

# ANNUAL SCIENTIFIC MEET – 2017

Achuta Nand Shukla, BSI, CRC, Allahabad

- JRF** : [2004 to 2006]
- SRF** : [2006 to 2008] [BSI, CRC, Allahabad]
- Research Associate** : [29.09.2009 to 28.02.2010] [NBRI Lucknow]
- Botanical Assistant** : [02.03.2010 to April 2015] [BSI, NRC, Dehradun]
- Scientist -B** : [27.04.2015 to till date] [BSI, CRC, Allahabad]

## **Ph.D. Thesis title: Flora of Rewa District, Madhya Pradesh**

Thesis submitted to A.P.S. University Rewa, Madhya Pradesh

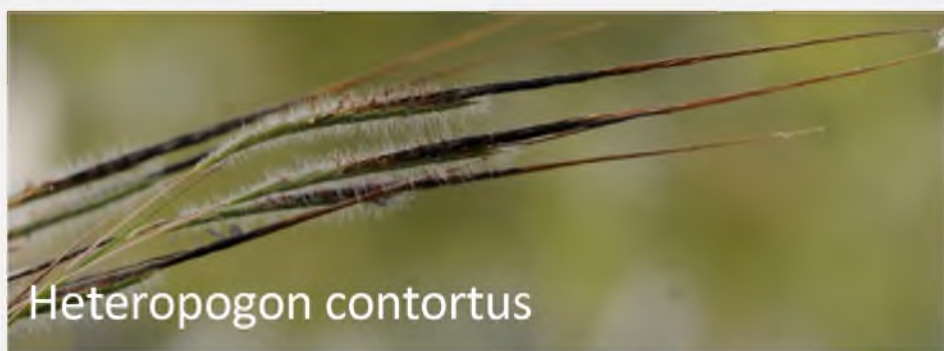
Awarded in: 2010

Species described: 797 under 500 genera and 125 families

New Addition for the district: 245

New Additions for the State: 6

New Addition for the Central India: 1



**Name of the Project:** Studies on Biological Resource and Documentation of Traditional Knowledge of Achanakmar-Amarkantak Biosphere Reserve, Madhya Pradesh and Chhattisgarh

**Duration :** 2004 to 2008

**Name of project staff :**

1. Dr. S.L. Bondya, RA [29.11.2004 to May 2006]
2. Miss. Smita Mishra, JRF [2004 to 2006]
3. Sri. A.N. Shukla [JRF-2004 to 2006; SRF-2006 to 2008]



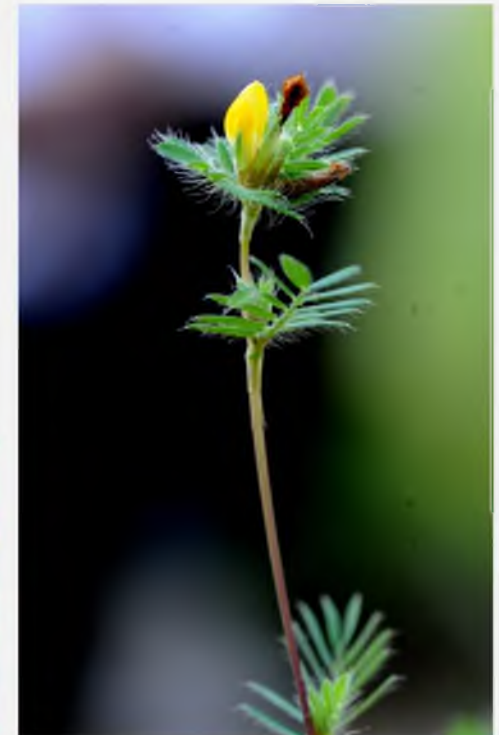
**Achievements :**

**Tours conducted :** 09

**No. of specimens collected :** 3500

**No. of species described :** 1011

**Report Submitted**



**Name of the Project:** Studies on relationship between ecogeography of the chemotypic variation of nine important but highly threatened medicinal plant species and prospects of their cultivation, funded by ICAR, New Delhi.

**Post:** Research Associate

**Duration:** 29.09.2009 to 28.02.2010

**Name of the Institution:** National Botanical Research Institute, Lucknow

**Achievements:**

**Tours conducted** : **05**

**No. of Species collected** : *03 (Sida cordifolia, Tribulus terrestris, Acorus calamus in bulk)*

**Live seedlings collected** : **12**



**Name of the Project:** Post Impoundment Floristic Studies of Tehri Dam and its Environments, funded by THDC, Tehri (EIA Project)

**Duration:** 2009 to 2011

**Name of Executive scientists:**

1. Dr. S.K. Srivastava, Sci. E & Head of Office
2. Dr. P.K. Pusalkar, Sci. D
3. Dr. A.N. Shukla, Bot. Asstt.

**Achievements:**

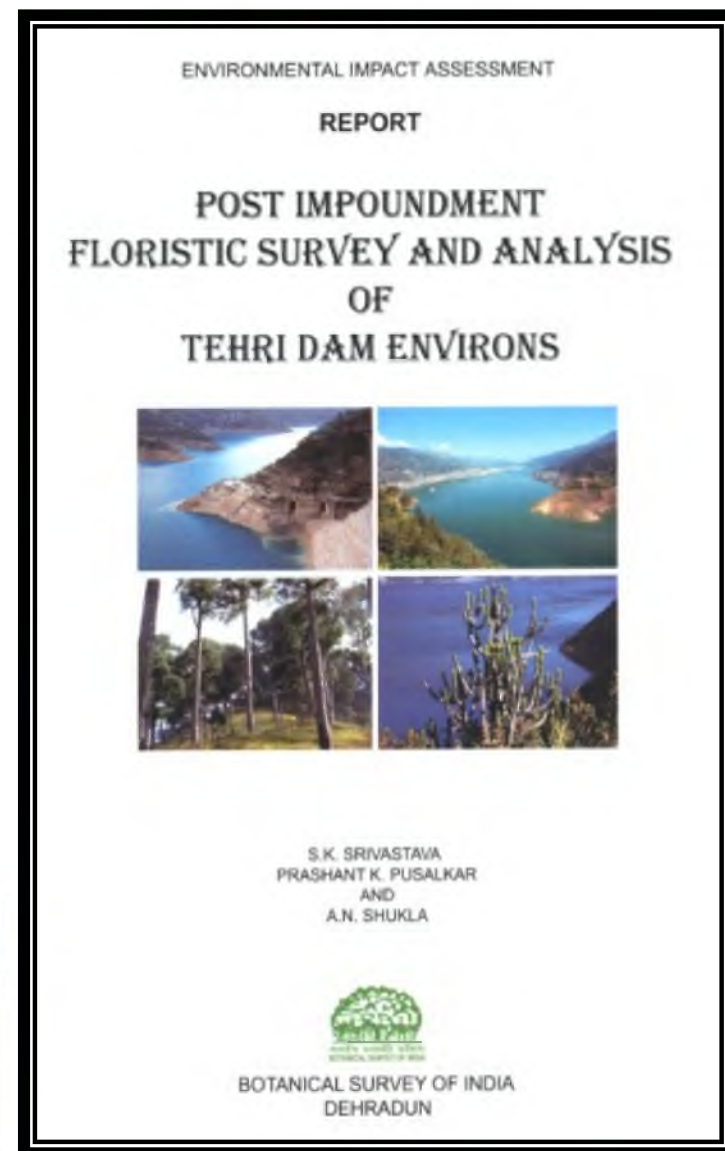
**Tours conducted:**

03

**No. of taxa described:**

666

**Final Report Submitted**





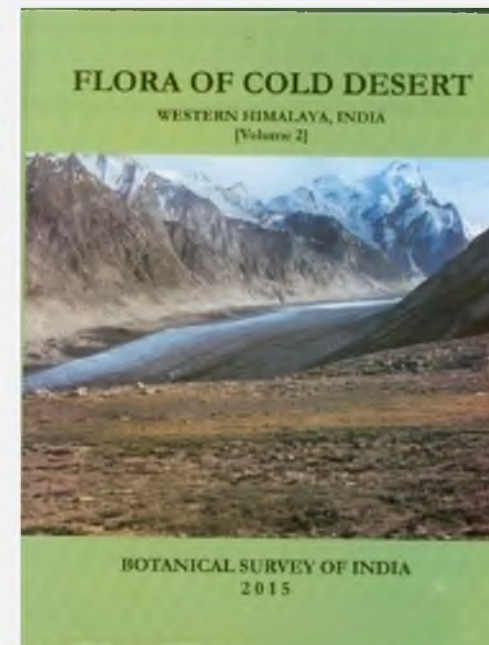


# **Name of the Project:** Flora of Cold Desert of Western Himalaya, Vol. -2

**Duration** : 2010 to 2014

**Name of Executive scientists:**

1. Dr. S.K. Srivastava, Sci. E & Head of Office
2. Dr. A.N. Shukla, Sci. B



**Achievements:**

**Tours conducted:**

**No. of specimens collected:**

**No. of taxa described:**

**Papers published:**



**02**

**2500**

**1268**

**Book (1); Papers (06)**

Besides this, one family of Flora of Jammu & Kashmir (Vol. 2) has also been completed and submitted





1. Plant collection at Baralacha La Pass; 2. Base Camp at Nakeela Pass, Ladakh; 3. Base camp at Salsal village, Ladakh; 4. Plant Collection at Kargil; 5. Processing of Plant Specimens at Penzila Pass Camp









1. A cushion of *Waldheimia nivea* (Hook. f. & Thomson ex C.B. Clarke) Regel- Penzila Pass, Zanskar Range; 2. Population of *Rheum spiciforme*, occur in relatively dry regions, on way to Tanglang La; 3. Vegetation with cushions of *Thylacospermum caespitosum*, Rupshu region, E. Ladakh, 5800 m; 4. Carpets of *Bistorta affinis* (D. Don) Greene (Polygonaceae) occur in relatively wetter regions of Penzila, Zanskar. S. Ladakh, 4800 m



1. *Meconopsis aculeata* Royle; 2. *Papaver nudicaule* L.; 3. *Corydalis crassifolia* Royle; 4. *Corydalis thyrsoiflora* Prain



1. *Viola biflora* L.; 2. *Arenaria bryophylla* Fernald; 3. *Arenaria festucoides* Royle; 4. *Cerastium cerastoides* (L.) Britt.; 5. *Silene vulgaris* (Moench) Garcke; 6. *Thylacospermum caespitosum* (Cambess.) Schischk.



# Cold Deserts

A Fragile Eco System



*A Film By*  
**Botanical Survey of India**





**Name of the Project:** Floristic Diversity of Kalesar National Park, Yamuna Nagar, Haryana

**Duration** : 2013 to 2015

**Name of Executive scientists** :

1. Dr. S.K. Srivastava, Sci. E & Head of Office

2. Dr. A.N. Shukla, Sci. B

**Research Centre** : Botanical Survey of India, NRC, Dehradun

**Achievements:**

**Tours conducted** : 03

**No. of specimens collected** : 1000

**No. of taxa described** : 322 species under 255 genera and 83 families

**FINAL REPORT SUBMITTED**





Figs. 1. Gate of National Park; 2. A big Liana; 3. Fire Line; 4. Mallotus mixed forest; 5. Kokhara river; 6. Sal Forest; 7. Mixed Forest; 8. Scrub Forest



1. *Helicteres isora* L.; 2. *Woodfordia fruticosa* (L.) Kurz; 3. *Sida acuta* Burm.f.; 4. *Passiflora foetida* L.



1. *Indigofera cassioides* DC.; 2. *Dicliptera bupleuroides* Nees; 3. *Pogostemon benghalense* (Burm.f.) Kuntze; 4. *Lepidagathis incurva* Buch.-Ham. ex D. Don; 5. *Crotalaria spectabilis* Roth



## Name of the Project: Flora of Chhattisgarh [Dicotyledons]

Duration: 2012 to 2017

Name of Executive scientists:

1. Dr. A.N. Shukla, Sci. B
2. Dr. Arjun P. Tiwari, Pres. Asstt.

Research Centre: Botanical Survey of India, CRC, Allahabad

Achievements:

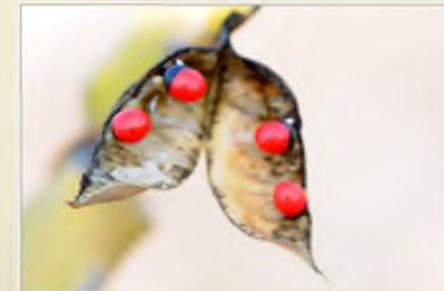
Tours conducted: 02

No. of specimens collected: 1127

[300 photographs were taken]

Species Identified: 570

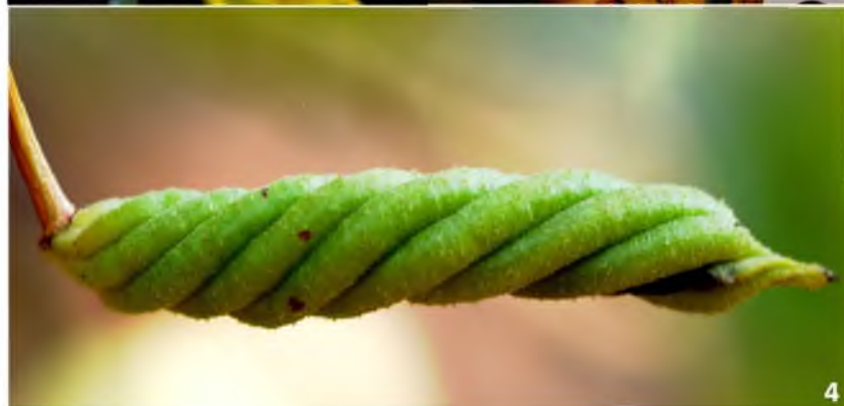
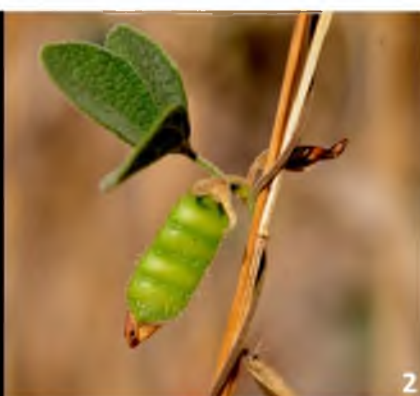
No. of taxa described: 800







1. Mixed Dry Deciduous forest-Raigarh, Chhattishgarh; 2. Mixed Dry Deciduous forest-Raigarh, Chhattishgarh; 3. Pure Sal forest; 4. Scrub vegetation near Raigarh city



1. *Crotalaria spectabilis* Roth; 2. *Cajanus scarabaeoides* (L.) Thouars; 3. *Merremia aegyptia* (L.) Urb.; 4. *Helicteres isora* L.

**Name of the Project** : **Flora of Chandra Prabha Wildlife Sanctuary, Chandauli District, Uttar Pradesh**

**Duration** : **2015 to 2017**

**Name of Executive scientists:**

1. **Dr. A.N. Shukla, Sci. B**
2. **Dr. Nitisha Srivastava, Bot. Asstt.**

**Achievements:**

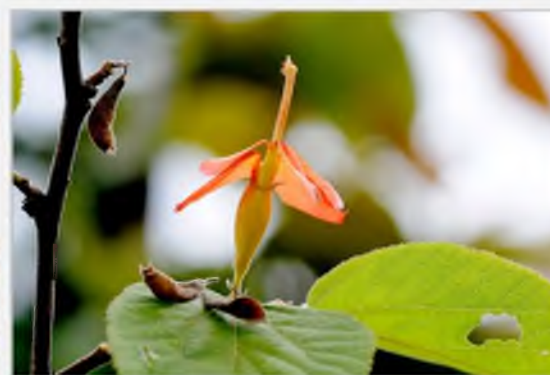
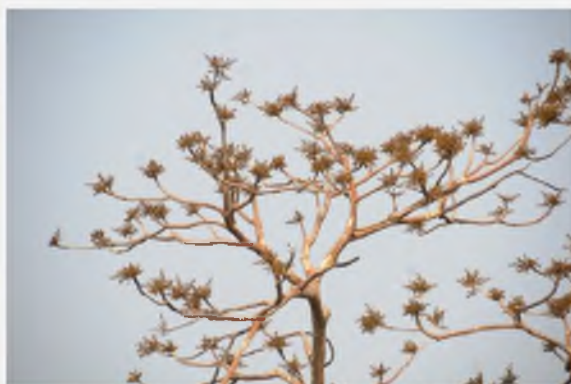
**Tours conducted** : **02**

**No. of specimens collected** : **700**

**Specimens identified:** : **173**

**Identified species** : **101**

**No. of taxa described** : **90**





## Name of the Project

: Ex-situ conservation of RET species in the experimental Botanic Garden of BSI, CRC, Allahabad

## Duration

: 2015 to till date

## Name of Executive scientist:

1. Dr. A.N. Shukla, Sci. B

Research Centre: Botanical Survey of India, CRC, Allahabad

## Achievements:

Total species

: 600

No. of species introduced

: 25

Photographs taken

: 500

Phenological data collected of flowering plants time by time

25 species: 05 tree spp. viz., *Platanus orientale* (Chinar), *Buchnanian lanzan*, *Indopiptadenia oudhensis*, *Oroxylum indicum*, *Helminthostachys zeylanica*; *Gloriosa superba*, *Habenaria plantaginea*, *Curculigo orchioides*, *Nelumbo nucifera*, *Selaginella bryopteris*, *Eremostachys superba*, *Ephedra saxatilis*, *Pittosporum eriocarpum*, *Catamixis baccharoides*, *Cinnamomum tamala*, *Sophora mollis* etc.











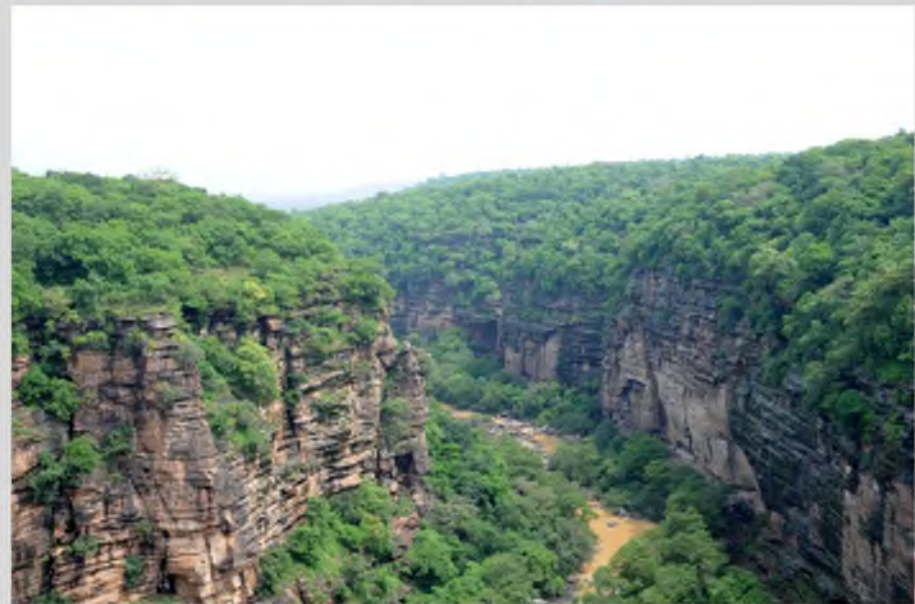


**Name of the Project:** Flora of Uttar Pradesh [Vol. 2]

**No. of Families completed:** 10

1. Araliaceae
2. Alangiaceae
3. Orobanchaceae
4. Lentibulariaceae
5. Gesneriaceae
6. Basellaceae
7. Loranthaceae
8. Viscaceae
9. Santalaceae
10. Urticaceae

**Total no. of taxa described:** 39





# Administrative Duties

- ❖ Office In-charge: Performed duties as H.O.O. [27.04.15-01.05.15; 28.09.15-29.09.15; 18.9.2015 to 19.09.2015].
- ❖ Performed duties as D.D.O.: [27.04.15 to 18.08.2015].
- ❖ Herbarium in charge: [08.05.2015 to till date]
- ❖ Garden In charge: [27.04.2015 to till date]
- ❖ Supervision of NPS related work: [27.04.2015 to 18.08.2015].
- ❖ Duties of Chairman Purchase Committee: [11.09.2015 to till date].
- ❖ Duties of Chairman of Store Verification: [Report submitted]
- ❖ Performed duties as a member of physical verification of Library.
- ❖ Duties as a member of vehicle auction committee and assisted to conduct auction of condemned three vehicles.
- ❖ Duties of Rajbhasha Sampark Adhikari
- ❖ Guest House In-charge: [01.07.2016 to till date]
- ❖ Security officer: [01.07.2016 to till date]
- ❖ Attended query of Lok shabha and Rajya Sabha, Govt. of India

# OTHER ACTIVITIES

1. Field Inspection tour was conducted to Achanakmar-Amarkantak Biosphere Reserve, Chhattisgarh Part for physical verification of work done by the Forest Department, Govt. of Madhya Pradesh. A final Inspection report has also been submitted to Director Botanical Survey of India, Kolkata.
2. Compiled and submitted detailed information about the distribution, uses and conservation status of *Adansonia digitata* L. in Madhya Pradesh, Chhattishgarh and Uttar Pradesh.
3. Conducted tour to Pachmarhi Biosphere Reserve took about 300 photographs of species and landscapes and sent to the HQ, Kolkata
4. As instructed by Director, BSI, Kolkata we visited Jaunpur district along with Dr. G.P. Sinha, Scientist-E & Head of Office to inspect the *Aegle marmelos* tree which has 6 fruits in one bunch.





## Achievements

❖ Total Projects Carried Out	:	07 [Jointly]
❖ Total No. of Field tours conducted	:	25
❖ Book Published	:	01
❖ Papers published	:	36
❖ Popular Hindi Articles published	:	19
❖ New Record for India	:	01
❖ New additions for Central India	:	02
❖ New additions for the states	:	26
Madhya Pradesh	:	09
Chhattisgarh	:	15
Uttar Pradesh	:	02

# Future Plan

1. Submission of project – Flora of Chhattisgarh, by the end of this year 2017
2. Studies of fossil and living plants with reference to the impact of climate change on flora of Gangetic Plains and Central India [in collaboration with BSIP]
  - ❖ Duration of the project: 2017 to 2020
  - ❖ BSI, CRC shall provide information on living plant resources through field exploration, survey and plant collection of recent floristic elements for confirmation/identification/authentication of the corresponding fossil extracts of BSIP.
  - ❖ Plant samples from fresh collections and herbarium specimens shall be provided for Isotopic analysis (particularly carbon) and other related studies by BSI.
  - ❖ Plant samples and relevant material for study on stomatal indices shall be provided by BSI in terms of oldest herbarium leaf specimens and recent specimens for comparison, to analyze the impact of increased carbon dioxide level in the atmosphere.





THANK YOU