भारतीय वनस्पति सर्वेक्षण
BOTANICAL SURVEY OF INDIA

# ANNUAL RESEARCH PROGRAMME

# 2015-2016


भारतीय वनस्पति सर्वेक्षण
**BOTANICAL SURVEY OF INDIA**
पर्यावरण, वन एवम् जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE
भारत सरकार/GOVERNMENT OF INDIA

Annual Research Programme 2015-2016


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Published by the Director, Botanical Survey of India, CGO Complex, 3rd MSO Building, Block F (5th Floor), DF Block, Sector 1, Salt Lake City, Kolkata-700 064
Printed at IMPRINTA, 243/2B, A.P.C. Road, Kolkata-700 006; Phone-033-2354 3424;
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## ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

| Sr. No. | Name of the Project | Name of the executing scientists | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 1. | Grass Flora of Arunachal Pradesh | Dr. Manish Kandwal, Scintist C | 2012 – 2017 | Q1. Inventorisation and documentation of earlier collections.<br>Q2. Two field tours to Anjaw & Kurung Kumey. Identification of collections.<br>Q3. Inventorisation and documentation of earlier collections.<br>Q4. One Herbarium consultation tour to ASSAM & CAL for identification of unidentified specimens.<br>**Total 02 Field tours and 01 HC Tour** |
| 2. | Flora of Pakhui Wildlife Sanctuary, East Kameng district (862 sq. km) | Dr. P. Satyanarayan, Scientist D<br>Sri B. B. T. Tham, Botanist | 2012 – 2017 | Q1. Inventorisation and documentation of earlier collections.<br>Q2. Herbarium consultation tour to ASSAM for identification of unidentified specimens.<br>Q3. Inventorisation and documentation of earlier collections.<br>Q4. Inventorisation and documentation of earlier collections.<br>**Total 01 HC Tour** |
| 3. | Taxonomic Study of family Polypodiaceae (ca. 100 spp.) of North East India | Dr. V. K. Rawat, Scientist C | 2012 – 2016 | Q1. Inventorisation and documentation of earlier collections.<br>Q2. Field tour to East, West & Uppar Siang. One Herbarium consultation tour to Panjab University, Patiala, BSI, Allahabad<br>Q3. One field tour to different areas of Meghalaya & Manipur<br>Q4. Identification and description of collected specimens. Finalization and submission of manuscript.<br>**Total 02 Field tours and 01 HC Tour** |
| 4. | Flora of Lohit district and Flora of Kamlang Wildlife Sanctuary, Arunachal Pradesh | Mr. Souravjyoti Borah, Botanist | 2013 – 2017 | Q1. Processing and Mounting of specimens, Identification of earlier collections.<br>Q2. Herbarium consultation tour to ASSAM for identification of unidentified specimens.<br>Q3. Inventorisation and documentation of earlier collections.<br>Q4. Inventorisation and documentation of the reaming specimens<br>**Total 01 HC Tour** |
| 5. | Flora of East Kameng, Arunachal Pradesh | Dr. U. K. Tiwari, Scientist B | 2015 – 2019 | Q1. Literatures review, herbarium consultation and preparation of tentative checklist<br>Q2. Completion of identification and incorporation of existing herbarium specimens<br>Q3. Field tour to Sawa & Chayangtajo blocks of East kameng district. Identification of collections.<br>Q4. Processing and Mounting of specimens, Inventorisation and documentation of earlier collections.<br>**Total 01 Field tours** |
| 6. | Red listing of orchids of Arunachal Pradesh as per IUCN criteria | Dr. Krishna Chowlu Scientist B | 2015 – 2019 | Compilation of literature on orchids of Arunachal Pradesh. Study of herbarium specimen at ARUN, SFRI Itanagar and SFRI Tipi) in respect of the identity of the specimen; assigning geo coordinate to every specimens and entering the data in Excel sheet. |
| 7. | Introduction, conservation of Germplasm of Musa, Bamboos & Zingibers and documentation of phenology of garden plants | Sri B. B. T. Tham, Botanist | On going | Germplasm to be collected in regular tours and introduced at APRC, Itanagar or at Barapani, Shillong. Documentation of phenology of flowering and fruiting. |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tours | 0 | 3 | 2 | 0 | 5 |
| Herbarium Consultation Tours | 0 | 3 | 0 | 1 | 4 |

## EASTERN REGIONAL CENTRE, SHILLONG

| Sr No. | Name of the Project | Name of Executing scientists | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 8. | Flora of Yangoupokpi Lokchao Wildlife Sanctuary, Chandel District, Manipur (184.80 sq. km) | Dr. A. A. Mao, Scientist E and Shri L. R. Meitei, Bot. Asstt. | 2014 – 2017 | Q1. Identification of specimens collected in earlier tour.<br>Q2. One field tour to the Laishenching Forest Areas and Monjang Forest Areas of WLS. Identification of specimens and documentation of species collected.<br>Q3. One field tour to the Yangoupokpi ching Forest Areas and Satang Forest Areas of the sanctuary<br>Q4. Identification of specimens and documentation of species collected.<br>***Total 02 Field tours*** |
| 9. | Flora of Amchang Wildlife Sanctuary, Kamrup, Assam *(78.64 sq. km)* | Dr. A. A. Mao, Scientist E Km. Nandita Sharma, Sr. Pres. Asstt. | 2014 – 2016 | Q1 One field tour to the area during June, 2015 for collection of plants. Identification of specimens and documentation of species collected<br>Q2 One field tour to the area during August-September, 2015. Identification of specimens and documentation of species collected.<br>Q3 & Q4 Identification of specimens and documentation of species collected.<br>***Total 02 Field tours*** |
| 10. | Taxonomic Revision of genus *Riccia* (Marchantiophyta) in India | Dr. S.K. Singh, Scientist D, | 2014 – 2019 | Q1 Survey of Literature to be continued. Identification of the specimens of family Ricciaceae from previous collections<br>Q2 Identification, camera-lucida illustrations, description, microphotography, SEM studies of 3 species to be completed. One Herbarium consultation tour to CAL during July, 2015.<br>Q3 Continuation of identification camera-lucida illustrations, microphotography, SEM study of 2 species to be completed.<br>Q4 Continuation of identification camera-lucida illustrations, microphotography,<br>***Total 01 HC Tour*** |
| 11. | Flora of Eastern Nagaland *(Mon, Tuensang, Kiphire & Longleng)* | Dr. N. Odyuo, Scientist C; Dr. Ranjit Daimary, Bot. Asstt. | 2014 – 2019 | Q1 One field tour to Noklak sub-division of Tuensang district during April-May, 2015.Identification of specimens collected.<br>Q2 One field tour to Singphan WLS, Mon district during September-October, 2015. Identification of specimens collected.<br>Q3 Identification of specimens and documentation of species collected.<br>Q4 One field tour to Chen sub-division of Mon district during February-March 2015. Identification of specimens collected.<br>***Total 03 Field tours*** |
| 12. | Flora of South Garo Hills Dist., Meghalaya<br>● *Siju Wildlife Sanctuary*<br>● *Baghmara Pitcher Plant Wildlife Sanctuary*<br>● *Balpakram Nat.Park* | Sri Dilip Kumar Roy, Botanical Assistant | 2012 – 2016 | Q1 One field tour to Core zone of Balphakram National Park during May 2015. Identification of specimens collected.<br>Q2 One Herbarium Consultation tour to NEHU for study of specimens collected from Garo hills.<br>Q3 Identification and documentation of all the remaining specimens collected.<br>Q4 Finalisation and submission of manuscript<br>***Total 01 Field Tour and 01 HC Tour*** |
| 13. | Flora of Laokhowa WLS Nagaon, Assam with ecological aspects, population status of endemics & GIS mapping | Dr.(Mrs.) Chaya Deori, Scientist C Sri S. R. Talukdar, Sr. Pres. Asstt. | 2013 – 2016 | Finalisation and submission of manuscript. |

| Sr No. | Name of the Project | Name of the Executing scientists | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 14. | Micro-propagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species Complexes of NE India | Dr. Deepu Vijayan, Scientist B | 2014 – 2017 | Q1 Regular subculturing and multiplication of the established cultures of *Paris polyphylla. In vitro* propagation of *Pyrenaria khasiana*<br>Q2 Standardization of PCR protocol using RAPD, ISSR and ITS markers<br>Q3 Qualitative phytochemical analysis of selected plants *(Aristolochia saccata, Paris polyphylla, Citrus indica, Citrus latipes, Curcuma aurantiaca).* Quantitative estimation of different phytochemical contents in the selected plants. Quantitative phytochemical analysis of selected plants using HPLC. One field tour to Lakhimpur, Assam during Nov., 2015<br>Q4 Isolation, purification and characterization of the active constituents of the selected plants if found any |
| 15. | Taxonomy, phylogeny & ex-situ conservation of micro-fungal diversity from NE India with special emphasis on fungi associated with endemic & threatened plants of Meghalaya | Dr. Ashish Venkatesh Prabhugaonkar, Scientist B | 2015 – 2018 | Q1 Establishing facilities, literature survey and study of fungi associated with *Nepenthes khasiana* Hook. F.<br>Q2 Establishing facilities, literature survey and study of fungi associated with *Aquilaria khasiana* H. Hallier<br>Q3 Establishing facilities, literature survey and study of fungi associated with *Paramignya micrantha* Kurz.<br>Q4 Establishing facilities, literature survey and study of fungi associated with *Calamus khasianus* Becc. |
| 16. | Micropropagation of RET plants of North East India | Dr. A. A. Mao, Scientist E | 2012 – 2017 | Q1 Standardization of protocols for all the plants *Cymbidium tigrinum*,*Ilex khasiana*, *Rhododendron coxianum*, *Paphipedilum hirsutissimum*, *Armodorum senapatianum*<br>Q2 Maintenance of culture and lab to land transfer of plants viz., *Cybidium tigrinum*, *Armodorum senapatianum* (500 each)<br>Q3 Maintenance of culture and lab to land transfer of plants viz., *Rhododendron coxianum* (100 plants)<br>Q4 Multiplication and maintenance of culture. |
| 17. | Ex situ conservation of endemic, threatened and economically important plants of the region in experimental gardens of ERC and documentation of phenological data on flowering and fruiting | Sri N. N. Rabha, Botanist<br>Sri L. R. Meitei, Botanical Assistant | Ongoing | Q1 Recording of phenological data of plant species growing in Barapani Garden.<br>Q2 One field tour to Langol Reserved Forest, Imphal West, Manipur for collection of live plants of RET species during August, 2015.<br>Q3 Recording of phenological data of plant species growing in Barapani Garden.<br>Q4 Recording of phenological data of plant species growing in Barapani Garden. |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Field Tour | 4 | 2 | 1 | 1 | 8 |
| Herbarium Consultation Tour | 0 | 2 | 0 | 0 | 2 |

## PLANT CHEMISTRY

| Sr No. | Name of the Project | Name of executing scientist | Tenure | Proposed Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 18. | Chemical composition & nutritive value of Wild Edible Plants of NE Region | Dr. Tapan Seal, Scientist B | 2008 – 2017 | Nutritive values, mineral estimation and antioxidant profile (phenolic content, DPPH radical scavenging activities, ABTS assay, Flavonoid content, flavonol content and reducing power) of 20 spp. to be carried out. Quantitative estimation of Rutin, Quercetin, Kaempferol, Apigenin, Myricetin, Gallic acid, Caffeic acid, Syringic acid, p-Coumaric acid and Sinapic acid content in 10 wild edible plants to be carried out using HPLC. One field tour to be undertaken in Q4 to Meghalaya |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Field Tour | 0 | 0 | 0 | 1 | 1 |

## SIKKIM HIMALAYAN REGIONAL CENTRE. GANGTOK

| Sr No. | Name of the Project | Name of the Executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 19. | Redlisting of Orchids of Eastern Himalaya *(Entire Sikkim, Darjeeling district of West Bengal and Arunachal Pradesh excl. Changlang and Tirap)* as per IUCN criteria (***Previous name of the Project:*** Habitat analysis and population status of *ca* 300 RET species of Orchidaceae in E. Hima.) | Dr. D. K. Agrawala, Scientist C | 2013 – 2018 | Q1. Compilation of data collected during previous year (500 herbarium specimens will be studied in respect of their identity, geo-coordinates to be assigned and data to be entered in excel sheet).<br>Q2. 1 field tour to West district of Sikkim (Yuksom, Dzongri and surroundings) covering ca. 300 sq. km.<br>Q3. 1 herbarium consultation tour to Shillong for study of specimens at ASSAM during December – January<br>Q4. Compilation of information collected so far. |
| 20. | Flora of Sikkim: Family Onagraceae | Dr. David Lalsama Biate, Scientist 'B' and Dr. D.K. Agrawala, Scientist C | October 2015-March 2017 | **Qtr.3:** Literature consultation and collection of preliminary data.<br>**Qtr.4:** Study of herbarium specimens at BSHC.<br>* Local Field tours should also be taken during the period |

*** Dr. Sankar Rao Mudadla, Scientist B will update the BSHC herbarium and is responsible for its digitisation in 2015 – 16*

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Field Tour | 0 | 1 | 0 | 0 | 1 |
| Herbarium Consultation Tour | 0 | 0 | 1 | 0 | 1 |

## BOTANIC GARDEN OF INDIAN REPUBLIC, NOIDA

| Sr No. | Name of the Project | Name of the Executing scientists | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 21. | Seed storage behavior of seeds of various plant species growing in BGIR and their *ex-situ* conservation | Dr. K.S. Dogra, Scientist C | Ongoing | Seeds from 25 plant species growing in the garden to be collected and following parameters to be studied:<br>● *Collection of seeds from garden;*<br>● *Cleaning of seeds in the laboratory;*<br>● *Germination of seeds;*<br>● *Viability test of seeds;*<br>● *Measurement of moisture content of seeds;*<br>● *Drying of seeds;*<br>● *Classification of seed types i.e. Orthodox, Recalcitrant, Intermediate;* |
| 22. | Development of Database of Seeds of indigenous trees of BGIR, NOIDA | | | |
| 23. | Protocol Development for germination of selected tree species of BGIR, NOIDA | | | |
| 24. | Collection of plants for introduction in BGIR | Dr. Sheokumar, Scientist E | Ongoing | Plant collection tour in Q3 to collect Wild Edible, Economic, Oil yielding, RET & Endemic plants from Punjab and Himachal Pradesh) and their introduction at BGIR for their *ex-situ* conservation<br>***Total 01 Ex-situ conservation tours*** |
| 25. | Development of database of introduced trees of BGIR, NOIDA | Dr. Sheokumar, Scientist E | Ongoing | Collection & incorporation of the data in the database on the tree species introduced in the garden. |
| 26. | Development of database of medicinal plants of BGIR, NOIDA | Dr. Sheokumar, Scientist E | Ongoing | Collection & incorporation of the data in the database on medicinal plants |
| 27. | Documentation of phenological data of flowering and fruiting of the species growing in BGIR | Dr. K.S. Dogra, Scientist C | Ongoing | Documentation of phenological data of species growing in the garden *(List of species to be intimated)* |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| *Ex situ* conservation Tour | 0 | 0 | 1 | 0 | 1 |

## CENTRAL REGIONAL CENTRE, ALLAHABAD

| Sr No. | Name of the Project | Name of the executing scientists | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 28. | Floristic Diversity of Parvati Aranga Wildlife Sanctuary and adjacent Tikri forest area, Gonda, UP (ca. 80 sq. km) | Sri V. K. Singh, Botanical Assistant (under guidance of Dr. S. K. Srivastava, Scientist D, NRC) | 2014 – 2017 | Q1. Field tour to the sanctuary for collection of plants. Processing, identification and documentation of specimens collected<br>Q2. Processing, identification and documentation of specimens collected<br>Q3. Completion of inventorisation of specimens collected in previous tour. Field tour to the sanctuary for collection of plants.<br>Q4. Processing, identification and documentation of specimens collected<br>**Total 02 Field tours** |
| 29. | Flora of Chhattisgarh | 1. Dr. A. N. Shukla, Scientist B<br>2. Sri A. P. Tiwari, Senior Preservation Assistant | 2012 – 2017 | Q1. Completion of identification, inventorisation and documentation of specimens collected in previous tours. 1 field tour to Bilaspur district and adjoining area<br>Q2. Identification and Inventorisation of specimens collected.<br>Q3. Continuation of identification of specimens collected. 1 Field Tour Raipur district and adjoining area<br>Q4. Herbarium Consultation tour to CAL for identification of unidentified specimens<br>**Total 02 Field tour and 01 HC Tour** |
| 30. | Flora of Chandra Prabha WLS, Chandauli, UP (78 sq. km.) | 1. Dr. A. N. Shukla, Scientist B<br>2. Dr. Nitisha Srivastava, Botanical Assistant | 2015 – 2017 | Q1. Study of relevant literature & relevant herb. specimens<br>Q2. One field tour to the WLS. Identification and documentation of specimens<br>Q3. Completion of inventorisation and documentation of specimens collected in previous tours.<br>Q4. One field tour to the WLS. Identification and documentation of specimens<br>**Total 02 Field tour** |
| 31. | Floral Diversity of Upper Ganga Ramsar Site, Uttar Pradesh (ca. 267 sq. km) | 1. Dr. (Mrs.) Arti Garg, Scientist D<br>2. Dr. (Ms.) Bhavana Joshi, Botanical Assistant | 2012 – 2016 | Q1. Completion of inventorisation and documentation of specimens collected in previous tours.<br>Q2. Identification of specimens collected and description of about 100 species with nomenclatural updating. Field tour to Brijghat to Narora via Ghaziabad, Muzaffarnagar, Budaun.<br>Q3. Identification of specimens collected and description of about 100 species with nomenclatural updating<br>Q4. Field tour to remaining parts of Upper Ganga Ramsar Site and completion of identification. Finalisation and submission of manuscript<br>**Total 02 Field tour** |
| 32. | Lichens of Rajasthan, Kutch and Gujarat | 1. Dr. G.P.Sinha, Scientist D<br>2. Sri Rasanand Kar, Botanical Assistant | 2012 – 2017 | Q1. & Q2. Completion of inventorisation of specimens collected in previous tours.<br>Q3. Survey and collection tour to Jodhpur, Barmer, Jaisalmer, Bikaner, Nagaur, Sikar and Jhunjhunun<br>Q4. Identification, inventorisation & documentation of specimens collected. survey and collection tour to Marine protected Area in Jamnagar district, Gujarat<br>**Total 02 Field tour** |
| 33. | *Ex situ* conservation of EET plants in the office garden | Dr A. N. Shukla, Scientist B | On going | Documentation of phenological data on flowering and fruiting of the species growing in the garden (List of species to be intimated) |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 2 | 2 | 3 | 3 | 10 |
| Herbarium Consultation Tour | 0 | 0 | 0 | 1 | 1 |

## NORTHERN REGIONAL CENTRE, DEHRADUN

| Sr. No. | Name of the Project | Name of the executing scientists | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 34. | Floristic Diversity and Phytosociological study of Simbalbara National Park, Himachal Pradesh *(Area c. 301.00 sq. km)* | Dr. S. K. Srivastava, Scientist E<br>Dr. M. R. Debta, Scientist B | 2014 – 2017 | Q1. Listing of species from literature as well as herbarium. One field tour<br>Q2. One field tour. Identification and documentation of identified species<br>Q3. & Q4. Identification and documentation of identified species.<br>**Total 02 Field Tour** |
| 35. | Flora of Sonanadi Wildlife Sanctuary, Uttarakhand *(Area c. 300.00 sq. km)* | Dr. R. Manikandan, Scientist D | 2014 – 2017 | Q1. Listing of species from literature as well as herbarium. One field tour<br>Q2. One field tour. Identification and documentation of identified species<br>Q3. & Q4. Identification and documentation of identified species<br>**Total 02 Field Tour** |
| 36. | Flora of Nandhour Wild Life Sanctuary *(Area c. 269.95 sq. km)* | Dr. K. Ambrish, Scientist D<br>Sri Arvind Kumar Sr. Pres. Asstt. | 2014 – 2017 | Q1. Listing of species from literature as well as herbarium. One field tour<br>Q2. Identification and documentation of identified species<br>Q3. & Q4. One field tour. Identification and documentation of identified species<br>**Total 02 Field Tour** |
| 37. | Taxonomic revision of Tree ferns (*Cyathea – 15 spp., Cibotium – 1 sp.* and *Brainea – 1 sp.*) of India | Dr. B. S. Kholia, Scientist C | 2014 – 2017 | Q1. Identification and documentation of species collected in the last tour. Procurement of loan specimens including type/images.<br>Q2. Study of herbarium specimens procured on loan from different herbaria. Literature study<br>Q3. Taxonomic study of species along with other related fields<br>Q4. One herbarium cum field tour to MH, A & N Islands and other fern rich areas.<br>**Total 01 Field Tour & 01 HCT** |
| 38. | Revisionary and SEM studies on the genus *Lepisorus* (Sm.) Ching in India. [*c.* 16 spp.] | Sri Brijesh Kumar, Botanical Asstt. | 2013 – 2016 | Q1. Study of herbarium specimens procured from loan from different herbaria. Taxonomic study of species.<br>Q2. Herbarium consultation tour to BSI and LWG. Taxonomic study of species.<br>Q3. Preparation of photo plates<br>Q4. Documentation and finalization of photo plates. Finalization of manuscript |
| 39. | Revision of the Family Bignoniaceae in India with SEM studies | Sri V. K. Madhukar, Botanical Asstt.<br>Dr. S. K. Srivastava, Scientist E | 2013 – 2016 | Q1. Herb. Consultation tour to GUH. Documentation of *c.* 5 species.<br>Q2. Documentation of *c.* 5 species.<br>Q3. Documentation of *c.* 5 species.<br>Q4. Finalization of manuscript.<br>**Total 01 HCT** |
| 40. | Flora of Uttarakhand, Vol. 5 (Hydrocharitaceae to Iridaceae; Hypoxidaceae to Liliaceae. *c.* 160 spp.) ***(New project)*** | Dr. Durgesh Verma, Botanical Asstt.<br>Dr. S.K. Srivastava, Scientist E | 2015 – 2017 | Q1. Documentation of *c.* 20 species.<br>Q2. Documentation of *c.* 20 species.<br>Q3. Documentation of *c.* 20 species.<br>Q4. Documentation of *c.* 20 species. |
| 41. | Flora of Uttarakhand, Vol. 5 Cyperaceae [*Baeothryon – Diplacrum c.* 108 spp.] ***(New project)*** | Dr. M. R. Debta, Scientist B<br>Dr. S. K. Srivastava Scientist E | 2015 – 2017 | Q1. Documentation of *c.* 20 species.<br>Q2. Documentation of *c.* 20 species.<br>Q3. Documentation of *c.* 20 species.<br>Q4. Documentation of *c.* 20 species. |

| Sr. No. | Name of the Project | Name of the executing scientists | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 42. | Flora of Uttarakhand, Vol. 5 Cyperaceae [*Eleocharis* – *Scleria c.* 109 spp.] ***(New project)*** | Sri Sachin Sharma, Botanical Asstt.<br>Dr. S.K. Srivastava Scientist E | 2015 – 2017 | Q1. Documentation of *c.* 20 species.<br>Q2. Documentation of *c.* 20 species.<br>Q3. Documentation of *c.* 20 species.<br>Q4. Documentation of *c.* 20 species. |
| 43. | Flora of Uttarakhand Vol. 5 Arecaceae to Araceae *c.* 64 spp. ***(New project)*** | Dr. P.K. Pusalkar, Scientist D | 2015 – 2017 | Q1. Documentation of *c.* 08 species. One tour to unexplored region in Kumaon.<br>Q2. Documentation of *c.* 08 species.<br>Q3. Documentation of *c.* 08 species.<br>Q4. Documentation of *c.* 08 species.<br>**Total 01 Field Tour** |
| 44. | Flora of Uttarakhand Vol. 5 Smilacaceae to Juncaceae *c.* 65 spp. ***(New project)*** | Dr. K. Ambrish, Scientist D | 2015 – 2017 | Q1. Documentation of *c.* 08 species.<br>Q2. Documentation of *c.* 08 species.<br>Q3. Documentation of *c.* 08 species.<br>Q4. Documentation of *c.* 08 species. |
| 45. | Flora of Uttarakhand Vol. 5 (Amaryllidacea, Lemnaceae - Eriocaulceae) *c.* 64 spp. ***(New project)*** | Dr. R. Manikandan, Scientist D | 2015 – 2017 | Q1. Documentation of *c.* 08 species.<br>Q2. Documentation of *c.* 08 species.<br>Q3. Documentation of *c.* 08 species.<br>Q4. Documentation of *c.* 08 species. |
| 46. | Flora of Himachal Pradesh (Gymnosperms) *c.* 22 species | Dr. Puneeth Kumar, Scientist B | 2015 – 2016 | Q1. Listing of species from earlier literatures and documentation of 5 species<br>Q2. Listing of species based on earlier collections deposited in different herbaria. Documentation of 7 species<br>Q3. Documentation of 7 species<br>Q4. Documentation of 3 spp. Finalization of mss |
| 47. | *In vitro* propagation of RET species from North West Himalayas | Dr. G. S. Panwar, Scientist B | Ongoing | Q1. Selection of healthy explants and screening of plant growth regulators for callus induction and organogenesis in *Indopiptadenia oudhensis, Lilium polyphyllum,*<br>Q2. Multiple shoot induction in callus and other meristematic tissue of *Indopiptadenia oudhensis, Lilium polyphyllum*<br>Q3. Root induction in in-vitro regenerated multiple shoots of *Indopiptadenia oudhensis* and *Lilium polyphyllum*<br>Q4. Hardening and acclimatization of *Indopiptadenia oudhensis* and *Lilium polyphyllum* plantlets to open environment |
| 48. | Ex-situ Conservation of Endemic, Threatened and Economic Plant Species in the experimental gardens of NRC and documentation of phenological data on flowering & fruiting | Dr. B. S. Kholia, Scientist D<br>Dr. R. Manikandan, Scientist C<br>Sri B. P. Kadam, Garden Overseer | Ongoing<br>***15 spp. for 2015 – 16*** | Q1. One *ex-situ* conservation tour in Garhwal region for collection of *Calanthe alismaefolia, Calanthe alpine, Eria occidentalis*<br>Q2. One field tour to Garhwal and Kumaon (Pithoragarh, Champawat) regions for collection 12 species viz., *Pyrrosia mannii, Musa* sp., *Aleuritopteris anceps, A. bicolour, Cyathea spinulosa, Elaphoglossum stelligerum, Diplazium subsinuatum, Microlepis marginata, Colysishemio nitidea, Microlepia spelunce, Christella lebaufei, Phoenix laurelei*<br>Q3. & Q4 Maintenance and propagation of the existing collections.<br>**Total 03 field tours** |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 5 | 3 | 1 | 1 | 10 |
| Herbarium Consultation Tour | 1 | 0 | 0 | 1 | 2 |

## ARID ZONE REGIONAL CENTRE, JODHPUR

| Sr No | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 49. | Ethnobotany of Dang District, Gujarat | Sri Vinod Maina, Scientist D | 2012 – 2014 ***(extended till Sept., 2015)*** | Q1. Identification, inventorisation and documentation of ethnobotanical uses of specimens collected in previous tours.<br>Q2. Finalisation and submission of manuscript. |
| 50. | Flora of Shoolpaneshwar Wildlife Sanctuary, Narmada, Gujarat (*ca. 607.7 sq. km*) | Dr. S. L. Meena, Scientist D and Dr. Harikrishna Peddi, Botanical Assistant. | 2012 – 2017 | Q1. Identification, inventorisation and documentation of specimens collected in previous tours.<br>Q2. Identification, inventorisation and documentation of specimens collected in previous tour. One Field Tour to the unexplored area of the sanctuary.<br>Q3. Identification, inventorisation and documentation of specimen collected in previous tours<br>Q4. Identification, inventorisation and documentation of specimen collected in previous tours<br>***Total 01 Field Tour*** |
| 51. | Flora of Navsari district, Gujarat (*ca. 2211 sq. km*) | Dr. R. Kumar, Scientist C, Sri V. Maina, Scientist D | 2015 – 2020 | Q1. Consultation of BSJO and study of relevant literatures.<br>Q2. Consultation of BSJO and study of relevant literatures.<br>Q3. One Field Tour to the unexplored area of the district. Identification, inventorisation and documentation of specimen collected in field tour.<br>Q4. Identification, inventorisation and documentation of specimen collected in previous tour<br>***Total 01 Field Tour*** |
| 52. | Flora of Sariksa Tiger Reserve, Alwar, Rajasthan (*ca. 866 sq. km*) | Sri Ravi Prasad, Botanical Assistant Sri M.K. Singhadiya, Botanist | 2015 – 2019 | Q1. Consultation of BSJO and study of relevant literatures.<br>Q2. Consultation of BSJO and study of relevant literatures.<br>Q3. Consultation of BSJO and study of relevant literatures.<br>Q4. One Field Tour to the unexplored area of the sanctuary. Identification, inventorisation and documentation of specimen collected.<br>***Total 01 Field Tour*** |
| 53. | Flora of Todgarh-Raoli Wildlife Sanctuary, Rajasthan (*ca. 495 sq. km*) | Dr. C. S. Purohit, Scientist B | 2015 – 2020 | Q1. Consultation of BSJO and study of relevant literatures.<br>Q2. Consultation of BSJO and study of relevant literatures.<br>Q3. Consultation of BSJO and study of relevant literatures.<br>Q4. Herbarium consultation tour to University of Rajasthan, Jaipur and University of Kota, Kota, Rajasthan<br>***Total 01 Herbarium Consultation Tour*** |
| 54. | Ex-situ conservation of RET and economically important species of the Arid region in the Experimental Garden of AZRC and documentation of phenological data on flowering & fruiting. | Sri Vinod Maina, Scientist D,<br>Dr. R. Kumar, Scientist C,<br>Dr. C. S. Purohit, Scientist B,<br>Sri M. K. Singhadi, Botanist,<br>Dr. H. K. Peddi, Botanical Asstt.<br>Sri Ravi Prasad, Botanical Asstt. | Ongoing | Ex-situ conservation of RET and economically important species of the Arid region in the Experimental Garden of AZRC and recording and documentation of phenological data on flowering & fruiting. |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Field Tour | 0 | 1 | 1 | 1 | 3 |
| Herbarium Consultation Tour | 0 | 0 | 0 | 1 | 1 |

***In addition to the above, Sri M. K. Singhadiya, Botanist and Dr. C. S. Purohit will initiate the process of augmentation and digitization of BSJO***

**WESTERN REGIONAL CENTRE, PUNE**

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 55. | Ferns of Karnataka | Dr. A. Benniamin, Scientist D | 2014 – 2018 | Q1. One tour will be undertaken to BRT and Sharavathy WLS between 15- 30 May 2015. A total of 150 sq.km will be covered. Processing and identification of ferns collected.<br>Q2. Processing and Identification of plant specimens collected during earlier field tours. Also nomenclature updating & Identification of Photographs<br>Q3. One Herb. consultation tour will be undertaken to Xavier's College Herbarium (XCH), Palayamkottai and BSI, Coimbatore.<br>Q4. Processing and Identification of plant specimens collected during earlier field tours. Sorting of specimens for Mounting purposes.<br>***Total One Field tour and One HCT.*** |
| 56. | Flora of Biligiriranga swamy Temple Wildlife Sanctuary, Karnataka with ecological aspects, population status of endemics & GIS mapping (ca. 539 sq. km) | Dr. (Ms.) J. Jayanthi, Scientist D | 2013 – 2017 | Q1. One Herbarium consultation tour will be undertaken to herbarium of French Institute, Pondicherry (HFP) to study herbarium specimens collected from BRT and library consultation.<br>Q2. Identification of species collected during the tours and preparation of manuscript of 50 identified species.<br>Q3. One field tour will be undertaken between 05th – 25th September 2015 to explore the herbaceous flora of the sanctuary (Kollegal range, K.Gudi range, Punajanur range, Bailur range and Yelandur range) post monsoon. 50 sq.km will be covered. Processing and identification of plants collected.<br>Q4. One Herbarium consultation tour will be undertaken to Mysore University Herbarium to study the specimens collected from BRT WLS and neighbouring areas.<br>***Total 01 Field tour and 2 HCT.*** |
| 57. | Foliicolous Fungi of Maharashtra | Dr. Rashmi Dubey, Scientist D | 2010 – 2016 | Q1. Processing (sterilization of leaves, section cutting, preparation of temporary and permanent slides, microscopic photography), isolation, identification and description of fungal species collected in previous tours.<br>Q2. One field tour will be undertaken during Post Monsoon season to diverse forest areas of Marathwada regions of Maharashtra (Aurangabad & Osmanabad Dist.) to collect the post monsoon foliicolous fungi. Tentative dates: 15-30 Sept. 2015. An area of 300 sq.km will be covered.<br>Q3. One HCT to any Nationalized fungal Herbarium. Processing, identification & description of fungal species collected in previous tours.<br>Q4. Identification and Description of Fungi collected in previous tours. Preparation and compilation of MS.<br>***Total 1 Field tour & 1 HCT.*** |
| 58. | An assessment of Orchid diversity of Central Western Ghats: Goa & Karnataka ***(New project)*** | Dr. Jeewan Singh Jalal, Scientist 'C' | 2015-2017 | Q1. Survey of literature and Herbarium specimens in BSI herbarium. Correspondence with Forest Dept. of Karnataka for permission.<br>Q2. Survey of literature and correspondence to forest department for necessary permission for field survey. One field tour in 1st – 2nd week of June 2015 to explore orchids in protected areas of Goa. around 150 sq.km area will be covered<br>Q3. One field tour to during 2nd - 3rd week of August 2015 to explore the orchid rich area of Goa. Around 100 sq.km area will be covered.<br>Q4. Dissection and Identification of collected specimens, filling up herbarium label details in the mounted sheets.<br>***Total 2 field tours.*** |

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 59. | Floristic survey of Someshwara Wildlife Sanctuary, Karnataka 88.40 Sq Km. (New project) | Dr. C.R. Jadhav, Botanist | 2015 – 2017 | Q1. Survey of literature and Herbarium specimens in BSI herbarium. Correspondence with Forest Dept. of Karnataka for permission. One field exploration tour will be conducted if permitted to cover about 30 sq km area. Tentatively during 4th week of May 2015.<br>Q2. Study, identification and writing of description of about 30 spp. collected.<br>Q3. One field exploration tour to WLS area to cover about 30 sq km area. Tentatively during 1st& 2nd week of October 2015. Study, identification and writing of description of about 30 spp. collected.<br>Q4. Study, identification and writing of description of about 30 spp. collected.<br>***Total 2 field tours.*** |
| 60. | Ex – situ Conservation of EET plants of the region with focus on endemic trees of W. Ghats in the experimental gardens of WRC. | Dr. (Ms.) J. Jayanthi, Scientist C | Ongoing | During AAP tours, live plants will be collected and reintroduced in the garden. |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 2 | 2 | 3 | 0 | 7 |
| Herbarium Tour | 1 | 0 | 2 | 1 | 4 |

**PHARMACOGNOSY**

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 61. | Pharmacognostic studies on medicinal Aconites of India | Dr. A. B. D. Selvam, Scientist D | 2010 – 2015 (Extended upto March 2016) | **1st field tour** in Q2 to be conducted to Western Himalayas (Jammu & Kashmir) during July to collect medicinal Aconites<br>**2nd field tour** in Q2 to be conducted to Darjeeling district of West Bengal and Nagaland during September 2015 to collect medicinal Aconites<br>Herbarium Consultation cum Crude Drug consultation tour in Q3 to NBRI, Lucknow.<br>Finalisation and submission of manuscript |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Field Tour | 0 | 2 | 0 | 0 | 2 |
| Herbarium Consultation Tour | 0 | 0 | 1 | 0 | 1 |

## DECCAN REGIONAL CENTRE, HYDERABAD

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 62. | Flora of Seshachalam Biosphere Reserve, Andhra Pradesh *(ca 4755.99 sq.km)* | Dr. P. V. Prasanna Scientist F<br>Dr. M. Sankara Rao Scientist B<br>Sri Nagaraju Siddabathula, Bot. Asst | 2012 – 2017 | Q1 Identification and documentation of specimens collected in previous tours.<br>Q2 One field tour to Rajampeta forest division of SBR during September, 2015 for plant survey and collection.<br>Q3 One field tour to Rajampeta forest division of SBR during November, 2015 for plant survey and collection.<br>Q4 One field tour to Chittoor (East) forest division of SBR during February, 2015 for plant survey and collection.<br>***Total 03 field tours*** |
| 63. | Flora of Nagarjunasagar Srisailam Wildlife Sanctuary (Tiger Reserve), Andhra Pr. with population status of endemic threatened taxa and GIS mapping of plant species *(ca 3568 sq. km)* | Dr. L. Rasingam, Scientist- C | 2012 – 2017 | Q1 One field tour during May 2015 to NSTR for plant survey and collection & Identification and documentation of specimens collected in previous tours.<br>Q2 Identification and documentation of specimens collected in previous tours.<br>Q3 One field tour October 2015 to NSTR for plant survey and collection.<br>Q4 One field tour during January 2016 to NSTR for plant survey and collection.<br>***Total 03 field tours*** |
| 64. | Flora of 650 Sacred Groves of Andhra Pradesh | Dr. M. Ahmedullah, Scientist -E | 2012 – 2017 | Q1 One field tour to prioritised sacred groves of Krishna district during April 2015<br>Q2 One field tour to prioritised sacred groves of Guntur district during July 2015<br>Q3 One field tour to prioritised sacred groves of Prakasam dist. during November 2015<br>Q4 One field tour to prioritised sacred groves of Chittoor district during March 2016<br>***Total 04 field tours*** |
| 65. | Inventory of Macrolichen diversity of Odisha State ***(New Project)*** | Dr. Swarnalatha Ginnaram, Botanical Assistant | 2015 – 2018 | Q1 Study of relevant literature<br>Q2 One herbarium consultation tour to BSI, CRC, Allahabad.<br>Q3 One field tour to Odisha during November 2015<br>Drying, Mounting and preparation of herbarium packets, field data incorporation.<br>Study and initiation of identification process of collected specimens.<br>Q4 Continuation of study, identification of collected specimens<br>Photographic documentation of identified species.<br>Documentation of data accumulated sofar.<br>***Total 01 field tour and 01 Herb. Con. Tour*** |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Field Tour | 2 | 2 | 4 | 3 | 11 |
| Herbarium Consultation Tour | 0 | 1 | 0 | 0 | 1 |

## SOUTHERN REGIONAL CENTRE, COIMBATORE

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 66. | Seaweed flora of Karnataka Coast with ecological aspects. | Dr. M. Palanisamy, Scientist C<br>Mr. S. K. Yadav, Bot. Asstt | 2014 – 2017 | 3 plant exploration tours to Karnataka coastal region.<br>Tour 1: Q1 – 1st week of May 2015<br>Tour 2: Q2 – 1st week of Sept., 2015<br>Tour 3: Q4 – 1st week of Jan., 2014<br>2 Herberium consultation tours to<br>Tour 1: Q1: CMFRI Cochin, Kerala & SN College, Kollam<br>Tour 2: Q2: CMFRI, Ramnathapuram Dist., Tamil Nadu<br>Complete the descriptions and keys of all taxa and manuscript submission as per the Flora format. |
| 67. | Pollen and Seed morphology of Genus *Andrographis* Wall. ex Nees using SEM | Shri. G. Gnanasekaran, Botanical Assistant | 2012 – 2017 | 10 species of *Andrographis* to be studied |
| 68. | Seed morphology of *Ficus* L. using SEM | Sri J. V. Sudhakar, Botanical Assistant | 2012 – 2017 | 20 species will be studied with SEM<br>1 field tour to ANRC in Q4 (January to March 2016) |
| 69. | Study of Caryopsis in *Eragrostis Sporobolus* and *Tripogon* genera of Poaceae using SEM | Dr. K. A. A. Kabeer, Scientist D | 2012 – 2017 | Tentative Target: (15 species)<br>*Sporobolus*: 10 species.<br>*Tripogon*: 5 species. |
| 70. | Study of Pollinia of South Indian Orchids using SEM | Dr. G. V. S. Murthy, Scientist F | 2012 – 2017 | To study pollenia of 20 species |
| 71. | Flora of Malabar WLS, Kozikode, Kerala (ca. 74.22 sq. km) | Dr. J. H. Franklin Benjamin Scientist B | 2012 – 2016 | Tour 1: Q1 – 3rd Week of April 2015<br>Tour 2: Q2 – 1st Week of August 2015 |
| 72. | Ex situ conservation of Endemic, Endangered and Threatened plants of the region and documentation of phenology of species in garden. | Dr. Kaliamoorthy, Scientist C | Ongoing | Q2: One tour to Kudremukh Reserve (area: 563 sq km) is spread over Chikmagalur, Udupi and Dakshina Kannada districts (75° 00'-75° 25' E, 13° 01'-13°29' N) at an altitudinal range of 100-1840 m.<br>Q4: One tour to Kemmanagundi, situated in Bhadra WLS, Chikmagalur with an area of 55.68 sq. km (13.5470° N, 75.7580° E), at an altitude range from 650 to 1875m. |
| 73. | Floristic studies in Kodaikanal Wildlife Sanctuary, Tamil Nadu, India<br>Area: 5,468 $Km^2$ | Dr.K.A.A. Kabeer, Scientist C<br>Mr. A. Ravi Kiran, Bot. Asst. | 2015 – 2020 | Collection, Identification, Inventorisation & Mapping of WLS<br>Three field tours and two consultation tours<br>Q1: NRSC consultation tour (10 days)<br>Q2: Field Tour (July 1st week), Collection, Identification & inventorisation, 2.Mapping of Kodaikanal WLS.<br>Q3: Field Tour (December 1st week), Collection, Identification & Inventorisation, NRSC consultation tour (10 days)<br>Q4: Field Tour (Feb 1st week). Collection, Identification & inventorisation |
| 74. | Cyperaceae of Tamil Nadu | Dr.G.V.S. Murthy, Scientist F,<br>Mr. Yarraya, K. Sr. Pre. Assist. | 2015 – 2020 | Q1: Review of Literature & study the herbarium specimens in MH & one herb. Con. tour to CAS, Chennai.<br>Q2: One field tour, Identification and invetorisation<br>Q3: One field tour, Identification and invetorisation<br>Q4: Identification and invetorisation |
| 75. | Flora of Kerala, Vol. 6<br>Arecaceae: 25 taxa | Dr. C. Murugan Scientist D | 2015-2016 | Study of specimens and completion of manuscript |
| 76. | Flora of Kerala, Vol. 6<br>Amaryllidaceae: 15 taxa<br>Dioscoraceae: 18 taxa | Dr. M.Y. Kamble Scientist C | 2015-2016 | Study of specimens and completion of manuscript. |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 2 | 5 | 2 | 4 | 13 |
| Herbarium Consultation Tour | 2 | 1 | 1 | 0 | 4 |

**ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR**

| Sr. No. | Name of the Project | Name of executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 77. | Germination Studies on forest trees of Andaman & Nicobar Islands in Dhanikhari Exp. Garden cum Arboretum | Dr. Lal Ji Singh, Scientist D | 2014 – 2017 | Q1. Literature Survey & Consultation of Herbarium<br>Q2. Literature Survey & Consultation of Herbarium<br>Q3. Two tours to be undertaken for collection of seeds and seedlings of tree species, zingibers and rattans at little Andaman and North Andaman during October and December, 2015 respectively<br>Q4. Maintenance of the collection<br>**Total 02 Field tours** |
| 78. | Recording of Phenology: Dhanikhari Exp. Garden cum Arboretum | Dr. Lal Ji Singh, Scientist D | Ongoing | To document flowering and fruiting period of selected tree species which are established at the Dhanikari Experimental Garden-cum-Arboretum. |
| 79. | Lichens of Nicobar Islands | Dr. T.A.M. Jagadeesh Ram, Scientist D | 2014 – 2017 | Q1. Morphological, anatomical and chemical characterization and identification of 200 specimens of earlier collections.<br>Q2. Morphological, anatomical and chemical characterization and identification of 200 specimens of earlier collections.<br>Q3. Morphological, anatomical and chemical characterization and identification of 200 specimens of earlier collections.<br>Q4. Morphological, anatomical and chemical characterization and identification of 200 specimens of earlier collections. Herbarium & Library Consultation tour to BSI, CRC, Allahabad in March 2016.<br>**Total 01 Herbarium Consultation Tour** |
| 80. | *Ex-situ* conservation of RET species of A & N Isls. at Dhanikhari Exp. Garden cum Arboretum and Identification of unidentified angiosperm specimens in ANRC Herbarium ***(New Project)*** | Dr. Sanjay Mishra, Scientist B | 2015 – Ongoing | *Ex-situ* conservation of RET species of Andaman & Nicobar Islands at Dhanikhari Exp. Garden cum Arboretum<br>One field tour to be undertaken to North Andaman during Q3 (October, 2015) for collection of zingibers, Orchids and medicinal plants<br>Identification of unidentified angiosperm specimens in the PBL<br>**Total 01 Field tour** |
| 81. | Flora of Kyd, Pitman & James Islands, South Andaman ***(New Project)*** | Dr. Sanjay Mishra, Scientist – 'B', Mr. C. P. Vivek, Botanical Assistant & Mr. Gautam Anuj Ekka, Pres. Asst. | 2015 – 2018 | Q1. Literature Survey & Consultation of Herbarium<br>Q2. One Field Tour to be conducted during December 2015.<br>Q3. Identification and documentation of collected specimens.<br>Q4. Identification and documentation of collected specimens.<br>***Total 1 Field Tour*** |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 0 | 1 | 3 | 0 | 4 |
| Herbarium Consultation Tour | 0 | 0 | 0 | 1 | 1 |

## AJC BOSE INDIAN BOTANIC GARDEN, HOWRAH

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 82. | Collection, Introduction & *Ex-situ* Conservation of Rare and Endemic Orchids of NE India | Dr. Md. U. Sharief, Scientist E<br>Dr. Basant Kr. Singh Pres. Asstt., Gr. - I | 2014 – 2017 | One *ex-situ conservation Tours* in Q4 to Arunachal Pradesh to collect about 20 species of Orchids.<br>***Total 01 ex-situ conservation Tour*** |
| 83. | Dicot Herbaceous Flora and weeds of AJCBIBG | Dr. B. K. Singh, Pres. Asstt., Gr. - I | 2014 – 2016 | Finalisation of manuscript of Pictorial Guide of herbaceous plant (Dicot) of AJCBIBG |
| 84. | GIS phyto-mapping & digitization of shrubs and trees in AJC Bose Indian Botanic Garden | Dr. A. Pramanik, Scientist E<br>Dr. C.M. Sabapathy, Botanist<br>Dr. B. K. Singh Pres. Asstt., Gr. - I | 2014 – 2016 | Gathering Information about the introduction of the Tree and Shrubs in the past and present from the researchers of BSI and from available literatures and Catalogues. Locating Trees and Shrubs in the Garden. Collection of fresh Flowering, Fruiting specimens and Identifying. Making Digital Plates of all Significant and Identifying Characters |
| 85. | Collection & Introduction of Indigenous Palms of India | Dr. S. S. Hameed, Scientist D | 2012 – 2016 | One *situ conservation Tour in* Q2 to South India to collect about 10 species of palms. Finalisation and submission of manuscript.<br>***Total 01 ex-situ conservation Tour*** |
| 86. | Collection, introduction and multiplication of 20 endemic, threatened, medicinal, ornamental and economically important plants | Dr. A. Pramanik, Scientist E<br>Dr. S. S. Hameed, Scientist D<br>Dr. B. K. Singh, Pres. Asstt., Gr. - I | 2012 – 2017 | One ex-*situ conservation Tour* in Q3 to Uttarakhand.<br>***Total 01 ex-situ conservation Tour*** |
| 87. | Development of Division No. 25 of AJC Bose IBG. | Dr. A. Pramanik, Scientist E<br>Dr.S. P. Panda, Scientist B | 2012 – 2017 | One tour to North East India in Q3 for collection of important plants of garden history.<br>***Total 01 ex-situ conservation Tour*** |
| 88. | Enrichment of medicinal plant section (Charak Udyan) of AJC Bose Indian Botanic Garden through survey and introduction of med. plants. | Dr. S. P. Panda, Scientist B | 2015 – 2018 | One *ex-situ conservation Tours* in Q2 to North Bengal to collect 20 medicinal plants.<br>***Total 01 Ex-situ conservation Tours*** |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| *ex-situ* Conservation Tour | 0 | 2 | 2 | 1 | 5 |

## CENTRAL NATIONAL HERBARIUM, HOWRAH

| Sr No | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 89. | Flora of Gautam Buddha Wildlife Sanctuary, Bihar & Jharkhand with GIS mapping of species (*c.* 259 sq. km) | Sri Anand Kumar, Bot. Asstt. (Hqrs.);<br>Dr. P. Venu, Scientist F (Dep. DRC) | 2012 – 2016 | One field tour in Q2 covering the areas unexplored so far. Finalisation and submission of manuscript.<br>***Total 01 Field Tour*** |
| 90. | Flora of Vikramshila Gangetic Dolphin Wildlife Sanctuary, Bhagalpur, Bihar (ca. 60 sq.km segment of Ganges) | Dr. O. N. Maurya Scientist-'B' | 2013 – 2016 | One field tour in Q2 covering the areas unexplored so far. Finalisation and submission of manuscript.<br>***Total 01 Field Tour*** |
| 91. | Revision of the genus *Fimbristylis* of family Cyperaceae under Flora of India. (ca. 120 spp. and 12 infraspecific taxa) | Dr. V. P. Prasad, Scientist C | 2013 – 2016 | 01 Herb. Con. Tour to MH & Calicut University in Q3 to check the identity and collect the label data of all the available specimens of *Fimbristylis* and other genera of Cyperaceae; also to collect Cyperaceae specimens from the nearby forest / wetlands areas. Finalisation and submission of mss. ***Total 01 HC Tour*** |

| Sr No | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 92. | Flora of Bihar, Volume – II Rosaceae – Convolvulaceae 51 families (c. 773 species) | • Dr. Vinay Ranjan, Scientist D<br>• Dr. R. Gogoi, Scientist D<br>• Dr. A. Bhattacharya Scientist B<br>• Dr. K.A. Bharti Scientist B<br>• Sri Prabal Baske, Botanist<br>• Sri P. P. Ghoshal, Botanist<br>• Sri C.R. Magesh, Sr. Preserv. Asstt.<br>• Sri Anand Kumar, Bot. Asstt. (Hq.)<br>• Sri Anant Kr., Sr. Preser. Asstt. (Hq.)<br>• Sri Gopal Krishna, Sr. Pres.. Asstt.<br>• Sri Shyam Biswa, Sr. Pres. Asstt.<br>• Sri S. Sachan, Sr. Preservation Asstt.<br>• Sri V.K. Mastakar, Sr. Pres.. Asstt. | 2014 – 2017 | Dr. C.R. Magesh, Sr. Preservation Asstt. – Rosaceae (c. 23 spp.)<br>Sri. Shyam Biswa, Sr. Preservation Asstt. – Vahliaceae, Crassulaceae, Droseraceae, Haloragidaceae, Callitrichaceae, Rhizophoraceae, Combretaceae (c. 33 spp.)<br>Sri. Vijay Mastakar, Sr. Preservation Asstt. – Myrtaceae, Lecythidaceae, Melastomataceae (c. 39 spp.)<br>Sri. Prabal Baske, Botanist Lythraceae, Punicaceae, Onagraceae, Trapaceae, Turneraceae, Passifloraceae (c. 34 spp.)<br>Sri. Gopal Krishna, Sr. Preservation Asstt. – Cucurbitaceae (c. 35spp.)<br>Sri Anand Kumar, Botanical Assistant – Caricaceae, Begoniaceae, Cactaceae, Aizoaceae, Molluginaceae (c. 32 spp.)<br>Dr. Avishek Bhattacharya, Scientist 'B' Apiaceae, Araliaceae, Alangiaceae (c.35 spp)<br>Dr. Vinay Ranjan, Scientist 'D'- Rubiaceae (c. 87 spp.)<br>Dr. Kumar Avinash Bharti, Scientist 'B',<br>Sri. P.P. Ghoshal, Botanist,<br>Sri Anant Kumar, Sr. Preservation Asstt. &<br>Sri S. Sachan, Sr. Preservation Asstt. – Asteraceae (c. 152 spp.)<br>Dr. Rajiv Gogoi, Scientist 'D' Stylidiaceae, Campanulaceae, Lobeliaceae, Sphenocleaceae, Vacciniaceae, Plumbaginaceae, Primulaceae, Myrsinaceae, Theophrastaceae, Sapotaceae (c. 37 spp.)<br>Survey, collection of plant species from five districts of Bihar along with photographing of general vegetation types and close up views.<br>Two tours in Q1 & Q4 (Aurangabad and Navada)<br>Two tours in Q2 & Q3 (Rohtas, Nalanda)<br>***Total 04 Field Tour*** |
| 93. | Flora of Jharkhand, Vol. – II Rosaceae – Convolvulaceae 51 families (c. 773 species) | | | |
| 94. | Flora of Bihar Vol. III (Cuscutaceae – Ceratophyllaceae) (33 families & c. 674 spp.)<br>***(New Project)*** | Dr. V. Sampath Kumar, Scientist D<br>Dr. K. Karthigeyan, Scientist C<br>Dr. (Ms.) Pushpa Kumari, Scientist C<br>Dr. O.N. Maurya, Scientist B<br>Dr. S. Bandyopadhyay, Scientist B<br>Dr. T.K. Paul, Scientist B<br>Dr. Mahua Pal, Bot. Asstt. | 2015 – 2018 | Dr. V. Sampath Kumar, Scientist D Lamiaceae (c. 75spp.)<br>Dr. K. Karthigeyan, Scientist C Acanthaceae (c. 94 spp.),<br>Dr. (Ms.) Pushpa Kumari, Scientist C Bignoniaceae (c.29 spp.)<br>Dr. O.N. Maurya, Scientist B Cuscutaceae, Scrophulariaceae, Orobanchaceae, Lentibulariaceae, Gesneriaceae, Pedaliaceae (c. 98 spp.)<br>Dr. S. Bandyopadhyay, Scientist B Solanaceae (c. 39 spp.)<br>Dr. T.K. Paul, Scientist B Plantaginaceae, Nyctaginaceae, Chenopodiaceae, Basellaceae (c.18 spp)<br>Dr. (Mrs.) Mahua Pal, Botanical Assistant, Verbenaceae (c. 45 spp.) |
| 95. | Flora of Jharkhand,Vol. III (Cuscutaceae – Ceratophyllaceae) (33 families & c. 674 spp.)<br>***(New Project)*** | | | |

| Sr No | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 96. | Study of *Impatiens* L. (Balsaminaceae) of Arunachal Pradesh | Dr. Rajib Gogoi, Scientist D | 2013 – 2016 | Q1. Identification & description of unidentified specimens.<br>Q2. Herbarium tour to BSHC during October 2015 for further study of critical specimen<br>Q3. Description of all the identified species<br>Q4. Preparation and submission of mss.<br>***Total 01 HC Tour*** |
| 97. | Survey and Assessment of growing stalk of economic bamboos of West Bengal for study of demand supply gaps, trends of use, population status and GIS mapping | Dr. Pushpakumari, Scientist C<br>*In collaboration with West Bengal State Council of Science & Technology* | 2014 – 2017 | One tour in Q1 and one tour in Q3 to North Bengal<br>***Total 02 Field Tours*** |
| 98. | Taxonomic Revision of *Bambusoideae* (*Poaceae*) in India | Dr. Pushpa Kumari, Scientist C | 2014 – 2017 | One tour in Q2 to NE India and one tour in Q4 to Western Ghats<br>***Total 02 Field Tours*** |
| 99. | *Ex situ* Conservation of Bamboos of India | Dr. Pushpa Kumari, Scientist C | 2012 – 2017 | |
| 100. | Flora of Betla National Park, Latehar, Jharkhand<br>***(New Project)*** | Sri Parth Pratim Ghoshal, Botanist | 2015 – 2019 | Q1 Study of relevant literature published earlier on this area and specimens housed in CAL<br>Q2 One field tour of 15 days to the area<br>Q3 Identification of the collected specimens<br>Q4 One field tour of 15 days to the area<br>***Total 02 Field Tours*** |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 2 | 5 | 2 | 3 | 12 |
| Herbarium Consultation Tour | - | 1 | 1 | - | 2 |

In addition to the above during 2015 – 16:

1. Drs. V. S. Kumar, Scientist D; T. K. Paul, Scientist B and Subir Bandyopadhyay, Scientist B will assist the Flora of India Cell to update, edit and finalise the manuscripts of the families viz., Melastomataceae (incl. Memecylaceae), Lythraceae , Aptingiaceae , Sonneratiaceae, Crypteroniaceae, Punicaceae, Onagraceae, Trapaceae, Turneraceae, Passifloraceae, Caricaceae, Cucurbitaceae, Begoniaceae, Datiscaceae (incl.Tetramelaceae) comprising 426 species belonging to 110 genera under Flora of India, Volume X
2. Dr. P. Lakshminarasimhan, Scientist E, Dr. W. Arisdason, Scientist C, Dr. K. Karthigeyan and Sri Sri Gopal Krishna, Sr. Pres. Asstt. will assist the Flora of India Cell to update, edit and finalise the manuscripts of the families viz., Gesneriaceae, Bignoniaceae, Pedaliaceae and Acanthaceae comprising 761 taxa belonging to 138 genera under Flora of India Vol. XX
3. Dr. T.K. Paul, Scientist, B; Dr. K. Karthigeyan, Scientist C; Dr. S. Bandyopabhyay, Sci. B; Sri P.P. Ghoshal, Botanist and Sri Anand Kumar, Bot. Asstt. will complete the listing of Type specimens at Central National Herbarium (CAL)
4. Dr. Kumar Avinash Bharati, Scientist- 'B', Sri P.P. Ghoshal, Botanist & Sri Anand Kumar, Botanical Assistant will complete the Scanning and data basing of authentic specimens of species of Angiosperms occurring in India and available at Central National Herbarium (CAL)

## CENTRAL BOTANICAL LABORATORY, HOWRAH

| Sr. No | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 16 |
|---|---|---|---|---|
| 101. | Ethnobotanical Study of Odisha, Phase – II<br>› Nayagarh ( Area: 3,890.00 sq.km, Tribal population: 50,836)<br>› Malkangiri (Area: 5,791.00 sq.km, tribal population: 354,614)<br>› Naupada (Area: 3408 Sq. km., tribal population: 1,84,221)<br>› Boudh (Area: 3,098.00 sq.km, tribal population: 55,364)<br>› Bargarh<br>› Balangir<br>› Nabrangpur<br>› Dhenkanal<br>› Koraput<br>› Deogarh<br>› Jajapur<br>› Ganjam | 1. Dr. Harish Singh, Scientist 'D'<br>2. Smt. Sujana, K.A. Scientist 'C'<br>3. Sri A.C. Halder, Botanist, Hqrs.,<br>4. Sri P. K. Baske, Botanist, CNH,<br>5. Sri Saravanan, Bot. Asstt.,<br>6. Smt. Monika Mishra, Bot. Asstt.,<br>7. Dr. Dhole Pankaj Arvind, Bot. Asstt. | 2012 – 2017 *(For Nayagarh, Malkangir, Naupada and Boudh the tenure is 2015 – 16)* | **Q1.** Literature survey, completion of identification, inventorisation, and documentation of specimens collected earlier. One Field Tour to Nayagarh district (*c.* 1900 sq.km.).<br>Road Map: Howrah – Nayagarh – different tribal localities.<br>Tour Party: Sri P. K. Baske, Botanist, CNH; Sri A.C. Halder, Botanist, HQ, Dr. Dhole Pankaj, Bot. Asstt.<br>**Q2.** Completion of identification, inventorisation, and documentation of specimens collected earlier. One Field Tour to Malkangiri (*c.* 2400 sq.km.).<br>Road Map: Howrah – Jeypore- Malkangiri – different tribal localities<br>Tour Party: Dr. Sujana, K.A. Scientist C, Dr. Dhole Pankaj Arvind, Bot. Asstt., Ms. M. Mishra, Bot. Asstt.<br>**Q3.** Completion of identification, inventorisation, and documentation of specimens collected earlier. One Field tour to Naupada Dist. (*c.* 1515 sq.km.)<br>Road map: Howrah – Naupada – different tribal localities<br>Tour party: Dr. Harish Singh, Scientist D, Sri R. Saravanan, Bot. Asstt. & Dr. Dhole Pankaj Arvind, Bot. Asstt.<br>**Q4.** Completion of identification, inventorisation, and documentation of specimens collected earlier. One Field tour to Boudh Dist. (*c.* 1500 sq.km)<br>Road map: Howrah – Baudh – different tribal areas<br>Tour party: Sri A.C. Halder, Botanist, Hqrs., Sri. P. K. Baske, Botanist, CNH & Ms. M. Mishra, Bot. Asst<br>***Total 4 Ethnobotanical Field Tours*** |
| 102. | Flora and Ethnobotany of Balasore district, Odisha (ca. 3706 sq. km) | Smt. Sujana K. A., Scientist-'C' , R. Saravanan, Bot. Asstt., Smt. Monika Mishra, Bot. Asstt. & | 2013 – 2016 | **1st Quarter:** One field tour to Balasore (area-approx-620 sq. km). Road map: Howrah – Balasore –different tribal localities, Tour party: Dr. Sujana, K.A. Sci. –'C', R. Saravanan, Bot. Asstt., Ms. Monika Mishra, Bot. Asstt..<br>**2nd Quarter:** Processing, identification and documentation of specimens collected earlier.<br>One Herbarium consultation tour to RPRC, Bhubaneswar and The Institute of Minerals and Materials Technology-IMMT, (formerly Regional Research Laboratory, Bhubaneswar). Tour party: Dr. Sujana, K.A., Sci. –'C'; Sri R. Saravanan, Bot. Asstt.<br>**3rd Quarter:** Processing, identification and documentation of specimens collected earlier.<br>**4th Quarter:** Processing, identification and documentation of specimens collected earlier and finalization of mss. |
| 103. | Cytological investigation of some selected Angiosperms of AJC Bose IBG, Howrah. | Dr. Ashutosh Verma, Scientist-'B' & Smt. Monika Mishra, Botanical Assistant | 2015 – 2018 | Data mining and field observations for the study of vegetative and reproductive behavior of selected plants |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 2 | 1 | 1 | 1 | 5 |
| Herbarium Tour | 0 | 1 | 0 | 0 | 1 |

## INDUSTRIAL SECTION, INDIAN MUSEUM, KOLKATA

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 104. | Collection of economic plant materials for enrichment and replacement of exhibits of the Botanical gallery | Dr. A.K. Sahoo, Scientist C | Ongoing | One tour to Koraput and Raygada districts of Southern Odiisa in Q2 for collection of Plant material (Medicinal and Oil seeds etc) for enrichment of Botanical Gallery. |
| 105. | Collection of Oil Crops, Pulse & Medicinal Plant materials for enrichment of Botanical Gallery | Mr D.L. Shirodkar Asstt. Curator ISIM<br>Mr B.C.Dey, Sr. Pres. Asstt.<br>Sri S.K.Sharma, Sr. Pres. Asstt. | Ongoing | One tour in Q3 to Bilaspur and surrounding areas (Chhatisgarh) by Armugan and B C Dey for collection of Plant material (Rice Germ Plasm, Pulses, oil seeds, wild varieties of vegetables, etc,) for enrichment of Botanical Gallery. |
| 106. | Listing and identification of Dicot herbarium specimens at BSIS. | Mrs. Geeta Chaudhury, Botanist<br>Mr B.C. Dey, Sr. Pres. Asstt.<br>Mr. S. K. Sharma, Sr. Pres. Asstt. | 2013 – 2016 | 3000 specimens to be documented in 2015-2016 |
| 107. | Listing and identification of Monocot herbarium specimens at BSIS. | Dr. M. Bhowmick Scientist D<br>Mr D.L. Shirodkar Asstt. Curator ISIM<br>Ms. Kangan Pagag Bot. Asstt. | 2013 – 2016 | 2000 specimens to be documented in 2015-16 |
| 108. | Revision of Family Gesneriaceae of North East India | Dr. B.K. Sinha, Scientist E<br>Ms. Sudeshna Dutta, Preserv. Asstt., Gr.-I. | 2013 – 2016 | All the scientific studies would be completed within March 2015. Further compilation of the observation, preparation of keys to the genera and species; illustrations of selected species, and finalization of manuscript. |
| 109. | Interpretation of family Moraceae & Myrtaceae in Icones Roxburghianae | B.K. Sinha, Scientist F<br>A.K. Sahoo, Scientist D<br>D.L. Shirodkar Asstt. Curator ISIM<br>Ms. Kangan Pagag Bot. Asstt. | 2015 – 2017 | There are approx. 89 entries of families which will be interpreted. |
| 110. | Interpretation of family Convolvulaceae and Cucurbitaceae in Icones Roxburghianae | B.K. Sinha, Scientist F<br>Ms S. Dutta Preserv. Asstt., Gr.-I. | 2015 – 2017 | There are approx. 71 entries of families which will be interpreted. |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Field Tour | 0 | 1 | 1 | 0 | 2 |
| Herbarium Consultation Tour | 0 | 0 | 0 | 0 | 0 |

## CRYPTOGAMY

| Sr No. | Name of the Project | Name of the executing scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 111. | Studies on wild mushrooms of east and south Sikkim *(except Agaricaceae, Hygrophoraceae, Boletaceae, Suillaceae and Cantharellaceae)* | Dr. Kanad Das, Scientist D | 2014 – 2019 | Processing, SEM Studies at CNH, identification and documentation of collected wild mushrooms. 45 species to be completed during 2015 – 16. |

| Sr No. | Name of the Project | Name of the scientist | Tenure | Quantifiable deliverables (targets) for 2015 – 2016 |
|---|---|---|---|---|
| 112. | Revision of family *Metzgeriaceae* in India *(ca.* 26 spp.) and data-basing liverworts and hornworts specimens in CAL ***(New project)*** | Dr. D. Singh, Scientist C | 2015 – 2018 | Q1. Studies on specimens of genera *Metzgeria* and *Apometzgeria* available in CAL<br>Q2. One herbarium consultation tour to Lucknow University, Lucknow (LWU) and NBRI (LWG)<br>Q3. One field tour to Nilghiris (Ootacamund, Sholurmattam, Kotagiri, Wellington, Ketti, Emerlad, Mukurthi, Wayanad WLS, Aralam WLA covering ca 300 sq km.<br>Q4. Studies on specimens<br>***Total 01 Field tour and 01 Herbarium Consultation Tour*** |
| 113. | Algal Flora of Jharkhand | Dr. R. K. Gupta, Scientist D | 2012 – 2017 | Q1. Processing, identification and documentation of the samples collected earlier.<br>Q2. Field tour to Gumla and Lohardaga district, (Palkot WLS, Sankha river at Gumla, Palkot reservoir, Koel river at Lohardaga and several aquatic as well as terrestrial habitats around the districts specifically the iron and bauxite mining areas) covering an area of 500 sq. km mostly confined to aquatic and moist terrestrial conditions.<br>Q3. Field tour to Chatra and Latehar district (Gua falls, Keridau falls, Maludah falls, hot spring at Balbal duari and several aquatic as well as terrestrial habitats around the districts) covering an area of 425 sq. km mostly confined to aquatic and moist terrestrial conditions.<br>Q4. Identification & description of species collected from tour<br>***Total 02 Field tours*** |
| 114. | Wood- rotting fungi of Rajmahal hills Jharkhand | Sri Manoj Emanuel Hembrom Botanist CNH | 2013 – 2017 | Q1. Processing, identification and documentation of samples.<br>Q2. One field tours to Rajmahal hills falling under the boundaries of Godda and Dumka, Jharkhand in Q2.<br>Q3. One Herbarium cum Library consultation tour to Botany Dept., Univ. of Madras for further study of collected specimens.<br>Q4. One Herbarium cum Library consultation tour to Dept. of Botany University of Punjab, Chandigarh, and Punjabi University Patiala for further study of collected specimens<br>***Total 01 Field tour and 02 Herbarium Consultation Tour*** |

| Nature of Tour | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Field Tour | 0 | 2 | 2 | 0 | 4 |
| Herbarium Consultation tour | 0 | 1 | 1 | 1 | 3 |

## SUMMARY OF TOURS

| RC/Unit | Field Tour | | | | Herbarium Consultation Tour | | | | Ex-situ Conservation Tour | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| APRC | 0 | 3 | 2 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 9 |
| ERC | 4 | 2 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 12 |
| SHRC | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| CRC | 2 | 2 | 3 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 11 |
| BGIR | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| NRC | 4 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 13 |
| AZRC | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| WRC | 2 | 2 | 3 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 11 |
| DRC | 2 | 2 | 4 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| SRC | 2 | 5 | 2 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 17 |
| ANRC | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 |
| AJCBIBG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 5 |
| CNH | 2 | 5 | 2 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 14 |
| CBL | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| ISIM | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| PHARM | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| CRYPTO | 0 | 2 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 7 |
| PL CHEM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 20 | 32 | 27 | 18 | 4 | 11 | 7 | 7 | 1 | 4 | 3 | 1 | 135 |
| | 97 | | | | 29 | | | | 9 | | | | |

## Post-Doctoral Fellow of BSI

| Name of the Project | Name of the Post-Doctoral fellowand Place of posting | Tenure |
|---|---|---|
| Revisionary studies of family OphioglossaceaeMartinov in India | Dr. Pushpesh Joshi<br>NRC, Dehradun | 2013- 16 |
| Revision of the subtribe Tripogoniae (Poaceae) in India | Dr. Sangita Das Chowdhury (Dey) | 2013- 16 |
| Morphological and Molecular characterization of Memecylon L.(Melastomaceae) in Andaman and Nicobar Islands, India, | Dr. S. Prabhu<br>SRC, Coimbatore | 2013- 16 |
| Diversity& Ecology of Cyanobacteria and algae in the alpine regions of Eastern Himalaya | Dr. Sudipta Kumar Das<br>CNH, Howrah | 2013- 16 |
| Diversity behind Uniformity: Synflorescence Architecture in Andopogoneae from India | Dr. Rinkuben J. Desai<br>Maharaja SayajiraoUniverisity of Baroda , Vadodara | 2013- 16 |
| Gingers of Nagaland | Dr. Moaakum<br>Kohima Science College, Jotsoma | 2013- 16 |
| Taxonomic revision of Liverwort Genus Drepanolejeunea (Spruce) Schiffn. In India | Dr. MonalisaDey | 2013- 16 |

## Projects Fellows of BSI

| Name of the Project | Name of the Projects Fellows and Place of Posting | Name of the Supervisor | Tenure |
|---|---|---|---|
| Revision of Family Rocellaceae in India | Sri Siljo Joseph<br>Central Regional Centre, Allahabad | Dr. G. P. Sinha,<br>Scientist D, CRC, Allahabad | 2010- 2015 |
| Revision of the Tribe *Vernonieae*in India | Smt. Bandana Bhattacharjee<br>Central National Herbarium, Howrah | Dr. P. Lakshminarasimhan,<br>Scientist D, CNH, Howrah | 2010- 2015 |
| Revision of the Genus *Festuca*in India | Ms. Sutrishna Kar,<br>Central National Herbarium, Howrah | Dr. P. Singh<br>Scientist 'E', Hqrs., Kolkata | 2010- 2015 |
| Moss Flora of Darjeeling District | Ms. Pamela Saha<br>Central National Herbarium, Howrah | Dr. Nehal Aziz<br>Scientist 'D', Hqrs., Howrah | 2010- 2015 |
| Floristic study of the Liverworts and Hornworts of Arunachal Pradesh with special reference to West Siang District | Sri Siddhartha Singh Deo<br>Central National Herbarium, Howrah | Dr. D. K. Singh<br>Scientist 'F', Hqrs., Howrah | 2010- 2015 |
| Flora of the Phawngpui Blue Mountain Peak, Mizoram | Sri Samiran Pandey,<br>Eastern Regional Centre, Shillong | Dr. B. K. Sinha<br>Scientist 'E', ERC, Shillong | 2010- 2015 |
| Revision of the Genera *Carex* L. and *Kobresia*Willd. in India | Sri Bikash Jana,<br>Central National Herbarium, Howrah | Dr. R. C. Srivastava<br>Scientist 'E', Hqrs.<br>Kolkata | 2010- 2015 |
| Poaceae of OdishaState | Sri Alok Rabindra Chorghe<br>Deccan Regional Centre, Hyderabad | Dr. P. V. Prasanna,<br>Scientist E, DRC, Hyderabad | 2010- 2015 |
| Revision of the tribe Heliantheae in India | Sri Jitendra Kumar Vaishya<br>Central Regional Centre, Allahabad | Dr. A. A. Ansari,<br>Scientist E, CRC, Allahabad | 2010- 2015 |
| Revision of the Family *Memecylaceae* in India | Ms. Moumita Das Das<br>Central National Herbarium, Howrah | Dr. A. Pramanik,<br>Scientist D, CBL, Howrah | 2010- 2015 |
| Flora of Koyna Wildlife Sanctuary, Maharashtra | Ms. PrajaktaShivajiPathare<br>Western Regional Centre, Pune | Dr. P. G. Diwakar<br>Scientist E, WRC, Pune | 2010- 2015 |
| Taxonomic Revision of Sub- tribe Hebenariae (excluding HabeneriaWilld.) in India. | Mr. Lawkush<br>Northern Regional Centre, Dehradun | Dr. H. J. Chowdhery<br>Emeritus Scientist | 2010- 2015 |
| Revision of Indian Hymenochaetaceae | Ms. Deepa Mishra,<br>Northern Regional Centre, Dehradun | Dr. J. R. Sharma<br>Emeritus Scientist | 2011- 2016 |
| Taxonomic Studies of the members of Poaceae in Mizoram | Ms. Saumyasree Pathak<br>Central National Herbarium, Howrah | Dr. P. Singh,<br>Director, BSI | 2013- 2018 |
| Taxonomic Studies on Hepaticae and Anthocerotae of Anjaw District, Arunachal Pradesh | Sri ShuvadeepMajumdar<br>Central National Herbarium, Howrah | Dr. D. K. Singh,<br>Scientist F, Hqrs, Howrah | 2013- 2018 |
| Studies on the Floras of Kawal Tiger Reserve, MahavirHarinavanasthaliNational Park and MrugavaniNational Park, Andhra Pradesh with 10% periphery | Ms. P.S. Annamma<br>Deccan Regional Centre, Hyderabad | Dr. P. Venu<br>Scientist F, DRC, Hyderabad | 2013- 2018 |
| Revision of the subtribe *Eleusininae* (Poaceae: Chloridoideae) in India (excluding *Eragrostis* Wolf) | Ms. Mithraja M. J.<br>Southern Regional Centre, Coimbatore | Dr. G. V. S. Murthy<br>Scientist F, SRC, Coimbatore | 2013- 2018 |
| Flora of Satkosia Tiger Reserve, Odisha | Sri K. Chandra Mohan<br>Deccan Regional Centre, Hyderabad | Dr. P. V. Prasanna,<br>Scientist E, DRC, Hyderabad | 2013- 2018 |

| | | | |
|---|---|---|---|
| Micropropagation and screening of secondary metabolites of six medicinal orchids in Meghalaya | Ms. Gargi Prasad<br>Eastern Regional Centre, Shillong | Dr. A. A. Mao<br>Scientist E, ERC, Shillong | 2013- 2018 |
| Lichens of Terai regions of Uttar Pradesh | Ms. Pooja Gupta<br>Central Regional Centre, Allahabad | Dr. G. P. Sinha<br>Scientist D, CRC, Allahabad | 2013- 2018 |
| Revision of the Family Myrsinaceae in India | Ms. Rijupalika Roy<br>Central National Herbarium, Howrah | Dr. A. Pramanik<br>Scientist D, AJCBIBG, Howrah | 2013- 2018 |
| Taxonomic revision of subgenus *Carex* of Genus *Carex* L. (Cyperaceae) in India | Sri AnimeshMaji<br>Central National Herbarium, Howrah | Dr. V. P. Prasad<br>Scientist C, CNH, Howrah | 2013- 2018 |
| Taxonomic revision of the family Fagaceae in India | Ms. ShankhamalaMitra<br>Central National Herbarium, Howrah | Dr. Vinay Ranjan<br>Scientist C, CNH, Howrah | 2013- 2018 |
| Ethnobotanical study of Lodha (a primitive tribal group) of West Bengal and nutraceutical analysis of selected plant species | Ms. SagariChaudhury<br>Central National Herbarium, Howrah | Dr. Harish Singh<br>Scientist C, CBL, Howrah | 2013- 2018 |
| Pteridophytic flora of KundermukhNational Park, Central Western Ghats with 10% periphery | Sri DevendraTripathi<br>Western Regional Centre, Pune | Dr. A. Benniamin<br>Scientist C, WRC, Pune | 2013- 2018 |
| Microfungi of BiligirirangaswamyTemple Wildlife Sanctuary, Karnataka | Ms. Shreya Sengupta<br>Western Regional Centre, Pune | Dr. (Mrs.) Rashmi Dubey<br>Scientist C, WRC, Pune | 2013- 2018 |
| Studies on the families Agaricaceae, Boletaceae, Hygrophoraceae, Suillaceae and Cantharellaceae of East and South Districts of Sikkim | Ms. Dyutiparna Chakraborty<br>Central National Herbarium, Howrah | Dr. Kanad Das<br>Scientist C, Cryptogamy, Hqrs. | 2013- 2018 |
| Taxonomic Studies on lichenised non thelotremoid Indian Graphidaceae | Ms. Pushpi Singh,<br>Central Regional Centre, Allahabad | Dr. K. P. Singh, Emeritus Scientist, CRC, Allahabad | 2013- 2018 |
| Taxonomic revision of fern genus *Pteris*L. (Pteridaceae) in India. | Ms. Piu Das<br>Central National Herbarium, Howrah | Dr. P. M. Padhye<br>Scientist E, Hqrs. | 2013- 2018 |
| DNA Barcoding of CITES listed plants excluding Orchidaceae | Ms. Steena R. Sebastian<br>Central National Herbarium, Howrah | Dr. A. B. D. Selvam<br>Scientist C, Hqrs. | 2013- 2018 |
| A systematic study on the tribe *Ipomeeae*Hallier f. (Convolvulaceae) India | Mrs. S. Shalini<br>Central National Herbarium, Howrah | Dr. P. Lakshminarasimhan,<br>Scientist D, CNH | 2013- 2018 |
| | | | |
| Taxonomic Studies of genus *Rubus* L. in India | Ms. Chandni Gupta<br>Central National Herbarium, Howrah | Dr. S. S. Dash<br>Scientist C, Hqrs. | 2014- 2019 |
| Flora India Project | Mr. Shashi Kumar<br>Eastern Regional Centre, Shillong | Dr. S. K. Singh,<br>Scientist E, ERC, Shillong | 2014- 2019 |