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Education & Training

- 2013 PhD, Ecology/Biology, Monash University, Melbourne, Australia
 Supervisors: A/Prof Martin Burd and A/Prof Adrian G Dyer
- 2004 MSc (Botany/Ecology, 2004), Tribhuvan University, Kathmandu, Nepal
- 2016/2017 SEM6881 - Scanning Electron Microscopy (SEM) 2016/2017
 Monash Center for Electronic Microscopy [MCEM], Monash University, Australia and RMIT Microscopy & Microanalysis Facility (RMMF), RMIT University [Skill: FEI Quanta ESEM low vacuum mode, Phil XL-30 SEM high vacuum mode, sample preparation].

Scientific and professional position

- 2017–Dec 2020 Research Fellow, RMIT University, Melbourne, Australia: BIDs-Lab: *Bee Behaviour and Insect-Plant Interactions lab* (Supervisor Associate Professor Adrian G Dyer) [**completed Jan 2019**]
- 2013-2016 Post doc, Faculty of Information Technology, Monash University, Australia, *Animal Plant Insect Simulations (APIS) Lab* (Supervisor: Associate Professor Alan Dorin)

Award and Honors

- 2018 Vice Chancellor's and RMIT Research Excellence Team Award
- 2017/2018 Travel grant to Nepal, Evolutionary biology Martin Burd Lab, Monash University
- 2013 Travel grant to Singapore Botanical Garden, Singapore (ARC CI Adrian G Dyer, RMIT University)
- 2013 Writing up Scholarship, (ARC CI Adrian G Dyer, RMIT University)
- 2013 Writing up Scholarship, Faculty of Science, Monash University
- 2011 Monash University, Travel grant, USA
- 2009-2013 Monash Graduate Scholarship and Monash International Postgraduate Research Scholarship

Publications**2021-----**

Shrestha M*, Garcia JE, Thomas F, Howard SR, Chua JHJ, Tscheulin T, Dorin A, Nielsen A, Dyer AG. Insects in the City: Does Remnant Native Habitat Influence Insect Order Distributions? *Diversity* 2021, 13, 148. <https://doi.org/10.3390/d13040148> (Special issue publication, *Corresponding author)

Paudel BR, **Shrestha M**, Adhikari S, Burd M, Li Qing-Jun. 2021. Dual mechanisms of autonomous selfing in *Roscoea nepalensis* (Zingiberaceae). *Ecology: The Scientific Naturalist*, doi: 10.1002/ecy.3337

2020-----

Dyer AG*, Jenstsch A*, Burd M, Garcia JE, Tjørve E, Tjørve KMC, White P, **Sherstha M****. 2021. Fragmentary Blue: Resolving the paradox of rarity. *Frontiers in Plant Sciences: Special Issue: The role of floral colour in*

Angiosperm Evolution <https://doi.org/10.3389/fpls.2020.618203> (*Equal first author; **corresponding authors and Associated Editor; published): Review paper.

Garcia JE⁺, **Shrestha M⁺**, Rozo LO⁺, Dekiwadia C, Ma Ji S, Tran N, Dyer AG, Fox K, Greentree AD. 2020.

Iridescence and hydrophobicity have no clear delineation that explains flower petal micro-surface.

Scientific Reports 10:10685 doi: /10.1038/s41598-020-67663-6 (published 30 June + = **equal first author and equal contribution**).

Shrestha M, Garcia JE, Burd M, Dyer AG. 2020. Australian native flower colours: does nectar reward drive bee pollinator flower preferences? *PLoS ONE* 15(6): e0226469 [bioRxiv preprint doi:10.1101/862110].

Shrestha M, Dyer AG, Dorin A, Zong-Xin Ren, Burd M. 2019. Rewardlessness in orchids: how frequent and how rewardless?? *Plant biology* 22(4): 555-561. doi:10.1111/plb.13113.

Dyer AG, Boyd-Gerny S, **Shrestha M**, van der Kooi C, Garcia JE, Wong BBM. 2019. Colour preferences of *Tetragonula carbonaria* stingless bees for colour morphs of the Australian native orchid *Caladenia carnea*. *Journal of comparative physiology A*, doi.org/10.1007/s00359-019-01346-0.

Shrestha M, Dyer AG, Garcia JE, Burd M. Floral colour structure in two Australian herbaceous communities: it depends on who is looking. *Annals of Botany*, 124 (2): 221-232

2019-----

Paudel BR, Dyer AG, Garcia JE, **Shrestha M**. 2019. How do alpine gingers (*Roscoea alpina* and *R. purpurea*) respond with increasing elevation in Himalaya? *Peer J*, e7503. doi: 10.7717/peerj.7503

Paudel BR, Kessler A, **Shrestha M**, Zhao JL, Li QJ. 2019. Geographic isolation, pollination syndromes and pollinator specialization in Himalayan *Roscoea* spp. (Zingiberaceae), *Ecosphere*, 10(1): e02943. doi: 10.1002/ecs2.2943

Dyer AG, Boyd-Gerny S, **Shrestha M**, van der Kooi C, Garcia JE, Wong BBM. 2019. Colour preferences of *Tetragonula carbonaria* stingless bees for colour morphs of the Australian native orchid *Caladenia carnea*. *Journal of comparative physiology A*, 205(3): 347-361. doi.org/10.1007/s00359-019-01346-0.

Shrestha M, Dyer AG, Garcia JE, Burd M. 2019. Floral colour structure in two Australian herbaceous communities: it depends on who is looking. *Annals of Botany*, 124 (2): 221-232. doi: 10.1093/aob/mcz043.

Dyer AG, **Shrestha M**. 2019. Assessment of floral colour signals at a community through the eyes of the birds and bees. *New Phytologist* 222: 648–650. doi: 10.1111/nph.15724 (Commentary on de Camargo et al 2018 NP paper, **invited commentary**).

Shrestha M, Martin Burd, Garcia JE, Dorin A, Dyer AG. 2019. Colour evolution within orchids depends on whether the pollinator is a bee or a fly. *Plant Biology*, 21: 745-752, doi: 10.1111/plb.12968

Garcia JE, **Shrestha M**, Howard S, Petersen P, and Dyer AG. 2019. Signal or cue: The role of structural coloration in flower pollination. *Current Zoology*, 65(4): 467-48. Doi:10.1093/cz/zoy096. (**Special column**) (First published online 18 Dec 2018) [IF: 2.457]

Howard SR, **Shrestha M**, Schramme J, Garcia JE, Avarguès-Weber A, Greentree AD, Dyer AG. 2019. Preference for insect-pollinated flower morphologies in the honeybee, *Apis mellifera*. *Current Zoology*, 65 4): 457-465. Doi:10.1093/cz/zoy095 (**Special column**) (First published online 13 December 2018). [IF: 2.457].

Shrestha M, Garcia JE, Chua JHJ, Howard SR, Tscheulin T, Dorin A, Nielsen A, Dyer AG. 2019. Fluorescent pan traps affect the capture rate of insect orders in different ways. *Insects*, 10(2), 40; doi: [10.3390/insects10020040](https://doi.org/10.3390/insects10020040)

2018 -----

Garcia JE, **Shrestha M**, Dyer AG. 2018. Flower signal variability overwhelms receptor-noise and requires plastic color learning in bees. *Behavioral Ecology* 29(6): 1286-1297. doi.org/10.1093/beheco/ary127

Shrestha M, Buckova Z, Garcia J, Dorin A, Dyer AG. 2018. Pollination in a new climate: variation of flower temperature in different flowering plants and their potential role for pollinator behavior PLoS ONE, doi.org/10.1371/journal.pone.0200549.

Paudel BR, Burd M, **Shrestha M**, Dyer AG, Li QJ. 2018. Reproductive isolation in alpine ginger: How do co-existing *Roscoea* (*R. purpurea* and *R. tumjensis*) conserve species integrity? *Evolution*, 72(9):1840-1850. doi:10.1111/evo.13546.

2017-----

Paudel BR, **Shrestha M**, Dyer AG, Li QJ. 2017. Ginger and the Beetle: Evidence of Primitive Pollination System in a Himalayan Endemic Alpine Ginger (*Roscoea alpina*, Zingiberaceae). *PLoS ONE* 12(7): e0180460.

Bukovac Z[#], **Shrestha M**[#], Garcia JE, Burd M, Dorin A, Dyer AG. 2017. Why background colour matters to bees and flowers. *Journal of Comparative Physiology A*, 3 (5): 369–380 (#equal co-authorship). [#Equal contribution]

ElQadia MM, Dorin A, Dyer AG, Burd M, Bukovac Z, **Shrestha M**. 2017. Mapping species distributions with social media geo-tagged images: Case studies of bees and flowering plants in Australia. *Ecological Informatics* 39: 23–31.

Bukovac Z, Dorin A, Finke V, **Shrestha M**, Garcia JE, Avarguès-Weber A, Burd M, Schramme J, Dyer AG. 2017. Assessing the ecological significance of bee visual detection and colour discrimination on the evolution of flower colours. *Evolutionary Ecology*, 31(2): 153-172.

2016-----

Dyer AG, Boyd-Gerny S, **Shrestha M**, Lunau K, Garcia JE, Koethe K, Wong BBM. 2016. Innate colour preferences of the Australian native stingless bee *Tetragonula carbonaria* Sm. *Journal of Comparative Physiology A*, 202(9):603–613.

Paudel BR, **Shrestha M**, Burd M, Adhikari S, Sun Y-S, Li QJ. 2016. Coevolutionary elaboration of pollination related traits in an alpine ginger (*Roscoea purpurea*) and a tabanid fly in the Nepalese Himalayas. *New Phytologist*, 211 (4): 1402–1411.

Shrestha, M, Lunau K, Schulze B, Dorin A, Bischoff M, Burd M, and Dyer AG. 2016. Floral colours in a world without birds and bees: the plants of Macquarie Island. *Plant Biology*, 18: 842–850.

2015-----

Paudel BR, **Shrestha M**, Dyer AG, Zhu X-Fu, Li Q-J. 2015. Out of Africa: evidence of the obligate mutualism between long corolla tubed plant and long tongued fly in the Himalayas. *Ecology and Evolution*, 5(22): 5240-5251.

Dyer AG, Garcia JE, **Shrestha M**, and Lunau K. 2015. Seeing in colour: A hundred years of studies on bee vision since the work of the Nobel laureate Karl von Frisch. *The Royal Society of Victoria*, 127: 66-72.

2014-----

Burd M, Stayton CT, **Shrestha M**, Dyer AG. 2014. The colourful language of Australian flowers. *Communicative and Integrative Biology*. <http://dx.doi:10.4161/cib.28940>. **Invited Addendum article.**

Garcia JE, Greentree A, **Shrestha M**, Dorin A, Dyer AG. 2014. Flower colours through the lens: Quantitative measurement with visible and ultraviolet photography. *PLoS ONE* 9(5): e96646

Burd M, Stayton CT, **Shrestha M**, Dyer AG. 2014. Distinctive convergence in Australian floral colours seen through the eyes of Australian birds. *Proceedings of the Royal Society B*, 281 (1781): 1-7.

Shrestha M, Dyer AG, Bhattarai P, Burd M. 2014. Flower colour and phylogeny along an altitudinal gradient in the Himalaya of Nepal. *Journal of Ecology*, 102(1): 126-135.

Shrestha M, Dyer AG, Burd M. 2014. Flower Evolution from Bee to Bird Vision. *Australian Science Magazine*. July/August 30-33(**Invited article**)

2013-----

Shrestha M, Dyer AG, Burd M. 2013*. Evaluating the spectral discrimination capabilities of different pollinators and their effect on the evolution of flower colors. *Communicative and Integrative Biology*, **6 (3)**: <http://dx.doi: 10.4161/cib.24000> (**Invited Addendum article**).

Shrestha M, Dyer AG, Boyd-Gerny S, Wong BBM, Burd M. 2013. Shades of red: Bird-pollinated flowers target the specific colour discrimination abilities of avian vision. *New Phytologist*, **198(1)**: 301- 310.

2012-----

Burd M, Martínez Bauer A, **Shrestha M**. 2012. The evolutionary ecology of pollination and the functional biology of agricultural plants. Chapter 4, pp. 65–76, In: *Pragmatic Evolution: Applications of Evolutionary Theory*, Poiani A (ed.). Cambridge University Press, Cambridge, U.K. (**Book Chapter**)

Rokaya MB, Münzbergová Z, **Shrestha MR**, Timsina B. 2012. Distribution patterns of medicinal plants along an elevational gradient in central Himalaya, Nepal. *Journal of Mountain Science* **9**: 201–213.

2005-2007-----

Shakya LR, **Shrestha MR**. 2007. Two New Taxa Of Orchidaceae From Central Nepal. *Edinburgh Journal Of Botany* **64 (1)**: 1–5.

Shrestha MR, Shakya LR, Ghimire SK. 2007. A new species of *Malaxis* Solander ex Swartz (Orchidaceae) from Dolpa, Nepal. *Pleione* **1**: 6-7.

Rai SK, **Shrestha MR**, Maden K, Shakya LR. 2007. *Didymoplexis pallens* Griff. (Orchidaceae), a new record for Nepal. *Pleione* **1(2)**: 55-56.

Shrestha MR, Rokaya MB, Ghimire SK. 2006. Checklist of Trans-Himalayan Dicot Flora of Northwest Nepal: Dolpo and Its Surroundings. *Scientific world, HMG / Nepal*, Vol. **4 (4)**: 85-95.

Shrestha, MR, Rokaya MB, Ghimire SK. 2005. Vegetation patterns of Trans-Himalayan Zone in the North West Nepal. *Nepal Journal of Plant Sciences* Vol. **1(1)**: 29-135.

Media coverage

ABC News Australia: <http://www.abc.net.au/news/2016-11-16/birds-and-bees-prefer-have-flower-colours-preferences/7959382> [What flower colours do birds and bees prefer? ABC Science by James Bullen]

The Sydney Morning herald: Macquarie Island gives scientists a view of ecosystem without bees
Mountain flowers target bees (Science Alert): www.sciencealert.com.au/news/20130212-25059.html

New phytologist: 50 Shades of Red: The Colorful Tactics Flowers Use to Attract Birds
<http://au.wiley.com/WileyCDA/PressRelease/pressReleaseld-107247.html>

Australian geographic: flowers-turning red to attract native birds
<http://www.australiangeographic.com.au/journal/flowers-turning-red-to-attract-native-birds.htm>