

USDA-ARS Southeast Area SOUTHERN INSECT MANAGEMENT RESEARCH UNIT

Mission

- *The mission of the Southern Insect Management Research Unit (SIMRU) is to generate new knowledge of arthropod pest biology, ecology and management and integrate this knowledge into contemporary farming systems that will promote economical and environmentally stable pest management practices for the southern U.S.*
- *The vision of SIMRU is to be a recognized center of innovation for negating agricultural pest problem through deployed scientific knowledge of pest biology, ecology and management options.*

CRIS PROJECT

Integrated Insect Pest and Resistance Management on Corn, Cotton, Sorghum, Soybean, and Sweet Potato

PROJECT INVESTIGATORS

- Clint Allen (Project Leader)
- Nathan Little
- Randall Luttrell
- Katherine Parys
- Maribel Portilla
- OP Perera
- Yu Cheng Zhu

CRIS PROJECT

Control of Tarnished Plant Bugs by Biocontrol and Other Methods

PROJECT INVESTIGATORS

- Randall Luttrell
- Maribel Portilla (Project Leader)

CRIS PROJECT

Innovative Strategies for Insect Resistance Management in Bt Cotton

PROJECT INVESTIGATORS

- Clint Allen
- Nathan Little
- Randall Luttrell
- OP Perera (Project Leader)

Larry Adams' 2015 Summer Employees

			
<small>Dillon Robinson Hometown Greenville, MS High School Homeschooled through the Greenville Public School District College Major Undecided</small>	<small>Gerard Winters Hometown Greenville, MS University Alcorn State University Major Biology & Environmental Science</small>	<small>Hart Manus Hometown Greenville, MS High School Deer Creek School College Major Undecided</small>	<small>Kyle Scott Hometown Rosedale, MS University Mississippi State University Major Agricultural Agronomy</small>

Larry's crew will be involved in several studies this summer including the 2015 national sweetpotato variety trials, seed treatment effect on pollinators in cotton, corn and soybeans, *H. zoa/H. vic.* moth trapping, insecticide efficacy for controlling armyworms in sweetpotato production and assisting with the SIMRU study of applying *Beauveria bassiana* for control of the tarnished plant bug in cotton.

Clint Allen's 2015 Summer Employees



Cadarius Cannon
Hometown
 Leland, MS
University
 Delta State University
Major
 Accounting



Russ Godbold
Hometown
 Cleveland, MS
University
 Mississippi State University
Major
 Agronomy



Jaret Reister
Hometown
 Greenville, MS
University
 Mississippi State University
Major
 Undecided



Johnathan Clerk-Beamon
Hometown
 Cleveland, MS
University
 Delta State University
Major
 Biology-Pre-Physical
 Therapy

As a group, these students are examining the distribution of various stink bug and caterpillar species across the MS Delta. Additionally, they are measuring the impact insecticide seed treatments have on early insect pests of soybean.

Nathan Little's 2015 Summer Employees



Chris Brent
Hometown
 Greenville, MS
High School
 Senatobia St. Joe



Emily Bodin
Hometown
 Cleveland, MS
University
 Delta State University
Major
 Biology & Environmental
 Science concentration Wildlife
 Management



Jacob Smith
Hometown
 Indianola, MS
High School
 M'DCC
College Major
 Biological Science



Kaleb Murry
Hometown
 Beulah, MS
University
 Alcorn State University
Major
 General Agriculture

Nathan Little's 2015 Summer Employees Con't



Robert Hurt
Hometown
 Leland, MS
University
 Jackson State University
Major
 Accounting/Finance



Severino Signa
Hometown
 Stoneville, MS
University
 University of West Alabama
Major
 Biology Comprehensive
 Conservation Field & Biology
 Track

Randall Luttrell's 2015 Summer Employees



M/Shayla Johnson
Hometown
 Greenville, MS
University
 Mississippi Valley State University (Graduate School)
Major
 Environmental Health and Science



Jana Slay
Hometown
 Greenville, MS
University
 Alabama A&M University
Major
 BA - Psychology
 Pursuing Master in School Counseling

Katherine Parys' 2015 Summer Employees



Raksha Chatakondi
Hometown
 Greenville, MS
School/Major
 Mississippi School for Math and
 Science
 Columbus, MS



Shawnee Gandy
Hometown
 North Brunswick, NJ
University
 Delta State University
 Cleveland, MS
Major
 Environmental Science and Biology
 (Concentration in Wildlife Management),
 Minor in Outdoor Recreation



Megan Holley
Hometown
 Greenville, MS
University
 Mississippi Delta Community College
 Moorhead, MS
Major
 General Studies

They are, as a group, participating in field research to document native bee pollinators in agroecosystems in the Mississippi Delta and explore the ecology and biology of *Lygus lineolaris*.

Katherine Parys' 2015 Summer Employees Con't



Lou Adams
Hometown
 Greenwood, MS
University
 Mississippi State University
 Starkville, MS
Major
 Agricultural Engineering
 Technology
 Business

They are, as a group, participating in field research to document native bee pollinators in agroecosystems in the Mississippi Delta and explore the ecology and biology of *Lygus lineolaris*.



Mamadou Fadiga
Hometown
 Cleveland, MS
University
 Vanderbilt University,
 Nashville, TN
Major
 Economics

Maribel Portilla's 2015 Summer Employees



Shundalyn Moore
 Hometown
 Leland, MS
 University
 Alcorn State University
 B.S.
 Biology

This summer I'm working under Dr. Maribel Portilla doing lab and field work with insects such as feeding, delivering and evaluating the insects. We also prepare and pack diet for the feeding of insects. I am really enjoying this job experience!



Marcus Cannon
 Hometown
 Leland, MS
 High School
 Graduated from Leland School (May 2015)

I am a summer employee, working under Dr. Maribel Portilla. With Dr. Portilla we do lab and field work experimenting on bugs; I set up cups for bugs, make diet for the bugs, I harvest the bugs, and I also evaluate and deliver the bugs. This is a great job!

Yu Cheng Zhu's 2015 Summer Employees



Adam Wells
 Hometown
 Greenville, MS
 High School
 Washington High School
 Senior



John Wilcher
 Hometown
 Leland, MS
 University
 University of Mississippi
 Major
 Accounting

Adams and John are helping pesticide toxicology research in honey bees.

NEW PUBLICATION CONGRATULATION Dr. Katherine Parys

Adults of the Waterfern Weevil, *Stenopelmus rufinusus* Gyllenhal (Coleoptera: Curculionidae), Feed on a Non-Host Plant, *Salvinia minima* Baker, in Louisiana

Katherine A. Parys, Sunil Tewari and Seth J. Johnson
 BioOne doi: 10.1649/0010-065X-69.2.316

Stenopelmus rufinusus Gyllenhal, the waterfern weevil, is a semi-aquatic weevil indigenous to the southern and western United States (LeConte 1876; Richerson and Grigarick 1967). It was accidentally introduced into Europe on plant material (Janson 1921), has been collected in Argentina and Paraguay (Hill 1998), and was later introduced into South Africa for biological control of *Azolla filiculoides* Lamark (Azollaceae) (Hill 1999). LeConte (1876) considered *Stenopelmus* Schöenherr a monophyletic group, *Stenopelmus*, placed within the tribe Eirrhiniini (Curculionidae) composed of mostly aquatic and semi-aquatic weevils. Adults are identified as being small in size (1.59–1.87 mm long) and are distinctive from other members of the Eirrhiniini with a grey-black body covered in red, black, and white scales in variable patterns (Richerson and Grigarick 1967).

Within its native range, *S. rufinusus* is known to occur on *Azolla caroliniana* Willdenow, *A. filiculoides*, and *Azolla pinnata* R. Brown (Richerson and Grigarick 1967; Pemberton and Bodle 2009). Richerson and Grigarick (1967) first screened *S. rufinusus* against potential alternate host plants *Marsilea vestita* Hook. and Grev. (= *Marsilea mucronata* A. Braun) (Marsileaceae) and *Lemma* spp. (Lemnaceae) in no-choice tests as a component of life history studies and observed no feeding in either case. Hill (1998) screened *S. rufinusus* on 31 plant species in 19 families, including *Salvinia molesta* D. S. Mitchell and *Salvinia hastata* Desv. (Salvinaceae) and found *S. rufinusus* to be host-specific, only feeding or ovipositing on plants within the genus *Azolla*. Observations of feeding on non-*Azolla* host plants have since been reported in Germany on *Salvinia natans* (L.) All. (Rheinheimer and Hassler 2013). Collections of *S. rufinusus* were also made from *Lemma* spp. in Spain and Portugal, leading the authors to suggest further investigation of host plant range (Mor et al. 2010; Carrapico et al. 2011).

Dr. Katherine Parys visit to USDA-ARS Pollinating Insects- Biology, Management and Systematics Research Unit



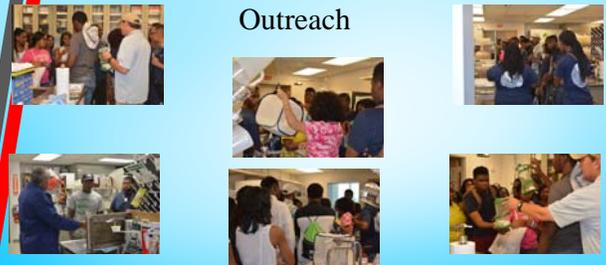
Dr. Katherine Parys recently travelled to Logan, UT to visit the USDA-ARS Pollinating Insects- Biology, Management, and Systematics Research Unit in Logan, UT. She spent two days visiting with Dr. Terry Griswold and his technician, Harold Reid, learning about pollinators. She discussed with others besides involved in monitoring pollinators in an agroecosystem, common methods utilized in sampling bees as well as their biases, and methods to preserve and curate specimens for proper identification. Since returning from the trip, she has implemented sampling strategies in several row crop habitats to collect general information about the community structure of bees, which will lead to further research on how management practices may be affecting these pollinators. She plans to bring Harold out to visit to help refine our methods for collection, and identify a synoptic set of specimens.

Congratulations



Congratulations to Dr. Clint Allen on promotion

Outreach



On June 19, 2015 a group of students toured the Southern Insect Management Research Unit Laboratory.

National Black Growers Council



Arnell Patterson and Essanya Winders along with other USDA employees attended the National Black Growers Council

HAPPY 4TH OF JULY



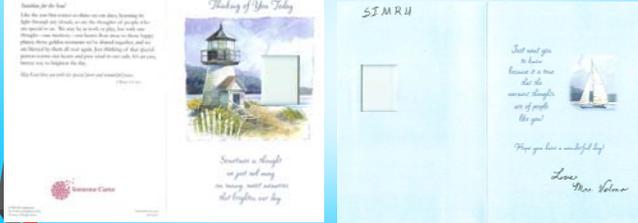
July 4, 2015 (the legal public holiday for Independence Day), falls on a Saturday. Our offices and research facilities will be closed on Friday, July 3, 2015, in observance of the Independence Day holiday.

2015 Back to School Cookout

When: Tuesday-August 4, 2015
Where: To Be Announced
Time: 12:00 p.m.



Thinking of You



From: Mrs. Velma

Congratulations to a Former SIMRU Employee of 16 years Dr. John Carpten



Dr. Carpten is one of the author of the study, "Genome and transcriptome sequencing in prospective triple negative breast cancer uncovers therapeutic vulnerabilities," that was conducted by the Translational Genomics Research Institute (TGen) and US Oncology Research with support from Life Technologies Corporation. doi: 10.1158/1535-7163.MCT-12-0781

Outreach



Dr. Daniel Collins, the Department Chair of Agriculture at Alcorn University and a group of 25 undergraduate and graduate students visited SIMRU on 07/22/2015

JULY BIRTHDAYS CELEBRATION

- Padmapriya (July 6th)
- Essanya (July 8th)
- Russell (July 12th)
- Chris (July 12th)
- Jana (July 18th)

