

June 17, 2013

Curriculum Vitae – **Marc T. J. Johnson**

A. BIOGRAPHICAL INFORMATION

1. Personal

Marc Thomas Jewell Johnson

UNIVERSITY ADDRESS:
3359 Mississauga Rd
Room 3040
Dept. of Biology, Davis Building
University of Toronto at Mississauga
Mississauga ON L5L 1C6

CITIZENSHIP: Canadian

2. Degrees

March 2007 Degree: Ph.D.
University: University of Toronto
Place: Toronto, ON Canada

June 2000 Degree: Hon. B.Sc.
University: University of Guelph
Place: Guelph, ON Canada

Ph.D. Thesis Title: The community genetics of plant-arthropod
interactions: The importance of genetic variation and
evolution in *Oenothera biennis* (Onagraceae) for its
arthropod community

Supervisor Ph.D.: Anurag Agrawal (Cornell University)

3. Employment

Present appointment: Assistant Professor
University of Toronto at Mississauga

Research and teaching appointments:

01/09-06/11 Assistant Professor
Dept of Plant Biology, North Carolina State University

03/07-12/08 NSERC Post-Doctoral Fellow
Dept of Biology, Duke University

4. Honours and Prizes

2012 Connaught Early Researcher Award
2012 Dean's Excellence Award (UTM)
2012 Early Career Award - Canadian Society of Ecology and
Evolutionary Biology
Ottawa, ON Canada
2012 Early Researcher Award - Ontario Government
Toronto, ON Canada
2010 Young Investigator Prize – American Society of Naturalists
Portland, OR USA
2007 Governor General's Gold Medal of Canada
Toronto, ON Canada
2007 NSERC Post-doctoral Fellowship
2005 NSERC Canadian Graduate Scholarship
2004 Ontario Graduate scholarship
2002 NSERC Post-graduate Scholarship
1998 NSERC Undergraduate Scholarship

5. Professional Affiliations and Activities

Sigma Xi: The Scientific Research Society – current member
Canadian Society of Ecology and Evolution – current member
Brodie Naturalist Club – current member
Functional Ecology – Associate Editor (2011-present)
Journal of Evolutionary Biology – Editorial board (2011)
Society for the Study of Evolution – 2006-2012
Ecological Society of America – 2001-2010
Functional Ecology – Guest Editor (2010)

B. ACADEMIC HISTORY

a. Research Endeavours

My lab bridges the diverse questions and techniques from community ecology, chemistry, genetics and evolution. My interests are broad, ranging from the evolution of plant defenses, to the interplay between the ecology and evolution of species interactions, to the evolutionary consequences of sexual reproduction for phenotypic and genomic evolution in plants.

b. Research Awards/Grants

2013	Undergrad NSERC UTEA (A. Lochab)	\$4,500
2012	Undergrad. NSERC URSA (T. Didiano)	\$4,500
2012	Undergrad. NSERC URSA (L. Sequiera)	\$4,500
2012	Connaught New Researcher Award	\$50,000
2012-2017	Ontario Leaders Opportunity Fund	\$80,000
2012-2017	MTI Early Researcher Award	\$140,000
2012-2017	Canadian Foundation for Innovation	\$80,000
2012-2013	NSERC -RTI	\$150,000
2011	1kp Plant Initiative in-kind support	\$100,000
2011-2016	NSERC Discovery	\$200,000
2011-2016	NSERC New Investigator Supp Award	\$25,000
2010	NSF REU Supplement	\$7,000
2009-2011	NSF EAGER (co-PI with Agrawal)	\$250,000
2009-2011	NSF DEB	\$135,000
2004	Mountain Equipment Co-op	\$10,000
2002	Sigma Xi	\$986

C. SCHOLARLY AND PROFESSIONAL WORK

7. Refereed Publications (HQP in **bold**)

a. **Articles** (h – index = 16, citations =1400; see Google Scholar Profile)

1. **Grinnan, R.**, Carter, T.E., Johnson, M.T.J. 2013 The effects of drought and herbivory on plant-herbivore interactions across 16 soybean genotypes in a field experiment. *Ecological Entomology* 38:290-302.
2. **Turley, N.E., Odell, W.C.**, Schaefer, H., Everwand, G., Crawley, M.J., & Johnson, M.T.J. 2013 Rapid evolution of plant growth rate following experimental removal of herbivores. *American Naturalist* 181:S21-S34.
3. Agrawal, A.A., Johnson, M.T.J., Hastings, A.P., & Maron, J.L. 2013 A field experiment demonstrating plant life-history evolution and its eco-evolutionary feedback to seed predator populations. *American Naturalist* 181:S35-S45.
4. **Grinnan, R.**, Carter, T.E., Johnson, M.T.J. 2013 Effects of drought, temperature, herbivory and genotype on plant-insect interactions in soybean (*Glycine max*). *Arthropod-Plant Interactions* 7:201-215.
5. **Turley, N.E., Godfrey, R.**, Johnson, M.T.J. 2013 The evolution of mixed plant defense strategies against herbivores. *New Phytologist* 197: 359-361

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6. Johnson, M.T.J. + 36 coauthors (including **2 HQP: C. Thomsen, H. Myburg**) 2012 Evaluating methods for isolating total RNA and predicting the success of sequencing phylogenetically diverse plant transcriptomes. *PLoS ONE* 7:e50266
7. Agrawal, A.A., Hastings, A.P., Johnson, M.T.J., Maron, J.L., Salminen, J.P. 2012 Insect herbivores drive real-time ecological and evolutionary change in plant populations. *Science* 338: 113-116.
8. **Turcotte, M.M.**, Corrin, M.S.C., & Johnson, M.T.J. 2012 Adaptive evolution in ecological communities. *PLoS Biology* 10:e1001332
9. **Hersch-Green, E.I., Myburg, H., & Johnson, M.T.J.** 2012 Adaptive molecular evolution of a defence gene in sexual but not functionally asexual evening primroses *Journal of Evolutionary Biology* 25: 1576-1586.
10. Tack, A.J.M., Johnson, M.T.J., & Roslin, T. 2012 Sizing-up community genetics: it's a matter of scale. *Oikos*. 121:481-488
11. Johnson, M.T.J., R. Fitzjohn, S.D. Smith, M.D. Rausher, & Otto, S.P. 2011. The loss of sex is associated with increased diversification in evening primroses. *Evolution* 65:3230-3240.
12. Johnson, M.T.J., & Rasmann, S. 2011. The latitudinal herbivory-defence hypothesis takes a detour on the map. *New Phytologist*. 191:589-592
13. **Hersch-Green, E.I., Turley, N.E., & Johnson, M.T.J.** 2011. Community genetics: what have we accomplished and where should we be going? *Phil Trans R. Soc. B* 366:1453-1460.
14. Johnson, M.T.J. 2011 Evolutionary ecology of plant defences against herbivores. *Functional Ecology* 25:305-311.
15. **Carmona, D.**, Lajeunesse, M.J., & Johnson, M.T.J. 2011. Plant traits that predict resistance against herbivores. *Functional Ecology* 25: 358-367.
16. Johnson, M.T.J. 2011 The contribution of evening primrose (*Oenothera biennis*) to a modern synthesis of evolutionary ecology. *Population Ecology* 53: 9-21.
17. Johnson, M.T.J., Smith, S.D., & Rausher, M.D. 2010 The effects of plant sex on range distributions and allocation to reproduction. *New Phytologist* 186:769-779.
18. Johnson, M.T.J., Smith, S.D., & Rausher, M.D. 2009 Plant sex and the evolution of plant defenses against herbivores. *Proc Natl Acad Sciences USA* 106:18079-18084.
19. Johnson, M.T.J., Agrawal, A.A., Maron, J., & Salminen, J.-P. 2009 Heritability, covariation, and natural selection on 24 traits of common evening primrose (*Oenothera biennis*) from a field experiment. *J Evol Biol* 22: 1295-1307.
20. Johnson, M.T.J., Vellend, M., & Stinchcombe, J.R. 2009 Evolution in plant populations as a driver of ecological changes in arthropod communities *Phil Trans R. Soc. B* 364:1593-1605
21. Johnson, M.T.J., **Dinnage, R., Zhou, A.**, & Hunter, M.D. 2008 Environmental variation is more important than plant genotype in affecting competition among species. *J Ecol* 96: 947-955
22. Hughes, A.R., Inouye, B.D., Johnson, M.T.J., Underwood, N., & Vellend, M. 2008 Ecological consequences of genetic diversity. *Ecol Lett* 11: 609-623.
23. Jaramillo, A., Johnson, M.T.J., Rothfels C.R., & Johnson, R.A. 2008 The native and exotic avifauna of Easter Island: then and now. *Boletin Chileno de Ornitologia* 14: 8-21
24. Johnson, M.T.J. 2008 Bottom-up effects of plant genotype on aphids, ants and predators. *Ecology* 89:145-154
25. Larson, E.L., Bogdanowicz S.M., Agrawal A.A., Johnson M.T.J., & Harrison, R.G. 2008. Isolation and characterization of polymorphic microsatellite loci in common evening primrose (*Oenothera biennis*). *Mol Ecol Resources* 9:434-436
26. Johnson, M.T.J., & Stinchcombe, J.R. 2007 An emerging synthesis between community ecology and evolutionary biology. *Trends Ecol Evol* 22:250-257

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27. Johnson, M.T.J. 2007 Genotype-by-environment interactions lead to variable selection on life-history strategy in Evening Primrose (*Oenothera biennis*). *J Evol Biol* 20: 190-200
28. Johnson, M.T.J., & Agrawal, A.A. 2007 Covariation and composition of arthropod species across plant genotypes of Evening Primrose. *Oikos* 116:941-956
29. Johnson, M.T.J., Lajeunesse M.J., & Agrawal, A.A. 2006 Additive and interactive effects of plant genotypic diversity on arthropod communities and plant fitness. *Ecol Lett* 9: 24-34.
30. **McGuire, R.J.**, & Johnson, M.T.J. 2006 Plant genotype and induced responses affect resistance to herbivores on Evening Primrose (*Oenothera biennis*). *Ecol Entom* 31: 20-31.
31. Johnson, M.T.J., & Agrawal, A.A. 2005 Plant genotype and the environment interact to shape a diverse arthropod community on Evening Primrose. *Ecology* 86: 874-885.
32. Johnson, M.T.J., & Agrawal, A.A. 2003 The ecological play of predator-prey dynamics in an evolutionary theatre. *Trends Ecol Evol* 18: 549-551.
33. Johnson, M.T.J., Husband, B.C., & Burton, T.L. 2003 Habitat differentiation between diploid and tetraploid *Galax urceolata*. *Int J Plant Sci* 164: 703-710.
34. Agrawal, A.A., Conner, J.K., Johnson, M.T.J., & Wallsgrove, R. 2002 Ecological genetics of an induced plant defense against herbivores: additive genetic variance and costs of phenotypic plasticity. *Evolution* 56: 2206-2213.
35. Johnson, M.T., & Rothfels, C.J. 2001 The establishment and proliferation of the rare exotic plant *Lythrum hyssopifolia* (Hyssop-leaved Loosestrife). *Can Field Nat* 115: 229-233.

8. NON-REFEREED PUBLICATIONS

36. Brady, S., & Johnson, M. 2008 Getting and gaining from interviews. *Nature* 456:138
37. Johnson, M.T.J. 2006 Food for thought on plant-carnivore interactions. *Ecology* 87: 2138-2139.

9. Manuscripts Submitted

38. Johnson, M.T.J., A.R. Ives, J. Ahern, J.-P. Salminen. Macroevolution of plant defenses against herbivores in the evening primroses. *New Phytologist* (Submitted)
39. **Anstett, D.N.**, I. Naujokaitis-Lewis, & M.T.J. Johnson. Latitudinal gradients in herbivory vary according to herbivore guild and specialization. *Ecology* (Submitted)

10. Papers Presented at Meetings and Symposia

a. Invited

Jacques Monod Symposium, Brittany, France, 2013

Eco-evolutionary Dynamics Symposium - Canadian Society of Ecology and Evolution, Ottawa, ON, 2012.

Onagraceae Symposium in honour of P. Raven, St. Louis, MO, 2011

Am. Soc. of Naturalists Vice-President Symposium, Norman, OK. 2011

Trophic Interactions Symposium. Helsinki, Finland, 2010.

Ecological Society of America Symposium, "Evolutionary Ecology of Plant Defense", 2009

NERC sponsored workshop at Silwood Park-Imperial College of London, "Interactions Between Ecology and Evolution", 2008

Ecological Society of America Symposium, "Evolution in a Community Context", 2008

Young Scientist Symposium Evolutionary Ecology, Ann Arbor, MI, 2007

b. Contributed

(* by student or post-docs in lab)

- *2013 – Plant-Herbivore Interactions Gordon Research Conference (D. Anstett)
- *2013 – Plant-Herbivore Interactions Gordon Research Conference (M. Turcotte)
- *2013 – Plant-Herbivore Interactions Gordon Research Conference (N. Turley)
- *2013 – CSEE (E. Hersh-Green)
- *2012 – CSEE (C. Thomsen)
- *2012 – CSEE (N. Turley)
- *2011 – Symposium of Insect-Plant Interactions, The Netherlands (N. Turley))
- *2011 – Ecological Society of America (N. Turley)
- *2010 – Society for the Study of Evolution (E. Hersh-Green)
- *2010 – Southeastern Association of Biology (R. Grinnan)
- 2009 – Gordon Research Conference on Herbivory
- 2008 - Society for the Study of Evolution
- 2008 – Ecological Society of America
- 2006 - Society for the Study of Evolution
- 2006 - Ecological Society of America
- *2006 - Ecological Society of America (R. Dinnage)
- 2006 - Ontario Ecology and Ethology Colloquium
- 2006 - Yodzis Colloquium in Fundamental Ecology
- 2005 - Entomological Society of Ontario
- 2005 - Ecological Society of America
- 2004 - Ecological Society of America
- *2004 - Ontario Ecol and Ethol. Colloquium (R. Grinnan)
- 2004 - Ontario Ecol and Ethol. Colloquium (two papers)
- 2004 - Gordon Conference, Plant-Herbivore
- 2003 - Ecological Society of America
- 2003 - Ontario Ecology and Ethology Colloquium

c. Invited Lectures

- Dept of Biology, University of Western, 2013.
- Dept of Biology, University of Syracuse, 2013.
- Dept of Biology, University of Ottawa, 2012
- Dept of Biology, McGill Univ, 2012
- Dept. of Biology, UC Riverside, 2010
- Center for Terrestrial Ecology, The Netherlands Institute of Ecology, The Netherlands, 2010
- Max Planck Institute of Molecular Plant Physiology, Potsdam, Germany, 2010
- Dept. of Biology, University of Tennessee-Knoxville, 2010
- Center for Ecology, Kyoto University, Japan, 2009.
- Dept. of Biology, University of Nebraska., 2009.
- Dept. of Biology, Duke University, 2009.
- Dept. of Genetics/Plant Biol., NCSU. “How to win a NSF DDIG”, 2009
- Mountain Lake Biological Station, University of Virginia, 2008
- Dept. of Plant Biology, North Carolina State University, 2008
- Dept. of Biology, University of Windsor, 2008
- Dept. of Zoology, Michigan State University, 2008
- Dept. of Biology, University of Toronto Scarborough, 2007
- Dept. of Ecology and Evolutionary Biology, University of Toronto, 2007
- Dept. of Entomology, Rutgers University, 2007
- Dept. of Integrative Biology, Univ. Guelph, 2007

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Dept. of Organismic and Evolutionary Biology, Harvard Univ., 2007
Dept. Ecology and Evolutionary Biology, Yale Univ., 2007
Dept. Biology, SUNY-Buffalo, 2006
Undergraduate Community Ecology (guest lecturer), Univ. of Toronto, 2004, 2005

11. Other Research Honours

Keynote address – Intecol Symposium on Community Genetics, London England, 2013
Plenary Speaker – 18th European PhD Students Studying Evolutionary Biology Conference, Finland, 2012.
Keynote address - Canadian Society of Ecology and Evolution, Ottawa, ON, 2012
Opponent (public Ph.D. examiner in Scandinavian academic system) – Ph.D. Defence of Dr. Ayco Tack, University of Helsinki, Finland, 2010.
External Examiner, Ph.D. dissertation of Anne Muola, University of Turku, Finland, 2010
Keynote address - European Plant Ecological Society. Nijmegen, the Netherlands, 2010
Keynote address - European Conference in Community Genetics. Manchester, UK, 2010
Plenary Speaker - Japanese Society for Population Ecology. Kyoto, Japan, 2009.

D. LIST OF COURSES

12. a. Undergraduate courses taught

2013 – Undergraduate Research Project (BIO 481), Alex Lee, U of T
2013 – Undergraduate Research Project (BIO 481), Pooja Maharaj, U of T
2013 – Undergraduate Research Project (BIO 481), Jeffery Bertrand, U of T
2013 – Undergraduate Research Project (BIO 481), Teresa Didiano, U of T
2013 – Undergraduate Research Project (BIO 481), Lydia Sequiera, U of T
2012 – Research Opportunity Project (BIO 399), Alex Lee, U of T
2012 – Research Opportunity Project (BIO 399), Pooja Maharaj, U of T
2012 – Evolutionary Ecology (BIO 445)
2012, 2013 – Evolutionary Biology (BIO 342), U of T
2012 – Undergraduate Research Project (BIO 481), Micheline Khan, U of T
2011 – Evolutionary Biology (PB 330), NC State
2010 – Honors Thesis (PB 495), Geoffrey Broadhead, NC State
2005 – Field Ecology (2 week field course), U of T
2005 – ROP 299, Alice Zhou, U of T
2004 – Summer project student, R. Dinnage, U of T
2003 – Summer project student, R. McGuire, U of T

b. Graduate courses taught

2010 – Evolutionary Ecology (PB 595), NC State

c. Theses supervised

Julia Spencer, Ph.D. (co-supervised), in progress
Daniel Anstett, Ph.D., in progress
Connor Fitzpatrick, Ph.D., in progress
Ryan Godfrey, Ph.D., in progress
Nash Turley, Ph.D., in progress
D. Carmona, Ph.D. (co-supervised; visiting student from UNAM 2009-2010), 2013 (graduated)
Rose Grinnan, M.Sc., 2011 (graduated)

d. Other teaching

2012 – Workshop: “How to get an NSERC graduate fellowship” (with S. Hill)
2011-2013 - UTM EEB Journal Club
2011 – Guest lecturer, Skills in Grant Writing (graduate course), NC State
2010 – Guest lecturer, Plant Ecology (graduate course), NC State
2009, 2010 – Guest lecturer, Community Ecology (3rd year), NC State
2009, 2010 – Perspectives in Plant Biology, NC State
2005, 2006 – Guest lecturer, Community Ecology (BIO 321), U of T.

13. Administrative Positions

a. Service on Committees and Organizations

Departmental Committees

2011-2013 – Organizer, Department of Biology Seminar Series
2012-present – Member, Biology Community Committee
2011-2012 - Chair, Biology Community Committee
2011 - EEB graduate research workshop, faculty mentor

Student Advisory Committees

2012 – present – Krystal Nunes, (M.Sc., current), EEB
2011 – present – Kelly Carscadden (Ph.D., current), EEB
2011 – present – Michelle Dileo, (Ph.D., current), EEB
2011 – present – Michael Wright, (Ph.D., current), EEB
2011 – present – Laura Junker, (Ph.D., current), CSB
2013 – Kyle Turner, M.Sc. defense external, EEB
2012 – Exam Chair, Ph.D. Appraisal Exam (E. Lanna), EEB
2012 – Exam Chair, Ph.D. Appraisal Exam (A. Agren), EEB
2012 – Exam Chair, Ph.D. Appraisal Exam (S. Wadygmar), EEB
2012 – Audrey Reid, Ph.D. Appraisal Exam external
2011 – SGS Exam Chair, Ph.D. Defence (A. Cantalano), CSB

Graduated and/or Discontinued

2012 (graduated) – Yoonsoo Lee, U of T (M.Sc.)
2012 (graduated) – Daz Kambo, M.Sc. defense external
2011 (graduated) Diane Biederman, NCSU Biology (M.Sc.), NC State
2011 (graduated) - Kelly Hines (M.Sc.), NC State
2010 (graduated) - John Grady (M.Sc.), NC State
2009-2012 –Alice Wines, NCSU Plant Biology, (Ph.D.), NC State (moved to U of T)
2009-2011 – Renee Marchin, NCSU Plant Biology (Ph.D.), NC State (moved to U of T)
2009-2011 - Rodrigo Olarte (Ph.D.), NC State (Ph.D.) (moved to U of T)

E. OTHER RELEVANT INFORMATION

Post-doctoral Researchers

Dr. Jesse Hollister (2012-present)

Dr. Martin Turcotte (2011-present)

Dr. Yunheng Ji (2011-2012). Current position: Asst. Prof., Chinese Acad. Sci.-Kunming, CH

Dr. Erika Hersch-Green (2010-2011). Current position: Asst. Prof., Michigan Tech. Institute

Technicians

Micheline Khan (2012)

Christina Thomsen (2011-2012)

Dr. Henrietta Myburg (2009-2011)

Alicia Speratti (2006)

External reviewer

Approx. 20 papers/grants per year from: Acta Oecol, Alberta Min Training, Am J Bot, Am Nat, Ann Bot, Ann Ent Soc Am, Biochem Syst Ecol, Can J Bot, Cons Genetics, Ecology, Ecol Entomol, Ecology Letters, Ecoscience, Evolution, Func Ecol, Glob Change Biol, Heredity, Israeli Sci. Fed., J An Ecol, J Ecol, Oecologia, Oikos, Nature, Oxford Biblio, New Phytol, NSF, Phil Trans R Soc B, PLoS Biology, PLoS one, Proc Nat Acad Sci USA, Quart Rev Biol, Roy Soc NZ, Science, Syst. Botany, Trends Ecol Evol