Publications

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Refereed publications in scientific journals

2019


2018
Living with Resistance project [Peter Søgaard 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]


2017


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**, Walsh T, Tay WT, Bt resistance in Australian insect pests. *Current Opinions in Insect Science* 15:78-83


Song SV, **Downes SJ**, Parker T, Oakeshott 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]

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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


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


Caccia S, Hernández-Rodriguez 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* 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


**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


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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


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Kondo J, **Downes SJ**, Keogh S, Recent physical encounters affect chemically mediated retreat-site selection in a gecko. *Ethology* 113:68-75


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**Downes SJ**, Bauwens D, An experimental demonstration of direct behavioural interference in two Mediterranean lacertid lizard species *Animal Behaviour* 63:1037-1046


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Downes SJ, Shine R, Do incubation-induced changes to a lizard’s phenotype affect its vulnerability to predators? *Oecologia* 120:9-18

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**Refereed methodological papers and technical notes**

2004

Kondo, J, **Downes SJ**, Using visible implant elastomer to individually mark geckos. *Herpetofauna* 34:19-22

2003

Hoefer AM, Goodman, B, **Downes SJ**, Two inexpensive and effective methods for restraining living lizards. *Herpetological Review* 34:223-224

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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

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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

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Downs SJ, Walsh T, Wee Tay T, Bt resistance in Australian insect pests. World Cotton Conference, Goiania, Brazil
Walsh T, Anderson C, James W, Jermiin L, Downes SJ, Using resistant insects to efficiently screen for novel modes of action for insecticidal toxins. World Cotton Conference, Goiania, Brazil (Poster)
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


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? 9th Brazilian Cotton Conference, Brasilia [Invited Plenary Lecture]


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


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

Whitburn G, Downes SJ, Sprays for survivors in Bollgard II CCA survey results. Cotton Catchment Communities CRC Conference, Narrabri


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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


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Mahon R, **Downes SJ**, Bt resistance management for Bollgard II cotton: Are there significant threats? *Australian Cotton Trade Show*, Moree

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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)

**2004**

Downes SJ, Hoefer AM, Cascading effects of invasion by sprawling plants. *Animal Behaviour Society Meeting, Oaxaca, Mexico*

**2003**

Downes SJ, Hoefer AM, Cascading behavioural effects of habitat degradation. *Australian Society of Herpetologists, Darwin, 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*

**2000**

Downes SJ, Bauwens D, 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*

**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, Guelp, Canada*

**1997**

Downes SJ, Shine R, Using habitat selection experiments to identify a lizard’s priorities. *7th International Behavioral Ecology Congress, California, USA*

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*

**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*

1994 Downes SJ, Corridors and remnant forests: are they important habitat for native mammals? *Australian Mammal Society Conference*, Tasmania, Australia