

**BOTANICAL SURVEY OF INDIA, CENTRAL REGIONAL  
CENTRE, ALLAHABAD**

**G.P. SINHA, SCIENTIST-E**



**ANNUAL SCIENTIFIC MEET - 2017**

**Project: Flora of India (JRF & SRF: 5.6.1984 to 4.6. 1989).**

**Title of the Research Project: Lichen Flora of Nagaland. Regional Botanical Survey of India, Eastern Regional Centre, Shillong.**

**Ph.D. Supervisor & Co-supervisor: Dr. K.P. Singh, BSI, Shillong & Prof. D. N. Baishya, Gauhati University.**

**Year of Award: 1992**

**Joining in BSI: 26.04. 1991 as Junior Scientific Assistant**

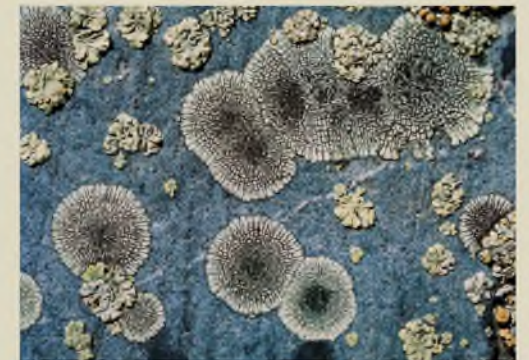
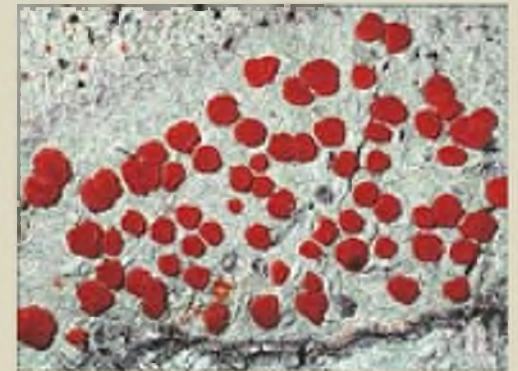
**Projects worked on:**

**26.4.1991-30.11.1993 at BSI, ERC, Shillong**

- 1. Maintenance of Cryptogamic Herbarium.**
- 2. Lichens of N. E. India.**
- 3. Multiplication of RET plant species through Tissue Culture.**

**1.12.1993 – 13.5.2001: as Botanist at BSI, SHRC, Gangtok**

- 1. Flora of Sikkim – Survey and Exploration**
- 2. Macrolichens of Sikkim.**
- 3. AICOPTAX project – as a Collaborator on Lichens**



**14.5.2001 to 17.12.2003: as Scientist C at BSI, ERC, Shillong**

1. Flora of Mizoram, Vol. II
2. AICOPTAX project – as a Collaborator on Lichens; supervision of work of 02 JRF on
  - i. Lichens of Sundarbans Biosphere Reserve, West Bengal.
  - ii. Lichens of Assam and Lichens of Tea Gardens of Assam & adjoining West Bengal.

**18.12.2001 to till date: as Scientist C, D & E at BSI, CRC, Allahabad**

1. Flora of Mizoram, Vol. II (up to 2006).
2. AICOPTAX project – as a Collaborator on Lichens; supervision of work of 02 JRF/SRF/RA up to 31.3.2012 on
  - i. Lichens of Sundarbans Biosphere Reserve, West Bengal (up to 2008)
  - ii. Lichens of Assam and Lichens of Tea Gardens of Assam & adjoining West Bengal.
3. Microlichens of Sikkim (2006-2012).
4. Flora of Mizoram, Vol. III, selected families (2007-2009).



- 5. Flora of Uttar Pradesh, Vol. I, selected families (2006-2008).**
- 6. Flora of Uttar Pradesh, Vol. II, selected families (2008-2010).**
- 7. Lichens of Rajasthan and Kutchh, Gujarat (2012-2017).**
- 8. Flora of India Project (22.10.2010 to 21.10.2015) to supervise the work of a JRF/SRF on the topic entitled: Revision of lichen family Roccellaceae s. lat. In India.**
- 9. Flora of India Project (Aug. 2012 to till date) to supervise the work of a JRF/SPF on the topic entitled: Lichens of Terai regions of Uttar Pradesh**
- 10. Flora of Uttar Pradesh, Vol. I , 2012-2016 (as one of the co-editor)**

## Work carried out under Action Plan

### EXPERIENCE IN FLORISTIC SURVEY AND COLLECTION IN THE FIELD

Name of project	Places visited	Years	Field Nos. collected	Capacity	No. of undertaken	Remarks
Lichen Flora of Nagaland (Hqrs. B.S.I., E.R.C., Shillong)	Nagaland: Saramati hills, Japho, Dzukou Valley, Tuensang, Mon, Wokha, Kohima, Rangapahar, Dimapur, Pfutsero, Phek, Meluri, Losami, Dzulhami, Chozouba, Thanameir, Solomi, Pungro, Mokochung, etc. and a few loc. of adjoining Manipur including Ukhrul district.	1984 to 1989	ca 5000	As B.S.I. Research Scholar	7	Surveyed almost all the floristically rich localities ranging from 200-3000 m elevations. As a result of these 346 spp. (including 9 new species and 15 new record for ) were identified from Nagaland
Lichens causing damage to Historical Monuments (Hqrs. N.R.L.C.)	Himachal Pradesh: Shimla and surroundings. Karnataka: Sri Rangapattan, , Hamphi, Shimoga, Shravanbelgola, Tirur, Hospet, Halebedu and Hassan.	1990 to 1991	ca 350	As Project Assistant	2	Collected lichens from various historical monuments.
Flora of Sikkim (including lichens) (Hqrs. B.S.I., S.H.C., Gangtok)	Sikkim: All the 4 districts including alpine areas like Llonakh Valley, Kanchendzonga Biosphere Reserve, Yumthang, Yomesamdong, Lachen, Lachung, Thangu, Sebu La, Tholung, Dzongri, Thangsing, Tsoka, Bakhim, Pangolakha, Zuluk, Rechala, etc.	1993 to 2001	ca 1700 Lichens ca 7000 Higher plants	As Botanist	12	Surveyed all the 4 dist. up to 5200 m elevations and also collected Ethnobotanical informations particularly on Lepchas & Bhutias of high altitude area.



Checklist of Flora of Mizoram and Flora of Mizoram, Vol. –II (Hqrs. B.S.I., Shillong and	Mizoram: Vairangtey, Kolasib, Aizawl, Tamdil, Lungleh, Sairang, Kaifang, Selling, etc.	2001 to 2006	ca 170	As Scientist 'C'	01	Checklist of Flora of Mizoram completed and submitted. Edited manuscript of Volume –II submitted for publication.
Achanakmar-Amarkantak B.R. (Hqrs. BSI, )	Chhattisgarh & Madhya Pradesh: Amarkantak, Kapildhara, Jagatpur, Karanjia	2004 to 2006	ca 128 F. Nos. of Angiosperms and 71 F. Nos. of lichens	As Scientist 'C'	02	Undertaken exploration tours to various localities of the study area and also collected ethnobotanical data from the local inhabitants of the area.
Microlichens of (Hqrs. BSI, Allahabad)	Sikkim: Bhusuk, Chongey, Assam Linzey, Pakyong, Rorathang, Gangtok, Rumtek, Sang, Dikchu, Tarku, Temi, Damthang, Tendong, Samdruptse, Namthang, Majitar, etc.	2006 to 2012	ca 471	As scientist 'C' and 'D'	03	Detailed study of specimens is being continued.
AICOPTAX-Project: i. Lichens of Sundarbans B.R., . ii. Lichens of (Hqrs. BSI: Gangtok, Shillong and Allahabad	Arunachal Pradesh: Bhalukpong, Tipi, Rupa, Shergaon, Bomdila areas. West Bengal: Gosaba, Pakhirali, Sajnakhali, Sudhanyakhali, Jharkhali, Canning, Basanti, Herobhanga areas. Assam: Dibrugarh, Tinsukia, North Lakhimpur, Tezpur, Silchar, Kokrajhar, Bongaigaon, Nalbari, Basugaon, Chirang, Barpeta Road, Manas Tiger Reserve, Dhubri, etc.	2001 to 2010 (continuing)	ca 102 ca 255 ca 906	As Scientist 'C' and 'D'	01 01 03	Field training cum exploration tours for 3 AICOPTAX-Lichens Research Scholars. Undertaken one exploration tour each to different localities of Arunachal Pradesh and Sundarbans in West Bengal and three exploration tours to different places of Assam along with the research scholars of the project for training in the field and collection of specimens. A total of 2038 specimens were collected from Assam.

Lichens of Rajasthan and Kutchh, Gujarat	Rajasthan: Mt. Abu, Abu Road, Sirohi, Udaipur, Kumbhalgarh, Haldighati, Jhadol, Kamalnath, Chittorgarh, Sajjangarh, Dara, Jawaharsagar, Ramgarh, Kota, Shergarh, Bundi, Mandalgarh, Bhilwara, Banswara, Deogarh, Sawaimadhopur, Ajmer, Pushkar, etc. Gujarat: Jamnagar Marine NP (Pirotan, Jodiya, Khijadia Birds Sanctuary, Sachana, Balachadi, Narara, Novalakhi Dwarka, Okha, Porbandar, Girnar WLS, Junagarh, Sasan Lion NP, Devalia WLS, etc.	2012-2017	336	Scientist D & E	03	A total of 5 tours were undertaken in the project by various officials and 577 specimens were collected.
	Uttar Pradesh (Mirzapur, Robertsganj) and Madhya Pradesh (Markundi-Chitrakut; Pachmarhi BR)	2012, 2016	168	Scientist D & E	02	
	Bihar: Bhagalpur (Mandar hills), Begusarai	2015	71	Scientist E	01	

**Tours conducted** : **38 (incl. 2 outside BSI).**  
**Specimens collected** :  
**Lichens** : **8600 (incl. 350 outside BSI).**  
**Higher Plants** : **7128 Field Nos.**

# EXPERIENCE OF RESEARCH IN TAXONOMY OF LICHENS & ANGIOSPERMS (EVIDENCED BY PUBLICATION)

Places of Research experience	Name of Project in which experience gained	Year	No. of papers/Books published	Remarks
BSI, Eastern Regional Centre, Shillong	Lichen Flora of Nagaland	June 1984 to March 1990	Papers -6 Book - 1	Conferred Ph.D. on "Studies on the Lichen Flora of Nagaland". Later, a book "Lichen Flora of Nagaland" published in 1994 based on thesis and some additional data.
National Research Lab. on Conservation of Cultural Property,	D.S.T. Project on Lichens causing damage to Historical Monuments.	April 1990 to April 1991	Papers -5	Selected through S.S.C., Guwahati for the post of Jr. Sci. Asstt. and joined B.S.I., Shillong on 26.04.1991.
BSI, Eastern Regional Centre, Shillong	i.Lichens of N.E. India ii. Multiplication of RET & Ornamental plants through Tissue Culture.	April 1991 to Nov. 1993	Papers -6 Paper -1	Selected through U.P.S.C. for the post of Botanist and joined B.S.I., Gangtok on 01.12.1993
BSI, Sikkim Himalayan Regional Centre, Gangtok	i. Lichen Flora of ii. Exploration & Survey for the Flora of Sikkim; writing of Flora.	December 1993 to May 2001	Papers -5 Papers -10	Explorations for the Flora of Sikkim including lichens were carried out. Based on the study "Macrolichens of Sikkim" was published in 2005. Also identified specimens for Flora of Sikkim including tribe Astereae, Gnaphaleae of Asteraceae and family Juncaceae. Based on study of Angiosperms, ethnobotanical studies, etc. 9 papers were published.
BSI, Eastern Regional Centre, Shillong	i. Macrolichens of Sikkim ii. Flora of Mizoram, Vol. -II	May 2001 to December 2003	Papers -3 --	Prepared a manuscript in book form. Description of 451 species under 52 families were completed.



BSI, Central Regional Centre, Allahabad	i. Macrolichens of	2003-2005	Papers -2 Book-1	Editing and publication of Macrolichens of completed in 2005.
	ii. Flora of Mizoram, Vol. –II (Campanulaceae to Salicaceae)	2001-2007	Ed. Book -1 Ch./Fam.: 57	Editing of manuscript of volume II, comprising 761 species under 64 families. Finally Flora published in 2012.
	iii. Flora of Mizoram, Vol. –III (Cyperaceae and Poaceae)	2007-2008	--	Taxonomic description of 102 species and keys were prepared. Manuscript submitted.
	iv. Flora of U.P. Vol. –I & II	2004-2010	Ed. Book -1 Ch./Fam.: 3	Fl. U.P. Vol. –I published by BSI in 2016. Vol. –II is to be edited for publication (Taxonomic description of 221 species under 10 families completed and manuscript submitted.
	v. Checklist: Indian Lichens	2004-2010	Paper -1 Book – 1	Indian Lichen: an annotated checklist published by BSI in 2010 (2303 species; 276 colour habit photographs)
	vi. Microlichens of Sikkim	2006-2012	Papers -7	Final manuscript comprising 272 species has been completed and submitted in 2016. Ms is being edited for publication.
	vii. Lichens of Rajasthan and Kutchh, Gujarat	2012-2017		Project continued. Manuscript to be prepared by 31.3.2017. Another 6 month Extension is requested for finalization and editing.
	viii. AICOPTAX –Project	(2001-2012)		
viii.i. Lichens of Sundarbans Biosphere Reserve, W.B.	2001-2007	Papers -15 Book – 1	Book published in 2012.	

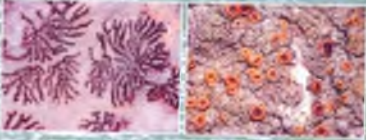
	viii.ii. Lichens of Neora Valley National Park, W.B.	2007-2010	Papers -10	Ms on Neora Valley National park comprising 154 species finalized.
	viii.iii. Lichens of Darjeeling District, W.B.	2011-2012	Papers – 2	Documentation of data 285 species completed.
	viii.iv. Lichen Flora of Assam.	2004-2012	Papers -8	Ms on Lichen Flora of Assam comprising 300 species finalized in 2016 for publication. Ms for Book submitted.
	ix. Fl. India Project	2010-	Papers -9	
	ix.i. Revision of family Roccellaceae s. lat in India).	2015		
	ix.ii. Lichens of Terai regions of Uttar Pradesh)	2014-contd.	Papers -3	Supervised the research work. A total of 88 species recognized in the family. Final project report submitted in 2016. Ms for Book submitted  Supervision of research work continued.

LICHEN FLORA OF  
NAGALAND

Singh & Sinha

# Lichen Flora of Sundarbans Biosphere Reserve, West Bengal

I. K. M. Jagadeesh Ram • G. P. Sinha • K. P. Singh



2010

# INDIAN LICHENS AN ANNOTATED CHECKLIST

K. P. Singh and G. P. Sinha



BOTANICAL SURVEY OF INDIA  
Ministry of Environment and Forests

# MACROLICHENS OF SIKKIM



G. P. SINHA & K. P. SINGH

BOTANICAL SURVEY OF INDIA  
Ministry of Environment & Forests

## Summary of Work done so far

- **No. of Projects carried out:** 20
- **No. of Books written/compiled/edited:** 05
- **No. of papers published:** 153
- **No. of New taxa:** 44
- **No. of New combination:** 12
- **No. of New Records for India:** 120





## Administrative works carried out

- ❖ Duties of D.D.O.: at SHRC, Gangtok; ERC, Shillong and CRC, Allahabad – majority of the period during the period of stay at respective places between 1994-2015.
- ❖ Herbarium i/c at ERC, Shillong, 2001-2003.
- ❖ Vehicle i/c at ERC, Shillong, 2001-2003.
- ❖ Duties of H.O.O.- 1.10.2014 onwards till date.





## **Future Plan of Work**

- ❖ **Trees of Allahabad (2017-18)**
- ❖ **Flora of Uttar Pradesh, Vol. II –Editing (2017-18)**
- ❖ **Submission of project - Lichens of Rajasthan and Kutchh, Gujarat by the end of this year 2017**
- ❖ **Supervision of Flora India Project Senior Research Fellow**
- ❖ **Descriptive Lichen Flora of India**



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