

BSI NEWSLETTER

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Kolkata – 700 064



HEAD QUARTERS, KOLKATA

In connection with ongoing projects such as 'Studies on Wild Mushrooms of Sikkim', 'Studies on the Macrofungi of AJC Bose Indian Botanic Garden', 'Wood rotting fungi of Rajmahal hills', 'Hot Spring algae of Rajgir and Munger, Bihar', 'Revision of the family Metzgeriaceae in India' and 'Liverworts and Hornworts Flora of Darjeeling District, West Bengal' the scientists and scientific staff of the Cryptogamic section made identification, description, illustrations and microphotographs. Apart from these, ArcGIS maps were also made in some fungal species.

Sri Arvind Parihar, Bot. Asst. accessioned and incorporated 12 specimens, which include two type materials – *Craterellus albostrigosus* C.K. Pradeep & K.B. Vrinda CAL1624 (Holotype) and *Craterellus inusitatus* C.K. Pradeep & K.B. Vrinda CAL1625 (Holotype).

Dr. Monalisa Dey, Scientist 'B' acted as a panel member in the selection committee for selection of candidates for the Green Skill Development Programme, Advanced course (Parataxonomist) held on 02.11.2017 at Central National Herbarium, BSI, Howrah.

Public service rendered

Dr. A.B.D. Selvam, Scientist 'D' pharmacognostically studied and authenticated three vegetable crude drug samples as detailed below, which were received from M/s Emami Ltd. Gujarat, Varanasi, Uttar Pradesh.

Asparagus racemosus Willd. (Asparagaceae) – Root

Cinnamomum tamala (Buch.-Ham.) T.Nees & Eberm. (Lauraceae) – Leaves

Cinnamomum verum J.Presl (Lauraceae) – Stem bark

Coriandrum sativum L. (Apiaceae) – Dried fruits

Cuminum cyminum L. (Apiaceae) – Dried Seeds

Curcuma zedoaria (Christm.) Roscoe (Zingiberaceae) – Rhizome slices

Piper nigrum L. (Piperaceae) – Dried fruits

Rubia cordifolia L. (Rubiaceae) – Stem

Syzygium aromaticum (L.) Merr. & L.M. Perry (Myrtaceae) – Flower buds

Vitis vinifera L. (Vitaceae) – Dried fruits

Zingiber officinale Roscoe (Zingiberaceae) – Dried rhizome

Lecture attended

Scientific officials attended a lecture given by Dr. Bharat Babu Shrestha, Associate Professor, Central Department of Botany, Tribhuvan University, Kathmandu on "Invasive alien plants in Nepal: Diversity, distribution and management" at Central National Herbarium, BSI, Howrah on 09.11.2017.

Visitors/students

18 students of 2nd year B.Sc. Botany (Hons.) from Sree Chaitanya College, Habra on 23.11.2017.

55 students of B.Sc. Botany (Hons.) 1st & 2nd year from Hooghly Mohsin College, Chinsurah on 29.11.2017.

Publications

Das, K., Chakraborty, D., Vizzini, A. 2017. Morphological and phylogenetic evidences unveil a novel species of *Gyroporus* (Gyroporaceae, Boletales) from Indian Himalaya. *Nordic J. Bot.* doi: 10.1111/njb.01628, ISSN 1756-1051.

Uniyal, P., Das, K., Bhatt, R.P., Singh, U., Mehmood, T. 2017. *Lactarius kumaonensis* sp. nov. (Russulaceae) from Uttarakhand, India. *Nordic J. Bot.* doi: 10.1111/njb.01604, ISSN 1756-1051.

Singh, U., Das, K., Vizzini, A., Bhatt, R.P., Uniyal, P., Mehmood, T. 2017. *Gliophorus flavoviridis*, a new species in the family Hygrophoraceae from India. *Phytotaxa* **327**(3): 283–289.

CENTRAL NATIONAL HERBARIUM, HOWRAH

Dr. V.P. Prasad, Scientist 'D' undertaken a herbarium consultation tour to BSD and DD, Dehradun, LWG, Lucknow and BSA, Allahabad from 9th to 30th November 2017. Dr. Prasad identified 40 specimens of family Cyperaceae for the scientists of BSA and corrected the identity of about 250 Cyperaceae specimens at BSA, BSD, DD and LWG during the herbarium consultation.

Dr. A. Bhattacharjee, Scientist 'B' undertaken a tour from 18th to 28th November 2017 to different parts of South and West Sikkim in connection with collection.

Sri P.P. Ghoshal, Botanist, conducted one survey tour pertaining to Eco-Sensitive Zone covering 1042 sq. km of Betla National Park, Palamau Wildlife Sanctuary and Mahuadanr Wolf Sanctuary from 20th to 29th November and collected specimens of 39 field numbers.

Sri Anant Kumar, Bot. Asst. undertaken a tour from 16th to 24th November 2017 to Eco Sensitive Zone of Kusheshwar Asthan Bird Sanctuary, Darbhanga, Bihar.

Dr. Gopal Krishna, Bot. Asst., attended training in Digitisation and Curation of Indian Herbarium Specimens along with Drs. Basant Kumar Singh, AJCBIBG, BSI and Dilip Kumar Roy, ERC, BSI organized by Natural History Museum (NHM), London.

Public Service rendered

Dr. Vinay Ranjan, Scientist 'D' and Sri Anant Kumar identified 08 specimens collected from Neora Valley National Park, Darjeeling district, West Bengal.

Dr. O.N. Maurya, Scientist 'C' identified 10 species collected from Udaipur Wildlife Sanctuary, West Champaran, Bihar.

Sri Anant Kumar identified 140 species collected in Eco-sensitive Zone of Kusheshwar Asthan Bird Sanctuary, Darbhanga, Bihar.

Public Service rendered

Dr. Subir Bandyopadhyay, Scientist 'B' identified some images of *Piliostigma malabaricum* (Roxb.) Benth. received from Sandip Kisan Gavade, Research Fellow, Department of Botany, Shivaji University, Kolhapur.

CNH officials identified 29 plant specimens received from P.G. Department of Botany, Darrang College (Gauhati University), Tezpur, Assam; Centre for Rural Development and Technology, Indian Institute of Technology, New Delhi; Bengal School of Technology, Sugandha, Hooghly, West Bengal; The Pharmaceutical College, Samaleswari Vihar Tingipali, Barpali, Dist. Bargarh, Odisha; Bharat Technology, Uluberia, Howrah; Pharmacology, NSHM Knowledge Campus, Kolkata-Group of Institution, Kolkata; Department of Pharmacology, IPGT & RA, Jamnagar, Gujarat and Department of Pharmaceutical Sciences and Technology, Birla Institute of Technology, Mesra, Ranchi.

Dr. Bandyopadhyay provided PDF of 8 pages to Dr. Manoj Lekhak, Shivaji University, Kolhapur; of 26 pages on the genus *Nymphoides* Séguier (Menyanthaceae) to Sri Anup Kumar Sarkar, Rishi Bankim College, Naihati, West Bengal; of 3 pages on *Ledebouria viridis* S.R. Dutta & P. Harvey ex M.R. Almeida to Dr. V.S. Raju, Retd. Professor, Department of Botany, Kakatiya University, Warangal, Telangana; of 2 pages on the nomenclature of *Adiantum cuneatum* Langsd. et Fisch. to Dr. Jaideep Mazumdar, Krishna Chandra College, Hetampur, Birbhum, West Bengal; of 38 pages on family Polygonaceae in India, of 10 pages on *Euphlebium papilionaceum* Cooteset M.A. Clem. to Dr. M.K. Vasudeva Rao and of 1 page on protologue of *Viscum mysorensense* Gamble to Dr. M. Sanjappa, former Director, BSI.



Drs. Gopal Krishna, CNH, BSI; Basant Kumar Singh, AJCBIBG, BSI and Dilip Kumar Roy, ERC, BSI during training at NHM, London

Glimpses of visit of Sri Yashvir Singh, Economic Advisor, Ministry of Environment, Forest and Climate Change, New Delhi to CNH



Dr. S. Bandhyopadhyay also reviewed manuscripts of two papers received from Editors of the journal *Rheedea* and *Nelumbo*.

Dr. A. Bhattacharjee sent 4 images of types of *Glyptopetalum sclerocarpum* (Kurz) Lawson to Dr. Ivan Savinov, Russia and to Dr. Maxim Nuraliev, Russia.

Dr. K. Karthigeyan, Scientist 'D' reviewed an article received from *Rheedea*.

Dr. V.P. Prasad reviewed one paper for *Rheedea* on a new species of *Eleocharis*.

Meetings/seminar attended/organised

Dr. V.P. Prasad attended the XXVII Annual Conference and the International Seminar of Indian Association for Angiosperm Taxonomy (IAAT) held at Delhi University, New Delhi from 10th to 12th November, 2017. Also attended the EC meeting and the General body meeting of IAAT and as desired by the secretary

readout the annual report for 2016-17. Dr. V. Sampath Kumar also attended the inaugural programme of the seminar on 10.11.2017.

Dr. V. Sampath Kumar along with Director, BSI attended a meeting regarding Green Skill Development Programme (GSDP) organized by Ministry of Environment, Forest and Climate Change, Govt. Of India at New Delhi on 09.11.2017.

Central National Herbarium organized the Heads of the office meeting on 23rd November and RAMC on 25th November 2017.



Dr. V. Sampath Kumar along with Director, BSI at GSDP meeting organized by MoEF & CC at New Delhi

Dr. Bandhyopadhyay delivered a lecture on "Typification of Plant Names" and Dr. Bhattacharjee on "Plant Nomenclature" in the Workshop on Lichen Identification and Nomenclature held in Central Regional Centre, Botanical Survey of India, Allahabad on 11.11.2017.

Visitors/students

15 students accompanied by four teachers from Ram Nagar College, Midnapur on 03.11.2017.

Sri Yashvir Singh, Economic Advisor, MoEF & CC, New Delhi on 11.11.2017.

17 foreign delegates from M/s Sutra on 11.11.2017.

Mr. Jacek H. Graff from Poland on 21.11.2017.

75 students accompanied by four teachers from Midnapur College, on 22.11.2017.

35 students accompanied by five teachers from South Calcutta girls' College, Kolkata on 24.11.2017.

40 students accompanied by two teachers from Andhra University, Visakhapatnam on 26.11.2017.



Foreign delegates from M/s Sutra with Dr. P.V. Prasanna, Scientist 'F' and HoO, Central National Herbarium

Publication

Krishna, G., Bandyopadhyay, S., Bhattacharjee, A. and Lakshminarasimhan, P. 2017. The correct lectotypification of *Championia multiflora* (Gesneriaceae). *Phytotaxa* 328(2): 198–200.

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

INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA

The botanical paintings by Roxburgh are being interpreted with updated nomenclature. Under this project, 152 Poaceae members in *Icones Roxburghianae* were listed and four species – *Agrostis coromandeliana*, *A. diandra*, *A. matrella*, *A. maxima* and 12 members from Ebenaceae were listed and three species - *Diospyros lanceifolia*, *D. stricta*, *D. chloroxylon* were interpreted.

Database of Herbarium Specimens

As a part of preparing a database of herbarium specimens at BSIS, 343 numbers of Dicot herbarium specimens were listed and documented.

Updating of nomenclature of digitized Herbarium Specimens at BSIS

542 numbers of Digitized Herbarium specimens were updated with valid botanical names and basionyms/synonyms.

Public service rendered

Under the Narcotic Drugs & Psychotropic Substances (NDPS) Act, 12 samples received from West Bengal Police were identified.



Photo: ISIM

RAMC Chairman, Prof. A.K. Kaul visiting botanical gallery at ISIM along with Dr. P. Singh, Director, BSI



Students of Motijhil Girls' High School, Dum Dum visiting J.D. Hooker's exhibition at ISIM Gallery, Kolkata



Photo: D.L. Shirodhkar

Foreign delegates of M/s Sutra visiting Natural dyes and textile fabrics collection at ISIM



Photo: ISIM

Visitors from IAAT conference visiting the exhibition of Botanical Heritage of India at Botany department, University of Delhi

Visitors/students

As per BSI's EEAP programme, 38 students and 2 guide teachers from Dum Dum Motijheel Girls High School visited ISIM gallery on 11.11.2017 and attended a talk on 'Rhododendrons of India' delivered by Dr. M. Bhaumik, Scientist 'D' & HoO, Industrial Section Indian museum, Kolkata.

17 foreign delegates from M/S Sutra namely, Dominique Cardon (UK), Jenny Balfour Paul (UK), Janie Lightfoot (UK), Rubi Ghuznavi (Kuwait), Penay Jewall (Australia), Georg Stark (Germany), Kathy Hattoni (USA), Narelle Dore (UK), Anne Sutherland (Canada), Sunaim Suneja, Jerri-Lynx Scofield, Sabir Alam (India) and Nidhi Agarwall (India) were visited Natural dyes and textile fabrics collection at ISIM on 11.11.2017.

Prof. Dr. A.K. Kaul, RAMC Chairman along with Dr. P. Singh, Director, BSI and other BSI officials visited ISIM gallery on 26.11.2017.

Mrs. Renuka Reddy, Textile Artist from Bangalore also visited Botanical gallery.

Awareness programme, Workshop, Seminar organized/attended

Exhibition on 'Botanical Heritage of India' organized by ISIM, BSI, Kolkata in collaboration with RBG, Kew, CWEH, University of Sussex, UK, MoEFCC, Govt. of India and India International Centre, New Delhi at India International Centre, New Delhi successfully concluded on 07.11.2017. The same exhibition was shifted to Botany Department, University of Delhi and exhibited there from 10th to 12th November 2017 during IAAT conference held at the University. The exhibition was attended by scientists, professors, students of botany from different universities and institutions of the country.

Another exhibition and a new model on "Natural dye Indigo processing and extraction unit" in collaboration with M/S Sutra was displayed at ICCR, Kolkata during 9th to 18th November 2017.

Dr. M. Bhaumik and Dr. A.K. Sahoo attend a talk on 'Preventive measures of museum artifacts" by Dr. Rajesh Purohit, Director, Indian Museum, Kolkata at Committee Room, Indian Museum on 21.11.2017.

– Dr. Manas Bhaumik
Scientist 'D' & HoO

ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Dr. Lal Ji Singh, Scientist 'D' & HoO, undertaken field tour to Middle Andaman from 26th October to 2nd November 2017 and collected numbers of seeds, seedlings of tree species and other plants and introduced them to Dhanikhari Experimental Garden Cum Arboretum (DEGCA).

Dr. Vivek C.P., Bot. Asst. conducted field survey to Quarry Hill Wetland, Hut Bay from 6th to 9th November 2017 and identified and listed a total of 137 plant species belong to 55 families growing at the wetland and taken 74 photographs.

Dr. Vivek accompanied a tour party arranged by Andaman and Nicobar Tribal Research Institute (ANTRI), Port Blair to the Strait Island, Middle Andaman from 11th and 12th November 2017, for identification of ethno-medicine being practiced among the aboriginal tribe, the Great Andamanese of the A & N Islands.

Dr. T.A.M. Jagadeesh Ram, Scientist 'D' conducted herbarium consultation tour to ERC, BSI, Shillong from 12th to 26th November 2017. A total of 204 specimens were consulted during the tour.

Digitization of herbarium specimens

Herbarium sheets Scanned: 981 nos. of family Euphorbiaceae, Moraceae, Myrtaceae and Orchidaceae.

Herbarium details computerized in Excel format: 945 herbarium specimens of families Euphorbiaceae, Moraceae, Myrtaceae, Orchidaceae and Ulmaceae were fed in the computer in a prescribed format .

Meeting(s) /symposia/seminars conducted/attended

Dr. Lal Ji Singh, Scientist 'D' & HoO and Dr. Sanjay Mishra, Scientist 'B' attended an inaugural function of Second South Asia Thematic School (Indo-French Workshop) in Aquatic Microbial Ecology(ASIAME-2) at NIOT, Port Blair on 07.11.2017.



Dr. Lal Ji Singh addressing gathering on the occasion of inaugural function of Advance Course: Para-taxonomists of the Green Skill Development Programme as a Guest of Honour at ANRC, ZSI, Port Blair



Dr. Lal Ji Singh delivering an invited lecture during Indo-French Workshop at NIOT, Port Blair

Dr. Mishra and Sri Gautam Anuj Ekka, Presv. Asst. attended training programme of GST at Dr. B.R. Ambedkar Auditorium on 10.11.2017 organized by Goods and Service Tax Department, Andaman and Nicobar Administration.

Dr. Jagadeesh Ram attended the 'Workshop on Lichen Identification and Nomenclature' at CRC, BSI, Allahabad on 10 & 11th November 2017 as Resource Person.

Dr. Singh attended an inaugural function of Advance Course: Para-taxonomists of the Green Skill Development Programme as a Guest of Honour at ZSI, ANRC, Port Blair on 11.11.2017.

Public service rendered

Dr. Lal Ji Singh delivered an invited lecture on Plant diversity of Andaman and Nicobar Islands for Indo-French Workshop at NIOT, Port Blair on 15.11.2017.

Dr. Singh performed duty as an examiner to evaluate Ph.D. Thesis for Cochin University of Science and Technology, Cochin, Kerala.

Dr. Sanjay Mishra acted as Judge in The Andaman and Nicobar District Level Children's Science congress for assessing the projects on 24.11.2017 at conference hall of Siksha Sadan, Port Blair organized by Directorate of Education in collaboration with Andaman Nature Club, Port Blair.

Dr. Mishra performed duties as Judge in State Level Science Seminar on 27.11.2017 at conference hall of Siksha Sadan, Port Blair organized by Directorate of Education in collaboration with Birla institute of Technological museum (BITM), Kolkata.

Dr. C.P. Vivek, Bot. Asst. and Sri Gautam Anuj Ekka, Presv. Asst. provided first hand training on herbarium methodology to Mr. Mathis, Andaman and Nicobar Tribal Research Institute (ANTRI), Port Blair on 22.11.2017.



Photo: Ms. Fouziya Salem

Sri Gautam Anuj Ekka delivering talk on herbarium to teaching staff and students of St. Mary's School, Port Blair

Visitors

Sri Paramjeet Singh Kang, Teacher, G.T.T. Govt. Senior Secondary School, Haddo visited library and herbarium on 03.11.2017.

Two teaching staff and 5 students of St. Mary's School, Bhatubasti, Port Blair, visited herbarium, library and garden on 06.11.2017.



Photo: G.A. Ekka



Sri Rajbir Singh, Deputy Director General, General Ordinance Inspection Board, Ministry of Defence, New Delhi at Dhanikhari Experimental Garden, ANRC, BSI on 08.11.2017

Sri Joju P. Alappatt, Director, FTI, Wimberligunj visited herbarium and library and Sri Rajbir Singh, Deputy Director General, General Ordinance Inspection Board, Ministry of Defence, New Delhi, visited office and garden on 08.11.2017.

Sri Hena Hayat, Minnie Bay and Ms. Dayani Chakravarthy, JRF, National Centre for Biological Science, Bangalore, visited herbarium and library for consultation on 28.11.2017.

– Dr. Lal Ji Singh
Scientist 'D' & HoO

ARID ZONE REGIONAL CENTRE, JODHPUR

Dr. C.S. Purohit, Scientist 'B' conducted one field tour to Flora of Todgarh-Raoli WLS, Rajasthan from 9th to 28th November 2017 and collected 248 field numbers.



Photo: P. Harikrishna

Flowering of *Asparagus racemosus* at Botanical Garden, AZRC, BSI, Jodhpur



Photo: P. Harikrishna

Flowering of *Ipomoea pes-caprae* at Botanical Garden, AZRC, BSI, Jodhpur

Specimen identification

136 Field numbers has been identified during the period under report.

Meeting attended

Dr. S.L. Meena, Scientist 'D' attended a workshop on Regional research council organised by AFRI, Jodhpur on 23.11.2017.

Sri Vinod Maina, Scientist 'D' & HoO attended RCM meeting on 22.11.2017 at AJCBIBG, BSI, Howrah and Head of Office meeting on 23.11.2017 at CNH, BSI, Howrah.

Public service rendered

Identified one plant specimen brought by research student.

Visitors

Dr. Anil Kumar Dular, Dr. P.D. Charan and Dr. Leela Kaur, Asst. Professors and 15 students of M.Sc., Environmental Science, Dept. of Environmental Science, Maharaja Ganga Singh University, Bikaner visited Herbarium, Botanical Garden and Museum on 14.11.2017.



Photo: P. Harikrishna

Flowering of *Barleria acanthoides* at Botanical Garden, AZRC, BSI, Jodhpur

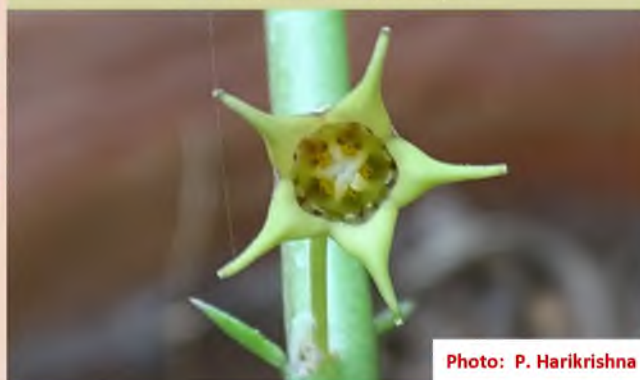


Photo: P. Harikrishna

Flowering of *Caralluma edulis* at Botanical Garden, AZRC, BSI, Jodhpur

– Sri Vinod Maina
Scientist 'D' & HoO

CENTRAL REGIONAL CENTRE, ALLAHABAD

Identification service rendered

A total of 164 specimens belonging to 58 species were identified for the project, 'Floristic Diversity of Bhoj Wetland, Madhya Pradesh.

A total of 84 specimens were identified in connection with the project, 'Identification of old unidentified specimens of BSA'.

Taxonomic description of 15 species were completed under the project 'Trees of Allahabad city and its Environs'.

Dr. G.P. Sinha, Scientist 'E' & HoO, updated nomenclature, consequential changes in key to genera and species and editing of families Apocynaceae, Asclepiadaceae, Loganiaceae, Buddlejaceae, Gentianaceae, Menyanthaceae, Polemoniaceae, Hydrophyllaceae and Boraginaceae for the project 'Editing of Flora of Uttar Pradesh, Vol. II'.

Dr. A.K. Verma, Scientist 'B' updated nomenclature of 21 species and Dr. Nitisha Srivastava, Bot. Asst., completed taxonomic description of nine species under 'Flora of Chhattisgarh' Vol.-II.

Meeting/workshop attended/organised

Dr. G.P. Sinha attended 83rd Regional Council Meeting and Head of Office Meeting at Howrah/Kolkata on 22.11.2017 and 23.11.2017 respectively.

51st Office Council Meeting was also organised at CRC, BSI, Allahabad on 15.11.2017 in the office attended by Dr. Sheo Kumar, Dr. Arti Garg and Dr. A.N. Shukla, Sri Jagdish Tiwari and Sri Charan Singh from office side.



Photo: CRC

Lichen identification and Nomenclature workshop organized on 10-11th November 2017 at CRC, BSI, Allahabad

A workshop, 'Lichen identification and Nomenclature' was organized on 10-11th November, 2017 at CRC, BSI, Allahabad, wherein 14 resource persons delivered lectures as well as practical session was organized

on herbarium methodology and identification of lichens in field and laboratory. Altogether 65 delegates attended the workshop from various states of India viz., Assam, Delhi, Goa, Gujarat, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Tamil Nadu, Telangana, Uttar Pradesh and Uttarakhand. The Inaugural function held on 10th November, attended by over 120 academicians and Heads of Institutes was chaired by Prof. D.K. Chauhan, Head, Botany department, University of Allahabad.

Visitors

Prof. S.Y Kondratyuk, National Academy of Sciences, Ukraine, an expert on lichen family Teloschistaceae visited the lichenology Laboratory and consulted/authenticated lichen specimens of BSA on 20.11.2017.

About 120 visitors/guests including lichenologists and other academicians of university/ colleges/institutes were attended during the Lichen workshop held between 10-11th November 2017.

Dr. V.P. Prasad, Scientist D, CNH, Howrah visited and consulted BSA herbarium from 24th to 29th November and identified/ authenticated several specimens of family Cyperaceae.

Public service rendered

Dr. A.N. Shukla, Scientist 'B' reviewed a manuscript for the *Journal of Economic and Taxonomic Botany*.

Ex situ conservation in the associated garden of CRC

Dr. A.P. Tiwari, Bot. Asst. brought live germplasm of two species viz., *Syzygium jambos* (L.) Alston and *Hedychium coronarium* J. Koenig for introduction in the associated botanic garden of the centre.

Publication

Tiwari A.P. 2017. Lectotypification of *Andropogon bellariensis*, basionym of *Parahyparrhenia bellariensis* (Andropogoneae, Poaceae). *Phytotaxa*, 326 (4): 295–296.

– Dr. G.P. Sinha
Scientist 'E' & HoO



Photo: CRC

Participants of the Lichen identification and Nomenclature workshop at CRC, BSI, Allahabad

DECCAN REGIONAL CENTRE, HYDERABAD

Dr. G. Swarnalatha, Bot. Asst. identified and studied eight macro lichen specimens for the project , “Inventory of Macrolichen diversity of Odisha State”.

Digitisation of Herbarium specimens

500 herbarium sheets were scanned belonging to various families at BSID.

Public service rendered

Dr. J. Swamy, delivered lecture on Introduction of Plant taxonomy at Kairatabad, Government Degree College, Hyderabad, on 23.11.2017.

Identified one plant species for Vaageswari College of Pharmacy, Karimnagar, Telangana.



Photo: DRC
Dr. J. Swamy, delivering lecture on Introduction of Plant taxonomy at Kairatabad, Government Degree College, Hyderabad on 23.11.2017

Meeting attended /lecture delivered

Dr. K. Chandra Mohan, SPF, attend Workshop on Integrated Taxonomy at University of Delhi from 12th to 23rd November 2017.

Dr. L. Rasingam, Scientist ‘D’ & HoO attended Regional Council meeting and Heads of office meeting at Howrah/Kolkata on 22nd and 23rd November 2017.

Dr. L. Rasingam
 Scientist ‘D’ & HoO

EASTERN REGIONAL CENTRE, SHILLONG

Dr. Deepu Vijayan, Scientist ‘C’ and Dr. M. Murugesan, Scientist ‘B’ visited to Nameri National Park (Sonitpur District), Dullung Reserve forest, Lakhimpur, Assam, Sonai Rupai Wild Life Sanctuary, Sibsagar, Gibbon Wildlife Sanctuary, Garampani Wildlife Sanctuary and Bordering areas of Arunachal Pradesh, Boginadi from 8th to 15th November, 2017 for Micropropagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species of NE India and live plant collection for ex-situ conservation.

During this month 28 species identified for Flora of west & south-West Khasi hills district, Meghalaya with reference to the sacred groves by Dr. Chaya Deori, Scientist ‘D’ and Dr. S.R. Talukdar, Bot. Asst., and Flora of Eastern Nagaland by Dr. N. Odyuo, Scientist ‘D’ and Dr. R. Daimary, Bot. Asst.

In Taxonomic Revision of genus *Riccia* (Marchantiophyta) in India by Dr. S.K. Singh, Scientist 'D' consulted literature pertaining to study of genus *Riccia*. Studied the protologue of *Riccia glauca* L. identified three samples of *Riccia* belonging to 2 species namely *Riccia perssonii* and *Riccia frostii* from Meghalaya. Observed and recorded phenological data of flowering and fruiting of 63 species viz., *Ageratum conyzoides* (L.) L., *Albizia lucidior* (Steud.) I.C. Nielsen, *Allamanda cathartica* L., *Bauhinia variegata* L., *Bixa orellana* L., *Bougainvillea glabra* Choisy, *Bulbophyllum careyanum* (Hook.) Spreng., *Bulbophyllum pteroglossum* Schltr., *Calanthe sylvatica* (Thouars) Lindl., *Caryota urens* L., *Catunaregam spinosa* (Thunb.) Tirveng, *Cephalantheropsis obcordata* (Lindl.) Ormerod, *Cheilocostus speciosus* (J.König) C.D. Specht., *Cleisostoma paniculatum* (Ker Gawl.) Garay, *Cleisostoma racemiferum* (Lindl.) Garay, *Coelogyne ovalis* Lindl., *Coelogyne punctulata* Lindl., *Cymbidium elegans* Lindl., *Dendrobium amplum* Lindl., *Dendrobium chapaense* Aver., *Dienia ophrydis* (J.König) Seidenf., *Dillenia indica* L., *Dracaena angustifolia* (Medik.) Roxb., *Elaeocarpus floribundus* Blume, *Eria bambusifolia* Lindl., *Eurya acuminata* DC., *Exbucklandia populnea* (R. Br. Ex Griff) R., *Gastrochilus dasypogon* (Sm.) Kuntze, *Hedychium aureum* C.B. Clarke & H. Mann ex Baker, *Hedychium flavescens* Carey ex Roscoe, *Hedychium flavum* Roxb., *Hedychium thyriforme* Sm., *Holmskioldia sanguinea* Retz., *Itea macrophylla* Wall., *Jacaranda mimosifolia* D.Don., *Lagerstroemia indica* L., *Lagerstroemia speciosa* (L.) Pers., *Liparis cordifolia* Hook.f., *Liparis odorata* (Wild.) Lindl., *Liparis viridifolia* (Blume) Lindl., *Magnolia champaca* (L.) Baill. ex pierre, *Melastoma malabathricum* Linn., *Micromelum integerrimum* (Buch.-Ham. ex Candolle) Wight & Arnott ex M. Roemer, *Neogyna gardneriana* (Lindl.) Rchb.f., *Nepenthes khasiana* Hook.f., *Oberonia mucronata* (D.Don) Ormerod & Seidenf., *Oberonia acaulis* Griff., *Paphiopedilum insigne* (Wall. ex Lindl.) Piftzer, *Phaius mishmensis* (Lindl. & Paxton) Rchb.f., *Pholidota imbricata* Hook., *Pleione praecox* (Sm.) D.Don., *Prunus cerasoides* Buch.-Ham. ex D.Don, *Rauvolfia serpentina* (L) Benth. ex Kurz, *Schima wallichii* Choisy, *Sterculia hamiltonii* (Kuntze) Adelb., *Tabernaemontana divaricata* (L.), *Taxus wallichina* Zucc., *Zeuxine affinis* (Lindl.) Benth. ex Hook.f., *Zingiber murlenica* Ram. Kumar, Sushil K. Singh & S.Sharma, *Zingiber mizoramensis* Ram. Kumar, Sushil K.Singh & S.Sharma, *Zingiber neotruncatum* T.L.Wu, *Zingiber roseum* (Roxb.) Roscoe., and *Zingiber zerumbet* (L.) Roscoe ex Sm. available EBG, Barapani by Dr. M. Murugesan, Scientist 'B' and Sri L.R. Meitei, Bot. Asst.

In Micro-propagation of RET Plants of Northeast India by Dr. A.A. Mao, Scientist 'F' & HoO & L. Ibemhal Chanu, Bot. Asst. maintained the plants in the green house, planted around 500 seedlings of *Cymbidium tigrinum*.

Public service rendered

Identified three samples of specimens received from various institutions.

Training Programme organized/Meeting attended/lecture delivered

A lecture on 'Impatiens of North east India was delivered by Dr. Rajib Gogoi, Scientist 'D', CNH, BSI, Howrah on 14.11.2017 and was attended by all the scientists, scientific staff and Research scholars of ERC, Shillong. Dr. S.K. Singh attended Town Official Language Implementation Committee (TOLIC) meeting on 29.11.2017 at Laitkor, Shillong.

A five day (30th October to 3rd November 2017) training program on basics of plant identification and nomenclature was organised at Botanical survey of India, Eastern regional Centre, Shillong with the aim to spread knowledge and awareness in the field of plant taxonomy. A total of 29 participants from various



Glimpses of Five day Training program on basics of plant identification and nomenclature was organised at Eastern Regional Centre, Botanical survey of India, Shillong

institutes like North Eastern Hill University, Shillong; BRDC, Shillong; Mizoram University, Guwahati University, NERIST, Itanagar; GBPNHESD, Itanagar; NERIE NCRT, Barapani, FEED, Manipur; BNMU; Bihar along with BSI Research students participated in this programme.

Visitors/students

10 scientists, six Professor, 10 research scholars, 79 students and 15 other visitors from various Institutions, Colleges and Universities visited the Centre.

Publications

Pratibha J., Prabhugaonkar A. and Mao, A.A. 2017. *Fusicnidium indicum* (Melanommataceae), a novel species of asexual Ascomycetes. *Phytotaxa* 326(2): 108–114.

Prabhugaonkar A. and Pratibha J. 2017. Isolation of *Acrodontium crateriforme* as a pitcher trap inquiline. *Curr. Res. Environ. & Appl. Mycol.* 7(3): 203–207.

Phukan, S.J. and Singh S.K. 2017. *Bharat mein Orchidaceae vansh Coelogyne: vartmaan paridrishya*. In: P. Singh & al. (eds.), *Bharat ki vanaspati vividhta ken aye ayam*. BSI, Kolkata, pp. 22–38.

Singh S.K. and Singh D.K. 2017. *Bharat mein vansh Riccia (hepaticae: Bryophyta)*. In: P. Singh & al. (eds.), *Bharat ki vanaspati vividhta ken aye ayam*. BSI, Kolkata, pp. 71–88.

– Dr. Chaya Deori
Scientist 'D' In-Charge

NORTHERN REGIONAL CENTRE, DEHRADUN

Identified total 52 species and made description for 45 species of Angiosperm in connection with the projects, Flora of Himachal Pradesh Vol. I, 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 81 specimens of the family Rubiaceae and of Pteridophytes.

Public Services rendered

Identified 19 species for visitors from different institutes/ Universities.

Meetings/Seminar/Workshop/Conference attended

Dr. Kumar Ambrish, Scientist 'D' & HoO attended 83rd RCM & Heads of Offices Meeting from 21st to 23rd November 2017 and presented Half yearly progress report of the centre.

Visitors/students

A batch of 26 students from Dolphin institute, Dehradun visited the centre.

Publication

Kumar, R., Sharma, S., Sinha, B.K. and Purohit, C.S. 2017. Recollection of some plants for Mizoram after Gage (1901) from Murlen National Park, Champhai. *Indian J. Forest.* 40(3): 295–302.

Debta, M.R., Naik, R. and Mohanty, S. 2017. Assessment of ecosystem services of Sultanpur National Park, Gurgaon, Haryana: A geospatial approach. XXIX Biennial Conference of North East India Geographical Society cum XI International Geographical Union Commission Seminar to be held from 8th - 10th February 2018 in B. Borooah College, Guwahati.



Photo: Puneet Kumar

Dactylorhiza hatagirea, a high value medicinal plant collected from Sechu Tuan Nalla WLS in Pangli valley, Chamba

Dr. Kumar Ambrish
Scientist 'D' & HoO



Photo: H. Singh

NRC, BSI officials with 2nd prize Certificate and Shield: Received from Town Official Language Implementation Committee (TOLIC) for the year 2016-17

SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. J.H. Franklin Benjamin, Scientist 'C' and Mr. Rakesh, G. Vadhyar, Bot. Asst. conducted a botanical exploration tour to Kanniyakumari WLS, Tamil Nadu from 1st to 12th November 2017 and vouched 187 field numbers and identified 10 field numbers from previous collection. Dr. C. Murugan, Scientist 'D' & HoO and Dr. S. Arumugam, Bot. Asst. conducted a botanical exploration tour to Meghamalai WLS, Tamil Nadu from 10th to 16th November 2017 and vouched 163 field numbers. They also identified specimens of 65 field numbers from previous collection. Dr. K.A.A. Kabeer, Scientist 'D' and Mr. A. Ravi Kiran, Bot. Asst. conducted a botanical exploration tour to Kodaikanal WLS, Tamil Nadu from 20th November to 2nd December 2017 and vouched 109 field numbers and identified 39 field nos. from previous collection. In connection with documentation of Phytodiversity, Dr. J.V. Sudhakar, Bot. Asst. and Dr. S. Arumugam undertook a field tour to Erode, Dharmapuri, Vellore, Kancheepuram, Thiruvallur and Chennai from 23rd to



Photo: SRC

Dry deciduous forest at Suruli Patti section, Meghamalai



Evergreen forest at Vannathi parai section, Meghamalai



Photo: SRC

Scrub jungles at Venniari section, Meghamalai



Riparian vegetation at Arisi parai, Meghamalai



Photo: SRC

Sacred groves at Vannathi parai, Meghamalai



Research team at Brandhy parai, Meghamalai



Photo: SRC

Impatiens dasysperma from Kodaikanal WLS*Impatiens goughii* from Kodaikanal WLS

Photo: SRC

Impatiens henslowiana from Kodaikanal WLS*Impatiens viscida* from Kodaikanal WLS

30th November 2017 and vouched 87 field numbers of Cyperaceae of Tamil Nadu. Besides, they also identified 10 field numbers of Cyperaceae. Dr. M. Palanisamy, Scientist 'D' and Dr. S.K. Yadav, Bot. Asst. identified 62 field numbers of seaweeds from Goa coast.

Ex-situ conservation

Dr. S. Kaliamoorthy, Scientist 'D', Dr. M.Y. Kamble, Scientist 'D' and his team introduced 13 samples of 2 species, viz., *Acanthephippium bicolour* Lindl. and *Caralluma* sp., multiplied 78 samples, belonging to 16 taxa, developed 15 cuttings and recorded the phenological data of 26 plants, including 18 orchids and 8 other angiosperms at the National Orchidarium and Experimental Garden (NO & EG), Yercaud. They also conducted a local tour to Sanyasimalai Reserve forest, Yercaud on 16.11.2017 and collected seedlings of endemic and endangered species, *Crotalaria longipes* Wight & Arn. and introduced in Experimental Garden.

Digitisation of Herbarium specimens

Three isosyntypes (*Aneilema hookeri* C.B. Clarke; *A. ensifolium* Wight; *A. latifolium* Wight- Commelinaceae) were incorporated to type section of MH.

Scanning Electron Microscopy (SEM)

Dr. Sudhakar, Bot. Asst. and Mrs. R. Mehala Devi studied the nutlets of Cyperaceae using SEM. Dr. S. Kaliamoorthy and Dr. T.S. Saravanan fixed seven Orchid species into fixative agents for SEM study.

Meetings/programmes attended/conducted

Vigilance Awareness week 2017 was observed from 30th October to 4th November 2017 at SRC, BSI, Coimbatore.

An Office Council Meeting (OCM) was organized on 06.11.2017 under the chairmanship of Dr. C. Murugan. All the scientific officials attended the same and discussed various issues of research activities of the centre.

A Walk in Interview was conducted on 06.11.2017 at SRC, BSI, Coimbatore for the selection of candidates for GSDP Parataxonomy training programme.

Dr. M.Y. Kamble attended XXVII Annual Conference of Indian Association for Angiosperm Taxonomy & International Symposium on "Plant Systematics: Priorities and Challenges", held on 10th to 12th November 2017 organized by Department of Botany, University of Delhi, Delhi and presented a paper on "Diversity of Grasses in Shevaroy Hills of Eastern Ghats, India".



Photo: SRC

Interview panel selecting candidates for GSDP

Sri Rakesh G. Vadhyar attended and delivered a talk on Herbarium Techniques in the National Seminar on Basics in Angiosperm Taxonomy organized by PG & Research Department of Botany, MES Asambi College, Thrissur on 22nd and 23rd November 2017.

Public service rendered

Identified 64 plant specimens for the students / research scholars of various institutions.

Dr. M. Palanisamy was invited as external examiner to conduct Ph.D. viva-voce examination of Mr. P.Raja, Research scholar, Dept. of Botany, St. Joseph's college under Bharathidasan University, Trichy on 16.11.2017.

Two days classes were organised for 38 Forester including 7 ladies from Tamil Nadu Forest Academy on 25 and 27th November 2017. Several lectures on the history of BSI and its role in Biodiversity were delivered by the scientific officials of the centre.

Dr. J.V. Sudhakar, Dr. S. Arumugam, Mr. Rakesh G. Vadhyar and Mrs. R. Mehala Devi delivered lectures about BSI, Museum and MH Collections and about nomenclatural types to Botany students from Kerala and Tamil Nadu: TN Forest Training College, Vaiga Dam (2 batches 25 & 27th Nov. 2017) and KE College, Kottayam (14.11.2017).

Visitors/students

During this month, 90 scientific personnel/officials/students/scholars visited the museum, herbarium and library of this regional centre whereas 976 persons in 86 parties, including Mr. Ramanujan, CCF and Mr. Kribhashankar, DFO, Salem visited the NO & EG, Yercaud.

Publications

Murugan, C. and Arumugam, S. 2017. *Syzygium bournei* (Myrtaceae) – A New Species from the Western Ghats of Tamil Nadu, India. *Indian J. Forestry* 40(3): 275–277.

Murugesan, M., Arumugam, S. and Kabeer, K.A.A. 2017. *Tripogon paramjitianus* (Poaceae: Chloroidoideae) A New Species from the Western Ghats of Tamil Nadu, India. *Indian J. Forestry* 40(3): 279–281.

– Dr. C. Murugan
Scientist 'D' & HoO

WESTERN REGIONAL CENTRE, PUNE

Dr. Alok Chorghe, Post Doctoral Fellow conducted field tour from 13th to 25th November 2017 to Gooty and Guntur in Andhra Pradesh, Mahendragiri Hills and Koraput of Odisha state for the project, "Taxonomy & Caryopsis macro-morphology of Genus *Themeda* and allied spathacea genera in India".

Identification of herbarium specimens

Dr. J. Jayanthi, Scientist 'D' has identified 50 field numbers for the project, 'Floristic Diversity of Biligirirangaswamy (BRT) WLS, Karnataka'.

Dr. Priyanka Ingle, Scientist 'B' identified 14 specimens for the project, 'Floristic Diversity of Wan Wildlife Sanctuary'.

Dr. C.R. Jadhav, Botanist identified 35 specimens for the project, 'Floristic survey of Someshwara Wildlife Sanctuary, Karnataka'.

Sri S.C. Patil, Bot. Asst. identified three species of plants for the project, 'Flora of Pushpagiri Wildlife Sanctuary, Karnataka'.

Dr. A. Benniamin, Scientist 'D' identified 16 Pteridophyte species collected from Karnataka in connection with the project, 'Ferns of Karnataka'.

Sri D. Jesubalan, Bot. Asst. identified 2 Pteridophyte species for the project, 'Pteridophytic flora of Pushpagiri Wildlife Sanctuary, Karnataka with 10% periphery'.

Sri D. Tripathi, Senior Project Fellow identified five Pteridophyte species for the project, 'Pteridophyte flora of Kudremukh National Park, Karnataka'.

Dr. Rashmi Dubey, Scientist 'D' identified seven litter samples and cultured 2 soil samples and 2 water samples collected for the project, 'Taxonomic Studies of Microfungi of Sanjay Gandhi National Park along with its 10% peripheral area'.

Smt. Shreya Sengupta, Senior Project Fellow examined 46 slides of micro fungi for the project, 'Microfungi of Biligiri Rangaswamy Temple wildlife Sanctuary, Karnataka' and identified 13 species.

Dr. Alok Chorghe, Post Doctoral Fellow identified 2 species of the genus *Themeda* and conducted SEM studies of the caryopsis.

Public services rendered

During this month 19 plant species identified and issued authentication certificates to students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

Meetings/seminars/programmes attended

The valedictory function of the Green Skill Development Programme, Foundation Course: Biodiversity Conservationists was conducted on 10.11.2017 and certificates were distributed to seven students for completion of the course.



Photo: M.D. Pawar

GSDP students visiting the Nehru Medicinal Plant Garden in Regional Ayurveda Institute for Fundamental Research, Pune



Photo: D. Jesubalan

Distribution of certificates during valedictory session of GSDP Foundation Course at WRC, BSI, Pune

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO, conducted the Ph.D. open defense of Ms. A.P. Janeesha for his thesis, "Taxonomic Studies On Family Gesneriaceae in South India supplemented with molecular data" at Dept. of Botany, Calicut University on 16.11.2017

Dr. P. Lakshminarasimhan attended the 83rd RCM at AJCBIBG, BSI, Howrah on 22.11.2017

Dr. P. Lakshminarasimhan attended the Head of Offices meeting at CNH, BSI, Howrah on 23.11.2017 and gave a PPT on the progress of work of various action plan projects and also the new proposals.

Dr. P. Lakshminarasimhan attended the RAMC meeting at CNH, BSI, Howrah on 25.11.2017 and gave a PPT about WRC, BSI, Pune including the status of various ongoing projects.



Photo: M.D. Pawar



Visit of students from different schools to WRC, BSI, Pune as a part of study tour

Visitors/students

Ms. Snehal Dhavale, Research Scholar from SPPU (Pune University) visited WRC, BSI for consultation of family Zygothylaceae.

82 students from Anjuman-I-Islam's English Medium School, Bund Garden, Pune visited WRC, BSI on 10.11.2017.

47 Students from Little Millennium Pre-School, Wakad, Pune visited WRC, BSI garden on 15.11.2017.

102 students from Orbis School, Keshavnagar, Pune visited WRC, BSI on 22.11.2017.

Dr. P. Lakshminarasimhan
Scientist 'E' & HoO



Derris scandens (Roxb.) Benth. (LEGUMINOSAE: PAPILIONOIDEAE) is commonly known as Jewel vine or Hog creeper, an evergreen woody climber. It is native of India to Australasia through Malesia. Commonly grown as an ornamental plant in many gardens and its branched stem attains to 20 meter long. The plant is said to possess some medicinal properties and used especially in SE Asian countries.
Photo: K. Karthigeyan

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

Magazine Section

New Species of Banana Discovered
A & N Islands- a gold mine of unique plant species

Andaman and Nicobar Islands possess a distinct identity, not only because of its geography, history and culture but also because of the unique and richest biodiversity of its natural ecosystems and constitute one of the hotspots of biodiversity with 572 Islands. The Nicobar groups of Islands are separated from Andaman group by 10° channels with heavy tidal flows making sea difficult for transportation. Andaman and Nicobar Islands keeps reminding us that there are many incredible, remote and unexplored areas, leading to new discoveries happening every year and it is crucial that we protect them before they are lost. Earlier unique species of banana have been discovered from remote tropical rain forest of Little Andaman Island by Indian Scientist, Dr. Lal Ji Singh from Botanical Survey of India and named as *Musa indoramaniensis* which is unique from other known banana species by the presence of dark green, cylindrical flower bud and fruit with orange pulp and angled seeds. This species has been named in honour of the country and type locality jointly.

More recently during extensive and a systematic floristic explorations in the forested areas of Kichhampur, North Andaman, Dr. Singh, laid his eyes on discovery of an interesting banana species which is named in honour of Indian Taxonomist Dr. Paramjit Singh for his significant contributions to the taxonomy of flowering plants as *Musa paramjitiana*. This new taxon is remarkably distinct from other known banana species with grey green lanceolate floral bud, sour-taste and boat-shape fruits with fig or bulb shape black seeds.

(Contd. on page 57)

A & N Islands- a gold mine... (Contd. from page 3)
Dr. Singh published this new species in an esteemed international journal: Nordic Journal of Botany 35(1), 2017. Approximately 70 species are reported to occur wild in the world. This discovery takes the number of wild banana species found in the country to approximate 15 and in these Islands to 07, of which 4 species are endemic to Islands.

Dr. Singh, who is behind the discoveries stated that Wild banana have been found beneficial as a drug/ remedy for various health problems. Powder of dried basal portion of floral bud and seeds of wild banana are used to cure jaundice, blood pressure respectively by tribals especially Ranchi settler where it naturally occurs in these Islands. Pseudo-stem and leaves of these species are also used during auspicious, religious and cultural ceremonies along with other local palm leaves. Dr. Singh also stated that the germ plasma of all wild bananas needs to be conserved and it is significant in terms of crop improvement. These new species might be a choice of genetic base for plant breeders to develop high yielding, disease resistant variety of parthenocarpic edible banana.

By: Dr. Lal Ji Singh, BSI



Participants of five day training programme on basics of plant identification and nomenclature, organised at Eastern regional Centre, Botanical Survey of India, Shillong

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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