

## Publications

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#### Refereed publications in scientific journals

- 2019 Blanco C, Rosario-Lebron A, O'Donnell CA, Portilla M, Gullbranson C, Mowery J, Smith-Pardo AH, Stocks I, Nadel H, Trozzo LR, Haslem PS, Young JD, Downes S, Parker T, Walsh T, Tay WT, Oppenheim S, Improving risk assessment of noctuid pests at north American ports and farms by differentiating egg morphology, *Annals of the Entomological Society of America* [doi: 10.1093/aesa/saz029]
- Carrière Y, Brown ZS, **Downes SJ**, Gujar G, Epstein G, Omoto C, Storer NP, Mota-Sanchez D, Søgaaard Jørgensen P, Carroll SP, Governing evolution: a socioecological comparison of resistance management for insecticidal transgenic Bt crops among four countries. *Ambio* <https://doi.org/10.1007/s13280-019-01167-0>
- 2018 Living with Resistance project [Peter Søgaaard Jørgensen; Athena Aktipis; Zachary Brown; Yves Carrière; **Sharon Downes**; Robert R. Dunn; Graham Epstein; Yrjö Gröhn; Govind Tikaramsa Gujar; David Hawthorne; Dusan Jasovsky; Eili Y. Klein; Franziska Klein; Guillaume Lhermie; David Mota-Sanchez; Celso Omoto; Maja Schlüter; H. Morgan Scott; Didier Wernli; Scott P. Carroll], Antibiotic and pesticide susceptibility and the Anthropocene operating space. *Nature Sustainability*, 1:632-641 [doi.org/10.1038/S41893-018-0164-3]
- Gomis-Cebolla J, Walsh T, James B, **Downes S**, Kain W, Wang P, Leonard K, Morgan T, Oppert B, Ferre J, Analysis of cross-resistance to Vip3 proteins in eight insect colonies, from four insect species, selected for resistance to *Bacillus thuringiensis* insecticidal proteins. *Journal of Invertebrate Pathology*, 155:64-70 [doi: 10.1016/j.jip.2018.05.004]
- Mathew LG, Ponnuraj J, Mallappa B, Chowdary LR, Zhang J, Tay WT, Walsh TK, Gordon KHJ, Heckel DG, **Downes S**, Carrière Y, Li X, Tabashnik BE, Fabrick JA, ABC transporter mis-splicing associated with resistance to Bt toxin Cry2Ab in laboratory and field-selected pink bollworm. *Scientific Reports*, 10;8(1):13531 [doi: 10.1038/s41598-018-31840-5]
- Walsh T, Jouben N, Tian K, McGaughan A, Anderson C, Qiu X, Ahn S, Bird L, Pavlidi N, Vontas J, Ryu J, Rasool A, Barony Macedo I, Tay WT, Zhang YJ, Whitehouse M, Sylvie P, **Downes S**, Nemeč L, Heckel DH, Multiple recombination events between two cytochrome P450 loci contribute to global pyrethroid resistance in *Helicoverpa armigera*. *PLoS ONE*, 1;13(11):e0197760 [doi: 10.1371/journal.pone.0197760]
- Luong T, Zalucki M, Perkins L, **Downes SJ**, Feeding behaviour and survival of *Bacillus thuringiensis*-resistant and *Bacillus thuringiensis*-susceptible larvae of *Helicoverpa armigera* (Lepidoptera: Noctuidae) exposed to a diet with *Bacillus thuringiensis* toxin. *Austral Entomology*, 57:1-8 [DOI:10.1111/aen.12265]
- Walsh T, James B, Chakroun M, Ferre J, **Downes S**, Isolating, characterising and identifying a Cry1Ac resistance mutation in field populations of *Helicoverpa punctigera*. *Scientific Reports* 8:2626 (DOI:10.1038/s41598-018-21012-w)
- 2017 Pearce S, Clarke D, East P, Elfekih S, Gordon K, Jermin L, McGaughan A, Oakeshott J, Papanikolaou A, Perera OP, V Rane R, Richards S, Tay WT, Walsh T, Anderson A, Anderson C, Asgari S, Board P, Bretschneider A, Campbell PM, Chertemps T, Christeller J, Coppin C, **Downes S**, Duan G, Farnsworth C, Good R, Han L-B, Han Y, Hatje K, Horne I, Huang Y, Hughes D, Jacquín-Joly E, James W, Jhangiani S, Kollmar M, Kuwar S, Li S, Liu N-Y, Maibeche M, Miller J, Montagne N, Perry T, Qu C, Song S, Sutton G, Vogel H, Walenz B, Xu W, Zhang H-J, Zou Z, Batterham P, Edwards O, Feyereisen R, Gibbs R, Heckel D, McGrath A, Robin C, Scherer S, Worley K, Wu Y, Genomic innovations, transcriptional plasticity and gene loss underlying the evolution and divergence of two highly polyphagous and invasive *Helicoverpa* pest species. *BMC Biology* 15(1):63 [DOI: 10.1186/s12915-017-0402-6]
- Tay WT, Walsh T, **Downes SJ**, Anderson C, Jermin L, Wong T, Piper M, Silva Chang E, Barony Macedo I, Czapak C, Behere G, Sylvie P, Soria M, Frayssinet M, Gordon K, Mitochondrial DNA and trade data support multiple origins of *Helicoverpa armigera* (Lepidoptera, Noctuidae) in Brazil. *Scientific Reports* 7:45302 [DOI:10.1038/srep45302]
- Whitehouse MAE, Cross D, Mansfield S, Harden S, Johnson A, Harris D, Tan W, **Downes SJ**, Do

- pigeon pea refuges pull their weight as “genetic diluters” to counter Bt resistance in *Helicoverpa* moths? *Crop Protection* 100:96-105
- Downes SJ**, Kriticos D, Parry H, Paull C, Schellhorn N, Zalucki M, Perspective on management of *Helicoverpa armigera*: transgenic Bt cotton, IPM and landscapes. *Pest Management Science* 73:485-492
- Ives AR, Paull C, Hulthen A, **Downes SJ**, Andow DA, Haygood R, Zalucki M, Schellhorn NA, Spatio-temporal variation in landscape composition may speed resistance evolution of pests to Bt crops. *PLoS ONE* 12(1):e0169167 [DOI:10.1371/journal.pone.016916]
- 2016 Chakroun M, Banyuls N, Walsh T, **Downes SJ**, James B, Ferré J, Characterization of the resistance to Vip3Aa in *Helicoverpa armigera* from Australia and the role of midgut processing and receptor binding, *Scientific Reports* 6:24311 [DOI: 10.1038/srep24311]
- Downes SJ**, Walsh T, Tay WT, Bt resistance in Australian insect pests. *Current Opinions in Insect Science* 15:78-83
- Luong T, Perkins L, Cribb B, **Downes SJ**, Zalucki M, Oviposition site selection and survival of susceptible and resistant larvae of *Helicoverpa armigera* (Lepidoptera: Noctuidae) on Bt and non-Bt cotton. *Bulletin of Entomological Research* 2016 Dec:106(6):710-717
- 2015 Tay WT, Mahon RJ, Heckel DG, Walsh TK, **Downes SJ**, James WJ, Lee S-F, Reineke A, Williams AK, Gordon KHJ, Insect resistance to *Bacillus thuringiensis* toxin Cry2Ab is conferred by mutations in an ABC transporter subfamily A protein. *PLOS Genetics* (published Nov 19, 2015) [DOI: 10.1371/journal.pgen.1005534]
- Song SV, **Downes SJ**, Parker T, Oakeschott J, Robin C, High nucleotide diversity and limited disequilibrium in *Helicoverpa armigera* facilitates the detection of a selective sweep. *Heredity* 115(5):460-70. [DOI: 10.1038/hdy.2015.53]
- 2014 Bird L, **Downes SJ**, Toxicity and cross-resistance of insecticides to Cry2Ab-resistant and Cry2Ab-susceptible *Helicoverpa armigera* and *Helicoverpa punctigera* (Lepidoptera: Noctuidae). *Journal of Economic Entomology* 107(5). DOI: 10.1603/EC14230
- Walsh TK\*, **Downes SJ\***, Gascoyne J, James W, Parker T, Armstrong J, Mahon RJ, Dual Cry2Ab and Vip3A resistant strains of *Helicoverpa armigera* and *H. punctigera*; testing linkage between loci and monitoring of allele frequencies. *Journal of Economic Entomology* 107(4) [DOI: 10.1603/EC13558]\*Joint first author
- 2013 Tay WT, Soria MF, Walsh T, Thomazoni D, Silvie P, Behere GT, Anderson C, **Downes SJ**, A brave new world for an Old World pest: *Helicoverpa armigera* (Lepidoptera: Noctuidae) in Brazil. *PLoS ONE* 8(11):e80134
- Wilson L, **Downes SJ**, Baker G, Khan M, Whitehouse M, Mass S, IPM in the transgenic era: A review of challenges from emerging pests. *Crop and Pasture Science* 64(8):737–749
- 2012 Lu B, **Downes SJ**, Wilson L, Gregg P, Knight K, Kauter G, McCorkell B, Yield, development and quality response of dual-toxin Bt cotton to manual simulation of damage by *Helicoverpa* spp. in Australia. *Crop Protection* 41:24-29
- Lu B, **Downes SJ**, Wilson L, Gregg P, Knight K, Kauter G, McCorkell B, Yield, development and quality response of dual-toxin Bt cotton to *Helicoverpa* spp. infestations in Australia. *Entomologia Experimentalis et Applicata* 145:72-81
- Downes SJ**, Mahon R, Evolution, ecology and management of resistance in *Helicoverpa* spp. to Bt cotton in Australia. *Journal of Invertebrate Pathology* 110(3):281-6
- Mahon R, **Downes SJ**, James W, Vip3A resistance alleles exist at high levels in targets before release of cotton expressing this toxin. *PLoS ONE* 7(6):e39192
- Downes SJ**, Mahon R 2012, Successes and challenges of managing resistance in *Helicoverpa armigera* to Bt cotton in Australia. *GM Crops & Food* 3(3):228-234
- Zalucki MP, Cunningham JP, **Downes SJ**, Ward P, Lange C, Meissle M, Schellhorn N, Zalucki JM, 2012, No evidence for change in oviposition behaviour of *Helicoverpa armigera* after widespread adoption of transgenic insecticidal cotton. *Bulletin of Entomological Research* 102:468-476
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- 2010 **Downes SJ**, Mahon R, Rossiter L, Kauter G, Leven T, Fitt G, Baker G, Adaptive management of pest resistance by *Helicoverpa* species (Noctuidae) in Australia to the Cry2Ab Bt toxin in Bollgard II® cotton. *Evolutionary Applications* 3:574–584
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- Target site alteration is responsible for field-derived resistance to *Bacillus thuringiensis* Cry2A insecticidal proteins in *Helicoverpa* spp. *PLoS ONE* 5(4):e9975.
- Downes SJ**, Parker T, Mahon R, Incipient resistance of *Helicoverpa punctigera* to the Cry2Ab Bt toxin in Bollgard II cotton. *PLoS ONE* 5(9):e12567
- Downes SJ**, Parker T, Mahon R, Characteristics of resistance to *Bacillus thuringiensis* toxin Cry2Ab in a strain of *Helicoverpa punctigera* (Wallengren) (Lepidoptera: Noctuidae) isolated from a field population. *Journal of Economic Entomology* 103(6):2147-54
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- 2009 **Downes SJ**, Parker T, Mahon R, Frequency of alleles conferring resistance to the Bt toxins Cry1Ac and Cry2Ab in Australian populations of *Helicoverpa punctigera* (Wallengren) (Lepidoptera: Noctuidae). *Journal of Economic Entomology* 102:733-742
- Knox O, Vadakattu G, Roberts G, **Downes SJ**, Improving environmental loading assessments of Cry protein from GM plants on experimentation in cotton. *The Open Agricultural Journal* 2:105-112
- 2008 Mahon R, Olsen K, **Downes SJ**, Isolations of Cry2Ab resistance in Australian populations of *Helicoverpa armigera* (Hübner) (Lepidoptera: Noctuidae) are allelic. *Journal of Economic Entomology* 101:909-914
- 2007 Mahon R, Olsen K, **Downes SJ**, Addison S, Frequency of alleles conferring resistance to the Bt toxins Cry1Ac and Cry2Ab in Australian populations of *Helicoverpa armigera* (Hübner) (Lepidoptera: Noctuidae). *Journal of Economic Entomology* 100(6):1844-1853
- Downes SJ**, Hoefler AM, An experimental study of the effects of weed invasion on lizard phenotypes. *Oecologia* 153:775-785
- Kondo J, **Downes SJ**, Does social behaviour reliably reflect temperature-dependent physiological capacity in geckos? *Animal Behaviour* 74:873-880
- Downes SJ**, Mahon R, Olsen K, Monitoring and adaptive resistance management in Australia for Bt-cotton: current status and future challenges. *Journal of Invertebrate Pathology* 95:208-213
- Kondo J, **Downes SJ**, Keogh S, Recent physical encounters affect chemically mediated retreat-site selection in a gecko. *Ethology* 113:68-75
- 2006 Bilcke J, **Downes SJ**, Buscher I, The combined effect of incubation and ambient temperature on the feeding performance of a small ectotherm. *Austral Ecology* 31:937-947
- 2004 **Downes SJ**, Bauwens D, Associations between first encounters and ensuing social relations within dyads of two species of lacertid lizards. *Behavioural Ecology* 15: 938-945
- Downes SJ**, Do GM crops harm beneficial arthropods through their feeding? *Outlooks on Pest Management December*:284-285
- Downes SJ**, Hoefler AM, Antipredatory behaviour in lizards: interactions between group size and predation risk. *Animal Behaviour* 67:485-492
- 2002 **Downes SJ**, Bauwens D, Does reproductive state affect a lizard's behaviour toward predator chemical cues? *Behavioral Ecology and Sociobiology* 52:444-450
- Downes SJ**, Bauwens D, An experimental demonstration of direct behavioural interference in two Mediterranean lacertid lizard species *Animal Behaviour* 63:1037-1046
- Downes SJ**, Size-dependent predation by snakes: selective foraging or differential prey vulnerability? *Behavioral Ecology* 13:551-560
- Downes SJ**, Does responsiveness to predator scents affect lizard survivorship? *Behavioral Ecology and Sociobiology* 52:38-42
- 2001 Flatt TK, Shine RS, Borges P, **Downes SJ**, Phenotypic variation in a montane lizard: effects of thermal and hydric incubation environments. *Biological Journal of the Linnaen Society* 74:339-350
- Downes SJ**, Trading heat and food for safety: costs of predator avoidance in a lizard. *Ecology* 82:2870-2881
- Downes SJ**, Shine R, Why does tail loss increase a lizard's later vulnerability to snakes? *Ecology* 82:1293-1303
- Downes SJ**, Adams M, Geographic variation in anti-snake behaviour: the evolution of scent mediated defence responses in a gekkonid lizard. *Evolution* 55:605-615
- 1999 Shine R, **Downes SJ**, Can pregnant lizards adjust their offspring phenotypes to environmental conditions? *Oecologia* 119:1-8

- Downes SJ**, Shine R, Do incubation-induced changes to a lizard's phenotype affect its vulnerability to predators? *Oecologia* 120:9-18
- Downes SJ**, Prey odour influences retreat-site selection by naive broad-headed snakes (*Hoplocephalus bungaroides*). *Journal of Herpetology* 33(1):156-159
- 1998 **Downes SJ**, Shine R, Sedentary snakes and gullible geckos: predator-prey coevolution in nocturnal rock-dwelling reptiles. *Animal Behaviour* 55:1373-1385
- Downes SJ**, Shine R, Heat, safety or solitude? Using habitat selection experiments to identify a lizard's priorities. *Animal Behaviour* 55:1387-1399
- 1997 **Downes SJ**, Handasyde K, Elgar M, The use of corridors by native mammals in fragmented Australian eucalypt forests. *Conservation Biology* 11:718-726
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### Refereed methodological papers and technical notes

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- 2004 Kondo, J, **Downes SJ**, Using visible implant elastomer to individually mark geckos. *Herpetofauna* 34:19-22
- 2003 Hofer AM, Goodman, B, **Downes SJ**, Two inexpensive and effective methods for restraining living lizards. *Herpetological Review* 34:223-224
- 2000 **Downes SJ**, The use of wire microtags to identify small individual prey in snakes. *Amphibia-Reptilia* 21:126-131
- 1998 **Downes SJ**, Borges P, Sticky traps: an effective way to catch small terrestrial lizards. *Herpetological Review* 29:94
- Kearney M, **Downes SJ**, *Underwoodisaurus milli* (Thick-tailed gecko): Cross predation. *Herpetological Review* 29:96
- 1997 **Downes SJ**, Foster R, Molnar C, New insights into the distribution of the vulnerable Bronzeback Snake-lizard *Ophidiocephalus taeniatus*. *Herpetofauna* 27:11-13

### Non-refereed popular science articles and blogs

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- 2016 **Downes SJ**, Walsh T, Tay WT The future of the Industry's Bt resistance monitoring program. *The Australian Cottongrower* Aug-Sep:12-14
- Staines T, **Downes SJ**, CottonInfo Education Highlights in 2016. *The Australian Cottongrower Year Book*, Vol: 37(6): 108-109
- 2015 **Downes SJ**, Understanding *Helicoverpa* survivorship. *CRDC Spotlight Magazine* Autumn:22-23
- Staines T, **Downes SJ**, Developing education capacity in cotton: from primary school to PhDs. *The Australian Cottongrower Year Book*, Vol: 36(6): 94-96
- 2014 Ceeney S, Whitehouse M, Cross D, **Downes SJ**, Well-watered refuges provide strongest support to resistance management. *CRDC Spotlight Magazine* Summer:24-25
- Downes SJ**, Walsh T, Tek Tay W, Mass S, Cotton's ultimate pest nemesis arrives in Brazil. *CRDC Spotlight Magazine* Summer:18-19
- Tann C, **Downes SJ**, Baker G, Update on Entomology: *CSD Variety Trial Results* 2014:99-101
- Staines T, **Downes SJ**, PhD students tour their future industry / Bringing university students to cotton / Love what you do / Scientists share passion for research. *CRDC Spotlight Magazine* Winter:6-7, 10, 15-16
- 2013 Baker G, Ceeney S, **Downes SJ**, Tann C, Pigeon pea refuges - a smart choice for resistance management. *The Australian Cottongrower* Aug-Sep:12-14
- Downes SJ**, Bt resistance: measuring success one season at a time. *CRDC Spotlight Magazine* Spring:18-19
- Baker G, **Downes SJ**, Tann C, Ceeney S, Pigeon pea refuges: a smart choice for delaying Bt resistance. *CRDC Spotlight Magazine* Spring:21-22
- Downes SJ**, Worm turns for cotton pest as Australia breeds in resistance. *The Conversation* (Blog) 28 June 2013 [<http://theconversation.com/worm-turns-for-cotton-pest-as-australia-breeds-in-resistance-15457>]
- Tann C, **Downes SJ**, Baker G, Update on Entomology: *CSD Variety Trial Results* 2013:102-104
- Van der Sluijs M, Bange M, Constable G, **Downes SJ**, Gordon S, Henderson L, Llewellyn D, Wilson L, The role of CSIRO in Australian Cotton Research. *Cotton Outlook Magazine* June 2013:16-18
- 2012 **Downes SJ**, Mahon R, Walsh R, James B, Ceeney S, Vip3A resistance genes exist in *Helicoverpa*

- before release of Bollgard III. *The Australian Cottongrower* Dec-Jan:17-19
- Ceeney S, **Downes SJ**, Leven T, Maaa S, Planting windows: investing in cotton's future. *The Australian Cottongrower* Oct-Nov:16-19
- Tann C, Downes SJ, Baker G, Update on Entomology: *CSD Variety Trial Results* 2012:98-101
- Lu B, **Downes SJ**, Wilson L, Gregg P, Knight K, Kauter G, McCorkell B, Is the economic threshold for *Helicoverpa* spp. larvae in Bollgard II® adequate? *The Australian Cottongrower* Dec-Jan:40-45
- 2011 Lu B, **Downes SJ**, Wilson L, Gregg P, Knight K, Kauter G, McCorkell B, How do susceptible *Helicoverpa* spp. larvae behave on Bollgard II®? *The Australian Cottongrower* Oct-Nov:12-15
- 2009 Whitburn G, **Downes SJ**, Sprays for surviving *Helicoverpa* larvae in Bollgard II® survey results. *The Australian Cottongrower* 30:12-16
- Kauter G, **Downes SJ**, Pyke B, A snapshot of the Cotton Australia TIMS committee in 2009. *The Australian Cottongrower* Apr-May:8-11
- Downes SJ**, Update on resistance to Bt cotton. *CRDC Spotlight Magazine* Autumn:25
- Downes SJ**, Mortality of *Helicoverpa* in a Bollgard II landscape. *CRDC Spotlight Magazine* Autumn:26
- 2008 Mahon R, **Downes SJ**, GM longevity under threat. *CRDC Spotlight Magazine* Winter:4-6
- Mahon R, **Downes SJ**, Olsen K, Parker T, Stakeholders must remain vigilant to manage Bt resistance. *Farming Ahead* 193:1-3
- 2007 **Downes SJ**, Rossiter L, Parker T, McKenzie F, Staines T, How to collect *Helicoverpa* for resistance testing. *The Australian Cottongrower* Dec-Jan 28:48-49
- Mahon R, **Downes SJ**, Olsen K, Parker T, An update on Bt resistance in *Helicoverpa armigera* in Australia. *The Australian Cottongrower* Dec-Jan 28:10-12
- Rossiter L, Murray D, Miles M, **Downes SJ**, Wilson L, Kauter G, Better pupae busting decisions in sprayed conventional cotton. *The Australian Cottongrower* Oct-Nov 27:21-22
- 2006 **Downes SJ**, Mahon R, Parker T, Staines T, WANTED ALIVE: Large *Helicoverpa* larvae from Bollgard II® plants. *The Australian Cottongrower* Dec-Jan 27:8-10
- Downes SJ**, Mahon R, Rossiter L, Farrell T, Wilson L, Kauter G, How will the drought affect the way that *Helicoverpa* resistance is managed? *The Australian Cottongrower* Dec-Jan 27:60-62
- 2005 Rossiter L, **Downes SJ**, Mahon R, *Helicoverpa*: species mix, parasitism and resistance monitoring. *The Australian Cottongrower* Dec-Jan:66-69
- Downes SJ**, Rossiter L, Farrell T, Wilson L, Kauter G, Managing resistance: your IRMS and RMP questions answered. *The Australian Cottongrower* Oct-Nov:10-14
- 2004 **Downes SJ**, Do GM crops harm beneficials? *The Australian Cottongrower* Dec-Jan:8-9
- Downes SJ**, Do GM crops harm beneficials? *Australian Grain* December:12-13
- Downes SJ**, Rossiter L, Preventing *Helicoverpa* resistance: why we need your eggs. *The Australian Cottongrower* Oct-Nov:14-15
- 2003 **Downes SJ**, Wong B, What drives the evolution of optional life-history tactics? BioMedNet: <http://news.bmn.com/sreport/previous?day=030910&story=1>
- 2002 Mulder R, Jones T, **Downes SJ**, Frontiers in sexual selection. *Trends in Ecology and Evolution* 17:107-108
- 1999 **Downes SJ**, Disparity in saurian socialism: individuals, populations and species. *Trends in Ecology and Evolution* 14(12):463-465
- Downes SJ**, Home geckconomics. *Nature Australia* 26(5):46-53
- 1997 **Downes SJ**, Handasyde K, Elgar M, Research on corridors. *Nature Australia* 25:4

#### **Unpublished presentations at scientific meetings**

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- 2017 Walsh T, Anderson C, James W, Jermin L, **Downes SJ**, Using resistant insects to efficiently screen for novel modes of action for insecticidal toxins. Beltwide Cotton Conference, Texas, USA (Poster)
- 2016 **Downes SJ**, Walsh T, Wee Tay T, Bt resistance in Australian insect pests. *World Cotton Conference*, Goiania, Brazil
- Walsh T, Anderson C, James W, Jermin L, **Downes SJ**, Using resistant insects to efficiently screen for novel modes of action for insecticidal toxins. *World Cotton Conference*, Goiania, Brazil (Poster)
- Roush R, **Downes SJ**, Resistance management in insect resistant genetically-engineered crops.

*International Congress of Entomology, Orlando, USA*

- Staines T, **Downes SJ**, How can we attract and retain skilled workers? Three minute Thesis Presentation, *Australian Cotton Conference*, Gold Coast
- 2015 Walsh, TK, Tay, WT., **Downes SJ**, Conventional and Bt insecticide resistance in *Helicoverpa armigera*. *The 3rd Australian Agrichemical Resistance Meeting*, Melbourne
- Holman S, Whitehouse M, Rahman M, Latty T, **Downes SJ**, Establishing the critical exposure period required for developing tolerance in *Helicoverpa punctigera* to Bt toxin. *Association of Australian Cotton Scientists Conference*, Toowoomba
- Wee Tay T, Mahon R, Walsh T, **Downes SJ**, James W, Fai Lee S, Reineke A, Williams A, Gordon K, Heckel DG, Resistance to *Bacillus thuringiensis* Cry2Ab toxin in *Helicoverpa* spp. is conferred by mutations in a novel ABC transporter. *Entomological Society of America Meeting*, Minneapolis, USA [**Invited Premier Presentation**]
- 2013 Wee Tay T, Soria M, Walsh T, Thomazoni D, Silvie P, Behere G, Anderson C, **Downes SJ**, Is *Helicoverpa armigera* (Lepidoptera: Noctuidae) in Brazil? First molecular detection report. 61<sup>st</sup> Entomological Society of America Meeting, Texas, USA
- Downes SJ**, Lessons from agriculture on adaptive resistance management. *The Australian Veterinary Association Annual Conference*, Cairns [**Invited Presentation**]
- Downes SJ**, Walsh T, Wee Tek T, How does the Australian cotton industry manage Bt resistance in *Helicoverpa* species? 9<sup>th</sup> *Brazilian Cotton Conference*, Brasilia [**Invited Plenary Lecture**]
- 2012 Mahon R, **Downes SJ**, Insect resistance and Bt cotton in Australia. *International conference on Modern Biotechnologies: Sustainable innovation and regulatory needs*. Penang, Malaysia
- 2011 **Downes SJ**, Mahon R, Evolution, ecology and management of resistance in *Helicoverpa* spp. to Bt cotton in Australia. *Society of Invertebrate Pathologists Meeting*, Halifax, Canada
- 2010 Gregg P, **Downes SJ**, Tann C, Del Socorro A, *Helicoverpa punctigera* (native budworm) - a puzzle in ecology and resistance management for transgenic cotton. *Australian Entomological Society Meeting*, Perth
- Caccia S, Hernández-Rodríguez C, Mahon R, **Downes SJ**, James W, Bautsoens N, Van Rie J, Ferré J, Target site alteration is responsible for field-derived resistance to *Bacillus thuringiensis* Cry2A insecticidal proteins in *Helicoverpa* species. *Society for Invertebrate Pathology Meeting*, Turkey
- 2009 Whitburn G, **Downes SJ**, Sprays for survivors in Bollgard II CCA survey results. Cotton Catchment Communities CRC Conference, Narrabri
- 2008 Fitt, G, **Downes SJ**, Mahon R, Implementation and impact of Bt cotton varieties in Australian production systems. *10th International Symposium on the Biosafety of Genetically Modified Organisms*, Wellington, New Zealand, Biosafety research of GMOS: past achievements and future challenges Pages: 90-91 Published: 2008
- Lu B, **Downes SJ**, Wilson L, Gregg P, Kauter G, Knight K, Survivors in Bt cotton: how do they survive, and what damage do they cause? *Cotton Catchment Communities CRC Conference*, Narrabri
- Downes SJ**, Mahon R, Parker T, Lu B, The changing Bt resistance landscape. *Australian Cotton Conference*, Gold Coast [**Invited Plenary Lecture**]
- Downes SJ**, Parker T, Mahon R, Frequency and characteristics of alleles conferring resistance to the Bt toxin Cry2Ab in Australian populations of the low risk target *Helicoverpa punctigera*. *XXIII International Congress of Entomology*, South Africa
- Mahon R, Olsen K, **Downes SJ**, Cry2Ab resistance in *Helicoverpa armigera* and factors influencing the evolution of resistance to transgenic cotton in Australia. *XXIII International Congress of Entomology*, South Africa
- Whitehouse MEA, Wilson LS, **Downes SJ**, Cave L, Norman P, Does transgenic Bt-cotton affect spider mite abundance? *Australasian Society for the Study of Animal Behaviour Conference*, Coffs Harbour
- 2007 Mahon R, Olsen K, Young S, **Downes SJ**, Alleles conferring resistance to the Bt toxin Cry2Ab in Australian populations of *Helicoverpa armigera*. *4<sup>th</sup> World Cotton Research Conference*, Lubock, Texas (Poster)
- Lu B, **Downes SJ**, Wilson L, Gregg P, Kauter G, Knight K, Spray thresholds and mechanisms of survival for Bt-susceptible *Helicoverpa* living on Bollgard II cotton. *Cotton Catchment Communities CRC Conference*, Narrabri
- 2006 **Downes SJ**, Mahon R, 2006, Monitoring for resistance to Bt-cotton in Australia: current status and future challenges. *Combined meeting of the IX International Colloquium on Invertebrate*

*Pathology and Microbial Control, XXXIX Annual Meeting of the Society of Invertebrate Pathologists and VIII International Conference on Bacillus thuringiensis*, Wuhan, China  
**[Invited presentation in the symposium on Monitoring and Managing for Bt-Resistance: The Challenges for the Next Decade]**

- Downes SJ**, Mahon R, Resistance and refuge. *Australian Cotton Conference*, Gold Coast **[Invited Plenary Lecture]**
- Mahon R, **Downes SJ**, Bt resistance management for Bollgard II cotton: Are there significant threats? *Australian Cotton Trade Show*, Moree
- 2005 **Downes SJ**, Mahon R, What is the current situation for Bt resistance in field populations of *Helicoverpa armigera* in Australia? *Australian Entomological Society Meeting*, Canberra, Australia
- Olsen KM, Mahon RJ, **Downes SJ**, Resistance to Cry2Ab toxin in the cotton bollworm *Helicoverpa armigera* in Australia: implications for the cotton industry. *Australian Entomological Society Meeting*, Canberra, Australia (Poster)
- Downes SJ**, Mahon R, Olsen K, Young S, Resistance to Cry2Ab toxin in the cotton bollworm *Helicoverpa armigera* in Australia. *Pacific Rim Conference on the impacts of Bacillus thuringiensis on the environment*, Victoria, Canada
- 2004 **Downes SJ**, Hoefler AM, Cascading effects of invasion by sprawling plants. *Animal Behaviour Society Meeting*, Oaxaca, Mexico
- 2003 **Downes SJ**, Hoefler AM, Cascading behavioural effects of habitat degradation. *Australian Society of Herpetologists*, Darwin, Australia
- Downes SJ**, Bauwens D, Does eco-physiology reliably indicate social behaviour in a gecko? *83rd Annual Meeting of the American Society of Ichthyologists and Herpetologists*, Brazil; *XXVIII International Ethological Conference*, Brazil
- Downes SJ**, Bauwens D, Do first encounters affect ensuing social relations within lizard pairs? *Australian Society for the Study of Animal Behaviour*, Canberra, Australia
- 2002 **Downes SJ**, Bauwens D, Direct behavioural interference in two Mediterranean lacertid lizard species? *Australian Society for the Study of Animal Behaviour*, Melbourne, Australia; *Australian Society of Herpetologists*, Canberra, Australia
- 2001 **Downes SJ**, Bauwens D, Being gravid stinks: effects of pregnancy on a lizard's responses to scent. *Australian Society of Herpetologists*, Tasmania, Australia
- Downes SJ**, Trading heat and food for safety: costs of predator avoidance in a lizard. *Australasian Society for the Study of Animal Behaviour*, Brisbane, Australia; *Australasian Evolution Society*, Melbourne, Australia
- 2000 **Downes SJ**, Bauwens D, Trading heat and food for safety: costs of behavioural anti-predator responses in a scincid lizard. *National Postgraduate Conference in Ecology, Evolution and Systematics*, Canberra, Australia
- 1999 **Downes SJ**, Tall tales and true: autotomy enhances a lizard's later vulnerability to (some) predators. *79th Annual Meeting of the American Society of Ichthyologists and Herpetologists*, Philadelphia, USA; *Australian Society of Herpetologists Conference*, Alice Springs, Australia
- 1998 **Downes SJ**, Shine R, Do incubation-induced changes to a lizard's phenotype affect its vulnerability to predators? *78th Annual Meeting of the American Society of Ichthyologists and Herpetologists*, Guelph, Canada
- Downes SJ**, Shine R, Using habitat selection experiments to identify a lizard's priorities. *7<sup>th</sup> International Behavioral Ecology Congress*, California, USA
- 1997 **Downes SJ**, Shine R, Using habitat selection experiments to identify a lizard's priorities. *77th Annual Meeting of the American Society of Ichthyologists and Herpetologists*, Seattle, USA; *Third World Congress of Herpetology*, Prague, Czech Republic; *Ecological Society of Australia Conference*, Albury, Australia
- Downes SJ**, Shine R, Predator-prey coevolution in nocturnal rock-dwelling reptiles. *77th Annual Meeting of the American Society of Ichthyologists and Herpetologists*, Seattle, USA; *Third World Congress of Herpetology*, Prague, Czech Republic; *Ecological Society of Australia Conference*, Albury, Australia
- 1996 **Downes SJ**, Handasyde K, Elgar M, Are corridors an effective conservation strategy in disturbed environments? *Conservation Outside Nature Reserves Conference*, Brisbane, Australia
- Downes SJ**, Are corridors important habitat for Australian native mammals? *Ecological Society of Australia Conference*, Townsville, Australia

- Downes SJ**, Determinants of predator efficiency and prey vulnerability: a PhD proposal. *Australian Society of Herpetologists Conference*, Perth, Australia
- 1994 **Downes SJ**, Corridors and remnant forests: are they important habitat for native mammals? *Australian Mammal Society Conference*, Tasmania, Australia