

## **CURRICULUM VITAE OF DR. N. NAGARAJA**

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| 1. | Name                | Dr. N. NAGARAJA   |
| 2. | Designation         | Assistant Professor   |
| 3. | Date of Birth       | 1 <sup>st</sup> July 1969   |
| 4. | Sex                 | Male  |
| 5. | University          | Bangalore University  |
| 6. | Department/ College | UGC-Human Resource Development<br>Centre<br>Jnana Bharathi Campus<br>Bengaluru-560 056, India |

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### **7. ACADEMIC RECORD**

<b>Degree</b>	<b>Year of Passing</b>	<b>University</b>	<b>Subjects</b>	<b>Class</b>
Ph.D.	2000	Bangalore	Zoology/ Apiculture	Awarded
M.Sc.	1994	Bangalore	Zoology	First

### **8. EMPLOYMENT RECORD**

<b>Designation</b>	<b>Name of the Employer</b>	<b>Place of Work</b>	<b>Period</b>
Lecturer/ Assistant Professor	Registrar, Bangalore University	UGC- Human Resource Development Centre Bangalore University Bengaluru-560 056.	2004 to till date
Research Associate	Director General, CSIR, New Delhi	Department of Apiculture, University of Agricultural Sciences, Bengaluru	2000-2004
Lecturer	Principal	The National College, Basavanagudi, Bengaluru	1998-2000

### **9. ACADEMIC EXPERIENCE**

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|----|------------------|-----------------------|
| 1. | Teaching         | 15 years              |
| 2. | Research         | 20 years              |
| 3. | Area of Research | Beekeeping/Apiculture |

## **10. POST DOCTORAL RESEARCH**

Conducted research on the topic “Attraction of drone bees of *Apis mellifera carnica* to synthetic pheromones under field conditions” at the University of Bremen, Bremen, Germany during June and July 2006.

## **11. MAJOR RESEARCH PROJECTS COMPLETED**

1. Management of Thai sac brood disease in Indian honeybee, *Apis cerana indica* through breeding as Co-Principal Investigator at the Department of Zoology, Bangalore University, Bengaluru with an outlay of Rs. 7.5 Lakhs sanctioned by University Grants Commission, New Delhi (2007-2010).
2. Conservation of giant honeybee, *Apis dorsata* F. for honey production in plains of Karnataka as Principal Investigator at UGC Academic Staff College, Bangalore University, Bengaluru with an outlay of Rs. 11.35 Lakhs sanctioned by University Grants Commission, New Delhi (2013-2016).

## **12. MEMBERSHIP IN PROFESSIONAL BODIES**

1. Life Member, Indian Honeybee Research Association, Bengaluru
2. Life Member, Bangalore Beekeepers' Association, Bengaluru
3. Life Member, All India Beekeepers' Association, Pune
4. Life Member, Indian Science Congress Association, Kolkata
5. Member, Centre for Rural Development and Applied Research, Bengaluru.

## **13. REFEREE/REVIEWER**

1. Journal of Apicultural Research, UK
2. Indian Bee Journal, Bengaluru
3. Pesquisa Journal, Idukki, Kerala
4. Internal Journal of Agricultural Sciences, Pune

## **14. AWARDS/RECOGNITIONS**

1. Kannada Agriculture Book Award-2014, University of Agricultural Sciences, Bengaluru
2. Letter of Appreciation for contribution made for growth and development of science in general and societal application in particular, Bangalore University, Bengaluru, 2011
3. Editor, Bharathiya Jenu Vignana Pathrike (In Kannada), Karnataka Chapter since 2004.
4. Young Scientist Award-2003, International conference on Bees and Beekeeping, Bengaluru.

## **15. PUBLICATIONS**

### **a) BOOKS**

1. Rajagopal, D. and Nagaraja, N. 2020. Natural Enemies of Honeybees and their Management (In Kannada), Department of Kannada Studies, University of Agricultural Sciences, Bengaluru, India. p.99.

2. Rajagopal, D. and Nagaraja, N. 2016. Honeybee Products and their Uses (In Kannada), Department of Kannada Studies, University of Agricultural Sciences, Bengaluru, India. p.91.
3. Rajagopal, D. and Nagaraja, N. 2013. Honeybees and Crop Production (In Kannada), Department of Kannada Studies, University of Agricultural Sciences, Bengaluru, India, p.91. (Winner of letter of appreciation by UAS, Bengaluru -2014).
4. Nagaraja, N. and Rajagopal, D. 2009. *Diseases, Parasites, Pests, Predators and their Management*, MJP Publishers, Chennai, India, p.210.
5. Rajagopal, D. and Nagaraja, N. 2004. *Apiculture* (In Kannada), Department of Kannada Studies, University of Agricultural Sciences, Bangalore, India, p 178 (Reprints- 2006, 2010, 2012, revised 2016).

b) **CHAPTERS IN BOOKS**

1. Nagaraja, N. 2020. Biology of dwarf honeybee, *Apis florea* Fabricius (Hymenoptera: Apidae). In : *The Future role of dwarf honeybee in Natural and Agricultural systems*, (Eds: Abrol, D.P.) CRC Press, Taylor and Francis Group, USA, pp13-23.
2. Nagaraja, N. and Abrol, D.P. 2020. Reproductive Biology of *Apis florea*. In : *The Future role of dwarf honeybee in Natural and Agricultural systems*, (Eds: Abrol, D.P.) CRC Press, Taylor and Francis Group, USA, pp 25-35.
3. Nagaraja, N. 2012. Asian honeybees: Biology, threats and their conservation. In: *Biology, threats and colonies* (Eds. Richard M. Florio, Nova Publishers Inc., USA, pp 99-123.
4. Rajagopal, D. and Nagaraja, N. 2003. Potentiality of honeybees in increasing crop production. *Potentials of Living Resources* (Eds: Thripathi, G. and Kumar, A.), Discovery Publishing House, New Delhi, pp 105-158.
5. Contributed Three Lessons on ‘Bees and Beekeeping’ for Vocation Training Course on Beekeeping’ published by National Institute of Open Schooling (NIOS), Noida, UP during 2013-14.

c) **RESEARCH PAPERS**

1. Nagaraja, N. 2019. Nesting patterns of giant honeybee, *Apis dorsata* in plains of Karnataka, India. *Journal of Entomological Research*, **41**: (3): 307-310.
2. Nagaraja, N. 2017. Population fluctuation of giant honeybee, *Apis dorsata* in plains of Karnataka. *Journal of Entomological Research*, **43**: (4): 503-508.
3. Nagaraja, N. 2016. Effect of insecticide poisoning on mortality of giant honeybee, *Apis dorsata* colonies. *Pesquisa* **2**(1): 96-100.
4. Nagaraja, N. and Yathisha, V. 2015. Nest orientation of Asian giant honeybee, *Apis dorsata* in plains of Karnataka, India. *Journal of Entomological Research* **39**(3): 197-201.

5. Nagaraja, N. 2014. Olfactory learning and memory in drones of *Apis cerana* Fab. and *Apis florea* Fab. towards queen mandibular pheromone odorants. *Journal of Entomological Research* **38**(3): 165-168.
6. Streinzer, M., Brockmann, A., Nagaraja, N. and Spaethe, J. 2013. Sex and caste specific variation in compound eye morphology of five honeybee species. *PLoS ONE* **8**(2): e57702. doi:10.1371/journal.pone.0057702.
7. Nagaraja, N. and Dorothea Bruckner 2013. Olfactory learning and memory recall in drones of hive honeybee species. *Journal of Entomological Research*, **37**(1): 29-32.
8. Sawaya, C.H.F., Abdelnur, P.V., Eberlin, M.N., Cuhna, I.B.S., Kumazawa, S., Ahn, M.R. Bang, K.S., Nagaraja, N., Bankova, V.S. and Afrouzan, H. 2010. Easy ambient sonic-spray ionization-Mass spectroscopy finger printing of Propolis. *TALANTA* **81**: 100-108.
9. Nagaraja, N. and Brockmann, A. 2009. Drones of red dwarf honeybee, *Apis florea* are attracted by two components from the mandibular gland, 10-HDA and 9-ODA. *Journal of Chemical Ecology* **35**: 653-655.
10. Nagaraja, N. and Brockmann, A. 2009. Drone congregation areas of red dwarf honeybee, *Apis florea*. *Nature Precedings*, <http://hdl.handle.net/npre.2009.3955.1>
11. Nagaraja, N. 2009. Does open-nesting honeybee species exhibit differential pollen collection? *Advances in Pollen Spore Research* **27**: 35-42.
12. Nagaraja, N. and Reddy, M.S. 2009. Effects of pollen stores on pollen foraging behavior of Indian hive bee, *Apis cerana* F. *Journal of Palynology* **45**: 53-57.
13. Chowde Gowda, Y.N. Reddy, C.C. and Nagaraja, N. 2009. Studies on pollen gathering activity in relation to honey storage in the colonies of *Apis cerana* F. *Advances in Pollen Spore Research* **27**:115-121
14. Chowde Gowda, Y.N., Reddy, C.C. and Nagaraja, N. 2008. Pollen foraging behaviour of Indian honeybee, *Apis cerana* in diversified floral conditions. *Advances in Pollen Spore Research* **26**: 65-72.
15. Woyke, J., Wilde, J., Wilde, M., Sivaram, V., Cervancia, C., Nagaraja, N. and Reddy, M.S. 2008. Comparison of defense body movements of *Apis laboriosa*, *Apis dorsata dorsata* and *Apis dorsata breviligula* honeybees. *Journal of Insect Behavior*, **21**: 481-494.
16. Woyke, J., Wilde, J., Wilde, M., Reddy, M.S., Nagaraja, N. and Sivaram, V. 2007. Presence or absence of drones in 'drone' dusk mass flights performed by *Apis dorsata breviligula* worker bees. *Journal of Apicultural Research*, **46**(1): 40-49.
17. Woyke, J., Wilde, J., Reddy, C.C. and Nagaraja, N. 2005. Periodic mass flights of giant honeybee, *Apis dorsata* performed in successive days at two environmental conditions. *Journal of Apicultural Research*, **44**(4): 180-189.
18. Chowde Gowda, Y.N., Reddy, C.C. and Nagaraja, N. 2005. Forging and hive profiles of *Apis cerana* F. (Hymenoptera: Apidae), *Journal of Entomological Research* **29**(3): 219-222.

19. Nagaraja, N., Sivaram, V. and Anita, M. 2004. Bee flora and floral calendar of European honeybee, *Apis mellifera* L. (Hymenoptera: Apidae) in Karnataka. *Asian Bee Journal* **6**(1-2): 66-71.
20. Reddy, M.S., Jayaram, G.N. and Nagaraja, N. 2004. Behavioural resistance of the Indian hive bee, *Apis cerana indica* against Thai sac brood disease to rejuvenate sustainable beekeeping in Karnataka, India. *Proceedings of 7<sup>th</sup> Asian Apicultural Association International Conference and 10<sup>th</sup> Bee Net Symposium and Technofora*, Philippines, pp 209-212.
21. Nagaraja, N., Rajagopal, D. and Gavi Gowda, 2003. Resistance mechanism of honeybee (*Apis mellifera*) against brood mite, *Tropilaelaps clareae*. *Proceedings of XXXVIII th International Apicultural Congress*, Ljubljana, Slovenia (6 pages in CD).
22. Nagaraja, N. and Rajagopal, D. 2003. Effect of neem oil and sugar dusting in management of brood mite, *Tropilaelaps clareae* Delf. & Baker in *Apis mellifera* L. colonies. *Indian Bee Journal* **65**(1-2): 18-23.
23. Nagaraja, N. and Rajagopal, D. 2003. Pests, predators and parasites of European honeybee, *Apis mellifera ligustica* Spin. in Karnataka. *Indian Bee Journal* **65**(3-4): 120-127.
24. Nagaraja, N. 2002. Colony index of European honeybee, *Apis mellifera* L. (Hymenoptera: Apidae). *Asian Bee Journal* **5**(1-2): 43-47.
25. Nagaraja, N. 2002. Observations on foraging index of European honeybee, *Apis mellifera* L. (Hymenoptera: Apidae). *Journal of Entomological Research* **26**(3): 185-192.
26. Nagaraja, N. and Reddy, C.C. 2002. Influence of bee pollinators on the quality of seed production in sunflower (*Helianthus annuus*) and coconut (*Cocos nucifera*). *Asian Bee Journal* **4**(1-2): 1-5.
27. Nagaraja, N. and Rajagopal, D. 2001. Biology of brood mite, *Tropilaelaps clareae* in the brood of *Apis mellifera* L. (Hymenoptera: Apidae). *Asian Bee Journal*, **3**(1-2): 20-26.
28. Nagaraja, N. 2000. Studies on annual foraging cycle of *Apis mellifera* L. *Indian Bee Journal* **62**(1-2): 11-17.
29. Nagaraja, N. 2002. Impact of ecto-parasitic brood mites, *Tropilaelaps clareae* and *Varroa jacobsoni* on *Apis mellifera* beekeeping in Karnataka. *Journal of Ecotoxicology and Environmental Monitoring*, **10**(3): 205-210.
30. Nagaraja, N. and Rajagopal, D. 2000. Foraging and brood rearing activity of rock bee, *Apis dorsata* F. (Hymenoptera: Apidae), *Journal of Entomological Research* **24**(3): 243-248.
31. Rajagopal, D., Veeresh, G.K., Chikkadevaiah, Nagaraja, N. and Kencharaddi, R.N. 1999. Potentiality of honeybees in hybrid seed production of sunflower (*Helianthus annuus* L.). *Indian Journal of Agricultural Science*, **69**(1); 40-43.

32. Nagaraja, N. and Reddy, C.C. 1999. Invasion and infestation of brood parasitic mites, *Varroa jacobsoni* and *Tropilaelaps clareae* in hive honeybee species. *Indian Bee Journal* **61**(1-4): 37-41.
33. Nagaraja, N. and Rajagopal, D. 1999. Colony establishment, nesting and foraging activity of little honeybee, *Apis florea* F. (Hymenoptera: Apidae), *Journal of Entomological Research* **23**(4): 331-338.
34. Rajagopal, D. and Nagaraja, N. 1999. Beekeeping status in Karnataka. *Asian Bee Journal* **1**(1): 50-59.
35. Nagaraja, N. 1998. Rate of invasion and infestation of *Tropilaelaps clareae* in sulphur treated and untreated colonies of *Apis mellifera*. *Himalayan Journal of Environmental Zoology*, **12**: 131-136.
36. Nagaraja, N. and Reddy, C.C. 1996. Hive and foraging index of honeybee species. *Proceedings of the National Symposium on Animal Behaviour*, Karnatak University, Dharwad, India, pp 7-16.
37. Nagaraja, N. and Reddy, C.C. 1996. Occurrence and distribution of phoretic mite, *Neocypholaelaps clareae indica* in the colonies of hive honeybee species. *Proceedings of the National Symposium on Animal Behaviour*, Karnatak University, Dharwad, India, pp 22-28.

#### **d) GENERAL ARTICLES**

1. Nagaraja, N. 2019. Plants for sustainable Beekeeping, Proc. of State Level Seminar on Bees and Beekeeping, Dept. of Horticulture, Govt. of Karnataka, 27<sup>th</sup> December 2019.
2. Nagaraja, N. 2019. Jenunonagala Samrakshane, Proc. One Day State Level Beekeeping Technical Seminar and Honey Festival, University of Agricultural Sciences, Bengaluru, 1<sup>st</sup> February 2019.
3. Nagaraja, N. 2016. Potentiality of honeybees in Crop Production, *Jnanavahini* **7** (3): 6
4. Nagaraja, N. Honeybees: Bio-indicators of Environmental Pollution, *Deccan Herald*, 22<sup>nd</sup> April 2008.

#### **15. WORKSHOPS/COURSES ATTENDED**

1. Short-term Course on Research Methodology, 19<sup>th</sup> to 24<sup>th</sup> March 2018, UGC-Human Resource Development Centre, Bangalore University, Bengaluru.
2. Workshop for undergraduate college lecturers in Creative Science Pedagogy, 1-3, March 2018, Agasthya International Foundation, Kuppam, Andhra Pradesh in Association with Karnataka State Higher Education Council, Govt. of Karnataka.
3. UGC-Winter School Programme, 18<sup>th</sup> January to 8<sup>th</sup> February 2016, UGC-Human Resource Development Centre, Bangalore University, Bengaluru.

4. UGC-Orientation Programme, 14<sup>th</sup> July to 11<sup>th</sup> August 2014, UGC Academic Staff College, Bangalore University, Bengaluru.
5. UGC-Refresher Course in Life Sciences (ID), 21<sup>st</sup> March to 11<sup>th</sup> April, 2014, UGC Academic Staff College, Bangalore University, Bengaluru.
6. DST-SERB School on Chemical Ecology, 17-28, February 2014, National Centre for Biological Sciences (TIFR), Bengaluru.
7. DST-National Workshop on Methods in Animal Behaviour, 17-29, December 2001, Indian Institute of Science, Bengaluru.

#### **17. CONFERENCES/SEMINARS ATTENDED AND PAPERS PRESENTED**

1. 107<sup>th</sup> Indian Science Congress, 3-7<sup>th</sup> January 2020, University of Agricultural Sciences, Bengaluru.
2. International Conference on Bees, Environment and Sustainability, 22-25, October 2018, Asian Apicultural Association, , Jakarta, Indonesia.
3. One Day State Level Beekeeping Technical Seminar and Honey Festival, 1<sup>st</sup> February 2019, University of Agricultural Sciences, Bengaluru.
4. National Level Asian honeybee Meeting, 9-10, February 2017 National Centre for Biological Sciences, Bengaluru.
5. 104<sup>th</sup> Indian Science Congress, 3-7, January 2017, S.V. University, Tirupathi, Andhra Pradesh.
6. Workshop on Beekeeping Training and Technology Transfer, 8-13, February 2016, Department of Zoology, Bangalore University, Bengaluru.
7. 44<sup>th</sup> APIMONDIA International Apicultural Congress, 15-19, September 2015, Daejeon, South Korea.
8. 102<sup>nd</sup> Indian Science Congress, 3-7, January 2015, University of Mumbai, Mumbai.
9. International Workshop on Technology Transfer in Beekeeping, Melliponiculture and honey Festival, 24<sup>th</sup> February to 2<sup>nd</sup> March 2014, Bangalore University, Bengaluru.
10. One day Evolution Symposium: Celebration Wallace, 7<sup>th</sup> November 2013, National Centre for Biological Sciences (TIFR), Bengaluru.
11. International Conference on Insect Science, 14-17, February 2013, University of Agricultural Sciences, Bengaluru.
12. International Workshop on Beekeeping, 17-19, November, 2012, Madikeri, Karnataka.
13. 5<sup>th</sup> Karnataka Science Congress, 15-17, September, 2009, Mangalore University, Mangalore.
14. Seminar on Beekeeping Awareness and Technology Transfer, 27-29, March 2008, Bangalore University, Bengaluru.

15. National Seminar on Beekeeping Awareness, Transfer of Technology and honey festival, 18-20, January 2008, University of Agricultural Sciences, Bengaluru.
16. International Conference on Zoology, 19-23, November 2006, Bangalore University, Bengaluru.
17. International Beekeeping Congress, 13-18, November 2005, Century Foundation, Bengaluru.
18. International Workshop on Sustainable Beekeeping and World APIEXPO-2003, 13-18, October 2003, Bangalore University, Bengaluru.
19. XXXVIII Apimondia International Beekeeping Congress, 24-29, August 2003, Ljubljana, Slovenia.
20. 6<sup>th</sup> International Conference of Asian Apicultural Association, 24<sup>th</sup> February to 1<sup>st</sup> March 2002, Century Foundation, Bengaluru.
21. 13<sup>th</sup> National Conference on Parasitology, 22-25, February 1999, Bangalore University, Bengaluru.
22. 3<sup>rd</sup> International/15<sup>th</sup> National Conference on recent trends in Life Sciences, 11-13, February 1999, Bangalore University, Bengaluru.
23. FAO Workshop on Sustainable Beekeeping Development and All India Honey Festival, 1-5, August 1998, Dharwad.
24. National Workshop on Bio-diversity, Biotechnology and Environmental Monitoring, 6-9, February 1998, Gurukul Kangri University, Haridwar, Urraranchal.
25. National Smposium on recen trends in Life Sciences, 23-25, October 1997, Punjab University, Patiala, Punjab.
26. National Conference on Apiculture and First Karnataka Honey Festival, 6-8, January 1997, Bangalore University, Bengaluru.
27. National Conference on Bees and their Environment, Century Foundation, 19-21, December 1996, Bengaluru.
28. National Symposium on Animal Behaviour, 4-6, January 1996, Karnatak University, Dharwad.
29. National Symposium on Acarology, 19-21, September 1995, University of Agricultural Sciences, Bengaluru.
30. National Seminar-cum-Workshop on Honeybee diseases, their diagnosis and management, 6-9, December 1994, University of Agricultural Sciences, Bengaluru.



## **18. SPECIAL LECTURES DELIVERED**

1. Honeybee diseases and their Management, Global Scientific Apiculture Centre, Bengaluru on 14<sup>th</sup> December 2017.
2. Hygienic Behaviour of Honeybees, Reddy Janasanga First Grade College, Bengaluru on 18<sup>th</sup> February 2017.
3. Bee Health Management, Global Scientific Apiculture Centre, Bengaluru on 17<sup>th</sup> February 2017.
4. Honeybee diseases and their Management, B.M.S. College for Women, Bengaluru during September 2016.
5. Honeybee Products and their Uses, the Workshop on Beekeeping Training and Technology Transfer, 8-13, February 2016, Department of Zoology, Bangalore University, Bengaluru.
6. Life of Honeybees, B.M.S. College for Women, Bengaluru during September 2015.
7. Honeybees and the Environment, UGC-Academic Staff College, Bharathidasan University, Tiruchirapalli on 19<sup>th</sup> March 2015.
8. Biodiversity of Honeybees” on Science day celebrations, Government College for Boys, Kolar on 26<sup>th</sup> March 2010.
9. Natural Enemies of Honeybees and their management, Seminar on Beekeeping Awareness and Technology Transfer, 27-29, March 2008, Bangalore University, Bengaluru.
10. Mite pests of honeybees and their management, National Seminar on Beekeeping Awareness, Transfer of Technology and Honey Festival, University of Agricultural Sciences, Bengaluru, 18-20, January 2008.
11. The Fascinating World of Honeybees, Bangalore Science Forum, Bengaluru on 5<sup>th</sup> September 2007.
12. A series of Radio talks on management of bee diseases and beekeeping practices in Karnataka organized by All India Radio, Bengaluru.
13. A series of lectures on Honeybees and Beekeeping to the teacher participants of Orientation Programme/Refresher Courses at UGC Academic Staff College, Bangalore University, Bengaluru since 2004.