



BSI NEWSLETTER

The monthly electronic newsletter of Botanical Survey of India

Director's column

During this month, scientists of BSI described two new fungal species, *Stigmina koyanensis* and *Solicorynespora matharensis* and resurrected the genus, *Schizotechium* (Caryophyllaceae) and made three new combinations. Based on *Oxygraphis delavayi* (Ranunculaceae), the genus is reported as a new generic record for Arunachal Pradesh and a new species record for India. Besides, the scientists also reported a fern, *Cyathea gigantea* (Cyatheaceae), new record to Andaman and Nicobar Islands. Apart from these, *Commicarpus boissieri* (Nyctaginaceae), *Geodorum recurvum* (Orchidaceae), *Maytenus senegalensis* (Celastraceae), *Premna resinosa* subsp. *resinosa* (Verbenaceae) and *Solanum elaeagnifolium* (Solanaceae) were reported as new to Rajasthan.

The secretary to MoEF & CC, Sri Ashok Lavasa, visited the Andaman & Nicobar Regional Centre, Port Blair in the first week of April 2016 and reviewed the progress of work being done at this centre. The secretary also visited the Botanical Garden of BSI at Nayasahar (about 30 kms. from Port Blair) and inspected the endemic and threatened plants of the Bay Island conserved there as part of the *ex-situ* conservation..

A training course on 'Herbarium techniques and methodology' was organized by the ENVIS Centre on Floral Diversity, Botanical Survey of India at Central National Herbarium, Howrah on 2nd April 2016. The training was attended by 34 students from various universities in West Bengal and from T.N.B. College, Bhagalpur, Bihar. In this training course, to the participants, the drying, disinfecting and mounting of flowering plant specimens, preservation and identification of algae, macrofungi/mushroom and bryophyte specimens were practically demonstrated. The course material on 'Herbarium Techniques and Methodology', prepared by the Scientists of BSI were also provided to the trainees.

They were also shown and explained about the archival botanical paintings/illustrations (drawn by Indian artists using natural dyes), correspondences, catalogues and collections made by the 18th and 19th century colonial botanists. Apart from these, the participants viewed the exhibits of 'Ethnobotanical Collections' housed at Economic Botany Section, Central Botanical Laboratory.

Jai Hind!

Paramjit Singh

Director, Botanical Survey of India, Kolkata



HEAD QUARTERS, KOLKATA

Sri Manoj Emanuel Hembrom, Botanist conducted herbarium and library consultation tour to Department of Botany, Punjabi University, Patiala from 30th March to 10th April 2016 in connection with the project, 'Wood rotting fungi of Rajmahal hills'.

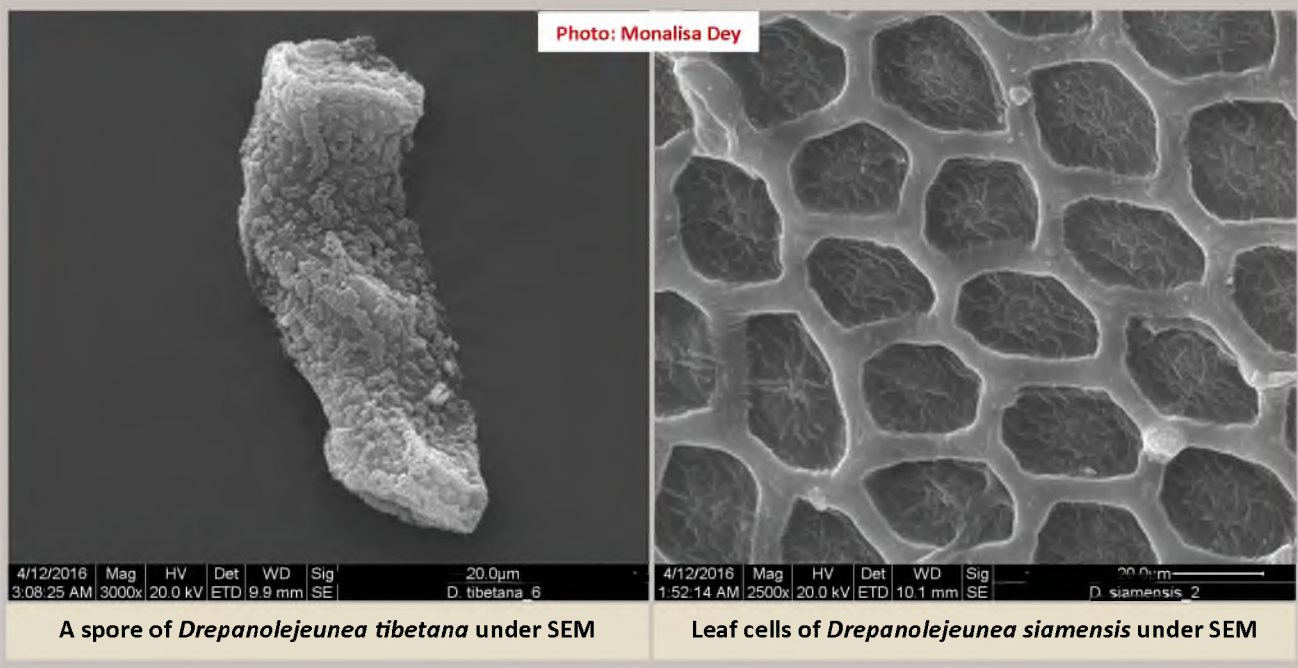
Dr. Devendra Singh, Scientist 'C' Identified eight specimens belonging to four species of liverworts and mosses collected from Larsemann Hills, East Antarctica. Dr. Singh also prepared the data base of the 28 specimens of Liverworts and Hornworts, collected from Sikkim. Dr (Ms.) Monalisa Dey, Scientist 'B' carried out Scanning Electron Microscopic studies of *Drepanolejeunea longii*, *D. siamensis*, *D. tibetana*, *D. yunnanensis* (Lejeuneaceae).

The specimen collected from AJCBIBG, Howrah (field no. KMA 15-045) revealed a novel hydroid taxon, and scientific officials of Cryptogamic unit described it as a new genus (*Neomycorrhaphium stalpersii* gen. and sp. nov.) under the family Meruliaceae and communicated for publication.

Dr. A.B.D. Selvam, Scientist 'D' studied and authenticated a wood sample as the heartwood of *Pterocarpus santalinus* (Leguminosae), which was received from the Deputy Commissioner of Customs, NSC Bose International Airport, Kolkata. Similarly, a wood sample received from the Directorate of Revenue Intelligence, Kolkata also authenticated as *Pterocarpus santalinus*.

Accession and incorporation of the following 20 specimens (including fourteen 14 Holotype specimens), received from Prof. P. Manimohan, Botany Department, Calicut University, Kerala were made by Sri Arvind Parihar, Bot. Asst. in the Aphyllophorale Lab at CNH building:

Inocybe rubrobrunnea (Acc. No. 1307) – HOLOTYPE; *Inocybe brunneosquamulosa* (Acc. No. 1308) – HOLOTYPE, *Inocybe gregaria* (Acc. No. 1309) – HOLOTYPE, *Inocybe distincta* (Acc. No. 1310) – HOLOTYPE, *Tubaria keralensis* (Acc. No. 1311) – HOLOTYPE, *Entoloma luteodiscum* (Acc. No. 1312) – HOLOTYPE, *Entoloma brunneoapplanatum* (Acc. No. 1313) – HOLOTYPE, *Entoloma conicocampanulatum* (Acc. No. 1314) – HOLOTYPE, *Entoloma conicocampanulatum* (Acc. No. 1315), *Entoloma conicocampanulatum* (Acc. No. 1316), *Entoloma brunneoumbonatum* (Acc. No. 1317) – HOLOTYPE, *Entoloma brunneoumbonatum* (Acc. No. 1318), *Clitopilus alboubilicatus* (Acc. No. 1325) – HOLOTYPE, *Clitopilus alboubilicatus* (Acc. No. 1326), *Clitopilus albidus* (Acc. No. 1319) – HOLOTYPE, *Clitopilus albidus* (Acc. No. 1320), *Clitopilus albidus* (Acc. No. 1321), *Rhodocybe luteobrunnea* (Acc. No. 1322) – HOLOTYPE, *Rhodocybe indica* (Acc. No. 1323) – HOLOTYPE, *Rhodocybe griseoaurantia* (Acc. No. 1324) – HOLOTYPE.



Practical demonstration

Dr. R.K. Gupta, Scientist 'D' and Dr. Sudipta Kumar Das, AJCBPDF provided demonstration on "Collection, Preservation and Identification of Algae to the participants of the training course on 'Herbarium Techniques and Methodology' organized by ENVIS centre on Floral Diversity, BSI, Howrah on 02.04.2016. While, Dr. Kanad Das, Scientist 'D' and Dr (Ms.) Monalisa Dey, Scientist 'B' delivered practical demonstration on "Preservation and Identification of Macrofungi" and "Preservation and Identification of Bryophytes" respectively to the participants of the training course.

Public service rendered

The image of the type specimen *Lygodium andamanicum* was sent to Dr. Fraser-Jenkins, Nepal.

AJC BOSE INDIAN BOTANICAL GARDEN, HOWRAH

Total 2100 plants were labeled with metallic tag in the Division 1–5 and 7 of AJCBIBG. The Identification of the Trees and Shrubs are in progress along with the incorporation of the data under the project "GIS Phyto-Mapping & Digitization of Trees and Shrubs in AJC Bose Indian Botanical Garden"

Dr. S.P. Panda, Scientist 'B' surveyed plants in the garden and photographed *Amhrestia nobilis*, *Gonocaryum pyriforme*, *Catesbea spinosa*, *Permentiera cerifera*, *Alstonia macrophylla*, *Cordia dichotoma*, *Santalum album*, *Gustavia gracillima*, *Kopsia fruticosa*, *Strophanthus dichomus*, *Napoleona imperialis*, *Duabanga grandiflora*, *Dendrobium densiflorum*, *D. aphyllum*, *Vanda griffithii*, *Schoenorchis gemmate*, *Lawsonia inermis*, and *Cananga pinnata*, which were in flowering and fruiting condition.

Environment friendly battery driven vehicles are reintroduced in the botanical garden for public convenience.

Dr. B.K Singh, Sr. Presv. Asst. acted as resource person and gave demonstration about collection and identification of plant samples in the field to the students of the training Course on "Herbarium Techniques and Methodology" conducted by ENVIS centre on Floral Diversity, BSI, Howrah on 02.04.2016.



Visitors/students

Sri Naval Kishor Agrawal, Chief Justice, Kolkata Tribunal, Kolkata on 05.04.2016. Dr. Rashid Hasan, Advisor, MoEF & CC, New Delhi; Dr. R.K. Roy, Principal Scientist, NBRI, Lucknow; Dr. Rita Saha, Scientist, Central Pollution Control Board, Kolkata and Dr. Asish Nath, Scientist, Anthropological Survey of India, Kolkata on 08.04.2016. Sri M.P. Arora, IAS, Spl. Secretary, School Education, Punjab on special duty of Observer for the Assembly Election, West Bengal on 14.04.2016.

More than 150 students from Sri Shikshaketan College, Kolkata, Rishi Bankim Chandra College, Kolkata and R.K.S.M. Sister Nivedita Girls' School, Kolkata visited AJCBIBG.



Photo: B.K. Singh
Drs. Rashid Hasan, Advisor, MoEF & CC, New Delhi and Rita Saha, Scientist, CPCB, Kolkata viewing Banyan tree

Public service rendered

Two ripened fruits of *Couroupita guianensis* were provided to Smt. Manjula Chellur, Hon'ble Chief Justice, Kolkata High Court. Plant materials of *Ixora* spp. were provided to the research scholar of Jai Hind College, Bombay University, Mumbai. Plant materials of Malvaceae and Annonaceae were provided to the research scholar of Calcutta University, Kolkata. Six species of Palms were provided to Dr. R.K. Roy, Principal Scientist, National Botanical Research Institute (NBRI), Lucknow.

Publication

Hameed, S.S. 2016. Artificial pollination and fruit set in double coconut growing in India. *Curr. Sci.*, 110(6): 976–978.

– Dr. A. Pramanik
Scientist 'E' & HoO

CENTRAL NATIONAL HERBARIUM, HOWRAH

In connection with the project, "Flora of Betla National park, Latehar, Jharkhand" Sri P.P. Ghoshal, Botanist and Sri Anand Kumar, Bot. Asst. undertaken a field tour to the National Park from 31st March to 12th April 2016 and collected about 500 plant specimens.

Dr. (Mrs.) Pushpa Kumari, Scientist 'C' conducted a field tour to Sikkim from 4th to 10th April 2016 under the projects, "Taxonomic Revision of *Poaceae: Bambusoideae* in India" and "ex-situ conservation of Bamboos of India".



Petalidium barlerioides (Acanthaceae)



Butea superba (Fabaceae)



Miliusa tomentosa (Annonaceae)



Thysanolaena maxima (Poaceae)

Herbarium specimen identification

Dr. O.N. Maurya, Scientist 'C' identified specimens of 15 field numbers collected from Vikramshila Gangetic Dolphin Wildlife sanctuary, Bhagalpur, Bihar. Sri P.P. Ghoshal, Botanist identified specimens of 10 field numbers collected from Betla National park, Latehar, Jharkhand. Dr. Rajib Gogoi, Scientist 'D' identified 3 unidentified herbarium specimens housed at CAL as *Impatiens stenantha* and *I. arguta*. Dr. V.P. Prasad, Scientist 'D' identified specimens of 28 field numbers of Cyperaceae collected by Sri Gopal Krishna, Bot. Asst. from Bihar. Dr. K. Karthigeyan, Scientist 'D' identified ca 60 herbarium specimens collected from Jaldapara National Park, Jalpaiguri, West Bengal. Dr. Karthigeyan also confirmed the identity of 14 specimens collected by Helfer, which were sent by Dr. Susanne Renner, Germany for identification. Dr. Avishek Bhattacharjee, Scientist 'B' corrected identity of 2 specimens of *Peucedanum* housed at CAL.

Herbarium specimens digitized

65 type specimens data have been added in excel sheet. 30 herbarium specimens were scanned, which include some type specimens.

Scanning Electron Microscopy

A total of 80 plant specimens have been scanned using SEM by Ms. S. Shalini (3 *Argyreia* spp. – Seeds, leaves, pollens), Ms. Piu Das (12 *Pteris* spp.–Spores, Leaves), Ms. Pamela Saha (12 Moss capsules, spores), Mr. M.E. Hembrom (*Rusula* spp., *Bowdanzewia* spp., *Neomycomphaphicum* spp. – spores), Dr. (Mrs.) P. Kumari (8 Bamboo – leaves), Sri Debjyoti Das (4 Diatoms), Ms. Moumita Das Das (13 *Memecylon* spp. – leaves), Dr. Devendra Singh (*Grammia* spp., *Pinnularia* spp., *Apometzeria* spp. – Leaf surface and spores), Dr. A.B.D. Selvam (2 *Aconitum* spp. – Root), Ms. Monalisa Dey (Liverworts – spores, leaves), Ms. Chandani Gupta (*Rubus* spp. – Pollens, seeds), Ms. Sutrishna Kar (*Festuca* spp. – different parts) during April 2016.

Public Service rendered

Dr. V. Sampath Kumar, Scientist 'D' reviewed 2 manuscripts, one each for the journals *Phytotaxonomy* and *Journal of Threatened Taxa*. Dr. Avishek Bhattacharjee reviewed 2 manuscripts, one each for *Bangladesh Journal of Plant Taxonomy* and *Phytotaxa*. Sri Anand Kumar reviewed one manuscript for *Journal of Economic and Taxonomic Botany*.

Dr. K. Karthigeyan provided information on three tree species viz., *Buchanania lanzan*, *Semecarpus anacardium* and *Juglans regia* on request from Sri Bhandari, Maharashtra.

Dr. Subir Bandyopadhyay, Scientist 'B' provided PDF of literature 23 pages to Dr. W. Dinesh Albertson, Research Scientist 'B', C.E.M.D.E., University of Delhi, Dr. M. Sanjappa, former Director, BSI, Bengaluru and K. Raja Kullay Swamy, Herbarium JCB, Centre for Ecological Sciences, Indian Institute of Science, Bengaluru.

Dr. Bandyopadhyay also provided information regarding an author of plant names [Dr. D.N. Guha Bakshi] for incorporation in the Author Query database of IPNI.

Dr. A. Bhattacharjee sent holotype-image of *Alysicarpus heyneanus* var. *meeboldii* to Prof. Milind M. Sardesai, Department of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad; sent image of syntype of *Lepidagathis clavata* (Acanthaceae) to Dr. Sharad Kambale, Dept. of Botany, Goa

University; sent image of syntype of *Sonerila sadasivani* to Ms. S. Resmi, Research scholar, Angiosperm Taxonomy & Floristic Division, Department of Botany, University of Calicut; sent image of syntype of *Lygodium andamanicum* to Dr. C. Fraser-Jenkins, Kathmandu, Nepal; sent images of 28 specimens belonging to the family Onagraceae to Dr. D.K. Agrawala, Scientist 'C', SHRC, Gangtok.

Training course/meetings organized/attended

One day "Training course on Herbarium Techniques & Methodology" was organized by the BSI ENVIS Centre on Floral Diversity at CNH on 02.04.2016. The programme was inaugurated by the Director, BSI. As a coordinator of ENVIS centre, Dr. Sampath Kumar made all arrangements for conducting the training course and prepared the manual on "Herbarium Techniques & Methodology" and distributed to the participants. For the manual, chapters on Collection, preservation & identification of different groups of Plant groups were contributed by different scientists viz., Angiosperms by Dr. V.S. Kumar; Algae by S.K. Das and R.K. Gupta; Wild Mushrooms by Kanad Das; and Bryophytes by Monalisa Dey. In this course, Dr. S. Bandyopadhyay, Dr. A. Bhattacharjee, Sri Anant Kumar, Sri Gopal Krishna, Sri Shyam Biswa provided practical demonstration to the participants.

Dr. Vinay Ranjan, Scientist 'D' attended the CPWD Review Committee Meeting on 19.04.2016 regarding "Restoration of BSI building at Indian Museum Complex at Kolkata". The meeting was attended Dr. (Mrs.) R. Dalwani, Advisor, MoEF & CC, Dr. Paramjit Singh, Director, BSI, Dr. Kailash Chandra, Director, ZSI, Sri S.K. Rustagi, C.E., CCU, New Delhi and officials of BSI and ZSI, held at ISIM, Kolkata.

Dr. (Mrs.) Pushpa Kumari attended the Consultation meeting on Identification and assessment of Wetlands in Bihar organized by Bihar State Wetland Development Authority, Dept. of Environment & Forests, Govt. of Bihar on 29th and 30th April 2016 at Patna.

Visitors/students

22 Students of B.Sc. (Botany) from Balurghat College, Dakshin Dinajpur, West Bengal on 05.04.2016.

40 students of B.Sc. (Botany) from R.K.M.V.C. College, Rahara, Kolkata on 07.04.2016.

20 students of M.Sc. Botany from Manipur University, Imphal on 07.04.2016.

Dr. Rashid Hasan, Advisor, MoEF & CC, New Delhi and Ms. K. Smitha, Research Scholar, Dept. of Botany, University of Calicut on 08.04.2016.

Sri Ajey Choubey, Merchant Navy Officer, New Delhi on 13.04.2016.

Dr. K. Prasad, PDF, DRC, Hyderabad for consulting the genus *Habenaria* in general and Type herbarium II from 13th to 18th April 2016.

Sri Somnath Kar, JRF, Dept. of Botany, Tripura University, Suryamani Nagar, Tripura and Ms. Moumita Saha, DST-INSPIRE Fellow, Tripura University on 18.04.2016.

Sri Suman Karmakar, Research Scholar, Dept. of Botany, Visva-Bharati University, Shantiniketan, Sri Khageswar Rout, Rabindra Bharati University for consulting Roxburgh Icons and Paintings in Type herbarium II and Dr. Souravjyoti Borah, APRC, BSI, Itanagar on 19.04.2016.

Dr. Bhargavi S. Rao and Dr. Leo Saldanha, Environment Support Group, Bengaluru on 21.04.2016.

Sri Khageswar Rout, Rabindra Bharati University for consulting Roxburgh Icons and Paintings on 21.04.2016 and 22.04.2016.

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

CENTRAL BOTANICAL LABORATORY, HOWRAH

Ms. Sagari Chaudhury, SPF conducted a field tour to Alipurduar district, West Bengal from 10th to 16th April 2016 and collected 65 specimens (in duplicate) with 75 ethnobotanical informations and two specimens for nutraceutical analysis. Ms. Chaudhury completed chemical analyses (Mineral and protein estimation) of 6 wild edible plant samples.

Specimen identification

Dr. Harish Singh, Scientist 'D' & HoO, Dr. Dhole Pankaj Arvind, Bot. Asst. and Sri R. Saravanan, Bot. Asst. identified 14 plant species collected from Nuapada district, Odisha and Sri A.C. Halder, Botanist, Sri P.K. Baske, Botanist and Dr. Dhole identified 5 plant species collected from Nayagargh district, Odisha.

Dr. K.A. Sujana, Scientist 'C', Sri R. Saravanan, Ms. Monika Mishra, Bot. Asst. and Dr. Dhole edited description of 812 plants in prescribed format, and prepared 37 photo plates as part of compilation of final report of Flora and Ethnobotany of Balasore district, Odisha. Dr. A.K. Verma Scientist 'B', Ms. Mishra Bot. Asst. and Ms. Liza Mallick, Project Asst. completed chromosome count in *Rungia pectinata* and detected new chromosome count ($2n=18$). Ms. Mishra checked (Nomenclature, Species, genus family wise) for of 834 cytological voucher specimens, which were collected by earlier workers from AJCBIBG, housed at CBL.

Training programme attended

The participants of the training course, "Herbarium Techniques and Methodology" organized by BSI ENVIS at CNH, Howrah, were taken to Ethnobotanical exhibits displayed at CBL on 02.04.2016 and Ms. Monika Mishra made presentation to trainees on Ethnobotany. Dr. Harish Singh attended valedictory program of the training course as a special guest and distributed certificates to the participants.

Public Service rendered

Dr. Harish Singh sent literature on Plant diversity in North Western Himalaya to Dr. A. Saklani, Group leader, Sami Labs, Bengaluru.

Visitors/ students

Information service was rendered on Ethnobotany to the 40 students and 2 teachers visited from Balurghat College, Balurghat, Dakshin Dinajpur, West Bengal and R.K.M.V.C. College, Rahara, Kolkata.

Publications

Durai M.V., Sivaperuman, C. and Sujana K.A. (Eds.) 2016. *Forest Ecosystem-Biodiversity, Ecology and Conservation*. 276pp. Write & Print Publications, New Delhi.

Sujana K.A. and Anil Kumar, N. 2016. Local uses of Lianas in Wayanad district of Kerala, South India In: M.V. Durai, C. Sivaperuman and K.A. Sujana (Eds.), *Forest Ecosystem-Biodiversity, Ecology and conservation*. Pp. 149–179. Write & Print Publications, New Delhi.

Sujana K.A. and Anil Kumar N. 2016. Diversity and distribution of lianas in forests of Kerala, Western Ghats. In: M.V. Durai, C. Sivaperuman and K. A. Sujana (Eds.), *Forest Ecosystem-Biodiversity, Ecology and Conservation*. Pp. 180–218. Write & Print Publications, New Delhi.

Dhole P.A., Mishra, M., Pandey, A.D. and Sujana, K.A. 2016. Conservation of Ethnobotanically important plants in forests of Koraput District, Odisha. In: M.V. Durai, C. Sivaperuman and K.A. Sujana (Eds.), *Forest Ecosystem-Biodiversity, Ecology and Conservation*. Pp. 261–276. Write & Print Publications, New Delhi.

– 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, interpretation of one species (*Ficus religiosa*) of the family *Moraceae* and six species (*Convolvulus gangeticus*, *C. heptaphyllus*, *C. hirsutus*, *C. laurifolius*, *C. malabaricus*, *C. malcomi*, *C. paniculatus*, *C. parviflorus*) of the family *Convolvulaceae* were interpreted with updated nomenclature and description.

Visitors/students

Dr. Mark Elliott, Curator (Anthropology) and Researcher, University of Cambridge, UK visited Botanical Gallery to take a glimpse of the T. Wardle's Natural dye samples on 13.04.2016.

Meeting organised

Arrangement were made for the Review Committee meeting and visit of Dr. (Mrs.) R. Dalwani, Scientist 'G' (Advisor, MoEF & CC) on 19.04.2016 at the site of project work "Restoration of BSI building in Indian Museum campus at Kolkata" undertaken by the NBCC. The site visit was followed by a meeting (at ISIM Committee room), which was chaired by the Dr. (Mrs.) R. Dalwani and attended by Sri S.K. Rustagi, Chief Engineer (CCU, MoEF & CC), Dr. Paramjit Singh, Director, BSI, Dr. Kailash Chandra, Director, ZSI, officials from ZSI, NBCC and members of BSI's Monitoring Committee associated with the of project.

Programmes attended

Dr. A.K. Sahoo, attended a lecture delivered by Dr. Mark Elliott, Curator (Anthropology) on "Artists, Anthropologist and Adivasis" at Indian Museum committee room on 12.04.2016.

Photo: A.K. Sahoo



Dr. Mark Elliott, Curator and Researcher, University of Cambridge, UK viewing the T. Wardle's Natural dye samples

Photo: L. Kosygin Singh



Sri S.K. Rustagi, Chief Engineer (CCU, MoEF & CC) with Dr. P. Singh, Director, BSI and members of Monitoring Committee during their visit to ISIM gallery

Photo: L. Kosygin Singh



Review committee meeting on "Restoration of BSI building in Indian Museum campus at Kolkata" chaired by Dr. (Ms.) R. Dalwani, Scientist 'G' (Advisor, MoEF & CC)

“International Mother Earth Day” celebration held at Indian Museum in collaboration with Earth Day Network on 22.04.2016. ISIM on behalf of BSI participated in the event with 31 exhibits of Medicinal plant parts, Oil & Oilseeds, Gum & Resins and Fiber-yielding plants with the theme “Bioperspective Plants of India”. The event was attended by many school students and differently abled and lesser privileged children of Kolkata. Dr. Manas Bhaumik, Scientist ‘D’ & HoO and Dr. A.K. Sahoo, Scientist ‘D’, ISIM lighted the lamp at the inaugural ceremony along with Director, Indian

Photo: S.K. Singh



Visitors during Earth Day celebration viewing exhibits displayed by ISIM at Indian Museum

Museum and other museum officials and representatives from Earth Day Network. Mrs. Kangkan Pagag, Bot. Asst., Sri S.K. Sharma, Sr. Presv. Asst. and Sri B.C. Dey, Sr. Presv. Asst. assisted in arrangement of the programme and explained to the visitors about the displayed exhibits.

– Dr. Manas Bhaumik
Scientist ‘D’ & HoO

ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. T.A.M. Jagadeesh Ram, Scientist-‘D’, identified 37 specimens of Graphidaceae into 8 species. Dr. C.P. Vivek, Bot. Asstt. identified three specimens of family Gesneriaceae at PBL *Aeschynanthes griffithii* (F. no. 3187), *Aeschynanthes volubilis* (F. no. 6795) and *Aeschynanthes volubilis* (F. no. 7288).

Digitization of Herbarium Specimens

83 herbarium specimens of the families Scrophulariaceae (39 nos.) and Gesneriaceae (44 nos.) was scanned and 668 herbarium specimens of the families Sapotaceae, Myrsinaceae, Epacridaceae, Plumbaginaceae, Primulaceae, Ericaceae, Clethraceae, Lobeliaceae, Goodeniaceae and Asteraceae were fed in the computer in a prescribed format.

Public service rendered

Dr. Lal Ji Singh, Scientist ‘D’ & HoO delivered a lecture on *Plant diversity of Andaman and Nicobar Islands* for Capacity Building Workshop on Island biodiversity at Tagore Government College of Education, Port Blair on 12.04.2016.

Dr. Singh also delivered lectures on *Floristic diversity & Endemism and its Conservation in Andaman and Nicobar Islands* for Capacity Building Workshop on Island biodiversity at Tagore Government College of Education, Port Blair on 15.04.2016 and on *Role of Botanical Survey of India in Conservation of Plant Diversity of Andaman and Nicobar Islands* for Capacity Building Workshop on Island biodiversity at DIET, Garacharma on 18.04.2016.

Dr. Singh provided interview to All India Radio for the programme “Environment” on the *Plant diversity and Role of Botanical Survey of India in its conservation in these Islands* on 19.04.2016.

The seeds of *Cycas zeylanica* (20 nos.), fruits of *Cerbera odollam* (3 nos.), *Albizia lebbeck* (6 nos.), *Aphanamixis polystachya* (10 nos.), *Garcinia cowa* (20 nos.), *Knema andamanica* (10 nos.) were provided to Dr. L.R. Bhuiyan, State Forest Institute, Itanagar.

The seedlings of *Bentinckia nicobarica* and Seeds of *Musa indandamanensis* were provided to Dr. Suresh Kumar, Principal Scientist, PI, Lead Garden of Desert, CAZRI, Jodhpur.

The cuttings of *Vanilla andamanica* (1 no.) seeds of *Baccaurea ramiflora* (15 nos.), *Horsfieldia glabra* (10 nos.), *Lepisanthes rubiginosa* (20 nos.) *Musa indandamaninsis* (30 nos.), *Laurentia longiflora* (12 nos.) were provided to Dr. A.G. Pandurangan, Scientist, JNTBGRI, Kerala.

The seedlings of *Areca triandra* (10 nos.) *Murraya koenigii* (2 nos.) *Bentinckia nicobarica* (2 nos.) fruits of *Knema andamanica* (15 nos.) *Pterocarpus dalbergioides* (20 nos.) were provided to Dr. Jyothi K. Sharma, Professor & Head, Centre for Environment & Engineering, Sri Nadar University, Noida, Uttar Pradesh.

The fruits of *Knema andamanica* (20 nos.) *Pterocarpus dalbergioides* (15 nos.), *Baccaurea ramiflora* (30 nos.) were provided to Dr. P.P. Dhyan, Director, GBPINED, Kori-Katernal, Almara, Uttarakhand.

The seeds of *Elaeocarpus rugosus* (20 nos.), *Horsfieldia glabra* (15 nos.), *Pterocarpus dalbergioides* (10 nos.), *Garcinia dhanikhariensis* (5 nos.), *Diospyros ridleyi* (5 nos.), *Dipterocarpus alatus* (5 nos.) were provided to Sri H.R. Rohith, M.E (Env), Balehonnur, Chikkamagalur Dist., Karnataka.

Meetings /seminars attended

Dr. Lal Ji Singh participated research advisory committee meeting at Office of the Chief Conservator of Forests, Research & Working Plan, Haddo, Port Blair on 01.04.2016.

Dr. Singh attended meeting regarding visit of Sri Ashok Lavasa, Secretary, MoEF & CC to Port Blair at Office of the Chief Conservator of Forests, Haddo, Port Blair on 01.04.2016.

Dr. Singh received Sri Ashok Lavasa, Secretary, MoEF & CC, at Port Blair airport on 04.04.2016 and attended the meeting with the secretary at Secretariat on the same day.

Dr. Singh attended pre-thesis seminar on “Studies on Ethnomedicinal and Health Care Practices among the Nicobarese Tribe and Assessment of Medicinal Values of Selected Medicinal Plants” at ICMR, Regional Medicinal Centre, Port Blair on 15.04.2016.

Dr. Singh participated 16th meeting of the Advisory Committee for Ecosystem Research Programme (EcRP) at ZSI, ANRC, Port Blair from 20th to 22nd April 2016.

Dr. Singh performed duties as question paper setter for Forest Training Research Institute, Wimberligunj.

Visitors/students

Sri Ashok Lavasa, Secretary, Ministry of Environment, Forest and Climate Change, visited ANRC, Port Blair on 04.04.2016 and Dhanikhari Experimental Garden cum Arboretum, (DEGA) Nayashahar on 09.04.2016. The Secretary planted sapling of endemic mango species, *Mangifera andamanica* and Smt. Novel Lavasa planted the sapling of Rudraksh, *Elaeocarpus ganitrus*.



Photo: C.P. Vivek

Sri Ashok Lavasa, Secretary, MoEF & CC discussing about eco-friendly bamboo straw being used in A&N Islands

Sri Ashok Lavasa, Secretary, MoEF & CC discussing about endemic and endangered plant diversity of A&N Islands

Dr. L.R. Bhuiyan, State Forest Institute, Itanagar visited DEGA, Nayasahar on 08.04.2016.

Dr. Madhumita Biswas, Director, MoEF & CC, New Delhi along with Sri Ramesh Kumar, IFD visited DEGA, Nayasahar on 19.04.2016.

12 teaching staff and 145 teachers trainees of District Institute of Education Training (DIET), Garacharma, South Andaman visited DEGA, Nayasahar on 19.04.2016.

Photo: C.P. Vivek



Dr. Madhumita Biswas, Director, MoEF & CC, New Delhi at DEGA, Nayasahar

Photo: Gautam A. Ekka



Prof. A.K. Bhatnagar, former Professor & Head Department of Botany, University of Delhi discussing about Plant diversity and *ex-situ* conservation activity

Photo: C.P. Vivek



Visit of members of 16th meeting of the Advisory Committee for Ecosystem Research Programme (EcRP), New Delhi to Herbarium (left) and Library (right) of ANRC, Port Blair

Photo: Gautam A. Ekka



Dr. D.K. Singh, former Scientist 'G', BSI, Kolkata planting sapling of *Bentinckia nicobarica* at DEGA

Photo: C.P. Vivek



Members of EcRP, under recently described new Banana species, *Musa indandamanensis*, at DEGA, Nayasahar

Dr. D.K. Singh, ex-Scientist 'G', BSI, Kolkata, Prof. A.K. Bhatnagar, Ex-Professor & Head Department of Botany, Univ. of Delhi, Prof. R.S. Tripathi, Retired Professor, North Eastern Hill Univ., Shillong & INSA Senior

Scientist, NBRI, Lucknow, Dr. Suresh Kumar, Principal Scientist, PI, Lead Garden of Desert, CAZRI, Jodhpur, Prof. C. Manoharachary, NASI Senior Scientist, Dept. Botany, Osmania University, Hyderabad, Dr. P.P. Dhyani, Director, GBPINED, Kori-Katernal, Almara, Uttarakhand, Dr. A.G. Pandurangan, Scientist, JNTBGRI, Kerala, Dr. Jyothi K. Sharma, former Director, KFRI, Professor & Head, Centre for Environment & Engineering, Sri Nadar University Noida, UP, visited DEGA, Nayasahar on 21.04.2016.



Photo: Reshma Lakra



Teaching staff and Teacher trainees, District Institute of Education Training (DIET), Garacharma, South Andaman at DEGA, Nayasahar

Teaching staff and Teacher trainees, Tagore Govt. College of Education, Port Blair, South Andaman at DEGA, Nayasahar

9 teaching staff and 110 teachers trainees of Tagore Govt. College of Education, Port Blair, South Andaman visited garden on 27.04.2016.

Mr. H.R. Rohith, M.E (Env), Balehonnur, Chikkamagalur Dist. Karnataka visited garden on 27.04.2016.

– Dr. Lalji Singh
Scientist 'D' & HoO

ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

Dr. Vineet Kumar Rawat, Scientist 'C' conducted Herbarium consultation tour to ERC, Shillong from 26th to 29th April 2016 in connection with 'Taxonomic study of family Polypodiaceae of North East India'.

Dr. Manish Kandwal, Scientist 'C' conducted Herbarium consultation tour to CNH, Howrah and ERC, Shillong from 22nd March 2016 to 29th April 2016 in connection with 'Grass Flora of Arunachal Pradesh'.

Identification

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

Dr. Vineet Kumar Rawat made descriptions for 23 species and identified specimens of 17 field numbers in connection with 'Taxonomic study of the family Polypodiaceae of North East India'.

Dr. Umesh Kumar L. Tiwari, Scientist 'B' identified and made descriptions for 28 species in connection with 'Flora of East Kameng District, Arunachal Pradesh'.

Dr. Krishna Chowlu, Scientist 'B' entered data sheet for 5 species in connection with 'Red listing of Orchids of Arunachal Pradesh as per IUCN criteria'.

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

Public services rendered

Dr. U.K.L. Tiwari reviewed a manuscript and sent the comments to the journal *Checklist*.



Aristolochia saccata (Aristolochiaceae)

Didymosperma nanum (Arecaceae)

Meeting attended

Dr. P. Satyanarayana attended a meeting of the technical committee for the protected areas as a committee member in the office of the PCCF (WL and BD), Itanagar on 27.04.2016.

Publications

Tiwari, U.K.L. 2016. *Oxygraphis delavayi* Franchet (Ranunculaceae): a new generic record for Arunachal Pradesh and a new species record for India. *J. Threat. Taxa* 8(4): 8739–8741.

Tiwari, U.K.L., Ravikumar, K. and Balachandran N. 2016. Some New record of plants from the state of Rajasthan, India. *J. Threaten Taxa* 8(3): 8632–8637.

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

ARID ZONE REGIONAL CENTRE, JODHPUR

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 18 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 20 field numbers. For flora of Navsari District, Gujarat, Dr. Ramesh Kumar, Scientist 'C' and Sri Vinod Maina, Scientist 'D' identified specimens 42 field numbers. For Flora of Sariska Tiger Reserve, Alwar, Rajasthan, Sri M.K. Singhadiya, Botanist and and Sri Ravi Prasad, Bot. Asst. identified specimens of 11 field numbers.

Photo: P. Hari Krishna



Chlorophytum tuberosum



Seddera latifolia



Withania coagulans



During the visit of Prof. Inderjeet Singh and three staff members, Department of Environmental Science, University of Delhi, New Delhi to herbarium and botanical garden of AZRC, Jodhpur

Public service rendered

2 plant species identified for the college students.

Visitors

Prof. Inderjeet Singh and three staff, Department of Environmental Science, University of Delhi, New Delhi visited Herbarium, museum, and botanic garden on 09.04.2016.

Publication

Chakrabarty, T. and Maina, V. 2016. *Vachelliahydasypica* and *V. pseudoeburnea* (Fabaceae: Mimosoideae) synonymised under *V. eburnea*. *Phytotaxa* 257(3): 297–299.

Kumar, R., Sharma S. and Singh S.K. 2016. *Phalaenopsis yingjiangensis*. *Phalaenopsis* 26(1): 11–13.

– Sri Vinod Maina
Scientist 'D' & HoO

BOTANIC GARDEN OF INDIAN REPUBLIC, NOIDA

During this month, 29 individuals of the following species were introduced in BGIR on 07.04.2016, obtained from AJCB Indian Botanical Garden, Howrah:

Anthurium magnificum (Araceae); *Caladium bicolor* (Araceae); *Diffenbachia amoena* 'Tropic Snow' (Araceae); *Hibiscus rosa-sinensis* (Malvaceae); *Murraya paniculata* (Rutaceae); *Nelumbo nucifera* (Nelumbonaceae); *Philodendron erubescens* (Araceae); *Psilotum nudum* (Psilotaceae); *Synogonium podophyllum* (Araceae); *Thunbergia erecta* (Acanthaceae); *Tradescantia spathacea* 'Tricolor' (Commelinaceae); *Victoria amazonica* (Nymphaeaceae); *Piper betle* (Piperaceae).

The saplings of the following Summer Annuals were developed during this month:

Amaranthus tricolor (Amaranthaceae) - Tampala, tandal joortandalja bhaji; *Bassia scoparia* - Ragweed, summer cypress, mock-cypress, kochia; *Celosia cristata* (Amaranthaceae) - Cockscombs; *Celosia argentea* (Amaranthaceae) - Plumed cockscomb or silver cock's comb; *Cosmos bipinnatus* (Asteraceae) - Garden cosmos, Mexican aster; *Cosmos sulphureus* (Asteraceae) - Sulfur Cosmos and Yellow Cosmos; *Euphorbia cotinifolia* (Euphorbiaceae) - Euphorbia (Red); *Polianthes tuberosa* (Asparagaceae) - Rajnigandha; *Ruellia humilis* (Acanthaceae) - Jalbahar; *Lilium candidum* (Liliaceae) - Lily (White); *Lilium Asiatic red Lily* (Red); *Gaillardia pulchella* (Asteraceae) - *Gaillardia*, fire wheel, Indian paintbrush; *Gomphrena globosa* (Amaranthaceae) - Raktha mallika, Globe amaranthor bachelor button; *Helianthus annuus* (Asteraceae) - Common sunflower *Plectranthus scutellarioides* (Lamiaceae) - *Coleus* and *Zinnia elegans* (Asteraceae) - Common zinnia.

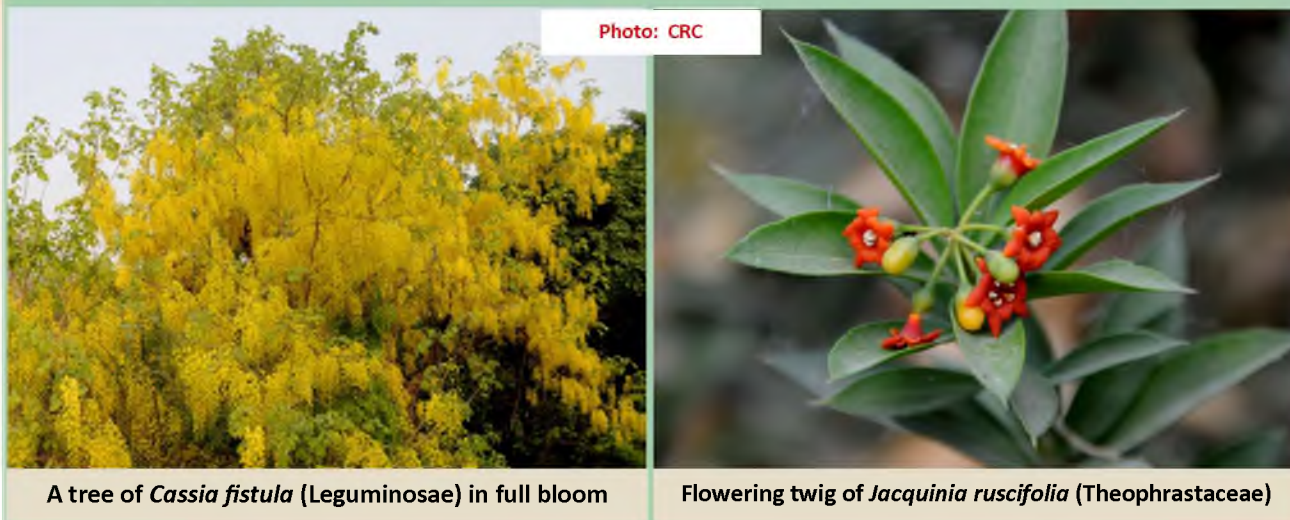
– Dr. Sheo Kumar
Scientist 'D' & HoO

CENTRAL REGIONAL CENTRE, ALLAHABAD

A herbarium cum library consultation tour was undertaken by Dr. A.P. Tiwari, Presv. Asst. to State Forest Research Institute (SFRI), Jabalpur from 30th March to 8th April 2016 in connection with the ongoing project, 'Flora of Chhattisgarh'.

A field cum herbarium consultation tour was undertaken by Ms. Pushpi Singh, SPF to ERC, Shillong and Cherrapunji from 7th to 22nd April 2016 for the project, 'Taxonomic studies on lichenised and non-Thelotremoid Indian Graphidaceae'.

Dr. G.P. Sinha, Scientist 'E' & HoO undertaken a tour to New Delhi in connection with finalization of manuscript on 'Flora of Uttar Pradesh', vol. 1, from 10th to 15th April 2016.



A tree of *Cassia fistula* (Leguminosae) in full bloom

Flowering twig of *Jacquinia ruscifolia* (Theophrastaceae)

Herbarium identification

A total of 24 species with as many field numbers were identified under the projects, 'Flora of Chandra Prabha Wildlife Sanctuary, Chandauli, U.P.', 'Floristic diversity of Parvati Aranga Wildlife Sanctuary and adjoining Tikri forest area, Gonda' and 'Flora of Chhattisgarh'.

Completed taxonomic description of 20 species collected for the ongoing project 'Flora of Chhattisgarh'. Under the project, 'Lichens of Rajasthan and Kutch, Gujarat' 15 specimens were identified into 5 species. In addition, 102 earlier collected specimens housed at BSA were also identified.

Recorded phenological data of 15 species in connection with ongoing project 'ex-situ conservation of EET plants in the office garden'.

Public service rendered

Dr. G.P. Sinha and Ms. Pushpi Singh identified 8 lichen specimens sent by Dr. A. Tinabaye, Asst. Professor, Kanchi Mamunivar Centre for PG Studies, Puducherry.

Dr. A.P. Tiwari Identified a herbarium specimen of *Tinospora cordifolia* received from Dr. M.G. Roymon, Principal, St. Thomas College, Ruabanda, Bhilai, Chhattisgarh.

Conference attended

Dr. Arti Garg, Scientist 'D' attended a meeting of M.P. State Wildlife Board at Bhopal on 18.04.2016.

– Dr. G.P. Sinha
Scientist 'E' & HoO

DECCAN REGIONAL CENTRE, HYDERABAD

Dr. J. Swamy, Bot. Asst. identified 154 species for 'Sacred Groves of Andhra Pradesh'; Sri N. Nagaraju, Bot. Asst. identified 7 species for 'Flora of Seshachalam Biosphere Reserve'; Sri K. Chandramohan, SPF identified 15 species for 'Flora of Satkosia Tiger Reserve' and Ms. P.S. Annamma, SPF identified 5 species for 'Flora of Kawal Tiger Reserve'.

Dr. L. Rasingam, Scientist 'C' documented 20 species in connection with 'Flora of Nagarjunasagar – Srisailem Wildlife Sanctuary' and Ms. P.S. Annamma made description for 11 species in connection with 'Flora of Kawal Tiger Reserve'.

Photo: L. Rasingam



Maerua oblongifolia (Capparidaceae) from Nagarjunasagar – Srisailem Wildlife Sanctuary



Wendlandia tinctoria (Rubiaceae) from Nagarjunasagar – Srisailem Wildlife Sanctuary

Digitization of herbarium specimens

In connection with digitization of herbarium specimens at BSID, 400 herbarium specimens of Rutaceae, Ochnaceae, Burseraceae, Meliaceae, Opiliaceae, Icacinaceae, Olacaceae, Celastraceae, Rhamnaceae, Lentibulariaceae, Gesneriaceae and Begoniaceae were scanned and data entry of label information completed.

Public service rendered

Dr. J. Swamy identified 11 specimens for two pharmacy college and one degree college students and one private lab researcher.

Publications

Rasingam, L. 2015. *Forest Plants of the Nilgiris, Southern Nilgiri Biosphere Reserve – A Pictorial Field Guide*. 370 pp. Keystone Foundation, Kotagiri.

Swamy, J., Chandramohan, K. and Bhadrachari, B. 2016. An Inventory of Aquatic and Wetland Plants of Pocharam lake, Medak District, Telangana, India. *Asian J. Plant Sci. & Res.* 6(3): 87–91.

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

EASTERN REGIONAL CENTRE, SHILLONG

Identified 10 species for 'Flora of Eastern Nagaland' by Dr. N. Odyuo, Scientist 'D' and Dr. R. Daimary, Bot. Asst. Described 35 species for 'Flora of Yangoupokpi Lokchao WLS (Manipur)' by Sri R. Meitei, Bot. Asst. and for 'Amchang WLS' by Ms. Nandita Sarma.

Three manuscripts finalized and submitted to the Director, BSI, Kolkata: 'Flora of Laokhowa WLS' by Dr. Chaya Deori, Scientist 'D' and Sri S.R. Talukdar, Sr. Prev. Asst.; 'South Garo Hills District, Meghalaya' by Sri Dilip Kumar Roy, Bot. Asst. and 'Checklist of Flora of Nagaland' by Dr. A.A. Mao, Scientist 'F' & HoO and Dr. N. Odyuo, Scientist 'D'.

Taxonomic description completed for six species, *Plagiochila fordiana*, *P. ghatiensis*, *P. indica*, *P. javanica*, *P. junghuhniana* and *P. khasiana* in connection with 'Revision of Bryoflora of Mizoram' by Dr. S.K. Singh, Scientist 'D'.

For the project, Taxonomy, phylogeny and *ex-situ* conservation of Micro-fungal diversity from north-east India with special emphasis on fungi associated with endemic and threatened plants of Meghalaya by Dr. Ashish Venkatesh Prabhugaonkar, Scientist 'B', DNA sequences of two fungal isolates (three gene regions ITS, LSU and SSU) were studied further. A dataset of reference sequences from gene bank in group hypocreales for genus *Albosynnema* was prepared for further study.

For *ex-situ* conservation of Endemic, threatened and economically important plants of the region and recording phenological data on flowering and fruiting of species growing in the Garden by Dr. M. Murugesan, Scientist 'B' and Sri L.R. Meitei, Bot. Asst., observed and recorded phenological data of flowering and fruiting of 38 plant species viz., *Aerides odorata*, *Allamanda cathartica*, *Alpinia calcarata*, *Baccaurea sapida*, *Bischofia javanica*, *Bulbophyllum careyanum*, *B. delitescens*, *Coelogyne schultesii*, *Curcuma angustifolia*, *Cymbidium eburneum*, *C. lancifolium*, *Dendrobium acinaciforme*, *D. aphyllum*, *D. chrysotaxum*, *D. densiflorum*, *D. devonianum*, *D. falconerii*, *D. fimbriatu*, *D. formosum*, *D. jenkinsii*, *D. lituiflorum*, *D. nobile*, *D. ochreatum*, *D. wadianum*, *Epidendrum radican*, *Eria amica*, *E. ferruginea*, *E. lasiopetala*, *Itea macrophylla*, *Jacaranda mimosifolia*, *Kaempferia rotunda*, *Macaranga denticulata*, *Papilionanthe teres*, *Phaius tancarvilleae*, *Pholidota imbricata*, *Renanthera imschootiana*, *Rhynchostylis retusa* 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. Further, carried out: 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. Subculture 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 and weeding of *Cymbidium tigrinum*, *Armadorum senapatianum* and others in greenhouse.

For Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of selected species by Dr. Deepu Vijayan, Scientist 'B', subcultured the proliferated shoots from the rhizomes of *Paris polyphylla* in to fresh medium. *In vivo* raised shoots of *Pyrenaria khasiana* were transferred and maintained in net house for acclimatization (40 nos.). A new experiment is initiated with *in vitro* raised shoots of *Pyrenaria khasiana* for multiple shoot induction in WPM medium. PCR analysis of *Rhododendron wattii*, *Rhododendron macabeanum* and *Rhododendron arboreum* using different primers.

Public service rendered

Identified about Forty six samples of specimens received from various institutions and universities.

Visitors/ students

Three scientists, four Professors, two Research Scholars and twenty two students visited the Centre from various Institutions, Colleges and Universities.

– Dr. A.A. Mao
Scientist 'F' & HoO

NORTHERN REGIONAL CENTRE, DEHRADUN

Identified total 77 species and made description for 45 species 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.



A view of Hathikhund Forest region Sonanadi WLS

Photo: R. Manikandan



Phoenix humilis growing in Sonanadi WLS



Jasminum arborescens flowering in Sonanadi WLS

Programme attended

Sri Amber Srivastava SRF, DBT Project Participated in plantation programme and delivered lecture on "Habitat suitability and conservation of plants" in Jammu University on 20th April 2016.

Public Services rendered

Identified 25 specimens of *Cymbopogon distans* (10 nos.) and *Cupressus torulosa* (15 nos.) for Gourav Naik of Centre for aromatic plants, Dehradun.

Visitors/students

Total 4 visitors viz., 2 Research Scholars from Punjab University, Patiala; 2 Research scholars from H.N.B. Garhwal University, Srinagar visited for consultation of herbarium and library.

Publications

Pusalkar, P.K. and Srivastava, S.K. 2016. The genus *Schizotechium* (Caryophyllaceae) resurrected. *Phytotaxa* 252(1): 81–84.

Kholia, B.S., Singh, L.J. and Srivastava, S.K. 2016. *Cyathea gigantea* a new record to Andaman and Nicobar. *Indian J. Forest.* 39(1): 77–78.

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

SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. Dinesh Kumar Agrawala, Scientist 'C' & HoO identified 31 Orchid species and illustrated three species for the project, 'Red listing of Orchids of Eastern Himalaya as per IUCN criteria'.

Dr. David Lalsama Biata, Scientist 'B' identified one species, *Epilobium conspersum* from unidentified herbarium sheets for "Flora of Sikkim.

Sri S.K. Rai, Bot. Asst., identified 26 species from 50 unidentified herbarium sheets.

Sri Subash Pradhan, Fieldman, identified 10 species from 27 unidentified herbarium sheets.

Digitisation of Herbarium specimens

300 herbarium sheets of Papaveraceae, Fumaricaceae and Brassicaceae were digitized.

Meeting attended

Dr. D.K. Agrawala Attended 4th Stakeholders Interaction Meeting on Orchids (Theme: Entrepreneurship Development in Orchid Marketing) at ICAR-NRCO, Pakyong on 19.04.2016.



Photo: SHRC

Visitors/students

15 B. Sc. students and two Staff from Dinabandhu Mahavidyalaya, West Bengal visited this center for learning on Herbarium methodology on 11.04.2016.

A lecture delivered during the visit of students from Dinabandhu Mahavidyalaya, West Bengal

Ms. Pavitra P. Nayak, PDF from National center for Biological sciences (NCBS), GKVK, Bengaluru visited this centre for Herbarium consultation on 13.04.2016.

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

SOUTHERN REGIONAL CENTRE, COIMBATORE

In connection with the documentation of Phytodiversity, Dr. G.V.S. Murthy, Scientist 'G' & HoO and Sri. K. Yarrayya, Presv. Asst. consulted KFRI Herbarium, Peechi, Kerala and studied 60 herbarium specimens.

Dr. M.Y. Kamble, Scientist 'C' completed the manuscript of Amaryllidaceae and Dioscoreaceae for Flora of Kerala, Vol. 6. Dr. M. Palanisamy, Scientist 'D' identified 16 field numbers of seaweed specimens for seaweed Flora of Karnataka coast. Dr. K.A.A. Kabeer, Scientist 'D' and Sri A. Ravi Kiran, Bot. Asst. identified 43 field numbers collected from Kodaikanal Wildlife Sanctuary, Tamil Nadu.



Amphiroa anceps (seaweed)

Photo: M. Palanisamy



Sargassum cinereum (seaweed)



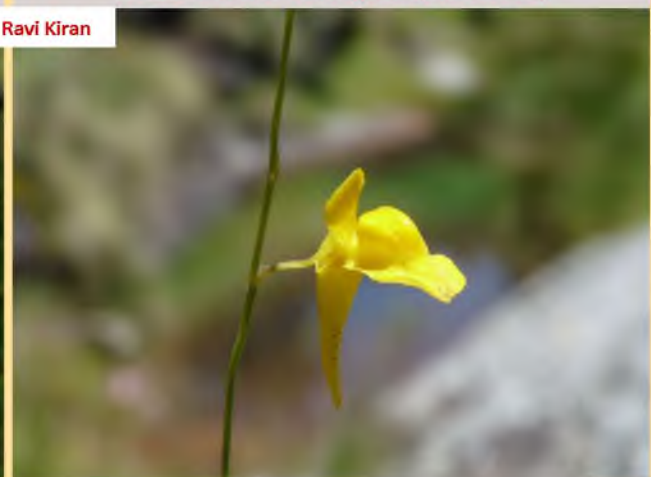
Photo: A. Ravi Kiran

Hedyotis articularis (Rubiaceae)*Hedyotis leschenaultiana* (Rubiaceae)

Photo: A. Ravi Kiran

Hedyotis swertioides (Rubiaceae)*Neanotis indica* var. *affinis* (Rubiaceae)

Photo: A. Ravi Kiran

Utricularia graminifolia (Lentibulariaceae)*Utricularia scandens* (Lentibulariaceae)

Ex-situ conservation

Dr. S. Kaliamoorthy, Scientist 'D' and his team in National Orchidarium and Experimental Garden (NOEG), Yercaud, multiplied 16 orchid samples, which include two endemics (*Coelogyne flaccida* and *Dendrobium khasianum*) and 65 samples of other plants. The team developed 24 seedlings and 44 cuttings and recorded the phenology of 23 species including 11 orchids and 9 other angiosperms.

Database and Digitization

Details of 900 herbarium specimens collected from Upper Bhavani were added in MH database. 350 digital images of *Ficus* collections of Andaman and Nicobar Regional Centre, Port Blair were added to *Ficus* database. In addition, one Isotype of *Sonerila nairii* (Melastomataceae) received from Environmental Resources Research Centre, Thiruvananthapuram has been accessioned and added into type data base.

Scanning Electron Microscopy

Dr. G. Gnanasekaran, Bot. Asst. examined the pollen grains and seeds of species belonging to *Phlogacanthus* (Andrographinae: Acanthaceae). Dr. Gnanasekaran also scanned the seed samples of 15 species of *Smithia* (Fabaceae) and one *Euphorbia* species (Euphorbiaceae).

Public Service Rendered

During this month, a total of 23 plants were identified for research scholars and students from various institutions, colleges and universities. Dr. M. Palanisamy delivered a lecture on 'Bio-resources of Antarctica' at Centre for Plant Breeding & Genetics, Tamil Nadu Agricultural University, Coimbatore on 13.04.2016, more than 40 PG students, research students and staff attended the lecture.

Meeting attended

Dr. G.V.S Murthy and Dr. S. Kaliamoorthy attended the Review meeting on Assistance to Botanic Gardens Scheme of MoEF & CC at JNTBGRI, Palode, Thiruvananthapuram, Kerala on 05.04. 2016.



Dr. M. Palanisamy delivering a lecture on Bio-resources of Antarctica at Centre for Plant Breeding & Genetics



SRC scientific officials explaining to the students about Botanical collections displayed at the museum

Visitors/students

A total of 60 students, research scholars, scientists, professors/officials visited the museum, herbarium and library of SRC, Coimbatore whereas 661 persons in 113 parties visited the NOEG, Yercaud.

Publications

- Singh, R.K. 2016. Lectotypifications of some *Smithia* (Fabaceae) occurring in India. *Phytotaxa* 255(1): 1–20.
- Singh, R.K. 2016. Lectotypification of the name *Micromelum integerrimum* (Rutaceae). *Phytotaxa* 255(2): 172–174.
- Gnanasekaran, G., Yadav, S.K., Arisdason, W., Palanisamy, M. and Murthy, G.V.S. 2016. Proposal to add a new paragraph to Recommendation 7A. *Taxon* 65 (2): 408–409.
- Singh, R.K. 2016. Proposal to add a new Example to illustrate Article 7.10 and Article 9.23. *Taxon* 65 (2):407–408.
- Singh, R.K. 2016. Request for a binding decision on whether *Pittosporum napaulense* (DC.) Rehder & E.H. Wilson and *P. napaliense* Sherff (Pittosporaceae) are sufficiently alike to be confused. *Taxon* 65 (2): 402.
- Singh, R.K. 2016. Proposal to add a new Example to Article 9.5. *Taxon* 65 (2): 410.

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

WESTERN REGIONAL CENTRE, PUNE

Dr. C.R. Jadhav, Botanist conducted one field tour to Someshwara Wildlife Sanctuary, Udipi Dist., Karnataka from 27th March to 14th April 2016 and collected specimens by utilizing 261 field numbers.

Dr. J. S. Jalal, Scientist 'C' studied two endemic orchids, *Smithsonia straminea* and *Dendrobium crepidatum* under stereo zoom microscope for the project, "An Assessment of Orchid diversity of Central Western Ghats: Goa". Dr. A. Benniamin, Scientist 'D' identified four pteridophyte species under the project, "Ferns of Karnataka". Sri D. Tripathi, SRF identified five pteridophyte specimens collected from Kudremukh National Park, Karnataka.

Public service rendered

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO reviewed manuscripts for the *Journal of Threatened Taxa* and *Phytotaxonomy*.

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

Scanned pdf of paper on "Species of *Ulva* from Kerala coast of India" from *Feddes Repertorium* 106(1-2): 121-125. 1995 was sent to Sri Sudhir Kumar Yadav, Southern Regional Centre, Coimbatore. Scanned images of 8 herbarium specimens of *Fimbristylis merrillii* from Goa, Gujarat and Maharashtra were sent to Dr. V.P. Prasad, Scientist 'D', Central National Herbarium, BSI, Howrah.

PDF of a paper entitled "*Stahianthus involucratus*, a new record to the flora of Mizoram" published in *J. Threatened Taxa* 8(3): 8629-8631. 2016 was sent to Prof. Lalramnghinglova, Department of Environmental Science, Mizoram University, Aizawl. Scanned PDF of Leguminosae portion (87 pages) of the Ph.D. thesis of R. Sundararaghavan (Flora of Agumbe and Tirthahahli areas of in Shimoga District, 1969) was sent to Dr. M. Sanjappa, INSA Senior Scientist, Botanical Garden, University of Agricultural Sciences, GKVK, Bengaluru. Photocopy of the article entitled, "Roxburgh's Flora Indica Drawings at Calcutta" that appeared in *Bull. Bot. Surv. India* 33: 1-232. 1994 (1991) was sent to Sri Sandip Kisan Gavade, Research student, Department of Botany, Shivaji University, Kolhapur. Scanned PDF of the paper entitled, "Study on Ethnobotanical uses of selected plants by Alampondarams residing at Sabarimala forest, Kerala" from *J. Econ. Taxon. Bot.* 38: 632-633. 2014 was sent to Dr. Sam P. Mathew, Scientist, Jawaharlal Nehru Tropical Botanic Garden & Research Institute, Palode, Thiruvananthapuram, Kerala.

Meetings /programmes organised/attended

Dr. P. Lakshminarasimhan attended the review meeting on the progress and issues concerning Lead Botanic Gardens under the Assistance to Botanic Gardens Scheme of MoEF & CC at Jawaharlal Nehru Tropical Botanic Garden & Research Institute (JNTBGRI), Palode, Thiruvananthapuram, Kerala 05.04. 2016.

Dr. J. Jayanthi, Scientist 'D' attended the 11th State Wildlife Board meeting at Vidhan Bhavan, Mumbai on 05.04.2016.

Organised pre-Ph.D. Synopsis presentation of "Floristic Studies on Koyna Wildlife Sanctuary, Maharashtra" by Ms. Prajakta Pathare, ex-SRF, WRC (worked under the guidance of Dr. P.G. Diwakar, ex-Joint Director, WRC) and Ph. D. Registration presentations by Sri Sameer Patil, Bot. Asst. (Flora of Pushpagiri Wildlife Sanctuary, Karnataka) and Sri D. Jesubalan, Bot. Asst. (Pteridophytic flora of Pushpagiri Wildlife Sanctuary, Karnataka) on 15.04.2016.

Dr. P. Lakshminarasimhan and Dr. Priyanka Ingle, Scientist 'B' attended the lecture of Dr. S.R. Yadav, on 'Endemic Plants of Western Ghats and their Conservation' at Mahatma Phule Museum Sabhagraha, Pune on 18.04.2016

Visitors/students

Dr. Jayanthi Ray Mukherjee, Asst. Professor from Azim Premji University, Bangalore visited WRC on 04.04.2016 and 05.04.2016 for herbarium and library consultation related to the families Brassicaceae and Poaceae.

Mechanical Engineering students, 2nd year (10 nos.) from College of Engineering, Pune visited on 05.04.2016 to learn about BSI and its activities.



Photo: JNTBGRI

Presentation of Dr. P. Lakshminarasimhan during review meeting concerning Lead Botanic Gardens at JNTBGRI

Sri Gajanan Tambde, Research student, Dr. B.A.M. University, Aurangabad visited on 12.04.2016 for herbarium consultation of species of the genera *Sida* and *Abutilon* (Malvaceae). Dr. M.M. Sardesai, Professor, Dr. B.A.M. University, Aurangabad visited on 13.04.2016. About 40 students and three teachers from ORBIS School, Mundwa, Pune visited on 13.04.2016. About 15 students and one teacher from Pune Marathi Vigyan Parishan visited on 20.04.2016. Dr. V.B. Sreekumar and Dr. E.M. Muraleedharan, Scientists, Kerala Forest Research Institute (KFRI), Peechi, Kerala visited on 28.04.2016 for herbarium and library consultation in connection to Bamboos, members of the genera Dipterocarpaceae and Cinnamomum.

Publications

Rashmi, D. and Shreya, S. 2016. *Stigmina koyanensis* – a new conidial fungus from Western Ghats of India. *Pl. Pathology & Quarantine* 6(1): 54–58.

Rashmi, D. and Neelima A.M. 2016. *Solicorynespora matharensis* - A New species of *Solicorynespora* from Indian Subcontinent. *NeBIO* 5 (4): 15–18.

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

GLIMPSES OF ONE-DAY TRAINING COURSE ORGANIZED BY ENVIS AT CNH

A 'Training course on Herbarium Techniques and Methodology' was organized by the BSI ENVIS Centre on Floral Diversity at CNH on 02.04.2016. In this course, the students were imparted training on collection, preservation and identification of algae, fungi, bryophytes and angiosperms by the scientists of Botanical Survey of India. In the valedictory function, the certificates were issued to the participants.



PLANT OF THE MONTH



Plant of the Month: *Vanda tessellata* (Roxb.) Hook. ex G.Don (ORCHIDACEAE) is an epiphytic perennial orchid distributed from Indian subcontinent to Indo-China. Leaves and roots are used as medicine.

By Dr. B.K. Singh

The Daily Telegrams

The Largest Circulating Daily of A&N Islands

No. 98 Port Blair, Sunday, April 10, 2016 Web: dt.andaman.gov.in

Secretary, Govt. of India, MoEF&CC visits BSI Garden Discusses new discoveries, conservation of endemic species of A&N Islands



Port Blair, Apr 9 (ANI) - The Secretary, Govt. of India, Ministry of Environment, Forest and Climate Change, Shri Ashok Lavasa, currently on visit to the A&N Islands, visited Dhanukhari Experimental Garden cum Arboretum (DECA) of the Botanical Survey of India here today. During his visit, Shri Lavasa, discussed various matters related to the documentation and conservation of the floral diversity as well as the economic and ecological significance of these Islands. He also planted a sapling of endemic mangrove species *Mangifera andamanica* King while Smt. Novel Lavasa planted the sapling of *Rudrakshum* on the occasion. The Secretary also held discussion on new discoveries, conservation of endemic species, natural drinking water, timber value plants and the recently discovered Banana species (Musa indanumensis) by BSI scientists. Dr. Lalji Singh, Head of Office, BSI explained that botanical garden of BSI lays particular emphasis on *in situ* conservation and multiplication of rare, endangered and endemic species of the Islands. The scientists of the centre Dr. Jagadeesh Ram TAM, and Dr. Sanjay Mishra also elaborated the activities of the centre towards specified goals of Botanical Survey of India. Earlier on Apr 4, the Secretary along with Smt. Novel Lavasa, Shri M.S. Negi, PCT (Wildlife), Shri D.M. Shukla, Adil, PCT, Shri. Archana Singh, CCT, Shri. Yogesh, CCT (Wildlife), Shri. Ravishandran, CCT and other officials of Forest Department, and BSI, visited the BSI Office. During his visit, Dr. Lalji Singh explained research activities of the Botanical Survey of India, A&N Regional centre on plant biodiversity and the intensive botanical explorations and authentic documentation of flora of the Islands enriching the herbarium and the museum of the Centre. Among all the units of BSI, A&N Regional Centre holds the credits of covering one of the remote and insular floristic hotspots of the country, a BSI release said.

Photo: Amar Mondal



The participants and BSI officials during 'Training course on Herbarium Techniques & Methodology', organized by the ENVIS Centre on Floral Diversity, Botanical Survey of India at CNH, Howrah on 02.04.2016

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

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