

Rungarun Tisgratog

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Birthday : October 6, 1986

Sex : Female

Place of birth : Thailand

Current occupation : Lecturer at Department of Entomology, Faculty of Agriculture, Kasetsart University, Bangkok, Thailand

EDUCATION

Kasetsart University, Department of Entomology Bangkok, Thailand

- Ph.D. in Entomology 2017

Kasetsart University, Department of Entomology Bangkok, Thailand

- M.S. Entomology 2011

Kasetsart University Kamphaeng Campus, Nakhonpathom, Thailand

Department of Entomology

- B.S. Agriculture; with First Class Honors 2007

RESEARCH EXPERIENCE

Kasetsart University Bangkok, Thailand

Ph.D. with Professor Theeraphap Chareonviriyaphap 2012 – 2017

Ph.D. dissertation: Behavior Modified Properties of DEET and Components of Vetiver Oil Against *Aedes aegypti* and *Anopheles minimus*

- Screening and identification of plants traditionally used for protection against insect species

- Designed a new testing system for spatial repellents and inhibitor of blood feeding motivation and established a repellency test using standard repellent (DEET) through a non-contact mosquito repellent assay system
- Characterized the repellent and irritant actions of constituents of vetiver oil on mosquitoes

University of Notre Dame (February 1, 2016 – September 30, 2016), South Bend, IN, USA

- Characterized the repellent and irritant actions of constituents of vetiver oil on mosquitoes

Kasetsart University, Department of Entomology

Bangkok, Thailand

Research Assistant with Prof. Dr. Theeraphap Chareonviriyaphap

2011 – 2012

- Assistant scientist: Prof. Dr. Theeraphap Chareonviriyaphap with the grant from the Thailand Research Fund Organization

Kasetsart University, Department of Entomology

Bangkok, Thailand

Master Student with Prof. Dr. Theeraphap Chareonviriyaphap

2007 – 2011

Thesis: Bionomics of natural populations of *Anopheles minimus* and *Anopheles harrisoni* (Diptera: Culicidae) and behavioral responses to bifenthrin and DEET

- Describe the human-landing patterns and seasonal abundance of *An. minimus*
- Characterize the behavioral responses of *An. minimus* (wild and colony population) and *An. harrisoni* (wild population) to bifenthrin and DEET

LABORATORY EXPERIENCE

University of Notre Dame

South Bend, IN, USA

- Characterized the repellent, irritant and toxicity actions of constituents of vetiver oil on mosquitoes (February 1, 2016 – September 30, 2016)

Central Lab, Kasetsart University

Bangkok, Thailand

Laboratory training

- Gas Chromatography and High Performance Liquid Chromatography
(July 24-25, 2014 and August 14 – 15, 2014)

Uniformed Services University of the Health Sciences,

Bethesda, MD, USA

Department of Preventive Medicine and Biostatistics

Laboratory training

- High throughput screening assay system (September 30, 2010 – March 31, 2011)

University Montpellier I (UMI),

Montpellier, France

Faculty of Pharmacy

Laboratory training

2008

- Molecular (DNA extraction and PCR) for mosquito specie identifications
(November 15, 2008 – December 27, 2008)

TRAINING

1st International Malaria Vector Surveillance for Elimination (MVSE) Course 2018. 18 – 28
November 2018. Pahang and Klang, Malaysia

RESEARCH PROJECT

Kasetsart University Research and Development Institute (KURDI), Kasetsart University
An Innovative Smart Tool to Assess Mosquito Repellent Products 2018 – 2019

Kasetsart University Research and Development Institute (KURDI), Kasetsart University
Eco-Friendly Innovation and Geographic Information System in the study of Insects and Other
Arthropods Affecting Community 2021 – Present

AWARDS AND FUNDS

The Thailand Research Fund Organization,

Bangkok, Thailand

- Royal Golden Jubilee Ph.D. program 2013 – 2017

Kasetsart University Kamphaeng Campus,

Nakhonpathom, Thailand

- First Class Honor Awards in B.S. Agriculture
2004

SKILLS AND ACTIVITIES

Molecular Entomology

- DNA extraction, PCR,

Insect Vector Control

- Field experience in Thailand 2004 – 2012
 - Mosquito, stable fly and other urban insect samplings and identifications
- Field experience in Belize, Central America 2016
 - Mosquito sampling and identification
- Excito-repellency test, High Throughput Screening Assay (HITSS), Bottle assay, WHO susceptibility test, Cone bioassay

SCIENTIFIC CONFERENCE

Tisgratog R. Alternative tool for mosquito repellent evaluation. The 6th International Forum for Surveillance and Control of Mosquitoes and Vector-borne Diseases. May 26 – 30, 2019 at the Xianglu Grand Hotel, Xiamen, China

Tisgratog R. and Chareonviriyaphap T. 2016. An application of a smart-friendly, non-contact repellent assay system (NCRAS) for chemical screening. the International Congress of Entomology (ICE 2016), September 25 – 30, 2016 at the Orlando Convention Center in Orlando, Florida, USA.

Tisgratog R. and Chareonviriyaphap T. 2014. Repellency of 12% DEET against mosquito vectors by using a non-contact mosquito repellent assay system. Second Annual Meeting for the

Thailand Research Fund (Senior Research Scholar), July 24, 2014 Kasetsart University, Bangkok, THAILAND.

Tisgratog R. Ritthison W. and Chareonviriyaphap T. 2013. Chemical induced behavioral responses in *Anopheles epiroticus* in Thailand. 6th International Congress Society for Vector Ecology September 22 – 27, 2013 La Quinta (Palm Springs), California, USA.

Tisgratog R. and Chareonviriyaphap T. 2009. Behavioral responses of *Anopheles minimus* and *Anopheles harrisoni* (Diptera: Culicidae) to bifenthrin, a new promising insecticide used in vector control in Thailand. The 6th Asia-Pacific Congress of Entomology. Oral Presentation. October 18 – 22, 2009 Beijing, China.

PUBLICATIONS

Tisgratog R, Sukkanon C, Sugiharto VA, Bangs MJ, Chareonviriyaphap T. Time of test periods influence behavioral responses of *Anopheles minimus* and *Anopheles dirus* (Diptera: Culicidae) to DEET. *Insects*. 2021, 12(10):867.

Sukkanon C, **Tisgratog R,** Muenworn V, Bangs MJ, Hii J, Chareonviriyaphap T. Field evaluation of a spatial repellent emanation vest for personal protection against outdoor biting mosquitoes. *J. Med. Entomol.* 2021, 58(2): 756–766.

Thanispong K, Sathantriphop S, **Tisgratog R,** Tainchum K, Sukkanon C, Bangs MJ, Chareonviriyaphap T. Optimal discriminating concentrations of six synthetic pyrethroids for monitoring insecticide susceptibility in *Anopheles minimus* (Diptera: Culicidae), a Primary Malaria Vector in Thailand. *J. Econ. Entomol.* 2018, 111(5): 2375–2382.

Tisgratog R, Sukkanon C, Grieco JP, Sanguanpong U, Chauhan K, Coats JR, Chareonviriyaphap T: Evaluation of the constituents of vetiver oil against *Anopheles minimus* (Diptera: Culicidae), a malaria vector in Thailand. *J. Med. Entomol.* 2018, 55(1): 193–199.

Desgrouas C, Nararak J, **Tisgratog R,** Mahiou-Leddet V, Bory S, Ollivier E, Manguin S, Chareonviriyaphap T: Comparative excito-repellency of three Cambodian plant-derived extracts against two mosquito vector species, *Aedes aegypti* and *Anopheles minimus*. *J. Am. Mosq. Control Assoc.* 2016, 32(3): 185–193.

Tisgratog R, Kongmee M, Sanguanpong U, Prabaripai A, Bangs MJ, Chareonviriyaphap T: Evaluation of a noncontact, alternative mosquito repellent assay system. *J. Am. Mosq. Control Assoc.* 2016, 32(3): 177–184.

Tisgratog R, Sanguanpong U, Grieco JP, Ngoen-Kluan R, Chareonviriyaphap T: Plants traditionally used as mosquito repellents and the implication for their use in vector control. *Acta Trop.* 2016, 157: 136–144.

Brusich M, Grieco JP, Penney N, **Tisgratog R**, Ritthison W, Chareonviriyaphap T, Achee NL: Targeting educational campaigns for prevention of malaria and dengue fever: an assessment in Thailand. *Parasit Vectors.* 2015, 8(1):43.

Ritthison W, **Tisgratog R**, Tainchum K, Bangs MJ, Manguin S, Chareonviriyaphap T: Pyrethroid susceptibility and behavioral avoidance in *Anopheles epiroticus*, a malaria vector in Thailand. *J. Vector Ecol.* 2014, 39(1): 32–43.

Tisgratog R, Tananchai C, Juntarajumnong W, Tuntakom S, Bangs MJ, Corbel V, Chareonviriyaphap T: Host feeding patterns and preference of *Anopheles minimus* (Diptera: Culicidae) in a malaria endemic area of western Thailand: baseline site description. *Parasit Vectors.* 2012, 5:114.

Tananchai C, **Tisgratog R**, Grieco JP, Chareonviriyaphap T: Pyrethroid induced behavioral responses of *Anopheles dirus*, a vector of malaria in Thailand. *J. Vector Ecol.* 2012, 37(1): 187–96.

Tananchai C, **Tisgratog R**, Juntarajumnong W, Grieco JP, Manguin S, Prabaripai A, Chareonviriyaphap T: Species diversity and biting activity of *Anopheles dirus* and *Anopheles baimaii* (Diptera: Culicidae) in a malaria prone area of western Thailand. *Parasit Vectors.* 2012, 5:211.

Tisgratog R, Tananchai C, Bangs MJ, Tainchum K, Juntarajumnong W, Prabaripai A, Chauhan KR, Pothikasikorn J, Chareonviriyaphap T: Chemically induced behavioral responses in *Anopheles minimus* and *Anopheles harrisoni* in Thailand. *J. Vector Ecol.* 2011, 36: 321–331.

Malaithong N, **Tisgratog R**, Tainchum K, Prabaripai A, Juntarajumnong W, Bangs MJ, Chareonviriyaphap T: Locomotor behavioral responses of *Anopheles minimus* and *Anopheles harrisoni* to alpha-cypermethrin in Thailand. *J. Am. Mosq. Control Assoc.* 2011, 27(3): 217–26