



BSI NEWSLETTER



The monthly electronic newsletter of Botanical Survey of India

Volume 1
Number 2

September 2014

From the Director's Desk

Thanks for the compliments, comments and suggestions received from across the country about the first issue of the electronic version of the BSI newsletter published last month. Most of the comments reached us within a day of uploading and it was possible due to the easy accessibility and reach of digital publications in the age of Information Technology.

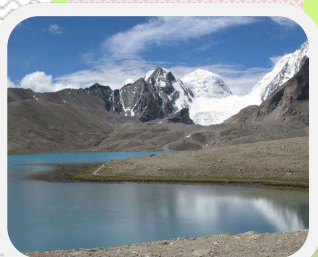
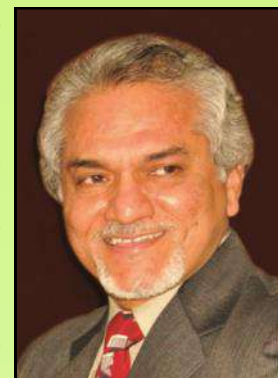
The new version of BSI website (<http://bsi.gov.in>) was launched on 16th September 2014 by the Hon'ble Minister of State for Information and Broadcasting (I/C), Environment, Forest & Climate Change (I/C) Sri Prakash Javadekar at the 21st meeting of the Global Biodiversity Information Facility (GBIF) Governing Board, in New Delhi. The BSI's publications were also released by the Hon'ble Minister Sri Prakash Javadekar on that occasion.

In this issue, like in the first issue of the newsletter, various research programmes and activities carried out by the scientists and scientific staff of the different regional centres and units of the Botanical Survey of India are highlighted with informative photographs. During this month, all the regional centres and units have observed the *Hindi Pakhwarah/saptah/Diwas Samaroh* (fortnight/week/day celebration) by conducting various kinds of competitions like *Nibandh lekhan* (essay writing), *Sulekh* (hand writing), *Bhashan pratiyogita* (speech competition), *Kavya path* (reciting of poems), *vad-vivad* (debate) and *Prashnotari* (quiz competition). In BGIR, Noida three day workshops were also organised on the occasion of '*Hindi Pakhwarah*', while '*Hindi Evam I.T. Anuprayog*' was organized at AZRC, Jodhpur in connection with the celebration of *Hindi Saptah*.

Hope you will continue to send your feedback.

Happy browsing!

Dr. Paramjit Singh
Director, Botanical Survey of India, Kolkata



Botanical Survey of India
Established in 1890



HEAD QUARTERS, KOLKATA

Dr. Paramjit Singh, Director, BSI explored different parts of Ladakh (Jammu & Kashmir) and Lahaul (Himachal Pradesh), accompanied by a team from Northern Regional Centre, BSI, Dehra Dun covering an altitude between 2000 and 5700m. Ms. Sutrishna Kar, SRF, also visited the above places with this team in connection with the studies on *Festuca* in India.



Dr. Paramjit Singh, Director, BSI along with tour party during Ladakh tour



A grassland on the way to Rohtang, Himachal Pradesh

Dr. R.K. Gupta, Scientist 'C', conducted a field tour to Sahibganj, Giridih and Koderma districts of Jharkhand and collected 124 algal samples from various habitats in connection with the 'Algal Flora of Jharkhand'. Dr. Gupta also collected petrified fossils from the geo-heritage site, Mandro block in Sahibganj district of Jharkhand (25°07'53.88" – 25°07'55.26" N longitude and 87°31'27.60" – 87°31'30.96" E latitude, altitude 91–93 m).



A typical cold desert vegetation in Ladakh, Trans-Himalayan region



Population of *Festuca sibirica* on the way to Tsokar Lake, Ladakh



Petrified fossils at Mandro block in Sahibganj district of Jharkhand

Dr. Sudipta Kumar Das, AJCBPDF, visited East and North Sikkim in connection with the project, 'Taxonomic diversity and ecology of cyanobacteria and algae in the alpine regions of Eastern Himalayas'. During this tour, Dr. Das covered about 400 sq. km., mainly confined to aquatic, terrestrial and sub-aerial habitats of algae and made collection of 107 samples. A filamentous green algae *Prasiolopsis ramosa* collected from Ban Jhakri waterfall of Sikkim, forms the first report from Asia. In Sikkim most of the waterfalls are perennial water bodies, where cyanobacteria and diatoms dominate on the rock surfaces forming biofilms of algal consortium which can withstand under a high flow of water. This enunciates their adherence to their substratum and their survival strategies.



Gurudongmar lake at an altitude of 5231 m in North Sikkim



Ban Jhakri water fall in Gangtok (left) and Epilithic, slimy mat formation by Cyanobacteria at Bakthang waterfall in Gangtok (right)

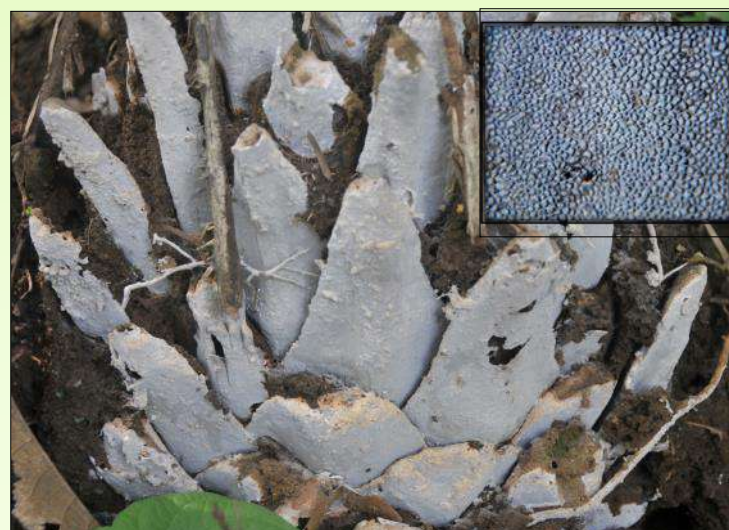


Collection of algae from a stream near Rumtek, East Sikkim (left) and collection of phytoplankton from the river at Ray Khola, East Sikkim by using plankton net (20 µm pore size)



Thick epilithic mat of *Spirogyra* sp. on the rocky bed of a stream near Samdung, East Sikkim

Sri M. E. Hembrom, Botanist in connection with the ongoing project on 'Wood-rotting fungi of Rajmahal Hills' visited Pakur (Amrapara, Pakuria, Litipara, Hiranpur Block) and Godda (Sundarpahari, Boarijour) districts in the months of August and September. During this collection trip Sri Hembrom collected 290 field nos. of wood-rotting fungi as well as other macro-fungi by covering about 730 sq. km., which is falling under 24°21'18.8"– 25°00'00.5" N latitude and 87°23'07.5"– 87°29'58.5" E longitude.

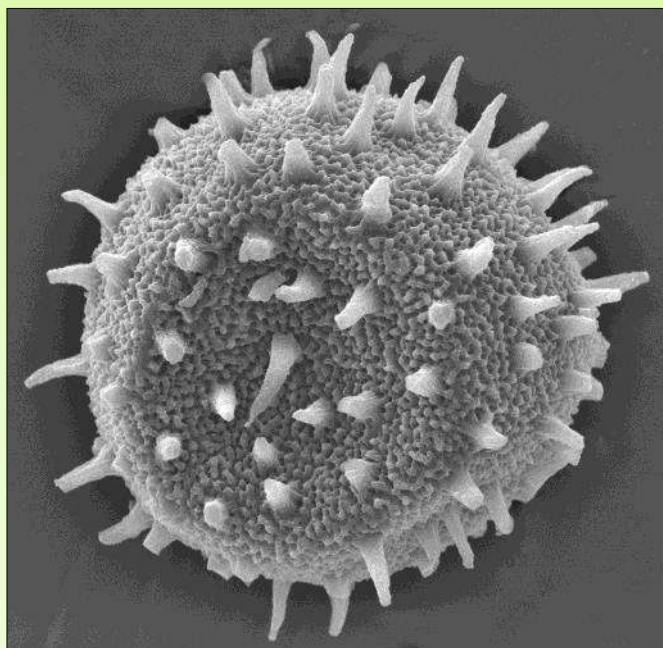


Wood rotting fungi – *Grammothele fuligo* (inset fruiting body surface under microscope)

Dr. A.B.D. Selvam, Scientist 'C' in connection with the ongoing project on 'Pharmacognostic Studies on Medicinal Aconites of India' visited different parts of Jammu & Kashmir and Himachal Pradesh and collected *Aconitum heterophyllum* and *Podophyllum hexandrum* from Bema Purtikchey near the

Panikher village, Kargil district of Jammu & Kashmir; *Aconitum deinorrhizum* and *Aconitum violaceum* from Chansil pass, Simla district of Himachal Pradesh; *Aconitum violaceum* from near Larang La in Pin valley National Park, Lahaul and Spiti district of Himachal Pradesh; *Aconitum heterophyllum* from 15 km below Rohtang pass, Kullu district of Himachal Pradesh. During this field trip Dr. Selvam also consulted the Herbarium and Crude Drug Museum of IIM, Jammu (formerly RRL, Jammu) and Kashmir University Herbarium (KASH).

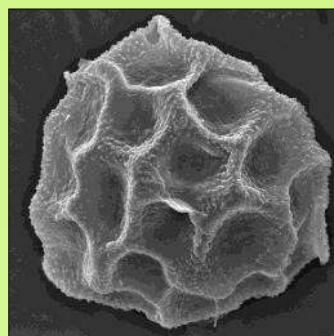
In connection with the Liverwort and Hornwort Flora of Sikkim, Dr. D. Singh, Scientist 'C', studied and taken micrographs of the spores under SEM and confirmed the identity of the *Cyathodium tuberosum*, *Cyathodium aureonitens*, *Asterella leptophylla*, *Reboulia hemisphaerica*, *Cryptomitrium himalayense*, *Wiesnerella denudata*, *Riccia frostii* and *Riccia huebeneriana*.



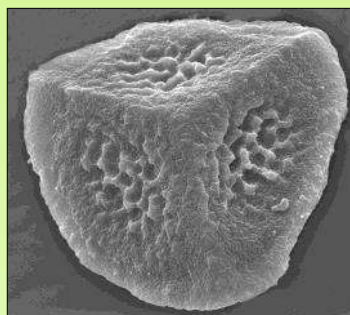
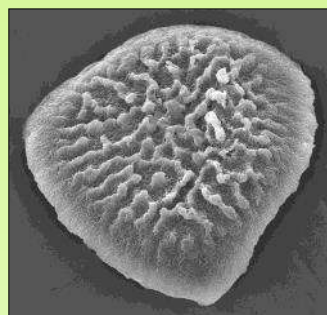
Spores of *Cyathodium aureonitens* under SEM

Workshop/Conference attended

The Slovak Academy of Sciences, Bratislava invited Dr. Kanad Das, Scientist 'D' to participate in the International Russulales Workshop 2014, which was held from 8–13 September, 2014 at Areál Zdravia, Jedľové Kostofany, Slovakia. During this workshop, Dr. Das surveyed eight forest sites of Slovakia (Ladzany, Hostie, Lovce, Obyce, Areál Zdravia, Bratislava-Železná studnička-recreation area forest, Bratislava-area of SAS, Rohožník-Vývrat' hill) and studied about 100 species of wild mushrooms, which include some of the most beautiful and poisonous species. Four presentations on classical and molecular systematic of wild mushrooms were also attended by Dr. Das during this workshop.



Spores of *Reboulia hemisphaerica* distal (left) and proximal view (right) under SEM



Spores of *Riccia frostii* distal (left) and proximal view (right) under SEM



Collecting mushrooms at Vývrat' hill forest in Slovakia by Dr. Kanad Das along with other participants



Dr. Kanad Das working in the Institute of Botany of Slovakia Academy of Sciences, Bratislava



***Amanita muscaria* – one of the most beautiful and poisonous wild mushrooms**



***Amanita phalloides* – one of the most poisonous wild mushrooms**

Dr. R.K. Gupta, Scientist ‘C’ attended a National Conference on “Progress in Algology in the Indian Context” held at Tiruchirapalli, Tamil Nadu from 19th to 21st September 2014. In this conference Dr. Gupta delivered a plenary lecture on ‘Diversity of Euglenophyceae’.

Publications:

Das, K., Dowie, N.J., Li, G.J. and Miller, S.L. 2014. Two new species of *Russula* (Russulales) from India. *Mycosphere* 5 (5): 612–622.

Hembrom, M.E., Parihar, A., Martín, M.P Watling, R. and Das, K. 2014. First report of *Astraeus odoratus* from India. *Kavaka* 42:16–19.

Training organised:

Training on “Administrative and Data Uploading on e-Flora and e-Archive Portals” was conducted at Central National Herbarium on 29th & 30th September 2014. In this training scientists & scientific staff of various units of BSI at Kolkata and Howrah participated.

AJC BOSE INDIAN BOTANICAL GARDEN, HOWRAH

One plant collection tour was conducted by Dr. A. Pramanik, Scientist ‘D’ & HoO and Dr. B.K. Singh in the month of September to collect live plants from Assam and Meghalaya. During this tour they have collected Endangered, Threatened, Endemic and Economically Important plants for *ex-situ* conservation. Total 29 species of different RET categories were collected and introduced in the garden nursery. Dr. M.U. Sharief, Scientist ‘D’ and Dr. B.K. Singh conducted a tour in different places of Meghalaya and Tripura to collect orchids for *ex-situ* conservation. In this tour 53 orchid species were collected by them and were introduced in the garden mist chamber.

Some important medicinal plants like *Stevia rebaudiana*, *Costus spiralis*, *Trevelia palmata* and *Passiflora edulis* were introduced in the medicinal plant section of Charak Udyan during this month. The Great Banyan Tree in AJC Bose Indian Botanical Garden produced 7 new prop roots, which were engaged with bamboo support.

Vanmahotsav was celebrated on 8th September 2014 by planting about 200 palm saplings in the Palmyra Avenue besides some dicot plants in other places of garden. Scientists and staff of Botanical Survey of India were present on this occasion. Dr. D.K. Singh, Scientist ‘F’, Hqrs., BSI inaugurated the newly developed Children Park in Division II, near Main Gate as a part of Vanmahotsav celebration.



***Arundina graminifolia* – a terrestrial orchid from Meghalaya**



Dr. D.K. Singh addressing and planting sapling during Vanamahotsav celebration



***Panax assamicus* collected from Meghalaya**



***Dendrobium longicornu* – an epiphytic orchid from Meghalaya**



Newly opened Children's Park at AJCBIBG



Potted RET plants collected from Assam and Meghalaya

Public service rendered

Saplings of *Chrysophyllum* sp. and *Tabebuia* sp. were provided to the Commissioner of Police, Howrah for plantation

in the commissioner's office campus. Saplings of *Mesua ferrea* were provided to the Department of Botany, Sagar University, Madhya Pradesh.

Visitors

44 Ranger Trainees from Andhra Pradesh Forest Academy Dulapally, Hyderabad visited the garden. Besides, number of school/college students also visited the garden in this month.



Dr. M.U. Sharief addressing the Trainee Rangers from Andhra Pradesh

Scientists and scientific staff apprised them about the garden and its activities.

Swatchh Bharat

A debate competition on 'Swatchh Bharat Abhiyan' was organized on 30th September, 2014 to mark the celebration of beginning of Swatchh Bharat Campaign.



Debate Competition held at AJCBIBG to mark the Swatchh Bharat Mission

CENTRAL NATIONAL HERBARIUM, HOWRAH

Dr. V.P. Prasad, along with Sri Animesh Maji, JRF undertaken a field tour to different localities in Southern Western Ghats in connection with the revision of the family Cyperaceae in India from last week of August to second week of September. A total of about 410 specimens belonging to 142 field numbers were collected during the tour by covering Velliangiri hills, Palani hills, Nilgiris in Tamil Nadu and Silent Valley National Park, Waynaad forests and Trichur district in Kerala.



Population of *Carex filicina* at Doddabetta, the highest peak in the Nilgiris

During this tour Dr. V.P. Prasad and his team came across a naturalized population of giant Egyptian paper reed (*Cyperus papyrus*) in Kalpetta, Wayanad district of Kerala, which was brought and introduced in AJC Bose Indian Botanical Garden.



Collecting *Fimbristylis* species at a high altitude grassland of Pykara, Nilgiris in Tamil Nadu

Ms. Piu Das, JRF also visited the above localities along with Dr. Prasad to collect the *Pteris* species. In the third week of September, Ms. Das also visited Koyna forests and Mahabaleswar in Maharashtra and collected *Pteris* species.



Ozarde water falls of Koyna forest

Sri Anant Kumar, Gopal Krishna and their team conducted a field tour to Aurangabad and Nawada districts of Bihar and vouched 409 field numbers and taken photographs which includes vegetation and habit of various plant species.



A view of chain of plateau at Rajauli range in Nawada district of Bihar

A field tour was undertaken by Dr. Sangita Das Chowdhury, AJCBPDF to Nilgiris and outskirts of Greater Hyderabad in connection with the 'Revision of the subtribe *Tripogoninae* (Poaceae) in India' and surveyed mainly fringe areas of forests, forest beds, embankments, hill slopes and dry rocky areas. During this survey 50 specimens of 10 species belonging to the genera *Eragrostiella*, *Melanocenthris*, *Oropetium* and

Tripogon were collected. Ms. Sankhamala Mitra, JRF, in connection with the project on 'Taxonomic revision of the family Fagaceae in India' visited Sikkim and collected specimens belonging to genera *Quercus*, *Castanopsis* and *Lithocarpus*.



***Melanocenthris jacquemontii* from Golkonda Fort, Greater Hyderabad**



***Aristolochia indica* from Kauakol range, Nawada district of Bihar**

Scanning Electron Microscopy

Total 88 samples of spores of liverworts, hornworts and fungi, nuts of *Carex* (Cyperaceae), pollens of Asteraceae, leaf surface of Altingiaceae and Vahliaceae families were studied by the scientists and research scholars of BSI using SEM installed at CNH.

Digitization of specimens

In connection with the digitization of Economic Botany herbarium specimens under e-Governance programme of Ministry of Environment, Forest & Climate Change, the digitization work of 928 specimens at CAL were carried out by the outsourced agency for which the specimens were sorted out from CNH by scientific staff, research fellows and AJCB post-doctoral fellows.

Public service rendered

Dr. P. Lakshminarasimhan identified two digital images (*Dioscorea hispida* and *Iphiginia magnifica*) for Dr. Tanveer Khan, Dept. of Botany, H. J. Thim College, Jalgaon, Maharashtra. Dr. Lakshminarasimhan also sent the scanned copies of protologues, literatures and herbarium specimens including type images to different scientists and research students of various institutions upon their request.

Dr. Lakshminarasimhan also prepared a set of portraits of 16 eminent botanists and printed on premium quality archival canvas, which is being displayed in the CNH.



Athirapally water falls and the surrounding luxurious forests in Thrissur district of Kerala

The Scientists of CNH reviewed manuscripts for various journals like Ethnobotany, Proceedings of the National Academy of Sciences, Rheedia and Journal of Threatened Taxa.

Dr. V. Sampath Kumar, Scientist 'C' found four new combinations made in the book, *Indian Gentianaceae (A Check-list)* by Sunita Agarwal published in 1988 were not included in the IPNI and the same was informed to one of the IPNI editors.

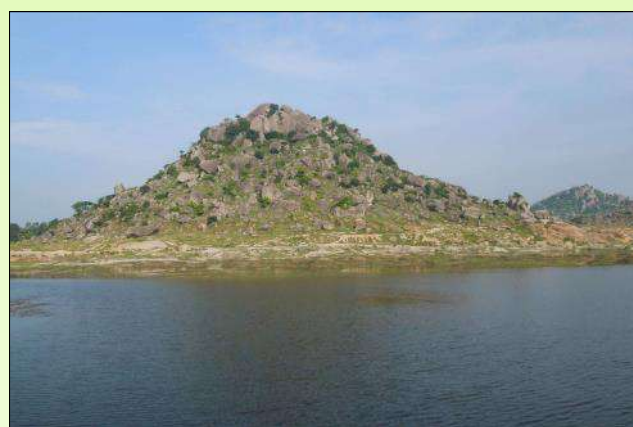
Six specimens, which were received for identification from other institutions were identified and provided the authentication certificate.

Students/Visitors

65 students from Belgharia Mahakali Girls' School, Kolkata and 44 Range Officers from Andhra Pradesh Forest Academy, Dulapally, Hyderabad visited on 02.09.2014 and 08.09.2014 respectively.

Publication

Bandyopadhyay, S. and Ghoshal, P.P. 2014. Two new combinations in *Lysiphyllum* (Leguminosae-Caesalpinioideae). *Phytotaxa* 178 (4): 298–300.



A view of a plateau in Tetai Bigha Aurangabad



Trichodesma indicum in Sesumum cultivated fields in Arwal range Aurangabad, Bihar

CENTRAL BOTANICAL LABORATORY, HOWRAH

Specimens collected in earlier months were identified during this month, which include 208 ethno-botanically important specimens from Balasore district, 20 from Jajapur district of Odisha and 15 from West Medinipur district. Sorted out 2059 Herbarium specimens in species and genus wise after completion of Digitization and arranged them alphabetically. Also finalized a report on Digitization of 2059 Ethno-botanical specimens and sent to ISIM, Kolkata.

Public service rendered

Reviewed a research paper for the Journal 'Ethnobotany' by Dr. Harish Singh, Scientist 'C' & HoO. Dr. Singh, acted as Judges in different competitions held on the occasion of *Hindi Diwas Samaroh* in CNH, Howrah on 11.09.2014 and 12.09.2014.

Students/Visitors

Range officer trainees (44 nos.) from Forest Academy, Hyderabad, Andhra Pradesh and 19 students and 2 teachers from Cotton College State University, Guwahati, Assam visited the Ethno-botany museum of CBL to whom demonstrated about the exhibits.

Publications

Saravanan, R., Arvind, D.P. and Sujana, K.A. 2014 *Dysoxylum* (Blume) – New generic record to Odisha, India. *Ann. Pl. Sci.* 2(8): 543–545.

Sujana K.A., George, N., John, J., Ragi, P.R. and Anil Kumar, N. 2014. Phytochemical constituents, proximate analysis, antioxidant and antimicrobial properties of an endemic liana (*Aspidoptery scanaensis*). *Internatl. J. Bioassays* 3(9):3254–3258.



Plantation by CBL Scientist at AJCBIBG during the celebration of Vanmahotsav

INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA

For documentation and enrichment of Botanical Gallery, a field tour was undertaken by Dr. A.K. Sahoo, Scientist 'C' in tribal localities of Giridih and the adjacent district of Ranchi, Jharkhand. Total about 45 species' plant materials were collected during this tour.

In connection with the Photographic Digitization of Herbarium specimens housed at BSIS under e-Governance project of MoEFCC, the digitized photos of 9170 specimens were arranged systematically for further studies.



Collection of Broom sticks from Wild in Giridih district of Jharkhand

Visitor

Mr. Micheil Yeo, Researcher from South Australia visited Botanical Gallery on 09.10.2014 to get first-hand information on Economic Plants of India.

Publications

Chakraborty, T. 2014. The genera *Acacia* Miller and *Albizzia* Durazzini (Leguminosae-Mimosoideae) in Sikkim State, India. In: S. Panda and C. Ghosh (ed.), *Diversity and Conservation of Plants and Traditional Knowledge*. Pp. 75–90. M/s Bishen Singh Mahendra Pal Singh, Dehradun.

Chakraborty, T. 2014. Five new additions to the Flora of Goa State. In: S. Panda and C. Ghosh (ed.), *Diversity and Conservation of Plants and Traditional Knowledge*. Pp. 129–134. M/s Bishen Singh Mahendra Pal Singh, Dehradun.

Sahoo, A.K. and Chakraborty, T. 2014. Some less known ethnomedicinal plants of Euphorbiaceae from Odisha, India.

In: S. Panda and C. Ghosh (ed.), *Diversity and Conservation of Plants and Traditional Knowledge*. Pp. 475–486. M/s Bishen Singh Mahendra Pal Singh, Dehradun.

Chakraborty, T. and Balakrishnan, N.P. 2014. An overlooked species of *Aporosa* Blume (Phyllanthaceae) from South India.

In: S. Panda and C. Ghosh (ed.), *Diversity and Conservation of Plants and Traditional Knowledge*. Pp. 103–106. M/s Bishen Singh Mahendra Pal Singh, Dehradun.

Roy, D. K., Talukdar, A. D., Dutta Choudhury, M. and Sinha, B. K. 2014. Diversity in Angiosperm Flora of Siju Wildlife Sanctuary, South Garo Hills District of Meghalaya, India. *Indian J. Pl. Sci.* 4 (3): 87–101.

Meeting organised

In connection with the ongoing project, 'Photographic digitization of Economic Botany herbarium specimens' at ISIM, CBL and CNH, the assessment of the quality of digitization output of the MoEFCC funded project was held at ISIM, BSI on

26.09.2014. The meeting was attended by the Scientists from various units of BSI of Kolkata and Howrah and the assessment were made for the period from April to September 2014.



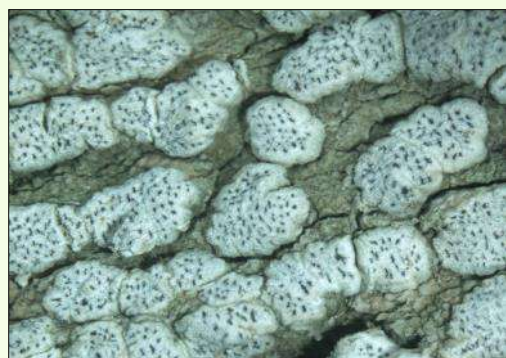
***Pterocarpus marsupium*
(Fabaceae) - East Indian
or Malabar Kino, highly
valued timber species**

ANDAMAN AND NICOBAR REGIONAL CENTRE, PORTBLAIR

Dr. C. Murugan, Scientist 'D' & HoO conducted tour to Rani Jhansi Marine National Park, South Andaman and collected specimens by utilizing 122 Field numbers. For the collection of seeds and seedlings, Dr. Lal Ji Singh, Scientist 'C' visited different places of North Andaman and introduced seeds and seedlings of 26 species in Dhanikhari Experimental Garden. In connection with the Lichens of Nicobar Islands, Dr. T.A.M. Jagadeesh Ram, Scientist 'C' studied the chemistry of 128 specimens by using Thin Layer Chromatography (TLC).



**North Button Island of Rani Jhansi
Marine National Park**



***Chiodecton
andamanicum* –
new species**

For the ongoing project on phenological survey of Dhanikari Experimental Garden–cum–Arboretum, phenology of 15 tree species were collected by Dr. Lal Ji Singh.

Digitization of specimens

About 1075 herbarium sheets belonging to 60 Angiosperm families housed at PBL were scanned in connection with the development of virtual herbarium.

Public service rendered

Dr. Lal Ji Singh, Scientist 'C' delivered lecture on 'Floristic diversity and Endemism in Andaman and Nicobar Islands and its Conservation' on 16.09.2014 at Forest Training Institute, Wimberlygunj, South Andaman. Forest Guards (23 nos.) of Forest Training Institute, Wimberlygunj visited Dhanikari Experimental Garden-cum-Arboretum, BSI on 22.09.2014, to whom explained about the Experimental Garden and Arboretum as well as the plant diversity in the Garden-cum-Arboretum.

Publications

Singh, L.J. and Murugan, C. 2014. *Seed plant species Diversity and Conservation in Dhanikhari Experimental Garden cum Arboretum in Andaman and Nicobar Islands, India*. In: S. Nehra, R.K. Gothwal and P. Ghosh (eds.). Biodiversity in India: Assessment, Scope and Conservation. Pp. 253- 280. Lambert Academic Publishing, Heinrich-Bocking-Str. Saarbrücken, Germany.

Jagadeesh Ram, T.A.M. 2014. New species and records in *Roccellaceae* (Arthoniales), Andaman Islands, India. *Phytotaxa*. 177(3): 155–162.

ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

In connection with the study of *Impatiens* of Arunachal Pradesh, Dr. R. Gogoi, Scientist 'D' and Dr. S. Borah, Botanist collected four species of *Impatiens* (Balsaminaceae) during a local field tour to Poting, Papumpare district. Dr. M.K. Kandwal, Scientist 'C' in connection with the Grass flora of Arunachal Pradesh undertaken one field exploration tour to West Siang district in the months of August and September and collected 197 field numbers of grasses and other flowering plant specimens. Dr. V. K. Rawat, Scientist 'C' conducted herbarium consultation tour to ERC, BSI, Shillong (ASSAM) and Central National Herbarium, Howrah (CAL) and identified total 87 fern specimens.

Meetings attended/Lectures delivered

Dr. R. Gogoi, Scientist 'D' delivered a lecture on 'Plant exploration and herbarium methodology' in Assam Science Technology & Environment Council, Govt. of Assam, Guwahati on 04.09.2014. Dr. M. Bhaumik, Scientist 'D' attended a meeting as a member of technical committee for protected areas held at State Forest PCCF office, Itanagar on 08.09.2014.

Dr. P. Satyanarayana, Scientist 'D' & HoO attended a Hindi meeting as Chief Guest and delivered a lecture on Official Language implementation at Ayurvedic Regional Research Institute, Itanagar on 30.09.2014.

Publication

Dey, S., Jamir, N.S., Gogoi, R., Chaturvedi, S.K., Jakha, H.Y. and Kikon, Z.P. 2014. *Musa nagalandiana* sp. nov. (Musaceae) from Nagaland, Northeast India. *Nord. J. Bot.* 32 (5): 584–588 (doi: 10.1111/njb.00516).



High altitude grassland at Labang, 3300m



Musa nagalandiana – a new species of wild banana

ARID ZONE REGIONAL CENTRE, JODHPUR

In connection with the ongoing project, 'Ethnobotany of Dang District., Gujarat' Sri Vinod Maina, Scientist 'C' & HoO made an ethno-botanical field tour from the end of September to second week of October.

Dr. Peddi Hari Krishna got his Ph.D. degree from Osmania University, Hyderabad after successfully defending the viva-voce held on 12.09.2014 for the thesis entitled, 'Phytodiversity characterisation at Landscape level in Aravallis of Rajasthan (India), using Remote Sensing and GIS'.

Public service rendered

Three plant specimens were identified for the researchers in connection with their work and authentication certificates were provided.



Embelia ribes – Tribe collecting the seeds from wild for medicinal purpose and also for extraction of natural dye in Dang dist., Gujarat

Participation in Kishan Mela

Participated in “Kisan Mela”, organized by Central Arid Zone Research Institute (ICAR), Jodhpur on 24th September 2014 and arranged a stall in the exhibition.

Workshop organized

A workshop was conducted in connection with the *Hindi Saptah*, “Hindi Evam I.T. Anuprayog” on 18th September, 2014.

Meeting attended

Sri Vinod Maina, Scientist ‘C’ & HoO attended a state level committee meeting for Working Plan of Forest Department of Gujarat at Gandhi Nagar on 11th and 12th September 2014.

Publications

Hari Krishna, P., Saranya, K.R.L., Reddy, C.S., Jha, C.S. and Dadhwal, V.K. 2014. Assessment and monitoring of deforesta-

tion from 2011 in Andhra Pradesh, India using remote sensing and collateral data. *Current Sci.* 107 (5): 867–875.



Strobilanthes callosa in natural habitat (inset flower)

BOTANIC GARDEN OF INDIAN REPUBLIC, NOIDA

All introduced/conserved plants/trees at the Garden are maintained by exercising de-weeding, mowing, hoeing, irrigation, etc. Further, about 450 plants were transplanted/re-potted and re-arranged in net-houses.

The following plants were planted in beds and pots:

Adansonia digitata – 33 new pots

Alternanthera versicolor (Lal Badshah – 200 individuals)

Bougainvillea sp.– 1000 individuals

Chlorophytum borivilianum – 28 new pots

Clerodendrum inerme (Inerme – 1,00,000 individuals)

Dracaena tricolor (Red – 30 new pots)

Hippeastrum miniatum (Lily Red – 12 new pots)

Duranta erecta (Variegated Dwarf Duranta – 1200 individuals)

Duranta erecta (Golden Duranta – 7200 individuals)

Epipremnum aureum (Money plant – 42 new pots)

Ficus benjamin – 450 individuals

Palm – 217 new pots

The saplings of the following tree species were developed in plastic pots and kept in Net House:

Oroxylum indicum – 10 nos.

Phoenix sylvestris – 45 nos.

Putranjiva roxburghii – 70 nos.

Terminalia arjuna – 22 nos.

In BGIR, the natural occurrence of Tropical Tasar Silkworm (*Antheraea paphia*) on the tree species, *Terminalia arjuna* was observed. In fact, this silkworm is found usually in Assam, Bihar, Odisha, Chhattisgarh and West Bengal. Likewise, it has also been experienced that number of birds, butterflies, moths and other fauna increased within the BGIR premises, which might be due to availability of ample amount of food and secure breeding places.

Promotion of Rajbhasha

As per decision taken during Quarterly Meeting of Rajbhasha (QMR) held on 12.08.2014, ‘Hindi Pakhwarah’ started on 15.09.2014 and concluded on 29.09.2014. On this occasion, Dr. Kuldip Singh Dogra, Scientist ‘B’ delivered a lecture on ‘Impact and Spread of Weeds in India’ organised at BGIR on 24.09.2014.

News Released: Three (One in TV, two in newspaper)

न्युज नेशन के एक टीवी कार्यक्रम ‘रहस्य’ के अंतर्गत 13.09.2014 को ‘कल्पवृक्ष : एक मनोकामना पूरक वृक्ष’ पर: विश्व स्तर पर कई बार प्रसारण ।

कीटभक्षी पौधों के भी हो सकेंगे दीदार (योजना : बोटेनिक गार्डन में विशेष पौधों को लगाने की योजना,चात्र कर सकेंगे शोध) – दैनिक जागरण, 18.09.2014, पृष्ठ 21.

Silkworms find home in Botanic Garden. The Times of India, 26.09.2014.

CENTRAL REGIONAL CENTRE, ALLAHABAD

In connection with the ‘Revisionary studies on tribe *Heliantheae* (Asteraceae)’, Sri Jeetendra Kumar Vaishya, SRF, visited NBPGR, New Delhi and BGIR, Noida and consulted available *Heliantheae* specimens housed in their herbarium.

Under the projects ‘Floral diversity of Upper Ganga Ramsar site’, Uttar Pradesh and ‘Flora of Chattishgarh’, the specimens collected in the previous tours are being identified. Similarly, for the ‘Systematic studies on the lichen flora of Kerala’, ‘Revisionary studies on the family Pertusariaceae as well as Roccellaceae’, and ‘Taxonomic studies on lichenised non thelotremoid Indian Graphidaceae’, identified the specimens by studying morpho-anatomy and Thin Layer Chromatography (TLC) methods.

Meeting organized

The regional centre hosted the 78th Regional Council Meeting (RCM) on 22.09.14 to 23.09.14. This meeting was attended by the Head of the Offices and staff from various regional centres and units of BSI..

Publications

- Singh, R.K., Patil, S. and Jalal, J.S. 2014. Resurrecting the type locality of *Ceropegia odorata* (Apocynaceae) after 175 years. *Taprobanica* 6(2): 79–82.
- Singh, R.K., Jalal, J.S. and Jadhav, C.R. 2014. *Solanum diphyllum* (Solanaceae) in India. *Taprobanica* 6(2): 140.



78th Regional Council Meeting held at CRC, BSI, Allahabad



DECCAN REGIONAL CENTRE, HYDERABAD

A Plant exploration tour was conducted by Dr. P.V. Prasanna, Scientist ‘E’ and his team in four divisions of Seshachalam Biosphere Reserve and collected specimens of 137 field numbers. Under the Flora of India project, Ms. P.S. Annamma, JRF conducted one field tour to Kawal Tiger Reserve and vouched 94 field numbers. Sri K. Chandramohan, JRF carried out one field tour to Satkosia Tiger Reserve and collected specimens of 156 filed numbers.



***Caralluma umbellata* from Seshachalam Biosphere Reserve**

Data analysis and processing of specimens collected from the four sacred groves viz., Modhakondamma, Uppa, Kamaraj and Madhavadara of Vishakapatnam district was completed by Dr. M. Ahmedullah, Scientist ‘D’ and his team. Sri J. Swamy, Botanical Asst. identified 200 species from ANGRAU and received one set of specimens for DRC, Hyderabad.



***Hugonia mystax* from Seshachalam Biosphere Reserve**

EASTERN REGIONAL CENTRE, SHILLONG

In connection with the project, Identification and Documentation of Phytodiversity, the scientists and scientific staff of this centre collected more than 500 herbarium specimens and 125 live plants from different localities of NE India, which include Murlen National Park (Mizoram), South Garo Hills, (Meghalaya), Laokhowa Wildlife Sanctuary (Assam) and Eastern parts of Nagaland. Further, the report of Bryoflora of Mizoram and Flora of Nagaland checklist is being finalised.

Under the project, *ex situ* conservation of Endemic, Threatened and Economically Important Plants and recording of Phenological data on species growing in EBG, Barapani, observed and recorded phenological data of 11 plant species growing in the garden viz. *Acampe rigida*, *Aeschynanthus griffithii*, *Bauhinia variegata*, *Coelogyne ovalis*, *Cymbidium sinense*, *Dendrobium salaccense*, *Liparis dongchenii*, *Pinalia spicata*, *Sapindus mukorossi*, *Phreatia micrantha* and *Terminalia chebula*.

In connection with the micro-propagation of RET species, for *Ilex khasiana*, set up an experiment for multiple shoot induction by using different concentrations of plant growth regulator (BAP) and the data is being recorded regularly; for *Cymbidium tigrinum*, MS Media prepared and subculture was done, cultures established *in vitro* are being maintained, and transferred 20 plantlets to greenhouse; for *Armadorum senapatiatum*, MS media prepared with addition of charcoal, subculture done at regular period, observations were recorded at regular intervals and 10 plantlets were transferred to greenhouse; for *Paphiopedilum hirsutissimum*, initiated an experiment for vegetative propagation using young shoots.

Under the project, Micro-propagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of selected species of NE India, subculture and maintenance of rhizomes of *Paris polyphylla* is being done with same concen-

tration of plant growth regulator in MS medium; preliminary qualitative phytochemical analysis was completed with the leaf samples of *Ormosia robusta* collected from Itanagar (Arunachal Pradesh), Baghmara and Balphakram National park (Garo hills, Meghalaya); preliminary qualitative phytochemical analysis was completed with the leaf samples (hot water extract) of *Aristolochia saccata* and *Paris polyphylla*; permanent slide preparation of root anatomy of *Paphiopedilum* species is being continued.

Public service rendered

Total 29 specimens received from various organisations were identified and provided the presently accepted name in connection with their research work. Further, more than 500 pages of literature/protologues were photocopied and provided to the researchers of different institutions upon their request.

Training/workshop attended

Dr. A. A. Mao, Scientist 'E' & HoO is attending short term (3 months) training on Plant Molecular Taxonomy techniques from September to November 2014 at International Biological Material Research Centre, Korea Research Institute of Bioscience and Biotechnology, South Korea.

Dr. Ramesh Kumar, Scientist 'C' attended one day workshop on "Conservation and Promotion of medicinal and aromatic plants" and delivered a lecture on "Medicinal plants – Conservation and Cultivation" organised by District Basin Development Unit, East Jaintia Hills District, Khliehriat, Meghalaya on 04.09.2014.

Dr. N. Odyuo, Scientist 'C', Dr. D. Vijayan, Scientist 'B', Ms. Kangkan Pagag, Bot. Asst., Ms. Nilasana, Ms. Sangeeta Pradhan attended two-day workshop on "Effective Management of Intellectual Property Rights in Biotechnology by Universities and Research Institutes in Meghalaya" on 22nd and 23rd September 2014 organised at Anthony's College, Shillong.

NORTHERN REGIONAL CENTRE, DEHRADUN

Dr. Kumar Ambrish, Scientist 'C' accompanied Dr. Paramjit Singh, Director, BSI on a field tour to the different parts of Ladakh (Jammu & Kashmir) [Leh, Khardungla pass, Nubra valley, Thikse, Tsomoriri Pass, Phyang, Tsokar lake etc] and Lahaul (Himachal Pradesh) areas and collected about 340 plant specimens of 159 field numbers and photographed different types of vegetation, landscapes and plants. Drs. S.K. Srivastava, Scientist 'D' & HoO and P.K. Pusalkar, Scientist 'D' conducted a field tour to Upper Mandakini valley and recorded about 500 species.



Rheum spiciforme (Polygonaceae) – a RET species collected from Ladakh

Sri V.K. Madhukar, Bot. Asstt. conducted ex-situ conservation tour to Gangotri National Park and collected live plant of *Incarvillia emodii* a rare endemic species of Bignoniaceae in Western Himalaya.

In connection with the Documentation of Phytodiversity, identified 102 species and completed description of 65 species of Angiosperm for Flora of Uttarakhand and Kalesar National Park, Floristic Diversity and Phytosociological study of Simbalbara National Park, Flora of Nandhour Wild Life Sanctuary, Flora of Sonanadi Wildlife Sanctuary, as well as for Revisionary study on the of Tree ferns (*Cyathea*–15 spp., *Cibotium*–1 sp. and *Brainea*–1 sp.) of India and genus *Lepisorus* (Bignoniaceae) in India.

Himalayan Day

Organized and celebrated Himalayan Day on 9th September 2014 and on this occasion arranged for a plantation by Prof. M. Sharma, Professor & Dean (Retd.), Panjabi University, Patiala.

Students/visitors

Research scholars and lecturers from different colleges and universities visited the centre to consult the herbarium and the library.

Publication

Metei, L.R., Rabha, N.N., Deori, C. and Mao, A.A. 2014. A new generic record and distribution notes on two orchid species from Manipur, India. *Richardiana* 14:275–279.



***Incarvillia emodii* – a rare endemic species collected from Western Himalaya**



Prof. M. Sharma consulting the BSD herbarium

SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

The Scientists and staff are being involved in execution of three major projects apart from the digitization of herbarium specimens and maintenance of herbarium and campus garden.

The family Rubiaceae for Flora of India (amplification of the description of ca 65 poorly known species supplemented with illustration and possible photographs): Drawing and description of 14 species completed by Dr. Mohan Gangopadhyay, Scientist ‘D’ & HoO. Three local field tours were also conducted by Dr. Gangopadhyay to Lingtam, Phodong and Mangan areas in East district of Sikkim and collected specimens of 59 field numbers as well as two live plants to introduce in the garden for *ex-situ* conservation.

Flora of the Shingba Rhododendron Sanctuary: Field tour was conducted by Dr. C. S. Purohit, Bot. Asst. to the Sanctuary (Lachung, Yumthang, Dombeyang) of North district of Sikkim

and vouched 161 field numbers and brought 5 live plants to introduce them in the campus garden for *ex-situ* conservation.



***Rhodiola festigata* – a shade loving plant**

Red listing of Orchids of Eastern Himalaya as per IUCN criteria: 6 orchid species were identified based on fresh collection and earlier herbarium specimens available at BSHC by Dr. D. K. Agarwala, Scientist 'C'. Total 33 specimens at BSHC have been studied by Dr. Agarwala in respect of their identity, label data and distribution. Geo-coordinates were assigned to these specimens for plotting the distribution maps of individual species. Further, population of two species at Andheri Khola, East Sikkim have been analysed by Dr. Agarwala and live samples were introduced in the campus garden for supportive study and ex-situ conservation.

Meetings / Workshop attended / Lecture delivered

The Scientists and staff of this Centre participated in various meetings and workshops, which include IRC meeting at NRCO, Pakyong; IEC meeting at ARRI, Gangtok; Pre-CAMP workshop of SMPB, Sikkim; Foundation day of GBPIHED, Sikkim Unit. Dr. D.K. Agrawala, Scientist 'C' delivered an invited lecture on "IUCN red listing and challenges to meet the criteria for Indian Orchids" at Sikkim University.



Aconitum ferox – a rare medicinally important plant

Dr. Agarwala also served as a member of interview board of selection of Project staff at GBPIHED, Sikkim unit.

Publication

Agrawala, D.K. and Ormerod, P. 2014. A new species of *Eria* (Orchidaceae) from India under the Section *Cylindrolobus*. *Taiwania* 59(3): 206–209.



Satyrium nepalense var. *ciliatum* from Shingba Rhododendron Sanctuary



Digitalis purpurea – a medicinally important plant

SOUTHERN REGIONAL CENTRE, COIMBATORE

Under ex-situ conservation of endangered and threatened plants, Dr. S. Kaliamoorthy, Scientist 'C' conducted one day local field trip to Manjakuttai (Yercaud) and collected 25 orchids and 31 other flowering plants for introduction at National Orchidarium and Experimental Garden (NO & EG), Yercaud. Sri J.V. Sudhakar, Bot. Asst. accompanied the tour party of Bharathidasan University, Trichirapalli to the Palani hills. During this tour Sri Sudhakar collected and introduced

endemic orchid *Anoectochilus elatus* and two piperaceae members, *Peperomia dindigulensis* and *Peperomia heyneana* in the SRC garden.

Identification of the previous tour materials were carried out by the scientists during this month. Under the fragile ecosystems, list of all the specimens collected during the first quarter, from Karaivetti (ca 4.54 sq. km) and Vaduvur (ca 1.28 sq. km.) by Dr. G.V.S. Murthy, Scientist 'F' & HoO, Dr. Kaliamoorthy,

Scientist 'C' and Shri Yarrayya Kondru, Bot. Asst. For the on-going project Srivilliputhur Grizzled Giant Squirrel Wildlife Sanctuary, Tamil Nadu (ca 485 sq. km.), identification of the collected specimens is being carried out by Dr. K.A.A. Kabeer, Scientist 'C' and Sri G. Gnanasekaran, Bot. Asst. A total of 14 field numbers collected from the Malabar Wildlife Sanctuary, Kozhikode district of Kerala (ca 74.22 sq. km.) were identified by Dr. J.H. Franklin Benjamin, Scientist 'C' and Sri R.G. Vadhyar.

The sedge family, Cyperaceae is being revised by Dr. K.A.A. Kabeer, Dr. J.H. Franklin Benjamin and team for the Flora of Kerala (volume 7).

Under *ex-situ* conservation, germination of *Coelogyne breviscapa* was studied and the Protocorm Like Bodies (PLBs) were transferred onto fresh basal MS medium by Dr. Kaliamoorthy at NO & EG, Yercaud.

Scanning Electron Microscopy

Sri G. Gnanasekaran imaged 25 micrographs of the leaf surface and seeds of the genus *Andrographis* (Acanthaceae) by utilising SEM installed at SRC, BSI.

Public service rendered

Identified 33 plant samples and also supplied 568 pages photocopies of literatures from the SRC library for the researchers. Dr. G.V.S. Murthy and Dr. J.H. Franklin Benjamin reviewed a Project Proposal under "Assistance to Botanic Garden Scheme" of MOEFCC.

As a part of taxonomic curriculum support to Tamil Nadu Agricultural University, Coimbatore, Sri Gnanasekaran delivered a lecture on 'BSI: An Overview' to the PG students of the Department of Plant Genetic Resources.

Visitors

A total of 85 visitors including research scholars, scientists/professors/lecturers, UG and PG students consulted MH herbarium and library, whilst 930 persons in 91 parties visited NO & EG, Yercaud.

Rajbhasha

Hindi fortnight and Hindi day were celebrated at SRC by conducting several competitions to the staff as well as to their family members on 16th and 29th September 2014. Quarterly meeting of Hindi Implementation Committee was also held on 19th September 2014.

Publications

Kabeer, K.A.A. & Franklin Benjamin, J.H. 2014. *Crocoshia Planch* – an addition to Iridaceae of Kerala, India. *Zoos Print* 29(9): 12-13.

Tiwari, R., Sudhakar, J.V., Srivastava, A.K., Chaudhary, L.B. Murthy, G.V.S. & Durgapal, A. 2014. Taxonomy, distribution and diversity of *Ficus palmata* Forssk. subsp. *virgata* (Roxb.) Browicz (Moraceae) in India. *J. Threat. Taxa* 6(9): 6172-6185.

WESTERN REGIONAL CENTRE, PUNE

Fungal exploration tour to various protected areas of Northern Western Maharashtra was conducted by Dr. Rashmi Dubey, Scientist 'C', which includes Nandurbar forest areas, Toranmaal, Anner Dam Wild life sanctuary (Dhule Dist.), Yawal Wild life sanctuary (Jalgaon Dist.) and their adjoining areas in connection with the project 'Foliicolous Fungi of Maharashtra'.

Ms. Prajakta S. Pathare, JRF conducted one field tour in connection with the project, 'Floristic Studies of Koyana Wild-life Sanctuary'.

During this month 50 angiosperm specimens, 30 fungi specimens and 5 pteridophyte specimens were identified by different scientists, scientific staff and research scholars.

Public service rendered

Identification and authentication of plant specimens were done for research students, B. Pharm. and M. Pharm. students.

Students/Visitors

For consultation of herbarium and library, students and researchers from Shivaji University (Kolhapur), Dr. Babasaheb Ambedkar Marathwada University (Aurangabad), Omni Active Health Technologies (Thane), Guru Nanak Khalsa College of Arts, Science, Commerce (Mumbai), Forest Department, Pune and University of Calicut, Kerala were visited during this month.

Publications

Patil, S.C., Jayanthi, J., Jalal, J.S. and Jadhav, C.R. 2014. *Crotalaria pallida* Aiton var. *obovata* (G. Don) Polhill (Fabaceae) – an extended distribution for Gujarat, Maharashtra, Goa and Karnataka. *Zoos Print* 29(9): 14–15.

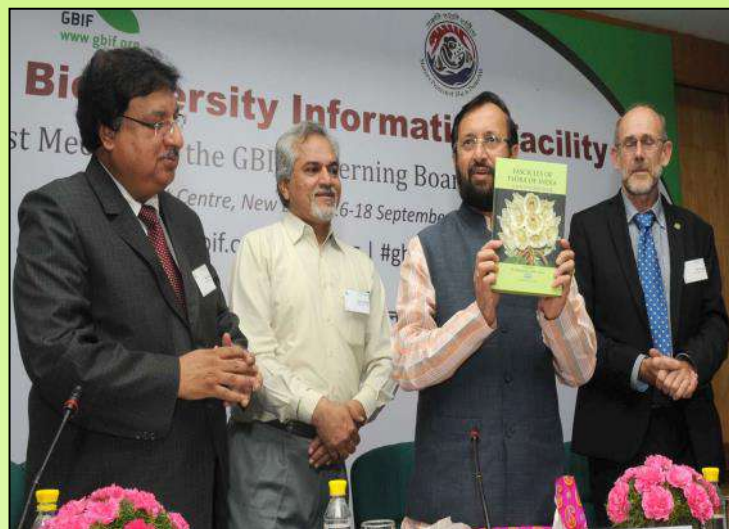
Rai, I.D., Jalal, J.S., Singh, G. and Rawat, G.S. 2014. *Platanthera pachycaulon* (Orchidaceae): an addition to the orchid flora of Western Himalaya, India. *Richardiana* 14: 266–273. 2014.

LAUNCHING OF BSI WEBSITE



Hon'ble Minister of State for Information and Broadcasting (I/C), Environment, Forest & Climate Change (I/C), Sri Prakash Javadekar launched the new website of BSI at the 21st meeting of the Global Biodiversity Information Facility (GBIF) Governing Board, in New Delhi on 16th September 2014

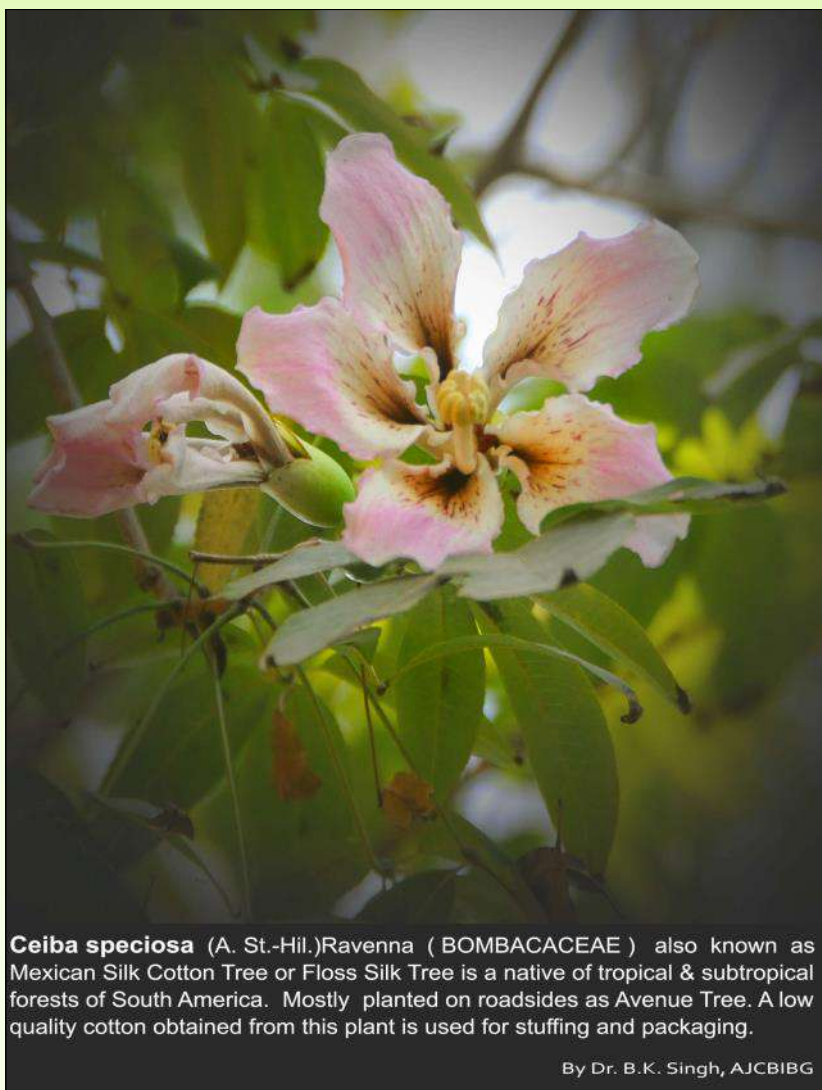
RELEASING OF BSI PUBLICATIONS



Hon'ble Minister of State for Information and Broadcasting (I/C), Environment, Forest & Climate Change (I/C), Sri Prakash Javadekar releasing the BSI publications at the 21st meeting of the Global Biodiversity Information Facility (GBIF) Governing Board, in New Delhi in presence of Sri H. K. Pande, Additional Secretary, MOEFCC, New Delhi

BOTANICAL SURVEY OF INDIA EXPRESSES GRATITUDE TO HON'BLE MINISTER SRI PRAKASH JAVADEKAR FOR KINDLY LAUNCHING THE NEW VERSION OF BSI WEBSITE AS WELL AS FOR RELEASING OUR PUBLICATIONS

PLANT OF THE MONTH



Ceiba speciosa (A. St.-Hil.)Ravenna (BOMBACACEAE) also known as Mexican Silk Cotton Tree or Floss Silk Tree is a native of tropical & subtropical forests of South America. Mostly planted on roadsides as Avenue Tree. A low quality cotton obtained from this plant is used for stuffing and packaging.

By Dr. B.K. Singh, AJCBIBG

DELIVERING LECTURE



Dr. Paramjit Singh, Director, BSI delivering lecture at Allahabad University

**GLIMPSES OF BSI STALL IN 'KISAN MELA'
ORGANISED BY CAZRI, JODHPUR**



Arid Zone Regional Centre, BSI, Jodhpur participated in one day “Kisan Mela” on 24th September 2014 at Central Arid Zone Research Institute (ICAR), Jodhpur. In this programme exhibited Ethno-botanically important plant specimens, Museum specimens and various publications of BSI (mainly of Arid and semi-arid areas). Provided information to the general public and farmers about economically important as well as threatened plants of Rajasthan, importance of Botanical Garden and its role in conservation of endangered plants. More than 1700 people visited the BSI stall.

HINDI FORTNIGHT CELEBRATIONS AT VARIOUS REGIONAL CENTRES AND UNITS OF BSI



Central National Herbarium, Howrah



Central Botanical Laboratory, Howrah



Arunachal Pradesh Regional Centre, Itanagar



Deccan Regional Centre, Hyderabad



Southern Regional Centre, Coimbatore



Northern Regional Centre, Dehra Dun

वैज्ञानिक बना सकती है बॉटनी की टेक्सोनोंमी ब्रांच

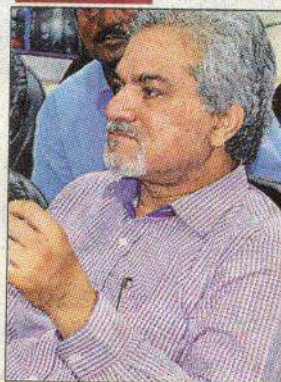
इलाहाबाद | प्रमुख संवाददाता

इविवि स्थापना दिवस

इलाहाबाद विश्वविद्यालय के 127वें स्थापना दिवस पर मंगलवार को वनस्पति विज्ञान विभाग के सभागार में बॉटनिकल सर्वे ऑफ इंडिया (बीएसआई) के निदेशक डॉ. परमजीत सिंह का व्याख्यान हुआ। डॉ. सिंह ने बीएससी और एमएससी के छात्रों को बॉटनी की बेसिक ब्रांच टेक्सोनोंमी पर ज्यादा जोर दें। उन्होंने बताया कि टेक्सोनोंमी के क्षेत्र में रोजगार की भी अपार संभावनाएँ हैं। वर्तमान में इस क्षेत्र में 75 वैज्ञानिकों की आवश्यकता है।

• बॉटनी विभाग में बॉटनिकल सर्वे ऑफ इंडिया के निदेशक का व्याख्यान
• पौधे न उखाड़ने की अपील, वीडियो व फोटोग्राफी से करें अध्ययन

उन्होंने कहा कि एप्लाइड बॉटनी के लिए भी टेक्सोनोंमी की महत्वपूर्ण भूमिका होती है। डॉ. सिंह ने भारत के विभिन्न क्षेत्रों की पादप विविधताओं के बारे में जानकारी दी और बताया कि तापमान बढ़ने के कारण किस तरह से महाराष्ट्र से लेकर केरल के समुद्री तट के जंगल प्रभावित हो रहे हैं। उन्होंने कहा कि समुद्र का जलस्तर ऊपर होने के कारण पौधे भी ऊपर की ओर आ रहे हैं। इससे खास तौर से बड़े पौधों को नुकसान हो रहा है।



डॉ. परमजीत सिंह ने विचार रखे

डॉ. सिंह ने छात्रों से अपील की कि वे अध्ययन के लिए पौधे न उखाड़ें। पौधों की वीडियोग्राफी या फोटोग्राफी करके उसके जरिए अध्ययन किया जाए। उन्होंने कहा कि अध्ययन के लिए पौधे उखाड़ने से भी पादप विविधता प्रभावित हो रही है। उन्होंने बीएसआई की ओर से दी जाने वाली फेलोशिप के बारे में भी छात्रों को

जानकारी दी। उनके साथ यहां से पढ़ाई कर बीएसआई में तैनात वैज्ञानिक डॉ. लालजी सिंह भी थे। कार्यक्रम की अध्यक्षता डीन साइंस प्रो. विजय कृष्णा ने की। विभागाध्यक्ष प्रो. अनुपम दीक्षित ने अतिथियों का स्वागत किया जबकि धन्यवाद ज्ञापन पूर्व विभागाध्यक्ष प्रो. डीआर मिश्र ने किया। उधर, स्थापना दिवस के मौके पर सीनेट सभागार में ट्रिपलआईटी के निदेशक प्रो. सोमनाथ विश्वास का भी व्याख्यान हुआ।

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Compiled and edited by Dr. V. Sampath Kumar, CNH, BSI, Howrah

Designed by Dr. Avishek Bhattacharjee, CNH, BSI, Howrah

इलाहाबाद | बुधवार | 24 सितंबर 2014

अमर उजाला

युवा इलाहाबाद

एमएससी वालों के लिए ढेरों मौके

बीएसआई के निदेशक ने बॉटनी में आयोजित कार्यक्रम में दी जानकारी

अमर उजाला धरती

इविवि स्थापना दिवस

सीनेट हाल में हुए कार्यक्रम में प्रो. सोमनाथ विश्वास ने किया व्याख्यान

इसके लिए क्वॉलीफाई करने वाले नेट अम्प्लिफिके को 15 हजार रुपये मासिक फेलोशिप मिलेगी। जो नेट नहीं है उन्हें 12 हजार रुपये मिलेंगे। एचोरपन और वनस्पतिक संरचना की जानकारी के लिए डॉ. परमजीत ने टेक्सोनोंमी की पढ़ाई पर जोर दिया। डॉ. परमजीत ने नए होते वनस्पतिक संरचना के प्रति भी आग्रह किया। कार्यक्रम की अध्यक्षता डीन साइंस प्रो. विजय कृष्णा ने किया। विभागाध्यक्ष प्रो. अनुपम दीक्षित ने अतिथियों का स्वागत किया। प्रो. सोमनाथ विश्वास ने धन्यवाद व्यक्त किया। कार्यक्रम

प्रयोग से प्राकृतिक संरचना को बना सकते हैं

पढ़ाई के लिए पौधों के वेतलस्य केहन से भी वनस्पतिक संरचना को खतरा बन गया है। बीएसआई के निदेशक डॉ. परमजीत सिंह ने बताया कि इसकी वजह से कई पौधे खतर की श्रेणी में आ गए हैं। उन्होंने शिक्षकों और छात्र-छात्राओं से अपील की कि फोटो वीडियो करके तैलीय अध्ययन के लिए पौधे न उखाड़ें। उन्होंने बताया कि तैलीय अध्ययन में बदलेरी से पौधों के रिप्लेंटिंग को बात भी सामने आई है। जो पौधे पहाड़ी पर काली लीवें मिलते हैं वे अंधे अनुकूल वातावरण की खोज में ऊपर घसे गए हैं।

बॉटनिकल सर्वे ऑफ इंडिया के निदेशक प्रो. सोमनाथ विश्वास ने कहा कि वनस्पति संरचना से चर्चा की। कुलपति प्रोफेसर एनआर पाठक ने सभी के सहयोग से क्विज को आगे ले जाने की खोज की। इस मौके पर डीन, विभागाध्यक्ष समेत अनेक शिक्षक, अक्सर, विद्यार्थी मौजूद रहे।

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