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ACADEMIC DEGREES

Ph.D. Zoology (Entomology), 2005, [University of Kerala](#), India
M.Phil. Zoology (Research methodology), 1999, [University of Kerala](#), India
M.Sc. Zoology (Entomology), 1996, [Calicut University](#), India

RESEARCH/TEACHING EXPERIENCE

Assistant Professor, [Central University of Kerala](#), India (2011-2012)
Assistant Professor, [Christ College](#), affiliated to [Calicut University](#), India (2010-2011)
Assistant Entomologists, Tea Research Association, Tocklai, Assam, India (2009-2010)
Postdoctoral Researcher, [Lund University](#), Sweden (2008-09)
[Japan Society for the Promotion of Science](#) (JSPS) *Postdoctoral Researcher*, The University of Tokyo, Japan (2005-2008)
Senior Research Fellow, [Department of plant molecular biology](#), Delhi University, South campus (2004)
Research Associate, Central Tuber Crops Research Institute, (Indian Council of Agricultural Research), Kerala, India (1998-2004)

AWARDS/FELLOWSHIPS

- [Lund University](#) (Sweden) Postdoctoral Research Fellowship - 2008
- Student and Young professional participation award: [Entomological Society of America](#) (ESA), 2006
- [Indian Council of Agricultural Research](#) (ICAR), New Delhi – [Jawaharlal Nehru Award for Outstanding Ph.D. Research](#), 2006
- [Japan Society for the Promotion of Science](#) (JSPS) Postdoctoral fellowship - 2006
- [Japanese Govt. Scholarship](#) - 2005
- Senior Research Fellowship, 2004. University of Delhi, [Department of plant molecular biology](#)
- Research Associateship, United State Department of Agriculture (USDA)/US India funded program leading to Ph.D. (1999-2004)
- Junior Research Fellowship, [University of Kerala](#), India

TEACHING INTEREST

Evolutionary biology, Entomology, Cell and Molecular Biology, Biotechnology, Animal behaviour, Immunology, Phylogenetics, bioinformatics and Chemical Ecology

RESEARCH INTERESTS

- Insect pheromone research and elucidation pheromone biosynthesis pathways
- Chemospeciation and evolution of moth pheromone communication
- Functional characterization of insect odorant receptors
- Functional characterization of *fatty acetyltransferase* involved in pheromone biosynthesis

- Evolution and functional diversification of *pgFAR* in moth
- Whitefly biotypes, virus transmission, PR proteins and parasitoids
- Genetic marker assisted population studies

KEY PUBLICATIONS

- Antony, B;** Sinu, S.P. and Sudripta Das. 2011. New record of nucleorpolyhedrosis viruses in Tea looper caterpillar in India. *Journal of Invertebrate Pathology* 108 (1): 63-67. [Link](#)
- Sinu, P.A., **Antony, B.**, and Talukder, T.K. 2011. The occurrence of nucleopolyhedrovirus infecting *Hyposidra talaca* (Walker) (Geometridae: Lepidoptera), a tea defoliator from North-East India. *Biocontrol Science & Technology* 21 (8): 999-1003. [Link](#)
- Lassance, J-M., Groot, AT., Marjorie, L., **Antony, B.**, Borgwardt, C., Hedenström, E., Heckel, D. and Löfstedt, C. 2010. Allelic variation in a *fatty acyl reductase* causes pheromone divergence in European corn borer races. *Nature*, 466, 486-489 (22 July 2010). [Link](#)
- Antony, B.**, Fujii, T., Moto, K., Matsumoto, S., Fukuzawa, M., Nakano, R., Tatsuki, S. and Ishikawa, Y. 2009. Pheromone gland specific *Fatty acyl reductase* in the adzuki bean borer, *Ostrinia scapulalis* (Lepidoptera: Crambidae). *Insect Biochemistry and Molecular Biology*, 39 (2): 90-95. [Link](#)
- Antony, B.**, Lisha, V. S., Palaniswami, M. S. 2009. Evidences for transmission of Indian cassava mosaic virus through *Bemisia tabaci* – cassava biotype. *Archives of Phytopathology and Plant Protection*, 42 (10) 922-929. [Link](#)
- Antony, B.**, Lisha, V. S., Palaniswami, M. S., Sugunan, V. S., Makesh Kumar, T., Henneberry, T. J. 2006. *Bemisia tabaci* and Indian cassava mosaic virus transmission. *International Journal of Tropical Insect Science* 26(3): 176-182. [link](#)
- Antony, B.**, and Palaniswami, M.S. 2006. *Bemisia tabaci* feeding induces pathogenesis-related proteins in cassava (*Manihot esculenta* Crantz). *Indian Journal of Biochemistry & Biophysics*, 43 (2) 182-185. [link](#)
- Antony, B.**, Palaniswami, M.S., Kirk, A.A. and Henneberry, T.J. 2006. Aphelinid parasitoids of *Bemisia tabaci* in India. *Entomon* 31 (3): 217-224. [link](#)
- Antony, B.**, Palaniswami, M.S., Kirk, A.A. and Henneberry, T.J. 2004. Development of *Encarsia bimaculata* (Heraty & Polaszek) (Hymenoptera: Aphelinidae) in *Bemisia tabaci* Gennadius (Homoptera: Aleyrodidae) nymphs. *Biological Control*, 30 (3): 546-55. [link](#)
- Antony, B.**, Palaniswami, M.S. and Henneberry, T.J. 2003. *Encarsia transvena* (Hymenoptera: Aphelinidae) Development on different *Bemisia tabaci* Gennadius (Homoptera: Aleyrodidae) instars. *Environmental Entomology*, 32 (3): 584-591. [link](#)
- Lisha Vijayan, S., **Antony, B.**, Palaniswami, M.S. and Henneberry, T.J. 2003. *Bemisia tabaci* (Gennadius) Biotypes (Homoptera: Aleyrodidae) in India. *Journal of Economic Entomology*, 96 (2): 322-327. [link](#)
- Antony, B.**, Palaniswami, M.S. and Henneberry, T.J. 2001. Hyperparasitism by an autoparasitoid *Encarsia transvena* (Timberlake) and their implication for the biological control of the whitefly, *Bemisia tabaci*. *Entomon*, 26(5): 11-16. [Link](#)

RESEARCH PROGRAM IN THE CHAIR OF DATE PALM RESEARCH:

- 1) Elucidation of the sex pheromone biosynthetic pathways in *Ephestia cautella* and *Batrachedra amydraula* by molecular characterization and functional gene expression and the development of a viable trapping system for Saudi Arabian date manufacturers

Aim

- Elucidate the sex pheromone biosynthetic pathways in *E. cautella* and *B. amydraula*

- Molecular characterization of enzymes (genes) responsible for pheromone synthesis
- Find the key enzyme that determines the pheromone blend ratio
- Conduct pheromone biosynthesis; produce *E. cautella* and *B. amydraula* pheromones in yeast cell factories
- Develop a viable trapping system for use by Saudi Arabian date producers

2) Functional characterization of pheromone receptors in the Red Palm Weevil, *Rhynchophorus ferrugineus*

Aim

- To understand better how the molecular mechanisms of aggregation pheromone detection in RPW.
- Molecular characterization and functional gene expression of pheromone receptors from male and female RPW by employing functional genomics approach.

3) Transcriptome analysis of the prothoracic gland and functional expression of enzymes involved in the male aggregation pheromone biosynthesis of the Red Palm Weevil *Rhynchophorus ferrugineus*

Aim

- To understand better the molecular mechanism involved in the male aggregation pheromone biosynthesis in RPW
- Molecular characterization and functional expression of enzymes involved in male aggregation pheromone biosynthesis in RPW

4) Developing genetic marker to study the population structure of red palm weevil [*Rhynchophorus ferrugineus* Oliv. (Coleoptera: Curculionidae)] in Saudi Arabia

Aim

- Marker development: both nuclear and tissue specific makers
- Genetic diversity: to explore the diversity and distribution of various types, biotypes, strains and subspecies of RPW in Saudi Arabia
- Phylogeny: phylogeny of RPW based on molecular markers (Example: 12s rRNA, 16s rRNA, mtDNA-Coll, period and wingless gene etc.) collected from Saudi Arabia and different parts of world [Asia (India and Pakistan), Africa (Algeria and Egypt), middle east (Oman and UAE), Europe (Spain, France and Greece) and Oceania (Australia)]