Umesh Kumar Tiwari joined APRC, BSI, Itanagar as Scientist 'B' on 10.06.2015.
- ♦ Dr. Sankara Rao Mudadla joined SHRC, BSI, Gangtok as Scientist 'B' on 15.06.2015.



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

© Botanical Survey of India  
Published by The Director, BSI, Kolkata  
Compiled and edited by Drs. V. Sampath Kumar and  
Avishek Bhattacharjee, CNH, BSI, Howrah