

Rupesh R. Kariyat., Ph.D

Assistant Professor of Biology,
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Education

Ph.D. Plant Biology

The Pennsylvania State University, University Park, PA

07/2007 –04/2012

Advisers: Andrew G. Stephenson and Mark C. Mescher

M.S. Agronomy

University of Wyoming, WY

01/2005 –06/2007

Adviser: Robin W. Goose

B. S. Agricultural Sciences

Kerala Agricultural University, Kerala, India

11/1999 – 02/2004

Professional Experience

Assistant Professor of Biology, Department of Biology,
University of Texas, Rio Grande Valley

09/2017- Present

Scientist: ETH Zurich
Swiss Federal Institute of Technology

01/2015- 08/2017

Post Doctoral Scholar, ETH Zurich (Prof. Consuelo M De Moraes)

09/2013- 12/2014

NSF Vision and Change Post Doctoral Teaching Fellow

05/2013-08/2013

Department of Biology, The Pennsylvania State University

Research Publications

Under revision/ review

RR Kariyat, JW Sims, MC Mescher and CM De Moraes. Devil's Nectar: production of extrafloral nectar by *Solanum atropurpureum* (Purple devil) acts as a direct defence against herbivores (***Under revision Current Biology***)

RR Kariyat et al., Inbreeding alters floral volatile emission in horsenettle (*Solanum carolinense*; Solanaceae) with adverse effects on pollinator visitation (***Under revision American Journal of Botany***)

A Racelis, PG Soti, and **RR Kariyat.,** Cover crops influence population dynamics of herbivores and beneficial insects in subtropical organic vegetable farms (***Under review Journal of Sub-tropical Agriculture and Environment***)

- J Kaur, J Chavana, A Racelis, PG Soti and **RR Kariyat**. Invisibles having visible impact- Effects of Arbuscular Mycorrhizal Fungi (AMF) on growth and herbivore defense in Sorghum sudan grass (*Sorghum drummondii*) (**Under review PloS ONE**)
- M Tayal, J Chavana and **RR Kariyat**. Efficiency of using electric toothbrush as an alternative to tuning fork for buzz pollination is independent of buzzing frequency (**Under review BMC Ecology**).
- A Vasquez, JA Goolsby, AT Vacek, A Racelis and **RR Kariyat**: Incidence of the Brown dog tick, *Rhipicephalus sanguineus* and its parasitoid, *Ixodiphagus hookeri* on dogs in South Texas (**Accepted Journal of Sub-tropical Agriculture and Environment**)

Published:

2019:

- RR Kariyat** et al., Sorghum *yellow seed1*-mediated 3-deoxyanthocyanidins confer defense against corn leaf aphid (*Rhopalosiphum maidis*) (**Journal of Chemical Ecology- May Issue doi: 10.1007/s10886-019-01062-8. Epub 2019 Mar 26.**)
- RR Kariyat et al.**, Glandular and non-glandular leaf trichomes differentially affect caterpillar growth and development (**Arthropod-Plant Interactions**) 10.1007/s11829-019-09678-z
- RR Kariyat** and Stephenson AG. Inbreeding depression. It is not just for population biologists. **American Journal of Botany-April Issue, DOI: 10.1002/ajb2.1256**
- CM Nihranz, R L Kolstrom, **RR Kariyat** et al., Herbivory and inbreeding affect growth, reproduction, and resistance in the rhizomatous offshoots of *Solanum carolinense* (Solanaceae) (**Evolutionary Ecology** <https://link.springer.com/article/10.1007/s10682-019-09997-w>)

2018

- RR Kariyat**, J Chavana, and J Kaur (2018). An Inexpensive and Comprehensive Method to Examine and Quantify Field Insect Community Influenced by Host Plant Olfactory Cues. **Bioprotocol 8 (16)- Cover story**
- R R Kariyat**, S B Hardison, A B Ryan, A G Stephenson, C M De Moraes, M C Mescher (2018). Leaf trichomes affect caterpillar feeding in an instar-specific manner. **Communicative & Integrative Biology 1-6**
- RR Kariyat** and J Chavana (2018). Field data on plant growth and insect damage on the noxious weed *Solanum eleagnifolium* in an unexplored native range. **Data in Brief 19, 2348-2351**
- T. Petanidou, NM. Waser, M V. Price, A Kantsa, T Tscheulin, **RR Kariyat**, N Krigas, M C. Mescher, C. M. De Moraes, J L. Bronstein. Comparative pollination and reproduction of an invasive plant inside and outside its ancestral range. **Acta Oecologia 89, 11-20**

2017

- RR Kariyat**, JD Smith, CM De Moraes, AG Stephenson, MC Mescher. (2017). Non-glandular trichomes in *Solanum carolinense* cause pre and post ingestive effects by inhibiting feeding, and damaging the gut peritrophic matrix of *Manduca sexta* caterpillars. DOI: 10.1098/rspb.2016.2323 (**Proceedings of Royal Society B**)
- RR Kariyat**, SD Hardison, CM De Moraes, MC Mescher (2017). Plant internode spines deter herbivory by restricting caterpillar movement. Volume 13, issue 5 (**Biology Letters**)

JD Smith and **RR Kariyat (2017)**. A hands-on teaching module demonstrating the sophistication of plant biochemical responses to insect herbivores (doi: 10.4195/nse2017.01.0001(*Natural Sciences Education*))

2016

RR Kariyat and Portman S.L., Plant-herbivore interactions (2016): Moving beyond larval growth and mortality. *American Journal of Botany*. **103 (5), 789-791**

2015

SL Portman, **RR Kariyat**, MA Johnston, AG Stephenson, JH Marden (2015). Cascading effects of host plant inbreeding on the larval growth, muscle molecular composition, and flight capacity of an adult herbivorous insect. *Functional Ecology* (DOI: 10.1111/1365-2435.12358)

SL Portman, **RR Kariyat**, MA Johnston, AG Stephenson, JH Marden (2015). Inbreeding compromises host plant defense gene expression and improves herbivore survival. *Plant Signaling and Behavior*. **10(5)**

2014

RR Kariyat, S Scanlon, RP Moraski, CM De Moraes, MC Mescher, AG Stephenson (2014). Plant inbreeding and prior herbivory influence the attraction of caterpillars (*Manduca sexta*) to odors of the host plant *Solanum carolinense* (*Solanaceae*). *American journal of botany* **101 (2), 376-380**.

2013

RR Kariyat, KE Mauck, CM Balogh, AG Stephenson, MC Mescher, CM De Moraes. (2013) Inbreeding in horsenettle (*Solanum carolinense*) alters night-time volatile emissions that guide oviposition by *Manduca sexta* moths. *Proceedings of the Royal Society B: Biological Sciences* **280 (1757)**.

RR Kariyat, CM Balogh, RP Moraski, CM De Moraes, MC Mescher, AG Stephenson (2013). Constitutive and herbivore-induced structural defenses are compromised by inbreeding in *Solanum carolinense* (*Solanaceae*) *American journal of botany* **100 (6), 1014-1021(Cover image)**.

RR Kariyat, JP Sinclair, EM Golenberg (2013) Following Darwin's trail: Interactions affecting the evolution of plant mating systems. *American journal of botany* **100(6), 999-1001**.

2012

RR Kariyat, KE Mauck, CM De Moraes, AG Stephenson, MC Mescher (2012) Inbreeding alters volatile signalling phenotypes and influences tri-trophic interactions in horsenettle (*Solanum carolinense* L.) *Ecology letters* **15 (4), 301-309**.

RR Kariyat, J Mena-Alí, B Forry, MC Mescher, CM Moraes, AG Stephenson (2012) Inbreeding, herbivory, and the transcriptome of *Solanum carolinense* *Entomologia Experimentalis et Applicata* **144 (1), 134-144**

RR Kariyat, CM De Moraes, AG Stephenson, MC Mescher (2012) Inbreeding increases susceptibility to powdery mildew (*Oidium neolycopersici*) infestation in horsenettle (*Solanum carolinense* L.). *Plant Signaling & Behavior* **7 (7), 803-806**

2011

RR Kariyat, SR Scanlon, MC Mescher, CM De Moraes, AG Stephenson (2011). Inbreeding depression in *Solanum carolinense* (*Solanaceae*) under field conditions and implications for mating system evolution. *PloS one* **6 (12), e28459**

Teaching Publications (peer reviewed):

JD Smith and **RR Kariyat (2017)**. A hands-on teaching module demonstrating the sophistication of plant biochemical responses to insect herbivores (doi: 10.4195/nse2017.01.0001

(Natural Sciences Education)

RR Kariyat and Christoffersen B., Graduate and undergraduate Ecology Student response to Sutherland et al., 100 questions in ecology (*in prep*)

Teaching Publications (Non-peer reviewed):

Smith JD, and **Kariyat RR (2012)**. Why do Plants Make Spices? Exploring Ecological Roles for Common Kitchen Ingredients. *Entomological foundation science contest, ESA*.

<http://www.entfdn.org/documents/WhydoPlantsMakeSpices.pdf>

Kariyat RR, and Smith JD (2011). How Do Caterpillars Choose The Right Leaves To Eat In A Big, Green World? *Entomological foundation science contest, ESA*.

Funded Grants (Principal Investigator):

2018-2020 : University of Texas **RISING STAR AWARD**: Chemical ecology of invasive species (**300,000\$**)

2018- 2020: USDA Co-operative agreement grant for examining the chemical ecology of hosts of ticks and tick parasites (**143,000 \$**)

2019-2020: American Society of Plant Biology (ASPB) Plant Bloome Education and Outreach Grant (**46, 325\$**)

2018-2019 : UTRGV Strategic Plan grant – Sorghum-aphid interactions in RGV (**20,000\$**)

2018-2019 :UTRGV College of Sciences Research Seed Grant: Weed-herbivore interactions in Solanum spp: (**25,000\$**)

2018-2019 : Education support grant for equipment purchase for course enhancement in plant stress biology, CoS, UTRGV (**10,000\$**)

2018-2020 : Seed grant for insect collection initiative at UTRGV (**5,000\$**)

Co-Principal Investigator/ Collaborator (Funded)

2019-2021 (Co-PI) UTRGV Training grant in Unmanned Aerial Systems for precision Agriculture (**110,000\$**; UTRGV PI Alexis Racelis)

2018-2019 (Co-PI): Southern SARE On Farm research grant: Cover crops and pest control (**15,000 \$**; PI Pushpa Soti)

2018-2019 (Co-PI): Education support grant for teaching in sustainable agriculture and food systems, UTRGV (**25,000 \$**; PI Alexis Racelis)

2019-2023 (Collaborator): NSF Career award (Plant-biotic interactions for Joe Louis (UNL,). Recruitment and training of Hispanic undergraduate students for summer molecular workshop at UNL (**69,200\$** for UTRGV students)

Awards and Honors

- 2019 Entomological Society of America, Southwestern Branch Excellence in Teaching award
- 2019 Natural Sciences Education Journal (Crop Science Society of America) Outstanding Associate Editor of the Year
- 2019 Organic Agriculture Research Forum conference scholarship
- 2018 Entomological Society of America North Central Branch- Program enhancement award
- 2018 American Society of Plant Biology Travel Award
- 2018 UTRGV Faculty travel award
- 2017 Ecological Society of America LDC Travel Award
- 2015-2016 Botanical Society of America Symposium Grant (Genetics and Ecology Sections)
- 2014 BSA Genetics Section Symposium Grant
- 2013 Ecological Society of America Plant Population Ecology Postdoctoral Excellence Award
- 2012 North American Colleges and Teachers of Agriculture (NACTA) Teaching Fellow Award
- 2012 Botanical Society of America Genetics and Ecology Section Grant
- 2012 Graduate student of the year: Entomological society of Pennsylvania
- 2012 Ralph O Mumma Outstanding Graduate Student Award, PSU
- 2012 Best Oral Presentation, Environmental Chemistry Student Symposium, PSU
- 2012 Eva J Pell Graduate Scholarship in Plant biology, Graduate School, PSU
- 2013 NSF Vision and Change Post Doctoral Teaching Fellow
- 2013 USDA Electrical penetration technique (EPG) Grant
- 2013 Post Doctoral Society, Penn State Travel award
- 2012 Equipment grant, College of Ag. Sciences, Pennsylvania State University
- 2012 Torrey Botanical Society Research Grant
- 2012 Post Doctoral Society, Penn State Travel award
- 2011 College of Ag Sciences PhD Competitive Research Grant (CAS grant)
- 2011 Braddock Graduate Research Award, Dept of Biology
- 2011 Best Oral presentation award, Plant growth regulators society annual meeting, Chicago
- 2011 First place for poster in Biological sciences section, Gamma Sigma Delta and Ag Sciences Annual Research exhibition, PSU
- 2011 First place for poster in Crop, soil and Geo sciences section, 13th Annual Environmental chemistry student symposium, PSU
- 2011 Second place for poster competition, Annual Achievement conference, PSU

- 2011 Third place for poster in Health and Life sciences section, 26th Annual Graduate research exhibition, PSU
- 2011 Graduate student symposium award, Plant growth regulators society, USA
- 2011 Intercollege Graduate Student Outreach Achievement Award, Graduate School, PSU
- 2011 Best Science Projects for School Students Competition Winner, ESA
- 2011 College of Ag Sciences, Penn State Travel award
- 2011 Ecology section graduate student travel award, BSA
- 2010 Lloyde E Adams Grant in Aid award, Dept of Entomology, PSU
- 2009-2011 Hill Hill memorial graduate student award, Dept of Biology, PSU
- 2007-2008 The Pennsylvania State University Alumni Fellowship, 2010
- 2010 Best Science Projects for School Students Competition Winner, ESA
- 2010 Preparing Leaders and Nurturing Tomorrow's Scientists "Plants" Grant, Botanical Society of America
- 2009-2010 Huck Institutes of Life Sciences Travel award, PSU
- 2009-2012 Department of Biology, Travel Award, PSU

Teaching Experience (Undergraduate and MS, UTRGV)

- Summer 2019 Ecology (Lecture;58students)
- Spring 2019 Entomology (Lecture and Lab; 32 students)
- Fall 2018 Ecology (Lecture;143 students)
- Spring 2018 Entomology (Lecture and Lab; 24 students)
- Spring 2018 Current Issues in Biology (lecture; 9 students)
- Spring 2018 Biology Graduate Seminar (5 students)
- Fall 2017 Special Topics in Biology (12 students)

Swiss Federal Institute of Science and Technology (ETH Zurich)

- Fall 2016 Pollination Biology and Insect Ecology
- Fall 2015 Pollination Biology- Methods and Analyses
- Spring 2014 Plant defense and plant-pollinator interactions - Insects in Agro Ecosystems

The Pennsylvania State University

- Summer 2013 Environmental Sciences 003 -*NSF Vision and Change Teaching Fellow*
- Spring 2013 Plant defenses and insect counter defenses (Plant Bio 513)

Curriculum development:

- Plant Stress biology track for MS program at UTRGV biology
- Ecology and Evolution track for MS program at UTRGV biology
- Web based class development under the guidance of Dr Denise Woodward (PSU) for Biology: Basic Concepts and Biodiversity course (2013)

Student Supervision

Graduate (Masters in Biology- UTRGV- Major advisor)

- Jasleen Kaur (2018-2019): Cascading effects of AMF on plant growth and defenses in Sorghum

Mandeep Tayal (2018-2020): Dioecy and plant defenses in *Solanum* spp
Reyna Chavez (2018-2020): Effects of herbivory on seedling mortality and establishment in reforestation program in RGV
Lili Martinez (2018-2020): Push-pull based integrated pest management in organic farms
Jesus Chavana (2019-2021): Using Silverleaf nightshade as a model to understand defense-fitness tradeoffs in invasive weeds
Sukhman Singh (2019-2021): Effects of pericarp extracts on herbivore feeding and development.
Zachary Johnson (2019-2021): Floral polymorphism and pollination biology of prickly pear cactus in RGV
Ernesto Herrera (2019-2021): Ecological effects on *Diadasia* spp bee sleep on Prickly pear poppy in RGV

Thesis committees (UTRGV)

Wendy Westerhiede: Vitek/ Feria labs, Joanna Castro: Mustard lab, Rachel Malampy: Vitek lab, Jeremy Marshall: Vitek lab, Akanksha Gandhi: Sahoo lab, Mylen Arias: Christoffersen lab

Graduate (Masters- ETH, Zurich)

Corrine Hertag: Chemical ecology of floral polymorphism in *S. elaeagnifolium* (**completed**)
Letha Luis: Novel plant defenses in highly invasive and mildly invasive *S. elaeagnifolium* populations(**completed**)
Dinka Mattic: Evolution of flower color polymorphism in *S. elaeagnifolium* (**completed**)
Camille Tinguely: Chemical ecology of *Fennel-Papilio* interactions in Greek Islands (**completed**)
Lisa Sannitz: Masters project on Instar specificity and plant defense response in plant-herbivore interactions (**completed**).
Marius Herzog: Host plant effects on instar specific oral secretions in *Manduca sexta* (**completed**)

Undergraduate mentoring in research (UTRGV)

Juan Raya (2019-present) Effects of host plant variation on Coremata development in Salt marsh moth
Adryanna Perez (2019-) EPG and Aphid feeding behavior
Yannely Hinojosa (2019-) Sugarcane aphid ecology on Sudangrass
Christina Raya (2018-present): Trichomes and plant defense against herbivores (**Co-authored a manuscript**)
Jesus Chavana (2018): Insect plant nematode interactions in silver leaf nightshade (**Co-authored three manuscripts**)
Lili Martinez (2018): Cover crops and pest management
Kuzy Zarsosa (2018): Insect-plant interactions in the native but invasive weed silver leaf nightshade
Paloma Flores (2018): Rearing methodology for Texas potato beetle
Cameron Villareal (2019 Spring) Dioecy and plant defenses in *Solanum* spp

Undergraduate mentoring in research (Pre UTRGV)

Aisling B Ryan (*Agroecology Major*): PCR analyses of the S locus in Horsenettle, and its impact on selfing in natural populations (***Co-authored a manuscript***)
Sean Hardison (*Biology Major*): Effects of host defenses on growth and reproduction of specialist herbivores in Solanaceae species, (***Co-authored two manuscripts***)
Emily Szuba (*Biology Major*): Green Peach Aphid- Horsenettle/ Tomato interactions, 2012-2013
Christopher M Balogh (*Biology Major*): Specialist herbivores, choice, fitness and oviposition in Horsenettle, 2009-2012 (***Co-authored two manuscripts***)
Ryan P Moraski (*Biology Honors*) Effects of inbreeding and herbivory on physical defenses in horsenettle, 2009-2011(***Co-authored two manuscripts***)
Sarah A Scanlon (*Pre-Med*): Multi- year estimates of inbreeding depression in horsenettle under field conditions, 2008-2010 (***Co-authored two manuscripts***)
Michelle M Johnston (*Biology Major*): Inbreeding of host plant and its effects on flight muscle proteins in *M. sexta* (2010-2012) (***Co-authored two manuscripts***)
Melinda A Bothe (*Biology Major*): PCR amplification of S alleles for genotyping in Horsenettle, 2009-2010
Radhika Patel (*Biology Major*): Asexual propagation of horsenettle, 2010
Franz Litchner (*Biology Major*): Selfing rate in small populations of Horsenettle, 2007-2008

High school student supervision (UTRGV)

Carlos Repetta Ayala (2018): Population variation for growth and defenses in Silverleaf nightshade
Gildardo Guzman (2018 Summer): Trichomes and plant defenses in Solanaceae (***Co-authored a manuscript***)
Jason Cantu (2018 Summer): Trichomes and plant defenses in Solanaceae (***Co-authored a manuscript***)
Evy Solis (2018 Summer): Trichomes and plant defenses in Solanaceae

High school student supervision (Pre-UTRGV)

Daniel Osoko (2017 Spring): High school internship student: Rearing methodology of Tobacco hornworm *Manduca sexta*
Juliet Moen and Nadia Frock (2012 Spring- 2013 fall):High school internship students mentored on Chemical ecology topics and research on *Sorghum- Corn leaf Aphid interactions* under field and lab conditions (***Co-authored a manuscript***)

Editorial board:

Associate Editor (2013-present): Arthropod-Plant Interactions – Springer (APIS)
Editorial Board (2015- present): Natural Sciences Education (NSE) American Society of Agronomy

Previous editorial experience:

Reviewing Editor (2012-2014): Botanical Society of America: Applications in Plant Sciences (APPS)

Guest Editor:

American Journal of Botany- 2013 special issue on “*Ecological interactions affecting the evolution of plant mating systems: Current research and future directions*”. *Botanical Society of America* (June 2013 Issue).

Journal Reviewer

New Phytologist, PLoS ONE, Journal of Chemical Ecology, Perspectives in Plant Ecology, Evolution and Systematics, Current Genomics, OMICS, Ecology, Journal of Ecology, Journal of Plant Pathology, Arthropod-Plant Interactions, Entomologia Experimentalis et Applicata, Evolution, Annals of Botany (Plants), Annals of Botany, Natural Sciences Education, Applications in Plant Sciences, Environmental Entomology, Peer J, Journal of Insect Physiology, Scientific reports, BMC Plant Biology, Ecological Entomology, American Journal of Botany.

Selected Outreach and Community Service (UTRGV)

Development of Butterfly garden on campus (2018-
Development of Insect collection on campus (2018-
Science fair judge (McAllen ISD; 2017, 2018)
Scientific consultant – LRGV monarch conservation society (2018-

Service to the University

2019 Member, Tenure and Promotion committee
2018-2019 Member and Equality and diversity advocate (EDA), Insect pest management and plant pathology faculty cluster hire
2018 Hestec- Plant-insect ecology booth
2018 Engaged Scholars Grants reviewer, UTRGV
2018 Member, Weed Ecology faculty search
2018 Member, Lecturer search committee
2017 Engaged Scholars Grants reviewer, UTRGV
2017 Science Fair Judge- Fossum School
2014 Photography for ETH, Zurich Insect collection Catalog
2012 World Science Festival: Smell Lab
2012 Judge, Annual Graduate Exhibition, PSU
2012 Judge, Annual Undergraduate Exhibition, PSU
2011 Judge, Annual Undergraduate Exhibition, PSU
2010 Volunteer, Butterfly tent, Annual Insect fair, PSU
2011 Organizing committee: Environmental chemistry student symposium, PSU

Other Activities

2017-18 Organized North Central Branch ESA Symposium- “*Ecological effects and molecular mechanisms underlying insect-plant interactions*”. Madison, WI
2016 Botanical Society of America Genetics Section Symposium, Savannah, GA
2014 Organized Botanical Society of America Genetics Section on “*Using Non-model systems for Plant- insect interactions*”.

- 2012 Organized symposium on *Ecological Interactions Affecting Evolution of Mating Systems*, BSA Annual meeting, Columbus, OH
- 2011 Volunteer, BSA annual meeting
- 2010 Volunteer, ESA Annual meeting
- 2010 Co-organized symposium on *Molecular and Biochemical Aspects of Plant-Insect Interactions*, ESA Annual meeting, SanDiego
- 2006 Volunteer, ASPB Annual meeting

Invited Talks

- Kariyat R R:** Invisibles having visible effects: Arbuscular mycorrhizae enhance plant defenses in Sorghum (Transforming the world symposium, UTRGV, 2019)
- Kariyat RR and Goolsby JA:** Using olfactometry to resolve Cattle fever tick host range dynamics (USDA CFT meeting, Texas A and M, College Station, 2019)
- Kariyat R R:** Plant-defenses and insect counter defenses in Solanaceae- ESA-NCB 2018
- Kariyat R R:** Plant-defenses and insect counter defenses in Solanaceae- UTRGV March 2017
- Kariyat R R:** Solanaceae weeds as a model for insect-plant interactions- Utah State University May 2017
- Kariyat R R:** Plant-insect interactions in Solanaceae- University of Bonn May 2017
- Kariyat R R:** Flower color polymorphism and plant defense- BSA Annual meeting, July 2016
- Kariyat R R:** Traditional and novel approaches in plant defense research- BSA Annual meeting, July 2016
- Kariyat R R:** Evolution of novel defense phenotypes in *Solanaceae*- Ecology and chemistry, University of Nebraska- Nov 2015.
- Kariyat R R:** Chemical ecology and invasive biology of *S. eleagnifolium*- Plant Ecology Group (IBZ), Spring 2014. ETHZ
- Kariyat R R.** Inbreeding and plant defense- Ecology and genetics. University of Aegean, November 2014, Lesbos, Greece
- Kariyat R R.** Understanding plant defence and insect counter defence using Horsenettle-Tobacco hornworm model system, University of Wyoming, November 2013
- Kariyat R R.** An integrated approach in resistance breeding combining research and extension. SAREC Research Station, Wyoming, November 2013
- Kariyat R R.** Plant-insect interactions using Horsenettle- Tobacco hornworm model system. Bucknell University, July 2013
- Kariyat R R.** Understanding Plant-insect interactions using Horsenettle- Annual meeting of Entomology society of Pennsylvania. Jonestown, PA.Oct 19-20, 2012.
- Kariyat R R, Mauck, KM, De Moraes C, Mescher M C and Stephenson A G.** How does genetic diversity and inbreeding on Plant-Insect interactions in Horsenettle? Chemical ecology symposium, Max Plank Center for Chemical ecology, Jena Germany, Sep 2-5, 2010.