RESUME

Prof. H.B. MANJUNATHA
Chairman,
Department of Studies in Sericulture Science
University of Mysore
Mysore –570 006
Karnataka, India.

Contact Numbers: +91-821-2419404,2419716[O]
Mobile:9449059147

E-mail: hbm@sericulture.uni-mysore.ac.in;manjunathahb@gmail.com

PERSONAL DETAILS

Name	**Dr. H.B. Manjunatha**
Sex	Male
Nationality	Indian

EDUCATIONAL QUALIFICATION : **Ph.D.**

Specialization : Molecular Cytogenetics

AWARDS

1. **Commonwealth Fellowship** - Wellcome Trust Sanger Institute, Cambridge UK. September 2000 to August 2001 (**12 months**).
2. **INSA-ASCR Scientists Exchange Fellowship** – Biology Center, Czech Republic. January 1 to March 30, 2008 (**3 months**).
3. **INSA-ASCR Scientists Exchange Fellowship** – Biology Center, Czech Republic. September 16 to December 14, 2015 (**3 months**).

EXPERIENCE : **Research - 32 years**

Teaching - 32 years

UNIQUE CONTRIBUTIONS

1. **Identification of four new species of Sphingidae and two species of coleopteran (Lepidoptera)** in collaboration with Sphingidae Museum, Czech Republic and Canadian Centre for DNA Barcoding, University of Guelph, Guelph ON, Canada.

   A. *Psilogramma manjunatha* spec. nov. (https://species.wikimedia.org/wiki/Psilogramma_manjunatha)

   B. *Dolbina manjunatha* sp. nov. (https://species.wikimedia.org/wiki/Dolbina_manjunatha)

   C. *Amplypterus panopus karnatakaensis* spp. nov., (https://species.wikimedia.org/wiki/Amplypterus_panopus_karnatakaensis)

   D. *Acosmeryx akanshi sp. nov.*

These species are recorded in "**WIKISPECIES"** directory (links in parantheses)

2. **Development of Moblie application "SeriApp" for Seri-farmers.**
3. **Evolved six new bivoltine breeds and their hybrids following the principles of heat shock response.**
4. **Introduction of new concept of research "Silkworm thermal biology" and developing new silkworm breeds.**
5. **Introduction of new terminology and concept of research "Seribioinformatics".**
6. **Development of silkworm as a model system for evaluation of medicinal compounds in India.**
7. **Development of silk-biomaterials for therapeutic applications.**

RESEARCH COLLABORATION and MoU

1. **Memorandum of Understanding** (MoU) with Sphingidae Museum, Czech Republic. Knowledge and Assessment of the biodiversity and DNA barcoding of Lepidoptera/ Sphingidae, Coleopteran/Scarabaeoidea_Buprestidae_Cerambycidae in India. (Renewed by the National Biodiversity Authority – NBA/Tech Appl/9/631/12/20-21/3647 dated 11.01.2021 & NBA/Tech Appl/9/631/12/15-16/2820 dated 16.11.2015).

2. **Memorandum of Agreement** (MoA) with Karnataka Innovation and Technology Society, Department of Electronics, Information Technology, Biotechnology and Science & Technology, Government of Karnataka for "Skill Development Partnership on DBT- State Vigyan in Sericulture (Entrepreneurship Development Training).

3. **Memorandum of Understanding** (MoU) with Accreate Additive Labs Private Limited for development of silk fibroin/sericin based novel bioink impregnated with specific additives for 3D bioprint scaffold for medical and dental applications (Period three years – July 27,2019 to July 26,2022).

4. **Memorandum of Understanding** (MoU) with Accreate Additive Labs Private Limited and JSS Academy of Higher Education and Research, Mysore for development of novel silk fibroin/sericin based bioink bioprinting to reconstruct Maxillofacial defects (Period three years – March 05,2020 to March 04,2022).

5. Collaborative Research with Laboratory of Molecular Cytogenetics, Biology Centre, ASCR, Institute of Entomology, České Budějovice, Czech Republic under INSA-ASCR for localization of heat shock proteins genes on the silkworm genome-chromosome. Eventully, we have successfully identified the position of BmHSP90 and BmHSP40 on the chromosome 27 and 5 respectively.

Member of Professional Bodies/Society

International:

1. International Sericultural Commission, France - Associate member.
2. American Society for Cell Biology, USA.
3. Entomological Society of America, USA.
4. Korean Entomology Society, Korea.

National :

Scientific Bodies:

1. **Coordinator** - DST-FIST program in DOS in Sericulture, University of Mysore.
2. **Chairman** – Institutional Biosafety Committee (IBSC), University of Mysore, Mysore, approved by DBT, New Delhi.
3. Member and Subject matter expert - BIRAC-CRS & PACE, DBT, New Delhi.
4. DBT- Nominee, IBSC, JSS Academy of Higher Education and Research, Mysore.
5. External Expert – IBSC, CSR&TI, CSB, Mysore.
6. Member - National Network Project, Department of Biotechnology, New Delhi.
7. Member - National Academy of Sericultural Science, Bangalore, India.
8. Member - Karnataka State Sericulture Coordination Committee.
9. Member - Indian Society for Cell Biology.

Academic Bodies

1. **Worked as Co-ordinator** of a sub-committee and a member of Karnataka University-**NAAC reaccreditations committee**.

2. Served as **Chairman, Syllabus Committee**, Directorate of Vocational Education, Govt of Karnataka, Bangalore.

3. **Chairman - Syllabus committee** for Post Graduation (M.Sc.) and Graduate course (B.Sc.), in Sericulture at Karnataka University, Dharwad and University of Mysore, Mysore.

4. **Chaired the Syllabus committee** for introduction of **Choice Based Credit System** and restructuring Syllabus for Post Graduation (M.Sc.), in Sericulture, Karnataka University, Dharwad and University of Mysore, Mysore.

5. **Chairman, Board of Studies in Sericulture -** University of Mysore, Karnatak University, Dharwad and Bangalore Central University, Bangalore.

6. **Chairman**, Board of Examiners, Karnatak University, Dharwad and UOM, Mysore.

7. **Member -** Board of Examiners, Banglore University and University of Mysore.

8. **Examiner** for Bangalore University, Universtiy of Mysore, Sri. Padmavathi Mahila Viswavidyalm, Tirupathi, Sri. Krishnadevaraya University, Ananthapur, Kakatiya University, Warangal.

9. **Member of Board of Appointment -** Banglore University, University of Mysore and Sri. Krishnadevaraya University, Ananthapur, Andra Pradesh.

10. **Member – Academic Council of Autonomous college,** Yuvaraja's college, University of Mysore, Mysore (2021-2022).

11. **Member** – ICAR Broad Subject Matter Area Committee, UAS, Bangalore.

12. **Member** – NAAC Steering Committee, University of Mysore, Mysore.

EXPERIENCE DETAILS

A. *Teaching*

- Lecturer/Assistant Professor : 1989-1994
- Sr. Lecturer : 1994-1998
- Reader/Associate Professor : 1999- 2006
- **Professor : January 2007- till date**

B. *Administration*

Chairman :

- Department of Studies : 1999 - 2011, 2017 - 2019, 2021 - till date,
- Board of Studies : 1999 - 2012, 2018 - till date,
- Board of Examiners : 2000 - 2010

C. *Research* : Research Experience at various Institutions

International

1. **The Sanger Centre, Wellcome Trust Genome Campus, Hinxton, Cambridge, UK.**

   a. Silkworm Genome Mapping – We have been involved in constructing a physical genome map of silkworm, *Bombyx mori*, using BAC library as the contiguous fragments of DNA covering the whole genome has not been established.

   b. Insect Tissue Culture - Silkworm cell lines derived from ovary and silk gland cells were grown in liquid medium for the preparation of metaphase chromosomes spreads and extraction of genomic DNA for Fluorescence *in-situ* hybridization. *Drosophila* S-2 cell line was cultured on Schiender medium.

   c. Chromosome Painting - The flow sorted specific chromosome DNA was amplified by PCR and hybridized on to the human chromosome for painting and detection.

2. **Human Genome Mapping Resource Centre, Wellcome Trust Genome Campus, Hinxton, Cambridge, CB10 1SA, UK.**

   We made an attempt to construct cDNA library for silkworm and uzifly.

3. **Children's National Medical Centre, Washington, USA.**

   Undergone training on western blotting techniques for characterization and confirmation of heat shock proteins in silkworm.

4. **Academy of Science of Czech Republic, Biology Centre, Institute of Entomology.**

We have carried out sequencing and chromosomal localization of heat shock protein genes in *Bombyx mori*. Also, carried out chromosomal localization of heat shock protein genes in *Bombyx mori* and rDNA distribution in *Spodoptera* spp.

5. Canadian Centre for DNA bar-coding, Biodiversity Institute of Ontario, Canada and Sphingidae Museum, Czech Republic.

In association with these institutions I have undertaken DNA bar-coding of Lepidoptera - Sphingidae and discovered four new species *Psilogramma manjunatha*, *Dolbina manjunatha, Amplypterus panopus karnatakaensis and Acosmeryx akanshi* from Karnataka, India.

National

6. Banglore University, Bangalore

Cytological changes during sperm, egg and embryonic development of uzifly were studied in detail. Mitotic and polytene chromosome maps were established. Morphology of uzifly, *Exorista sorbillans* was reported in detail. Most of our findings have been published in National and International journals.

7. Karnatak University, Dharwad

a. **Heat shock response and molecular characterization of heat shock proteins in silkworm** We have been actively involved in determination of heat shock response in different developmental stages of silkworm, differential expression and molecular analysis of HSPs.

b. **UV**- **Laser radiation studies on silkworm** – we have analyzed the impact of UV-Laser radiation on bimolecular, morphological and biological traits of silkworm.

c. **Construction of database** – We have constructed INDSILK DATABASE. This database provides platform to Soil database, Heat shock protein database (HSP) and Silkworm Genome Diversity Project (SGDB). Part of Soil database was uploaded to Karnatak University Website and accessible at http://www.kud.ernet.in/INDSILKDATABASE.

RESEARCH PROJECTS

A. Ongoing:

1. Development of Novel silk fibroin based bioink for bioprinting to reconstruct maxillofacial defects.
   (Under BIRAC-PACE-AIR program, 2021 – 2022, Rs.49,22,000/-).

2. Entrepreneurship skill development program in Sericulture Technology for unemployed youths.
   (Under DBT Skill Vigyan State Partnership program, 2021 – 2023, Rs.24,00,000/-).

3. Knowledge and Assessment of the biodiversity and DNA barcoding of Lepidoptera/ Sphingidae, Coleopteran/ Scarabaeoidea_Buprestidae_ Cerambycidae in India (Funded by Sphingidae-Museum, Czech Republic, 2015 – 2025, Rs.11,88,000/-).

4. Molecular analysis of dental caries pathogen Streptococcus mutans in the invertebrate model silkworm and assessing the efficacy of herbal drugs against it.
   (Supervisor, Funded by CSIR Research Associate Program, 2021-2024, Rs. 5,84,000/-).

5. Novel site specific delivery of biologics from the multi-component silk-fibroin scaffolds for the revival of ischemic scar tissue to functional myocardium
   (Supervisor, Funded by DST-Inspire Faculty Program, 2017- 2022, Rs.19,25,874/-).

B. Completed:

6. Proteomic analysis and annotation of Heat Shock Proteins in the Sex-limited silkworm strains of *Bombyx mori*.
   (Supervisor, Funded by DST-Inspire Program, 2012 – 2017, Rs.16,22,350/-).

7. Proteome analysis of heat shock proteins in domesticated silkworm, *Bombyx mori*. Funded by University Grants Commission, New Delhi under Major Research Project No. F. No. 37-458/2009 (SR) dated 12. 01.2010.

8. Characterization of heat shock proteins in mulberry silkworm. Funded by University Grants Commission, New Delhi under Major Research Project No. F. No. 30-210/2004 (SR) dated 10.11.2004.

9. Biosystematic studies on the uzi fly species of *Exorista* serious parasites of Silkworm. Approved by Dept. of Science and Technology, New Delhi, (1997-2000).

10. **DST- FIST, Coordinator (Completed – 2010-2015)**

Invited Special Lectures delivered

A. International : 02

1. Integration of proteomics and genomics in silkworm, *Bombyx mori*.
   May 25, 2009, Biodiversity Institute of Ontario and Canadian Centre for DNA Barcoding, University of Guelph, Guelph ON, Canada.

2. The Saga of Stress Proteins,
   August 12, 2021. International E- Conference on Sericulture: Molecules to Materials, Depertment of Biotechnology, GITAM Institute of Science, GITAM (Deemed to be University),

B. National: 35

Academic Conferences/ Workshop Organized

1. E-Step Boot Camp as Co-Host of Karnataka Innovation and Techonology Society, Department of IT, BT and S&T, Governament of Karnataka.
   May 20, 2021, Department of Sericulture, University of Mysore, Myosre.

2. Frontier lectures on Seribiotechnology.
   March 21-22, 2019. Department of Sericulture, University of Mysore, Myosre.

3. National Conference on Seri-Biomics: Challenges, Innovations and Solutions.
   February 15-17, 2018, Department of Sericulture, University of Mysore, Myosre.

4. Awareness Training Program on Biodiversity.
   December 7, 2007. At Academic Staff College, KUD.

5. Workshop on Personality Development.
   September 18-19, 2006. Leaders Academy for Personal Success, Bangalore.

6. Silkworm in Biomedical Research
   March 21-26, 2005. U.G.C. (X plan) Sponsored Special Lecture Series, K.U.D.

7. Awareness workshop on Remote Sensing and GIS applications

March 13-14th 2000, in collaboration with Regional Remote Sensing Center, India Space Research Organization, Bangalore.

Ph.D. Programme

Awarded

1. Development of silkworm (*Bombyx mori* L.) as model system and evaluation of antibiotics against *Streptococcus mutans*. - **Mr. M. Likhith Gowda**
   (No.Ex.9.2/Ph.D/LGM/2014-2015 dated 19.09.2019**).**

2. Proteomic profiling of differentially expressed proteins due to heat shock in the silkworm, *Bombyx mori.* - **Mr. Muzafar Ahmed Bhat**
   (No.Ex.9.9/Ph.D/MAB/2012-2013 dated 22.06.2018**).**

3. Proteomic analysis and annotation of heat shock proteins in the Sex-limited silkworm strains of *Bombyx mori*. **- Ms. Punyavathi**
   (No.Ex.9.9/Ph.D/P/2012-13 dated 28.06.2017).

4. Biochemical characterization of heat shock proteins in *Bombyx mori* - **Mr. R.R. Kundapur**

5. Construction of database for mulberry garden soils in North Karnataka. **- Mr. P.K. Sambrani**
   (No:KU/Aca/Ph.D/2009-10/117 dated 20.3.2010).

6. Effect of Laser Radiation on silkworm, *Bombyx mori.* **– Mr. S.R. Hosagoudar**
   (No:KU:Aca:Ph.D:2005-06:59 dated 13.8.2005).

7. Heat Shock Response in silkworm, *Bombyx mori*. **– Miss Vasudha B. Chavadi**
   (No:KU:Aca:Ph.D:2004-05:133 dated 21.3.2005).

In Progress

10. Proteomic approach for evaluation and development of thermotolerant silkworm, *Bombyx mori* L. breeds/strains. - **Mr. J. Prashanth**
    (WOF-0162/2014-2015**).**

11. Molecular cytogenetic and morpho-biometric analysis of clonally selected Mulberry genotypes (*Morus* spp.). **- Mr. Ravikumar**
    (DOR9.2/Ph.D/RKR/215/2018-2019).

12. Evaluation of new bivoltine breeds and their hybrids of the silkworm, *Bombyx mori* L. **- Mr. M. Dinesh**
    (DOR9.9/Ph.D/MD/214/2018-2019).

13. Studies on the on-farm tree mulberry plantation in traditional belt of sericulture and its impact on cocoon production - **Smt. B.L. Joythi**
    (WOF-131/2019-2020**).**

14. Genome-wide analysis of genes encoding heat shock proteins in the silkworm, *Bombyx mori* **(**WOF-308/2020-2021**).** - **Mr. J. Harishkumar**

15. Development of silkworm, *Bombyx mori* as an invertebrate diabetic model and evaluation of consequences associated with induced diabetogenic allied complications. **(**WOF-323/2020-2021**).** - **Ms. M. C. Bharathi**

Research Papers Reviewed for the Research Journals

1. Molecular Biotechnology, Springer Nature.
2. Biotechnology letters, Springer Nature.
3. Journal of Proteome Research, ACS Publications (Japan).
4. Bulletin of Entomological Research, (Cambridge).
5. Insect Science, Wiley Online Library.
6. Journal of Advances in Microbiology
7. European Journal of Entomology, (Czech Republic).
8. Caspian Journal of Environmental Sciences, (Iran).
9. Biotechnology Journal International.
10. British Biotechnology Journal
11. Advances in Research.
12. Journal of Entomology and Zoology Studies.
13. Indian Journal of Experimental Biology
14. Indian Journal of Sericulture (India).
15. Mysore Journal of Agricultural Sciences (India)
16. Cytobios 2001 (UK).
17. Sericologia (France)
18. International Journal of Environment and Climate Change
19. Journal of Advances in Medicine and Medical Research

Research Projects Evaluated and Reviewed

1. Improvement of silk quality in polyvoltine silkworm, *Bombyx mori*. Proposed by multivoltine breeding laboratory, CSR&TI, Mysore.
2. Development of silkworm breeds/hybrids for higher fecundity.

Proposed by Silkworm breeding laboratory –1 and Silkworm genetics laboratory, CSR&TI, CSB, Govt. of India, Bangalore.

3. Induction of egg diapause in multivoltine silkworm (*Bombyx mori*) germplasm and genetic stability studies through molecular tools for sustainable use and conservation. Submitted by CSGRC, CSB to Department of Biotechnology, New Delhi, India. Recommended and approved by DBT.
4. Molecular taxonomy of silkworm (*Bombyx mori*) genetic resources and analysis of mitochondrial DNA encoding rRNA and RNA – fingerprinting among chosen high yielding genotypes.
   Submitted by CSGRC, CSB to Department of Biotechnology, New Delhi, India.
5. Evolution and evaluation of productive silkworm breeds with high survival using polyvoltine donors employing amylase marker assisted selection.
   Submitted by CSR&TI to CSB, Govt. of India, Bangalore.

CONTRIBUTIONS TO ACADEMIC CONFERENCES

1. INTERNATIONAL: 1**0**
2. NATIONAL: **30**

Sl.No. **Details of Research Publications**

1. Contribution to the knowledge of the Prioninae (Coleoptera, Cerambycidae) from the Mizoram State (India), with the first report of the genus Megobaralipton Lepesme & Breuning and new records from the country.
   Amitava Majumder, Alain Drumont, Stanislav Jákl, Gérard Tavakilian, **Hosaholalu Boregowda Manjunatha**, Kailash Chandra.
   Zootaxa, 4963(2):375-383, 2021.
   DOI: https://doi.org/10.11646/zootaxa.4963.2.8.
   (Impact Factor-0.955)

2. Diverse Tree Mulberry Geometry and Cultural Practices Adopted by the Farmer's and its Optimization.
   Megharaja, Harishkumar J, Chaithra KC, Likhithgowda M, **Manjunatha HB.**
   Acta Scientific AGRICULTURE, 5 (6), 85-91, 2021
   DOI: 10.31080/ASAG.2021.05.1009

3. Morpho-biometric and Cytogenetic analysis of Clonally Evolved Mulberry Cultivars (Morus Spp.).
   Ravi Kumara R, HL Ramesh, **HB Manjunatha.**
   Acta Scientific AGRICULTURE 5 (6), 92-101, 2021
   DOI: 10.31080/ASAG.2021.05.1010.

4. Comprehensive analysis of differentially expressed proteins in the male and female *Bombyx mori* larval instars exposed to thermal stress.
Punyavathi and **Manjunatha H.B.**
Arch. Insect. Biochem. Physiol.105 (1):1-16, e21719.
https://doi.org/10.1002/arch.21719.2020. **(IF-1.536)**

5. *Enoplotrupes* (*Enoplotrupes*) *apatani* sp. nov. (Coleoptera: Geotrupidae) from Arunachal Pradesh, India.
David Král, Stanislav Jákl and **H. B. Manjunatha**
Acta Soc. Zool. Bohem. 84: 23–27, 2020.

6. Development of disinfection card and Mobile App for the precise application of disinfectants in the Silkworm rearing house.
M. Likhith Gowda, A.M. Akanksh, Nayanashree, C. Abhicharan, Naleen, Kunal Ankola and **H. B. Manjunatha**
Res.J.Agri.Sci.11(6): 1229-1234, 2020.

7. Biomolecular changes due to *Streptococcus mutans* infection and antibiotics treatment in the human dental caries - silkworm (*Bombyx mori*) disease model.
Likhith Gowda M. and **Manjunatha H.B.**
Int. J. Pharma. Sciences and Research, 11(2): 737-744, 2020.

8. *Ex-situ* Fabrication of ZnO Nanoparticles Coated Silk Fiber for Surgical Applications
P. Shubha, M. Likhith Gowda, K. Namratha, S. Shyamsunder, **H.B. Manjunatha** and K. Byrappa
Materials Chemistry and Physics 231:21-26, 2019. **(IF-2.210)**

9. *In vitro* and *In vivo* evaluation of green-hydrothermal synthesized ZnO nanoparticles.
P. Shubha, M. Likhith Gowda, K. Namratha, **H.B. Manjunatha**, K. Byrappa
Journal of Drug Delivery Science and Technology, 49:692–699, 2019 **(IF-2.297)**

10. *Streptococcus mutans* infection and Antibiotic-mediated variation in the Alanine aminotransferase and Aspartate aminotransferase activity in the silkworm, *Bombyx mori*.
Likhith gowda M. and **Manjunatha H.B.**
J. Emerg. Technol. Innov. Res. 6 (5):307-314, 2019.

11. Comparative proteome analysis and thermal stress induced changes in the embryo of poly- and bi-voltine strains of *Bombyx mori*.
Punyavathi, Bhat MA and **H. B. Manjunatha**
J. Appl.Biol.Biotechnol. 5(02):59-67, 2017.

12. Identification and *in-silico* analysis of a small heat shock protein (HSP26) expressed in the *Bombyx mori* due to heat shock.

Punyavathi and **H. B. Manjunatha**
Indian J. Applied Res., 7 (1): 68-71, 2017.

13. Heat shock induced changes in the cocoon traits of poly- and bi-voltine silkworm strains of *Bombyx mori*
Bhat M.A. and **H. B. Manjunatha**
Int. J. Entomol. Res., 2 (1): 36-41, 2017.

14. Allethrin and prallethrin based mosquito coil emission induces toxicity and alters the haemolymph proteins and cocoon traits of *Bombyx mori*.
K.V. Rajini, M. Likhith Gowda, C.A. Sangma, K.A. Avinash, Punyavathi and **H.B. Manjunatha**.
Sericologia, 87(3):143-14, 2017.

15. Physico-chemical and biological studies on three-dimensional porous silk/spray-dried mesoporous bioactive glass scaffolds.
Arunseshan C.,Giorgia N.O.,Irene C., Piergiorgio G., Sonia F., Marta M., **Manjunatha H.B.**, Arivuoli D., Gianluca C., Chiara V. B.
Ceramics International, 42 (12), 13761–13772, 2016.
(IF-2.758)

16. Harsh impact of temperature on proteomic profile of the silkworm *Bombyx mori* L.
Bhat, M.A., Buhroo, Z.I. and **Manjunatha, H.B.**
Journal of Cell and Tissue Research, 16(3), 5929-5935, 2016.

17. A new species of the genus *Acosmeryx* Boisduval, 1875 (Lepidoptera,
Sphingidae) from the southern part of India.
Tomas M., Michal R., **Manjunatha H. B.** and Ing. Cenek Horecky
The European Entomologist, 6 (3), 181-187, 2014.

18. Electrophoretic separation and comparative analysis of silk gland proteins from *Bombyx* and *Philosamia.*
Muzafar A. Bhat, Punyavathi and **Manjunatha H. B.**
International Journal of Bioassays, 3 (08), 3214-3218, 2014.

19. Seri-bioinformatics: emerging trends and challenges in Silkworm research.
Punyavathi, H. B. **Manjunatha**
Advances in Biochemistry, 1(2), 33-42, 2013.

20. Evaluation of the medically important compounds TASKI Protasan and Combatan for its efficacy using *Bombyx mori* as a model system.
Sudhakumari, Punyavathi, Chhanda Das, M.A. Bhat and **H.B. Manjunatha**
Journal of Pharmacy Research, 7 (2): 184-188, 2013.

21. Heat shock response of FC2 - a bivoltine hybrid of the mulberry silkworm, *Bombyx mori*.
J. Prashanth, M.A. Bhat, Punyavathi and **H. B. Manjunatha**

Int. J. Biotech. Bioeng. Res., 4 (1): 73-88, 2013.

22. Influence of black boxing on the manifestation of economic characters in *Bombyx mori*.
B.K. Prakash, B. Sannappa and **H.B. Manjunatha**
J. Sericulture & Technology, 3(1&2): 53-56, 2012.

23. Cataloging and analysis of fertility status of mulberry garden soil in Dharwad district.
P.K. Sambrani and **H.B. Manjunatha**
Bull. Indian Acad. Seri., 16(2):35-46, 2012.

24. Impact of different incubation methods on the growth and cocoon characteristics of *Bombyx mori*.
N. K. Rajeshwari, B. Sannappa and **H.B. Manjunatha**
Journal of Sericulture & Technology, 2 (2):155-159, 2011.

25. Altered protease activity due to heat shock in the whole organism *Bombyx mori* L.
Rajesh R. K., **Manjunatha H. B.** and Aparna H. S.
African J. Biochemistry Research, 5(7): 206-213, 2011. **(IF 0.533)**

26. Picosecond UV laser induced morphological, biochemical and biological changes in *Bombyx mori*.
S.R. Hosagoudar and **H.B. Manjunatha**
Iran. J. Radiat. Res., 9(2): 127-137, 2011. **(IF 0.2)**

27. Fertility status of mulberry garden soils of three districts of North Karnataka.
P.K. Sambrani, S.R. Hosagoudar and **H.B. Manjunatha**
Indian J. Applied & Pure Biology, 26 (2): 347-350, 2011.

28. Heat shock response of silkworm embryo (race NB4D2 and PM).
Shabir Ah. Wani and **H.B. Manjunatha**
Indian Journal of Sericulture, 49(2): 208-209, 2010.

29. Silkworm thermal biology: A review of heat shock response, heat shock proteins and heat acclimation in the domesticated silkworm, *Bombyx mori* L.
H.B. Manjunatha, Kundapur, R. R. and H.S. Aparna
Journal of Insect Science, 10: 204, 2010. **(IF 1.014)**

30. Molecular characterization of heat shock proteins 90 (HSP83?) and 70 in tropical strains of *Bombyx mori*.
Aparna, H.S., Kundapur, R.R. and **H.B. Manjunatha**
Proteomics, 10: 2734–2745, 2010. **(IF 5.476)**

31. Impact of third and fourth harmonic laser irradiation at embryonic stage on biocommercial traits of *Bombyx mori*
S.R. Hosagoudar, A.A. Hooli and **H.B. Manjunatha**
Entomological Research, 40:122–130, 2010. **(IF 0.6)**

32. Comparative analysis of silk gland proteins of both heat shocked and normal silkworm larvae of NB4D2 strain by 2-DE
R. R. Kundapur, H.S. Aparna and **H.B. Manjunatha**
Int. J. Applied Agricultural Research, 4 (2): 125–130, 2009.

33. Preliminary studies on occurrence of pests of mulberry in North Karnataka
Vasudha B. Chavadi and **H.B. Manjunatha**
Bulletin of Indian Academy of Sericulture, 12 (2): 47-53, 2008.

34. Impact of heat shock on quantitative changes in glycogen content of silkworm embryo race NB4D2 and pure Mysore.
Manjunatha, H.B., Shabir Ahmad Wani, Ferooz Hassan, Naina Majid, Sakiba Saleem, Nusrat Syed and Surriya saleem.
Indian J. Applied and Pure Biol. 23 (2): 193-196, 2008.

35. Biomolecular changes and somatic mutations induced by UV laser irradiation at embryonic stage of *Bombyx mori*.
Manjunatha H.B., Hosagoudar S. R., and S.R. Inamdar.
Int. J. Radiation Biology, 82(9):648-657, 2006. **(IF 1.861)**

36. Impact of He-Ne laser on bio-commercial traits of *Bombyx mori*.
Hosagoudar, S.R. and **Manjunatha, H.B.**
Sericologia (France), 46 (2): 235-239, 2006.

37. Impact of heat shock on heat shock proteins expression, biological and commercial traits of *Bombyx mori*.
Vasudha, B.C., Aparna, H.S. and **Manjunatha, H.B.**
Insect Science, 13: 243-250, 2006. **(IF 1.129)**

38. Construction of database for mulberry field soils-“Soil Database
Sambrani, P. K. and **Manjunatha,H.B.**
Sericologia (France), 46 (1): 79-84, 2006.

39. Heat shock response and analysis of egg proteins in new bivoltine strains of *Bombyx mori*.
Manjunatha, H.B., A. Zamood, B.C. Vasudha and H.S. Aparna.
Sericologia (France), 45 (4): 403-408, 2005.

40. Impact of low concentration fluoride on toxification and biological traits of silkworm *Bombyx mori*.
Hosagoudar S. R., Chen Yuin, Xiang J.Y. and **H. B. Manjunatha**
Int. J. Industrial Entomology, (Korea), 9 (1): 73-78, 2004.

41. Production of tasar spun silk yarn on CSTRI motorized spinning machine.
Satish S.H., **Manjunatha, H.B**., Sreenivasa, Itagi, M.R. and G.S. Nadiger.
Man-Made Textiles in India, 9: 353-354, 2003.

42. Production of Poly silk Fabric and its Properties.
Shridhar Patali, Geeta Mahale, **H.B. Manjunatha** and M.R. Itagi

Indian Silk, 40 (7): 26-27, 2001.

43. Association of heterochomosomes during spermatogenesis in the uzi fly, *Exorista sorbillans*.
Manjunatha, H.B. and H.P. Puttaraju
Cytobios, [Cambridge] 89: 81-88, 1997.

44. Spermatogenesis in *Exorista sorbillans* as revealed by light and EM.
Puttaraju, H.P. and **Manjunatha, H.B.**
Molecular Biology of the Cell 7, No. SS: 731. 1996.

45. Stages of of oogenesis correlated with the age of the uzi fly, *Exorista sorbillans*.
Manjunatha, H.B. and H.P. Puttaraju
Sericologia (France), 36(1): 107-118, 1996.

46. Polytene chromosomes of the uzi fly, *Exorista sorbillans*.
Puttaraju, H.P. and **H.B. Manjunatha**
Cytobios [Cambridge], 84: 47-58, 1995.

47. Differentiation of Cystocytes in *Exorista sorbillans*.
Puttaraju, H.P. and **H.B.Manjunatha**
Asia-Pacific J.Molecular and Biotechnology, 2(3): 247, 1994.

48. Cytological changes during oogenesis in the uzi fly, *Exorista sorbillans*.
Puttaraju, H.P. and **H.B.Manjunatha**
Ann. Entomol. Soc. Am., 87(6): 891-900, 1994. (**IF-1.17)**

49. The egg of the uzi fly, *Exorista sorbillans*.
Manjunatha, H.B. and Puttaraju H.P.
App. Entomol. Zool., 28(4): 574 – 577, 1993. (**IF-1.144)**

50. An analysis of somatic chromosomes of the uzi fly, *Exorista bombycis*.
Manjunatha, H.B. and H.P. Puttaraju
Cytologia, 57: 321-326, 1992. (**IF-0.2)**

Proceedings - National conference/workshops

51. Applications of principles of heat shock response in silkworm breeding for the development of productive thermotolerant strains/breeds.
Manjunatha H.B.
Trends for Advancement of Sericulture, pp 10-14, 2016.

52. Integration of Proteomics and Genomics: Biotechnological Perspective.
Manjunatha H.B.
Proceedings of the National conference on Sustainability-Key to future business, Environmental, Linguistic, Scientific and Technological fields, 1-3, 2015. ISBN-978-81-929698-1-7.

53. Integration of proteomics and genomics in the silkworm, *Bombyx mori.*
H. B. Manjunatha and Punyavathi
Bioinformatics and its applications (DBT-Workshop), 60-75, 2013.

54. Molecular identification and analysis of heat shock proteins in *Bombyx mori*.
R.K. Rajesh, H.S. Aparna, and **H.B. Manjunatha**
Scenario of Seribiotechnological Research in India, 183-191, 2008.

55. Effect of Amoxycillin on BmNPV infected *Bombyx mori* L.
Chakrabarty and **H. B. Manjunatha**
Advances in Tropical Sericulture, 334-337, 2005.

56. Non-compitational distribution of pests of mulberry.
Chavadi, V. B. and **H. B. Manjunatha**
Progress of Research on Disease and Pest Management in Sericulture, 44-49, 2004.

57. Effect of low concentration fluoride on toxification and fecundity of silkworm, *Bombyx mori* L.
Hosagoudar S. R., Chen Yuin, and **H. B. Manjunatha**
Proc.Natl.Sem.Mulb.Seri.Res.India, 530-537, 2001.

58. Ovarian developmental stages of the uzi fly, *Exorista sorbillans*.
Manjunatha, H.B. and H.P. Puttaraju
Recent advances in uzi fly Research, 57-65, 1993.

59. Preliminary studies on chromosomal behaviour during spermatogenesis in the uzi fly, *Exorista sorbillans*.
Manjunatha, H.B. and H.P. Puttaraju
Perspectives in Cytology and Genetics, 7: 911-916, 1992.

Book

60. A field guide to Hawkmoths (Lepidoptera:Sphingidae) of the state of Karnataka, India.
Tomas Melichar, Jean Haxaire, Michal Rezac, **Manjunatha, H.B.**
ISBN: 978-80-88300-03-8, pp.110, 2018.
Publisher:Ekologicke centrum Orlov,o.p.s.Orlov 79,261 01, Pribram, Czech Republic.

Book Chapters

61. Silkworm genomics: current status and limitations.
Manjunatha H. Boregowda
Advances in Animal Genomics, pp-259-280, 2021.
https://doi.org/10.1016/B978-0-12-820595-2.00016-3
Editors: Sukanta Mondal, Ram Lakhan Singh
Publisher: **Elsevier**,
Paperback ISBN: 9780128205952, eBook ISBN: 9780128206126.

62. DNA barcoding: nucleotide signature for identification and authentication of livestock.
Kunal Ankola, Likhith Gowda Mahadevegowda, Tomas Melichar, **Manjunatha H. Boregowda**
Advances in Animal Genomics, pp-299-308, 2021.
https://doi.org/10.1016/B978-0-12-820595-2.00018-7
Editors: Sukanta Mondal, Ram Lakhan Singh
Publisher: **Elsevier**,
Paperback ISBN: 9780128205952, eBook ISBN: 9780128206126.

63. **DNA and Protein Sequences uploaded to NCBI**

Sl. No.	***Title***	***ACCESSION No.***
1.	*Bombyx mori* strain NB4D2 heat shock protein 40 gene, partial cds **Manjunatha, H. B**., Vitkova, M., Kumar, R., Aparna, H. S. and Marec, F.	**GU324472**
2.	Heat shock protein 40 [*Bombyx mori*] **Manjunatha, H. B**., Vitkova, M., Kumar, R., Aparna, H. S. and Marec, F.	**ADG57738.1**
3.	*Bombyx mori* strain NB4D2 heat shock protein 90 gene, complete cds. Aparna, H. S., Kumar, R., Vitkova, M., Marec, F. and **Manjunatha, H.B**.	**GU324473**
4.	Heat shock protein 90 [*Bombyx mori*] Aparna, H. S., Kumar, R., Vitkova, M., Marec, F. and **Manjunatha, H.B**.	**ADG57739.1**