

CURRICULUM VITAE

Section I: Background Information

Name: GODSHEN ROBERT PALLIPPARAMBIL

Contact Information:

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Department of Entomology
University of Arkansas
Fayetteville, AR – 72701
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Affiliation: Department of Entomology, University of Arkansas

Current Professional or Academic Title: Doctoral candidate, Graduate Research Assistant

Educational Background:

Ph.D. student. 2006-present. Dept. of Entomology, University of Arkansas, Fayetteville.

PhD. Candidate. Passed candidacy exams on 11/21/08

Dissertation title: Interactions of the *Mi*-mediated resistance in tomato with the potato aphid, *Macrosiphum euphorbiae* and the predators, *Orius pumilio* and *O. insidiosus*.

Major Advisor: Fiona L. Goggin, Associate Professor, Dept. of Entomology

GPA: 3.9

Master of Science. 2006. Entomology. Dept. of Entomology. Montana State University, Bozeman.

Thesis title: Mass rearing of *Bracon cephi* (Gahan) and *B. lissogaster* Muesebeck parasitoids of wheat stem sawfly, *Cephus cinctus* Norton, and temperature-induced mortality in host immatures

Major Advisor: David K. Weaver, Associate Professor, Dept. of Entomology

Co-Advisor: Wendell L. Morrill, Professor, Dept. of Entomology

GPA: 4

Bachelor of Science. 2002. Agriculture. Kerala Agricultural University, India.

GPA: 8.4/10

Relevant Employment:

Graduate Research Assistant. University of Arkansas, Fayetteville. (2006– 2010)

(Major Advisor: Fiona L. Goggin, Associate Professor, Dept. of Entomology)

Graduate Research Assistant. Montana State University, Bozeman. (2004- 06)

(Major Advisor: David K. Weaver Associate Professor, Dept. of Entomology)

Research assistant in the All India Coordinated Research Project, Biological control of crop pests and weeds (BCCP & W), Kerala Agriculture University, India. (2003)

(P.I. – Pathummal Beevi, Professor, Department of Entomology, K.A.U., India)

Memberships and Affiliations:

1. Member, Entomological Society of America (2004-10)

2. Member, Isely-Baerg Entomology Club, University of Arkansas (2006-10)

3. Member, Honor society, All disciplines: Phi Kappa Phi (2007-10)

4. Member, Honor society, Agricultural science: Gamma Sigma Delta (2007-10)

5. Member, Organic club, University of Arkansas (2007-10)

6. Member, Linnaean Team, University of Arkansas (2006-09)

7. Member, ESA National competition Student Debate Team, University of Arkansas
(2007)

8. Member, Linnaean Team, Montana State University (2005)

9. Member, Cooley Entomology Club, Montana State University (2004- 06)

Awards and Honors:

1. Graduate Research Assistantship, Dept. of Entomology, University of Arkansas, \$15,000/yr
(2006 – 2010)

2. Doctoral Academy Fellowship, University of Arkansas, \$10,000/yr (supplemental to research
assistantship) (2006 - 2010)

3. Doctoral student travel grant, University of Arkansas. Amount: \$1000 (2009)

4. Doctoral student travel grant, University of Arkansas. Amount: \$1000 (2008)
5. Second place, Poster competition, Students competition for President's prize, Entomological Society of America, National meeting. Section: Plant-insect ecosystems, Reno, Nevada. (2008)
6. Doctoral student travel grant, University of Arkansas. Amount: \$1000 (2007)
7. Award for excellence in academics and research -Heiss Fellowship, Dept. of Entomology, University of Arkansas of Arkansas, \$500 (2007)
8. First place, Poster competition, Central States Entomological Society, Emporia State University, Kansas (2007)
9. Member of the Linnaean Team from University of Arkansas – First Place, ESA National competition, San Diego, California (2007)
10. Member of the Linnaean Team from University of Arkansas – First Place, South Eastern Branch ESA competition, Knoxville, Tennessee (2007)
11. Doctoral student travel grant, University of Arkansas. Amount: \$1000 (2006)
12. Member of the Linnaean Team from Montana State University – First Place, Pacific Branch ESA competition, Pacific Grove, California (2005)
13. Member of the Linnaean Team from Montana State University – Second Place, ESA National competition, Fort Lauderdale, Florida (2005)
14. Kerala Agricultural University Merit Scholarship, India (1998-99)

Section II: Research

Current projects:

1. Investigate the compatibility of *Mi*-mediated resistance in tomato with biological control, using phytophagous generalist predators, *Orius insidiosus* and *O. pumilio*.
2. *Mi*-mediated aphid resistance in tomato: tissue localization and impact on the feeding behavior of two potato aphid clones with differing levels of virulence.
3. Investigate differences in plant responses to WU 11 and WU 12 aphid isolates, by gene expression studies.
4. Localization of *Mi-1.2* gene transcripts using in situ RTPCR.

Publications:

Duguma D., **G.R. Pallipparambil**, C.D. Solorzano, R.M. Verble, and T.N. Wood. **2009**. Con side: Scientific journals and government agencies should review papers for biosecurity concerns and refrain from publishing information that may be helpful to bioterrorists. Understanding biosecurity and its limitations: Student debate. American Entomologist, Vol.55, No.3. pp 150-151 (published)

Pallipparambil, G. R., J. C. Reese, J. M. Louis, C. Avila and F. L. Goggin. **2010**. *Mi*-mediated aphid resistance in tomato: tissue localization and impact on the feeding behavior of two potato aphid clones with differing levels of virulence. (Accepted pending revision by Entomologia experimentalis et applicata; revisions submitted on 01/15/2010; currently in editorial review)

Pallipparambil, G. R. **2006**. Masters Thesis. Mass rearing of *Bracon cephi* (Gahan) and *B. lissogaster* Muesebeck parasitoids of wheat stem sawfly, *Cephus cinctus* Norton, and temperature-induced mortality in host immatures. Montana State University.

Manuscripts in preparation

Magnus, R., C. Minter, **G.R. Pallipparambil**, R. Trout, and R. N. Wiedenmann. **2010**. Research ethics education for graduate students. (In preparation – for American Entomologist. Current display of authors is alphabetically ordered, and the title is tentative)

Pallipparambil, G. R., T. J. Kring, J. P. Shapiro and F. L. Goggin. **2010**. The *Mi*-mediated resistance in tomato has direct negative effect on the generalist predators *Orius insidiosus* and *O. pumilio*. (In preparation – for PNAS)

Non-refereed publication

Pallipparambil, G. R. **2005**. The Surat Plague and its Aftermath. Insects, Disease, and History website, Montana State University, MT. Available at <http://scarab.msu.montana.edu/historybug/YersiniaEssays/Godshen.htm>

Grant writing experience:

1. Southern Region Sustainable Agricultural Research and Education Graduate student grant. Title: Evaluating the compatibility of insect-resistant tomato cultivars with the natural enemies *Orius insidiosus* and *Hippodamia convergens* in integrated pest management. Amount requested: \$ 10,000; Duration: 08/2008 to 08/2010. (2008)
2. Southern Region Sustainable Agricultural Research and Education Graduate student grant. Title: Evaluating the compatibility of insect-resistant tomato cultivars with a biological

control agent, *Orius insidiosus*, in integrated pest management. Amount requested: \$ 10,000;
Duration: 08/2007 to 06/2009. (2007)

Invited presentation:

Pallipparambil, G.R. & Goggin, F.L. 2009. Bring it on six legs: Host plant resistance and insect adaptations. Invited presentation, Student Symposium, Insect Pests: Human and Economic Impacts in the Southeastern United States. South Eastern Branch Entomological Society of America meeting, Montgomery, AL (Invited symposium presentation)

Research Talks and Posters Presented:

1. **Pallipparambil, G.R.** & Goggin, F.L. 2009. Bring it on six legs: Host plant resistance and insect adaptations. Invited presentation, Student Symposium, Insect Pests: Human and Economic Impacts in the Southeastern United States. South Eastern Branch Entomological Society of America meeting, Montgomery, AL. (Invited talk)
2. **Pallipparambil, G. R.**, J. C. Reese, F. Francis, L. Jia, and F. L. Goggin. 2008. Comparison of potato aphid isolates with differing sensitivity to host plant resistance in tomato. **Second place, student poster competition.** Annual Meeting, ESA, Reno, NV. (poster)
3. **Pallipparambil, G. R.**, J. C. Reese, J. M. Louis, and F. L. Goggin. 2008. Variability in behavioral responses of the potato aphid to the *Mi* resistance gene. South Eastern Branch meeting, Entomological Society of America, Jacksonville, FL. (talk)
4. **Pallipparambil, G. R.**, J. C. Reese, J. M. Louis, and F. L. Goggin. 2007. Variability in behavioral responses of the potato aphid to the *Mi* resistance gene. Annual Meeting, ESA, San Diego, CA. (poster)
5. **Pallipparambil, G. R.**, T.J. Kring, and F. L. Goggin. 2007. The direct effects of *Mi* insect resistance gene in tomato on *Orius insidiosus*. Arkansas Academy of Science annual meeting, Arkansas Tech University, AR. (poster)
6. **Pallipparambil, G. R.**, T.J. Kring, and F. L. Goggin. 2007. The direct effects of *Mi* insect resistance gene in tomato on *Orius insidiosus*. **First place, student poster competition.** Central States Entomological Society, Emporia State University, KS. (poster)
7. **Pallipparambil, G. R.**, T.J. Kring, and F. L. Goggin. 2007. The direct effects of *Mi* insect resistance gene in tomato on *Orius insidiosus*. Branch meeting, ESA, Knoxville, TN. (talk)
8. **Pallipparambil, G. R.**, D. K. Weaver, W. L. Morrill, R. K. D. Peterson, and P. R. Miller. 2006. Mass rearing of *Bracon cephi* (Gahan) and *B. lissogaster* Muesebeck, parasitoids of the wheat stem sawfly *Cephus cinctus* Norton, in field cages. Annual Meeting, ESA, Indianapolis, IN. (talk)

9. **Pallipparambil, G. R.**, W. L. Morrill, and D. K. Weaver. 2005. Rearing *Bracon cephi* and *B. lissogaster*, Parasitoids of the Wheat Stem Sawfly, *Cephus cinctus* (Hymenoptera: Cephidae) in Field Cages. Annual Meeting, ESA, Fort Lauderdale, FL. (talk)
10. **Pallipparambil, G. R.**, W. L. Morrill, and D. K. Weaver. 2005. Mortality of wheat stem sawfly larvae, *Cephus cinctus* Norton (Hymenoptera: Cephidae) at high temperatures. Branch meeting, ESA, Pacific Grove, CA. (poster)
11. **Pallipparambil, G. R.**, W. L. Morrill, and D. K. Weaver. 2004. Temperature variations in the wheat canopy and mortality of wheat stem sawfly larvae. Annual Meeting, ESA, Salt Lake City, UT. (poster)

Section III: Teaching

Courses and teaching activities:

Guest presentation and lab (due on 03/17/2010): Ento 4013. Insect behavior and chemical ecology laboratory. (Dr. D. T. Johnson, Prof. Entomology) – Functioning and uses of a direct current electrical penetration graph to study insect feeding behavior. (2010)

Teaching assistant: Ento 6113. Insect physiology laboratory (Dr. F. L. Goggin, Prof. Entomology). Prepared introductory presentations, developed and conducted lab exercises for Insect Physiology- Techniques used in the lab include chromatography, RNA extraction, and quantitative RT-PCR. (2008)

Guest Lecture: AFLS 2003. Introduction to Global Studies in Agricultural, Food and Life Sciences Class. Topic: Agricultural, political and socioeconomic developments in India. (Dr. Curt Rom, Prof., Horticulture) (2007)

Section IV: Extension/Outreach

Outreach at Extension Meetings, Workshops, and Field Days:

1. Hannam, J and **G.R. Pallipparambil**. 2009. Entomology education outreach. Washington Elementary Fall festival, Fayetteville, Arkansas.
2. **Pallipparambil, G.R.**, N. Singh, R. N. Wiedenmann. 2009. Pest problems and solutions, Farmers market outreach, Fayetteville, Arkansas.

3. **Pallipparambil, G.R.** 2008. Insects and its importance, Entomology Insect Festival exhibitions, University of Arkansas, Fayetteville.
4. **Pallipparambil, G.R.** and C.D. Solorzano. 2008. Entomology education outreach. Public Library, Springdale, Arkansas.
5. Duguma D., **G.R. Pallipparambil**, C.D. Solorzano. 2007-08. Pest problems and solutions, Farmers market outreach, Fayetteville, Arkansas.
6. Jones A., and **G.R. Pallipparambil**. 2007. Insects and its importance, Ozark Botanical garden outreach, Fayetteville, Arkansas.
7. **Pallipparambil, G.R.** and C.D. Solorzano. 2007. Entomology education outreach. Girls and Boys school, Fayetteville, Arkansas.
8. **Pallipparambil, G.R.** 2006. Insects and its importance, Entomology Insect Festival exhibitions, University of Arkansas, Fayetteville.

Section V: Service

Department/Institution:

1. Student representative, Academic and Curriculum revision committee, University of Arkansas, Dept. of Entomology (2007-09)
2. Member, Distinguished Alumni Award selection committee, University of Arkansas, Dept. of Entomology (2007-09)

Institution- Registered Student Organization (RSO) leadership and services:

1. Treasurer and Executive and founding committee member, RSO- Kerala Students organization, University of Arkansas, Fayetteville. (2009-2010)
2. Treasurer and Executive committee member, RSO- Indian Students organization,

University of Arkansas, Fayetteville.

(2008)

Budget prepared and received RSO funding \$14,000 for Diwali banquet (highest funding received among all RSO's in the year 2008)

Section VI: Special skill sets

Entomology

1. Electrical penetration graph: Setting up a new EPG equipment in the laboratory including software and hardware installations, grounding and making Faraday cage. Training new personnel for the use of EPG including data analysis.
2. Mass rearing: Minute pirate bugs, aphids, and Braconidae parasitoids (mass reared for field release).

Molecular Biology

1. Quantitative PCR
2. In situ RTPCR
3. Fluorescent microscopy
4. Confocal microscopy
5. Molecular cloning
6. Sequence comparisons
7. Using bioinformatics tools
8. Gels, PCR, primer designing etc.

Computer science

1. Developing algorithms (PERL programming) for
 - a. Transcription and translation
 - b. Local alignment
 - c. RNA folding
 - d. Sequence assembly
 - e. Gene prediction
 - f. Molecular phylogenetics (Neighbor joining method)
 - g. Analyzing microarray data

2. SAS programming
3. Eclipse (Integrated Development Environment)
4. Applications:
 - a. Microsoft tools and common operating systems
 - b. SAS (statistical analysis)
 - c. JMP (statistical analysis)
 - d. Mathematica (statistical analysis)
 - e. R (statistical analysis)
 - f. Sigmaplot