

SCOTT VERNON CHARLES GROOM

School of Agriculture, Food and Wine
The University of Adelaide
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EDUCATION

- Sept 2014** **Doctor of Philosophy** **Flinders University, South Australia**
Bees of the South West Pacific: Evolution of an island pollinator group
Analysis of DNA showed assembly of multiple Pacific bee communities were shaped heavily by past climate change and arrivals following the most recent glacial period that increased with human colonisation.
- April 2008** **Bachelor of Science (Honours)** **Flinders University, South Australia**
Origin of Homalictus: Phylogenetics of a halictine bee subgenus
DNA analyses inferred a northeast Australia origin for a widespread native bee group, with subsequent radiation to SW Australia and NE into Indonesia.
GPA: 6.91/7.0 (First Class)
- April 2007** **Bachelor of Science** **Flinders University, South Australia**
GPA: 5.68/7.0

PAST APPOINTMENTS

- Jan 17 – Present** **Postdoctoral Fellow** **University of Adelaide, South Australia**
AgriFutures Securing Pollination Project
Established field trials to investigate the impact of supplementary floral resources on the relationship between pollinator diversity, pollination, and crop yield.
- Nov 14 – Nov 16** **Postdoctoral Fellow** **Kyoto University, Japan**
Japan Society for the Promotion of Science, Centre for Ecological Research
Used gene expression, chemical ecology, and comparative genomics to investigate the mechanisms underpinning the origin of social behaviour.
- Feb 09 – Feb 10** **Research Technician** **Kunming Institute of Zoology, China**
AusAid Australian Youth Ambassador for Development Program
Studied density-dependant ovipositioning behaviour by manipulating fig wasp foundresses and used DNA to explore Vietnamese gecko species complex.
- Aug 08 – Feb 09** **Primary Research Officer** **South Australian Res. & Dev. Institute**
Fruit Fly Eradication Project
Designed flight cage and mesocosm trials to investigate impact of diet on sterile fruit fly longevity and the efficacy of chemical lures in affecting rates of capture.
- May 08 – Aug 08** **Technical Officer** **Forestry SA, South Australia**
Research and Development Unit
Provided on-ground support of plantation establishment and conducted site evaluations of both exotic and native timber block development.
- Jan 08 – May 08** **Acting Secretary** **Native Vegetation Council, South Australia**
Dept. of Water, Land, & Biodiversity Conservation
Oversaw redevelopment of monitoring database front end, supported vegetation clearance assessments, and managed secretariat correspondence.

AWARDS

Aug 2015 South Australian Science Excellence Award Finalist, PhD Research Excellence
May 2015 Vice-Chancellor’s Prize for Doctoral Thesis Excellence: Biological Sciences
Apr 2008 Chancellor’s Letter of Commendation – First Class Honours

TEACHING

Mar 17 – present **University of Adelaide: School of Agriculture, Food and Wine**
 Mentor: PLANT SC 2510WT Foundations in Plant Science

Nov 17 **University of New Hampshire: College of Life Sciences and Agriculture**
 Guest lecturer: ZOOL 736 Genes and Behaviour

Mar 10 – Nov 14 **Flinders University: Faculty of Science and Engineering**
 S2 14 Lecturer: Statistical Methods for Science (Masters) STAT5702
 S2 13, 14 Computer Lab Demonstrator: Data Analysis STAT1412
 S2 13 Demonstrator: Biology and Society BIOL1112
 S1 13, 14 Demonstrator: Research in Animal Behaviour BIOL3721
 S1 13, 14 Computer Lab Demonstrator: Statistics for Biology BIOL2701
 S1 13, 14 Computer Lab Demonstrator: Applied Statistics STAT2700
 S2 12 – 14 Lab Demonstrator: Genetics, Diversity, and Evolution BIOL2702
 S1 10 – 14 Lab Demonstrator: Molecular Basis of Life BIOL1102
 S2 10 – 14 Lab Demonstrator: Evolution of Biodiversity BIOL1101

SUPERVISION

Undergraduate **2012 Ms Olivia Davies Flinders University, South Australia**
 Bachelor of Science – High Achievers Program
 Collaboration resulted in publication in *Pacific Science*

2013 Ms Sarah Hayes Flinders University, South Australia
 Bachelor of Science, Bachelor of Behavioural Science
 Collaboration resulted in publication in *Journal of Insect Conservation*

Postgraduate **2015 Ms Ella Deans Flinders University, South Australia**
 Bachelor of Science (Honours)
 Thesis: Evolutionary history of endemic bee species in Fiji

COMPETITIVE EXTERNAL FUNDING

Total – \$390 040

2017	UA-DAAD Joint Research Co-Operation Scheme (2y) Species-specific susceptibility of native bees to honeybee RNA viruses <u>Groom SVC</u> , Fung E, Hogendoorn K, and Paxton R	\$23 040
2014	JSPS Postdoctoral Fellowship (2y Salary) Kyoto University, Japan	\$115 500
	JSPS Grant-in-aid for Scientific Research (2y) Evolution of sociality: A comparative transcriptomics approach <u>Groom SVC</u> , Kawakita A	\$23 000
	The Australia and Pacific Science Foundation (3y) Assessing impacts of two major new exotic pollinators in Fiji Schwarz MP, Stevens MI, <u>Groom SVC</u> , M Tuiwawa and P Skelton	\$45 000
2012	Flinders University Postgraduate Travel Grant	\$1 400
2011	NSW-DPI Farrer Trust Travelling Scholarship	\$4 800
	Museum Victoria 1854 Student Travel Scholarship	\$1 000

2010	Endeavour Research Fellowship (6m Salary) University of the South Pacific, Fiji	\$23 500
	Rufford Small Grants Trust (2y) Bees of Samoa: Identifying Threats and Developing Strategies <u>Groom SVC</u> , Schwarz MP, Stevens MI, Tuiwawa M and Skelton P	\$10 000
	Nature Conservation Society Grant	\$1 000
	NCCARF Travel Grant	\$2 800
	The Australia and Pacific Science Foundation (3y) Native bees in the South Pacific – conservation and roles in agriculture Schwarz MP, <u>Groom SVC</u> , Stevens MI, Taylor M, and Skelton P	\$45 000
	Australian Postgraduate Award (3y Salary) Flinders University, Adelaide	\$70 500
2009	AusAid: Youth Ambassador for Development (1y Salary) Kunming Institute of Zoology, China	\$23 500

PUBLICATIONS# equal author contributions; mentored students*in review*

Breed MF, Harrison PA, Blyth C, Byrne M, Gaget V, Gellie NJC, **Groom SVC**, Hodgson R, Mills JG, Prowse TAA, Steane DA & JJ Mohr ‘Restoring ecosystems and biodiversity with genomics’ *Nature Reviews Genetics*

Ibalim S, **Groom SVC**, Castillo A, Stevens MI, & MP Schwarz ‘The origin and dispersal of *Homalictus* bees in New Guinea, the South West Pacific and Australia inferred from mitochondrial DNA’ *Transactions of the Royal Society of South Australia*

2018

Groom SVC & SM Rehan ‘Climate-mediated behavioural variability in facultatively social bees’ *Biological Journal of the Linnean Society* Vol. 125, pp. 165–170 doi:10.1093/biolinnean/bly101

Williamson E, **Groom SVC** & K Hogendoorn ‘A new method for sampling feral honey bee hives in tree’ *Transactions of the Royal Society of South Australia* doi:10.1080/03721426.2018.1547487

2017

Groom SVC, Stevens MI, Ramage T, & MP Schwarz ‘Origins and implications of apid bees (Hymenoptera: Apidae) in French Polynesia’ *Entomological Science* Vol. 20, pp. 65-75 doi:10.1111/ens.12230

Silva DP#, **Groom SVC**#, da Silva CRB, Stevens MI, & MP Schwarz ‘Potential pollination maintenance by an exotic allodapine bee under climate change scenarios in the Indo-Pacific region’ *Journal of Applied Entomology* Vol. 141, Iss. 1-2, pp. 122-132 doi: 10.1111/jen.12337

2016

da Silva CRB, **Groom SVC**, Stevens MI, & MP Schwarz ‘Current status of the introduced allodapine bee *Braunsapis puangensis* (Apidae: Xylocopinae: Allodapini) in Fiji’ *Austral Entomology* Vol. 55, pp. 43-48 doi:10.1111/aen.12149

Taylor M, Lal P, Atumuirava F, Sukal A, Solifa D, Nonga N, **Groom SVC** and Starz C. ‘Chapter 3 Agriculture and climate change: an overview’ In: Taylor, M., McGregor, A., and B. Dawson B, (eds.) *Vulnerability of Pacific Agriculture and Forestry to Climate Change*. Noumea: Secretariat of the Pacific Community.

2015

Groom SVC, Tuiwawa MV, Stevens MI, & MP Schwarz ‘Recent introduction of an allodapine bee into Fiji: a new model system for understanding biological invasions by pollinators’ *Insect Science* Vol. 22, Iss. 4, pp. 532-540 doi:10.1111/1744-7917.12136

- 2014** **Groom SVC**, Stevens MI, & MP Schwarz ‘Parallel responses of bees to past climate change in three isolated archipelagos of the south western Pacific’ *Proceedings of the Royal Society B: Biological Sciences* Vol. 281, Iss. 1785 doi:10.1098/rspb.2013.3293
- Groom SVC**, Ngo HT, Rehan SM, Skelton P, Stevens MI, & MP Schwarz ‘Multiple recent introductions of apid bees into Pacific archipelagos signify potentially large consequences for both agriculture and indigenous ecosystems’ *Biological Invasions* Vol. 16, Iss. 11, pp. 2293-2302 doi:10.1007/s10530-014-014-9665-10664-7
- Groom SVC**, Hayes SE, Ngo HT, Stevens MI, & MP Schwarz ‘Recipe for disruption: multiple recent arrivals of megachilid bees in Pacific archipelagos’ *Journal of Insect Conservation* Vol. 18, Iss. 4, pp. 613-622 doi:10.1007/s10841-014-9665-10664-7
- 2013** **Groom SVC**, Stevens MI, & MP Schwarz ‘Diversification of Fijian halictine bees: insights into a recent island radiation’ *Molecular Phylogenetics and Evolution* Vol. 68, Iss. 3, pp. 582-594 doi: 10.1007/s10841-014-9665-1
- Davies OK#, **Groom SVC#**, Ngo HT, Stevens, MI, & MP Schwarz ‘Diversity and origins of Fijian Leafcutter bees (Megachilidae)’ *Pacific Science* Vol. 67, No. 4, pp. 561-570. doi: 10.2984/67.4.7
- 2011** **Groom SVC** & MP Schwarz ‘Bees in the southwest Pacific: origins, diversity and conservation’ *Apidologie* Vol. 42, No. 6, pp.759-770 doi: 10.1007/s13592-011-0079-8

CONFERENCE PRESENTATIONS

- 1 July 2018** **1st Australian Native Bee Conference, Gold Coast**
Oral *Effect of native vegetation proximity on native bee diversity in lucerne*
- 27 Nov 2017** **Systematics 2017: Society of Australian Systematic Biologists, Adelaide**
Invited *Origins of the Australian Bee Fauna*
- 5 Nov 2017** **65th Entomological Society of America Meeting, Denver, Colorado**
Invited *Comparative transcriptomic analysis of a socially polymorphic bee provides insight into the origins of sociality*
- 12 Sept 2017** **Genomics and Collections: Adaptation to Macroevolution, Canberra**
Oral *‘Buzziness as usual’ taxonomic capacity limits future research capability*
- 11 July 2016** **Palaeo Down Under 2 Meeting, Adelaide**
Poster *A Paleocene fossil bee hair from NZ: ancient evidence of small-flower pollination?*
- 18 Mar 2015** **62nd Meeting of the Ecological Society of Japan, Kagoshima**
Poster *Apidae in French Polynesia - Ecological nightmare or agricultural dream?*
- 29 Sept 2013** **44th Australian Entomological Society Meeting, Adelaide**
Oral *Parallel responses in halictine bees in the south western Pacific: Implications for early ecosystems*
Symposium Organiser: Pollination
- 27 Oct 2013** **5th International Barcode of Life Conference, Kunming, China**
Invited *Parallel responses of bees to climate change in three isolated archipelagos of the SW Pacific*
- 8 Jul 2013** **12th Pacific Science Inter Congress, Suva, Fiji**
Oral *Parallel responses in halictine bees in the SW Pacific: Implications for early ecosystems*
- 21 Jan 2013** **VII Southern Connections Congress, Dunedin, New Zealand**
Invited *Diversification of halictine bees in the SW Pacific: insights into a recent radiation*
Poster *Diversity and origins of Melanesian Leaf-cutter bees*

- 20 Aug 2012** **XXIV International Congress of Entomology, Daegu, Korea**
Poster *Halictine bees of the southwest Pacific: Dispersals and rapid radiations*
- 13 Nov 2011** **59th Entomological Society of America Meeting, Reno, Nevada**
Poster *Bees of the southwest Pacific: Implications of a rapid radiation*

SEMINARS

- 10 Dec 2018** **Department seminar: Martin-Luther-University, Halle, Germany**
Invited *Insight into the evolution of sociality from facultatively social bees*
- 25 Sept 2015** **JSPS Science Dialogue: Kanonji Daiichi High School, Japan**
Invited Presented my research to 29 students from a 'Super Global' school
- 28 Jan 2015** **JSPS Science Dialogue: Wakayama Prefectural High, Japan**
Invited Presented my research to 85 students from a 'Super Global' school
- 3 Apr 2014** **College of Micronesia, Federated States of Micronesia**
Invited Public forum presentation: Importance of pollinators in the Pacific
- 19 Jul 2013** **Samoa National Invasive Species Task Team Meeting, Apia, Samoa**
Invited Brief Government committees on introduced pollinators
- 2 Feb 2011** **National Advisory Committee on Climate Change, Port Vila**
Invited Potential impact of climate change on bees of Vanuatu

PEER REVIEW

- Journals** Austral Entomology; Australian Journal of Zoology; Biological Journal of the Linnean Society; Journal of Hymenoptera Research; Pacific Science; Zoological Research
- Reports** Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) – Deliverable 3(a): Thematic assessment of pollinators, pollination and food production 2018
- Memberships** Australasian Society for the Study of Animal Behaviour 2019; Australian Entomological Society 2018 – 2019; Biological Society of South Australia 2019; Society for Conservation Biology 2019; DAAD Alumni 2017 – 2019; JSPS Australian Alumni Association 2016 – 2019; Entomological Society of Japan 2016; Entomological Society of America 2011 – 2015

MEDIA

- 20 May 2018** **Film** Produced by BASE3NT Studios, '*Secure Pollination through Revegetation*' introduces the AgriFutures project that incorporates my crop pollination studies
- 13 May 2017** **Online** SA Screen Awards coverage for Best Documentary won by Emily McCallan for her film '*Komorebi*' featuring my research in Japan.
- 15 August 2016** **Film** Produced by Emily McCallan, '*Komorebi*' looks at my career progression following my nomination for the SA Science Excellence Awards.
- 4 July 2015** **Online** In Daily article *Native bees abuzz with global warming* covering my *J App Ent* publication on species distribution shifts in response to climate.
- 23 May 2014** **Radio** ABC Pacific Beat Interview discussing my *PRSB* publication modelling bee responses to climate and implications for food security in the Asia-Pacific.
- 8 May 2014** **Radio** RadioAdelaide Interview discussing my publication in *PRSB*
- 9 May 2014** **Radio** 5AA Breakfast Interview discussing my publication in *PRSB*
- 7 May 2014** **Online** ABC News article *Bees can be harnessed to boost food security* covering my *PRSB* publication on bee population responses to past Pacific climates
- 24 October 2013** **Online** ABC News article *Bees almost disappeared with the dinosaurs* referring to my *MPE* publication of past population declines in Fijian bees.

REFEREES

Dr Katja Hogendoorn

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