



BSI NEWSLETTER

The monthly electronic newsletter of Botanical Survey of India

Director's column



Scientists of BSI reported *Cololejeunea equialbi* (Lejeuneaceae), *Colura pluridentata* (Lejeuneaceae), *Drepanolejeunea thwaitesiana* (Lejeuneaceae), *Radula nymanii* (Radulaceae), *Riccardia tamarisciana* (Aneuraceae) and *Thysananthus fruticosus* (Lejeuneaceae), as new record to India from Andaman and Nicobar Islands, of these first four are from Great Nicobar Biosphere Reserve. Apart from these, 7 species of the genus *Radula* were reported as additions to the bryoflora of Andaman and Nicobar Islands.

Besides, the species, *Diapensia purpurea* (Diapensiaceae) and *Impatiens mengtzeana* (Balsaminaceae) were reported as new to India from Sikkim Himalaya and Jaintia hills, Meghalaya respectively.

A National Conference on "Conservation of Medicinal Plants" was held at TNB College, Bhagalpur from 16th to 18th March 2016. In this conference, scientific officials from various units and regional centres of BSI delivered the lectures and also published papers in the conference proceedings, *Conservation of Medicinal Plants: Conventional and Modern Approaches*.

I had an opportunity to attend the 4th World Congress of Biosphere Reserve from 14th to 17th March 2016 and also 28th session of the Man and the Biosphere Programme International Co-ordinating Council (MAB-ICC), UNESCO held from 17th to 20th March 2016 at Lima, Peru.

Jai Hind!

Paramjit Singh

Director, Botanical Survey of India, Kolkata



HEAD QUARTERS, KOLKATA

Dr. Devendra Singh, Scientist 'C' returned to India after conducting expedition tour to Larsemann hills, East Antarctica from 13th December 2015 to 5th March 2016. Dr. Singh has collected total 168 field numbers of bryophyte specimens during this expedition. In connection with the various ongoing projects, Scientists and scientific staff of Cryptogamic unit identified the specimens, made descriptions and illustrations.



A view near to Bharati station, Antarctica

Photo: Devendra Singh



Coscinodon lawianus (Grammiaceae)

Database preparation

Dr. D. Singh prepared the data base of the 32 bryophyte specimens collected and identified from Sikkim. Ms. Shova Rudra, Botanist databased 200 numbers of Lichen specimens. Sri Kaju Majumdar, Presv. Asst. compiled 50 Database sheets of Pteridophytes. Ms. Pamela Saha, SRF prepared database of 20 moss specimens collected from Darjeeling District.

Meeting/conference/seminar attended

Dr. Paramjit Singh, Director, BSI attended the 4th World Congress of Biosphere Reserve and 28th meeting of ICC of MAB, UNESCO held at Lima, Peru from 14th to 20th March 2016.

Dr. A.B.D. Selvam, Scientist 'D' attended the National Conference on "Conservation of Medicinal Plants: Conventional and Modern Approaches" and delivered a lecture on "Botanical Validation of Indian Medicinal Aconites" on 16.03.2016 at T.N.B. College, Bhagalpur.

Dr. Kanad Das, Scientist 'D' delivered a talk on "Mycobiota of Wild Mushrooms (Ectomycorrhizal, Saprophytic and Parasitic) in North Sikkim: Morphological Diversity and Taxonomic Treatment" in the National Seminar on Plant and Microbe: Diversity and Utilization held in Visva-Bharati, Santiniketan by the Dept. of Botany, Siksha Bhavana on 19–20th March 2016.

Dr. Kanad Das also delivered a talk on "Wild Himalayan Mushrooms: Morphological Diversity and Taxonomic Approach" in the Dept. of Botany, Mrinalini Datta Mahavidyalaya, Birati, Kolkata on 17.03.2016.

Dr. Sangita Dey, AJCBPDF and Ms. Chandni Gupta, JPF participated in the workshop on DNA Barcoding held at Zoological Survey of India, Kolkata on 7–8th March 2016. The Director, BSI attended the inaugural session of the workshop.

Visitors/students

19 students of B.Sc. 2nd year of Harimohan Ghose College, Kolkata on 17.03.2016.

Publications

Dey, M. and Singh, D.K. 2016. Three foliicolous taxa of Lejeuneaceae (Marchantiophyta), new to India from Great Nicobar Biosphere Reserve, Andaman and Nicobar islands. *Acta. Bot. Hung.* 58: 49–68.

Hembrom, M.E., Parihar, A. and Das, K. 2016. Three interesting wood rotting macro-fungi from Jharkhand, India. *Journ. Threat. Taxa* 8(2): 8518–8525.

Majumdar, S., Singh, D.K., Potemkin, A.D. and Singh, D. 2016. Female plants and range extensions in *Scapania davidii* Potemkin (Scapaniaceae, Marchantiophyta). *J. Bryol.* DOI 10.1080/03736687.2015.1116760 (00000).

Selvam, A.B.D. 2016. Botanical Validation of Indian Medicinal Aconites. In: H.K. Chourasia (Ed.), *Conservation of Medicinal Plants: Conventional and Modern Approaches*, Omega Publications, New Delhi. Pp. 7–17.

Singh, D. 2015. *Thysananthus fruticosus* (Marchantiophyta: Lejeuneaceae) – an addition to the Indian Bryoflora from Andaman & Nicobar Islands. *Nelumbo* 57: 86–91.

Singh, D.K. and Singh, D. 2015. The Genus *Riccardia* (Aneuraceae, Marchantiophyta) in Andaman & Nicobar Islands, India. *Indian J. Forest.* 38 (4): 327–334.

Singh, D.K., Dey, M. and Singh, D. 2016. The genus *Radula* (Radulaceae, Marchantiophyta) in Andaman & Nicobar Islands, India. *J. Bryol.* DOI 10.1179/1743282015Y.0000000032.

AJC BOSE INDIAN BOTANICAL GARDEN, HOWRAH

Dr. M.U. Sharief, Scientist 'E' and Dr. Basant Kumar Singh, Sr. Presv. Asst. conducted a field collection tour to Itanagar and surrounding areas in Arunachal Pradesh from 9th to 19th March 2016 under the project, "Collection, introduction and ex-situ conservation of Rare and Endemic Orchids of N.E. India". Orchid plant saplings under 45 species were collected and introduced in the Mist Chamber of AJCBIBG.

Dr. S.P. Panda, Scientist 'B' collected seedlings /juvenile plants / saplings of 25 species, which were potted and maintained in the Nursery no. 2.



Dr. M.U. Sharief and Dr. B.K. Singh collecting Orchid plants during collection tour to Arunachal Pradesh

Photo: B.K. Singh



Esmeralda cathcartii in Arunachal Pradesh collected for introduction in AJCBIBG for ex-situ conservation

Visitors/students

Prof. J.S. Bhatti, Retd. Professor, Zoology Dept., Delhi University on 01.03.2016. Sri Onkar Singh, IFS, PCCF, Andaman & Nicobar Islands, Port Blair on 07.03.2016; Dr. Kuna Suryanarayana, IFS, Director, Land Scape & Env't. A.P. Capital Region, Development Authority, Vijayawada, Andhra Pradesh on 11.03.2016; Auditors (Trainees on Environment Audit), Kolkata on 15.03.2016.

More than 500 students from various schools and college visited AJCBIBG. The scientific personnel of AJCBIBG rendered guidance and advisory services to the visiting students of Behala College, Kolkata on 03.03.2016; Botany (Hons.) students, Bashir Hat College, North 24 Parganas, West Bengal on 03.03.2016; Maharaja Manindra Nath College, Kolkata on 04.03.2016; St. Lawrence High School, Kolkata on 10.03.2016; Harimohan Ghosh College, Kolkata on 17.03.2016; Hooghly Mohsin College, Hooghly on 17.03.2016; Dhrulea Chand Haldar College, Kolkata on 30.03.2016.



Photo: B.K. Singh

Sri Onkar Singh, PCCF, Andaman and Nicobar Islands
on his visit to AJCBIBG, Howrah on 07.03.2016



Meeting attended

Dr. Basant Kumar Singh attended a meeting with the Director, IBRAD, Kolkata on the development of Agro-biodiversity in Sunderban Biosphere Reserve specially on wetlands on 08.03.2016.

– Dr. A. Pramanik
Scientist 'E' & HoO

CENTRAL NATIONAL HERBARIUM, HOWRAH

In connection with the projects, "Taxonomic Revision of *Poaceae: Bambusoideae* in India" and "ex-situ conservation of Bamboos of India", Dr. Pushpa Kumari, Scientist 'C' conducted a field tour to Kerala from 8th to 16th March 2016 and collected two species *Dendrocalamus giganteus* and *Pseudoxytenanthera stocksii* in flowering and brought saplings of *Ochlandra scriptoria* and *Guadua angustifolia* from KFRI, Peechi for ex-situ conservation of these species in the AJCBIBG, Howrah.



Dendrocalamus giganteus (Poaceae: Bambusoideae)
in flowering



Pseudoxytenanthera stocksii (Poaceae: Bambusoideae)
in flowering

Photo: Pushpa Kumari

Dr. Vinay. Ranjan, Scientist 'D' and Sri Anant Kumar, Bot. Asst. undertaken a field tour to Aurangabad and Nawada districts of Bihar in connection with 'Flora of Bihar' from 24th to 31st March 2016 and collected 196 specimens.

Sri Anand Kumar, Bot Asst. and Dr. B.K. Singh, Sr. Presv. Asst. (AJCBIBG) prepared the preliminary report of Plant diversity assessment of selected forest villages of Gaya District, Bihar and Hazaribagh district, Jharkhand and submitted to the Director, BSI Kolkata for sending the same to DFCCIL, New Delhi.



Herbarium specimen identification

Dr. V.P. Prasad, Scientist 'D' identified 21 field numbers of Cyperaceae members collected by Dr. K. Karthigeyan, Scientist 'D' from Jaldapara National Park, Jalpaiguri, West Bengal.

Dr. K. Karthigeyan identified 25 herbarium specimens collected from Jaldapara National Park, Jalpaiguri.

Dr. O. N. Maurya, Scientist 'C' identified specimens of 13 field numbers from Vikramshila Gangetic Dolphin Wildlife sanctuary, Bhagalpur, Bihar.

Sri P.P. Ghoshal, Botanist identified 3 species namely *Stachytarpheta indica*, *Dendrolobium triangulare*, and *Mukia madraspatana* from Betla National park, Latehar, Jharkhand.

Scanning Electron Microscopy

A total of 80 plant specimens were studied by using SEM: Dr Kanad Das (*Austroboletus* spp.), Dr. P. Kumari (22 Bamboo leaf samples), Dr. Debjyoti Das (4 Diatoms), Ms. S. Shalini (3 *Argyreia* spp.– Seed, leaf, pollen), Ms. Piu Das (12 *Pteris* spp. – Spore, leaf), Ms. Pamela Saha (21 Moss capsules, spores), Ms. Moumita Das (17 *Memecylon* spp. – leaf).

Public Service rendered

Dr. K. Karthigeyan sent specimen images of *Cardamine lyrata*, (Liu Zheng-yu, 15450) to Dr. D. Narasimhan, Associate professor, Madras Christian College, Chennai and of *Barleria hoestetteri* (Dhruna, 339805) to Dr. K. Ravikumar, Professor & Head, National Herbarium of Medicinal Plants and Repository of Raw Drug, Foundation for Revitalisation of Local Health Traditions (FRLHT).

Dr. Rajib Gogoi, Scientist 'D' reviewed a manuscript for *Nordic Journal of Botany*.

Dr. K. Karthigeyan reviewed one manuscript for *Journal of Economic and Taxonomic Botany*.

Dr. Subir Bandyopadhyay, Scientist 'B' reviewed two manuscripts received from Executive Editor, *Bangladesh Journal of Plant Taxonomy* and Editor, *Nelumbo*.

Dr. A. Bhattacharjee, Scientist 'B' reviewed one manuscript for *Rheedeia*.

Sri Anand Kumar reviewed one manuscript received from Managing editor of *Journal of Economic and Taxonomic Botany*.

Dr. Bandyopadhyay provided pdf of 5 pages from Flora of Maharashtra State on *Isodon lophanthoides* var. *brachyanthus* to Mr. Shuai Liao, Shanghai Chenshan Plant Science Research Center, Chinese Academy of Sciences, China and of 68 pages on Acanthaceae from Karthikeyan et al. (2009), Flowering Plants of India, Dicotyledons, to Dr. S.K. Das Das, former Scientist, BSI, Pune.

Dr. Bandyopadhyay answered a query from Graham R. Fulton, Forum Essay Editor Pacific Conservation Biology, Australia, regarding plant collections of Sir William MacArthur or his collector J. Reedy at CAL.

Dr. Bandyopadhyay provided information regarding two authors of plant names [K.C. Malick and Santanu Dey] for incorporation in the Author Query database of IPNI.

Sri P.P. Ghosal provided digitized images to Dr. Arjun Prasad Tiwari, Central Regional Centre, BSI, Allahabad.

Sri Gopal Krishna, Bot. Asst. provided the distributional data and other information related to the economic uses of 6 species to Sri D.G. Bhandari, Maharashtra.

Sri Anant Kumar provided the distributional data and other information related to the economic uses of *Ficus palmata* ssp. *Virgata* and *Tamarindus indica* to Sri D.G. Bhandari, Maharashtra.

Sri Shyam Biswa, Bot. Asst. and other staff members identified 22 plant specimens which were received for identification/authentication from other institution.

Sri Anand Kumar sent 17 photographs of family Combretaceae, Droseraceae and Myrtaceae to Dr. P. Lakshminarasimhan, Scientist 'E' & HoO (WRC) for Flora of India Vol. 9.

Dr. Pushpa Kumari identified the species of bamboos growing in the KFRI Peechi bambusetum and helped the authorities in making corrections in their species list.

Herbarium specimens digitized

15 type specimens data have been added in software and typed in excel sheet.

Lecture/programme organized

A lecture "Pharmacognosy of Indian Aconites" by Dr. A.B.D. Selvam on 04.03.2016.

A Cleanliness drive in central Govt. offices and premises held on 14th & 15th March 2016.

Meetings/workshop attended

Dr. V. Ranjan attended seminar on "Conservation of Medicinal Plants: Conventional and Modern Approaches" on 17.03.2016 and presented a paper, "Ethnomedicinal Plants of Parasnath Wildlife Sanctuary, Giridih, Jharkhand"

Sri Anand Kumar attended "National Conference on Conservation of Medicinal Plants: Conventional and Modern approaches" held from 16-18th March at T.N.B. College, Bhagalpur, Bihar and delivered a lecture on "Traditional Medicinal Plants recorded in Proposed Eastern Dedicated Freight Corridor passing through the Gautam Buddha Wildlife Sanctuary and its environs, Bihar & Jharkhand" on 17.03.2016.

Dr. Bandyopadhyay delivered a lecture, 'Sharing of experiences on collection of data on medicinal plants during ethnobotanical field surveys' in the concluding day of the National Conference on Conservation of Medicinal Plants in TNB College Centenary Hall, Bhagalpur on 18.03.2016.

Dr. Kumar Avinash Bharti, Scientist 'B' attended a meeting with personnels of IIT, Kharagpur at Central National Herbarium on 19.3.2016.

Sri Shyam Biswa attended the National Seminar on "Plant and Microbes Diversity and Utilization", organized by Visva Bharati University, Santiniketan from March 19-20, 2016 at Visva Bharati, Santiniketan.

Visitors / students

- 25 students of Botany (Hons.) from Krishna Nagar Govt. College, Nadia on 01.03.2016.
 Sri Shrikant Ingahalikar, from Anandnagar, Pune on 02.03.2016.
 50 students of Botany (Hons. and Pass) from Basirhat College, Basirhat on 03.03.2016.
 24 students of Vivekananda Mission Mahavidyalaya, Chaitanyapur, Haldia on 03.03.2016.
 40 students of Botany (Hons.) from Ranaghat College, Nadia on 04.03.2016. 11 students of Botany General from Maharaja Manindra Chandra College, Kolkata on 04.03.2016.
 Sri Omkar Singh, IFS, PCCF, Department of Environment & Forests, Andaman & Nicobar Islands on 07.03.2016.
 Dr. K. Suryanarayana, IFS, Director, Landscape & Environment, Andhra Pradesh Capital Region Development Authority, Vijayawada on 07.03.2016.
 67 'Forest Range Officers' (trainees) and 2 faculty members of T.S. Forest Academy, Dulapally, Hyderabad on 10.03.2016.
 17 students (B. Sc. Honours) of Aryavidyapeeth College, Guwahati on 10.03.2016.
 Dr. G.V. Subramanayam, former Advisor, MoEF & CC, New Delhi on 11.03.2016.
 Auditing officials headed by Falguni Bandyopadhyay, Environment Audit, RTI, CGO complex, Kolkata on 15.03.2016.
 12 trainees from Comptroller and Auditor General (CAG) on 15.03.2016.
 38 students of Botany (Hons.) from PG Dept. of Botany, Hooghly Mohsin College, Chinsurah, Hooghly on 17.03.2016.
 30 students of Botany UG (2nd year General) and PG II students from Bethune College, Kolkata on 18.03.2016.
 20 students of B. Sc. Part I and part II from Vidyasagar College, Evening (Metropolitan College) on 22.03.2016.
 24 students of B. Sc. Part II, M.Sc. Barasat Govt. College, Barasat on 22.03.2016.

Publications

- Biswa, S., Lakshminarasimhan, P. and Lokho, A. 2016. Ethno-Medicinal plants of Birhore and the native community of Koderma Wildlife Sanctuary, Jharkhand, India. In: Chourasia, H.K. (Ed.), Conservation of Medicinal Plants – Conventional and Modern Approaches. Omega Publications, New Delhi. Pp. 118–130.
 Hu C., Tian, H., Li, H., Hu, A., Xing, F., Bhattacharjee, A., Hsu, T., Kumar, P. and Chung, S. 2016. Phylogenetic analysis of a 'Jewel Orchid' genus *Goodyera* (Orchidaceae) based on DNA sequence data from Nuclear and Plastid regions. *PLoS ONE* 11(2): e0150366. doi:10.1371/journal.pone.0150366.
 Kumar, A. and Singh, B.K. 2016. Traditional Medicinal Plants recorded in Proposed Eastern Dedicated Freight Corridor passing through the Gautam Buddha Wildlife Sanctuary and its environs, Bihar & Jharkhand. In: Chourasia, H.K. (Ed.), Conservation of Medicinal Plants – Conventional and Modern Approaches. Omega Publications, New Delhi. Pp. 181–194.
 Mastakar, V.K., Lakshminarasimhan, P., Modak, M. 2016. Ethno medicinal Plants of Palkot Wildlife Sanctuary, Jharkhand. In: Chourasia, H.K. (Ed.), Conservation of Medicinal Plants – Conventional and Modern Approaches. Omega Publications, New Delhi. Pp. 270–280.
 Patil, R.T. and Prasad, V.P. 2016. Achene morphology and its taxonomic significance in Cyperaceae of Goa, India: 1. Genus *Fimbristylis*. *Indian J. Pl. Sci.* 5(1): 87–96.
 Ranjan, V., Singh, H. and Singh, L.J. 2016. Medicinal and Aromatic Plants of Bihar with their Biological Activity and strategies for their conservation. In: H.K. Chourasia (Ed.), Conservation of Medicinal plants conventional and modern approaches. Omega Publications, New Delhi. Pp. 142–166.

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

CENTRAL BOTANICAL LABORATORY, HOWRAH

An ethnobotanical field tour of Boudh district, Odisha was conducted by Sri A.C. Halder, Botanist, Sri P.K. Baske, Botanist, and Ms. Monika Mishra, Bot. Asst. from 28th February to 11th March 2016. A total of 162 field numbers were collected with 211 ethnobotanical uses. Of these, 161 are medicinal, 32 foods, 1 veterinary medicine, 2 tooth brush, 2 Basket making, 2 rope making, 1 country liquor and 10 are used in other purposes.

Dr. A.K. Verma, Scientist 'B' and Ms. Liza Mallik, Project Assistant conducted a tour from 21st February to 2nd March 2016 for morphometric studies of *Gymnema sylvestre* accessions to CSIR-CIMAP, Lucknow and collected 20 accessions from JNKV, Jabalpur, Madhya Pradesh. Of these, 17 accessions were introduced in AJCBIBG and 3 were introduced in 'Pargola' of CBL, CNH building.

Dr. Harish Singh, Scientist 'D' & HoO, Dr. Dhole Pankaj Arvind, Bot. Asst. and Sri R. Saravanan, Bot. Asst. Identified 38 plant species collected from Nuapada district, Odisha and Sri A. C. Halder and Sri P. K. Baske, identified 40 plants collected from Nayagargh district of Odisha.

Dr. K.A. Sujana, Scientist 'C', Sri R. Saravanan and Ms. Mishra edited description of 347 plants in standard format as part of compilation of final report of Flora and Ethnobotany of Balasore district, Odisha. Dr. Verma, Ms. Mishra and Ms. Mallick, completed chromosome count in *Plantago ovata*, *P. psyllium*, *P. lanceolata*, *P. arenaria*. Ms. Sagari Chaudhury, SPF completed chemical analyses (Ash value estimation, fat estimation and fibre estimation) of 6 wild edible plant samples in Chemistry section.

Photo: A.C. Halder



CBL officials collecting ethnobotanical information at Biramunda, Kantamal Range, Odisha



CBL officials interacting with medicine man at Katurma, Madhapur Range, Odisha

Conference/ seminar attended

Dr. Harish Singh, Scientist 'D' and Dr Sujana attended a National conference on 'Conservation of medicinal plants: Conventional and Modern Approaches' at T.N.B. College, Bhagalpur, Bihar and presented papers entitled, 'Ethnomedicinal plants and their traditional conservation in Deogarh district, Odisha, India' and 'Conservation of RET medicinal plants of Southern Western Ghats' on 16th and 17th March 2016 respectively. Ms. Chaudhury attended a national seminar at Visva Bharati, Santiniketan and presented a poster on, "Documentation of ethnomedicinal plants used by the Lodha, a primitive tribal group in West Bengal, India: a quantitative approach" on 19.03.2016. Dr. Sujana attended a training on PFMS at INGAF, Kolkata on 02.03.2016 as a DDO.

Photo: Gopal Krishna



Dr. Harish Singh delivering lecture in the conference held at TNB College, Bhagalpur

Photo: Harish Singh



Cleaning and dusting at CBL during Cleanliness Drive

Thematic Cleanliness Drive

All staff and officers of Central Botanical Laboratory took part in the cleanliness drive in the Head of office chamber, Economic Botany Section, Cytology Section and CBL office situated at 4th floor of CNH building under 'Thematic Cleanliness Drive in Govt. offices and Building' on 14th & 15th March 2016.

Visitors/ students

Dr. G.V. Subramaniam ex-Advisor, MoEF, New Delhi visited CBL on 11.03.2016.

Information service was rendered on Ethnobotany to the 108 students and 8 teachers visited from City College, Mohin Chandra College and Harimohan College, Kolkata, West Bengal.

Publications

Chaudhury, S. and Singh, H. 2016. Traditional uses of the Indian Crested Porcupine (*Hystrix indica* Kerr, 1722) by Birhor tribe of Purulia district, West Bengal. *Small Mammal Mail* 8(1): 20–21.

Singh, H., Dhole, P.A., Baske, P. and Saravanan, R. 2016. Ethnomedicinal plants and their traditional conservation in Deogarh district, Odisha. In: Chaurasia, H.K. (Ed.), *Conservation of medicinal plants: Conventional and Modern Approaches*, Omega Publications, New Delhi. Pp. 28–66.

Sujana K.A. 2016. Prospects and challenges of conservation of traditional medicine and medicinal plants in tropical forests of India. In: Chaurasia, H.K. (Ed.), *Conservation of medicinal plants: Conventional and Modern Approaches*, Omega Publications, New Delhi. Pp 109–117.

– Dr. Harish Singh
Scientist 'D' & HoO

INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA

The botanical paintings by Roxburgh are being interpreted with updated nomenclature. Under this project two species of *Eugenia* (Myrtaceae), six species of family Convolvulaceae (*Convolvulus caespitosa*, *C. copticus*, *C. dentatus*, *C. digitatus*, *C. fastigatus*, *C. flagelliformis*) were interpreted with updated nomenclature and description.

Herbarium Specimen Database

As a part of preparing a database of herbarium specimens at BSIS, 414 specimens of monocot and 842 specimens of dicot were listed and nomenclature updated.

Public Service Rendered

Under the Narcotic Drugs & Psychotropic Substances Act, identified 15 samples received from different police stations of West Bengal.



Photo: D.L. Shirodkar

Dr. Alan Warren, curator, NHM viewing Watson's Textile design samples at ISIM, Kolkata



Dr. Alan Warren, curator, NHM visiting Botanical Gallery, ISIM, Kolkata



Photo: A.K. Sahoo

Ms. Avalon Fotheringham consulting volumes on Wardle's Natural dye samples at ISIM, Kolkata

Visitors

Dr. Alan Warren Curator, NHM, London visited on 05.03.2016 and Ms. Avalon Fotheringham, researcher from Victoria & Albert Museum, London visited on 30.03.2016 to consult volumes on Watson's Textile design samples and volumes on Wardle's Natural dye samples maintained at Botanical Gallery.

– Dr. Manas Bhaumik
Scientist 'D' & HoO

ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. Lal Ji Singh, Scientist 'D' & HoO conducted a field tour to North Andaman from 4th to 10th March 2016 and collected seeds, seedlings and plantlets of 22 plant species (Rattans, Bamboos, Zingibers, Orchids, Ferns etc.) and introduced in the Dhanikhari Experimental Garden Cum Arboretum (DEGA), Nayasahar.

Dr. T.A.M. Jagadeesh Ram, , Scientist 'D' conducted one herbarium and library consultation tour to Central Regional Centre, BSI, Allahabad from 13 to 20th March 2016.

Dr. Sanjay Mishra, Scientist 'B' conducted field tour to North Andaman from 14th to 20th March 2016 and collected seeds and seedlings of 51 plant species, and introduced in the DEGA.

Herbarium specimen identification

Dr. Sanjay Mishra Identified 3 unidentified specimens at PBL as *Ficus nemoralis* (F. No. 0565), *Neolitsea andamanica* (F. No. 0075), *Cyperus stoloniferous* (F. No. 5003).

Digitization of Herbarium Specimens

136 numbers of herbarium sheets of the family Scrophulariaceae was scanned and 860 numbers of herbarium specimens of the family Apocynaceae, Oleaceae, Symplocaceae were fed in the computer in a prescribed format.

Thematic Cleanliness Drives

As part of nationwide sanitation and cleanliness campaign on *Swatchh Bharat Abhiyan* to achive the goal of clean India, a massive drive of cleaning the



Thematic Cleanliness Drive by scientist and staff members of ANRC, Port Blair

Rajbhasha meeting

Quarterly meeting of *Rajbhasha* was held in the Chamber of Head of Office, ANRC on 23.03.2016.

Hindi workshop

Two-day Hindi workshop was organized at main office, Port Blair as well as Dhanikhari Experimental Garden cum Arboretum (DEGA), Nayashahar on 28.03.2016 and 29.03.2016.

45th Foundation Day celebration

45th Foundation Day of ANRC was celebrated on 30.03.2016.

Photo: Gautam A. Ekka



Dr. Lal Ji Singh, Scientist D & HoO delivering speech on the occasion of Hindi workshop at ANRC

Photo: C.P. Vivek



Celebration of 45th Foundation Day of Andaman and Nicobar Regional Centre, Port Blair

Meetings /programmes /seminars conducted/attended

Dr. Lal Ji Singh, Scientist 'D' & HoO participated special meeting of the State Board for Wild Life, Department of Environment and Forests, Andaman and Nicobar Administration, Port Blair Chaired by The Hon'ble Lieutenant Governor, Andaman and Nicobar Islands on 18.03.2016.

Dr. Singh and Sri Gautam Anuj Ekka, Pres. Asst. attended Ph. D. synopsis presentations at Regional Medical Research, ICMR, Port Blair on 18.03.2016: "Ecology of Leptospirosis: Study on biotic and abiotic factors involved in the diseases transmission" by Chandan Lal and "Diversity of Gut microbion among Nicobarese – a prespective on their lifestyle" by Anwesh Maile.

Dr. Singh participated the celebration of the International Day of Forests-2016 at the Forest Training Institute, Wimberlygunj, South Andaman on 21.03.2016

Dr. Singh attended one day seminar on "Strategies for the development of food processing sector in the Islands" at CIARI, Port Blair on 23.03.2016

Dr. Singh participated an Executive Council Meeting of the Andaman Science Association at Pondicherry University Campus, Port Blair on 26.03.2016 and also participated the celebration of the ANEKARAGAM-FEST 2016 at Pondicherry University Campus, Port Blair on 26.03.2016

Dr. Singh attended a meeting regarding Secretary, Govt. of India, MOEF & CC visit to Port Blair at Office of the Principal Chief Conservator of Forest & Principal Secretary (Environment & Forests) on 30.03.2016.

One day training/seminar on 'Administrative Matters' was organized at ANRC, Port Blair on 31.03.2016 and Sri Sandeep Mukherjee, Under Secretary, Department of Personnel & Training (DOPT), New Delhi delivered lecture as a resource person.

Photo: C.P. Vivek



Sri Sandeep Mukherjee, Under Secretary, DoPT, New Delhi delivering lecture during one day workshop on 'Administrative Matters'

Visitors/students

Dr. B.S. Kholia, Scientist 'D', NRC, BSI, Dehradun visited Dhanikhari Experimental Garden cum Arboretum (DEGA) on 05.03.2016. Sri M.C. Beniwal, Under Secretary (IFD), Ministry of Environment, Forest & Climate Change, Government of India, New Delhi visited DEGA on 21.03.2016. Dr. Jana Venkat Sudhakar, Bot. Asst., SRC, BSI, Coimbatore consulted herbarium from 22nd to 29th March 2016. Sri Sandeep Mukherjee, Under Secretary, Department of Personnel & Training (DoPT), New Delhi visited DEGA on 24.03.2016 and also main office ANRC, Port Blair on 31.03.2016. 4 M.Sc. Final year students of JNRM, Port Blair visited herbarium on 28.03.2016.



Sri M.C. Beniwal, Under Secretary (IFD), MoEF & CC, Government of India planting sapling DEGCA



Sri M.C. Beniwal, Under Secretary (IFD), MoEF & CC, Government of India at Herbarium, ANRC

Photo: Gautam A. Ekka

Publications

Sanjay, M., Ekka, G.A., Ranjan, V. and Singh, L.J. 2016. Role of DEGCA, BSI Garden in Conservation of Medicinal Plant Diversity of Andaman and Nicobar Islands, India. In: Chourasia, H.K. (ed.), *Conservation of Medicinal Plants: Conventional and Modern Approaches*. Omega Publications, New Delhi. Pp. 95–108.

Vivek, C.P., Murthy, G.V.S., Gnanasekaran, G., Kabeer, K.A.A., and Nair, V.J. 2015. A study on the Caryopses morphology of the grass genus *Eragrostis* in India. *Nelumbo* 57: 1-10.

– Dr. Lalji Singh
Scientist 'D' & HoO

ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

Dr. K. Chowlu, Scientist 'B' undertook a field tour to Tipi, Sessa of West Kameng district and Sagali areas of Papumpare district, Arunachal Pradesh from 12th to 16th March 2016 and introduced 43 orchids for *ex-situ* conservation.

Dr. Manish Kandwal, Scientist 'C' presently on Herbarium consultation tour to CNH, Howrah and ERC, Shillong from 22nd March 2016 in connection with 'Grass Flora of Arunachal Pradesh'.

Herbarium specimen identification

Dr. P. Satyanarayana, Scientist 'D' & HoO and Sri B.B.T. Tham, Botanist made descriptions for 52 species in connection with 'Flora of Pakhui Tiger Reserve and Wild Life Sanctuary'.

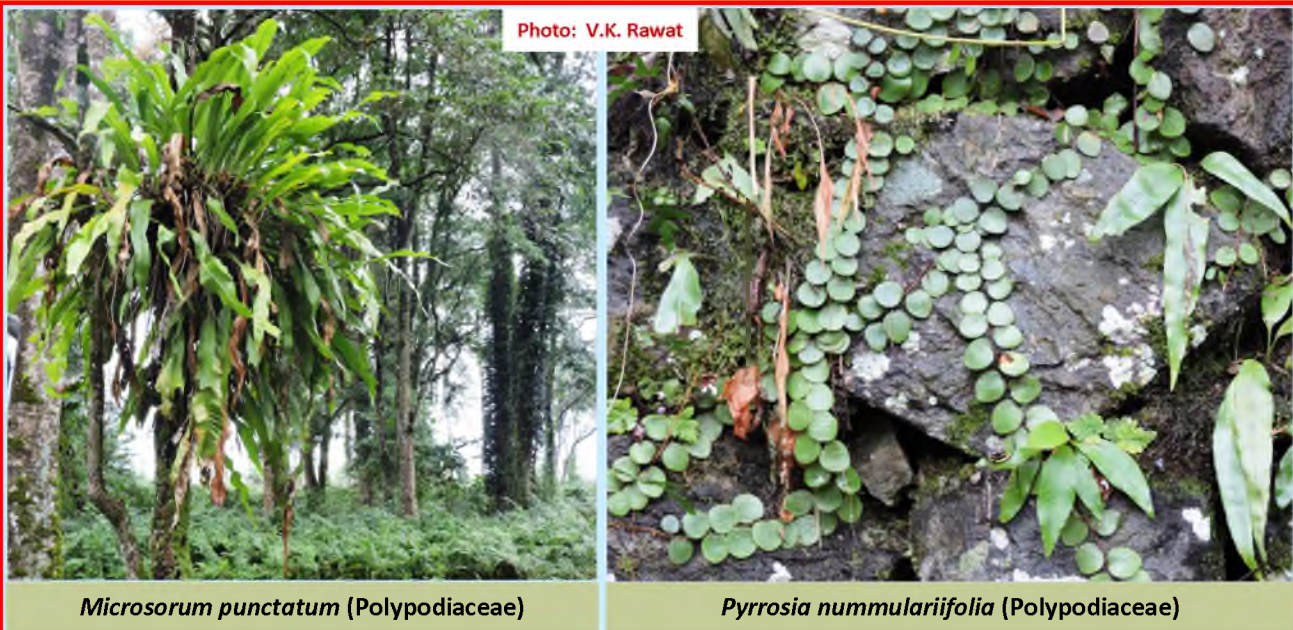
Dr. Vineet Kumar Rawat, Scientist 'C' made descriptions and key for 15 species and identified specimens of 7 field numbers in connection with 'Taxonomic study of the family Polypodiaceae of North East India'.

Dr. Manish Kandwal identified specimens of 16 field numbers in connection with 'Grass Flora of Arunachal Pradesh'.

Dr. Umesh Kumar L. Tiwari, Scientist 'B' identified and made descriptions for 20 species in connection with 'Flora of East Kameng District, Arunachal Pradesh'.

Dr. Krishna Chowlu identified 6 species and entered data sheet for 4 species in connection with 'Red listing of Orchids of Arunachal Pradesh as per IUCN criteria'.

Dr. S. Borah, Botanist updated nomenclature for 200 species and entries made in herbarium labels in connection with 'Flora of Lohit District and Flora of Kamlang WLS, Arunachal Pradesh'.



Microsorium punctatum (Polypodiaceae)

Pyrrosia nummulariifolia (Polypodiaceae)

Function/meeting attended

Dr. P. Satyanarayana attended the 166th foundation day of Geological Survey of India as Chief Guest on 04.03.2016 at GSI, Itanagar. Dr. V.K. Rawat also attended the 166th foundation day of GSI.

Dr. Satyanarayana also attended a meeting of the technical committee for the protected areas as a committee member on 15.03.2016 in the office of the PCCF (WL and BD), Itanagar.

Visitors/students

One Research Scholar from Arunachal Pradesh State Council for Science & Technology, Itanagar; 2 Professors from Aurangabad University, Maharashtra; one Scientist and two staff from AJCBIBG, Howrah visited APRC, Itanagar.

Publication

Chowlu, K. 2016. Erratum to '*Oberonia manipurensis* sp. nov. (Orchidaceae) from Manipur, India. *Nordic J. Botany*, DOI : 10.1111/njb.01034, ISSN 1756—1051 Published online on 29 March 2016.

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

ARID ZONE REGIONAL CENTRE, JODHPUR

One botanical exploration tour was conducted from 6th to 20th March 2016 to Sariksa Tiger Reserve, Alwar Dist., Rajasthan by Sri M.K. Singhadiya, Botanist and Sri Ravi Prasad, Bot. Asst.. and collected 249 field numbers along with three live plants of *Boswellia serrata*, two plants of *Ficus elastica* and cuttings of *Commiphora wightii*.

Dr. C.S. Purohit, Scientist 'B' conducted one herbarium consultation tour to RUBL, Dept. of Botany, University of Rajasthan from 13th to 23rd March 2016 for the project, 'Flora of Todgarh-Raoli WLS, Rajasthan' and studied 358 Herbarium sheets of 107 plant species collected from Ajmer, Pali and Rajsamand.

In connection with the project, Ethnobotany of Dang District, Gujarat Sri Vinod Maina, Scientist 'D' & HoO and Sri Ravi Prasad, Bot. Asst. identified specimens of 26 field numbers. For Flora of Shoolpaneshwar WLS, Narmada District, Gujarat Dr. S.L. Meena, Scientist 'D' and Dr. Harikrishana Peddi, Bot. Asst. identified specimens of 65 field numbers. For Flora of Navsari District, Gujarat Dr. Ramesh Kumar, Scientist 'C' and Sri Vinod Maina identified specimens of 31 field numbers.

Photo: M.K. Singhadiya



Landscape view of Sariska Tiger Reserve



Top view of Sariska Tiger Reserve

*Mallotus philippensis* (Euphorbiaceae)*Sterculia urens* (Sterculiaceae)**Public service rendered**

20 plant species identified for researchers brought for identification.

Workshop attended

Sri Vinod Maina, Dr. Ramesh Kumar, Dr. C.S Purohit and Sri M.K. Singhadiya, Botanist attended two-day Hindi workshop on “Use of technical terminology in higher education” organized by Commission for Scientific and Technical Terminology, Ministry of Human Resources Development, Government of India, New Delhi and Department of Hindi, J.N.V. University, Jodhpur on 27–28 March 2016. Sri Vinod Maina also delivered a talk over Hindi terminology in Botany.

Sri Vinod Maina, Dr. S.L. Meena, Dr. Ramesh Kumar, and Dr. P. Harikrishna attended a workshop organised by Central Ground Water Board, Jodhpur on 18.03.2016, which was inaugurated by Ms. Uma Bharti, Honourable Central Minister of Water Resources of India at S. N. Medical college auditorium.

Visitors

Dr. R.R. Meena, Scientist-Horticulture, Krishi Vigyan Kendra, Jhalawar, Rajasthan; Sri K.A. Meena, Asst. Prof., Krishi Vigyan Kendra, Bharatpur, Rajasthan; Sri R.P. Meena, Scientist, ICAR, DMAPR, Anand, Gujarat. Sri B.L. Meena, Scientist, CSSRD, Karnal, Punjab; Dr. K. Pradeep, Senior Scientist, NBPGR, New Delhi visited this regional centre for Herbarium consultation.

Publications

Maina, V., Prasad, R. and Chakrabarty, T. 2015. Antidiabetic plants used by the tribes and settlers of Andaman & Nicobar Islands, India. *Nelumbo* 57: 75–81.

Purohit, C.S. 2015. *Diapensia purpurea* (Diapensiaceae), a new record to India from Sikkim. *Nelumbo* 57: 56–59.

– Sri Vinod Maina
Scientist 'D' & HoO

BOTANIC GARDEN OF INDIAN REPUBLIC, NOIDA

The seedlings of the following summer annuals were developed for plantation in pots, beds in landscape and other sections of the garden during this month:

Amaranthus tricolor (Amaranthaceae) – Tampala, Tandal joortandalja bhaji; *Bassia scoparia* (Amaranthaceae) – Ragweed, Summer cypress, Mock-cypress, Kochia; *Celosia cristata* – Cockscombs and *C. argentea* (Amaranthaceae) – Plumed cockscomb or Silver cock's comb; *Cosmos bipinnatus* (Asteraceae) – Garden cosmos, Mexican aster; *C. sulphureus* (Asteraceae) – Sulfur Cosmos and Yellow Cosmos; *Gomphrena globosa* (Amaranthaceae) – Raktha mallika, Globe amaranth or Bachelor button; *Helianthus annuus* (Asteraceae) – Common sunflower; *Gaillardia pulchella* (Asteraceae) – Gaillardia, Fire wheel, Indian paintbrush; and *Zinnia elegans* (Asteraceae) – Common zinnia.

In new pots the following plants were developed:

Different varieties of *Portulaca oleracea* (common purslane, pigweed, little hogweed, red root, pursley and moss rose) and *P. grandiflora* (rose moss, nine/eleven o'clock, Mexican rose, sun rose, rock rose, and moss-rose purslane) – 700 nos.; *Bassia scoparia* (Kochia) – 50 nos.; *Gaillardia pulchella* (Gaillardia, fire wheel) – 100 nos.; *Ficus benjamina* 'Starlight' – 90 nos.; *Duranta erecta* 'Variegata' (Green & White) – 50 nos.

Besides, a new grass bed was developed surrounding the Map of India at BGIR.

Visitors/students

During this month, 275 students, 3 teachers, 422 visitors (of which 12 were foreigners) visited the garden.

– Dr. Sheo Kumar
Scientist 'D' & HoO

CENTRAL REGIONAL CENTRE, ALLAHABAD

A total of 18 species with as many field numbers were identified under the projects, 'Flora of Chandra Prabha Wildlife Sanctuary, Chandauli, U.P.' and 'Flora of Chhattisgarh'.

Under 'Floristic diversity of Parvati Aranga Wildlife Sanctuary and adjoining Tikri forest area, Gonda' project, a total of 25 specimens were studied and completed taxonomic description of 10 specimens.

Under the flora of India project, "Taxonomic studies on lichenised non-Thelotremoid Indian Graphidaceae" and 'Lichens of Terai regions of Uttar Pradesh' a total of 36 species were identified.

Phenological data of eight species were recorded in connection with ongoing project, 'ex-situ conservation of EET plants in the office garden.'

In addition, 65 earlier collected specimens housed at BSA were also identified.



Saraca asoca flowering in the associated garden of CRC

Scanning Electron Microscopy

SEM studies of pollens of *Papaver rhoeas* and *Clitoria ternatea* were carried out by Sri Vineet Kumar Singh, Bot. Asst.

Public service rendered

Two herbarium specimens received from Sri Divaker Shukla, Research Scholar, Pharmacognosy Research Lab, Pharmacy Academy, IFTM University Lodipur-Rajput, Moradabad, U.P. and one specimen brought by Ms. Gulshum Ali, M. Pharm. student, Shambhunath Institute were identified.

Conference attended

Dr (Ms.). Arti Garg, Scientist 'D' attended a National conference on "Conservation of medicinal plants conventional and modern approaches" and delivered a lecture on 'Wetland and Ramsar Convention- Case studies of the Nawabganj bird sanctuary and the Upper Ganga Ramsar site in Uttar Pradesh and their role in conservation of medicinal plant' organized at TNB College, T.M. Bhagalpur University, Bhagalpur from 16th to 18th March 2016. Dr. Garg also chaired two technical sessions during the period.

Rajbhasha meeting

A quarterly meeting of Departmental Hindi *Karyanavayan Samiti* was organized on 22.03.2016 to access the implementation of work in *Rajbhasha* Hindi.

Publications

Garg, A. and Singh, V. 2016. Traditional conservation of medicinal plants in the sacred lands of Upper Ganga Ramsar site in Uttar Pradesh. In: H.K. Chourasia (Ed.), Conservation of medicinal plants: conventional and modern approaches. Omega Publications, New Delhi. Pp. 18–27.

Garg, A. and Singh, P. 2016. The Nawabganj Bird Sanctuary in Uttar Pradesh- A conservatory of medicinally useful plants. *ibid.* Pp. 306–319.

– Dr. G.P. Sinha
Scientist 'E' & HoO

DECCAN REGIONAL CENTRE, HYDERABAD

Sri S. Nagaraju, Bot. Asst. conducted one field tour to Rajampeta Forest Division of Seshachalam Biosphere Reserve from 7th to 15th March 2016 and collected 84 plant specimens.

Dr. G. Swarnalatha, Bot. Asst. conducted one library and herbarium consultation tour to Central Regional Centre, BSI, Allahabad from 12th to 18th March 2016 and 39 Macrolichen specimens of Odisha were brought on loan for further detailed study.

Dr. J. Swamy, Bot. Asst. identified 15 species in connection with Sacred Groves of Andhra Pradesh; Sri K. Chandra Mohan, SPF identified 20 species for Flora of Satkosia Tiger Reserve and Mrs. P.S. Annamma, SPF identified 16 species for Flora of Kawal Tiger Reserve and made description for 10 species.

Dr. L. Rasingam, Scientist 'C' made descriptions for 13 species in connection with the Flora of Nagarjunasagar–Srisailem Wildlife Sanctuary.



Photo: J. Swamy

View of Palanka Veerabhadra Swamy Sacred Grove in Prakasam District, Andhra Pradesh

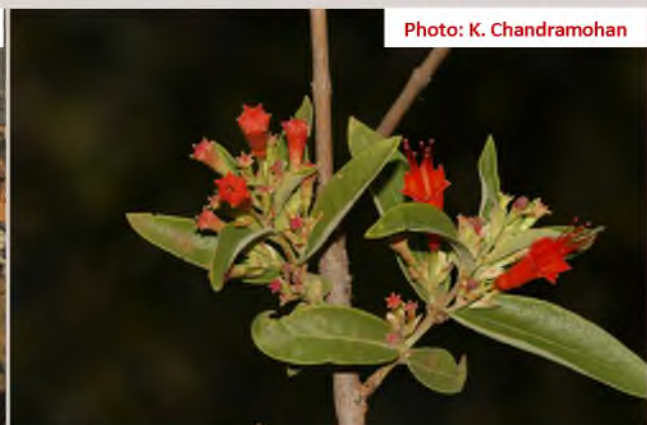


Photo: K. Chandramohan

Woodfordia fruticosa from Satkosia Tiger Reserve

Digitization of herbarium specimens

In connection with digitization of herbarium specimens at BSID, 500 herbarium specimens of Malvaceae, Muntingiaceae, Linaceae, Erythroxylaceae, Malpighiaceae, Geraniaceae, Balsaminaceae, Zygophyllaceae and Oxalidaceae were scanned and data entry of label information completed.

Public service rendered

Dr. J. Swamy identified 73 plant specimens for two research scholars and one Professor of three Universities and provided assistance in the herbarium to Mrs. P. Neeraja, Research Scholar from Department of Botany, Sri Venkateswara University, Tirupati, Andhra Pradesh.

Dr. Rasingam identified one specimen for the student of Shadan Women's College of Pharmacy, Hyderabad.

Training attended

Dr. Rasingam attended the NCDDO training programme on enhanced PFMS application for online payment of MoEF & CC under the payment control of PAO (BSI/ZSI) on 02.03.2016 at Regional Training Centre, Kolkata.

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

EASTERN REGIONAL CENTRE, SHILLONG

During the period, identified total 22 species from Flora of Eastern Nagaland by Dr. N. Odyuo, Scientist 'D' and Dr. R. Daimary, Bot. Asst. and Flora of Yangoupokpi Lokchao WLS (Manipur) by Sri. R. Meitei, Bot. Asst. Manuscripts finalized for submission i) Flora of Laokhowa WLS by Dr. Chaya Deori, Scientist 'D' and S.R. Talukdar, Sr. Prev. Asst., ii) South Garo Hills Dist., Meghalaya by Sri Dilip Kumar Roy, Bot. Asst. and iii) Checklist of Flora of Nagaland by Dr. A.A. Mao, Scientist 'F' & HoO and Dr. N. Odyuo, Scientist 'D'. Taxonomic descriptions completed for five species, *Plagiochila arbuscula*, *P. bantamensis*, *P. beddomei*, *P. bicornuta* and *P. durelii* in connection with 'Revision of Bryoflora of Mizoram' and also taxonomic description completed for two species, *Riccia billardieri* and *R. stricta* for 'Taxonomic Revision of genus Genus *Riccia* (Marchantiophyta) in India' by Dr S.K. Singh, Scientist 'D'.

For Taxonomy, phylogeny and ex-situ conservation of Micro-fungal diversity from Northeast India with special emphasis on fungi associated with endemic and threatened plants of Meghalaya by Dr. Ashish Venkatesh Prabhugaonkar, Scientist 'B', presented project proposal entitled, '*Diversity, Phylogeny and Bio-prospecting of micro-fungi associated with indigenous Palms of North-east India*' before the screening committee at 'NER-BPMC', Department of Biotechnology, New Delhi on 07.03.2016. DNA sequences of two interesting fungal isolates (three gene regions ITS, LSU and SSU) were obtained from RFDF, RGCB. Cultures maintained in culture collection were sub-cultured to test their purity, survival. Both stab cultures and agar slants were observed to be efficient methods. Collections made till date and maintained as herbarium specimens, microscopic slides and cultures were reviewed and arranged.

For ex-situ conservation of Endemic, threatened and economically important plants of the region and recording phenological data on flowering and fruiting species growing in the Garden, Dr. M. Murugesan, Scientist 'B' and Sri L.R. Meitei, Bot. Asst. planted 18 plant species in garden, collected from Jaintia Hills, Meghalaya. Observed and recorded phenological data of flowering and fruiting of 19 plant species viz., *Ascocentrum ampullaceum*, *Bulbophyllum scabratum*, *Cymbidium eburneum*, *Dendrobium anceps*, *Dendrobium fimbriatum*, *Dendrobium nobile*, *Dendrobium pendulu*, *Engelhardtia spicata*, *Eria amica*, *Erythrina arborescens*, *Gnetum gnemon*, *Goniothalamus sesquipedalis*, *Esmeralda cathcartii*, *Lindera salicifolia*, *Parkia roxburghii*, *Phoebe lanceolata*, *Tainia latifoli.*, *Tainia minor* and *Vanda bicolor*.

For Micro-propagation of RET Plants of Northeast India by Dr. A.A. Mao and L. Ibemhal Chanu, Bot. Asst. prepared media for *Armadorum senapatianum*, *Cymbidium tigrinum*, *Nepenthes khasiana* in different composition. Reading of asymbiotic seed germination in MS medium with 0.2% charcoal + 10% coconut,

10% banana, 0.2% charcoal and control of *Cymbidium tigrinum* (Orchidaceae) in interval. Sub culture of *Nepenthes khasiana*, *Cymbidium elegans*. Transfer of callus of *Cymbidium tigrinum* in 2, 4, D and 2ip in WPM. Reading of growth of root, length and breadth of leaves of *Armadorum senapatianum* in control MS and 2% charcoal MS. Subculture of *Cymbidium tigrinum* in MS (5.6, 5.8 PH), 10% Coconut (5.6, 5.8 PH), and 10 % Aloe (5.6, 5.8 PH). Nodal experiment on *Ilex Khasiana*, new buds form but fungal contamination. Mulching, weeding of *Cymbidium tigrinum*, *Armadorum senapatianum* and others in greenhouse. Sprayed insecticides and fungicides on the plants maintained in greenhouse and cleaned plant tissue culture laboratory.

For Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species by Dr. Deepu Vijayan, Scientist 'B', subcultured rhizomes and callus of *Paris polyphylla* for multiple shoot induction. *In vivo* seed experiments are being continued with seeds of *Pyrenaria khasiana*. Completed PCR analysis of *Rhododendron formosum* var. *formosum* and *Rhododendron formosum* var. *inaequale* using rbcL primer. DNA extraction from different species of *Rhododendron* is being continued. Initiated ISSR fingerprinting of selected *Rhododendrons*.

Public service rendered

Identified about 46 samples of specimens received from various institutions.

Students/visitors

One scientist, four Professor, four Research Scholars and 57 students visited the Centre from various Institutions, Colleges and Universities.

Publication

Verma, D., Lavania, S., Roy, D.K. and Sinha, B.K. 2016. Lectotypification of *Impatiens mengtzeana* (Balsaminaceae), an addition to Flora of India. *Journ. Jpn. Bot.* 91(1): 52–56.

– Dr. A.A. Mao
Scientist 'F' & HoO

NORTHERN REGIONAL CENTRE, DEHRADUN

Identified total 85 species and made description for 82 species of Angiosperm in connection with the projects, Flora of Uttarakhand Vol. V, Floristic Diversity and Phytosociological study of Simbalbara National Park, Flora of Nandhour Wildlife Sanctuary, Flora of Sonanadi Wildlife Sanctuary, Revision of family Bignoniaceae, Cyatheaceae and genus *Lepisorus* (Sm.) Ching in India.

Digitization of Herbarium specimens

Scanned and digitized 53 specimens of the family Capparidaceae.

Public Services rendered

Identified 4 specimens of *Perilla frutescens* for Ms. Swanti Sharma of Doon University, Dehradun

Meetings/Programmes attended

Drs. S.K. Srivastava Scientist 'E' & HoO, P.K. Pusalkar, Scientist 'D', Kumar Ambrish, Scientist 'D', R. Manikandan, Scientist 'D', G.S. Panwar, Scientist 'C', Puneet Kumar, Scientist 'B' attended Annual Flower Show [*Vasantostav*] on 5-6 March 2016 at Rajbhavan, Dehradun as invited judge to assess Flower Show Competition under five categories, namely Cut Flowers (Dahlias, Roses, Gladiolus, Orchids, Marigold, Lilies, Others), Bonsai, Succulents, Cacti and Hanging Pots.



Phlomis superba – an endangered plant successfully conserved at Botanical Garden, NRC, Dehradun



New post card launched by Raj Bhawan, Dehradun on the occasion of Spring Festival, 2016 [Vasantostav] on 5-6th March 2016 Photo: S.K. Srivastava

Drs. P.K. Pusalkar, Kumar Ambrish, and Manas Ranjan Debta, Scientist 'B' attended training on 'Economic Evaluation of Ecosystem Services' organized jointly by GIZ German cooperation, Values, Conservation Strategy Fund and Wildlife Institute of India from 14th to 17th March 2016 at Wildlife Institute of India, Dehradun.

Drs. R. Manikandan, G.S. Panwar and Puneet Kumar, Scientist 'B' attended two-day workshop "High Altitude Medicinal Plants" held on 21-22nd March 2016 at Indian Council of Forestry Research and Education (ICFRE), Dehradun. Dr. R. Manikandan made oral presentation on High Altitude Medicinal Plants of Govind Pashu Vihar Wildlife Sanctuary, W. Himalaya, while Dr. G.S. Panwar delivered a presentation on "Micropropagation of Threatened Medicinal Plants of North-West Himalaya viz., *Lilium polyphyllum*, *Pittosporum eriocarpum* and *Eremostachys superba*".

Dr. S.K. Srivastava attended 10th Board meeting of Uttarakhand Biodiversity Board, on 30.03.2016.



Scientists of NRC attended Spring Festival-2016 as invited judge to assess Flower Show Competition



Scientists of NRC attended two days' workshop on High Altitude Medicinal Plants organized by ICFRE

Visitors/students

Total 37 visitors viz., 25 students from BFIT, Dehradun; 2 students from HNB Garhwal University Srinagar; 10 Farmers from Madhya Pradesh.

Publications

Srivastava, S.K. and Pusalkar, P.K. 2016. Ethno-conservation of threatened plants of Western Himalaya-Traditional practices and current scenario. *J. Econ Taxon. Bot.*, Addl. Ser. 44: 122-137.

Srivastava, S.K. and Pusalkar, P.K. 2016. Lectotypification and new locality report for monotypic and critically endangered genus *Catamixis* (Asteraceae: Pertyoideae: Pertyeae). *Nelumbo* 57: 11-18.

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

SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. Dinesh Kumar Agrawala, Scientist 'C' & HoO identified seven Orchid species and illustrated five species. Dr. Agrawala finalized 20 other orchid specimens in respect of their identity, geo-coordinates and entry in the excel sheet for the project "Red listing of Orchids of Eastern Himalaya as per IUCN criteria".

Dr. David Lalsama Biata, Scientist 'B' identified five specimens from 16 unidentified herbarium sheets of *Epilobium* for the project, "Flora of Sikkim-family Onagraceae" and also identified one species, *Aeschynanthus novograbilis* (Gesneriaceae). Sri S.K. Raj, Bot. Asst. identified 24 species from 50 unidentified herbarium sheets. Sri Subash Pradhan, Fieldman identified 6 species from 12 unidentified herbarium sheets.

Digitization of Herbarium specimens

300 herbarium sheets of Ranunculaceae, Magnoliaceae, Schisandraceae and Fumariaceae were digitized.

Public Service rendered

Dr. D.K. Agrawala evaluated a project proposal "Studies on Orchid diversity in Eastern Ghats of Andhra Pradesh: Ecological and morphological approach" and sent the comments to Headquarters, BSI, Kolkata.

Meeting/programme attended

Dr. Sankararao Mudadla, Scientist 'B' attended a National conference on 'Conservation of medicinal plants: Conventional and Modern approaches' held at Bhagalpur, Bihar from 15th to 18th March 2016 and delivered a lecture on "Role of Sacred Groves in Conservation of Medicinal plants in Northern Part of Andhra Pradesh, India".



Dr. M. Sankararao delivering lecture during National conference held at T.N.B. College, Bhagalpur

Photo: Gopal Krishna

Dr. D.K. Agrawala attended as a member of institute Ethical committee for implementation of in house projects at Ayurveda Regional Research Institute (ARRI), Gangtok on 17.03.2016.

Visitors

Dr. Rajappa, ICAR, Barapani visited this center for Herbarium consultation of Pinaceae Family on 01.03.2016. Dr. Rajiv Gogoi, Scientist 'D', CNH visited this centre for Herbarium consultation from 15th to 21st March 2016.

Publication

Dr. Sankararao, M. 2016. Role of Sacred Groves in Conservation of Medicinal plants in Northern Part of Andhra Pradesh, India. In: Chaurasia, H.K. (Ed.), *Conservation of medicinal plants: Conventional and Modern Approaches*, Omega Publications, New Delhi. Pp. 167–173.

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

SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. K.A.A. Kabeer, Scientist 'D' and Sri A. Ravi Kiran, Bot. Asst. conducted a field tour to Kodaikanal Wildlife Sanctuary, Tamil Nadu from 2nd to 12th March 2016 and collected 145 field numbers. Dr. S. Kaliamoorthy, Scientist 'D', Sri B.S. Elango and Dr. T.S. Saravanan, Bot. Assts. conducted a plant exploration tour to Bhadra, Kudhramukh Wildlife sanctuary and surrounding areas, Karnataka from 4th to 10th March 2016. Dr. J.V. Sudhakar, Bot. Asst. conducted a Herbarium Consultation-cum-Field Tour to Andaman and Nicobar Regional Centre, Port Blair from 11th to 30th March 2016. Dr. M. Palanisamy, Scientist 'D' conducted a herbarium consultation tour to CMFRI and CSMCRI, Mandapam, Ramanathapuram, Tamil Nadu from 27th to 31st March 2016.

Photo: K.A.A. Kabeer



Sri A. Ravi Kiran collecting *Caralluma umbellata* from Kodaikanal WLS, Tamil Nadu

Photo: A. Ravi Kiran



Berberis tinctoria (Berberidaceae)

Photo: A. Ravi Kiran



Balanophora fungosa subsp. *indica* (Balanophoraceae)



Derris heyneana (Leguminosae)

Photo: K.A.A. Kabeer



Gastrochilus acaulis (Orchidaceae)



Passiflora leschunaltii (Passifloraceae)

Herbarium specimens Identification

Dr. M. Palanisamy identified 35 field numbers of seaweed specimens collected from Karnataka coast. Dr. K.A.A. Kabeer and Sri A. Ravi Kiran identified 5 field numbers collected from Kodaikanal Wildlife Sanctuary, Tamil Nadu. Dr. J.H. Franklin Benjamin, Scientist 'B' and Sri R.G. Vadhyar, Bot. Asst. identified 100 field numbers collected from the Malabar Wildlife Sanctuary, Kozhikode, Kerala. Under the documentation of Phytodiversity, Dr. G.V.S. Murthy, Scientist 'G' & HoO and Sri. K. Yarrayya, Pres. Asst. completed the description for 10 species of *Eleocharis*. Dr. C. Murugan, Scientist 'D' documented 5 species (*Elaeis guinensis*, *Phoenix loureirii*, *P. pusilla*, *P. sylvestris* and *Pinanga dicksoni*) at MH in connection with 'Flora of Kerala (Vol. 6), family Arecaceae. Sri K. Yarrayya identified 34 species of sedges collected from Kodaikanal wildlife Sanctuary, Tamil Nadu.

Ex-situ conservation

Dr. S. Kaliamoorthy introduced 34 orchid species (223 samples) and 35 plant samples of other Angiosperms in National Orchidarium and Experimental Garden (NO & EG), Yercaud collected from Bhadra, Kudhramukh Wildlife sanctuary and surrounding areas, Karnataka. Seven orchid species and 2 other angiosperms collected from Palani hills and surrounding areas were received from Dr. K.A.A. Kabeer and Sri A. Ravi Kiran were introduced in NO & EG, Yercaud. In addition, Dr. Kaliamoorthy and his team multiplied 35 plant samples (including 16 samples of orchids and 19 samples of other plants), transplanted 13 plant samples (including 4 samples of orchids and 9 samples of other plants), developed 16 seedlings and 28 cuttings. They also recorded the phenology of 32 species including 22 orchids and 10 other angiosperms.

Databasing and Digitization of herbarium specimens

Details of 215 herbarium specimens collected from Upper Bhavani were added in MH database. 113 Loan specimens of Poaceae were digitized for database.

Scanning Electron Microscopy

Dr. G. Gnanasekaran, Bot. Asst. studied the seeds of two species belong to *Diotacanthus* (Andrographinae: Acanthaceae) under SEM.

Public Service Rendered

During this month, a total of 47 plants were identified for research scholars and students from various institutions.

Meetings/programmes attended/conducted

Dr. G. Gnanasekaran attended a three-day UGC sponsored workshop on Botanical Nomenclature at St. Josephs College, Devagiri, Calicut, Kerala and acted as resource person and delivered a lecture on 'Botanical Nomenclature: Author Citations' on 10.03.2016.

Visitors/students

A total of 35 students, research scholars, scientists, professors/officials visited the museum, herbarium and library of this regional centre, whereas 648 persons in 101 parties visited the NO&EG, Yercaud.

Publications

Gnanasekaran, G. and Murthy, G.V.S. 2015. Is *Andrographis rotundifolia* (Acanthaceae) possibly extinct? *Nelumbo* 57: 46-49.

Singh, R.K. and Garg, A. 2016. Lectotypification of the critically endangered subshrub *Phyllanthus talbotii* (Phyllanthaceae). *Edinburgh J. Bot.* 73(1): 133–138.

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

WESTERN REGIONAL CENTRE, PUNE

During this month, Dr. A. Benniamin, Scientist 'D' visited the herbarium of the St. Xavier's College, Palayamkottai and Southern Regional Centre (SRC), BSI, Coimbatore (MH) from 14th to 23rd March 2016 and consulted 1740 herbarium specimens pertaining to the project, "Ferns of Karnataka". Dr. Benniamin also identified 30 Pteridophyte species for officials at SRC, Coimbatore.

Specimen Identification

Dr. A. Benniamin identified four Pteridophyte species for the project, "Ferns of Karnataka". Sri D. Tripathi, SRF identified five Pteridophyte specimens collected from Kudremukh National Park, Karnataka. Ms. S. Sengupta, SRF studied about 88 slides for identification of microfungi collected from BRT Wildlife Sanctuary, Karnataka.

Public service rendered

Dr. P. Lakshminarasimhan reviewed manuscripts for the Journal *Taiwania* and for the *Journal of Economic and Taxonomic Botany*. Dr. J. Jayanthi reviewed a manuscript for *Current Science*.

During this month identified and authentication certificates were issued to 31 students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

Scanned herbarium image of *Barleria hochstetteri* (Acanthaceae) was provided to Dr. K. Ravikumar, Professor and Head, National Herbarium of Medicinal Plants and Repository of Raw Drug, School of Conservation of Natural Resources, Trans Disciplinary University (TDU), FRLHT, Bangalore.

Meeting /conference /workshop attended

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO, and Dr. Priyanka Ingle, Scientist 'B' attended the meeting of Hindi Nagar *Rajyabhasha Karyanvaya* at C-DAC, Pune on 02.03.2016.

Dr. Lakshminarasimhan attended the Ph.D. Interview Committee meeting as Chairman (other members include Dr. J. Jayanthi, Scientist 'D', Prof. Sujata Bhargava and Prof. S.S. Deokule) held in Department of Botany, Savitribai Phule University on 03.03.2016 for the selection of two candidates for Ph.D. Degree in the subject Botany under faculty Science.

Dr. Lakshminarasimhan attended the "National Conference on Conservation of Medicinal Plants" held at Dept. of Biotechnology, TNB College, Bhagalpur from 16th to 18th March 2016 organised by TNB College, Bhagalpur and University Dept. of Home Science-Food & Nutrition, T.M. Bhagalpur University, Bhagalpur.

Dr. Lakshminarasimhan chaired two technical sessions and also gave a plenary lecture "Importance of taxonomy in the study of medicinal plants" on 17.03.2016.

Dr. Priyanka Ingle, Scientist 'B' attended the National level workshop of Paul Hebert centre for DNA Barcoding on the subject entitled "DNA Barcoding: Hands on practice for Beginners" held at Molecular Biodiversity Research Division, Department of Zoology & Wildlife, Govt. Arts College, Udhagamandalam, Tamil Nadu during 30–31st March 2016.



Photo: Gopal Krishna

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO at "National Conference on Conservation of Medicinal Plants" at TNB College, Bhagalpur, Bihar



Photo: P. Ingley

Dr. Priyanka Ingle, Scientist 'B' attended the training at Molecular Biodiversity Research Division, Govt. Arts College, Udhagamandalam, Tamil Nadu

Visitors/students

Two M.Sc. Botany students from Modern College, Pune visited WRC for herbarium consultation on 04.03.2016. One research student from Ahmednagar College visited WRC for herbarium consultation on 11.03.2016. Five faculty members from Saswal Waghire College, Ahmednagar also visited WRC.

Publications

Jalal, J.S. and Singh, P. 2015. Threatened orchids of Maharashtra: A preliminary assessment based on IUCN regional guidelines and conservation prioritization. *Orch. Soc. India* 29: 1–14.

Lakshminarasimhan, P., Dey, S. and Bhattacharjee, A. 2016. Importance of Taxonomy in the study of Medicinal Plants – case studies with *Panax* L. (Araliaceae) and *Picrorhiza* Royle ex Benth. (Scrophulariaceae). In: H.K. Chourasia (Ed.), *Conservation of Medicinal Plants: Conventional and Modern Approaches*. Omega Publications, New Delhi. Pp. 1–6.

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

PLANT OF THE MONTH



Plant of the Month: *Strophanthus caudatus* (L.) Kurz (APOCYNACEAE) is a climbing shrub distinguished by the long tail like elongated drooping petals. Distributed in Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. The latex or bark is traditionally used as an ingredient of arrow poison.

By Dr. B.K. Singh

अण्डमान निकोबार द्वीप समाचार

90 पोट ब्लॉकर 02-अप्रैल 2018

वनस्पति सर्वेक्षण ने मनाया स्थापना दिवस

पोट ब्लॉकर, 1 अप्रैल। भारतीय वनस्पति सर्वेक्षण के पोट ब्लॉकर स्थित अण्डमान निकोबार क्षेत्रीय केन्द्र द्वारा अपना 45वाँ स्थापना दिवस मनाया गया। उप निदेशक व कार्यालय अध्यक्ष डॉ. लाल जी सिंह ने अपने स्वागत भाषण में पोट ब्लॉकर क्षेत्रीय केन्द्र की उपलब्धियों पर प्रकाश डाला। उन्होंने बताया कि ब्रिटिश सरकार द्वारा भारतीय वनस्पति सर्वेक्षण की स्थापना 1890 में कोलकाता में की गई थी। इसके बाद स्वतंत्र भारत की सरकार की भारतीय वनस्पति सर्वेक्षण केन्द्र की विस्तार योजना के अंतर्गत अण्डमान निकोबार क्षेत्रीय केन्द्र की स्थापना 30 मार्च, 1972 को की गई। लिसका उपदेश्य द्वीपों की पादप समृद्धि के सर्वेक्षण, संवर्धन तथा संरक्षण करना है। स्थापना के बाद द्वीपों की अनमोल पादप समृद्धि के सर्वेक्षण, संवर्धन और संरक्षण के प्रति यह केन्द्र सतत कार्यरत है। केन्द्र के वैज्ञानिकों ने 100 से अधिक नई पादप प्रजातियों की खोज की है। कार्यक्रम में केन्द्र के वैज्ञानिक डॉ. जगदीश राम टेम तथा डॉ.



संजय मिश्रा ने केन्द्र की गतिविधियों पर चर्चा की। इस मौके पर केन्द्र के सवानिवृत्त कर्मचारियों को भी आमंत्रित किया गया, जिनमें श्रीमती जी. एस. लकड़ा, श्रीमती शिल्पिका बेनम, श्री माधेल टिंगा, श्री के. पापा राव तथा श्री तेलोरकोर किरपोटा ने सेवा के दौरान केन्द्र से जुड़े अपने अनुभवों को साझा किया।

स्थापना दिवस समारोह की अध्यक्षता डॉ. रामचन्द्रा रामचन्द्रा केन्द्र के अध्यक्ष डॉ. लाल जी सिंह के

स्वागत भाषण से कार्यशाला शुरू हुई। नई दिल्ली के कार्मिक एवं प्रशिक्षण विभाग के अवर सचिव श्री संदीप मुखर्जी कार्यशाला के मुख्य वक्ता थे। उन्होंने वरियता नियमों, डीपीसी, सील बंद प्रक्रिया, बर्खास्तगी, आचार नियमों-क्या करें क्या नहीं करें, सामान्य वित्तीय नियम (जीएफआर)-खरीद प्रक्रिया के बारे में विस्तार से जानकारी प्रदान की। कार्यशाला में भारतीय प्राणी सर्वेक्षण के प्रभारी अधिकारी डॉ. सी. रघुनाथ तथा भारतीय माल्त्सियकी सर्वेक्षण के विभागाध्यक्ष डॉ. एस. शेष पृष्ठ 4 पर

वनस्पति सर्वेक्षण ने —पृष्ठ 1 का शेष

रामचन्द्र उपस्थित थे। कार्यशाला में वनस्पति सर्वेक्षण के अधिकारियों और कर्मचारियों के अलावा अन्य संगठनों से 20 से भी ज्यादा प्रतिभागी शामिल हुए। डॉ. जगदीश राम टेम ने धन्यवाद ज्ञापन किया।



BSI research students participated in the workshop on DNA Barcoding held at Zoological Survey of India, Kolkata

Photo: ZSI

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