

BSI NEWSLETTER

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Botanical Survey of India
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Kolkata – 700 064



HEAD QUARTERS, KOLKATA

In connection with the ongoing projects such as Algal Flora of Jharkhand, Studies on Wild Mushrooms of Sikkim, Studies on the Macrofungi of AJCBIBG, Revision of the family Metzgeriaceae in India, Liverworts and Hornworts Flora of Darjeeling District, West Bengal and Wood Rotting Fungi of Rajmahal hills, scientists and scientific staff of Cryptogamic section identified, made descriptions and illustrations and also taken photomicrographs.

Mr. M.E. Hembrom, Botanist for Environment Impact Study on Rabindra Sarobar, Kolkata collected 35 nos. of wood rotting macrofungi from Rabindra Sarobar, Kolkata area as per the instructions of National Green Tribunal and processed them. Identification of 22 field numbers belonging to twenty two species was identified by Mr. Hembrom during this month.

Public service rendered

Dr. Monalisa Dey, Scientist 'B' attended students of the three colleges on educational visit to Central National Herbarium: Scottish Church College, Kolkata on 20.02.2017., Bijoy Krishna Girls' College, Howrah and Bangabasi Morning College, Kolkata on 23.02.2017.

Dr. A.B.D. Selvam, Scientist 'D' studied and authenticated two crude drug samples received from Ms. Rasna Parveen, Research Scholar, Lady Brabourne College and SSKM Hospital, Kolkata, viz., *Sinapis alba* (Brassicaceae) – Yellow mustard seeds and *Allium sativum* (Amaryllidaceae) – Bulbs of Garlic.

Programme conducted/lectures delivered

Botanical Survey of India has celebrated its 127-year foundation day on 13th February 2017, followed by a three-day Scientific Meet. All the scientific officials from eleven of its regional centres, and five units situated in Kolkata/Howrah, participated in the Scientific Meet held from 14th to 16th February at Central National Herbarium and presented about their scientific contribution. In these all the scientists and scientific staff of Headquarters presented their scientific achievements with the help of power point slides.

Dr. A.B.D. Selvam delivered a lecture on "Identification of CITES and Negative listed Medicinal Plants" in a Workshop on "Plant Systematics: Challenges and Perspectives and Dr. Dan H. Nicolson Memorial Lectures" held at Department of Botany, University of Calcutta on 15.02.2017.

Publications

Chakraborty, D., Das, K., Baghela, A., Adhikari, S. and Halling, R.E. 2017. A new species of porcini mushroom from India with morphology and phylogeny. *Nova Hedwigia* DOI: https://doi.org/10.1127/nova_hedwigia/2017/0405.

Chakraborty, D., Das, K., Baghela, A., Mehta, N., Singh, S.K., Mukherjee, S.K. and Zhao, R.L. 2017. Morphological and phylogenetic studies of *Lycoperdon rupicola*: first report for the Indian mycobiota. *Taiwania* 62(1): 93–98.

Chakraborty, D., Das, K., Adhikari, S., Karmakar, J., Parihar, A., Bandyopadhyay, T.K., and Mukherjee, S.K. 2017. Morphology and phylogeny of *Retiboletus kauffmanii* (boletaceae): a new record of wild mushroom from Indian Himalaya. *Indian J. Pl. Sci.* 6(1): 5–11.

Chakraborty, D., Parihar, A., Nikita, M., Baghela, A. and Das, K. 2017. A new species of *Xerocomus* (Boletaceae) from India. *Mycosphere* 8(1): 44–50.

Glimpses of 127th Foundation Day of Botanical Survey of India & Annual Scientific Meet 2017





CENTRAL NATIONAL HERBARIUM, HOWRAH

Dr. Rajib Gogoi, Scientist 'D' conducted a local tour to Rabindra Sarobar Lake, Kolkata on 01.02.2017 and 25.02.2017 in connection with Rapid EIA study of the lake and collected about 100 field numbers.

Herbarium identification

Dr. V.P. Prasad, Scientist 'D' identified six specimens of Cyperaceae species collected from Andaman & Nicobar Islands.

Dr. Vinay Ranjan, Scientist 'D', Dr. Gopal Krishna and Sri Anant Kumar, Botanical Assistants identified 10 field numbers collected from Neora Valley National Park, Darjeeling district, West Bengal.

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

Sri P.P. Ghosal, Botanist identified six species collected from Betla National park, Latehar, Jharkhand.

Public Service rendered

CNH officials identified 27 plant specimens: 21 by Dr. Gopal Krishna, 3 by Sri Vijay Mastakar and 3 by Sri Shyam Biswa, which have come from Dravyaguna Department, IPGT & RA Gujarat Ayurved University, Jamnagar, Gujarat; Department of Physiology, Hoogly Mohsin College, West Bengal and Department of Physiology, Govt. General Degree College, Kharagpur-II, West Bengal.

Dr. Gogoi reviewed a manuscript on *Impatiens* from Arunachal Pradesh received from *Nordic Journal of Botany*. Dr. V. Sampath Kumar, Scientist 'D' reviewed a manuscript on *Isodon* and sent report to the Editor in Chief of journal *Annales Botanici Fennici*. Dr. Subir Bandyopadhyay, Scientist 'B' reviewed a manuscript received from Executive Editor, *Journal of Economic and Taxonomic Botany*.

Dr. Bandyopadhyay provided PDF of 4 pages on *Bignonia* from Order out of Chaos by C. Jarvis (2007) and of 5 pages on *Bignonia indicum* from Fl. Cambodge, Laos & Vietnam volume 22 (1985) to Dr. Virendra Madhukar, NRC, BSI; of 9 pages [Bremekamp, C.E.B. 1965. Delimitation and subdivision of the Acanthaceae. *Bull. Bot. Surv. India* 7: 21–30] to Dr. Manoj Lekhak, Shivaji University, Kolhapur, Maharashtra; of 41 pages (*Nelumbo* 58: 1–43. 2016) to Dr. Santhosh Nampy, Professor of Botany, University of Calicut, Kerala; protologue of *Calamus nagbettai* (*Indian Forester* 96: 223. 1970) to Dr. Sujit Kumar Das Das, retired Scientist, BSI, Pune; of 2 pages of the protologue of *Terminalia chebula* [*Observ. Bot. (Retzius)* 5: 31. 1788] to Mr. Amol P. Salve Research Scholar, Department of Botany, Dr. Babasaheb Ambedkar Marathwada University, Maharashtra; of 34 pages from [*Taxon* 66(1): February 2017: 44–77] on A new subfamily classification of the Leguminosae based on a taxonomically comprehensive phylogeny by LPWG to Dr. M. Sanjappa and of 175 pages from 'The Dictionary of Flower Plants of India' by Santapau and Henry (1973) to Pramod Lawand, Shivaji University, Kolhapur and on his feedbacks the following changes has been made in IPNI: *Hardwickia binata* Roxb. – Pl. Coromandel 3: 6, t. 209. 1819 has been replaced by *Hardwickia binata* Roxb. – Pl. Coromandel 3(1): 6, t. 209. 1811[1819 publ. Jul 1811] and *Hardwickia binata* Roxb. – Hort. Bengal. 33. 1814; nom. inval. has been replaced by *Hardwickia binata* Roxb. – Hort. Bengal. 33. 1814.

Dr. Avisek Bhattacharjee, Scientist 'B' provided images of 5 Wallichian specimens (Numer. List no. 8767A, 8775, 8776B) to Dr. Alok R. Chorgha, SERB-NPDF, WRC, BSI, Pune.

Meetings/workshop/seminar attended

Dr. Gogoi attended meeting on Rapid EIA of Rabindra Sarobar as Expert Committee member in Najrul Manch, KIT, Kolkata on 07.02.2017.

Dr. P.V. Prasanna, Scientist 'F' & HoO attended workshop on 'Technical knowledge workshop for Bangladesh and India on vulnerability of Sunderban Biosphere Reserve in a changing climate' held at Ramakrishna mission, Golpark, Kolkata and participated in the BSIs Heads of offices meeting and 82 RCM held on 17th and 18th February 2017 at ISIM.

Dr. Maurya attended 'Botanical Nomenclature Course' from 09.02.2017 to 12.02.2017 at Botanical Survey of India, WRC, Pune.

Dr. Bandyopadhyay attended the lectures of Dr. K.N. Gandhi on 'Articles of ICN' at the Department of Botany, University of Calcutta in Department of Botany, Calcutta University.

Lecture delivered/programme celebrated

Celebrated BSI foundation day and scientific meet 2017 held at Auditorium, Central National Herbarium and AJCBIBG Campus from 13th to 16th February 2017. All CNH officials actively participated and assisted in various ways in organizing the function. All scientific officials delivered PPT presentation on scientific contribution made so far in past years during the scientific meet. On foundation day, the CD of ENVIS publications and a pamphlet, "Orchids– a nature's wonder" was released.

Dr. P.V. Prasanna delivered a lecture on 'Indian Grasses diversity and their identification techniques' at Ballygunge science college, Kolkata University in connection with AICOPTAX workshop.

Dr. Prasad delivered a lecture on 'Collection and Identification of Sedges (Cyperaceae)' at the University of Calcutta during the workshop on Plant Systematics: Challenges and Perspectives and Dr. Dan H. Nicolson Memorial Lectures organized by the Department of Botany, University of Calcutta.

Dr. S. Bandyopadhyay delivered a lecture entitled 'Some correct and incorrect usages in plant taxonomy' on 18.02.2017 in the workshop on Plant Systematics: Challenges and perspectives and Dr. Dan H. Nicolson memorial lectures organized by Department of Botany, University of Calcutta in Department of Botany, Calcutta University.

Dr. A. Bhattacharjee delivered a lecture in UGC Sponsored National Seminar on "Plant and Microbes in human welfare and sustainability" (NSPM-2017) on 24.02.2017 in Midnapore College (Autonomous), Midnapore, Paschim Medinipur, West Bengal.

Visitors

Ms. P.S., Annamma, Senior Project Fellow, Deccan Regional from 30th January to 6th February 2017.

16 students along with two teachers from S.B.S High School on 02.02.2017.

Students of B. Sc. Botany Hons. from Ananda Mohan College, Kolkata on 03.02.2017.

Ms. Sukriti Dutta, from CSIR, NEIST, Jorhat, Assam on 06.02.2017.

20 students along with three teachers from Taki Govt. College on 08.02.2017.

56 students along with six teachers from Jogesh Chandra Chaudhri College on 08.02.2017.

60 students of Class IX, X and XI-th standard from Adhata Girls' High on 09.02.2017.

Six students along with three teachers from East Calcutta girls' college, Lake town on 14.02.2017.

50 students along with three teachers from Bethune College on 14.02.2017.

Sri Gaurav Srivastava, Scientist 'C' from Birbal Sahani Institute of Palaeosciences, Lucknow on 15.02.2017.

Dr. Manish Kandwal, Scientist 'D', APRC, BSI from 20th to 26th February 2017.

70 students along with five teachers from Bijoy Krishna Girls' College on 20.02.2017.

29 students along with four teachers from Barasat Govt. College on 21.02.2017.

26 students along with four teachers from Pingla Thana Mahavidyalya on 21.02.2017.

40 students of B. Sc. Botany Hons. from Bangabasi Evening College, Kolkata on 21.02.2017.

14 students of B. Sc. Botany (General) from Maharaja Manindra Chandra College, Kolkata on 21.02.2017.

19 students along with two teachers from Jogmaya Devi College on 22.02.2017.

17 students along with two teachers from Rishi Bankim Chandra College on 22.02.2017.

20 students along with three teachers from Fakir Chand College on 23.02.2017.

31 students of B. Sc. Botany Hons. from Vivekananda College, Thakurpukur, Kolkata on 23.02.2017.

37 students of B. Sc. Botany (Hons. and General) from Bijoy Krishna Girls' College, Howrah on 23.02.2017.

Publications

Bandyopadhyay, S. 2017. Lectotypification of *Bauhinia ferruginea* (Fabaceae: Caesalpinioideae). *Phytotaxa* 297(1): 86–88.

Bandyopadhyay, S., Krishna, G. and Venu, P. 2016(2017). Failings in holotype deposition of twelve plant names. *Indian J. Forest.* 39(4): 407.

Bandyopadhyay, S. and Bhattacharjee, A. 2016(2017). Doctoral studies carried out at Botanical Survey of India - Part I. *Phytotaxonomy* 16: 143–146.

Bhattacharjee, A. and Ormerod, P. 2017. Reinstatement of *Vrydagzynea viridiflora* Hook.f. (Orchidaceae: Goodyerinae) with a note on misreport of *V. nuda* Blume from India. *Phytotaxa* 295(1): 95 – 97.

Chakrabarty, T. and Sampath Kumar, V. 2017. *Terminalia elliptica* (Combretaceae) is not conspecific with *T. arjuna*. *Phytotaxa* 295 (3): 297–300. (e-publication on 10 Feb 2017).

Gogoi, R., Borah, S. and Adamowski, W. 2017. *Impatiens tatoensis* (Balsaminaceae): a new species from Arunachal Pradesh, Northeast India and notes on lectotypification of the name *I. spirifera* Hook.f. & Thomson. *Telopea* 20: 21–27.

Gogoi, R., Hareesh, V.S. and Adamowski, W. 2017. *Impatiens zironiana* (Balsaminaceae), a new species from Arunachal Pradesh, Northeastern India. *Webbia* <http://dx.doi.org/10.1080/00837792.2017.1286773>.

Prasad, V.P. 2016. Two new synonyms in the genus *Kyllinga* (Cyperaceae). *Phytotaxonomy* 16: 23–25.

Prasad, V.P. and Simpson, D.A. 2016. Eight new synonyms in the genus *Pycreus* (Cyperaceae). *Rheedea* 26(2): 12–16.

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

CENTRAL BOTANICAL LABORATORY, HOWRAH

Sri A.C. Halder, Botanist, Sri P.K. Baske, Botanist, Dr. P.A. Dhole, Bot. Asst. conducted an ethnobotanical field tour Nayagarh district, Odisha from 6th to 17th February 2017. A total of 160 field numbers with 228 ethnobotanical uses collected. Of the 228 uses, 158 are medicinal, 36 food, 3 veterinary medicine, 7 tooth brush, 1 Basket making, 3 rope making, 1 country liquor, 2 Insect repellent, 3 dye making, 1 vermilion, 1 gum, 1 fish poison and 11 other purposes. Dr. Harish Singh, Scientist 'D' & HoO and Dr. P.A. Dhole identified 112 plant species collected from Nuapada district, Odisha; Sri A.C. Halder and Sri P.K. Baske identified seven plant species collected from Nayagarh district, Odisha. Dr. K.A. Sujana, Scientist 'D' and Sri R. Saravanan, Bot. Asst. documented 26 endemic trees of Kerala and field data of Andaman & Nicobar Islands. Dr. Monika Mishra studied vegetative and reproductive characters of *Syzygium zeylanicum* (Myrtaceae) counted chromosome no. as $2n=22$.



A view of a Kondh village at Mahukana, Gania Forest Range, Nayagarh, Odisha



Interacting with medicine man at Sullia R.F., Mahipur Range, Nayagarh, Odisha

Photo: CBL

Public service rendered

Dr. Harish Singh provided ethnobotanical literature (Books, papers, reprints) to Dr. P.K. Hajra, former Director, BSI on 27.01.2017. Dr. K.A. Sujana given information on *Gymnosporia* to Dr. K.M. Prabhukumar, CMPR, Kottakkal, Kerala.

Dr. Harish Singh reviewed a research paper for *Journal of Economic and Taxonomic Botany* on 21.02.2017. Dr. Sujana reviewed one article each for *Bangladesh journal of Botany* and for *Journal of Economic and Taxonomic Botany*.

Training courses attended

Ms. Sagari Chaudhury, SPF attended a workshop on “Botanical Nomenclature Course”, organized by Botanical Survey of India, WRC, BSI, Pune at IISER, Pune from 9th to 12th February 2017.

Meetings/programme attended

Dr. Harish Singh, Dr. K.A. Sujana and Dr. Monika Mishra attended 127th Foundation day programme on 13th February, 2017 at CNH, Howrah. Dr. Harish Singh delivered a lecture on “History and overall achievement of CBL” on the inaugural session.

Dr. Harish Singh, Dr. K.A. Sujana and Dr. Monika Mishra presented on “Contribution and achievement of research and administrative activities” at CNH during “BSI Annual Scientific Meet” on 14.02.2017. Dr. Singh attended a Head of office meeting and presented “The progress of CBL during 2016-17” as per Agenda on at ISIM, Kolkata on 18.02.2017. Dr. H. Singh also attended RCM meeting at ISIM, Kolkata on 18.02.2017.

Visitors/Students visited

43 students and six teachers from Narajole Raj College, Narajole, Paschim Medinipore, West Bengal and Charuchandra College, Kolkata were visited ethnobotanical museum at CBL.

Dr. P.K. Hajra, former Director, BSI and Sri R.N. Saroj, Deputy Director, Rajbhasha Training, Kolkata also visited ethnobotanical Museum.

– Dr. Harish Singh
Scientist ‘D’ & HoO

INDUSTRIAL SECTION INDIAN MUSEUM, KOLKATA

The botanical paintings by W. Roxburgh are being interpreted with updated nomenclature. Under this project, from family Zingiberaceae 14 names are analyzed and 15 valid names are found. They are *Kaempferia angustifolia* Roscoe, *K. galanga* L., *K. ovalifolia* Roxb., *K. rotunda* L., *Sphenodesme pentandra* var. *wallichiana* (Schauer) Munir, *Roscoea tomentosa* Roxb., *Congea tomentosa* Roxb., *Zingiber elatum* Roxb., *Z. ligulatum* Roxb., *Z. officinale* Roscoe, *Z. roseum* (Roxb.) Roscoe, *Z. rubens* Roxb., *Z. wightianum* Thwaites, *Globba pendula* Roxb., *Zingiber marginatum* Roxb.

Database of Herbarium Specimens

As a part of preparing a database of herbarium specimens at BSIS, 145 numbers of Dicot herbarium specimens were listed and documented.

Updating of Nomenclature of digitized Herbarium Specimens at BSIS

335 numbers of Digitized Herbarium specimens were updated with valid botanical names, basionyms/synonyms.

Public service rendered

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

Meetings Workshop/Seminar organised/attended

Dr. M. Bhaumik, Dr. A.K. Sahoo, Mrs. Geeta Chowdhury, Sri D.L. Shirodkar, Sri B.C. Dey and Sri S.K. Sharma participated in 127th Foundation Day of BSI on 13th February 2017 and participated in the Annual Scientific

Meet-2017 at CNH, Howrah on 14th February 2017 and presentations made on “Self-Research career and Achievements at BSI”. Dr. M. Bhaumik, Dr. A.K. Sahoo, Mrs. Geeta Chowdhury, Sri D.L. Shirodkar, Sri B.C. Dey, and Sri S.K. Sharma made arrangement for BSI-HOO’s meeting and 82nd Regional Council Meeting of BSI held at ISIM during 17th-18th February, 2017.



Dr. P. Singh, Director, BSI & Head of Offices of BSI's Regional Centres during HoO's Meeting held at ISIM, Kolkata on 17.02.2017



Dr. P. Singh, Director, BSI discussing various agenda with Head of Offices & Staff-side members from BSI's Regional Centres during 82nd Regional Council Meeting

Visitors/students

60 school students of Dum Dum Motijhil Girls' High School visited botanical Gallery & Exhibition on “Joseph Dalton Hooker: Botanical Trailblazer and the Botanical Heritage of India” as a collaborative scientific exhibition programme of CWEH, University of Sussex with BSI and a lecture on “Sundarbans of India: A hub of Mangroves” by Prof. Sutapa Sarkar, Dept. of History, West Bengal State University on 11.02. 2017.

Mr. Rob Linrothe, Department of Art History, North West University, USA visited J.D. Hooker’s Exhibition on 14.02.2017.



Students of Dum Dum Motijhil Girls' High School during a lecture on “Sundarbans of India A hub of Mangroves” by Prof. (Dr.) Sutapa Sarkar on 11.02.2017



Students of Dum Dum Motijhil Girls' High School visiting Botanical Gallery & Exhibition on Joseph Dalton Hooker: Botanical Trailblazer and the Botanical Heritage of India

**– Dr. Manas Bhaumik
Scientist 'D' & HoO**

ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Herbarium identification

Dr. Sanjay Mishra, Scientist 'B' conducted a field tour to Little Andaman from 22nd February to 1st March 2017 and collected seed, seedlings of RET species and plants of medicinal and economic importance for introduction in the Dhanikhari Experimental Garden cum Arboretum.

Digitization of herbarium specimens

Herbarium sheets Scanned: 41 numbers belonging to the family Myristicaceae.

Herbarium details computerized in EXCEL format: 1099 herbarium specimens of families Acanthaceae, Bignoniaceae, Gesneriaceae, Scrophulariaceae, Thunbergiaceae and Verbenaceae were fed in the computer in a prescribed format.

Public service rendered

Dr. Lal Ji Singh, Scientist 'D' & HoO served as question paper setter of theory examination of forest botany for Forest Training Research Institute, Wimberligunj, South Andaman.

Dr. Singh also served as an external examiner of theory examination of forest botany and evaluated 17 copies for the Forest Training Research Institute, Wimberligunj, South Andaman.

Dr. Singh attended three days National Conference on Climate Change, Biodiversity and Bio-resource management as a guest of honour at JNRM, Port Blair from 01.02.2017 to 03.02.2017.

Dr. Singh delivered an invited lecture on "Plant Diversity of Andaman and Nicobar Islands" during refresher course for IFS Officers at Department of Environment and Forests, Andaman and Nicobar Islands, Port Blair on 27.02.2017.

Meeting/conference/programme attended

Dr. Lal Ji Singh attended three days National Conference on Climate Change, Biodiversity and Bio-resource management as a guest of honour at JNRM, Port Blair from 01.02.2017 to 03.02.2017.



Photo: G.A. Ekka

Dr. Lal Ji Singh attending National Conference on Climate Change, Biodiversity and Bio-resource management

Dr. Singh attended two days workshop on "Conservation of Biodiversity and Ecological Security" in commemoration of 50 years of Indian Forest Service in Andaman and Nicobar Islands at Port Blair from 09.02.2017 to 10.02.2017.

Dr. Singh attended 127th Foundation Day of Botanical Survey of India at CNH, Kolkata on 13.02.2017.

Dr. Singh and other scientists and technical staff attended Scientific Meet of Botanical Survey of India at CNH, Kolkata from 14.02.2017 to 16.02.2017.

Dr. Singh, attended HoO meeting & Regional Council Meeting at Indian Museum, Kolkata on 17.02.2017 and 18.02.2017 respectively.

Dr. Singh, attended seminar on “One Health Approach: Emerging Infectious Diseases and Challenges” at ICMR, Port Blair on 23.02.2017.



Photo: G.A. Ekka

Dr. Lal Ji Singh delivering key note address during National Conference on Climate Change, Biodiversity and Bio-resource management at Port Blair



Photo: G.A. Ekka

Dr. Snehal Donde, Principal, Hillary Visa Oswal College of Commerce, Bhiwandi, Maharashtra at Herbarium, ANRC, BSI, Port Blair



Photo: G.A. Ekka

Students of JNRM college at Mounting section and Herbarium ANRC, BSI, Port Blair



Visitors/students

Dr. Snehal Donde, Principal, Hillary Visa Oswal College of Commerce, Bhiwandi, Maharashtra along with 4 member visited Library and Herbarium on 01.02.2017.

Sri Sujit, SRF, Department of Botany, University of Burdwan visited Library, Herbarium and Garden on 02.02.2017.

10 students and 2 teachers of JNRM College visited Library, Herbarium and Garden on 06.02.2017.

3 students, Govt. School, Mohanpura, Port Blair visited Library and Herbarium on 20.02.2017.

Ms. Arpita of JNRM College visited library on 21.02.2017.

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

CENTRAL REGIONAL CENTRE, ALLAHABAD

A total of 68 specimens were identified in to 27 species for the ongoing projects, 'Floristic Diversity of Kishanpur Wildlife Sanctuary, Lakhimpur Kheri, U.P.' and 'Floristic Diversity of Parvati Aranga Wildlife sanctuary and adjoining Tikri forest area, Gonda, U.P.' Under Flora of India Project 22 lichen specimens were identified in to 22 species. In addition, 42 earlier collected specimens housed at BSA were also identified. Taxonomic description of 10 species were completed for the ongoing projects 'Flora of Chhattisgarh Vol.- I', six species in connection with 'Flora of Chandraprabha Wildlife Sanctuary, Chandauli, UP.' and 47 species Under 'Flora of Chhattisgarh' Vol. II.



Petrea volubilis flowering in CRC garden



Tabebuia aurea flowering in CRC garden

Public service rendered

Sri Vineet Kumar Singh, Bot. Asst. authenticated a plant specimen brought by Mr. Nasim Akram, M. Pharm, Shambhunath Institute of Pharmacy, Allahabad as *Terminalia chebula*.

Dr. Nitisha Srivastava, Bot. Asst. reviewed a manuscript entitled "Study on natural food colorants extracted from *Phyllanthus reticulatus* fruits as a healthier alternative to synthetic food color" for Premier Publishers.

Symposia/seminars/workshop/meeting attended

Dr. Arti Garg, Scientist 'D', Dr. A.N. Shukla, Scientist 'B', Dr. Ashutosh Kumar Verma, Scientist 'B' and Dr. Pushpi Singh, SPF attended Second Botanical Nomenclature Course organized by BSI, WRC, Pune from 9.2.2017 to 12.2.2017.

Dr. G.P. Sinha, Scientist 'E' & HoO, Dr. Arti Garg, Dr. A.N. Shukla, Dr. Neelam Gautam, Scientist 'B', Dr. Ashutosh Kumar Verma, Sri Vineet Kumar Singh and Dr. Nitisha Srivastava attended Botanical Survey of India Annual Scientific Meet-2017 at CNH, Howrah from 13.02.2017 to 16.02.2017 and presented their works and achievements.

Dr. G.P. Sinha and Dr. Neelam Gautam visited P.A.O. (BSI & ZSI), Kolkata respectively on 14.2.2017 and 17.2.2017 in connection with certain clarifications and functioning of BHAVISHYA portal.

Dr. G.P. Sinha attended Head of Office meeting and Regional Council Meeting at ISIM, Kolkata respectively on 17.02.2017 and 18.02.2017. Dr. G.P. Sinha, Dr. Arti Garg, Dr. Neelam Gautam, Sri Vineet Kumar Singh visited the IISM Museum with special focus on Hooker's Gallery at IISM, Kolkata on 17.2.2017.

Publications

Verma, A.K., Mishra, M., Mallick, L., Bharathi, K.A., Dash, S.S., Singh, H. and Singh, P. 2016. Database on chromosome counts of plants of Acharya Jagadish Chandra Bose Indian Botanic Garden, Howrah, India. 58:57–58.

– Dr. G.P. Sinha
Scientist 'E' & HoO

NORTHERN REGIONAL CENTRE, DEHRADUN

Identified total 62 species and made descriptions for 95 species of plants under the projects on Flora of Uttarakhand Vol. V; Floristic Diversity and Phytosociological study of Simbalbara National Park; Flora of Nandhour Wildlife Sanctuary; Flora of Sonanadi Wildlife Sanctuary; Flora of Sechu-Tuan Nala Wildlife Sanctuary, Himachal Pradesh; Trees of Dehradun city and its vicinity; Revision of family Cyatheaceae and genus *Adiantum* in India.



Photo: Rajni Kant

***Morchella esculenta* (Gucchi) – Economically important fungi collected from Himachal Pradesh**



Photo: Sanjeev Gupta

Collection of *Incarvillea emodi* from Kathua by Amber Srivastava



Meetings/training/conference attended

Dr. S.K. Srivastava, Scientist 'E' & HoO, attended and presented work done by him since Ph.D. at annual scientific meet held at BSI, Kolkata on 15.02.2017.

Dr. S.K. Srivastava attended HoO meeting at BSI Kolkata on 17.02.2017.

Dr. S.K. Srivastava attended 82nd RCM at ISIM, BSI, Kolkata on 18.02.2017.

Dr. P.K Pusalkar, Scientist 'D', attended 'Uttarakhand Biodiversity Board Meeting of Committee on Threatened Plants' on 03.02.2017 as BSI representative.

Drs. P.K Pusalkar, Kumar Ambrish, Scientist 'D', R.

Manikandan, Scientist 'D', G.S. Panwar, Scientist 'C', K.S. Dogra, Scientist 'C', Puneet Kumar, Scientist 'B' and M.R. Debta, Scientist 'B' have attended IIRS-User Interaction Meet 2017 on 23rd February, 2017 organized by Indian Institute of Remote sensing, Dehradun, Uttarakhand.



Photo: NRC

Dr. S.K. Srivastava delivering talk during the Spring Festival at BGIR, Noida

Dr. K.S. Dogra attended training on 16th Foundation training programme for Scientists and Technologists at Indian Institute of Public Administration, New Delhi from 21st November 2016 to 10th February 2017.



Dr. S.K. Srivastava presenting AAP progress report of the centre during HoO meeting at ISIM, Kolkata



Photo: P.K. Pusalkar

Dr. Kailash Chandra, Director, Zoological Survey of India at herbarium, NRC, BSI, Dehradun

Visitors/students

Dr. Kailash Chandra, Director, ZSI visited the centre on 06.02.2017.

A group of 25 M.Sc. students from Guru Govind Singh Indraprastha University, Dwarka, New Delhi visited the centre.

Publications

Deroliya, P.K., Srivastava, S.K. and Durgapal, A. 2017. *An enumeration of the fern flora of Chamapawat District, Uttarakhand.*

Kumar, P., Manikandan, R., Panwar, G.S. and Srivastava, S.K. 2017. Diversity of high altitude ethno medicinal plants in Himachal Pradesh, India. *Indian For.* 143(2): 165–179.

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

SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Dr. Dinesh Kumar Agrawala Scientist 'C' & HoO finalized 50 specimens in respect of their identity, label data, finding geo-coordinates and entering in the EXCEL sheet for the project, "Red listing of Orchids of Eastern Himalaya as per IUCN criteria".

Dr. Sankararao Mudadla, Scientist 'B' identified one specimen for the project, "Flora of sacred groves of East Sikkim".

Digitisation of Herbarium specimens

650 herbarium sheets were scanned and meta data of 680 sheets belonging to Leguminosae (Papilionaceae) Family were entered into Excel -worksheet.

Meeting/programme attended

Organized quarterly Hindi work shop on 09.02.2017.

Dr. Dinesh Kumar Agrawala attended Annual scientific meet and Heads of office meeting at CNH, Howrah and ISIM, Kolkata from 13th to 19th February 2017.

Dr. Sankararao Mudadla and Dr. David Lalsam Baite attended Annual scientific meet from 13th to 16th February 2017 at CNH, Howrah.

Visitors/students

Mr. Subbajit Lahari, JPF, National Mission on Himalayan study (NMHS) from Central National Herbarium, Howrah visited this center for herbarium consultation from 1st to 11th February 2017.

Five M.Sc. Botany students from Sikkim University visited this center for herbarium consultation on 07.02.2017.



Sikkim University students at herbarium of SHRC, BSI, Gangtok, Sikkim



Ranaghat College students at herbarium of SHRC, BSI, Gangtok, Sikkim

27 B.Sc., Botany Hons. Part-II students from Ranaghat College, Nadia district, west Bengal visited this center for their college curriculum visit on 09.02.2017.

A.K. Rastogi CPWD (CCU), MoEF & CC and L. Dung Dung, CPWD S.E, CCU, Kolkata visited this center on 21.02.2017.

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

SOUTHERN REGIONAL CENTRE, COIMBATORE

Dr. S. Kaliamoorthy, Scientist 'D', Dr. M.Y. Kamble, Scientist 'D' and Dr. T.S. Saravanan, Bot. Asst. conducted a plant exploration tour to Silent Valley National Park, Kerala from 24th to 28th January 2017 and vouched 27 field numbers of orchids, and seedlings and cuttings of and 11 endemic trees. Dr. S. Arumugam, Bot. Asst. conducted a field tour to Mukuruthy National Park from 1st to 6th February 2017 and vouched 8 field numbers of Cyperaceae.

Herbarium identification

Dr. C. Murugan, Scientist 'D' and Dr. S. Arumugam identified 50 field nos. from previous collections of Meghamalai WLS, Tamil Nadu. Under the fragile ecosystems, Dr. M. Palanisamy, Scientist 'D' and Mr. S.K. Yadav, Bot. Asst. identified 42 field numbers of seaweeds and collected 4 references in connection with Seaweed Flora of Karnataka coast. Dr. K.A.A. Kabeer, Scientist, 'D' and Sri A. Ravi Kiran, Bot. Asst. identified 76 field numbers from previous collection in connection with Floristic studies of Kodaikanal WLS, Tamil Nadu. Dr. J.H. Franklin Benjamin, Scientist 'C' and Sri Rakesh G Vadhyar, Bot. Asst. identified 15 field numbers for Flora of Kanniyakumari WLS. Under the documentation of Phytodiversity, Dr. C. Murugan, Dr. J.V. Sudhakar & Dr. S. Arumugam identified 4 field nos. and completed author citations for 4 species of *Carex* in connection with the project Cyperaceae of Tamil Nadu. For the flora of Kerala vol. 6, Dr. M.Y. Kamble, Scientist, 'D' and Dr. T. Saravanan, Bot. Asst. are involved in the finalisation of the Manuscript for the families from Bromeliaceae to Burbaniaceae (excluding Dioscoreaceae & Amaryllidiaceae) whereas Sri R.K. Singh, Botanist and Dr. S. Pradeesh, Bot. Asst. completed nomenclature for 25 species and database for 6 genera of the family Commelinaceae. Dr. J.V. Sudhakar and Ms. A. Anantha Lakshmi, Sr. Pres. Asst. completed descriptions for 4 taxa under the family Lamnaceae.

Digitisation of Herbarium specimens

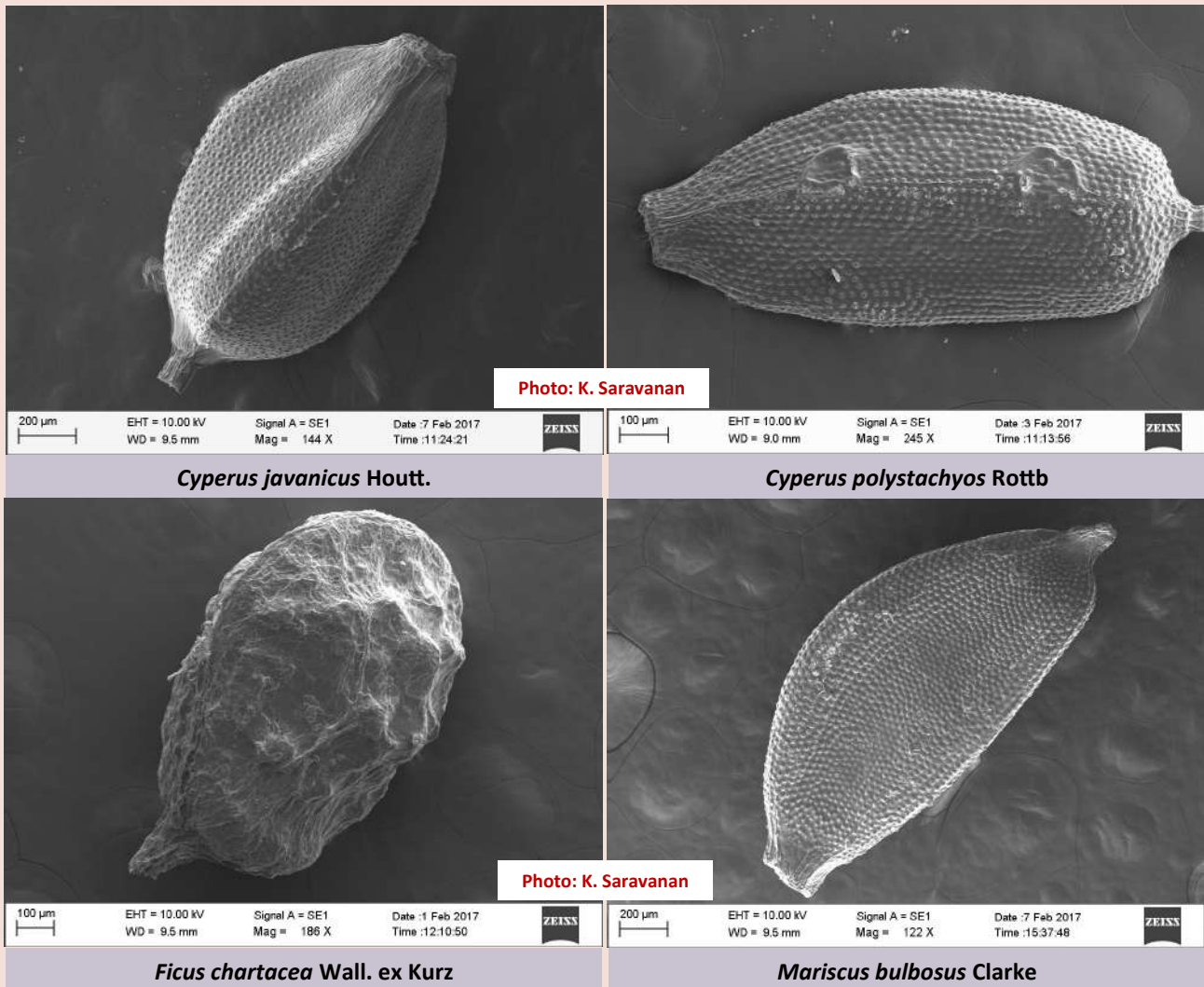
A total of 7397 herbarium sheets were barcoded.

Ex-situ conservation

Dr. S. Kaliamoorthy, Scientist 'D' and his team at the National Orchidarium and Experimental Garden (NOEG), Yercaud introduced 38 taxa including 27 orchids and 11 other endemic trees collected from the Silent Valley National Park. Besides, they also multiplied 144 samples of 12 taxa, developed 37 cuttings, transplanted 17 samples and recorded the phenological data of 21 species including 11 orchids and 10 other angiosperms.

Scanning Electron Microscopy (SEM)

Dr. J.V. Sudhakar took 20 SEM images of achenes of 5 species of *Ficus*. Dr Sudhakar along with Ms. Anantha Lakshmi also collected nutlets from 26 species of the tribe Cyperae and Fimbristyledeae from south India.



Type specimens

3 type specimens [*Smithia venkobarrowii* Gamble var. *glabra* A.P. Balan & S.V. Pradeep (Holotype); *Ixora predeepii* Anoop & Harikrishnan (Holotype and Paratype)] and 2 general herbarium specimens of *Desmodium intortum* (Mill.) Urb., received from Dr. Anoop. K. Balan, Indian Cardamom Research Institute, Idukki, Kerala were incorporated in MH.

Public service rendered

75 plant specimens including 9 seaweeds were identified for research scholars and students of various institutions. Ten digital images of *Sonerila* species were sent to TBGRI, Trivandrum.

Meetings/programmes attended

Dr. C. Murugan was on an official tour to CNH, Botanical survey of India, Kolkata and attended the Annual Scientific Meet, Heads of Office Meeting and Regional Council Meeting on 16th, 17th and 18th February 2017 respectively.

Dr. M. Palanisamy, Dr. S. Kaliamoorthy, Dr. K.A.A. Kabeer, Dr. M.Y. Kamble, Dr. J.H. Franklin Benjamin and Dr. T.S. Saravanan attended the Annual Scientific Meet held at CNH, Botanical survey of India, Kolkata on 16th February 2017 and presented the scientific progress reports.

Dr. J.H. Franklin Benjamin attended and successfully completed the 16th Foundation Training Programme for Scientists & Technologists at Indian Institute of Public Administration, New Delhi between 5th December 2016 to 10th February 2017.

Visitors

A total of 193 students / research scholars and 21 scientific personnel / officials visited the museum, herbarium and library of this regional centre whereas 855 persons in 85 parties visited the NOEG, Yercaud.

Ph.D. viva-voce

A public Ph.D. viva-voce was held at Botanical Survey of India, Coimbatore on 23rd February 2017. Sri Sudhir Kumar Yadav presented and defended the thesis entitled, "A Taxonomic Study on the Marine Macro Algae of Kerala, South West Coast of India" (Research Supervisor: Dr. G.V.S. Murthy, Former Scientist 'G' & HoO).



Photo: V. Ramesh

Sri S.K. Yadav presenting about his Ph.D. thesis during viva-voce at SRC, BSI, Coimbatore

Publications

Singh, R.K. 2017. Lectotypification of Four Names for Indian *Psychotria* (Rubiaceae). *J. Jpn. Bot.* 92(1): 20–26.

Singh, V. & Singh, R.K. 2017. सोनापाठा – एक चमत्कारी औषधीय पादप. *Van Sangyan* 4(1): 28–31.

– Dr. C. Murugan
Scientist 'D' & HoO

WESTERN REGIONAL CENTRE, PUNE

Sri S.C. Patil, Bot. Asst. identified 31 plant species collected from Pushpagiri Wildlife Sanctuary, Karnataka.

Dr. A. Benniamin, Scientist 'D' identified 5 Pteridophyte species collected from Karnataka and also studied the spore morphology of three Pteridophyte species under Scanning Electron Microscope (SEM).

Sri D. Jesubalan, Bot. Asst. identified 2 Pteridophyte species collected from Pushpagiri Wildlife Sanctuary, Karnataka and studied the spore morphology of one Pteridophyte species under Scanning Electron Microscope (SEM).

Sri D. Tripathi, Senior Project Fellow identified 4 Pteridophyte species collected from Kudremukh National Park, Karnataka.

Smt. Shreya Sengupta, Senior Project Fellow examined 211 slides of microfungi collected from Biligiri Rangaswamy Temple Wildlife Sanctuary, Karnataka.

Public service rendered

During this month 11 plant species were identified and issued authentication certificates to students from B. Pharm, M. Pharm. colleges, Ph.D. and P.G. students from different institutions.

Botanical Nomenclature Course

All scientists and scientific staff have attended Botanical Nomenclature Course organized by WRC, BSI at IISER, Pune from 9th to 12th February 2017. Dr. Kanchi N. Gandhi, Senior Nomenclature Registrar, Harvard University, U.S.A was the Course Director, Dr. P. Lakshminarasimhan, HoO was the Course Co- Ordinator.

Glimpses of Botanical Nomenclature Course organized by WRC, BSI at IISER, Pune





O&M inspection at WRC, BSI, Pune

Meetings /seminars /programmes/attended

Dr. J. Jayanthi, Scientist 'D' has attended the 2nd meeting of sub-committee for threatened plants/animals species in the state conducted by Maharashtra State Biodiversity Board, Pune office on 02.02.2017.

Dr. Priyanka Ingle, Scientist 'B' has attended '16th Foundation Training Programme for Scientists & Technical Personnels' during 27th November, 2016 to 10th February, 2017 at Indian Institute of Public Administration, Delhi.

All the scientists and scientific staff attended the Annual Scientific meet of BSI organized at Central National Herbarium, Howrah in connection with the 127th Foundation Day of BSI (13th to 16th February 2017) and gave a presentation on 16.02.2017 about their achievements since joining at BSI.

Dr. P. Lakshminarasimhan, Scientist 'E' & HoO has attended the Heads of Offices of BSI meeting held at ISIM, BSI, Kolkata on 17.02.2017 and gave a ppt about the progress of work made by the scientists and staff at BSI, WRC, Pune during 2016-17 and the new projects to be taken up during 2017-18. The ppt also covered the fund utilized during 2016-17, status of audit paras, etc.

Dr. P. Lakshminarasimhan attended the 82th Regional Council Meeting of the Botanical Survey of India organized at ISIM, BSI, Kolkata on 18.02.2017.

Visitors/students

Participants of Pune Heritage Walk 2017 visited WRC, BSI, Pune on 06.02.17 on the occasion of Virast- Pune - Pune Heritage Festival organized by Janwani & INTAC. Video about BSI was shown to the participants and legacy of BSI has explained to them. They have visited Herbarium, Museum, Garden and Heritage building.

Dr. Kanchi N. Gandhi, Senior Nomenclature Registrar, Harvard University, U.S. A visited BSI, WRC, Pune during 09.02.2017.

A total of 14 visitors visited BSI, WRC, Pune during this month from different parts of Maharashtra for Museum, herbarium and library consultation.

Dr. P. Lakshminarasimhan
Scientist 'E' & HoO

PLANT OF THE MONTH



Cochlospermum religiosum (L.) Alston (Bixaceae), commonly known as Buttercup tree or silk cotton tree, native to Indian Subcontinent and SE Asia. The flowers are buttercup shaped and are offered in the temples, hence the specific epithet. It has both economic and medicinal value and is often cultivated in the tropical regions.

Photo: D.L. Sirodhkar

वनस्पती विज्ञानाचे भांडार बोटॅनिकल सर्व्हे ऑफ इंडिया

ब्रिटिशांच्या काळात भारतीय वनस्पती सर्वेक्षण (बोटॅनिकल सर्व्हे ऑफ इंडिया) या संस्थेची स्थापना १३ फेब्रुवारीला १८९० मध्ये कोलकाता करण्यात आली. या संस्थेच्या स्थापनेस स्ववाशे वर्षे पूर्ण झाली आहेत. पुण्यातील कोरेगाव पार्क परिसरामध्ये या केंद्राची स्थापना १२ डिसेंबर १९५५ मध्ये करण्यात आली. पुण्यातील शाखेने साठ वर्षे ओलांडली आहेत. संशोधकांनी अथकपणे केलेल्या संशोधनांमुळे पुण्यातील शाखेकडे ५७१ प्रकारच्या वनस्पतींमधील एक लाख ७० हजार वनस्पतीचे नमुने उपलब्ध आहे. स्थानिक, जिल्हा, राज्य आणि राष्ट्रीय अशी विभागवार वनसंपदेची नोंद ठेवणे, आणि देशातील अधिकृत सजीव आणि शुष्क उद्यानांचे विष्वस्त म्हणून काम पाहण्याची जबाबदारी या कार्यालयाकडे आहे. वनस्पती संपदेचे सर्वेक्षण करून विभागानुसार अचूक आणि सविस्तर माहिती संकलन केली जाते. वनस्पती स्थाननिहाय वितरण, परिसंस्था आणि आर्थिक दृष्टीकोनातून त्या वनस्पतींचा उपयोग केला जातो. शैक्षणिक आणि संशोधन संस्थांना उपयुक्त ठरतील, अशा वनस्पतींचे नमुने गोळा करून वर्गीकरणानुसार ते संबंधित संस्थांना दिले जातात. या केंद्रात मुख्यतः पश्चिम घाट, महाराष्ट्र, कर्नाटक, केरळ, गोवा आणि राजस्थान वनस्पतींवर संशोधन केले जाते. केंद्रातील बोटॅनिकल गार्डन, संग्रहालय बघण्यासारखे असून वनस्पती अभ्यासकांसाठी येथील अद्ययावत ग्रंथालय म्हणजे पर्वणीच ठरते.



महाराष्ट्र टाइम्स, पुणे ■ मंगळवार, २८ फेब्रुवारी २०१७

INDIA'S NATIONAL NEWSPAPER SINCE 1858

FEBRUARY 26, 2017

KOLKATA

THE HINDU ON SUNDAY

SECTION 2

Barack Obama takes in a Broadway show, but shuns the spotlight
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Low cost solar imports from China hurting Make in India mission
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U.S. space agency plans manned test flight
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How manja, which can slit throats, also kills trees

Glass-coated thread colludes with creepers to strangle native vegetation in the botanic garden in West Bengal

SHIV SAHAY SINGH
KOLKATA

Manja, or the glass-coated string used for flying kites, not only poses threat to humans, animals and birds but also to trees. A study by the country's oldest botanical garden has revealed that it kills trees as well. But how could a snapped string attached to a kite struck in a tree kill the tree? Apparently it does so by allying with the tender climbers in the garden.

The paper by three scientists of the Acharya Jagadish Chandra Bose Indian Botanic Garden, located in West Bengal's Howrah district, illustrates in detail how the manja, in collusion with climbers, does the damage. "The abandoned, torn kite strings act as an excellent primary supporting platform for the tender climbers, giving easy passage to reach the top of the trees. Later production of



Snuffing out lives: Tangled kite strings on trees kills birds and supports creepers like wood rose that block sunlight from reaching trees in the botanic garden near Kolkata. SPECIAL ARRANGEMENT

lateral branches from the top of the climber and other accessory branches from the ground reaches to the top taking support of the first climber, completely covers the tree top, thus inhibit the penetration of sunlight," says the research.

The paper, authored by C.M. Sabapathy, Basant Kumar Singh and Arabinda Pramanik, states that the

string intertwined with climbers reduces assimilation rate, hampers the pollination and slowly brings about the death of trees in the botanic garden.

The scientists have identified at least 15 creepers -- which include species like *Antigonon leptopus* (Mexican creeper) *Bignonia unguis-cati* (Cat claws) *Cocculus vilosus* (Broom Creeper) and

Dioscorea bulbifera (the air potato) *Operculina terpathum* (Wood Rose Vine) and *Mikania micrantha* (Bitter vine) -- that can climb even tall trees with the support of the manja entangled in its branches.

For instance, take the case of *Bentinckia nicobarica* -- a rare palm tree only endemic to Nicobar islands of the country. Usually a

creeper on its own cannot do any harm to a palm tree. But climbers like Wood Rose Vine and Bitter Vine can throttle the tree to death.

"Some of our important trees have died in the garden. We are trying to remove these vines from the endemic pine trees so that they can survive. In seven out of 10 cases, it is found that these noxious weeds are

reaching on the top of other trees only due to these strings," Mr. Singh said.

Other important trees like *Strychnos nux-vomica* (Kuchla tree), a medically important tree, and *Swietenia mahagonia* (Indian mahogany) have also been affected by the creepers, besides many other endemic and unique plants of the garden.

The AJC Bose Indian Botanic Garden is the biggest and oldest botanic garden in the country spread over 273 acres and hosts 1,400 species of trees mostly rare and endangered and some of them being endemic to India.

The research paper has been accepted by *Indian Journal of Biological Sciences*. The three authors have also pointed at the adverse impact of the manja on the avian species as well as the water bodies of the botanic garden.

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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