

## Galhenage Chulantha Prasanga Diyes

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Edmonton, AB, T6G 2P5

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Canadian Residency status : Post Graduate Work Permit (No restriction on hours)

Country of Citizenship : Sri Lanka

Language Skills : Bilingual (English and Sinhala/Sinhalese)

Research Disciplines : Biology and Related Sciences

Research Specialization : Ecology, Acarology, Entomology, Genetics, Microbiology, Microbiomes, Molecular Biology, Parasitology, Life histories, Gut content analysis, Tick and Tick-borne Diseases, population genetics, NGS

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### ACADEMIC CREDENTIALS

**Post-Doctoral Fellow** **Department of Agricultural, Food and Nutritional Science**  
2024/09-Present University of Alberta, Canada (U of A)  
Instructor: Prof. Boyd Mori (NSERC Industrial Research Chair)

**Ph.D.** **THE MICROBIOMES AND REPRODUCTIVE ECOLOGY OF**  
2017/09 - 2024/07 ***Dermacentor variabilis* AND *Dermacentor andersoni* IN**  
**WESTERN CANADA**  
Supervisor: Prof. Neil B. Chilton  
College of Graduate and Post-Doctoral studies, University of  
Saskatchewan, Canada (U of S)

**M.Phil.** **LIFE HISTORY, SEASONAL DYNAMICS, INFECTIOUS AGENTS**  
2013/02 - 2016/03 **AND CONTROL OF SPINOSE EAR TICK *Otobius megnini***  
**ASSOCIATED WITH HORSE OTOACARIASIS IN SRI LANKA**  
Supervisor: Prof. Rupika S. Rajakaruna

**B.Sc. (Hons)** **ZOOLOGY SPECIAL DEGREE WITH SECOND CLASS UPPER**  
2008/07 - 2013/01 **HONORS (GPA 3.7/4)**  
University of Peradeniya, Sri Lanka (U o P)

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### **FELLOWSHIPS/SCHOLARSHIPS**

<b>University Graduate Scholarship</b>	University of Saskatchewan	<b>2019-2021</b>
<b>The Dean's Award</b>	University of Saskatchewan	<b>2017-2020</b>
<b>Graduate Student Fellowship</b>	National Research Council	<b>2013-2015</b>

### **AWARDS**

- **National Research Council Sri Lanka** : Merit Award for publications in 2016  
(Research Disciplines: Biology and Related Sciences)

### **EMPLOYMENT/TEACHING**

<b>Research Assistant</b>	Department of Biology, University of Saskatchewan	<b>2023-2024</b>
	Department of Zoology, University of Peradeniya	<b>2013-2015</b>
<b>Guest lectures</b>	<b>A Lecture on Protozoan parasites-</b> Animal Parasitology (Biol 436.3)- University of Saskatchewan, (2022 winter term)	
	<b>A Lecture on Climate change and ticks-</b> Animal Parasitology (Biol 436.3)- University of Saskatchewan, (2019 fall, 2022 winter terms)	<b>2014-2023</b>
	<b>A lecture on tick identification-</b> Advanced Entomology, University of Peradeniya (2014, 2015)	
<b>Teaching Assistant</b>	The Department of Biology, University of Saskatchewan, Canada	(2019-2023) <b>Head-TA:</b> (2020-2022)
	The Faculty of Natural Sciences, Department of Zoology, The Open University of Sri Lanka	<b>2015-2017</b>

### **RESEARCH AND COLLABORATION**

#### **Papers in refereed Journals:**

#### **Ph.D.**

- 2024** Neil B. Chilton, Prasobh R. Thampy, Cole Wolbaum, Emily Sterling, Jessica T. Thoroughgood, Elisabeth Berg, Alexander Halpin, **Chulantha P. Diyes**, Matthew E.M Yunik, Adrian A. Díaz-Sánchez, Kateryn Rochon and Shaun J.

- Dergousoff (2024). Genetic diversity and phylogeographic relationships of *Dermacentor variabilis* (Acari: Ixodidae) within an established population in southern Manitoba (Canada), and the prevalence of *Rickettsia montanensis* and *Francisella*-like endosymbionts. ***Journal of Medical Entomology* (Accepted)**
- 2024 **Diyes, C.P.**, Yunik, M.E.M., Dergousoff, S.J., Chilton, N.B. (2024). Effect of snow cover on the off-host survival of *Dermacentor variabilis* (Acari: Ixodidae) larvae. ***Journal of Medical Entomology*, (1) 46-54**
- 2024 Yunik, M.E.M., **Diyes, C.P.**, Dergousoff, S.J., Chilton, N.B. (2024). Comparison of the supercooling points of questing *Dermacentor variabilis* adults in two populations on the Canadian prairies and implications for overwinter survival. ***Experimental and applied Acarology*, (92), 123-133**
- 2023 **Diyes, C.P.**, Yunik, M.E.M., Dergousoff, S.J., Chilton, N.B. (2023). Interspecific differences in questing behaviour of *Dermacentor andersoni* and *Dermacentor variabilis* (Acari: Ixodidae) larvae. ***The Canadian Entomologist*, (91), 645-660**
- 2023 **Diyes, C.P.**, Dergousoff, S.J., Chilton, N.B. (2023). Reproductive output and larval survival of Rocky Mountain wood tick (*Dermacentor andersoni*) from a prairie population in Alberta, Canada. ***Experimental and Applied Acarology*, (83), 257-270**
- 2023 Yunik, M.E.M., **Diyes, C.P.**, Dergousoff, S.J., Chilton, N.B. (2023). Off-host survival of *Dermacentor variabilis* (Acari: Ixodidae) adults near their northern distributional limit in Saskatchewan, Canada. ***Journal of Medical Entomology*, (60), 1288-1296**
- 2021 **Diyes, G.C.P.**, Bandara, K.M.U.J., Rajakaruna, R.S. and Karunaratne, H.S.P.P (2021). Acaricide resistance in the spinose ear tick, *Otobius megnini* infesting racehorses in Sri Lanka. ***Journal of National Science Foundation*, 49 (4), 551 – 561**
- 2021 **Diyes C.P.** and Rajakaruna R.S. (2021). Teratological anomalies of an adult Asiatic blue tick, *Rhipicephalus microplus* (Acari: Ixodidae). ***Systematic and Applied Acarology*, 26(1), 320-324**
- 2021 **Diyes, C.P.**, Dergousoff, S.J., Yunik, M.E.M., Chilton, N.B. (2021). Reproductive output and larval survival of the American dog ticks, (*Dermacentor variabilis*) from a population, at its the northern distributional limit. ***Experimental and Applied Acarology*, 83(2), 257-270**

- 2020 Balzer, Z.S., Thoroughgood, J.T., **Diyes, C.P.**, Davis, A.R. and Chilton, N.B. (2020). Molecular identification of *Stylops advarians* (Strepsiptera: Stylopidae) in western Canada. ***Parasitology Research*, 119(12), 4255-4258**
- 2020 Díaz-Sánchez, A.A., Chilton, N.B., Roblejo-Arias, L., Fonseca-Rodríguez, O., Marrero-Perera, R., **Diyes, C.P.**, Yunik, M.E.M., Lobo-Rivero, E. and Corona-González, B. (2020). Molecular detection and identification of spotted fever group rickettsiae in ticks collected from horses in Cuba. ***Journal of Medical and Veterinary Entomology*, 35(2), 207-212**
- M.Phil.**
- 2018 **Diyes, G.C.P.**, Rajapakse R.P.V.J. and Rajakaruna, R.S. (2018). First molecular evidence of potentially zoonotic *Babesia* spp. in Spinose ear tick *Otobius megnini* associated with horse otoacariasis in Sri Lanka. ***Ceylon Journal of Science* 47(4): 405-409**
- 2018 Silva, T.H.S.E., **Diyes, G.C.P.**, Karunaratne, W.A.I.P. and Edirisingha, J.P. (2018). Rediscovery of *Tetragonula praeterita* (Hymenoptera: Meliponini: Apidae) after 1860: an unremarked common stingless bee endemic to Sri Lanka. ***Journal of National Science Foundation*, 46(1): 109-113**
- 2017 **Diyes, G.C.P.**, Karunarathna, N.B., Silva, T.H.S.E., Karunaratne, W.A.I.P. and Rajakaruna, R.S. (2017). Ants as potential biological control agent of Spinose ear tick, *Otobius megnini* (dugès) in Sri Lanka, ***Journal of Acarologia*, 57(4): 747-753**
- 2017 **Diyes, G.C.P.** Apanaskevich, D.A. and Rajakaruna, R.S. (2017). Life cycle of the tick *Rhipicephalus haemaphysaloides* (Acari: Ixodidae) under laboratory conditions. ***Journal of Medical and Veterinary Entomology*, 31(3), 327-332**
- 2017 **Diyes, G.C.P.** and Rajakaruna R.S. (2017). Life cycle of Spinose ear tick *Otobius megnini* associated with horse otoacariasis in Sri Lanka. ***Journal of Acta Tropica*, 166, 164-176**
- 2016 **Diyes, G.C.P.** and Rajakaruna, R.S. (2016). Seasonal dynamics of Spinose ear tick *Otobius megnini* associated with horse otoacariasis in Sri Lanka. ***Journal of Acta Tropica*, 159, 170-175**

- 2015 Diyes, G.C.P.,** Karunaratne, W.A.I.P., Tomberlin, J.K. and Rajakaruna, R.S. (2015). First record of *Megaselia scalaris* (LOEW) (DIPTERA: PHORIDAE) infesting a spinose ear tick, *Otobius megnini*, colony in Sri Lanka, ***Journal of Tropical Biomedicine*, 32(4), 791-795**

#### **Undergraduate (Research)**

- 2015 Diyes, G.C.P.** and Rajakaruna, R.S. (2015). Diversity and distribution of tick species infesting goats with two new host records from Sri Lanka. ***Journal of National Science Foundation* 43(3), 225-234**

#### **Book Chapter:**

- Rajakaruna, R.S. and **Diyes, C.P.** (2019). *Spinose Ear Tick Otobius megnini Infestations in Racehorses*. In. Muhammad Abubakar and Piyumali K. Perera (Eds.), *Ticks and Tick-Borne Pathogens*. **IntechOpen**

#### **Trade articles:**

- **Diyes, G.C.P.** (2017). Spinose ear tick, *Otobius megnini*: a potential threat to domesticated animals in Sri Lanka. ***Sciscirtator* (3), 8-10**

#### **CONFERENCE PROCEEDINGS and SEMINAR**

1. **Diyes, G.C.P.** (2024). Survival on the Edge: The American dog tick in the north. ***Entomology seminar series – Department of Agricultural, Food and Nutritional Science, University of Alberta***. (Invited speaker)
2. **Diyes, G.C.P.,** Dergousoff, S.J. and Chilton N.B. (2024). Frontiers of change at the northern edge: Transovarial transmission of microbiota in *D. variabilis* and progression during embryogenesis. ***TickNet Canada 2024***
3. **Diyes, G.C.P.,** Dergousoff, S.J. and Chilton N.B. (2024). Differences in the reproductive output and larval survival of the Rocky Mountain wood tick and the American dog tick near their northern distributional limits. ***Entomological Society of America-2024***
4. **Diyes, G.C.P.,** Dergousoff, S.J., Yunik M.E.M. and Chilton N.B. (2023). Surviving on the edge: the American dog tick in the North. ***Graduate Student Association research conference-2023***
5. **Diyes, G.C.P.** (2021). Survival on the Edge: The American dog tick in the north. ***Bio 990 seminar series – Department of Saskatchewan***

6. **Diyes, G.C.P.**, Dergoussoff, S.J., Yunik M.E.M. and Chilton N.B. (2021). Survival of the American dog tick in the North. ***Society of vector ecology-2021***
7. Yunik, M.E.M. **Diyes G.C.P.** and Chilton N.B. (2021). Supercool Canadian ticks: cold hardiness of the American dog tick near its northern distribution limits. ***Society of vector ecology-2021***
8. Díaz-Sánchez, A.A., Chilton, N.B., Roblejo-Arias, L., Fonseca-Rodríguez, O., Marrero-Perera, R., **Diyes, C.P.**, Yunik, M.E.M., Lobo-Rivero, E. and Corona-González, B. (2021). Molecular detection of spotted fever group rickettsiae and piroplasmids in horses and their ixodid ticks in Cuba. ***Society of vector ecology-2021***
9. Ariyathne, S., **Diyes G.C.P.**, Rajakaruna R.S. (2021). Indigenous knowledge and home remedies on controlling tick infestations of household animals by local communities in Sri Lanka. ***Proceedings of the Peradeniya University International Research Sessions, Sri Lanka.***
10. **Diyes, G.C.P.**, Dergoussoff, S.J. Yunik M.E.M. and Chilton N.B. (2020). Reproductive capabilities and larval survival of American dog tick in Saskatchewan. ***Biology Graduate Symposium, University of Saskatchewan, Saskatoon, Canada.***
11. **Diyes, G.C.P.** and Neil B. Chilton (2019). Microbiomes of *Dermacentor andersoni* and *Dermacentor variabilis* females. ***Biology Graduate Symposium, University of Saskatchewan, Saskatoon, Canada.***
12. **Diyes, G.C.P.** and Rajakaruna R.S. (2018). Examination of the life history patterns of the hard tick *Haemaphysalis intermedia*. ***Prairie University Biology Symposium, University of Calgary, Canada.***
13. **Diyes, G.C.P.**, Karunaratne W.A.I.P., Karunaratne S.H.P.P. and Rajakaruna R.S. (2017). Life history, insecticide susceptibility and biological control of Spinose ear tick *Otobius megnini* associated with horse otoacariasis in Sri Lanka. ***Entomological Society of Saskatchewan, Canada.***
14. Silva, T.H.S.E., **Diyes, G.C.P.** and Karunaratne, W.A.I.P. (2016). Diversity of stingless bees (Hymenoptera: Meliponini) in Sri Lanka. ***Rufford in-country Conference Sri Lanka, 38–40***
15. **Diyes, G.C.P.**, Bandara, K.M.U.J., Rajakaruna, R.S. and Karunaratne, H.S.P.P. (2016). Susceptibility status of the Spinose ear tick, *Otobius megnini* (Acari: Argasidae) to selected acaricides. ***Proceedings of the Peradeniya University International Research Sessions, Sri Lanka, (20), 300***

16. **Diyes, G.C.P.** and Rajakaruna, R.S. (2016). Life cycle of *Haemaphysalis bispinosa*, Neumann, 1897 (Acari: Ixodidae) under laboratory conditions. ***Sri Lanka Association for the Advancement of Science, (72), 49***
17. **Diyes, G.C.P.**, Karunarathna, N.B., Karunaratne, W.A.I.P., Silva, T.H.S.E. and Rajakaruna, R.S. (2016). Ants and scuttle flies as potential biological control agents of spinose ear tick *Otobius megnini*. ***Sri Lanka Association for the Advancement of Science, (72), 48***
18. Mafaziya, N.T.W.G.F., **Diyes, G.C.P.** and Weerakoon, K.C. (2016). A preliminary investigation of invertebrate communities in a forest near open landfill and an urban forest in Kandy, Sri Lanka. ***International Forestry and Environment Symposium, (21), 28***
19. **Diyes, G.C.P.** and Weerakoon, K.C. (2016). A preliminary investigation of human-biting ticks in Uhumeeya Grama Niladari (GN) division in Kurunegala, Sri Lanka. ***Proceedings of the Wayamba University International Research conference, Sri Lanka, 190***
20. **Diyes, G.C.P.**, Rajapaksha R.P.V.J. and Rajakaruna, R.S. (2016). Molecular identification of pathogens in Spinose Ear Tick, *Otobius megnini* infesting horses in Nuwara Eliya, Sri Lanka. ***Proceedings of the Wayamba University International Research conference, Sri Lanka, 191***
21. **Diyes, G.C.P.** and Rajakaruna, R.S. (2015). Life cycle of *Rhipicephalus haemaphysaloides* supino, 1897 (acari: ixodidae) under laboratory conditions. ***Proceedings of the Peradeniya University International Research Sessions, Sri Lanka (19), 309***
22. **Diyes, G.C.P.**, Akalanka, P.M. and Rajakaruna, R.S. (2014). Seasonal dynamics of the Spinose ear tick, *Otobius megnini* on horses in Sri Lanka. ***Proceedings of the Postgraduate Institute of Science Research Congress, Sri Lanka (1), 37***
23. **Diyes, G.C.P.**, Akalanka, P.M. and Rajakaruna, R.S. (2014). Life cycle of Spinose Ear Tick *Otobius megnini* associated with horse otoacariasis in Sri Lanka. ***Proceedings of the Peradeniya University International Research Sessions, Sri Lanka (18), 484***
24. **Diyes, G.C.P.**, Ariyaratne, S. and Rajakaruna, R.S. (2012). Diversity and distribution of goat ticks in wet and intermediate zones of Sri Lanka. ***Proceedings of the Peradeniya University Research Sessions, Sri Lanka (17), 210***



## **WORKING EXPERIENCE**

### **Grant writing:**

- NSERC Mock Grant - Comprehensive Examination, PhD-2020

### **Lab Management:**

- **U of A Bug lab-** Training, undergraduate, graduate and summer students on Molecular biology techniques and data management
- **Chilton parasitology laboratory-** Training High School, undergraduate, graduate (Department of Biology, Department of Soil Sciences, Department of Veterinary Microbiology, U of S) and summer students on Molecular biology techniques, design experiments, data collection, data analysis, bioinformatics, troubleshooting, designing new PCR protocols, and lab equipment management.

### **Student supervision/Assistance:**

- Undergraduate, graduate (**Masters, PhDs**) and summer students' research project supervision (University of Peradeniya, The Open University of Sri Lanka, University of Saskatchewan- Faculty of Agriculture, Arts and Science, and College of Veterinary)

### **Tick Microbiome project (2017-2022):**

- **PCR and qPCR:** design and tested primers, developed/Improve PCR protocols, developed qPCR assays, polyacrylamide gel electrophoresis, Single-Strand Conformation Polymorphism (SSCP), QiAxel gel electrophoresis
- **DNA:** arthropod tissue extractions, synthesis of short Gene fragments (G-blocks), relative and absolute quantification of gene copy number using Sybrgreen and TaqMan assays, bead purification of DNA
- **DNA Sequencing and Bioinformatics:** Illumina Next generation sequencing and data analysis (Qiime2, Geneious, Fastq, BLAST)
- **Tick collection:** hard ticks were maintained and reared under laboratory conditions (Fully engorged females, eggs, larvae)
- **Winter fieldwork-** Overwintering ecology of ticks
- **Government of SK and MB: *Anaplasma* project (2022, 2023, 2024):** Ticks collected from SK, MB were screened for *Anaplasma Phagocytophilum* (Anaplasmosis), Beef cattle project- *Anaplasma* screening from cattle blood, data collection and analysis
- **Life history of *Otobius megnini* (2013-2016):**
  - **Tick collection:** soft ticks were maintained and reared under laboratory conditions, and tick collection from horses



- **Life cycle and seasonality:** demographic variations and phenology
- **Bioassays:** worked with different acaricides to test susceptibility/resistance
- **Pathogen detection:** Screened ticks for various pathogens

### **EXTRACURRICULAR ACTIVITIES**

- The executive committee of U of A Student Union: **Vice president** (2025-Present)
- **Board of directors: Sri Lanka Association of Saskatchewan**, Public relation (2018-2020)
- **Editor of SasLanka Annual magazine** and Newsletters (2018, 2019)
- University of Saskatchewan, **Biology club photo contest** (2018): **Runner-up**, *Amblyomma integrum*, Female. Cover page: Biology 121 (2018/19)
- **Play several musical instruments** (Piano, Keyboard, Violin, Accordion, Recorder)

### **VOLUNTEER-WORK**

- **Resource Person** and a **volunteer: Folk-Fest 2018, 2023** (Sri Lankan pavilion) Saskatchewan Canada
- **Field assistance:** Karunarathna, D.A.G.N.B. et al. (2013). Two new localities of Sri Lankan Relict Ant *Aneuretus simoni* Emery, 1893 (Formicidae: Aneuretinae) with the very first record in the intermediate zone. *Journal of Threatened Taxa* 5(11): 4604–4607- Collected ants from different habitats
- **Resource Person** for a workshop conducted for G.C.E. Advanced Level Student, Kandy District, Organized by The Open University of Sri Lanka, Kandy Regional Centre (2016.06.09-21).
- Participated as a **volunteer demonstrator/ resource person** in a Seminar series for G.C.E. Advanced Level Biology Teachers of the Kandy Province, Sri Lanka, organized by the Kandy Regional Center, The Open University of Sri Lanka, 10.08.2016- Sessions on Invertebrate and vertebrate Diversity/Human Biology/ Parasitology.
- Participated as a **volunteer demonstrator** in the Training Workshop for G.C.E. Advanced Level Biology Teachers of the Uva Province, Sri Lanka, organized by the Science Education Unit, University of Peradeniya, 01.04.2013- Session on Invertebrate Diversity.
- Participated as a **volunteer demonstrator** for practical sessions conducted for undergraduates (2013; 2014).
- Resource Person for the **Seminar series conducted for G.C.E. Advanced Level** Biology Student, Kandy District, Organized by Vimarshi Basha Society at the University of Peradeniya. Conducted a theory session on A/L Biology (2013).
- Participant and resource person of the stall conducted by the Zoology Department, University of Peradeniya at **Deyata Kirula Exhibition** (2010).

### **WORKSHOPS AND SHORT COURSES**

- **Zoonoses:** Protecting people and animals in rural communities (2021), The Center for Food Security and Public Health (CFSPH) at Iowa State University
- **Sexual Violence Prevention and Response:** (2020), U of S, U of A
- **Workplace Hazardous Materials Information System** (2017), U of S, U of A
- **Biosafety** (2017), U of S, U of A
- **Laboratory Safety** (2017), U of S, U of A
- **Human Resource Management** (2013), UOP
- **National workshop on scientific writing** (2013), UOP
- **Environmental awareness**, conducted by the Centre for Environmental Studies (2010), UOP
- **National workshop on scientific data management**, PGIS (2014), UOP
- One Health International Conference on Zoonotic Diseases, (2014), UOP
- Interpersonal skill development by John Keels Foundation (2012)

### **OTHER**

- **Assistant Secretary- Zoonet Society**, The Open University (2016-2017)
- **Member of YRF** (Young Research Forum)- PGIS, UOP (2013-2016)
- **Research Committee member** -Zoological Society, UOP (2008-2012)
- **Committee member**- Botanical Society UOP (2008-2012)

**I do hereby certify that the particulars stated above are true and accurate.**

**(Referees can be provided)**