

A tall, slender tree stands prominently in a lush green forest landscape under a cloudy sky. The tree has a straight trunk and a canopy of dark green needles. The background shows rolling hills covered in dense forest, with some bare, dead trees visible in the distance. The sky is filled with large, white clouds, and a patch of blue is visible on the left.

Sudhansu Sekhar Dash

Scientist-D

In-Charge, Publication Section
Botanical Survey of India,
CGO Complex, Kolkata

Title of Ph.D. thesis:

Studies on Floristic, Biomass and Energetics in the Tribal village Ecosystems of Eastern Ghats of Orissa.

Sponsoring Agent: Department of Science and Technology, Govt of India under Science and Society Scheme

Name of the University:

Berhampur University,
Bhanja Bihar, Brahmapur -7,
Odisha

Year of Award : 1997

Area of Research: Biodiversity assessment, ecological modelling and **natural resource management** in Eastern Ghats.

This was a applied study dealing with Biodiversity assessment of selected sample plots in eastern ghats or Odisha; determining the biomass and energetics in the forest based ecosystems, and thereby integrating and extrapolating these parameters into a material flow model. So that, an prediction can be made, regarding the sustainability of the ecosystem.

Developed two models on forest based village ecosystem sustainability and natural resource management.

CHRONOLOGICAL ORDER OF EMPLOYMENT

(Joined BSI as on 12th July 1996)

Sl. No.	Working place in BSI	Post Held	From	To
1.	Sikkim Himalayan Regional Centre, Gangtok	Senior Scientific Asst.	July 1996	July 2002
2.	Botanical Garden of Indian Republic, Noida (on deployment)	Senior Scientific Asst.	July 2002	Jan 2008
3.	Arunachal Pradesh Regional Centre, Itanagar	Scientist C	January 2008	December 2011
4.	Publication Section, Head Quarters, Kolkata	Scientist C	December 2011	January 2015
5	Publication Section, Head Quarters, Kolkata	Scientist-D (Assessed up to Jan 2013)	January 2015	Till date

Theme Area of Research in BSI

Period	Theme of work	Deliverable outcome
1996-2002	Biodiversity assessment, and floristic Studies in Sikkim	<i>The Flora of Kabi Sacred Grove , The Flora of Kyangnosla Alpine Sanctuary);</i> taxonomic studies of families <i>Grossularicaceae</i> , <i>Polygonaceae</i> , and <i>Commelinaceae</i> .
2002-2008	Floristic Survey, ex-situ conservation, Botanic garden Education	Development Woodlands and Arboretum in 25 represented ecosystems; Introduction of indigenous plants, conducted about 18 outreach education programmes.
2008-2011	Floristic Survey, Taxonomic study in Arunachal Pradesh	Flora of Kurungkumey district Leguminosae (s.l.) of Arunachal Pradesh
2011 - till date	Assessment of Plant Diversity in Eastern Himalaya, Revisionary studies and Scientific editing of manuscripts	More than 80 titles Published during last 5 years. Bilingual of Plant Discoveries Successfully introduction of Online Journal Management System in Nelumbo and E-Nelumbo is fully operational.

ANNUAL ACTION PROGRAMMES (SHRC, Gangtok; 1996-2002)

Allotted Projects

1. Flora of Kabi Sacred Grove : (1997-1999)
2. Flora of Kyangnosla Alpine Sanctuary: (1998-2002)
3. Systematic Studies on Family Polygonaceae (1999-2002)
4. Systematic Studies on Family Commelinaceae (2000-2001)



OUTCOMES

Documented the detailed flora of the *Kabi Sacred Grove* of North Sikkim (330 species) and *Kyangnosla Alpine Sanctuary* of east Sikkim (640 species). The detailed taxonomic account of the family *Polygonaceae* of Sikkim (9 genera, 85 species) worked out with two new combinations {*Aconogonon rude* (Meissn.) S.S.Dash & P.Singh & *Persicaria birmanica* (Gage) S.S.Dash & P.Singh}. Also completed the detailed account of families *Grossulariaceae*, and *Commelinaceae* of Sikkim. (54 species), besides collected more than 10000 specimens from alpine regions of Sikkim.





ANUUAL ACTION PROGRAMMES 2002-2008

Allotted Projects

1. Digital flora of National Capital Territory Regions (2003-2007).
2. Development of woodlands of indigenous plants in BGIR (2003-2008)
3. Introduced data bases (2003-2008) (Introduced Plant and Tree)

Outcomes

- ✓ Developed the herbarium of BGIR with more than 3500 specimens.
- ✓ Thematic medicinal plant garden in BGIR.
- ✓ Planned 25 replicas of the different forest ecosystems of India for woodland & arboretum development with indigenous tree species.
- ✓ Carried out Educations programs of BGIR,
- ✓ Collected more than 10,000 plant seedling of about 170 plant species including From Andaman islands, Dang forest of Gujarat, Amarkantak & Jabalpur regions Madhya Pradesh, Kalinga hills of eastern Ghat etc.,





AYUR VEDIC MEDICINAL PLANTS SECTION

In India about 1800 plant species are known to be of medicinal use, most of these plants are used in ayurvedic medicine. Most of the medicinal systems of medicine, including Ayurveda, Unani, Siddha, etc., are plant based. Traditional use of turmeric, ginger, neem, etc., is part of our country's rich cultural heritage.

The Ayur Vedic, which displays a total of 18 medicinal plants, is divided into eight sections, each of which contains 12 species, laid out thematically according to their therapeutic use in treatment of various ailments in the Ayurvedic system of medicine. The medicinal plants (herbs, shrubs and trees) arranged in these eight sections are identified with care of the following organ systems: digestive system, blood and circulatory system, musculoskeletal system, skin diseases, urogenital system, respiratory system, inflammation and nervous system. The Ayur Vedic is expected to exhibit the medicinal plant wealth of the country and promote their sustainable utilization and conservation.

LAYOUT OF MEDICINAL PLANTS SECTION

BGIR BOTANIC GARDEN OF INDIAN REPUBLIC
Conserving Plants

28 2 2007





Trudellia crinata



Dendrobium cuminum



Paphiopedilum fairrieianum



ANNUAL ACTION PROGRAMMES 2008-2012

Allotted Project

1. Flora of Kurungkumey District (2008-2012)
2. Systematic studies on families Leguminosae (2009-2010)
3. State Flora of Arunachal Pradesh (2009-2010)



Outcomes

- ✓ This is one of the most inaccessible districts of Arunachal Pradesh with an altitudinal variation of 550 m to 5500 m. The study resulted in documenting 1391 species including **One new genus, five new species and more than 75 species new to Arunachal Pradesh and 9 species new to India**. Vadse hills of Kurung Kumey district botanized for the first time which accounted 267 alpine species.
- ✓ Taxonomic account 219 species belonging to 74 genera completed. Two new species, one new record to India and 22 new records of legumes for Arunachal Pradesh.
- ✓ Contributed descriptions of 245 species belonging to 19 families





Gaultheria heteromera



Rhododendron trilectorum



Rhododendron sanguineum



Pleione scopulorum



Berneuxia thibetica



Gaultheria trichophylla var.
eciliata





ANNUAL ACTION PROGRAMMES

1. Scientific editing of Books:

More than 50 titles were published till now during my tenure as Publication In-charge. 7 issues of Nelumbo, Vanaspati Vani, and Plant discoveries were published in scheduled time.

2. Systematic studies on Family Rubus in India: More than 75 species are appended till now, 5 new species communicated, nomenclature problems of more than 10 species solved, two species complex worked out, lectotypification of 4 species done, SEM of pollen for more than 35 species were completed.

**3. Interpretation of the Family Leguminosae in ICONES
Roxburghianae**

Besides , contributed descriptions of three families Grossulariaceae, Iteaceae, Parnesiaceae for flora of India vol. 9.



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B. K. Sinha, Sudeshna Datta

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Chandani Gupta, Sudhansu Sekhar Dash

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Rajeev Kumar Singh

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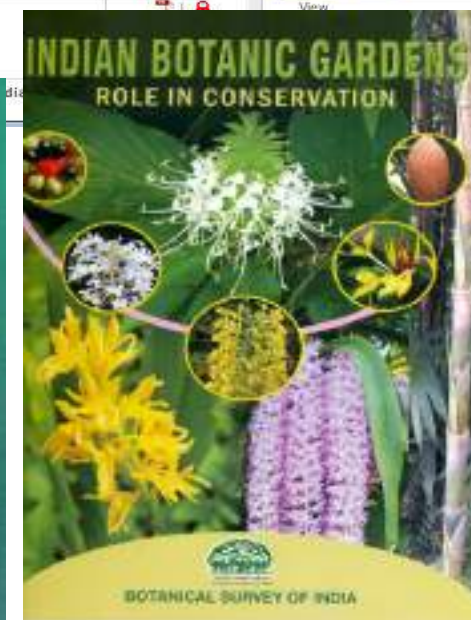
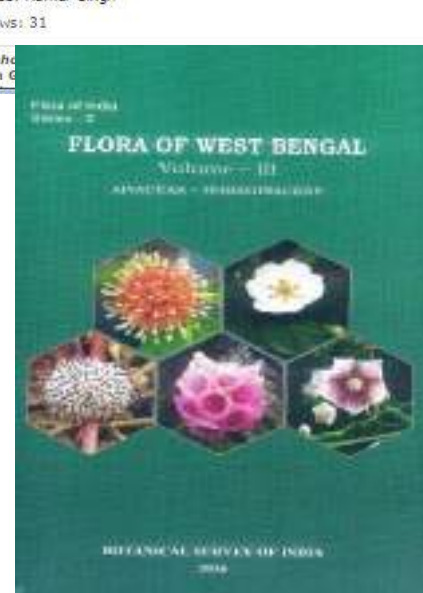
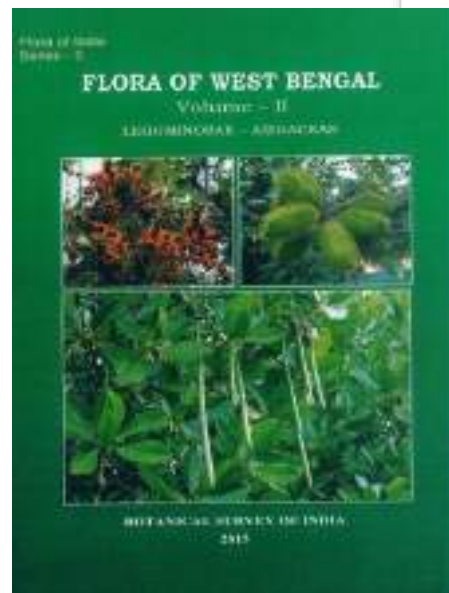
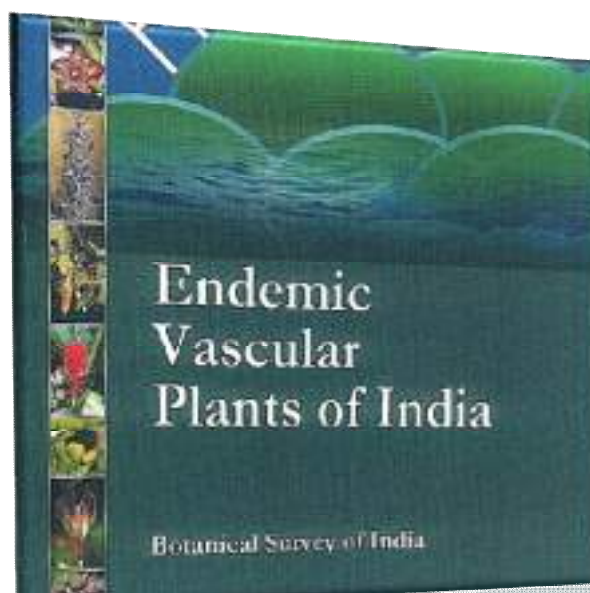
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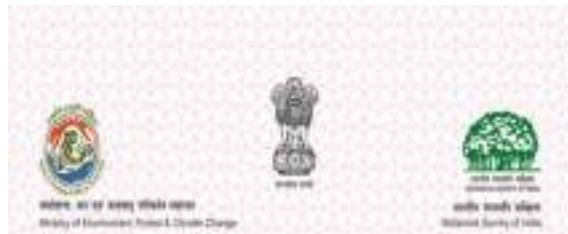
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NOTIFICATIONS

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Image Gallery





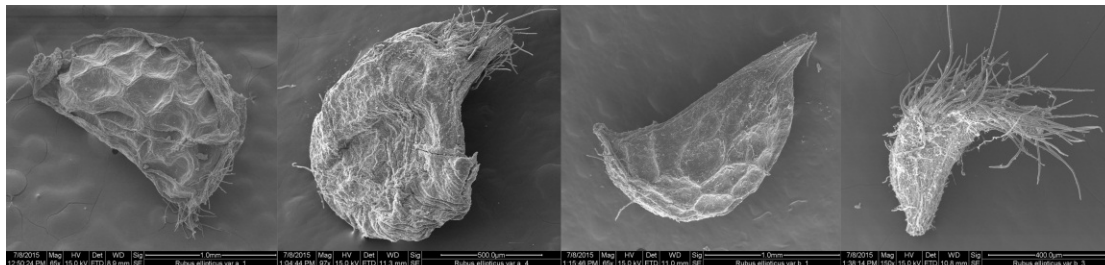
'PLANT DISCOVERIES 2015' is the 9th in the series published by Botanical Survey of India, It provides glimpses of the new species and new records discovered during the past one year from India. During the year 2015, the scientist from BSI and other institutions discovered 12 new genera, 183 new species, 7 new varieties and 3 subspecies from India and 01 genera with 144 species, 4 subspecies and 13 varieties were reported for the first time from India.

The book 'PLANT DISCOVERIES 2015' in bilingual serves as the source of information on addition to our plant wealth for general awareness amongst the scientists, policy makers and the public at large and also gives the current status of the plant diversity of our country.

Compiled & Edited by : Paramjit Singh & S.S. Dash
ISBN : 81-8177-077-3

Systematic studies on Genus *Rubus* L. in India

Besides SEM of pollen & seed of 30 species done; 3 field tours to part of eastern & western Himalaya undertaken; 15 national herbaria consulted; 167 types and 138 protologues collected so far; Description prepared for 46 species; Illustration prepared for 40 species

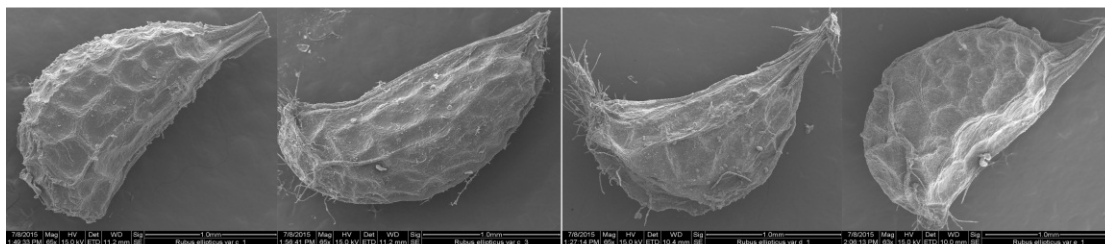


var. typical

var. typical (Odisha)
ovary not developed in
fruit completely

var. obcordatus (North-east India)

var. obcordatus (Lohit valley)
ovary not developed in
fruit



var. X (Peninsular India)

var. X (Peninsular India)

var. typical with note

var. Y (NW Himalaya)

from 2 different sheets (noted color difference)

SEM images of Seeds of *Rubus ellipticus* Sm.



Training/ Workshop Attended

Year	Training Programme	Institution	Duration
2006	The Nature of Success: Success for Nature (Workshop on Botanical Garden Education and Outreach) .	Oxford University, Oxford, United Kingdom	25 th -26 th April 2006
2007	Orchid Seed storage for sustainable Use (Under Darwin Initiative Project sponsored by DEFRA)	International Institute of Integrated Biotechnology, at Chengdu, PR China	15-19 Oct. 2007
2008	Workshop on Conservation, Exploration, Dissemination of Potential tribal folklore medicine and local health traditions of Arunachal Pradesh	Central Research Institute for Ayurvedic, Itanagar	20-21 April 2008.
2009	Special training Programme on Official Language Implementation and Terminology (jktHkk''kk dk;kZUo;u ' kCnkoj dk fo' ks''k i zf' k{k.k))	Cental Hindi Language Kanya Kumari	25-27 May 2009.
2010			

ADMINISTRATIVE/ORGANISATIONAL ASSIGNMENTS

In-Charge, Publication Section , BSI, Head Quarter: Looking after the smooth publication of Books, Journal and periodicals.

AS DDO: Aruanachal Pradesh Regional Centre : (2008- 2010) :
Streamlined timely submission of computer generated reports and text files to NSDL, e-TDS quarterly and fully implemented the e-payment in the office.

As Hindi officer: Organized regular quarterly meetings in the office and encouraged the staffs for working in Hindi.

Chairman, Purchase Committee : Acted as the Chairman, Junior Purchase committee; Member in the Medical committee for the smooth functioning of the office; attended to other administrative assignments as assigned by Director, BSI from time to time

Other Activities

1. **Acted as a external reviewers in evaluating Ph.D. Thesis:** Two Ph.d thesis evaluated on Angiosperm Taxonomy from Berhampur University, Review of articles for reputed Journals
2. **As a Research Supervisor** for one Research fellows for Ph.D. work in Taxonomy
3. **As a principal co-investor in the NMHS sponsored project: Biodiversity assessment through long-term monitoring plots in Indian Himalayan landscape**

Details of Fellowships/Awards

1. Brandis Prize for the year 2012
2. S.K.Jain Medal 2014

Membership/Fellowship of other institutions/professional societies:

1. Fellow of Indian Association for Angiosperm Taxonomy
2. Life member in Indian Association for Angiosperm Taxonomy
3. Life member in Association of Plant Taxonomists
4. Life members in East Himalayan society for spermatophyte taxonomy
5. Life members in Society for Ethnobiology

Publications

Books Published	<ol style="list-style-type: none"> 1. Phyto-diversity and Useful plant of Eastern Ghats of Orissa, a special reference to Koraput District) 2. Oil yielding Plants of India 3. Endemic Vascular Plants of India 4. Flora of Kurungkumey district, Arunachal Pradesh
Books co-edited	<ol style="list-style-type: none"> 1. Indian Botanic Gardens: Role of Conservation 2. Flora of West Bengal, Vol-III 3. Flora of West Bengal, Vol-II
Periodical/ Journals edited	<ol style="list-style-type: none"> 1. Plant Discoveries (5 issues) 2. Vanaspati Vani (5 issues) 3. Nelumbo (5 issues)
Papers Published	86 in peered reviewed Journal (Total API score 1275)
Chapters Contributed in Edited Books	9 (all the articles are peer reviewed and with ISBN numbers)
Popular articles published	14
Conference Proceeding/ Publications	8 (2 as sole author & in 6 as first author)
Invited Lectures/Papers presented	13

Scientific Achievements

Novelties Discovered:

New to Science: One new genus ***Stapletonia*** P.Singh, S.S.Dash & P. Kumari, five new combination; five new species ***Crawfurdia arunachalensis*** S.S.Dash, R.Gogoi & A.A.Mao, ***Codonopsis vadsea*** S.S.Dash & A.A. Mao, ***Archidendron nielsenianum*** S.S.Dash & Sanjappa, ***Archidendron aruanchalense*** S.S.Dash & Sanjappa, ***Rubus ramachandrae*** S.S.Dash & Chand.Gupta described.

Typification:

5 names were typified and published.

New records to the Indian Flora:

One new generic record viz. *Berneuxia thibetica* Decne., 15 new record of plants for India were reported.

New records to State flora:

More than 25 new records to Odisha, 45 new records to Sikkim and more than 75 new distributional plant records for Arunachal Pradesh have already been reported.

Online Journal Management System (OJMS)

E-Nelumbo is fully operational. Besides the DOI numbers, the journal is now indexed in J-Gate and I-scholar. National Impact factor in NAAS is assigned since January 2017 and initiation taken for enlisting in UGC list.

Future Research Programmes (2016-2019)

- **Biodiversity assessment through long-term monitoring plots in Indian Himalayan landscape (NMHS sponsored project, Large Grant)**
- **Revision of any Families/ Genera to be allotted under the Flora of India Projects.**
- **A interested to work out the alpine flora of Eastern Himalaya**



THANK YOU