SCIENTIST PROFILE

Name	:	**Dr. G. LOKESH**
Designation	:	**SCIENTIST -D**
Educational Qualification	:	**M.Sc., Ph.D.**
Expertise area (Present)	:	**Silkworm breeding and conservation**
Research experience	:	**29 yrs (14 yrs in CSB)**
Awards and Honors	:	**Best paper presentation**
Contact Number/email	:	**8986653404, lokesh10csb@gmail.com**
Publications	:	**50** Research articles in journals **12** popular articles/book chapt. **40** Conference abstracts

Education:

Sl. No.	Degree	University	Subject	Class/Grade	Year of Completion
1.	**M.Sc.**	Bangalore University	**Sericulture**	First Class	1996
2.	**Ph.D.**	Bangalore University	"***Effect of Chemical mutagen on the Eco-physiological and Economic characteristics of Silkworm Bombyx mori* L** [Silkworm Biochemistry Genetics]		2001

Experience:

Name of the employer	Designation of post held	Date of joining	Date of leaving	Nature of duties performed
Dept. of Sericulture, Bangalore University (PSFA Govt. of Karnataka funded project)	Research Associate (RA)	August 2002	June 2003	Research on silkworm improvement
Gayathri Education Society [ACMSS]	Lecturer	July 2003	June 2005	Teaching B.Sc., and M.Sc Biotechnology course
Gayathri Education Society **ANUPAMA COLLEGE**	Sr. Lecturer & HOD Biotechnology (PG)	July 2005	January 2009	Teaching M.Sc Biotechnology course and management
Nagarjuna College of Engineering & Technology [NCET]	Assistant Professor (Biotech)	February 2009	April 2010	Teaching B.E /B.Tech.(Biotechnology) course & Research in biotechnology
Central Silk Board (Central Tasar Research & Training Institute, Ranchi, Jharkhand)	Scientist-B	May 2010	25.02.2014	Research in Tasar silkworm breeding & Genetics, Conservation of tasar ecoraces and germplasm maintenance.
	Scientist-C	26.02.2014	18.06.2016	
Central Silk Board (Central	Scientist-C	22.06.2016	30.06.2018	Silkworm characterization,

Sericultural Germplasm Resources Centre, Hosur, Tamilnadu)	Scientist-D	01.07.2018	continuing	maintenance & conservation, cryopreservation, Molecular screening of silkworms

Membership of Academic bodies/organizations:

Life Member	Indian Science Congress	

Training Undergone

Sl. No.	Training Attended/undergone	Institute	Period
1.	Silkworm Rearing technology and disease management	KSSR&DI, Thalagattapura, Bengaluru	30 days
2.	Post-cocoon technology	CSTRI, CSB, Bengaluru	15 days
3.	Foundation training for young Scientists of CSB	NAARM, Hyderabad	15 Days
4.	Communication and Presentation skills	Central Silk Board, Bengaluru	02 days
5.	Orientation training for Seed Analysts/Seed Officers	Silkworm Seed Technology Laboratories, CSB, Bengaluru	02 days
6.	Emotional Intelligence at Workplace For Scientists /Technologists Sponsored by DST, Govt. of India	Centre for Organization Development (COD), Hyderabad	05 days
7.	Hands on application of Statistical tools for Sericulture Research	Central Silk Board, Bengaluru	02 days
7.	Hands on Training in Molecular Techniques applied in the field of Sericulture" from 14th to 23rd November 2022 at SBRL, Kodathi, Bengaluru	Seribiotech research Laboratory, CSB, Bengaluru	10 days
8.	Application of RS & GIS in Sericulture	North-Eastern Space Application Centre (NESAC), Umiam, Shillong, Meghalaya	15 days

Projects handled/being handled

Sl. No.	Project title	Period	Important contributions
1.	Improvement of nutritive status of mulberry leaves and silkworm by foliar nutrition and feed additives Dept. of Sericulture, Bangalore University (PSFA Govt. Karnataka funded project)	2000-2002 **SRF**	Standardized the dose of foliar nutrient and seri-feed for improvement of commercial traits of the silkworm.

2.	Production and Extraction of some Microbial Hydrolases- An Industrial Microbiological Approach and Applications in Food Industry (project funded by Vishveshwaraya Technological University, Karnataka)	2009-2010 **CI**	Standardization of the protocol for extraction and purification of microbial hydrolases which is useful for food processing industries and in waste management.
3.	Conservation and utilization of local ecorace Laria in Jharkhand (in collaboration with DoS, Jharkhand)	2010-2013 **CI**	Development of a module for *insitu* conservation of Laria ecorace of tropical tasar silkworm in the natural Sal forests o Jharkhand.
4.	**[AIG-4694]** Improvement of Daba ecorace of *Antheraea mylitta* Drury for higher Fecundity.	2012-2014 **PI**	Improved line(s) of Daba race with higher fecundity (>230) with bench mark value of shell weight.
5.	**[APR-4693]** Studies on the Biology and Ecology of Laria ecorace of *Antheraea mylitta* Drury on Sal flora.	2012-2015 **PI**	Information generated on the life cycle of Laria *in situ* with all bio-ecological information. Stabilization of grainage activity of this ecorace leading to seed crop
6.	**[CTRTI/SW/PS-15]** Studies on the manifestation of hybrid vigour in F1 hybrid of tropical tasar silkworm *Antheraea mylitta* Drury on rearing performances	2013 – 2015 **PI**	Identified better performing F1 hybrid **Laria X Raily** on Sal flora and also on other primary food plants.
7.	[**ARP-4713**] Isolation of thermo-tolerant line(s) of tropical tasar silkworm *Antheraea mylitta* Drury through molecular studies"	2016-2019 (1.4.2017 to 18.6.2016) **PI**	Identified SCAR marker for thermo tolerance in Antheraea mylitta.
8.	[**AIE-3555**] Cryopreservation of tasar silkworm *Antheraea mylitta* semen and its artificial insemination.	2016-2019 **PI**	Standardized the protocol for collection and preservation of semen from male moths of Antheraea mylitta
9.	**[AIE-3542]** Collection, Characterization, evaluation, conservation and supply of SWGRs.	2015-2018 (VIII Phase) **CI**	Nine new collections included four bivoltine breeds, two new multivoltine breeds as well as three mutant breeds.
10.	**[AIE-3578]** Evaluation of exotic bivoltine breeds to identify promising parental genetic resources	2016 -2019 (July 2018 – Sept'2019) **CI**	Region specific better performing parental combination of exotic bivoltine silkworm accessions were identified through field trials conducted at CSR&TI-Mysuru, Berhampore, Pampore & CSGRC, Hosur.

11.	**[AIE06003SI]** Evaluation of silkworm genetic resources of *Bombyx mori* L. with reference to inbreeding depression and their conservation.	Dec'2019 – Nov' 2022 **CI**	The inbreeding study can be taken up in the silkworm germplasm conservation once in five years so as to screen if any accession are showing moderate to high IBD% so as to take suitable measure to maintain true-to-type
12.	**[AIE06002MI]** Evaluation of bivoltine silkworm genetic resources for tolerance to abiotic stress in selected hotspots	March 2019 to March 2022 **CI**	Ten Bivoltine accns. found promising for thermo-tolerance and validated through OST.
13.	**[AIT-06006-MI]** Marker assisted screening to identify silkworm genetic resources tolerant to *Bm*NPV and *Bm*BDV	November 2020 to January 2024 **CI**	A total of 22 silkworm accessions were identified to be tolerant in the range of 10-88% to BmBDV and 15 silkworm accessions with 10-57% tolerance to BmNPV. Accession BBI-0371 (SK6) showed tolerance to both BmNPV and BmBDV with pupal survival rate of 53% and 35% respectively.
14.	**[AIG-06007-MI]** Molecular Characterization and assessment of genetic diversity in silkworm *Bombyx mori* Germplasm	March 2021 to August 2024 **PI**	Comparative genomics of 4 silkworm breeds/s. GBS studies in 350 silkworm accns. to determine SNP variation and genetic diversity.
15.	**[SIT08014MIC]** Development of molecular barcodes for commercially important silkworm breeds/hybrids	March 2024 to March 2026 **CI**	Development of genetic barcode for popular commercially exploited silkworm breeds

Supervision of M.Phil. Dissertations:

Sl. No.	Title of the dissertation	Name of the candidate	University awarded	Year of completion
1.	Comparative study of biochemical parameters of Infected and Infested Mulberry leaves *Morus alba* L	**Mrs. G M Geetha** M.Sc., Biochemistry	**CDE,** Bharathidasan University, Tamilnadu	2006
2.	Study of Amylolytic and Pectinolytic Microorganisms and their Industrial and Environmental applications	**Miss Pushpalatha** M.Sc., Microbiology	**CDE,** Bharathidasan University, Tamilnadu	2007
3.	Studies on Limnological feature of Hale Gubbi Wetland, Tumkur, Karnataka	**Ms. T. S. Mamatha** M.Sc., Environmental Sciences	**PRIDE**, Periyar University, Tamilnadu	2007
4.	Studies on Phytoplankton diversity in Mavinahalli lenctic water body	**Miss. A. Anitha** M.Sc., Environmental Sciences	**PRIDE**, Periyar University, Tamilnadu	2008

Supervision of M.Sc. and PDGS Dissertations:

Sl. No.	Title of the dissertation	Name of the candidate & address	Year of completion
M.Sc., Dissertations			
1.	High temperature stress on the metabolism of Daba and Laria ecoraces of *Antheraea mylitta* Drury	**Miss Saloni Swaroopa** Department of Biotechnology Ranchi University	2011
2.	Study of phenotypic variations using Biochemical markers in the F1 hybrid of Daba and Laria ecoracews of tropical tasar silkworm *Antheraea mylitta* Drury	**Miss Sushma Rani Tirkey** Department of Biotechnology Marwari College, Ranchi University	2012
3.	Analysis of variablity in Tasar silkworm *Antheraea mylitta* D. population using isozyme markers	**Mr. Anjan Kumar** Department of molecular and cellular engineering Sam Higginbottom Institute of Agriculture, Technology & Sciences	2014
4.	Comparative biochemical analysis in *Sal* (*Shorea robusta*) leaves collected from different tasar rearing locations	**Miss. Meenakshi** Department of Biotechnology Marwari College, Ranchi University	2014
5.	Studies of thermo –tolerance in Daba ecorace of tropical tasar silkworm *Antheraea mylitta* Drury	**Miss. Garima Madhariya** Dept. of Biotechnology Govt. V.Y.T.P.G .(Autonomous) College, Durg, (C.G.)	2015
6.	Effect of high temperature on protein profile and isozymic variations in tropical tasar silkworm *Antheraea mylitta* Drury	**Miss. Shreya Raj** Dept. of Biotechnology Ranchi university	2016
7.	Screening and identification of thermo-tolerant silkworm *Bombyx mori* L accessions in selected exotic silkworm germplasm by molecular marker assisted selection technique	**Miss. N. Kalyani** M.Sc. (Biotechnology), MGR College, PERIYAR University	2020
8.	Evaluation of Some Indigenous silkworm *Bombyx mori* Germplasm for thermo-tolerance using Microsatellite markers	**Miss. B. Haritha** M.Sc. (Biotechnology), MGR College, PERIYAR University	2020
9.	Study and identify homozygosity in various bivoltine and multivoltine accessions of *Bombyx mori*by using SSR marker	**Miss. Mohana Thangam** M.Sc. (Biotechnology), Hindustan College, Bharatiar University	2023
10.	Quantitative expression of antimicrobial peptide genes with response to high temperature in *Bombyx mori. L*	**Miss. Brundha.v & Miss. Ashwathi. K** B.Tech (Biotechnology), Adhiyamaan College of Engineering, Hosur	2023
11.			
12.			
13..	Study of thermotolerance in selected silkworm germplasm (*Bombyx mori* L) using molecular markers	**Ms. G. N. Neeraja Shree** M.Sc. (Biotechnology), MGR College, PERIYAR University	2024
14.	PCR based screening of silkworm (*Bombyx mori* L) accessions for homozygous/ heterozygous nature using validated SSR markers	**Ms. S. Anusha** M.Sc. (Biotechnology), MGR College, PERIYAR University	2024
15.	Screening of mutant silkworm (*B.mori*) genetic resources using microsatellite markers for thermo-tolerance	**Ms. K. Aishwarya** M.Sc. (Biotechnology), MGR College, PERIYAR University	2024
Intensive Practical Training			
1.	Grainage performance and larval growth studies in semi-domestic Daba ecorace of	**Ms. Kumari Kanchan** PGDS Trainee	2013

	tropical tasar silkworm *Antheraea mylitta* Drury	CTR&TI, Ranchi	
2.	Grainage & Rearing performance and Survey on level of technological adoption in Tasarculture under PPC, Bengabad	**Ms. Neha Gupta** PGDS Trainee CTR&TI, Ranchi	2014
3.	Food consumption and body mass index of tasar silkworm and performance of Grainage & Rearing at PPC, Chaibasa	**Ms. Pooja Kumari Shekhar** PGDS Trainee CTR&TI, Ranchi	2015
PGDS Case Study			
1.	Comparative studies on the silkgland proteins in three important ecoraces of *Antheraea mylitta* Drury	**Mr. Putko Paul Pao** PGDS Trainee CTR&TI, Ranchi	2011
2.	Studies on Grainage and Rearing performance of reciprocal crosses of Laria, Daba and Daba (wild) ecorace of *Antheraea mylitta* Drury	**Ms. Bijayalaxmi Devi** PGDS Trainee CTR&TI, Ranchi	2012
3.	Influence of reciprocal crossing among semi-domestic and wild ecoraces of *Antheraea mylitta* Drury on grainage and Larval growth performance	**Ms. Anne Minz** PGDS Trainee CTR&TI, Ranchi	2014
4.	Studies on the inheritance of larval colour and its relation to quantitative traits in tropical tasar silkworm *Antheraea mylitta* D	**Ms. Suman Kumari** PGDS Trainee CTR&TI, Ranchi	2015
5.	Studies on the performance of reciprocal cross of Daba & Modal ecorace of tropical tasar silkworm *Antheraea mylitta* D	**Ms. C. Lalchhan Himi** PGDS Trainee CTR&TI, Ranchi	2016

Research Publications: [Last 5 years]

1. **Lokesh G**, A. K Srivastava, A. K. Sinha, Alok Sahay and Gargi (2018). Evaluation of F_1 population of tropical tasar silkworm *Antheraea mylitta* D (Lepidoptera: Saturniid) through cocoon and post cocoon parameters reared on different food plants. ***Journal of Entomology and Zoology Studies*** **6**(1):1632 - 1636.
2. **Lokesh G ***, Geetha N Murthy, Gargi and Ajit Kumar Sinha (2018). Vanya reshamkeet *Antheraea mylitta* Drury ke sheetsamrakshan aur Eske Prayog. BTSSO Technical Seminar-Souvenir January 2018:15-17.
3. **Lokesh G ***, Geetha N Murthy, Veeranna Gowda, Alok Sahay and Gargi (2018). Conservation of wild silkworm genetic resources through cryopreservation: Standardization of sperm processing. ***Journal of Applied and Natural Sciences***. **10**(2):544-547.
4. **Lokesh G** *, Garima Madhariya, A. K Srivastava, P. K. Kar, P, P, Srivastava, A. K. Sinha and Alok Sahay[1] (2018). Impact of high temperature gradients on the physiolgical and biomolecular changes in the tropical tasar silkworm *Antheraea mylitta* D. ***International Journal of Genetics***. **10**(5): 420-424.
5. **Lokesh G ***, Geetha N Murthy, Gargi, M. Maheswari, Jayaprakash Pandey and Alok Sahay (2019). Semen collection and Artificial insemination in wild silk moth *Antheraea mylitta* Drury for effective conservation of tasar genetic resources. ***Journal of Entomology and Zoology Studies*** **7**(2):501 - 504.
6. Maheswari M., **Lokesh G**., Murthy G.N., Sekar S., Somaprakash D.S. and Mishra R.K (2019).Evaluation of bivoltine silkworm genetic resources through cluster analysis and identification of better performing bivoltine accessions. ***International Journal of Genetics***. **11**(5): 601-603.
7. Maheswari M., **Lokesh G**., Chaudhuri R.S., Khatoon J., Somaprakash D.S., Muthulakshmi M., Kishore Kumar C.M., Das G.C., Verma A.K. and Mishra R.K. (2020). Evaluation of exotic bivoltine breeds to identify promising parental genetic resources for tropics. ***International Journal of Genetics*** **12**(1):693-697
8. Thanavendan, G., **G. Lokesh** and Geetha N Murthy (2020). Explorative survey of wild

mulberry silkworm genetic resources. ***Singapore Journal of Scientific Research*. 10**(1):28 -34.

9. **Lokesh G ***, M. Maheswari, Ritwika Sur Chaudhuri, D. S. Somaprakash, S. Sekar and R. K. Mishra (2020). Evaluation of mutant silkworm genetic resources for important morphological and quantitative characters. ***Asian Journal of Applied Sciences***. **13**(2): 84 -93.
10. Sunita Mukherjee, **Lokesh G**, Ganesh B Gathalkar and Ajith Kumar Sinha (2020).Stem borer infestation in primary tasar food plants and their management strategies. **INDIAN SILK.**
11. Maheswari M., **Lokesh G**., Ritwika Sur Chaudhuri, Shivakumar, Bharat Kumar N, Babulal, C .M Kishorkumar, B T Sreenivasa (2021). Evaluation of exotic bivoltine genetic resources to identify promising bivoltine breeds for temperate regions of India. ***International Journal of Genetics*** **13**(4):821-823.
12. **Lokesh G**, M. Maheswari, Ritwika Sur Chaudhuri, S. Sekar, Halagunde Gowda and B T Sreenivasa (2022). Estimation of genetic parameters and variability in the bivoltine silkworm *Bombyx mori* L germplasm. ***UPJZ*** **46**(6): 26 -35.
13. Maheswari M., **G. Lokesh**, Ritwika Sur Chaudhuri, N. Chandrakanth, Murali, Srinivasulu and B. T. Sreenivasa (2022). Evaluation and Identification of Silkworm (*Bombyx mori* L) Genetic Resources Tolerant to Temperature and Humidity. ***Current Journal of Applied Science and Technology*** **41**(31): 1-13
14. Ravi Kumara R., Jula S. Nair and **G. Lokesh** (2022). Tropical Tasar silkworm (*Antheraea mylitta* Drury) in South-Eastern Karnataka: first report, ***SERICOLOGIA***, **62** (2): 150 – 152.
15. Maheswari M., Tulsi Naik, Ritwika Sur Chaudhuri, **G. Lokesh** and B. T. Sreenivasa (2023). Marker-assisted Selection of Bivoltine Silkworm Genetic Resources for Thermotolerance. **Current Journal of Applied Science and Technology. 42 (**22): 17-33,

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