Dr. Margaret J. Couvillon

Assistant Professor, Pollinator Biology & Ecology

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**INTERESTS**

Bee Foraging Biology & Pollination Ecology / Behavior of Social Insects / Science Pedagogy & Extension

# EDUCATION & POSITIONS

2017 – Present Assistant Professor, Department of Entomology, Virginia Tech, Blacksburg, VA

2015 – 2016 Scientific advisor, European Food Safety Authority (EFSA), Parma, Italy

 Invited scientific expert for EU panel on honey bee health. Activities include participation in regular meetings, especially with EU stakeholders, reviewing scientific documents, and helping to draft expert opinion on the status of bee health across the European Union.

2015 – Present Science staff, Institute of Social and Preventive Medicine (ISPM), Switzerland

 Scientific staff to write grants and perform meta-analyses for human health research.

2009 – 2015 Postdoctoral Researcher, University of Sussex, UK

Lead postdoctoral researcher for project “How good is the British countryside for our honey bee?” Project contained an applied and basic science perspective and a significant outreach component.
**Supervisor: Professor Francis Ratnieks**

2007 – 2009 Postdoctoral Research & Teaching Fellow, University of Arizona, USA

Investigated bumble bee worker size variation and, with USDA Carl Hayden Bee Lab (Tucson), Africanized honey bee learning and memory. Taught university-level lecture/lab course.

**Research Supervisor: Professor Anna Dornhaus**

**Teaching Supervisor: Ms. Jennifer Katcher**

2004 – 2007 Ph.D, University of Sheffield, UK
“Mechanisms of Guarding and Nestmate Recognition in Honey Bees and Stingless Bees.”
**Supervisor: Professor Francis Ratnieks**

 2001 – 2004 MS, Department of Neurobiology, Duke University, USA

 “Investigations into the molecular mechanisms of bird social behavior.”

**Supervisor: Professor Erich Jarvis**

1996 – 2000 BS, Department of Biology (minor Chemistry), Loyola University, USA

Graduated *Summa Cum Laude* with University and Departmental Honors. **Cumulative GPA: 4.0/4.0**

# HONORS AND AWARDS

**Postdoctoral Research Grant** (2009 – 2015) Postdoctoral fellowship from the Nineveh

Charitable Trust to lead project entitled “How good is the British Countryside for Honey Bees” with Professor Ratnieks.

**Postdoctoral Fellow Award, PERT** (2007 – 2010) NIH fellowship for research and teaching in PERT

(Postdoctoral Excellence in Research and Teaching), University of Arizona.

**NSF Graduate Research Fellowship** (2003 – 2006) Fellowship for fully-

funded support for Graduate Research (Ph.D), including overseas studentship.

**1st Place, Royal Entomological Society Student Essay Award** (2005) Student science writing contest,

sponsored by the Royal Entomological Society, £250 prize.

**Overseas Research Student Departmental Fee Waiver** (2004-2006), University of Sheffield.

**NIH Postgraduate Training Grant** (2001 –2003) Fellowship for tuition and stipend, Duke University.

**Honorable Mention, Association of Southeastern Biologists** (2000) Oral presentation on

undergraduate research “Western analysis of H2A and H3 histone phosphorylation in temperature-sensitive cell cycle mutants of yeast *S. pombe.*”

**Percy J. Roy, S.J. Award for Highest GPA in graduating class in College of Arts and Science**

(2000) Awarded annually to one Senior in graduating class, Loyola University New Orleans.

**Ruth and Lee Faust Award for Outstanding Biology Graduate** (2000) Highest award for

graduating Biology Senior, as nominated by the faculty,Loyola University New Orleans.

**Michelle St. Romaine Award for Outstanding Honors Program Graduate** (2000) Highest award for Honors Program Senior, as nominated by faculty, Loyola University New Orleans.

**Claire Boothe Luce Award for Outstanding Female Science Major** (1998) Scholarship given to top

female science student, Loyola University New Orleans.

**CRC Chemistry Award for Outstanding Chemistry Student** (1997) Awarded to top student in

Introductory Chemistry, Loyola University New Orleans.

**Ignatian Scholarship** (1996-2000) Full scholarship for tuition, room, and board for 4 years, Loyola

University New Orleans.

**National Merit Finalist** (1996) Awarded nationwide to top 1% of incoming undergraduates, as

determined by scores on national standardized university entrance exam.

**PROFESSIONAL EXPERIENCE (OUTREACH AND EXTENSION)**

**Columnist, *The Beekeepers Quarterly***

 *Summer 2011 – Present Europe*

Pro-bono columnist writing about current honey bee research for a non-science audience in one of the largest, international beekeeping journals, which acts as a bridge between hobby and commercial beekeepers, scientists, government and non-government organizations.

**Invited speaker to beekeeping & community groups**

*September 2009 – Present United Kingdom*

Invited to speak to 36 national, regional, and community groups about honey bees.

**Popular press science writer**

 *Spring 2005 – Present USA/Europe*

Regular writer of articles about bee research for non-science audiences, published in *Bee Craft, Antenna* (magazine for Royal Entomological Society), and *American Bee Journal.*

**TED speaker**

*June 2012 Houses of Parliament, London*

Invited to speak at [TED event *Democracy and Society* at Houses](http://www.youtube.com/watch?v=tcXkQBY0i0k) of Parliament.

**Associate Editor, *Insectes Sociaux***

*Aug 2014 - Present International*

Associate editor for the journal of International Union for the Study of Social Insects (IUSSI).

**National Honey Show Plenary Speaker**

*October 2012 Weybridge, United Kingdom*

Invited to give the Jean Blaxland Memorial Lecture at the 81st Annual National Honey Show.

**Wellcome Trust Art of Pollination Exhibition Opening, Invited Speaker**

*April 2014 Plymouth, United Kingdom*

Invited to speak at the opening of an exhibit exploring pollination through the arts.

 **Guest Editor, *Frontiers in Ecology and Evolution* Special Issue**

 *Summer 2014 – Present International*

Invited guest editor for special edition “Ballroom Biology: Insights into the evolution and mechanisms of the honey bee waggle dance behavior.”

**Guest Editor, *Psyche Journal of Entomology* Special Issue**

 *Autumn 2010 – August 2013 International*

Invited guest editor for special edition “Hymenopteran Group Foraging and Transfer of Information about Resources.”

**Reviewer for scientific journals of the field**

 *January 2008 – Present International*

Served as reviewer for *Animal Behavior*, *Proceedings of the Royal Society B, Nature Communications, PLOS One, Behavioral Ecology, Behavioral Ecology and Sociobiology, Ethology, Insectes Sociaux*, *Journal of Apiculture Research*, and *Apidologie.*

**Invited departmental seminar speaker**

 *March 2005 – Present International*

Invited to give 12 departmental seminars, both in United Kingdom and the United States, including, most recently, University of Oxford.

**International conference speaker**

 *March 2005 – Present Various*

Abstracts accepted for eight oral presentations at international meetings.

 **Conference organizer**

 *Autumn 2009 & Autumn 2011 Brighton, United Kingdom*

Twice was head organizer for Northwest Section of IUSSI Winter Meeting.

**Programming Coordinator, Women in Science and Engineering (WiSE), Duke University**

#### Spring 2002 – Spring 2004 Durham, NC, USA

Created and implemented programs for graduate/postdoctoral women at Duke.

## Volunteer, AmeriCorps National Civilian Community Corps

##### October 2000 – August 2001 Charleston, SC, USA

Member of 10-person team traveling throughout southeastern United States implementing community service projects in areas of education, disaster relief, public safety, the environment, and unmet human needs.

**PROFESSIONAL EXPERIENCE (TEACHING, MENTORING, PEDAGOGICAL TRAINING)**

 **Instructor, General Biology 181/182 for Science Majors**

 *Spring 2009 Tucson, AZ, USA*

Full instructor for a 4 credit lecture/lab combo course for science majors covering the principles of structure and function of living things at the molecular, cellular and organismal levels.

 **Laboratory Mentor**

 *Autumn 2005 – Present Sheffield & Brighton, UK; Tucson, AZ, USA*

Have mentored 49 undergraduate and postgraduate students in the laboratory; 46 earned co-authorship on manuscripts (see red/blue names on publication list).

 **Instructor, Behavioral Ecology**

 *Autumn 2009 – Present Brighton, UK*

Led biweekly small group discussions on primary literature related to course lecture topic. Duties also included grading of essays and presentations on the literature.

 **Pedagogical Training (Observations)**

 *Spring 2008 Tucson, AZ, USA*

Observed for one semester Ms. Jennifer Katcher, a full time biology instructor at Pima Community College.

 **Pedagogical Training (Workshops)**

 *Spring 2008 Tucson, AZ, USA*

Participated in workshops on science education. Learned general principles of active-learning and how to increase classroom participation in all-sized classes.

 **SELECTED MEDIA IMPACT FROM RESEARCH (2012 – PRESENT)**

* + Discover Magazine (May 2016)

<http://blogs.discovermagazine.com/inkfish/2016/05/13/the-dance-language-of->honeybees-is-sloppy/#.VzmSMeTtO09

* + Washington Post (Oct 2015)

<https://www.washingtonpost.com/news/speaking-of-science/wp/2015/10/15/bees-love-caffeine-too-and-tricky-flowers-take-advantage/>

* + New York Times (Oct 2015)

http://www.nytimes.com/video/science/100000003982583/bees-catch-caffeine-buzz.html?playlistId=100000002331748&region=video-grid&version=video-grid-thumbnail&contentCollection=ScienceTake&contentPlacement=0&module=recent-videos&action=click&pgType=Multimedia&eventName=video-grid-click

* + National Geographic (Oct 2015)

<http://phenomena.nationalgeographic.com/2015/10/15/how-plants-manipulate-bees-with-caffeine/>

* + Nature Highlights (Oct 2015)

www.nature.com/nature/journal/v526/n7574/full/526478d.html

* + New Scientist (Oct 2015)

<https://www.newscientist.com/article/dn28349-plants-spike-nectar-with-caffeine-and-give-bees-a-buzz/>

* + The Naked Scientist (Oct 2015)

http://www.thenakedscientists.com/HTML/interviews/interview/1001503/

* + BBC Worldwide Service (Oct 2015)

<http://www.bbc.com/news/science-environment-34553695>

<http://www.bbc.com/news/science-environment-34532636>

* + Discovery (Oct 2015)

http://news.discovery.com/animals/insects/caffeinated-bees-whats-all-the-buzz-about-151016.htm

* + AAAS Science Update (Oct 2015

http://www.scienceupdate.com/2015/10/buzz/

* + PNAS Inner Workings (Nov 2014)

http://www.pnas.org/content/111/45/15857.full

* + Ensia Magazine (Sept 2014)

http://ensia.com/articles/dancing-bees-waggle-the-way-to-happier-habitat/

* + Nature Highlights (May 2014)

http://www.nature.com/nature/journal/v509/n7502/full/509537b.html

* + Discovery (May 2014)

http://news.discovery.com/animals/insects/eavesdropping-on-bees-reveals-state-of-the-environment-140522.htm

* + Scientific American (May 2014)

<http://www.scientificamerican.com/article/if-you-re-looking-for-a-healthy-environment-follow-the-dancing-bee/>

* + National Geographic (May 2014)

<http://news.nationalgeographic.com/news/2014/05/140522-honeybee-dance-habitat-forage-agriculture-health/>

* + BBC Radio Scotland (May 2014)

<http://www.bbc.co.uk/programmes/b0439j6h>

* + BBC Radio Sussex / Surrey (May 2014)

http://www.bbc.co.uk/programmes/p01ys9mv

* + The Guardian (Apr 2014)

http://www.theguardian.com/environment/2014/apr/03/honeybees-fly-further-in-summer-to-find-food-study-shows

* + Profiled on Martha Kearney’s “The Wonder of Bees”, BBC4 (Apr 2014)

http://www.bbc.co.uk/programmes/p01xkyll

* + Invited TED Speaker, *Democracy & Society*, Houses of Parliament (Jun 2012)

http://www.youtube.com/watch?v=tcXkQBY0i0k

* + BBC Nature (Apr 2012)

<http://www.bbc.co.uk/nature/17727811>

* + LiveScience (Apr 2012)

http://www.livescience.com/19742-honeybee-waggle-dance-gravity.html

* + MSNBC Science (Apr 2012)

http://www.nbcnews.com/id/47080521/ns/technology\_and\_science-science/t/how-gravity-messes-honeybees-waggle-dance/#.UiX\_3z\_9Uw8

* + BBC Radio Four Spirit of the Beehive (Sep 2011)

<http://spiritofthebeehive.blogspot.com/>

* + The Sunday Times of London (May 2010)

http://www.timesonline.co.uk/tol/news/science/eureka/article7112755.ece

* + BBC Radio Saving Species (Oct 2010)

<http://www.bbc.co.uk/programmes/b00v71v3>

* + US News & World Report (Nov 2009)

<http://www.usnews.com/science/articles/2009/11/18/killer-bees-arent-terribly-smart.html>

* + BBC News (Nov 2009)

http://news.bbc.co.uk/1/shared/spl/hi/pop\_ups/08/sci\_nat\_enl\_1258624751/html/1.stm

* + New Scientist (Nov 2009)

<http://www.newscientist.com/blogs/shortsharpscience/2009/11/killer-bees-nasty-sting-not-so.html>

* + Science News (Dec 2009)

 <http://www.sciencenews.org/view/generic/id/49697/title/Killer_bees_arent>

**Citations: 442 / h-index: 14 / i10-index: 19**

###### *https://scholar.google.co.uk/citations?user=DLeq5UkAAAAJ&hl=en*

# PUBLICATIONS IN REFEREED JOURNALS

Colored co-authors are mentored **undergraduate** and **graduate** students

1. K Zürcher, A Mooser, N Anderegg, O Tymejczyk, **MJ Couvillon**, D Nash, M Egger (2017). Outcomes

of HIV-positive patients Lost to Follow-up in African Treatment Programs. *Tropical Medicine & International Health*, 22 (4), 375-387.

1. R Schürch, FLW Ratnieks, EEW Samuelson, **MJ Couvillon**. Dancing to her own beat:

honey bee foragers communicate via individually calibrated waggle dances (2016). *J Experimental Biology* 219 (9), 1287-1289.

1. R Schürch, **MJ Couvillon**, FLW Ratnieks. Determining the foraging potential of oilseed

rape to honey bees using aerial surveys and simulations. *J Apiculture Research* (Accepted).

1. **MJ Couvillon**, H Al Toufailia, TM Butterfield, F Schrell, FLW Ratnieks, R Schürch (2015). Buzzing

bees: caffeinated forage tricks honey bees into increasing foraging and recruitment behaviors. *Current Biology*, 25 (21), 2815-2818.

1. **MJ Couvillon** & FLW Ratnieks (2015). Environmental consultancy: dancing bee bioindicators to

evaluate landscape “health”. *Frontiers in Ecology and Evolution* 3, 44.

1. **MJ Couvillon**, CM Walter, EM Blows, TJ Czaczkes, K Alton, & FLW Ratnieks (2015). Busy bees and

laid-back butterflies: Variation in insect flower-visiting rate across multiple plant species. *Psyche* 2015.

1. R Schürch, **MJ Couvillon**, & M Beekman. Ballroom Biology: Recent Insights into Honey Bee Waggle

Dance Communications. *Frontiers in Ecology and Evolution*, 3, 147.

1. **MJ Couvillon**, TJ Boniface, AM Evripidou, CJ Owen, FLW Ratnieks (2015). Unnatural contexts

cause honey bee guards to adopt non-guarding behaviours. *Ethology*.

1. F Wario, B Wild, **MJ Couvillon**, Raul Rojas, T Landgraf. Automatic methods for long-term tracking

and the detection and decoding of communication dances in honeybees (2015). *Frontiers in Ecology and Evolution*.

1. M Beekman, JC Makinson, **MJ Couvillon**, K Preece, TM Schaerf (2015). Honeybee linguistics – a

comparative analysis of the waggle dance among species of Apis. *Frontiers in Ecology and Evolution* 3, 11.

1. M Garbuzov, **MJ Couvillon**, R Schürch, FLW Ratnieks (2015). Honey bee dance decoding and pollen-

load analysis show limited foraging on spring-flowering oilseed rape, a potential source of neonicotinoid contamination. *Agriculture, Ecosystems & Environment* 203, 62-68.

1. **MJ Couvillon**, R Schürch & FLW Ratnieks (2014). Dancing bees communicate a foraging

preference for rural lands in High Level Agri-Environment Schemes. *Current Biology* 24(11), 1212-1215*.*

1. **MJ Couvillon**, FC Riddell Pearce, C Accleton, KA Fensome, SLK Quah, Esme Taylor, and FLW

Ratnieks (2014). Honey bee foraging distance depends on month and forage type. *Apidologie* 46: 61-70.

1. **MJ Couvillon**, KA Fensome, SLK Quah, & R Schürch (2014) Summertime blues: August foraging

leaves honey bees empty-handed. *Communicative and Integrative Biology*, 7 (1) e28821:1-2.

1. **MJ Couvillon**, R Schürch & FWL Ratnieks (2014) Waggle dance distances as integrative indicators of

seasonal foraging challenges. *PLOS One*, 9 (4), e93495.

1. **MJ Couvillon**, FHID Segers, R Cooper-Bowman, G Truslove, D Lima, FS Nascimento, & FLW

Ratnieks (2013). Context affects nestmate recognition errors in honey bees and stingless bees. *Journal of Experimental Biology* 216 (16), 3055-3061.

1. R Schürch, **MJ Couvillon**, D Burns, K Tasman, D Waxman, & FLW Ratnieks (2013). Incorporating

variability in honey bee waggle dance decoding improves the mapping of communicated resource locations. *Journal of Comparative Physiology A* 199, 1143-1152.

1. FC Riddell Pearce, **MJ Couvillon**, FLW Ratnieks (2013) Hive relocation does not adversely affect

honey bee (Hymenoptera: Apidae) foraging. *Psyche* 2013, 1-8.

1. R Schürch & **MJ Couvillon** (2013). Too much noise on the dance floor: intra- and inter-dance

angular error in honey bee waggle dances. *Communicative and Integrative Biology* 6 (1).

1. T Wenseleers, JP Bacon, **MJ Couvillon**, M Kärcher, FS Nascimento, P Nogueira-Neto, EJH

Robinson, A Tofilski, FLW Ratnieks (2013) Bourgeois behavior and freeloading in the colonial orb-web spider *Parawixia bistriata* (Araneae, Araneidae*). American Naturalist* 182 (1).

1. H Al Toufailia, **MJ Couvillon**, FLW Ratnieks, C Grüter (2013) Honey bee waggle dance

communication:signal meaning and signal noise affect dance follower behavior. *Behavioural Ecology and Sociobiology* 67, 549-556.

1. FAL Contrera, **MJ Couvillon**, J Nieh (2012) Hymenopteran collective foraging and information

transfer about resources. *Psyche* 2012, 1-2.

1. **MJ Couvillon**, HLF Phillipps, R Schürch, & FWL Ratnieks (2012) Working against gravity:

horizontal honeybee waggle runs have greater angular scatter than vertical waggle runs. *Biology Letters* 8 (4), 540-543.

1. **MJ Couvillon**, FC Riddell Pearce, EL Harris-Jones, AM Kuepfer, SJ Mackenzie-Smith, LA Rozario,

R Schürch, & FWL Ratnieks (2012). Intra-dance variation among waggle runs and the design of efficient protocols for honey bee dance decoding. *Biology Open* 1, 467-472.

1. **MJ Couvillon** (2012). The dance legacy of Karl von Frisch. *Insectes Sociaux* 59 (3), 297-306.
2. **MJ Couvillon**, JS vZweden, FLW Ratnieks (2012) Model of collective decision-making in

nestmate recognition fails to account for individual discriminator responses and non-independent discriminator errors. *Behavioural Ecology and Sociobiology* 66, 339-341.

1. FAL Contrera, **MJ Couvillon**, J Nieh (2011) Hymenopteran group foraging and information

transfer about resources. *Psyche* 2011, 1-2.

# MJ Couvillon, J Jandt, J Bonds, B Helm & A Dornhaus (2011) Percent fat is associated with

# body size but not task in the bumble bee *Bombus impatiens*. *Journal of Comparative*

# *Physiology A.*197, 1097-1104.

# MJ Couvillon, SN Barton, JA Cohen, OK Fabricius, MH Kärcher, LS Cooper, MJ Silk, H

# Helanterä, & FLW Ratnieks (2010) Alarm pheromones do not mediate rapid shifts in honey bee guard acceptance threshold. *Journal of Chemical Ecology* 36, 1306-1308.

# MJ Couvillon, WOH Hughes, JA Perez-Sato, SJ Martin, & FLW Ratnieks (2010) Sexual

# selection in honeybees: colony variation and the importance of size in male mating success. *Behavioral Ecology* 21 (3), 520-525.

1. **MJ Couvillon**, J Jandt, N Duong, & A Dornhaus (2010) Ontogeny of worker body size

distribution in bumble bee (*Bombus impatiens*) colonies. *Ecological Entomology* 35 (4), 424-435.

1. **MJ Couvillon**, G Fitzpatrick, & A Dornhaus (2010) Ambient air temperature does not predict

body size of foragers in bumble bees (*Bombus impatiens*). *Psyche* 2010.

1. **MJ Couvillon** & A Dornhaus (2010) Small worker bumble bees (*Bombus impatiens)* are hardier

against starvation than their larger sisters. *Insectes Sociaux* 57, 193-197.

1. W Gronenberg & **MJ Couvillon**. Brain Composition and Olfactory Learning in Honey Bees (2010)

*Neurobiology of Learning and Memory* 93 (3), 435-443.

1. **MJ Couvillon**, G DeGrandi-Hoffman, W Gronenberg (2010) Africanized honeybees are slower

learners than their European counterparts. *Naturwissenschaften* 97 (2), 153-160.

1. **MJ Couvillon**, GGF Roy, FLW Ratnieks (2009) Recognition errors by honey bee (*Apis mellifera*)

guards demonstrate overlapping cues in conspecific recognition. *Journal of Apiculture Research* 48, 225-232.

1. **MJ Couvillon** & A Dornhaus (2009) Location, location, location: larvae position inside the nest

is correlated with adult body size in worker bumble bees (*Bombus impatiens*). *Proceedings of the Royal Society B* 276, 2411-2418.

# MJ Couvillon, EJH Robinson, B Atkinson, L Child, KR Dent, and FLW Ratnieks (2008) En

# Guarde: Rapid changes in honey bee guarding to intense robbing demonstrates individual and colony level responses. *Animal Behavior* 76, 1653-1658.

# MJ Couvillon & FLW Ratnieks (2008) Odour transfer between colonies of the stingless bee

*Frieseomelitta varia* demonstrates that entrance guards use an “undesirable-absent” cue recognition system. *Behavioural Ecology and Sociobiology* 62, 1099-1105.

1. **MJ Couvillon**, T Wenseleers, VL Imperatriz-Fonseca, P Nogueira-Neto, FLW Ratnieks (2008)

Comparative Study in Stingless Bees (Meliponini) Demonstrates that Nest Entrance Size Predicts Traffic and Defensivity. *Journal of Evolutionary Biology* 21 (1), 194-201.

1. **MJ Couvillon**, JP Caple, SL Endsor, M Kärcher, TE Russell, DE Storey, FLW Ratnieks (2007)

Nest-mate recognition template of guard honeybees (*Apis mellifera*) is modified by wax

comb transfer. *Biology Letters* 3 (3), 228-230.

1. A Tofilski, **MJ Couvillon**, SE Evison, EJH Robinson, and FLW Ratnieks (2008) Pre-emptive

defensive self-sacrifice by ant workers. *The American Naturalist* 172 (2).

1. JA Perez-Sato, **MJ Couvillon**, WOH Hughes, FLW Ratnieks. (2008) Effects of hive spacing,

entrance orientation, and worker activity on nest relocation by honey bee queens. *Apidologie* 39, 708-713.

1. JA Perez-Sato, WOH Hughes, **MJ Couvillon**, FLW Ratnieks (2007) Improved technique for

introducing four-day old virgin queens to mating hives that uses artificial and natural queen cells for introduction. *Journal of Apiculture Research,* 46 (1), 28-33.

**PUBLICATIONS IN POPULAR PRESS JOURNALS**

**MJ Couvillon** (2016) Towards Integrated Mite Control: Sublimated Oxalic Acid Destructs Varroa.

*Beekeepers Quarterly* 122.

**MJ Couvillon** (2015) Buzzing bees: does caffeinated nectar create efficient pollinators or enslave an

addicted workforce? *Beekeepers Quarterly* 121.

**MJ Couvillon** (2015) System regulation: honey bee stop signal decreases recruitment and foraging.

*Beekeepers Quarterly* 120.

**MJ Couvillon** (2015) Making the most of drone cells: workers tune their honey storage behavior with

the season. *Beekeepers Quarterly* 119.

**MJ Couvillon** (2015) Hive wisdom: all foragers can be elite, even if not all foragers are. *Beekeepers*

*Quarterly* 118.

R Schürch & **MJ Couvillon** (2014) Follow the bees’ dance to find landscape’s green hotspots. *The*

*Conversation* (<https://theconversation.com/follow-the-bees-dance-to-find-landscapes-green-hotspots-27004>)

**MJ Couvillon** (2014) Dancing bees as environmental consultants give effective, efficient, and important

information about the state of the rural landscape. *Beekeepers Quarterly* 117.

**MJ Couvillon** (2014) Summertime and the living ain’t easy: honey bee dances indicate seasonal

challenges in food availability. *Beekeepers Quarterly* 116.

**MJ Couvillon** (2014) Promiscuous queens produce tenacious foragers and happy colonies. *Beekeepers*

*Quarterly* 115.

**MJ Couvillon** (2013) How dance decoding can tell us about the “health” of the British countryside.

*American Bee Journal.*

**MJ Couvillon** (2013) Bees know what is best? *Beekeepers Quarterly* 114.

**MJ Couvillon** (2013) Size matters for male wool-carder bees (Anthidium spp.). *Beekeepers*

*Quarterly* 113.

**MJ Couvillon** (2013) Caffeine boosts bee brains too. *Beekeepers Quarterly* 112.

**MJ Couvillon** (2013) Operation Sperm: Toxic fluids, sperm competition, and an inter-sex

evolutionary arms race*. Beekeepers Quarterly* 111.

**MJ Couvillon** (2012). All in the eye of the bee-holder: properties of the honey bee visually-

driven odometer*. Beekeepers Quarterly* 110.

**MJ Couvillon** (2012). Seasonal importance of the dance language. *Beekeepers Quarterly* 109,

33-34.

**MJ Couvillon** (2012). New studies investigating the effect of systemic pesticides in bees

generates more questions. *Beekeepers Quarterly* 108, 41-42.

**MJ Couvillon** (2012). A big job for a little bee: a morphologically distinct stingless bee worker

provides effective nest defence. *Beekeepers Quarterly* 107, 40-41.

**MJ Couvillon** (2011) Bookshelf reviews. *Beekeepers Quarterly* 106, 49-51.

**MJ Couvillon** (2011). All in the genes: the genetic control of the initiation of foraging.

*Beekeepers Quarterly* 105, 21-23.

**MJ Couvillon** & FLW Ratnieks (2011). How good is the British countryside for honey bees?

Decoding waggle dances to determine where bees forage. *Beekeepers Quarterly* 103, 29-31.

**MJ Couvillon** (2008). Applying the 4 Modes of Tinbergen Inquiry to Bumble Bee Size Variation.

*Bee Craft* 90, 32-33.

**MJ Couvillon** (2007). Sniffing out the enemy – do honey bees rely only on olfaction to

distinguish friend from foe? *Bee Craft* 89 (5), 16-17.

**MJ Couvillon** (2006). Doorways to the hive: Stingless bee nest entrance morphology. *Bee*

*Craft* 88, 25-26.

**MJ Couvillon** (2005). Sniffing bees: Dynamic guarding behaviour in honey bee nestmate

recognition. *Antenna* 29, 124-126.