

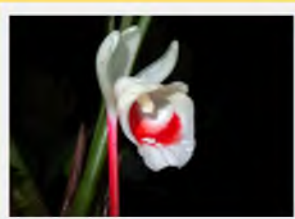
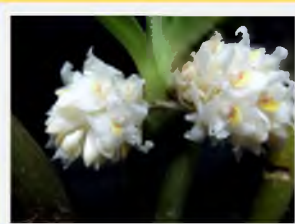


BSI NEWSLETTER

The monthly electronic newsletter of Botanical Survey of India

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Director's column

Scientists of BSI described a new species, *Ficus anamalayana* (Moraceae) from Peninsular India and a new mushroom, *Suillus adrikarii* (Suilliaceae) from the subalpine Himalayan region. Apart from these, *Cheilelejeunea osumiensis* (Bryophyta), *Borofutus dhakanus* (Mushroom), *Thysanorea papuana* (Microfungi) and *Cirsium arvense* var. *alpestre* (Asteraceae) were added to the Indian flora. Further, eight new lichen species were described from Andaman and Nicobar Islands and ten lichen species were recorded for the first time from these Islands.

Besides, scientists of BSI reported for the first time ethnobotanical uses of some plants by Tharu tribe in the Valmiki Tiger Reserve, West Champaran district, Bihar. Field exploration tours to various parts of India have been conducted by the scientific officials, which include collection of *Aconitum* from Jammu and Kashmir for the project, 'Pharmacognostic studies on Medicinal Aconites of India' and to Malkangiri district, Odisha, under the project 'Ethnobotanical Studies of Odisha'.

The regional centres and units of Botanical Survey of India celebrated *Vanamahotsava* in the first week of July 2015 by planting saplings.

Happy browsing!

Paramjit Singh

Director, Botanical Survey of India, Kolkata



HEAD QUARTERS, KOLKTATA

Dr. A.B.D. Selvam, Scientist 'D' undertook a field tour to different parts of Jammu and Kashmir from 03rd to 21st July 2015 in connection with ongoing project, "Pharmacognostic studies on medicinal Aconites of India". Dr. Selvam collected 5 species of *Aconitum* during this field trip.

In connection with 'Algal Flora of Jharkhand', 'Taxonomic diversity and ecology of cyanobacteria and algae in the alpine regions of Eastern Himalayas', 'Investigation of the phytoplanktons from fish ponds and non-fish ponds of Sikkim for exploration of fish cultivation', 'Studies on wild mushrooms of East and South Sikkim', 'Revision of the family Metzgeriaceae in India', and 'Wood rotting fungi of Rajmahal hills' identification and descriptions were made by the scientists and scientific staff.

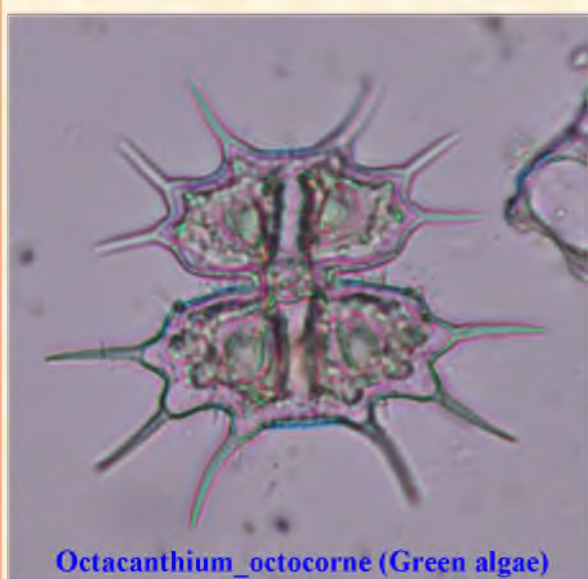
Moss specimens collected from Pahalgam, Jammu and Kashmir, sent from CRC, Allahabad for identification, were identified as *Leucodon secundus* (Leucodontaceae), *Brachythecium plumosum* (Brachytheciaceae) and *Plagiomnium cuspidatum* (Mniaceae) by Dr. M. N. Aziz, Scientist 'E'.

Dr. D. Singh, Scientist 'C' identified 22 unidentified specimens belonging to 13 species of liverworts, collected from Silent Valley, Kerala by Dr. J.N. Vohra and B.D. Kar in 1980 deposited at CAL. Dr. Singh also prepared the data base of the 56 specimens collected from Sikkim.

Dr. Monalisa Dey, Scientist 'B' studied, described and photographed the Lectotype specimen of *Drepanolejeunea foliicola*, obtained on loan from Hiroshima University, Hiroshima, Japan (HIRO). Dr. Dey also prepared database of 51 liverwort specimens.

Smt. Shobha Rudra, Botanist prepared database of 300 nos. of Liverworts Specimens housed at CAL. Ms. Pamela Saha, SRF prepared the database of 180 specimens collected from Darjeeling District deposited in General Herbarium of Cryptogamic Unit.

Dr. R.K. Gupta, Scientist 'D' prepared the Manuscript on Endemic algae of India and submitted the same to Director, BSI. Dr. Gupta also prepared the pamphlet draft on 'Algae of India: A Glimpse' and submitted to Director, BSI.



Public service rendered

Dr. R.K. Gupta identified 8 samples as *Leptolyngbya foveolarum* (Leptolyngbyaceae - Cyanobacteria) and *Chlorococcum infusionum* (Chlorococcaceae, Green algae), which were received from National Institute of Technology, Durgapur.

Dr. Kanad Das, Scientist 'D' reviewed a manuscript on *Agaricus* for the journal *Mycotaxon*.

Meeting attended

Dr. B.K. Sinha, Scientist 'F' and Dr. A.B.D. Selvam, Scientist 'D' attended a meeting in connection with the project, "Addressing Life Style Diseases and Livelihoods, using Medicinal Plants and its Bio-Actives" held at CNH committee room on 13.07.2015.

Publications

Adamčík, S., Cai, L., Chakraborty, D., Chen, X.H., Cotter, H.V.T., Dai, D.Q., Dai, Y.C., Das, K., Deng, C.Y., Ghobad-Nejhad, M., Hyde, K.D., Langer, E., Latha, K.P.D., Liu, F., Liu, S.L., Liu, T.T., Lv, W., Lv, S-X., Machado, A.R., Pinho, D.B., Pereira, O.L., Prasher, I.B., Rosado, A.W.C., Qin, J., Qin, W.M., Verma, R.K., Wang, Q., Yang, Z.L., Yu, X-D., Zhou, L.W. & Buyck, B. 2015. Fungal Biodiversity Profiles 1–10. *Cryptogamie, Mycologie* 36 (2): 121–166.

Chakraborty, D. and Das, K. 2015. A new generic record of Boletaceae for Indian mycobiota. *Curr. Res. Environ. Appl. Mycol.* 5 (2): 138–144.

Das, K., Chakraborty, D. and Cotter, H.V.T. 2015. *Suillus adrikarii*: a new species from the subalpine Himalaya of India and Nepal associated with *Larix*. *Phytotaxa* 219(3): 289–295.

AJC BOSE INDIAN BOTANICAL GARDEN, HOWRAH

The *Vanamahotsava* 2015 was celebrated on 05.07.2015 by organizing a small function at Curator office. Sri Bhagabati Prasad Banerjee, Former Justice, Calcutta High Court was present on this occasion as Chief Guest. On this occasion, prizes were distributed to the winners of Sit & Draw Competition held during the World Environment Day 2015. Consolation prizes were also given to the other participants. Plantation of saplings was done by the children and dignitaries after the inaugural function. The programme was covered by the *Doordarshan* (Bangla) and a brief interview of the Director, BSI was also telecasted in the news.

Regular maintenance of the plant saplings and orchids collected during the tours in the Garden Nursery and Mist Chamber were carried out.

The Great Banyan tree developed 7 new roots. 22 encaged roots were repaired with new bamboo caging.



Plantation by Sri Bhagabati Prasad Banerjee during the Vanmahotsava celebration at AJCBIBG



Sri Bhagabati Prasad Banerjee visiting the Great Banyan Tree during the Vanmahotsava celebration



Dr. A. Pramanik distributing prizes to the participants of Sit & Draw Competition



Participating students during Vanamahotsava 2015 celebration at AJCBIBG

Visitors/students

Scientists, forest trainees and students from different schools and academic institutions visited the botanical garden.

Publication

Hameed, S.S. (2014) 2015. A maiden fruit set in the Double coconut Palm in India by artificial pollination. *Phytotaxonomy* 14: 69–75.

CENTRAL NATIONAL HERBARIUM, HOWRAH

Sri Anand Kumar, Botanical Asst. conducted a field tour samples of bamboos.

to Gautam Buddha Wildlife Sanctuary, Bihar and In connection with the ongoing project on 'Flora of Buxa Jharkhand from 19th to 30th July 2015 and collected Wildlife Sanctuary', 'Flora of Jaldapara Wildlife specimens by utilizing 100 field numbers. Dr. Pushpa Sanctuary', 'Flora of Vikramshila Gangetic Dolphin Kumari, Scientist 'C' made a local field trip to Pathor Wildlife Sanctuary', 'Flora of Gautam Buddha Wildlife Pratima in 24 Parganas Dist., West Bengal on 04.07.2015 Sanctuary', and 'Revision of the genus *Fimbristylis* for survey and documentation of bamboo species (Cyperaceae)' and Taxonomic Revision of *Bambusoideae* growing in the area for the collaborative project with (Poaceae) for Flora of India, identification and descrip- RKMV University and West Bengal DST and collected 9 tion are being done by the scientists and scientific staff.

Public service rendered

Dr. K. Karthigeyan, Scientist 'C' acted as a subject editor for two research articles published in *Journal of Threatened taxa (JOTT)* viz., 'Two rare Epiphytic Orchids of India, *Saccolabiopsis pusilla* (Lindl.) Seidenf. & Garay and *Oberonia gammiei* King & Pantl. discovered on Andaman Islands, India' and '*Eulophia pulchra* – An Interesting Orchid from the Siruvani Hills, Western Ghats, India'. Dr. S. Bandyopadhyay, Scientist 'B' reviewed three manuscripts submitted for publication in *Nelumbo* and *Bangladesh Journal of Plant Taxonomy*. Similarly, Dr Rajib Gogoi, Scientist 'B' reviewed a manuscript on *Musa balbisiana* for *Nordic Journal of Botany*.

Dr. K. Karthigeyan reviewed and prepared comments on the manuscript, 'Checklist of flora of Meghalaya' by A.A. Mao, B.K. Sinha, Durgesh Verma and Nandita Sarma comprising 4863 taxa belonging to 1609 genera under 256 families.

Dr. Avishek Bhattacharjee, Scientist 'B' Prepared comments on Detailed Project Report (DPR) for proposed National Biodiversity Museum to be set up in Hyderabad.

Dr. V. Sampath Kumar, Scientist 'D' while searching the literature, found the name *Cordia perrottettii* Wight (1848) was erroneously incorporated in the 'IPNI' as well as in 'The Plant list'. The same was communicated to Dr. K.N. Gandhi, Harvard University herbarium, who has removed the entity from the IPNI as Wight never described this species. Indeed, Wight misidentified his specimen from Karnataka as *Cordia perrottettii* DC. It was also communicated to Dr. Rafael Govaerts of Kew, who also modified the same accordingly in The Plant list.

Scanned image of type specimen of *Vittaria elongata* var. *angustifolia* was sent to Mr. Cheng-Wei Chen, Tsing Hua University, Taiwan. Identified *Ixora longibracteata* images received from Sri Raju Das, a teacher in Assam and sent pdf of literature pertaining to *Ixora longibracteata*, *I. subsessilis* and *I. goalparensis* on his request. Provided the protologue of *Fissidens arunii* to Dr. Willam R. Buck, New York Botanical Garden. Nearly 40 pages of scanned literatures were sent from *Canadian Journal of Botany* and *Flora of India*, (Vol. 23) to Dr. W. Dinesh Albertson, University of Delhi and Dr. K. Narayanan Nair, NBRI, Lucknow respectively. Provided distribution and economic uses of *Bauhinia racemosa* to Sri Udit Sharma, Jai Narain Vyas University, Jodhpur.

Provided information regarding two authors of plant name (Dr. Saubhik Das and J.P. Srivastava) for incorporation in the Author Query database of IPNI. Informed about the references of books on the flora of Terai region to Dr. M.F. Watson, Royal Botanic Garden, Edinburgh. Information was provided on the type specimens of *Alphonsea cylindrica* (Annonaceae) to Dr. Ian Turner, Royal Botanic Gardens, Kew, England.

Identified 24 plant specimens received from different institutes /organization and authentication certificates were issued.

Meeting attended

Dr. Rajib Gogoi, Scientist 'D' and Dr. K. Avinash Bharathi, Scientist 'B' attended a meeting in connection with the project, "Addressing Life Style Diseases and Livelihoods, using Medicinal Plants and its Bio-Actives" held at CNH committee room on 13.07.2015.

Type specimens received

Holotype of *Rhododendron pseudomaddenii*, two Paratype specimens of *Cyperus pachyrrhizus* var. *humei*, holotype and isotypes of *Impatiens ardamowskiana*, *Impatiens siangensis*, *Impatiens dalaiensis*, *Impatiens paramjitiana* were received for incorporation in the type section of Central National Herbarium, BSI.

Lecture organised

A lecture on 'Fluid Preservation of Botanical Specimens' by Ms. Raneer Prakash, Curator of Flowering Plants, Natural History Museum, London was organised at CNH committee room on 30.07.2015.



Dr. P.V. Prasanna welcoming Ms. Raneer Prakash



Ms. Raneer Prakash delivering presentation at CNH

Visitors/students

Sri Pagara Ravikumar, PDF, Goa University; Ms. Ms. L.M. Chanu, Ms. K. Tilottama Devi, Research scholars, Department of Life Science & Bioinformatics, Assam University; Sri S.K. Mondal, Research scholar, Visva Bharati University; Sri Samarjit Banik, B. Pharm student, Gurunanak Institute of Science and Technology, Kolkata; Dr. Subhasis Panda, Darjeeling Govt. College; Sri Bishnu Prasad Susedi and Delegates (7 members) from Ministry of Forests and Soil Conservation, Nepal and Sri Narain Medury, Head, ISD, New Delhi visited the CNH mainly for herbarium and library consultation.

Publications

Bandyopadhyay, S., Bhattacharjee, A. and S Dey, S. 2015. (058–059) Proposals to add a new Recommendation and two Examples to Rec. 46D. *Taxon* 64 (3): 656–657.

Bandyopadhyay, S. 2015. Author attribution and lectotypification of the name *Bauhinia diphylla* (Fabaceae: Caesalpinioideae). *Edinburgh J. Bot.* 72(2): 215–217.

Bandyopadhyay, S. 2015. On the taxonomic identity of *Phanera jampuiensis* Darlong & D.Bhattach. *Telopea* 18: 155–157.

Bandyopadhyay, S. and Ghoshal, P.P. 2015. Seven new combinations in *Phanera* (Fabaceae: Caesalpinioideae: Cercideae). *Telopea* 18: 141–144.

Gogoi, R. and Borah, S. 2015. *Impatiens adamowskiana* sp. nov. (Balsaminaceae) from Arunachal Pradesh, north-east India, *Nordic J. Botany*. doi: 10.1111/njb.00798.

Gogoi, R. and Borah, S. 2015. *Impatiens pathakiana* (Balsaminaceae), a new species from Arunachal Pradesh, north-eastern India. *Telopea* 18: 121–125

Singh, S.K., Kumar, R., Bhattacharjee, A. and Sharma, S. 2015. *Eria merguensis* Lindl. (Orchidaceae) – a new addition to the Indian flora. *Telopea* 18: 171–176.

Prasad, V.P. and Sampath Kumar, V. 2015. *Gymnostemma* Blume (Cucurbitaceae): A New Generic Record for Kerala, India. *Indian J. Forestry* 38(1): 81–82.

CENTRAL BOTANICAL LABORATORY, HOWRAH



A Bonda lady from Malkangiri district of Odisha

An ethnobotanical field tour was conducted to Malkangiri district of Odisha from 15th July to 2nd August 2015 by Dr. K.A. Sujana, Scientist 'C', Dr. Dhole Pankaj Arvind, Bot. Asst. and Ms. Monika Mishra, Bot. Asst. Visits were made in tribal hamlets in Chithrakonda, Balimela, Kalimela, Mathily, Mottu and Malkangiri forest ranges and interacted with tribes belongs to different communities like Bonda, Paroja, Koya, Kondh, Gond, Desiya and Kandha. A total of 383 field numbers of specimens were collected with 515 ethnobotanical information. *Acorus calamus*, *Chrysopogon zizanioides*, *Bosenbergia longiflora*, *Urginea indica*, and *Aponogeton crispus* were procured in live for ex-situ conservation of ethnobotanically important plants in roof garden of CBL.

Dr. Sujana identified 80 plant species and Sri R. Saravanan sorted 220 plants collected from Kuldiha Wildlife Sanctuary, Balasore district and field data of 120 plants were digitized. Dr. A. K. Verma, Scientist 'B' engaged in cytological studies on *Solanum diphyllum* growing in AJCBIBG, Howrah and digitized data provided in labels of cytological herbarium available in CBL. Ms. Sagari Chaudhury, JRF working on the project 'Ethnobotanical study of Lodha tribe of West Bengal and nutraceutical analysis of selected plant species' was analyzed Frequency of Citation of her field data and identified plants species collected during earlier tours.



***Boesenbergia longiflora* (Zingiberaceae)**



Embelia tsjeriam-cottam



Epithema carnosum

Rajbhasha

Rajbhasha Karyanawan Samiti meeting was organized at CBL and discussed about the usage of Hindi in science.

Meetings attended

Dr. Harish Singh, Scientist 'D' & HoO attended a meeting in connection with the project, "Addressing Life Style Diseases and Livelihoods, using Medicinal Plants and its Bio-Actives" held at CNH committee room on 13.07.2015.

INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA

In connection with the projects on 'Revision of Family Gesneriaceae of Northeastern India' and 'Interpretation of Icones Roxburghianaee' descriptions were made. The editing of the manuscripts on Flora of Uttar Pradesh (volume 3) is being carried out by Dr. Manas Bhoumick, Scientist 'D'. For 'Listing and Identification of Monocot herbarium specimens at BSIS', digital database were done for more than 100 specimens and nomenclature were updated.

Public service rendered

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

ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. Lal Ji Singh, Scientist 'D' & HoO recorded phenology of 22 tree species of Dhannikhari Experimental Garden cum Arboretum (DEGA), Nayashahar, South Andaman. Dr. T.A.M. Jagadeesh Ram studied chemistry of 144 specimens of Lichens of Nicobar Islands.

The Vanamahotsava 2015 was celebrated on 08.07.2015 at DEGA. The Scientists and the staff of ANRC, DFOs, Range Officers, staff of Forest Department, teachers and students of Government Primary School, Nayashahar planted over 130 nos. of seedlings.



Plantation programme at DEGA, Nayashahar



Interaction during Vanamahotsava celebration

Meetings/programmes attended

Dr. Lal Ji Singh, Scientist 'D' & HoO participated in 100th foundation day celebration of ZSI, ANRC, Port Blair on 01.07.2015 and *Vanamahotsava* celebration at Mini Stadium, Dollygunj organized by Department of Environment & Forests, Andaman & Nicobar Administration on 03.07.2015. Dr. Lal Ji Singh and Dr. Sanjay Mishra, Scientist 'B' attended general body meeting of Andaman Science Association at ZSI, ANRC on 14.07.2015 and 2nd phase meeting for development of nature trail at Dhannikhari Experimental Garden cum Arboretum at Silviculture Division, Department of Environment & Forests, Port Blair, Chaired by CCF (Research and Working Plan) on 15.07.2015. Dr. Singh and Dr. Mishra also attended a meeting in connection with development of Botanic Garden at Office of the Principal Chief Conservator of Forest & Principal Secretary on 16.07.2015.

Visitors

Ms. Krishna Banerjee, Head Mistress, Govt. J. H. S. School, Humfarigunj along with 5 teaching staffs visited Dhannikhari Experimental Garden cum Arboretum (DEGA) on 13.07.2015, whereas Er. M. K. Verma, S/E, APWD, Port Blair visited DEGA on 18.07.2015.

Publication

Jagadeesh Ram, T.A.M. 2015. Additional lichen records from the Andaman and Nicobar Islands – 1. *Indian J. Forest.* 38(1): 63– 69.

Gautam Anuj Ekka & Joju P. Alappatt 2015. Note on Distribution of *Nephelaphyllum pulchrum* Blume (Orchidaceae) in Bay Islands. *J. Non-Timb. Forest Prod.* 22(1): 37– 38.

ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

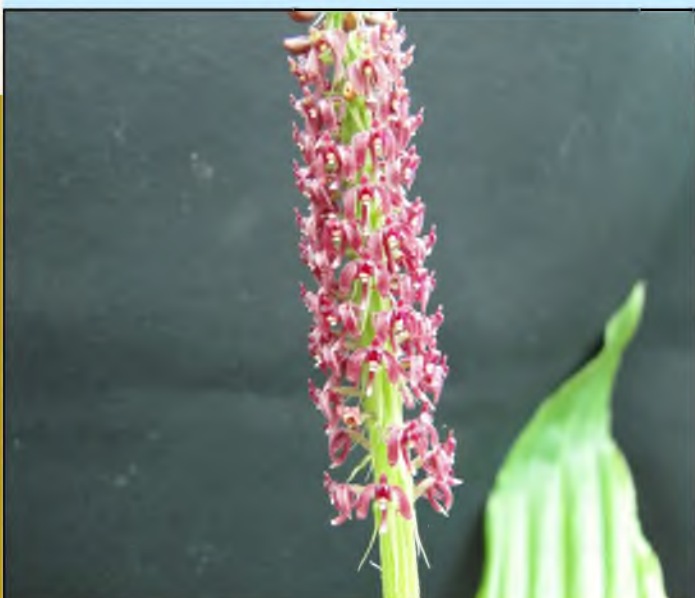
Dr. P. Satyanarayana, Scientist 'D' & HoO and Sri B.B.T. Tham, Botanist prepared descriptions for 23 species for Flora of Pakke Tiger Reserve and Wild Life Sanctuary.

Dr. Vineet Kumar Rawat, Scientist 'C' identified specimens of 10 field numbers for the family Polypodiaceae of North East India.

Dr. Manish Kandwal, Scientist 'C' identified specimens of 13 field numbers for Grass flora of Arunachal Pradesh.

Dr. Krishna Chowlu, Scientist 'B' collected and identified a common ground orchid (*Dienia ophrydis*) from nearby area of BSI campus and planted in the Orchidarium.

Dr. Souravjyoti Borah, Botanist prepared descriptions for 14 species in connection with Flora of Lohit District and Kamlang Wildlife Sanctuary.



Dienia ophrydis (Orchidaceae)



A view of Lohit Valley Arunachal Pradesh

Meetings/programmes attended

Dr. P. Satyanarayana, Scientist 'D' & HoO acted as Guest of Honor in the celebration programme of Centenary Foundation Day of ZSI at APRC, Itanagar on 01.07.2015 and delivered a lecture on conservation of Biodiversity. Dr. Satyanarayana also attended the 6th General Body Meeting of the Arunachal Pradesh State Medicinal Plants Board on 09.07.2015 in the PCCF Office, Itanagar.

Dr. Vineet Kumar Rawat, Scientist 'C' attended Nagar Rajbhasha Karyanvayan Samiti meeting at GSI, Itanagar on 08.07.15 and a meeting of Arunachal Pradesh Biodiversity Board in PCCF office, Itanagar on 17.07.15.

Publications

Rawat, V.K. and Satyanarayana, P. 2015. Pteridophytes of India; Diversity, Distribution and Conservation. *Souvenir of Uttar Pradesh Biodiv. Board* 128–133.

Gogoi, R. and Borah, S. 2015. *Impatiens pathakiana* (Balsaminaceae), a new species from Arunachal Pradesh, north-eastern India. *Telopea* 18: 121–125.

ARID ZONE REGIONAL CENTRE, JODHPUR

Sri Vinod Maina, Scientist 'D' and Sri Ravi Prasad, Bot. Asst. identified 22 plant species from their previous tour material in connection with Ethnobotany of Dang District, Gujarat.

In connection with Flora of Shoolpaneshwar Wildlife Sanctuary, Narmada District, Gujarat, Sri Vinod Maina and Dr. Harikrishna Peddi, Bot. Asst. identified 15 species from their previous tour material.

Dr. Ramesh Kumar, Scientist 'C' and Dr. Chandan Singh Purohit, Scientist 'B' undertook a local tour to Kailana, Arna Jharna and surrounding areas of Jodhpur on 21.07.15 and collected 79 live RET and Medicinal plants which were introduced/planted in botanical garden of BSI, AZRC for their conservation and multiplication.

The following plants have been collected and introduced in the garden:

Ceropegia bulbosa, *Commiphora wightii*, *Eclipta prostrata*, *Murraya koenigii*, *Phyla nodiflora*, *Seddera latifolia*, *Solanum surattense*, *Tribulus rajasthanensis*, *Urginea indica*, *Withania coagulans*.

The following plants have been planted in the garden:

Anogeissus sericea var. *numularia*, *Barleria cristata*, *Carissa congesta*, *Commiphora wightii*, *Cycas revoluta*, *Pithecellobium dulce*, *Santalum album*, *Sesbania grandiflora*, *Tecomella undulata*, *Tectona grandis*.

Publication

Singhadiya, M.K., Vinod Maina and R.P. Pandey. *Withania coagulans* (Stocks) Dunal - A Rare Ethnomedicinal Plant of the Western Rajasthan desert. *J. Non-Timb. Forest Prod.* 22(1): 57–59.



Seddera latifolia (Convolvulaceae)



Tribulus rajasthanensis (Zygophyllaceae)

CENTRAL REGIONAL CENTRE, ALLAHABAD

In connection with the ongoing projects on floral diversity of Upper Ganga Ramsar site, Uttar Pradesh; Floristic diversity of Parvati Aranga Wildlife Sanctuary and adjoining Tikri forest area, Gonda, Uttar Pradesh and Lichens of Rajasthan, Kutch, Gujarat and Lichens of Terai regions of Uttar Pradesh, a total of 33 species with different field numbers were identified. Similarly, for the Taxonomic studies on lichenised non thelotremoid Indian Graphidaceae and Revisionary studies on family Roccellaceae, a total of 9 species were identified. In addition to this, a total of 84 earlier collected specimens housed at BSA were also identified. In connection with the ongoing project on Flora of Chhattisgarh, specimens of families viz., Zingiberaceae, Marantaceae, Musaceae, Cannaceae, Iridaceae and Amaryllidaceae were studied and 50 species were inventoried.



Cultivation of medicinally important plant *Rauwolfia serpentina* (Apocynaceae) in the garden of CRC, Allahabad

Consultation tour

For the project, "Revisionary studies on family Roccellaceae (Lichens)", a herbarium cum library consultation tour was undertaken by Sri Siljo Joseph, SRF to National Botanical Research Institute (CSIR), Lucknow from 27th to 31st July 2015.

Public services rendered

Identified and authenticated 2 specimens each of *Alhagi pseudalhagi* (Fabaceae) and *Rotheca serrata* (Lamiaceae) for Mrs. Shradhanjali Singh and Ms. Yogita Srivastava, M. Pharm student, United Institute of Pharmacy, UCER.

Publication

Singh, R. K. and Singh, V. 2015. Hitherto unreported ethnomedicinal uses of plants by Tharu tribe of Valmiki Tiger Reserve, West Champaran district, Bihar. *Indian Forest*. 141(7): 771–778.

DECCAN REGIONAL CENTRE, HYDERABAD

Dr. L. Rasingam, Scientist 'C' documented 14 species from the earlier collections from Nagarjuna Sagar—Srisailem Tiger Reserve WLS. For Flora of India Projects, Sri Alok Chorgha, SRF completed the descriptions for 10 species and prepared the plates for 3 species and Sri K. Chandra Mohan, JRF identified 22 species. Ms. P. Annamma, JRF identified and prepared descriptions for 10 species collected from Kawal Tiger Reserve. Dr. G. Swarnalatha, Bot. Asst. prepared list of taxa from Ranunculaceae to Malvaceae available at general herbarium of DRC.

***Heterostemma decanense* in flowering in NSTR Wildlife Sanctuary**



Public services rendered

Dr. P. Venu, Scientist 'F' & HoO reviewed a manuscript for the journal *Novon*. Dr. L. Rasingam reviewed a manuscript for *Indian Journal of Natural Products and Resources* (IJNPR). Sri J. Swamy, Bot. Asst. identified 10 species to a student of Anwarul Uloom College of Pharmacy, Hyderabad.

Meetings attended

Dr. M. Ahmedullah, Scientist 'E' attended a botanical garden development meeting at Osmania University, Hyderabad on 10.07.2015 and the selection committee meeting at A.P. State Biodiversity Board, Nampally, Hyderabad on 17.07.2015.

Publications

Chorgha, A., Mohan, K.C., Annamma, P.S., Bhanja, M. and Venkatesh, E. 2015. Additions to the grasses (Poaceae) of Telangana from Kawal tiger reserve, Adilabad district. *J. Threat. Taxa* 7(9): 7589–7594.

Swamy, J., Annamma, P.S., Mohan, K.C. and Rasingam, L. 2015. *Hyoscyamus albus* (Solanaceae): A new distributional record for India. *Rheedea* 25 (1): 54–56.

Rao, V.S., Prasad, K., Veeranjanyulu, D., Suresh Babu, M.V., Ravi Prasad Rao, B. and Thulasi Rao, K. 2015. Carbon Stocks of Gundlabrahmeswaram Wildlife sanctuary, India. *Res. Expo Internatl. Multidisc. Res. Journ.* 5 (iv): 127–144.

Bheemalingappa, M., Chennakesavulu Naik, M., Prasad, K., Suresh Babu, M.V., Ganeshiah, K.N. and Ravi Prasad Rao, B. 2015. Seven Angiosperm species, new records for Andaman & Nicobar Islands, India. *Indian J. Forestry* 38 (1): 71–73.

Ramana, M.V., Venu, P., Sanjappa, M. 2015. The less known *Mitrephora andamanica* (Annonaceae) from Andaman Islands. *Rheedea* 25(1): 72-76.

EASTERN REGIONAL CENTRE, SHILLONG

During this month, identified 37 and documented 15 species from Flora of South Garo Hills Dist., Meghalaya by Sri Dilip Kumar Roy, Bot. Asst.; Eastern Nagaland by Dr. N. Odyuo, Scientist 'D' and Dr. R. Daimary, Bot. Asst.; Amchang WLS by Mrs. Nandita Sarma; Yangoupokpi Lokchao WLS (Manipur) by Sri R. Meitei, Bot. Asst.

Micro-propagation of RET Plants of Northeast India

Dr. A. A. Mao, Scientist 'E' & HoO and Ms. L. Ibemhal Chanu, Bot. Asst. prepared solution and transferred Lab to land about 250 plants of *Cymbidium* from green house to garden, 2000 plants of *Armadorum senapatianum* from lab to garden.

Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of selected species

Dr. Deepu Vijayan, Scientist 'B' Subcultured callus induced *in vitro* raised leaf explants of *Pyrenaria khasiana* into fresh WPM medium. Prepared a new DNA extraction buffer (SDS based) for the successful isolation of DNA from *Rhododendron*.

MoU signed

This regional centre has signed a Memorandum of Understanding with Northeast Slow Food and Agrobiodiversity Society (Shillong) for documentation of wild edible plants of Meghalaya on 16.07.2015.

Public service rendered

Identified about 17 samples of specimens received from various institutions.

Visitors /students

Two Professors, twelve Research Scholars, and ten students visited the Centre from various Institutions, Colleges and Universities.

Publication

Pratibha, J and Prabhugaonkar, A. 2015. New record of *Thysanorea papuana* from India. *Mycosphere* 6(4): 481–485.

NORTHERN REGIONAL CENTRE, DEHRADUN

Identified 92 species and made description for 32 species of Angiosperm 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 Bignoniaceae, Tree ferns of India and genus *Lepisorus* in India'.

Lecture Delivered

Dr. S.K. Srivastava, Scientist 'E' & HoO delivered lectures on "Activities of Botanical Survey of India" and "Plant Diversity in India-An overview" at St. Xaviers College, Mumbai on 03.07.2015 to B.Sc. part III and M.Sc. students and researchers.



Dr. S.K. Srivastava delivering lecture on plant Diversity in India at St. Xaviers College, Mumbai



Collecting seeds of *Pittosporum eriocarpum* at Mussoorie, Uttarakhand



Successful propagation of pitcher plant — *Nepenthes khasiana* at NRC, BSI, DehraDun



A view of moist deciduous forest at Halduparao range, Sonanadi Wild Life Sanctuary, Uttarakhand



Introduction of *Lilium polyphyllum* in wild (Tehri forest division) after successful propagation at NRC, BSI



***Habenaria intermedia* – a threatened species**



***Acer oblongum* – a rare tree species**

Meeting/programme attended

Dr. S.K. Srivastava, attended the inaugural of the National Workshop on Fauna of Shivalik Ecosystem (Uttarakhand) and Application of GIS in Conservation of Fauna on 20.07.2015, organized by Zoological Survey of India, Dehradun at ICFRE, Dehradun.

Dr. S.K. Srivastava attended XX Scientific Advisory committee meeting of G B Pant Institute of Himalayan Environment and Development, Almora, on 28th & 29th July 2015.

Digitization of Herbarium specimens in BSD

About 300 specimens of the family Brassicaceae were digitized and scanned, which includes 61 specimens of Pteridophytes.

Visitors/students

14 visitors from different universities including 2 from University of Mexico have visited the centre for herbarium and Library consultation

Publications

Pusalkar, P.K. and Srivastava S.K. 2015. *Cirsium arvense* L. var. *alpestre* Nageli (Asteraceae) - A new record for Indian Flora. *Indian J. Forest.* 38 (1): 75–76.

Chandrasekar, K., Giri, L., Pandey, A. and Srivastava, S.K. 2015. A note on *Juniperus semiglobosa* in Uttarakhand, India. *Indian J. Forest.* 38 (1): 79–80.

Joshi, P., Kumar, B., Dwivedi, H., Singh, C. 2015. Conservation status and diversity of Ethnobotanically important ferns in Tehri district of Uttarakhand Himalaya. *J Appl. For. Ecol.* 3 (1): 48-57.

Agarwal, S.K. and Srivastava, S.K. 2015. *Vanaspatividon* and *Vargikividon ki Teerthsthal*. Royal Botanic Gardens, Kew. *Vigyan Pragati* 36–44.

SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. M. Gangopadhyay, Scientist 'D' & HoO prepared and submitted the species list of the family Rubiaceae for Flora of India (total 43 pages) on 6.07.2015.

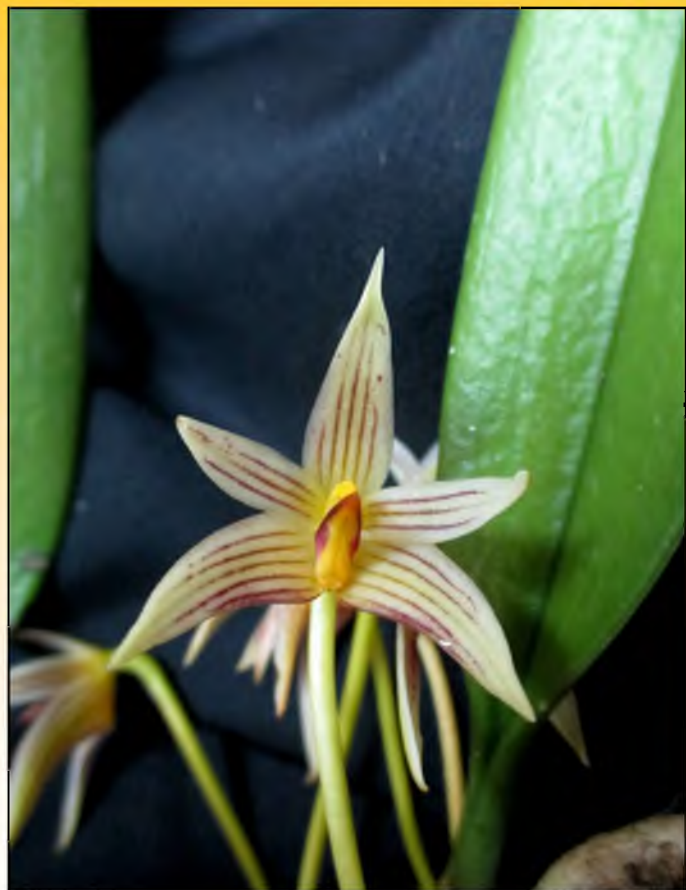
Dr. D.K. Agrawala, Scientist 'C' studied 20 orchid specimens and finalized their identity, assigned geo-coordinates and entered the data in excel sheet for the project, 'Red listing of Orchids of Eastern Himalaya as per IUCN criteria'. Dr. Agrawala identified 55 and illustrated 15 Orchid species for documentation. Dr. Agrawala collected and introduced *Eria discolor* and *Phreatia elegans* in the campus garden.

Public service rendered

Dr. D. K. Agrawala reviewed two manuscripts, one each for Journal of Medicinal Plant Research and ENVIS Newsletter and sent the comments.



Aerides odoratum – a tropical epiphytic orchid from North Bengal



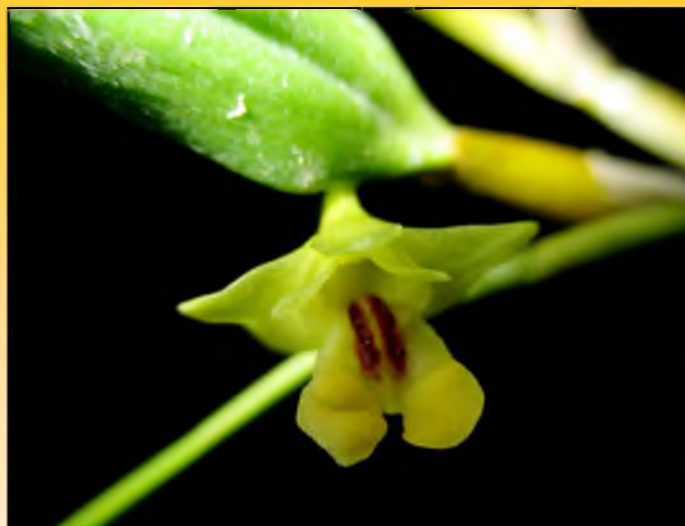
Bulbophyllum affine – the large flowered *Bulbophyllum* (Orchidaceae)



Bulbophyllum sterile - the long tailed *Bulbophyllum* (Orchidaceae)



Eria connata – an endemic orchid of Eastern Himalaya



Flickingeria ritaeana – an extremely rare orchid

Meeting /Training attended

Dr. D. K. Agrawala attended as a member of interview board for selection of Project staffs in GBPIHD, Sikkim Unit on 06.07.2015.

Dr. Sankarao Mudadla attended training programme Kitchen Gardening, Bonsai making and flower arrangements organized by Govt. of Sikkim.

Publication

Agrawala, D.K., Mandal, T.K. and Rath, C. 2015. Conservation status of *Ashtavarga* drug “*Vridhhi*” in Sikkim Himalaya. *Medplant* 8: 2–8.

SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. S. Kaliamoorthy, Scientist ‘D’ conducted two local field tours to Manjakuttai on 03.07.2015 and Nagalur (Yercaud) on 17.07.2015 and collected and introduced 5 plants of 2 orchid species and 36 plants of 7 other angiosperms in National Orchidarium and Experimental Garden (NO & EG), Yercaud. As a part of the project on ‘*ex-situ* conservation of endangered and threatened plants’, Dr. Kaliamoorthy multiplied 46 plants (23 orchids and 23 other angiosperms), developed 28 seedlings, 7 cuttings, re-potted and replanted 11 plants, transplanted 25 plants and recorded phenology of 26 species growing in NO & EG that includes 15 species of orchids.

Dr. M. Palanisamy, Scientist ‘D’ and Sri S.K. Yadav, Bot. Asst. identified 22 field numbers (16 species) of seaweed specimens collected in connection with ‘Seaweeds of Karnataka Coast’. Dr. J.H. Franklin Benjamin, Scientist ‘B’ and Sri R.G. Vadhayar, Bot. Asst. identified specimens of 20 field numbers from earlier collections as part of the project on ‘Flora of Malabar Wildlife Sanctuary, Kozhikode, Kerala’.

Scanning Electron Microscopy

Mr. G. Gnanasekaran, Bot. Asst. examined the pollen grains of *Haplanthodes* sp. and *Gymnostachyum* sp. and taken 20 micrographs. Dr. J.V. Sudhakar, Bot. Asst. collected 4 fresh samples of *Ficus* sp. for SEM study. Dr. K.A.A. Kabeer, Scientist ‘D’ studied caryopsis of *Sporobolus spicatus*.

Public service rendered

A total of 50 plant samples were identified for research scholars and students from various institutions. In addition, 32 digital images of herbarium specimens have been sent on request to various institutions.

Dr. M. Palanisamy, adjudicated the Ph. D. thesis and awarded the Ph. D. degree in the field of seaweeds at the Department of Botany, Annamalai University on 10.07.2015. Dr. M. Palanisamy also delivered an invited lecture on “Bioresources in Antarctica” at the Department of Botany, Annamalai University on 10.07.2015.

Dr. S. Kaliamoorthy, delivered lectures on “Applications of Plant Tissue Culture in Medicinal Plant Conservation”, “Medicinal Orchid Conservation – a need of the hour”, “*ex-situ* conservation of orchids” and “Synseed production” organised by an NGO “*Noolagam*” at Yercaud on 14.07.2015 at Vinayaka Missions college of Pharmacology, Salem on 26.07.2015 and St. Joseph’s college, Tiruchirappalli on 16-17.07.2015 respectively.

Visitors/students

During this month, 35 students, research scholars, lectures, and scientists visited the herbarium and library of this centre. Total of 702 persons belong 121 parties visited NO & EG, Yercaud.

Publications

Sudhakar, J.V. and Murthy, G.V.S. 2015. *Ficus anamalayana* (Moraceae): a new species from South India. *Rheedea* 25 (1): 1–8.

Gnanasekaran, G., Rajakullayiswamy, K. and Murthy, G.V.S. 2015. *Andrographis nallamalayana*, a heterotypic synonym of a little-known endemic species *A. beddomei* (Acanthaceae). *Rheedea*, 25 (1): 47–53. Singh, R. Kr. and Singh, V. 2015. Hitherto unreported ethnomedicinal uses of plants by Tharu tribe of Valmiki Tiger Reserve, West-Champaran district, Bihar. *Indian Forest*. 141 (7): 771–778.

Garg, A., Joshi, B. and Singh, R.K. 2015. Floral-faunal mutualism and its role in sustenance of the Upper Ganga Ramsar Site in Uttar Pradesh, India. *Geophytology* 45 (1): 87–94.

Kambale, S.S., Kamble, M.Y. and Yadav S.R. 2015. *Heterostemmas* of Northern Western Ghats, India and their typifications. *Asklepios* 121: 3–10.

Kambale, S.S., Kamble, M.Y. and Yadav, S.R. 2015. *Brachystelma*: A concealed beauty of rarity. *Asklepios*. 121: 23–28.

WESTERN REGIONAL CENTRE, PUNE

During this month, about 125 angiosperm specimens were identified from Biligiri Rangaswamy Temple Wildlife Sanctuary, Sharavathy valley Wildlife Sanctuary in Karnataka and from Koyna Wildlife Sanctuary, Maharashtra. About 6 pteridophytic specimens were identified from Kudremukh National Park, Karnataka. Identification of 26 fungal species was done and detail description of 31 fungal species was completed. Culture studies of 12 fungal species were also done.

Public service rendered

Identified and authentication certificates were issued for 40 students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

Meetings/programmes attended

The Scientists of this centre attended a review meeting with Hon’ble Minister Sri Prakash Javadekar, Minister of Environment, Forests & Climate Change (MoEF&CC) at Van Bhavan, Pune on 05.07.2015. The meeting was also attended by the officials Forest department and Scientists of Zoological Survey of India. A small video documentary was shown about WRC during the meeting.

Dr. P. Lakshminarasimhan, Scientist ‘E’ & HoO welcomed Hon’ble Union Minister of MoEF & CC, Sri Prakash Javadekar at Pune airport and attended during his felicitation programme in Pune on 25th & 26th July 2015.

Dr. A. Benniamin, Scientist ‘D’ was invited as Chief Guest and delivered foundation day speech about Zoological Survey of India, at ZSI, Western Regional Centre, Pune on 01.07.2015.

Visitors/students

For consultation of herbarium and library scientists, research students and Professors from Naoroji Godrej Centre for Plant Research and Dharwad University, Karnataka visited this centre during this month.



BSI, WRC officials with Hon'ble Minister of MoEF&CC, Sri Prakash Javadekar during official meeting at Pune



Publications

Rai, I.D, Jalal, J.S., Singh. G. and Rawat, G.S. 2015. Extended distribution of *Platanthera cumminsiana* (King and Pantl.) J. Renz (Orchidaceae) in Western Himalaya, India. *Indian J. Forestry* 38(1): 95–98.

Jayanthi J. and Jalal, J.S. 2015. Invasive Alien Species of the Great Indian Bustard Wildlife Sanctuary, Maharashtra. *Indian J. Forest.* 38(1): 51–56.



The Daily Telegrams
The Largest Circulating Daily of A&N Islands

Mass tree planting ceremony held at Nayashar

Port Blair, July 9
As a part of the month long celebration of 66th Van Mahotsava 2015, a mass tree planting ceremony was organized by Department of Environment and Forests, A & N Administration in the premises of the Botanical Survey of India at Nayashar yesterday.

The Divisional Forest Officer, Forest Extension & Publicity Division and the HoO, BSI, Shri Laljee Singh attended this programme and planted saplings of flowering plant namely Isora, while the teachers and students of Govt. Primary School Nayashar, Range Officer, staffs of Forest Department and BSI also planted seedlings in and around the premises. Altogether 130 seedlings of various species viz. Tecona, Isora, Polyctous, Duranta and Cycas were planted.

Addressing the participants, the DFO underlined the vital role trees and plants play in reduction of pollution besides numerous benefits that trees provide to mankind.

The Head of Office, BSI, while speaking, urged for creating more awareness among children about importance of trees. He urged that every student should plant a tree and should protect it for their own existence.

TIMES CITY

Sawantwadi throws up 2 new fungal species

The Division of Plant Pathology of Botanical Survey of India, Mumbai, has announced the discovery of two new species of fungi from Sawantwadi in Maharashtra. The species are *Phoma* and *Phoma*. The discovery was made by Dr. B.K. Singh and Dr. P. V. Prasanna. The fungi were found on the leaves of the plant *...*

- TRANSFERS**
- ◆ Dr. P.V. Prasanna, Scientist 'F' was transferred from DRC , Hyderabad and took the charge as Head Office, CNH on 20.07.2015
 - ◆ Dr. P. Lakshminarasimhan, Scientist 'E' was transferred from CNH , Howrah and took the charge as Head of Office, Western Regional Centre, Pune on 20.07.2015.
 - ◆ Dr. B.K. Sinha, Scientist 'F' was transferred from ISIM, Kolkata and took charge in Head Quarters on 20.07.2015.
 - ◆ Dr. Pratibha Gupta, Scientist 'E' assumed the charge as Head of Office, ISIM, Kolkata on 20.7.2015.

- NEW RECRUITMENT**
- ◆ Dr. Neelam Kumari Gautam joined as Scientist 'B' at BSI, CRC, Allahabad on 30.07.2015.



bsi-news1@gmail.com

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

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Compiled and edited by Drs. V. Sampath Kumar and Avishek Bhattacharjee, CNH, BSI, Howrah