

BIO-DATA

1. Name : **Dr. D. MANJUNATH**
2. Date of Birth : 04.04.1954
3. Address : (O) – Professor & Chairman, Department of Studies in Sericulture Science, Univ. of Mysore, Mysore-570 006;
(R) - # 522, Sanmathi, 14th Cross, Srirampura 2nd Stage, Mysore-570 023 (Karnataka – India).

4. Educational Qualification :

Degree	University	Year	Subjects	Class
B. Sc.	Karnatak University, Dharwad.	1973	Zoology (Major) Chemistry (Minor)	I
M. Sc.	Karnatak University, Dharwad.	1975	Zoology (Entomology)	I
Ph. D.	Karnatak University, Dharwad.	1980	Zoology	-
Topic of Ph.D. Thesis: Influence of Certain Physical Factors on the Stability of Nuclear Polyhedrosis Virus of the Armyworm, <i>Mythimna (Pseudaletia) separata</i>				
Diploma in German	Karnatak University, Dharwad.	1978	German Language	II
Diploma in Naturopathy and Yogic Science	Akhil Bharat Prakritik Chikitsa Parishad, New Delhi	2005	Naturopathy and Yogic Science	I

5. Field of Specialization : Entomology with special reference to Pest Management
6. Teaching Experience : 26 years 5 months (22 years 1 month at P.G. level) **(Annexure-A)**
7. Research Experience : 37 years 3 months **(Annexure-A)**
8. Publications **(Annexure- B)**
- a. Research Papers* : 41
- b. Lead Papers* : 02
- c. Popular Articles* : 12
- d. Books* : 05
- e. Books Translated* : 03
- f. Book articles* : 02
- g. Books edited* : 02
10. Innovation(s) Patented : 01 **(Annexure- C)**
11. Pest Management Packages Developed : 06 **(Annexure- C)**

12. Research Projects Undertaken : 09 (**Annexure- D**)
13. Ph. Ds. Produced : 04 (**Annexure-D**)
14. Ph. D. Theses Adjudicated : 11 (8 in Sericulture, 2 in Zoology & 1 in Rural Development)
15. M. Sc. Dissertations Produced : 03
16. Participation in Conferences / Symposia / Seminars : 23 (**Annexure- E**)
17. Association with Publication of Conference Proceedings : Member, Publication Committee of National and International Conference Proceedings (**Annexure – E**)
18. Participation in Mass Education Programs related to pest control
- a) Discussions on Doordarshan : 01
- b) Radio Talks : 05
- c) Video Films Produced : 01
19. Association with development of Curriculum : At both Post-graduate and Under-graduate levels in Sericulture (**Annexure-F**)
20. Association with Boards / Committees in Universities (**Annexure-F**)
- a) BOE in Sericulture : Chairman and Member
- b) BOS in Sericulture : Member
- c) Faculty of S&T : Member
- d) Doctoral Committee : Member (Sericulture)
21. Association with Examinations (**Annexure – G**)
- a) M. Phil., M. Sc., B.Sc. and PG Diploma in Sericulture, M. Sc. Zoology & M. Sc. Applied Bio-sciences
- b) B. Sc. Agriculture
- c) Public Service Commission
- d) Member – Advisory Committee of M. Sc. Sericulture (UAS, Bangalore)
22. Review of Research Projects and Research papers : a) Research Projects from Central Silk Board and CSIR
- b) Research papers in Indian Journal of Sericulture, Mysore Journal of Agricultural Sciences, Current Science, Caspian Journal of Environmental Science, Journal of Sericulture and Technology & Sericologia
23. Administrative Experience : 3 years 3 months (**Annexure –H**)

Annexure - A

Teaching Experience (23 years 7 months: 21 years 6 months at PG level)

- 14 years : **M. Sc. Sericulture & M. Sc. Sericulture and Seribiotechnology** at University of Mysore, Mysore (July 1999 - till date)
Courses taught : Ecology and Environmental Biology, Soil Science, Microbiology, Immunology, Mulberry Cultivation, Silkworm Rearing Technology, Mulberry and Silkworm Pest Management and Mulberry and Silkworm Disease Management
- 4 years : **M. Sc. Sericulture Technology** at CSRTI, Mysore (UOM) (July 1994 – June 1998)
Courses taught : Mulberry and Silkworm Pest Management
- 8 years 4 months : **Post-graduate Diploma in Sericulture, Diploma in Tropical Sericulture and Specialization in Tropical Sericulture** at CSRTI, Mysore (February 1990 – June 1998)
Courses taught : Mulberry and Silkworm Pest Management
- 4 years 1 month : **M. Sc. Zoology** at Department of Zoology, Karnatak University, Dharwad (August 1975 –August 1979)
Courses taught : Evolution, Population Genetics, and Insect Pathology

Research Experience (37 years 3 months)

5 years (Department of Zoology, Karnatak University, Dharwad) – As a **UGC Research Fellow**, carried out research work on the nucleopolyhedrosis (a viral disease) of the armyworm, *Mythimna separata*, which is a serious pest of the cereal crops like, Jowar, Maize, Wheat, and Paddy. Also, gained experience in the large-scale production of nuclear polyhedrosis viruses of insects.

18 years 3 months (Central Sericulture Research and Training Institute, Mysore) – As **Senior Research Assistant** (5 years 6 months) and **Senior Research Officer** (12 years 9 months) associated with research work related to the management of pests of mulberry (mealy bug, leaf roller, and Bihar hairy caterpillar) and silkworm (uzi fly and dermestid beetles) and mass production of biocontrol agents such as *Cryptolaemus montrouzieri* and *Scymnus coccivora* (predators), *Trichogramma chilonis*, *Tetrastichus howardi*, and *Nesolynx thymus* (parasitoids) of the above mentioned pests. In addition, IPM packages were developed for the management of the pests in question.

14 years (Department of Studies in Sericulture Science, University of Mysore, Mysore) – As **Reader in Sericulture** associated with the research work pertaining to developmental dynamics of the parasitoids like *Nesolynx thymus*, *Tetrastichus howardi*, and *Trichopria* sp. and biology and management of dermestid beetles. Developed packages for mass production of the above parasitoids, apart from formulating management packages against dermestid beetles (*Dermestes* spp.).

List of publications

Research Papers (Total 40)

International Journals (Total 10)

1. **Manjunath, D.** and Mathad, S.B. (1978). Temperature tolerance, thermal inactivation and ultraviolet light resistance of nuclear polyhedrosis virus of the armyworm, *Mythimna separata* (Walk.) (Lepid. : Noctuidae). *Z. angew. Entomol.*, **87** : 82-90.
2. Pradip Kumar, **Manjunath, D.**, Sathya Prasad, K., Ram Kishore, Vinod Kumar and Datta, R.K. (1993). Integrated management against the uzi fly, *Exorista bombycis* (Louis), a parasitoid of the silkworm, *Bombyx mori*. *Int. J. Pest Management*, **39** (4): 445-448.
3. **Manjunath, D.**, Ram Kishore, Prasad, K.S., Kumar, V., Kumar, P. and Datta, R.K. (1996). Biology of mulberry mealy bug and predatory potential of its biocontrol agent. *Sericologia*, **36** (3): 1-5.
4. Katiyar, R.L., Vineet Kumar, **Manjunath, D.**, Sen, A.K., Shekar, M.A. and Datta, R.K. (2000). Biology of *Anagyrus kamali* (Moursi) (Hymenoptera: Encyrtidae) – A parasitoid of the Mealy bug, *Maconellicoccus hirsutus* (Green), with a note on its incidence. *Int. J. Indust. Entomol.*, **1** (2): 143 –148.
5. Katiyar, R.L., **Manjunath, D.**, Vineet Kumar and Datta, R.K. (2001). Integrated management of the pink mealy bug, *Maconellicoccus hirsutus* (Green) (Hemiptera: Pseudococcidae) causing ‘Tukra’ in mulberry. *Int. J. Indust. Entomol.*, **3** (2) :117-120.
6. Katiyar, R.L., **Manjunath, D.**, Vineet Kumar and Datta, R.K. (2001). Incidence, biology and field efficacy of *Meteorus dichomeridis* (Wilkinson) (Hymenoptera : Braconidae) – a larval endoparasitoid of the Bihar hairy caterpillar *Spilosoma obliqua* (Walker) (Lepidoptera : Arctiidae). *Russian Ent. J.*, **10** (1): 67 – 74.
7. Aruna, A. S. and **Manjunath, D.** (2006). Influence of host age on development and morphological parameters of the parasitoid *Nesolynx thymus* Girault (Hymenoptera : Eulophidae), an ecto-pupal parasitoid of the uzi fly, *Exorista bombycis* (Louis) (Diptera : Tachinidae). *Int. J. Indust. Entomol.*, **12**(1) : 45 – 49.
8. Aruna, A. S. and **Manjunath, D.** (2009). Reproductive performance of *Nesolynx thymus* (Hymenoptera: Eulophidae) in relation to age of *Musca domestica* (Diptera: Muscidae). *Biocontrol Sci. and Tech.*, **19**(2): 139 -149.
9. Aruna, A. S. and **Manjunath, D.** (2010). Reproductive performance of *Nesolynx thymus* (Hymenoptera : Eulophidae) as influenced by host (*Musca domestica*) size. *BioControl*, **55** : 245-252.
10. Veena, N. and **Manjunath, D.** (2012). Does host age affect progeny production and progeny fitness in *Trichopria* sp. (Hymenoptera : Diapriidae)? *BioControl*, **58**(3):299-307

National Journals (Total 31)

1. **Manjunath, D.** and Mathad, S.B. (1979). Infectivity studies on the sunlight exposed nuclear polyhedrosis virus of the armyworm, *Mythimna (Pseudaletia) separata*. *Comp. Phy. Ecol.*, **4** : 15-16.
2. **Manjunath, D.** and Mathad, S.B. (1981). Effect of sunlight on the infectivity of purified and non-purified nuclear polyhedrosis virus of the armyworm, *Mythimna separata* Walker. *Ind. J. Agric. Sci.*, **51** : 750-756.
3. **Manjunath, D.** and Mathad, S.B. (1981). Stability of nuclear polyhedrosis virus of the armyworm, *Mythimna separata* (Lepidoptera : Noctuidae) in soil. *Entomon*, **6** : 1-5.
4. Pradip Kumar, **Manjunath, D.**, Sathya Prasad, K. and Datta, R.K. (1991). Integrated pest management, a successful tool to suppress uzi menace in sericulture. *Proc. IV Natl. Symp. on Growth, Dev. and Techniques of Insect Pests*, Published by U.P. Zoological Society, Muzaffarnagar, pp. 38-41.
5. Ram Kishore, **Manjunath, D.**, Pradip Kumar and Datta, R.K. (1993). Mass production of the Australian ladybird beetle, *Cryptolaemus montrouzieri* Mulsant (Coleoptera : Coccinellidae). *Ind. J. Seric.*, **32** (2) : 184-88.
6. Pradip Kuamr, **Manjunath, D.** and Datta R.K. (1992). Biological control of uzi fly. *Proc. National Seminar on Uzi fly and its Control*. KSSRDI, Bangalore, pp. 91-106.
7. Vinod Kumar, Pradip Kumar and **Manjunath, D.** (1992). Gross external morphology of embryo of *Exorista sorbillans* (Diptera : Tachinidae). *Proc. National Seminar on Uzi fly and its Control*. KSSRDI, Bangalore, pp. 79-84.
8. Pradip Kumar, Ram Kishore, **Manjunath, D.** and Datta, R.K. (1992). Natural enemy complex of the uzi fly, *Exorista sorbillans* and their role in regulating the host population. *Proc. National Seminar on Uzi fly and its Control*. KSSRDI, Bangalore, pp. 177-126.
9. Pradip Kumar, Sathy Prasad, K., Ram Kishore, **Manjunath, D.** and Datta, R.K. (1992). Efficiency of introduced indigenous parasitoids against the uzi fly, *Exorista sorbillans*. *Proc. National Seminar on Uzi fly and its Control*, KSSRDI, Bangalore, pp. 127-133.
10. Ram Kishore, Pradip Kumar and **Manjunath, D.** (1992). Biology of *Tetrastichus howardii*, a parasitoid of uzi fly. *Proc. National Seminar on Uzi fly and its Control*. KSSRDI, Bangalore, pp. 135-142.
11. Narayanaswamy, K.C, Pradip Kuamr, **Manjuanth, D.** and Datta, R.K. (1994). Determination of flight range of *Exorista sorbillans* through marking technique by adding dye to the adult diet. *Indian J. Seric.*, **33** (1) : 40-43.
12. Pradip Kumar, Ram Kishore, **Manjunath, D.** and Datta, R.K. (1994). A preliminary study of the biology of *Brachymeria* sp. on *Exorista bombycis*, a new record. *Indian J. Seric.*, **33**(1) : 74-75.
13. Kishore Ram, Kumar, P., **Manjunath, D.** and Datta, R.K. (1994). Effect of temperature on the development period, progeny production and longevity of *Tetrastichus howardii* (Oloff) (Hymenoptera : Eulophidae). *J. Biol. Cont.*, **8**(1) : 10-13.

14. Pradip Kumar, **Manjunath, D.**, Vinod Kumar, Ahsan, M.M. and Datta, R.K. (1995). Industrial production of bio-control agents of the key pests of mulberry and silkworm, prospects and challenges. *Proc. Int. Cong. on Seric., Global Silk Scenario 2001*: 189-199.
15. Sidde Gowda, D.K., **Manjunath, D.**, Kumar, P. and Datta, R.K. (1996). *Spalgius epius* Westwood – a potential predator of mealy bug *Maconellicoccus hirsutus*. *Insect Environ.*, **2** (3) : 87-88.
16. Sidde Gowda, D.K., **Manjunath, D.**, Sathya Prasad, K, Katiyar, R.L., Ram Kishore and Datta, R.K. (1997). Natural enemy complex of the pink mealy bug *Maconellicoccus hirsutus* (Green) in mulberry crop system. *Indian J. Seric.*, **36** (1) : 55-56.
17. Katiyar, R.L., Pradip Kumar, **Manjunath, D.**, and Datta, R.K. (1997). Studies on the spermatogenesis and spermiogenesis in the uzi fly *Exorista bombycis* (Louis) (Diptera : Tachinidae). *Indian J. Seric.*, **36** (1) : 43-46.
18. Ram Kishore, Pradip Kumar, Manjunath, D. and Datta, R.K. (1997). Persistence of various insecticides to adult *Cryptolaemus montrouzieri* Mulsant (Coleoptera : Coccinellidae). *Ann. Entomol.*, **15**(1):13-16.
19. Katiyar, R.L., Yogananda, M.C., **Manjunath, D.**, Sen, A.K., Ahsan, M.M. and Datta, R.K. (1999). Role of *Trichogramma chilonis* Ishii in the suppression of field populations of the Bihar hairy caterpillar, *Spilosoma obliqua* Walker. *Indian J. Seric.*, **38** (1) : 40-43.
20. Rajadurai, S., Sen, A.K., **Manjunath, D.** and Datta, R.K. (2002). Natural enemy fauna of mulberry leaf roller, *Diaphania pulverulentalis* (Hampson) (Lepidoptera : Pyralidae) and its potential. In Advances in Indian Sericulture Research. *Proc. National Conference on Strategies for Sericulture Research and Development*, CSRTI, Mysore, pp. 220-223.
21. Sathya Prasad, K., Sujatha, C.R., **Manjunath, D.** and Datta, R.K. (2002). Screening of popular mulberry varieties for tukra infestation. In Advances in Indian Sericulture Research. *Proc. National Conference on Strategies for Sericulture Research and Development*, CSRTI, Mysore, pp. 336-338.
22. Aruna, A. S. and **Manjunath, D.** (2005). Effect of host size on some developmental characteristics of *Nesolynx thymus* Girault (Hymenoptera: Eulophidae), an ecto-pupal parasitoid of the uzi fly, *Exorista bombycis* (Louis) (Diptera: Tachinidae). *Proc. Nat. Sem. on Progress of Research in Organic Sericulture and Seri-byproduct Utilization* held at Sericulture College (UAS), Chintamani. Published by Seri Scientific Publishers, Bangalore, Pp. 183 – 193.
23. Aruna, A. S. and **Manjunath, D.** (2006). Suitability of host age of *Exorista bombycis* for the breeding of the parasitoid, *Nesolynx thymus* (Hymenoptera: Eulophidae). *Indian J. Seric.*, **45**(2): 149-154.
24. **Manjunath, D.**, Sathya Prasad, K. and Sidde Gowda, D. K. (2006). Ecological approach for the management of the mealy bug *Maconellicoccus hirsutus* causing tukra in mulberry. *Plant Archives*, **6** (2): 767 – 768.
25. Srinivas, T., Sathya Prasad, K., Shekhar, M. A. and **Manjunath, D.** (2007). Evaluation of neem based formulations vis-à-vis Dichlorvos against *Maconellicoccus hirsutus*. *Uttar Pradesh J. Zool.*, **27**(1): 13 – 20.

26. Katiyar, R. L., **Manjunath, D.**, Sathya Prasad, K., Ram Kishore and Datta, R. K. (2007). Induction of sterility in the uzi fly, *Exorista bombycis* (Louis) (Diptera: Tachinidae) through gamma irradiation of pupae. *Uttar Pradesh J. Zool.*, **27** (3): 271-278.
27. Mala, V.R., Sathya Prasad, K., **Manjunath, D.** and Dandin, S.B. (2007). Evaluation of germplasm genotypes of mulberry for reaction of sucking pests. *Indian J. Seric.*, **46** (1): 38-42.
28. Veena, N. and **Manjunath, D.** (2007). Influence of host size on the reproductive performance and morphometric traits of *Trichopria* sp. *Indian. J. Seric.*, **46**(2): 140-145.
29. Veena, N. and **Manjunath, D.** (2007). Impact of female overcrowding on the offspring fitness of *Trichopria* sp. at fixed host resources. *Indian. J. Seric.*, **46**(2): 146-152.
30. Gangadhar, B. and **Manjunath, D.** (2009). Influence of host age on the reproductive performance of *Tetrastichus howardi* (Olliff) (Hymenoptera: Eulophidae) and morphometric characteristics of its progeny. *Indian J. Seric.*, **48** (2) : 138-144.
31. Gangadhar, B. and **Manjunath, D.** (2010). Impact of host size on the progeny production and progeny fitness in *Tetrastichus howardi* (Olliff) (Hymenoptera: Eulophidae). *Indian J. Seric.*, **49** (1): 44-49.

Lead papers

1. **Manjunath, D.** (2004). Pests of mulberry and their management. *Proc. Nat. Sem. on Advances in Diseases and Pest Management in Sericulture* held at Sericulture College (UAS), Chintamani. Published by Seri Scientific Publishers, Bangalore, Pp. 31 – 39.
2. **Manjunath, D.** (2005) Use of biocontrol agents for sustainable sericulture. *Proc. Nat. Conf. on Advances in Organic Sericulture and Seri-byproduct Utilization* held at Sericulture College (UAS), Chintamani. Published by Seri Scientific Publishers, Bangalore, Pp. 60 – 82.

Popular articles (Total 12)

1. Venugopal Pillai, Mala V. Rajan and **Manjunath, D.** (1987). Intercropping of mulberry in coconut plantations. *Indian Silk*, **9** (7) : 23-25.
2. Dandin, S.B, Mala V. Rajan and **Manjunath, D.** (1987). Tengu hagu hippunerale misra besaya (Kannada). *Reshme Krishi*, **9**(7) : 25-36.
3. **Manjunath, D.**, Narayanaswamy, K.C, Kumar, P. and Datta, R.K. (1993). Uzinonada Samagra Nirvahane (Kannada). *Reshme Krishi*, **16** (8) : 25-27.
4. **Manjunath, D.**, Pradip Kumar, Ram Kishore, Sathya Prasad, K, Narayanaswamy, K.C. and Datta, R.K. (1993). Towards understanding tukra and its management. *Indian Silk*, **32** (3) : 6-10 (1993).
5. Kumar, P., **Manjunath, D.**, Sampath Kumar, K.N. and Datta, R.K. (1993). Spiders : Friends of Sericulturists. *Indian Silk*, **32** (6) : 31-33.
6. Ram Kishore, **Manjunath, D.**, Kumar, P., Kumar, V. and Datta, R.K. (1994). Bihar hairy caterpillar and its management. *Indian Silk*, **32** (12) : 13-15.

7. Sidde Gowda, D.K., Vinod Kumar Gupta, Sen, A.K, Benchamin, K.V., **Manjunath, D.**, Sathya Prasad, K., Magadum, S.B. and Datta, R.K. (1995). *Diaphania* sp. infests mulberry in South India. *Indian Silk*, **34** (8) : 6-8.
8. Katiyar, R.L., **Manjunath, D.**, and Datta, R.K. (1996). Red hairy caterpillar – a new pest of mulberry. *Indian Silk*, **35** (2 & 3) : 17-18.
9. Pradip Kumar, **Manjunath, D.**, Vinod Kumar, Katiyar, R.L., Prasad, K.S., Ram Kishore, Narayanaswamy, K.C. and Datta, R.K. (1996). A new trap to contain uzi flies. *Indian Silk*, **35** (4 & 5) : 13-15.
10. Sidde Gowda, D.K., **Manjunath, D.** and Pradip Kumar (1997). Hippuneraleyalli kambali huluvinna hatoti (Kannada). *Reshme Krishi*, Sept.- Oct. : 12 – 14.
11. Sidde Gowda, D.K., **Manjunath, D.**, Pradip Kumar and Datta, R.K. (1995). Termites in mulberry plantations. *Indian Silk*, **34** (6) : 29 – 30.
12. Rajadurai, S., **Manjunath, D.**, Katiyar, R.L., Prasad, K.S., Sen, A.K, Shekar, M.A, Ahsan, M.M. and Datta, R.K. (1999). Leaf roller: A serious pest of mulberry. *Indian Silk*, **37**(2) : 9-11.

Books

1. **Silkworm Crop Protection**. Published by the Central Silk Board, Ministry of Textiles, Govt. of India, Bangalore (2005), pp. 412.
2. **Mulberry Diseases and Pest Management**. Published by Indira Gandhi National Open University, New Delhi (2008), pp. 46.
3. **Silkworm Diseases and Pest Management**. Published by Indira Gandhi National Open University, New Delhi (2008), pp. 32.
4. **Host Plant Cultivation (Practical Manual)**. Published by Indira Gandhi National Open University, New Delhi (2008), pp. 50.
5. **Silkworm Rearing (Practical Manual)**. Published by Indira Gandhi National Open University, New Delhi (2008), pp. 45.

Books Translated (From English to Kannada)

1. **Mulberry Diseases and Pest Management**. Published by Indira Gandhi National Open University, New Delhi (2008), pp. 46.
2. **Silkworm Diseases and Pest Management**. Published by Indira Gandhi National Open University, New Delhi (2008), pp. 32.
3. **Non-Mulberry Diseases and Pest Management**. Published by Indira Gandhi National Open University, New Delhi (2008), pp. 45.

Book Articles

1. **Scientific Methods for Successful Sericulture** (Kannada). *Farm Radio Lessons Series* broadcast through All India Radio, Mysore. Published by the Central Sericultural Research & Training Institute, Mysore (1998), pp. 124.

2. **Handbook of Sericulture Technologies** (Eds. S.B. Dandin, Jayant Jayaswal and K. Giridhar). Published by the Central Silk Board, Bangalore (2000), pp. 240.

Books Edited

1. **Introduction to Sericulture : Part-1 Sericulture in India**(Kannada). Published by Indira Gandhi National Open University, New Delhi (2008), pp. 45.
2. **Introduction to Sericulture : Part –II Entrepreneurial Opportunities in Sericulture** (Kannada). Published by Indira Gandhi National Open University, New Delhi (2008), pp. 118.

Annexure - C

Innovation(s) patented

1. A process for the preparation of a composition for use to kill the adult uzi fly, *Exorista bombycis*, a serious pest of the silkworm, *Bombyx mori*. The composition (Product) has been named **UZITRAP** and used for attracting and killing the adults of *E. bombycis*. **Patent granted by the Controller of Patents, Patent Office, Government of India (No. A-KL/0211, dt. 27/06/2003)**. License has been granted to M/S Sericare, Bangalore, for commercial production of Uzitrap.

Pest management packages developed

1. An IPM package against the uzi fly, *Exorista bombycis*, a notorious pest of the silkworm, *Bombyx mori*.
2. An IPM package against the mealy bug, *Maconellicoccus hirsutus*, a serious pest of mulberry, which also causes apical shoot malformation called 'Tukra'.
3. An IPM package against the Bihar hairy caterpillar, *Spilosoma obliqua*, a formidable defoliator of mulberry.
4. A package for the management of dermestid beetles (*Dermestes* spp.), the cocoon pests of the silkworm, *Bombyx mori*, accounting for considerable reduction in silkworm egg production.
5. Mass production of *Nesolynx thymus*, an ecto-pupal parasitoid of the uzi fly, *Exorista bombycis*. The parasitoid is exploited as a biocontrol agent of uzi fly.
6. Mass production of *Cryptolaemus montrouzieri*, a predator of the mealy bug, *Maconellicoccus hirsutus*. The predator is under exploitation for management of mealy bug ('tukra') in mulberry.

Annexure - D

Research projects undertaken

1. An integrated management to control the uzi fly, *Exorista bombycis* (DBT project) (1990-92) – 9.64 lakhs.
2. Management of the pests of mulberry (CSB project) (1990-94) – 16.77 lakhs.
3. Management of the pests of silkworm (CSB project) (1990-94) – 15.70 lakhs.
4. Development of IPM packages against the pests of mulberry and silkworm (CSB project) (1995-97) – 53.07 lakhs.
5. Management of insect pests in sericulture (CSB project) (1997-99) – 21.63 lakhs.
6. Evaluation of certain synthetic and botanical insecticides against the leaf roller, *Diaphania pulverulentalis* – a serious pest of mulberry (University of Mysore) (2001 – 2003) - Rs. 10.000/-.
7. Developing a model for waste recycling in the campus of the University of Mysore, Mysore, by composting and vermicomposting (2001-2003) – 2.61 lakhs.
8. Studies on the developmental aspects of an endo-pupal diapiiid parasitoid (*Trichopria* sp.) in uzi fly (*Exorista bombycis*) and other dipterans. (Coordinator-DST project) (2003 – 2005) – 4.18 lakhs.
9. Investigations on the evaluation of castor genotypes through biochemical and bio-energetic approaches using the domesticated vanya silkworm, *Samia cynthia ricini* (Boisduval). UGC Major Research Project (2012-2015) – 10.53 lakhs.

Ph. Ds. Produced

1. Shekhar, M.A. (2004) : Contribution to our knowledge on biology and management of dermestid beetles infesting *Bombyx mori*.
2. Aruna, A.S. (2008) : Developmental dynamics of an Eulophid ecto-pupal parasitoid (*Nesolynx thymus*) on some dipterous hosts..
3. Veena, N. (2009) : Investigations on biology and development of an endo-pupal parasitoid, *Trichopria* sp. (Hymenoptera:Diapriidae) in the tachinid fly, *Exorista bombycis* (Louis).
4. Gangadhar, B. (2010) : Biology and evaluation of *Tetrastichus howardi* (Olliff) (Hymenoptera:Eulophidae) with reference to some insect hosts.

Seminars / Workshops / Conferences / Symposia / Refresher Courses

1. Second All India Seminar on Comparative Animal Physiology held in the Department of Zoology, Univ. of Nagpur, 1976.
2. Third All India Seminar on Comparative Animal Physiology held in the Department of Zoology, Sree S.V.Univ., Tirupathi, 1977.
3. Fourth All India Seminar on Comparative Animal Physiology and Endocrinology, Department of Zoology, Karnatak Univ., Dharwad, 1978.
4. Refresher course on Intensive Bivoltine Silkworm Rearing held at CSRTI, Mysore, April – May, 1987.
5. National Seminar on Control of Uzifly held at KSSRDI, Thalaghattapura, Bangalore 16-17 January, 1992.
6. National Conference on Mulberry Sericulture Research, held at CSRTI, Mysore, from 10-11 December, 1992.
7. International Conference on Sericulture-Global Silk Scenario 2001 held at CSRTI, Mysore, 25-26 October, 1994.
8. Symposium on IPM – an entomological approach to sustainable agriculture held at Dept. of Zoology, Muzaffarnagar (UP), 22-24 September, 1995. Also, served as a Co-Chairman of a Session in the Symposium.
9. Diagnostic workshop on patenting of products/processes held at IISC, Bangalore, 17 October, 1996.
10. Patent awareness programme held at SJCE, Mysore, 12 December, 1996.
11. Current Technology Seminar held at CSRTI, Berhampore (WB), 23-24 July, 1997.
12. National Seminar on Tropical Sericulture held at University of Agricultural Sciences, Bangalore, on 28 – 30 December, 1999.
13. National Conference on Strategies for Sericulture Research and development held at CSRTI, Mysore, on 16 – 18 November, 2000.
14. National Seminar on Environmental Hazards – Priorities and Protection in the 21st Century held at the Department of Environmental Sciences, University of Mysore, Mysore, 2001.
15. Workshop on Pre-breeding Strategies for Utilization of Sericultural Germplasm Resources held at Central Sericultural Germplasm Resources Centre (CSGRC), Hosur, on 10-20 February, 2003
16. National Conference on Tropical Sericulture for Global Competitiveness held at CSRTI, Mysore, from 5 – 7 November, 2003.
17. National Seminar on Advances in Disease and Pest Management held at Sericulture College (UAS), Chintamani, 2003.

18. National Seminar on Prospects of Organic Sericulture and Seri-byproduct Utilization held at Sericulture College (UAS), Chintamani, 2004. Also, Chaired a Session in the Seminar.
19. National Conference on Recent Trends in Animal Physiology, Department of Studies in Zoology, University of Mysore, Mysore, 29-30 October, 2009.
20. International Conference on Environmental Pollution, Water Conservation and Health, Bangalore University, 29-31 July, 2010.
21. State Level Workshop on “Problems of Bivoltine Silkworm Rearing and Solutions”, Bharathi College, Bharathinagar, Mandya District (Karnataka), 21.12.2011.
22. International Conference on Holistic Health, World Peace & Arogya Expo-2012, conducted by Swamy Vivekananda Yoga, Research & Holistic Health Trust (R), Bangalore, Gayathri Vihar, Palace Grounds, Bangalore-560 052 (Karnataka), from 10.02.2012 to 12.02.2012.
23. National Seminar on ‘Opportunities and Challenges for Traditional Health Systems’ held at SDM Institute for Management Development, Mysore, on 10.07.2012.

Association with publication of proceedings of seminars / conferences / workshops

- Served as one of the Members of the Publication Committee for publication of proceedings of the International Conference on Sericulture – Global Silk Scenario – 2001, held at CSRTI, Mysore, on 25 – 29 October, 1994.
- Worked as one of the Members of the Publication Committee / Editorial Committee for publication of proceedings of the National Conference on Tropical Sericulture for Global Competitiveness, held at CSRTI, Mysore, on 5 – 7 November, 2003.

Annexure - F

Association with the development of curricula in Universities

- Development of curricula for Post-graduate Courses in Sericulture and Seri-Biotechnology (Manasagangotri) and Sericulture Technology (CSRTI, Mysore) of University of Mysore, Mysore.
- Preparation of curriculum for B. Sc. Sericulture Course of University of Mysore, Mysore
- Development of curricula for Post-graduate Course in Sericulture under Distance Education Programme, Five Year Integrated Course in Sericulture and Choice based – Credit Based Post-graduate Course in Sericulture of University of Mysore (programmes yet be launched).
- Developed the course content of 3 theory and 2 Practical Courses for Certificate Course in Sericulture launched under the Distance Education Programme of IGNOU, New Delhi.
- Edited of Kannada versions of 5 different courses of Certificate Course in Sericulture launched under the Distance Education Programme of IGNOU, New Delhi.
- Currently, discharging the duties as a Coordinator of Choice Based Credit Scheme (Semester) of M. Sc. Sericulture and Seribiotechnology, Department of Studies in Sericulture Science, Univ. of Mysore, Mysore.

Association with the Boards in Universities

- Chairman, Board of Examiners in Sericulture, University of Mysore, Mysore (2005)
- Member of Board of Studies in Sericulture, University of Mysore, Mysore, at both Post-graduate and Under-graduate levels
- Member, Board of Examiners in Sericulture, University of Mysore, Mysore
- Member of Board of Examiners in Sericulture, Bangalore University, Bangalore
- Member, Faculty of Science and Technology, University of Mysore, Mysore
- member, Board of Examiners in Zoology (Under-graduate) course, University of Calicut, Kerala

Annexure - G

Association with Examinations

- Guided 03 M. Sc. Sericulture Technology students for preparation of dissertation through research as a partial fulfillment of the course
- Worked as an examiner for M. Phil. Degree in Sericulture, Karnatak University (Dharwad).
- Served as a Member on the Advisory Committee of M. Sc. Sericulture Qualifying Examination, University of Agricultural Sciences, Bangalore
- Setting of theory question paper and evaluation of answer scripts of B. Sc. Agriculture Course, University of Agricultural Sciences, Bangalore
- Setting of theory question papers, evaluation of answer scripts, and conduct of practical examinations of M. Sc. Sericulture (Manasagangotri) and M. Sc. Sericulture Technology (CSRTI) Courses of University of Mysore and M. Sc. Sericulture Course of Bangalore University, Karnatak University (Dharwad), Sri Padmavathi Mahila University (Tirupathi), and S. K. University (Ananthapur)
- Setting of theory question papers and evaluation of answer scripts for M. Sc. Applied Bioscience Course of Sri Padmavathi Mahila University (Tirupati).
- Setting of theory question papers and evaluation of answer scripts pertaining to Post-graduate Diploma in Mulberry Sericulture Course conducted by the Central Sericultural Research and Training Institute, Mysore and Berhampur (W. Bengal)
- Served as an examiner for M. Sc. Sericulture Course of University of Mysore, Bangalore University, Karnatak University (Dharwad), Sri Padmavathi Mahila University (Tirupathi), and S. K. University (Ananthapur) and M. Sc. Sericulture Technology Course (CSRTI, Mysore)
- Evaluation of the answer scripts of M. Sc. Applied Zoology Course under Distance Education Programme of Kuvempu University (Shimoga)
- Setting of question paper for Public Service Commission Examinations

Administrative Experience

As Senior Research Officer and In-charge of two Research Extension Centers (RECs) under Central Sericulture Research and Training Institute (CSRTI), Mysore, associated with the following activities:

1. As Drawing and Disbursing Officer, looked after the general administration of RECs
2. Served as a Coordinator in the
 - a) Maintenance of basic seed multiplication (P3) of bivoltine silkworms and production of P2 layings
 - b) Transfer of new technologies from lab to land providing feedback to lab
 - c) Multi-locational trails of newly evolved silkworm breeds / hybrids and mulberry varieties
 - d) Farmers training programme
 - e) Practical training for the students of Post-graduate Diploma in Sericulture and Diploma in Tropical Sericulture courses
 - f) Supply of mulberry seed cuttings to different states
 - g) Supply of silkworm rearing appliances (trays and mountages) to different states
 - h) Raising of mulberry saplings and their supply to sericulture farmers
 - i) Organization of chawki (young silkworm) rearing centers
 - j) Testing of soils of sericulture farmers' mulberry gardens and follow-up on the recommendations of lab

Others

- 1) Served as a resource person and delivered more about 20 talks on “Health Care Through Nature Cure” in the UGC Academic Staff College, University of Mysore, Mysore, under Orientation Programs conducted for university and college teachers.
- 2) Served as a resource person under Refresher Course Programs conducted by the Department of Studies in Zoology, Univ. of Mysore, Mysore, for university and college teachers.
- 3) Served as a resource person for evaluation of project presentations by university and college teachers under Refresher Course Programs conducted by Dept. of Studies in Botany and Dept. of Studies in Zoology, Univ. of Mysore, Mysore.

