

Professor S. H. P. Parakrama Karunaratne

Director

National Institute of Fundamental Studies
Hantana Road, Kandy, Sri Lanka.



Senior Professor & Chair of Zoology

Department of Zoology, Faculty of Science
University of Peradeniya, Peradeniya 20400, Sri Lanka.
Tel: ++ 94 81 2394483/ 2386729, e-mail: shppkaru@yahoo.com, shppk@pdn.ac.lk

DATE OF BIRTH: 18TH MAY 1959

EDUCATIONAL BACKGROUND:

1. **B.Sc. (Zoology) Hons. -University of Peradeniya**, Sri Lanka, 1983
2. **M.Sc. (by research) -University of Peradeniya**, Sri Lanka, 1990
3. **Ph.D.** – London School of Hygiene and Tropical Medicine, *University of London*, U.K. 1994
4. **Postgraduate Diploma in Medical Parasitology** - London School of Hygiene and Tropical Medicine, *University of London*, England, U.K. 1995
5. **Fellow of Royal Entomological Society, London**, U.K. (since 1997)
6. **Fellow of National Academy of Sciences, Sri Lanka** (Since 2006)

EMPLOYMENT BACKGROUND:

1. **Senior Professor & Chair of Zoology**, University of Peradeniya, Sri Lanka (2009 to date)
2. **Professor & Chair of Zoology**, University of Peradeniya, Sri Lanka (2001 to 2009)
3. **Associate Professor**, University of Peradeniya, Sri Lanka (1997 – 2001)
4. **Senior Lecturer**, University of Peradeniya, Sri Lanka (1990 -1997)
5. **Lecturer**, University of Peradeniya, Sri Lanka (1984 -1990)

ADMINISTRATIVE POSITIONS HELD:

1. **Director/** national Institute of Fundamental Studies, Hantana Rd., Kandy, Sri Lanka (Oct 2015 to date)
1. **Dean/** Faculty of Science, University of Peradeniya, Sri Lanka (April 2007 - April 2013)
2. **Head/** Department of Zoology, University of Peradeniya, Sri Lanka (Jan 2006 - April 2007)

3. **Chairman/** Board of Study in Zoological Sciences, Postgraduate Institute of Science, Peradeniya, Sri Lanka (Oct 2004 - April 2007)
4. **Secretary/**Board of Study in Zoological Sciences, Postgraduate Institute of Science, Peradeniya, Sri Lanka (1999 - 2002)

RESEARCH POSITIONS HELD:

1. **Wellcome Trust Research Fellow**, Liverpool School of Tropical Medicine, Pembroke place, Liverpool L3 5QA, England (Oct 2002 – Sept 2004)
2. **Visiting Research Fellow**, School of Biosciences, Cardiff University, Wales, UK (1994 – 2001)
3. **Visiting Research Professor**, Liverpool School of Tropical Medicine, Liverpool, England, UK (2002 – 2010)

OTHER MAJOR RESPONSIBILITIES HELD:

1. Member, Board of Governors, Institute of Fundamental Studies, Kandy, Sri Lanka (April 2012 - 2014)
2. Member, National Standing Committee on Science, University Grants Commission, Sri Lanka (2007-2013)
3. Member, National Committee on Basic Sciences, National Science Foundation, Sri Lanka (2008 - 2011)
4. Member, Research Council, Institute of Fundamental Studies, Kandy, Sri Lanka (2008 - 2014)
5. Member, International Advisory Committee, Zoological Society of India (July 2012 to date)
6. Member, Integrated Vector Management Technical Committee, Ministry of Health, Sri Lanka (2012 to date)
7. Member, Integrated Mosquito Control Programme, Central Environmental Authority, Sri Lanka (2013 to date)
8. Member, University Senate, University of Peradeniya, Sri Lanka (2001 to date)
9. Member, University Council, University of Peradeniya, Sri Lanka (April 2007 - 2013)

Editorial work

- (1) Editor in Chief, Proceedings of the Peradeniya University International Research Sessions- iPURSE 2014
- (2) Theme coordinator (Life Sciences) & Member, Editorial Board, Proceedings of the Postgraduate Institute of Science Research Congress, Sri Lanka 2014
- (3) Member, Editorial Board, International Journal of Entomological Research (open access Journal) (2012 to date)
- (4) Member, Editorial Board, Ceylon Journal of Science (Biological Sciences) (2006-2013)

AWARDS:

1. **Vestergaard Frandsen Award** (2011) for outstanding research contribution, National Academy of Vector Borne Diseases, Bhubaneswar, Indian Council of Medical Research, INDIA.
2. **Bernard Soysa Memorial Award (Gold Medal)** for Outstanding Scientific Research, Sri Lanka Association for the Advancement of Science (2005).
3. **Hiran Thilakaratne Award** for Outstanding Postgraduate Research (Natural Sciences), University Grants Commission, Sri Lanka (2001)
4. **Young Scientist Award** (1999), Third World Academy of Science- Italy & National Science Foundation- Sri Lanka).
5. **Wellcome Trust Research Award**, Welcome Trust, UK (2001)
6. **Presidential Research Awards** (1999, 2000, 2001, 2004, 2005, 2007, 2008, 2010)
7. **NRC Merit Award for Scientific Publication** (2012), National Research Council, Sri Lanka.

8. **Best Research Award in Science** (2000), University of Peradeniya, Sri Lanka
9. **National Science Foundation Merit Award** for the Best Scientific Research in Biology (1999), National Science Foundation- Sri Lanka.
10. **Research Development Award** in Tropical Medicine, Wellcome Trust, UK, (1994).
11. **Wilson Peiris memorial Award**, Sri Lanka Medical Council (1989).

BOOKS

Karunaratne, S.H.P.P. and Sooriyapathrana, S.D.S.S. (2012) Understanding DNA Technology. Peradeniya Science Publications-31, Science Education Unit, University of Peradeniya, Peradeniya, Sri Lanka ISBN 978-955-589-165-3:158pp.

TOP 25 RESEARCH PUBLICATIONS

1. Surendran, S.N., Truelove, N., Sarma, D.K., Jude, P.J., Ramasamy, R., Gajapathy, K., Peiris, L.B.S., Karunaratne S.H.P.P., Walton, C. (2015) Karyotypic assignment of Sri Lankan *Anopheles culicifacies* species B and E does not correlate with cytochrome oxidase subunit I and microsatellite genotypes. **Parasites & Vectors** 06/2015; 8(1):327. DOI:10.1186/s13071-015-0944-9
2. Karunaratne, S.H.P.P., Weeraratne, T.C., Perera, M.D.B. & Surendran, S.N. (2013) Insecticide resistance and efficacy of space spraying and larviciding in the control of dengue vectors *Aedes aegypti* and *Aedes albopictus* in Sri Lanka. **Pesticide Biochemistry and Physiology** 107: 98-105.
3. Weeraratne, T.C., Perera, M.D.B., Mansoor, M.A.C.M. and Karunaratne, S.H.P.P. (2013) Prevalence and the breeding habitats of dengue vectors *Aedes aegypti* and *Aedes albopictus* in semi-urban areas in two different climatic zones in Sri Lanka. **International Journal of Tropical Insect Science** 33 (4): 216-226.
4. Surendran, S.N., Jude, P.J., Weerathne, T.C., Karunaratne S.H.P.P. & Ramasamy, R. (2012) Variations in susceptibility to common insecticides and resistance mechanisms among morphologically identified sibling species of the malaria vector *Anopheles subpictus* in Sri Lanka. **Parasites & Vectors** 5:34.
5. Bartholomay, L.C., Waterhouse, R.M., Mayhew, G.F., Campbell, C.L., Michel, K., Zou, Z., Ramirez, J.L., Das, S., Alvarez, K., Arensburger, P., Bryant, B., Chapman, S.B., Dong, Y., Erickson, S.M., Karunaratne, S.H.P.P., Kokoza, V., Kodira, C.D., Pignatelli, P., Shin, S.W., Vanlandingham, D.L., Atkinson, P.W., Birren, B., Christophides, G.K., Clem, R.J., Hemingway, J., Higgs, S., Megy, K., Ranson, H., Zdobnov, E. M., Raikhel, A.S., Christensen, B.M., Dimopoulos, G., Muskavitch, M.A.T. (2010) Pathogenomics of *Culex quinquefasciatus* and meta-analysis of infection responses to diverse pathogens. **Science** 330: 88-90.
6. Perera, M.D.B., Hemingway, J. and Karunaratne, S.H.P.P. (2008). Multiple insecticide resistance mechanisms involving metabolic changes and insensitive target sites selected in anopheline vectors of malaria in Sri Lanka. **Malaria Journal**, 7:168
7. Strode, C., Wondji, C.S., David, J-P, Hawkes, N.J., Lumjuan, N., Nelson, D.R., Drane, D.R., Karunaratne, S.H.P.P., Hemingway, J., Black, W.C. & Ranson, H. (2008). Genomic analysis of detoxification genes in the mosquito *Aedes aegypti*. **Insect Biochemistry and Molecular Biology** 38(1): 113 – 123.

8. Wondji, C.S., De Silva, W.A.P.P., Hemingway, J. Ranson & KARUNARATNE, S.H.P.P. (2008) Characterization of knock down resistance (kdr) in DDT and pyrethroid resistant *Culex quinquefasciatus* populations from Sri Lanka. **Tropical Medicine and International Health** 13(4): 548 - 555.
9. KARUNARATNE, S.H.P.P., DAMAYANTHI, B.T., FAREENA M.H.J., IMBULDENIYA, V., & HEMINGWAY, J. (2007) Insecticide resistance in the tropical bedbug *Cimex hemipterus*. **Pesticide Biochemistry and Physiology** 88: 102-107.
10. KARUNARATNE, S.H.P.P., HAWKES, N.J., PERERA, M.D.B., RANSON, H. & HEMINGWAY, J. (2007) Mutated sodium channel genes and elevated monooxygenases are found in pyrethroid resistant populations of Sri Lankan malaria vectors. **Pesticide Biochemistry and Physiology** 88: 108-113.
11. SURENDRAN, S.N., KARUNARATNE, S.H.P.P., ADAMS, Z, HEMINGWAY, J. & HAWKES, N.J. (2005) Molecular and Biochemical Characterization of a Sand Fly Population from Sri Lanka: Evidence for Insecticide Resistance due to Altered Esterases and Insensitive Acetylcholinesterase. **Bulletin of Entomological Research** 95: 371-380.
12. KARUNARATNE, S.H.P.P. & HEMINGWAY, J. (2001) Malathion resistance and prevalence of the malathion carboxylesterase mechanism in populations of Sri Lankan mosquito vectors of disease. **Bulletin of the World Health Organization** 79: 1060-1064.
13. KARUNARATNE, S.H.P.P. & HEMINGWAY, J. (2000) Insecticide resistance spectra and the underlying resistance mechanisms in populations of Japanese encephalitis vector mosquitoes, *Culex tritaeniorhynchus* and *C. gelidus*, from Sri Lanka. **Medical and Veterinary Entomology** 14: 430-436.
14. MC CARROLL, L., PATON, M.G., KARUNARATNE, S.H.P.P., JAYASURIYA, H.T.R., KALPAGE, K.S.P. & HEMINGWAY, J. (2000) Insecticides and mosquito-borne diseases: Insecticide resistance in mosquitoes can also interfere with developing parasites. **Nature** 407: 961-962.
15. PATON, M.G., KARUNARATNE, S.H.P.P., GIAKOU MAKI, E., ROBERTS, N. & HEMINGWAY J. (2000) Quantitative analysis of gene amplification in insecticide resistant *Culex* mosquitoes. **Biochemical Journal** 346: 17-24.
16. KARUNARATNE, S.H.P.P. (1999) Insecticide cross-resistance spectra and underlying resistance mechanisms of Sri Lankan anopheline vectors of malaria. **Southeast Asian Journal of Tropical Medicine and Public Health** 30 (3): 460-469.
17. KARUNARATNE, S.H.P.P., SMALL, G.J. & HEMINGWAY, J. (1999) Characterization of the elevated esterase-associated insecticide resistance mechanism in *Nilaparvata lugens* Stal and other planthopper species. **International Journal of Pest Management** 45(3): 225-230.
18. SMALL, G.J., KARUNARATNE, S.H.P.P. & HEMINGWAY, J. (1999) Molecular and kinetic evidence for allelic variants of esterase Est β 1 in the mosquito *Culex quinquefasciatus*. **Medical and Veterinary Entomology** 13: 274-281.
19. KARUNARATNE, S.H.P.P., VAUGHAN, A., PATON, M.G. & HEMINGWAY J. (1998) Amplification of a serine esterase gene is involved in insecticide resistance in Sri Lankan *Culex tritaeniorhynchus*. **Insect Molecular Biology** 74): 307-315.
20. HEMINGWAY, J. & KARUNARATNE, S.H.P.P. (1998) Mosquito carboxylesterases: A review of the molecular biology and biochemistry of a major insecticide resistance mechanism. **Medical and Veterinary Entomology** 12: 1-12.
21. KARUNARATNE, S.H.P.P., HEMINGWAY, J., JAYAWARDENA, K.G.I., DASSANAYAKA, V. & VAUGHAN, A. (1995) Kinetic and molecular differences in the amplified and non-amplified esterases from insecticide resistant and susceptible *Culex quinquefasciatus* mosquitoes. **The Journal of Biological Chemistry** 270(52): 31124-31128.

22. KARUNARATNE, S.H.P.P. & HEMINGWAY, J. (1996) Different insecticides select multiple carboxylesterase isoenzymes and different resistance levels from a single population of *Culex quinquefasciatus*. **Pesticide Biochemistry & Physiology** 54: 4-11.
23. KARUNARATNE, S.H.P.P., JAYAWARDENA, K.G.I. & HEMINGWAY, J. (1995) The cross-reactivity spectrum of a polyclonal antiserum raised against the native amplified A₂ esterase involved in insecticide resistance. **Pesticide Biochemistry & Physiology** 53: 75-83.
24. KETTERMAN, A.J., KARUNARATNE, S.H.P.P., JAYAWARDENA, K.G.I. & HEMINGWAY, J. (1993) Qualitative differences between populations of *Culex quinquefasciatus* in both the esterases A₂ and B₂ which are involved in insecticide resistance. **Pesticide Biochemistry & Physiology**. 47: 142-148.
25. KARUNARATNE, S.H.P.P., JAYAWARDENA, K.G.I., HEMINGWAY, J. & KETTERMAN, A.J. (1993) Characterization of a B-type esterase involved in insecticide resistance from the mosquito *Culex quinquefasciatus*. **Biochemical Journal**. 294: 575-579.