

**PROGRAM OF THE 93RD ANNUAL MEETING of the
FLORIDA ENTOMOLOGICAL SOCIETY
July 25 – 28, 2010**

SUNDAY, JULY 25, 2010

| | | |
|-------------------|----------------------|----------------------------|
| 3:30PM -- 7:30PM- | Registration - | SOUTH <i>Gallery/Lobby</i> |
| 11:00AM - 5:00PM | Office- | Bonito |
| 12:00PM-8:00AM | Poster Display | Marlin |

MONDAY MORNING, JULY 26th

| | | |
|----------------|--|--------------------|
| 7:00AM-5:00PM | Office/slide Preview..... | Bonito Room |
| 8:00AM-12:00PM | Registration (contd.)..... | Gallery |
| 8:00AM-8:20AM | Welcoming remarks... Dr. Scott Ferguson | Sailfish |
| 8:20AM-8:30AM | Presidential address... Dr. Scott Ferguson | Sailfish |

A Short History of Leafminer, *Liriomyza trifolii*, Resistance Monitoring: From Bioassays to Molecular

| | | |
|---------------|----------------------|-----------------|
| 8:30AM-9:20AM | Pioneer lecture..... | Sailfish |
|---------------|----------------------|-----------------|

Pioneer Lecture 2010 Pioneer Lecturers: Robbie Coulter & Howard Frank

Honoree: Dr. Senekerim Dohanian, **Title:** Senekerim Dohanian: Uncle Sam's Ace Insect Hunter

| | | |
|-----------------|--|---------------------|
| 9:45AM-11:00AM | Business Meeting..... | Amberjack |
| 9:00AM-6:00PM | Poster Display..... | Marlin |
| 9:50AM-11:40AM | Symposium-Conflict of Hymenoptera..... | Sailfish |
| 10:00AM-10:25AM | Coffee break..... | Gallery |
| 12:00PM-1:00PM | Dow AgroScience sponsored Luncheon -Graduate students... | <i>Dolphin Room</i> |
| 12:00PM-1:00PM | Lunch on Own..... | |

MONDAY AFTERNOON, JULY 26th

| | | |
|---------------|----------------------------------|-----------------|
| 1:30PM-4:00PM | Registration (contd.)..... | Gallery |
| 2:05PM-5:00PM | Symposium-Mosquito Ecology-..... | Pompano Room |
| 2:00PM-5:12PM | Student paper competition..... | Amberjack Room |
| 3:15PM-3:40PM | Coffee break..... | Gallery |
| 6:30PM-8:30PM | Reception/Mixer | Sinclair Lounge |

We gratefully thank and acknowledge our Sponsors

**(AgraQuest, Inc., Bayer Environmental Science, DuPont Professional Products,
Chemtura AgroSolutions, Dow AgroSciences)**

TUESDAY MORNING, JULY 27th

| | | |
|-----------------|--|------------------|
| 7:00AM-8:00AM | Past presidents' breakfast..... | Hotel Restaurant |
| 8:00AM-12:00PM | Registration (contd.)..... | Gallery |
| 8:15AM-12:00PM | Symposium Innovation Arthropod Mgr | Amberjack |
| 8:50AM-12:00PM | Contributed Papers..... | Pompano Room |
| 10:00AM-12:00PM | Poster session..... | Marlin Room |
| 10:00AM-10:20PM | Coffee break..... | Gallery |
| 12:00PM-2:00PM | Awards luncheon..... | SailFish |

TUESDAY AFTERNOON, JULY 27th

| | | |
|---------------|---|----------------|
| 2:00PM-5:00PM | Registration (contd.)..... | Gallery |
| 1:30PM-5:00PM | Poster session (contd.)..... | Marlin Room |
| 2:30PM-5:00PM | Symposium-Multitrophic Interactions | Amberjack Room |
| 2:30PM-4:50PM | Contributed Paper-(Cont'd)..... | Pompano Room |
| 3:25pm-3:45pm | Coffee break..... | Gallery |

WEDNESDAY MORNING, JULY 28th

| | | |
|-----------------|-------------------------------------|----------------|
| 8:00AM-10:15AM | Symposium-Center of Systematic..... | Amberjack Room |
| 10:00AM-12:00PM | Workshop-Africanized Bee's..... | Pompano Room |
| 10:25AM-10:45AM | Coffee break..... | Gallery |

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MONDAY MORNING, JULY 26, 2010

SYMPOSIUM: CONFLICT OF THE HYMENOPTERA KIND

Moderators/Organizers: Dr. John Sivinski, USDA SAILFISH- ROOM

9:50 Introduction

10:00 [1] Intrinsic Competition Between Two Species Of Neotropical Parasitoids: The Fierce And The Fugitive?

John Sivinski¹ and Martin Aluja²

¹USDA-ARS, Center for Medical, Agricultural and Veterinary Entomology, Gainesville, FL

²Instituto de Ecologia, Xalapa, Veracruz, Mexico

10:20 [2] Cleptoparasitism Among Bees

H. Glenn Hall, Department of Entomology and Nematology, University of Florida, Gainesville Florida (Speaker)
Jerome G. Rozen, Division of Invertebrate Zoology, American Museum of Natural History, New York, New York

10:40 [3] Cooperation and Conflict in Bidirectional Parental Care Within the Eusocial Paper Wasp, *Mischocyttarus mexicanus*

Charles W. Gunnels IV, Department of Biological Sciences, Florida Gulf Coast University
Fort Myers, FL 33965-6565

11:00 [4] Fruit Flies Learn to Recognize and Avoid the Marking Pheromones of Their Wasp Parasitoids in a Context-Dependent Manner that is Mediated by Preimaginal Conditioning

Lukasz Stelinski

Entomology and Nematology Department, Citrus Research and Education Center, University of Florida, 700
Experiment Station Road, Lake Alfred, FL 33850, U.S.A.

¹Stelinski LL, Rodriguez-Saona C, Meyer WL. Recognition of foreign oviposition-marking pheromone in a multi-trophic context. *Naturwissenschaften* 2009; 96:585-592.

11:20 [5] Evidence for Competition among Three Species of Pseudacteon Decapitating Flies Released in the Gainesville Area as Fire Ant Biocontrol Agents"

Sanford Porter

USDA-ARS, Center for Medical, Agricultural and Veterinary Entomology, Gainesville, FL

11:40. [6] Development of Semiochemical Based Control Programs for Arthropod Pests of Honeybees

Peter E. A. Teal¹, Adrian Duehl¹, Mark Carroll² and Baldwin Torto³

1) Center for Medical, Agricultural and Veterinary Entomology. USDA-ARS, 1700 SW. 23 Dr., Gainesville, FL

2) Carl Haden Bee Research Center, USDA-ARS, 2000 East Allen Road, Tucson, AZ 85719

3) International Centre of Insect Physiology and Ecology (icipe), P.O. Box 20772-00100, Nairobi, Kenya

MONDAY, JULY 26, 2010

POSTER DISPLAY SESSION-1. (8:00am-6:00pm)

MARLIN ROOM

Posters setup Sunday and Monday morning (Authors present from 3:00 -3:30) and taken down by 6:00 PM so the second Poster Session-2 of posters may be put up that evening and the following morning (Tues).

DSP1. Emerging Psyllid Genomes- Increasing RNA-interference Targets for Insect Management.

Wayne B. Hunter¹, Blake Bextine², Robert Shatters¹, Jr., David Hall¹. 1. USDA, ARS, U.S. Horticultural Res. Lab, 2001 S. Rock Rd., Ft. Pierce, Florida 34945, USA. Wayne.hunter@ars.usda.gov
2. University of Texas at Tyler, 3900 University Blvd., Tyler, TX, 75703, USA. bbextine@uttyler.edu

DSP2. RNA-interference To Reducing Insect Pests: Plant Infusions. **Wayne B. Hunter¹**, Eitan Glick², Blake Bextine³, Nitzan Paldi². 1. USDA, ARS, U.S. Horticultural Res. Lab, 2001 S. Rock Rd., Ft. Pierce, Florida 34945, USA. Wayne.hunter@ars.usda.gov, 2. Beeologics Inc., 11800 SW 77th Ave. Miami, Florida 33156, USA; 3. University of Texas at Tyler, 3900 University Blvd., Tyler, TX, USA.

DSP3. RNA-Interference Against Disease- Increasing Bee Health. **Wayne B. Hunter^{1*}**, James Ellis², Dennis vanEngelsdorp^{3*}, Jerry Hayes⁴, Dave Westervelt⁴, Eitan Glick⁵, Michael Williams³, Ilan Sela⁶, Eyal Maori⁶, Jeff Pettis⁷, Diana Cox-Foster³, Nitzan Paldi^{5*}. 1 USDA,ARS 2001 S. Rock Rd, Ft. Pierce, FL 34945, USA. , 2 UF, Dept. Entomol. Nematol., Bldg 970 Natural Area Dr., P.O. Box 110620, Gainesville, FL USA, 3 The Pennsylvania State University, Dept. Entomology, 501 ASI Building, University Park, PA, USA, 4 Florida Department of Agriculture, Bureau of Plant and Apiary Inspection, Apiary Inspection Section, Div. Plant Ind., Gainesville, FL, USA, 5 Beeologics Inc., 11800 SW 77th Ave. Miami, FL, USA. 6 Robert H. Smith Institute for Plant Sciences and Genetics in Agriculture, Virus Laboratory, Faculty of Agric., Food and Environ. Qual. Scie., The Hebrew Univ. Jerusalem, Rehovot 76100, Israel, 7 USDA, ARS, Bee Research Laboratory, Building 476, BARC-East, Beltsville, MD, USA.

DSP4. Food-based lure performance in three locations in Puerto Rico: attractiveness to *Anastrepha suspensa* and *A. oblique*. **David A. Jenkins**, Nancy Epsky, Paul E. Kendra, Robert R. Heath, and Ricardo Goenaga. USDA-ARS-TARS, 2200 Ave. P.A. Campos Ste. 201, Mayaguez, PR 00680, David.jenkins@ars.usda.gov

DSP5. Methods to improve *Tamarixia radiata* (Waterston) (Hymenoptera: Eulophidae) movement from emergence chamber to collection container in laboratory colonies. **Miriam J Ortez**, H. Alejandro Arevalo, Phil A. Stansly. SWFREC. University of Florida, 2685 SR 29 N. Immokalee, FL. 34142

DSP6. Selection by *Harmonia axyridis* (Pallas) and *Cycloneda sanguinea* L. (Coleoptera: Coccinellidae) for *Aphis craccivora* (Hemiptera: Aphididae) and *Diaphorina citri* (Hemiptera: Psyllidae) based on olfaction.

Mendez, Joel; Arevalo, H. A.; Stansly P.A. Southwest Florida Research and Education Center, 2685 State Road 29 North, Immokalee, FL 34142.

DSP7. Weevils of Cultivated Palms in the United States and Caribbean Countries. **Muhammad Haseeb** and Moses T.K. Kairo. Center for Biological Control, College of Engineering Sciences, Technology and Agriculture, Florida A&M Univ., Tallahassee, FL 32307. Moses.Kairo@famu.edu

DSP8. Susceptibility of Southern Green Stink Bug, *Nezara viridula* (L.) to different isolates of the mycopathogen, *Beauveria bassiana* under laboratory conditions. **Jordan Williamson**, Abisoye Somorin, Muhammad Haseeb, Moses T.K. Kairo. Center for Biological Control, College of Engineering Sciences, Technology and Agriculture, Florida A&M University, Tallahassee, FL 32307-4100. Moses.Kairo@famu.edu

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- DSP9. Diversity of ambrosia beetles (Coleoptera: Curculionidae: Scolytinae) attracted to avocado, lychee, and essential oil lures.** Paul E. Kendra, Jorge S. Sanchez, Wayne S. Montgomery, Jerome Niogret, and Katherine E. Okins. USDA-ARS, Subtropical Horticulture Research Station, 13601 Old Cutler Rd., Miami, FL 33158. paul.kendra@ars.usda.gov
- DSP10. Attraction of redbay ambrosia beetle (Coleoptera: Curculionidae: Scolytinae) to avocado, lychee, and essential oil lures.** Paul E. Kendra, Wayne S. Montgomery, Jerome Niogret, Jorge S. Sanchez, Jorge E. Peña, Nancy D. Epsky, and Robert R. Heath, USDA-ARS, Subtropical Horticulture Research Station, 13601 Old Cutler Rd., Miami, FL 33158. paul.kendra@ars.usda.gov
- DSP11. Chemical control of the red bay ambrosia beetle, *Xyleborus glabratus* (Coleoptera: Scolytinae) in Florida.** J. E. Peña, J. H. Crane, R. Cave, R. Duncan and M. Samuel-Foo. University of Florida, Tropical REC, 18905 SW 280th Street, Homestead, FL 33031. jepe@ifas.ufl.edu
- DSP12. Parthenogenesis induction by *Wolbachia* in parasitoids** Andrew P. Davies¹, Martin Aluja², Richard B. Furlong¹, Paul D. Shirk¹ and John Sivinski¹. ¹ United States Department of Agriculture – Agricultural Research Service (USDA-ARS), Center for Medical, Agricultural and Veterinary Entomology, Gainesville, Florida, USA. andrew.davies@ars.usda.gov, ² Instituto de Ecología, A.C., Apartado Postal 63, 91000 Xalapa, Veracruz, Mexico.
- DSP13. Volatile chemicals from host and non-host trees of the redbay ambrosia beetle *Xyleborus glabratus*, threatening the Floridan avocado production.** Jerome Niogret¹, Paul E. Kendra, Nancy D. Epsky, Robert R. Heath. Subtropical Horticult. Res. Station, USDA-ARS, 13601 Old Cutler Road 33158 Miami, FL. Jerome.Niogret@ars.usda.gov
- DSP14. Host defense costs to parasitism in *Plodia interpunctella* - *Venturia canescens* interactions .** Jerome Niogret, Pejman Rohani. Odum School of Ecology, University of Georgia, Athens, GA. Jerome.Niogret@ars.usda.gov;

MONDAY AFTERNOON, JULY 26, 2010

SYMPOSIUM: Mosquito Ecology and Arbovirus Transmission in Florida

Organizer and Moderator: **Dr. Phil Lounibos**,

POMPANO- ROOM

2:05-2:10:

Introduction to the Symposium, Dr. Phil Lounibos.

2:10-2:30:

[7] **The role of multiple vectors in West Nile virus epidemiology**

Cynthia Lord, Stephanie Richards, Walter Tabachnick, Fla. Med. Entomology Lab, Vero Beach

2:30-2:50:

[8] **Chemical ecology of host-finding by *Culex***

Sandra A. Allan, Ulrich Bernier, Daniel Kline, CMAVE/USDA, Gainesville

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2:50-3:10:

[9] **Use of container habitats by *Aedes aegypti* during and after an outbreak of Dengue-1 virus in Key West, Florida.**

Lawrence J. Hribar, Andrea L. Leal, Mikki J. Coss, Michael C. Spoto, Edsel M. Fussell, Fla. Keys Mosquito Control, Key West

3:10-3:25: Break {Encourage everyone to go see Poster Presentations}

3:25-3:45:

[10] **Larval ecology and adult vector competence of invasive mosquitoes *Aedes albopictus* and *Ae. aegypti* for chikungunya virus.**

Catherine A. Westbrook, Fla. Med. Entomology Lab, Vero Beach

3:45-4:05:

[11] **Invasive plants and mosquitoes in Florida.**

Michael Reiskind, Oklahoma State University, Oklahoma City

4:05-4:25:

[12] **The role of resources in competitive coexistence and exclusion among Florida *Aedes*.**

Steven A. Juliano, Ebony G. Murrell, Kavitha Damal, Scott B. Chism, Jarrett B. Cellini, Illinois State University, Normal IL

4:25-4:45

[13] **Competitive reduction by satyrization? Evidence for interspecific mating and asymmetric reproductive competition between invasive Florida vectors.**

L. Philip Lounibos, Frederic Tripet, Naoya Nishimura, Erik Blosser, Fla. Med. Entomology Lab, Vero Beach & Keele University, UK

4:45-5:00: **Discussion**

MONDAY AFTERNOON, JULY 26, 2010

CONCURRENT SESSION: **Student Paper Competition, Doctor of Philosophy** AMBERJACK-ROOM

Organizer/Moderator -- ____TBA_____ -

2:05-2:10 Introduction and Instructions (10 min, plus 2 min for questions)

2:15 [14] **A Study on the Two Invasive Citrus Butterfly Species in Jamaica, *Heracles andraemon* (Papilionidae) Hubner, and *Papilio demoleus* (Papilionidae) L. and the Development of Control Measures against Them.**

Charah Watson,¹ Eric Garraway,² Dwight Robinson,² Nemoi Chisolm,² and Trevor Yee.³ Department of Entomology & Nematology, 970 Natural Area Drive, P.O. Box 110620, Gainesville, FL 32611-0620

2:27 [15] **Impact of different organic mulches on the soil surface arthropod community and weeds**

Harsimran K Gill, Robert McSorley, Gaurav Goyal and Marc Branham. Department of Entomology & Nematology, 970 Natural Area Drive, P.O. Box 110620, Gainesville, FL 32611-0620.

- 2:39 [16] **Influence of abiotic factors on activity of three fungal pathogens regulating chilli thrips, *Scirtothrips dorsalis* (Thysanoptera: Thripidae) on pepper**
Vivek Kumar, Dakshina R Seal, David J. Schuster, Lance Osborne, Cindy McKenzie and Garima Kakkar. Tropical Research and Education Center, 18905 SW 280th St. Homestead, FL 33031.
vivekiari@ufl.edu
- 2:51 [17] **Identification of immature stages of picture-winged fly pests of corn**
Goyal, G., G.J. Steck, G.S. Nuessly, J.L. Capinera, D.R. Seal, and K.J. Boote, Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL
- 3:03 [18] **The effect of adjacent plant communities on the development of flower thrips populations in Southern highbush blueberries in Florida**
Elena M. Rhodes and O. E. Liburd, University of Florida Entomology and Nematology Department, P. O. Box 110620, Bldg. 970 Natural Area Dr. Gainesville, FL 32611. erhodes@ufl.edu
- 3:15 [19] **Timing of Temik and Movento Applications for Control of Asian Citrus psyllid (ACP) *Diaphorina citri***
Scott Croxton, Mike Edenfield and Phil Stansly, University of Florida, Institute of Food and Agricultural Sciences, Southwest Florida Research and Education Center, 2685 State Rd. 29 N, Immokalee, FL 34142.
- 3:27 - 3:40 – Break {Encourage everyone to go see Poster Presentations}**
- 3:40 [20] **How effective are Risk Communication Activities during the Permitting/ Importation Process of Insect Biological Control Agents**
Paraiso, O., M.T.K. Kairo, S. Bloem, and S.D. Hight., Center for Biological Control, College of Engineering Sciences, Technology and Agriculture, Florida Agricultural & Mechanical University, Tallahassee, FL 32307.
- 3:52 [21] **Effect of Twospotted Spider Mites (Acari: Tetranychidae) on Marketable Yield of Field-grown Strawberries**
Nyoike, T.W. and O.E. Liburd Entomology & Nematology Department, University of Florida Gainesville, FL 32611, Bldg 970 Natural Area Drive, Gainesville, FL 32611
- 4:04 [22] **~~The Spatial Distribution and Density of *Nylanderia pubens* on Urban Lots~~**
Stephanie Larrick, Bldg 970 Natural Area Dr., P.O. Box 110620, Gainesville FL 32611,
larricksk@ufl.edu

CONTINUING SESSION: Student Paper Competition, Master of Science

Moderator: Harsimran K. Gill

AMBERJACK- ROOM

4:16 Introduction and Instructions (10 min, plus 2 min for questions)

- 4:20 [23] **Differential predation by two predatory mites *Amblyseius swirskii* and *A. cucumeris* (Acari: Phytoseiidae) on *Frankliniella schultzei* and *Thrips palmi* (Thysanoptera: Thripidae) in field cucumber**
Garima Kakkar, Dakshina R. Seal, Philip A. Stansly, Oscar E. Liburd and Vivek Kumar. Tropical Research and Education Center, University of Florida, 18905 SW 280th St. Homestead, FL 33031.
garimaiari@ufl.edu

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4:32 [24] **Evaluating the predator for *Euxesta stigmatias* by investigating the microflora of corn ear.** Megha Kalsi, D. R. Seal, G. Nuessly and J. L. Capinera, Tropical research and education center (TREC), Homestead, FL 18905, SW 280th street. Homestead, FL 33031, meghakalsi@ufl.edu

4:44 [25]

4:56 **Concluding Remarks**

6:30PM -- 8:30PM Reception/Mixer – Sinclair Lounge

TUESDAY MORNING, July 27, 2010

8:15AM -- 12:00PM

SYMPOSIUM: Innovative Arthropod Management Solutions AMBERJACK- ROOM

Organizers: Joe Eger (Dow AgroSciences, Tampa, FL)
Scott Ferguson (Atlantic Turf & Ornamental Consulting, Vero Beach, FL)

8:15 AM Welcome and Introduction S. Ferguson

8:20 [26]

Field validation of subterranean termite (Isoptera, Rhinotermitidae) control with Recruit[®] HD, a new termite bait from Dow AgroSciences. J. E. Eger, Dow AgroSciences, Tampa, FL, Joe J. DeMark, Dow AgroSciences, Fayetteville, AR, J. A. McKern, Dow AgroSciences, Christianburg, VA, M. P. Tolley, Dow AgroSciences, Indianapolis, IN, M. D. Lees, Dow AgroSciences, Granite Bay, CA, M. L. Fisher, Dow AgroSciences, Fresno, CA, R. L. Hamm, Dow AgroSciences, Indianapolis, IN, M. W. Melichar, Dow AgroSciences, Indianapolis, IN, M. Messenger, USDA, APHIS, VS, NCAHP, Alexandria, VA, and E. M. Thoms, Dow AgroSciences, Gainesville, FL.

8:40 [27]

The use of the bio-insecticide PFR-97 in food crop production in the southeastern US. H. Brett Highland, Certis USA, 1069 Eisenhower Dr, Nokomis, FL 34275.

9:00 [28]

Control of royal palm bug, *Xylastodoris luteolus* (Hemiptera: Thaumastocoridae), with soil applied systemic insecticides. Doug Caldwell, Collier County Extension Service, Institute of Food and Agricultural Sciences, University of Florida, 14700 Immokalee Road, Naples, FL 34120 and A. D. Ali, Davey Institute, The Davey Tree Expert Co., 17140 Oak Creek Road, Alva, FL 33920.

9:20 [29]

Developing “better mousetraps” for tough urban pests. The Bayer Environmental Science approach. John Paige, Bayer Environmental Science, Vero Beach, FL 32963, Byron Reid, Bayer Environmental Science, Research Triangle Park, NC 27709, Joe Hope, Bayer Environmental Science, Research Triangle Park, NC 27709, and Tom Macom, Bayer Environmental Science, Research Triangle Park, NC 27709.

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9:40 [30]

Overture[®] and Belay[®]: New Insecticides for the Control of Pests In Greenhouse Ornamentals and Field Vegetables Production. J. Chamberlin, J. Smith and C. Granadino, Valent Corp., 8577 Cordes Circle, Germantown, TN 38139.

10:00-10:20 Break

10:20 [31]

From discovery to sale. The development of a pesticide. Jeff Dobbs, OHP Inc., Roswell, GA.

10:40 [32]

Development of Sulfuryl Fluoride for Quarantine Fumigation of Logs, Bamboo, Wood-Packaging and Other Cellulosic Materials. Ellen Thoms, Dow AgroSciences, Gainesville, FL.

11:00 [33]

REQUIEM 25EC: Impact on beneficial insects and use for control of key insect pests.
Dennis Long, AgraQuest, Inc., Demorest, GA.

11:20 [34]

Chemical Class Rotations for Control of *Bemisia tabaci* Biotypes on Poinsettia.
Cindy McKenzie, US Horticultural Research Laboratory, 2001 South Rock Road, Fort Pierce, FL 34945
Cristi Palmer, Lance Osborne, Scott Ludwig, and Ron Oetting.

11:40 Discussion

TUESDAY MORNING, July 27, 2010

POSTER SESSION-2 Tuesday 27th, 10:00AM -- 6:00 PM

MARLIN ROOM

Presenters are asked to be at their poster from 3:00- 3:30 pm. Posters must be removed by 6:00 P.M. Tuesday

DSP15. Evaluation of New Insecticides for *Frankliniella occidentalis* (Pergande) Management in Pepper.

Mrittunjai Srivastava, J.E. Funderburk, and Steve Olson. NFREC, IFAS, University of Florida, 155 Research Road, Quincy, FL 32351-5677.

DSP16. Artificial Rearing and Ecology of the Black Soldier Fly (*Hermetia illucens* (Diptera:

Stratmyidae)) in Korea. Kwanho Park, Sangbeom Lee, Wontae Kim, Jonggill Kim and Youngcheol Choi. Department of Agricultural Biology, National Academy of Agricultural Science, RDA, Suwon, Korea 441-853

DSP17. Effect of Temperatures on Development and Oviposition of the Bigeyed Bug, *Geocoris*

***pallidipennis*.** Jeong Hwan Kim¹, Young-Woong Byeon¹, Hwang-Yong Kim², Man-Young Choi¹. ¹Crop Protection Division, National Academy of Agricultural Science (NAAS), Suwon, South Korea, ²International Technology Cooperation Center, Rural Development Administration (RDA), Suwon, South Korea, kim9@korea.kr

DSP18. Functional Response of an Aphid Parasitoid *Aphelinus asychis* in the Laboratory

Young Woong Byeon¹, Midori Tuda², Jeong-Hwan Kim¹ and Man-Young Choi¹. ¹Crop Protection Division, National Academy of Agricultural Science (NAAS), Suwon, South Korea, ²Institute of Biological Control, Faculty of Agriculture, Kyushu University, Fukuoka, Japan, biotin92@korea.kr

DSP19. Host plant range of *Raoiella indica* Hirst (Acari: Tenuipalpidae) in areas of invasion of the new world

D. Carrillo^{1*}, D. Amalin², F. Hosein⁴, A. Roda³, R. Duncan¹ and J.E. Peña¹. University of Florida, Department of Entomology and Nematology, Tropical Research and Education Center, Homestead, FL 33031, USA, dancar@ufl.edu

DSP20. Population Similarity and Population Genetic Structure of the Rice Leaf Roller, *Cnaphalocrocis medinalis* (Lepidoptera: Pyralidae) Inferred from the Mitochondrial A+T-Rich Region and Nuclear ITS2 Sequences

X. Wan, J. Li, M. J. Kim, T. H. Kang, B. R. Jin, and I. Kim, College of Agriculture & Life Sciences, Chonnam National University, 300 Yongbong-Dong, Buk-Gu, Gwangju 500-757, Republic of Korea.

DSP21. Dynamics of the red palm mite, *Raoiella indica* (Acari: Tenuipalpidae) in Florida

J. E. Peña, R. Duncan, D. Carrillo, Ana Vargas. 18905 SW 280th Street, Homestead, FL 33031
avargas22@ufl.edu

DSP22. Likelihood of dispersal of an armored scale, *Aonidiella orientalis* (Hemiptera: Diaspididae), to avocado trees from infested fruit discarded on the ground

M. Hennessey, J E Peña, M. Zlotina, K. Santos, 18905 SW 280th Street, Homestead, FL 33031,
katiasantos@ufl.edu

DSP23. Molecular Phylogenetic Analysis of True Butterfly Families (Lepidoptera: Papilionoidea) by COI, 16S rRNA and EF-1 α Sequences

M.I. Kim, X. Wan, M.J. Kim, H. C.J.N. Ahn, K.G. Kim, Y.S. Han, Iksoo Kim, College of Agriculture & Life Sciences, Chonnam National University, 300 Yongbong-Dong, Buk-Gu, Gwangju 500-757, Republic of Korea.

DSP24. Descriptions of Mitochondrial Genomes of Three Scarabaeiformia (Insecta: Coleoptera) and Molecular Phylogenetic Analysis among Coleoptera

M.J. Kim, K. G. Kim, and I. Kim, College of Agriculture & Life Sciences, Chonnam National University, 300 Yongbong-Dong, Buk-Gu, Gwangju 500-757, Republic of Korea.

DSP25. Development of *Artophaneura alcinous* (Lepidoptera : Papilionidae) reared on different temperature and survivorship after storage at low temperature for diapause termination

Seong hyun Kim, Man -Young Choi, Jeong-Hwan Kim, Young Woong Byeon, Seok Jo Whang ¹ Applied Entomology Division, National Academy of Agricultural Science (NAAS), Suwon, Republic of Korea.

DSP26. Efficacy of four traps in capturing male *Helicoverpa* moths in north Florida

Meagher, Robert L.¹, Sarahlynn C. Guerrero², & Julieta Brambila². ¹USDA-ARS CMAVE, 1700 SW 23rd Drive, Gainesville, FL 32608, ²USDA-APHIS-PPQ, P.O. Box 147100, Gainesville, FL 32614.

DSP27. Movement of Asian citrus psyllid, *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae), as measured by immunomarking: implications for the spread of huanglongbing

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H. Lewis-Rosenblum, S. Tiwari, and L. L. Stelinski, University of Florida, CREC, 700 Experiment Station Rd., Lake Alfred, FL 33850, hannahlr@ufl.edu

TUESDAY MORNING, July 27, 2010

CONCURRENT SESSION ---Contributed Papers, General Entomology

Moderator _____ TBA_____

POMPANO - Room

8:40- Introduction

8:45- [35] Evaluation of insecticides for control of thrips on spring snap beans: Round Two

Gregg Nuessly and Nicholas Larsen, Everglades Research and Education Center, 3200 E. Palm Beach Rd., Belle Glade, FL 33430, 561-993-1500. gnessly@ufl.edu larsnick@ufl.edu

9:00 [36] GIS based spatial analysis of population dynamics of parasitoids of the fall armyworm in a corn field

[Mirian Medina Hay-Roe](mailto:Mirian.Medina.Hay-Roe@ars.usda.gov), USDA, ARS, CMAVE 1600-1700 SW 23rd Drive Gainesville FL 32608
Mirian.Hay-Roe@ars.usda.gov

9:12 [37] Preference, development, and reproduction of *Hippodamia convergens* (Coleoptera: Coccinellidae) on diets of three sucking insect pests of citrus

[Jawwad A. Qureshi](mailto:Jawwad.A.Qureshi@ufl.edu) and Philip A. Stansly, Department of Entomology and Nematology, University of Florida – IFAS, SWFREC, 2686 SR 29 N, Immokalee, FL 34142, jawwadq@ufl.edu

9:24 [38] Management of the brown citrus aphid, *Toxoptera citricidus*, using entomopathogen *Isaria fumosorosea* and aphid parasitoid, *Lysiphlebus testaceipes*.

[David A. Pick](mailto:David.A.Pick@fau.edu)^{1,2,4}, Pasco B. Avery², Wayne B. Hunter³, Charles A. Powell², David G. Hall³, And Steven P. Arthurs⁴. ¹Florida Atlantic University, Harriet L Wilkes Honors College, 5353 Parkside Drive, Jupiter, FL 33458, USA, dpick@fau.edu, {Undergraduate Studies},
²University of Florida, Institute of Food and Agricultural Sciences, Indian River Research and Education Center, 2199 S. Rock Rd., Ft. Pierce, FL 34945. ³USDA, ARS, U. S. Hort. Res. Lab., 2001 S. Rock Rd., Ft. Pierce, FL 34945.

9:36 [39] Behavioral response of *Tamarixia radiata* Waterston (Hymenoptera: Eulophidae) to volatiles emanating from *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae), citrus, and opposite sex conspecifics.

[R.S. Mann](mailto:R.S.Mann@ufl.edu), J.A. Qureshi, P.A. Stansly and L.L. Stelinski.
Citrus Research and Education Center, University of Florida, 700 Experiment Station Rd., Lake Alfred, FL 33850, U.S.A. mannrs@ufl.edu

9:48 [40] Prospects for Area Wide Management of the Asian Citrus Psyllid in Florida

[Phil Stansly](mailto:Phil.Stansly@ufl.edu), Alejandro Arevalo, Mongi Zekri, Paul Mears, Joe Russo and Ron Hamel
SWFREC. University of Florida, 2685 SR 29 N., Immokalee, FL. 34142.

10:00 [41] Does an alternative host promote or reduce huanglongbing in citrus? Orange jasmine and Asian citrus psyllids reared from jasmine maintain low titers of *Candidatus Liberibacter asiaticus*

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Abigail Walter¹, David Hall¹, and YongPing Duan²

¹ USDA-ARS, U.S. Horticultural Research Laboratory, Subtropical Insects Research Unit, ² USDA-ARS, U.S. Horticultural Research Lab., Subtropical Plant Pathology Research Unit, Ft. Pierce, FL

10:12 - 10:24 – BREAK

- 10:24 [42] **Control of Blueberry bud mites, a major pest of Southern Highbush Blueberries**
Weibelzahl, E., and O. E. Liburd, Biological Scientist, Entomology and Nematology Dept., University of Florida, Gainesville, FL 32611.
- 10:36 [43] **Ship-borne termite interceptions in Australia and onboard infestations in Florida, 1986-2009**
Rudolf H. Scheffrahn and William Crowe: University of Florida, Fort Lauderdale R.E.C., 3205 College Avenue, Ft. Lauderdale, FL 33314 rhsc@ufl.edu
- 10:48 [44] **Multiplication of *Ca. Liberibacter asiaticus* and fitness of the Asian citrus psyllid, *Diaphorina citri***
Kirsten S. Pelz-Stelinski, M. Rogers
- 11:00 [45] **Abundance and control of Melon thrips, *Thrips palmi* Karny (Thysanoptera: Thripidae) in South Florida**
Dakshina R. Seal, Vivek Jha, Garima Kakkar and Megha Kalsi, Tropical Research and Education Center, 18905 SW 280th St. Homestead, FL 33031.
- 11:12 [46] **Effects of *Diaphorina citri* management on *Can. Liberibacter asiaticus* titer and fruit yield in Valencia oranges**
H. Alejandro Arevalo and Phil A. Stansly, SWFREC. University of Florida, 2685 SR 29 N. Immokalee, FL. 34142.
- 11:24 [47] **Localization and relative titer of *Candidatus Liberibacter asiaticus* in the salivary glands and alimentary canal of *Diaphorina citri* vector of citrus huanglongbing disease**
El-Desouky Ammar, Robert G. Shatters, Jr. and David G. Hall, Subtropical Insects Research Unit, USDA-ARS, Fort Pierce, FL. 34945.
- 11:36 [48] **Olfactory Influences on Territorial Zone Discrimination in the Red Imported Fire Ant, *Solenopsis invicta* Buren (Hymenoptera: Formicidae)**
Toure G. Thompson, Alabama A&M University, Department of Natural and Physical Sciences – Biology, P. O. Box 610, Alabama A&M University, Normal, Alabama 35762.
toure.thompson@aamu.edu
- 11:48 [49] **Diversity of Florida's cattle dung fauna: Impact of introduced species**
Kaufman, P.E. Entomology and Nematology Dept, PO Box 110620, Univ. of Florida, Gainesville, FL 32611, pk Kaufman@ufl.edu

12:00 - **Concluding Remarks**

AWARDS LUNCHEON - TUESDAY, JULY 27, 2010 12:00 - 2:00 SAILFISH- ROOM

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TUESDAY AFTERNOON, JULY 27, 2010

Symposium Title: **Multitrophic Interactions: Concepts and Applications**

Organizers: **Veronica Manrique, Rodrigo Diaz, and William A. Overholt**

Date: July 27th from 1:25 to 5:00 pm, **AMBERJACK -ROOM**

2:30 pm. Introductory Remarks

2:35-2:50 pm. Stephen D. Hight and James E. Carpenter.

[50] “Development and deployment of control techniques to mitigate the threat of *Cactoblastis cactorum* in North America”

2:50-3:05 pm. Jorge E. Peña, J. L. Capinera, M. Thomas, G. Steck, R. Duncan, G. Braar, P. Kendra and S. McLean.

[51] “The complex of Scolytinae inhabiting *Persea borbonia* and *Persea americana* in Florida: Possible interactions with other species”.

3:05-3:20 pm. Karla M. Adesso, Corraine McNeill, Hans T. Alborn, Heather J. McAuslane.

[52] “Developing behaviorally-based management strategies for the pepper weevil (*Anthonomus eugeniei*)”.

3:20-3:35 pm. Pasco B. Avery, Vitalis W. Wekesa, Wayne B. Hunter, David G. Hall, Cindy L. McKenzie, Lance L. Osborne, Charles A. Powell, and Michael E. Rogers.

[53] “Multitrophic interactions of *Isaria fumosorosea*: to reduce the spread of citrus disease, Huanglongbing”

Break: 3:35 – 3:45 pm {Encourage Everyone to go see Poster Presentations}

3:45-4:00 pm. Teresa Cooper, Ronald D. Cave, and Howard Frank.

[54] “The effects of two host bromeliad species on a bromeliad-eating weevil, *Metamasius callizona*”.

4:00-4:15 pm. William A. Overholt, L. Markle, E. N. Roskopf, V. Manrique, J. Albano, E. Cave and S. Adkins.

[55] “The interactions of Tropical soda apple mosaic tobamovirus and *Gratiana boliviana* (Coleoptera: Chrysomelidae), an introduced biological control agent of tropical soda apple (*Solanum viarum*)”.

4:15-4:30 pm. Peter Stiling.

[56] “The effects of elevated CO₂ cascade through plants to herbivores, but not to other trophic levels”.

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4:30-4:45 pm. Rodrigo Diaz, Veronica Manrique, and William A. Overholt.

[57] “Effect of rising CO₂ levels on the performance of tropical soda apple and its biocontrol agent *Gratiana boliviana*”.

4:45-5:00 pm. James P. Cuda.

[58] “Biology and host range of the Brazilian peppertree stem boring weevil, *Apocnemidophorus pipitzi* (Coleoptera: Curculionidae)”.

5:00-5:10 Closing Remarks

TUESDAY AFTERNOON, JULY 27, 2010

SYMPOSIUM: **General Entomology Contributed Papers:**

CONCURRENT SESSION, continued

Moderator: ___TBA_____,

POMPANO- ROOM

2:30- Introduction

2:35 [59] **Reducing Insecticide Use on Guatemalan Snow Peas**

Hugh A. Smith¹, Ana Cristina Bailey², Luis F. Calderón², Charles M. MacVean² José Manuel Benavente², Rafaél Oroxóm², and Fredi O. Xocop².

2:47 [60] **A new material for controlling RIFA's in record time**

Bruce Ryser, Dr. Reid Ipser, and Dr. Dina Richman, FMC Corporation, 9703 Cypress Pond Avenue, Tampa, FL. 33647. bruce.ryser@fmc.com

2:59 [61] **Effects of Soil and Foliar applied insecticides on Silverleaf Whitefly populations and Tomato Yellow Leaf Curl Virus (TYLCV) transmission in two varieties of field grown tomatoes**

Kostyk, B.C and Stansly, P.A

University of Florida, Institute of Food and Agricultural Sciences Southwest Florida Research and Education Center, 2685 State Rd. 29 N, Immokalee, FL 34142

3:11 [62] **Acoustic survey of the newly invasive red palm weevil, *Rhynchophorus ferrugineus* (Olivier), in Curacao and Aruba**

R.W. Mankin (USDA-ARS-CMAVE, Gainesville, FL), A.L. Roda (USDA-APHIS-CPHST, Miami, FL), M.T. K. Kairo (FAMU, Tallahassee, FL).

3:23 –3:38 BREAK {Encourage everyone to go see Poster Presentations}

3:38 [63] **Re-Invasion Capacity of *Melaleuca quinquenervia* in a Seasonally Inundated Wetland in the Western Everglades**

Philip W. Tipping. USDA-ARS Invasive Plant Research Laboratory, Ft. Lauderdale, FL 33314

3:50 [64] **Metabolic Mechanisms Mediate the Miserable Months: Seasonal Diapause Promotes Speciation in the Apple Maggot**

Ragland, Gregory J¹, Jeffrey L. Feder², and Daniel A. Hahn¹

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1. Department of Entomology and Nematology, University of Florida, Gainesville FL 32606. 2. Department of Biological Sciences, University of Notre Dame, South Bend IN 46556, dahahn@ufl.edu,

- 4:02 [65] **Sampling For Wireworms At Sugarcane Planting**,
R. Cherry¹, P. Grose², and E. Barbieri², ¹ Everglades Research and Education Center, Belle Glade, FL, ² King Ranch, South Bay, FL.
- 4:14 [66] **Can Tissue Elemental Signatures Provide Information on Diet and Provenance Feeding in Stored Product Insects?**
Rizana M. Mahroof¹ and Thomas W. Phillips². ¹Department of Biological and Physical Sciences, South Carolina State University, Orangeburg, SC 29117, USA, ²Department of Entomology, Kansas State University, Manhattan, KS 66506, USA.
- 4:26 [67] **Pre-adaptive shift of an indigenous ant-eating predator (Araneae, Zodariidae) on an abundant, invasive species (Hymenoptera, Formicidae)**
María Juan-Blasco, Stano Pekár, Oscar Mollá, Alberto Urbaneja, Pedro Castañera and César Monzó. cmonzo@ufl.edu SWFREC. University of Florida, 2685 SR 29 N. Immokalee, FL. 34142.
- 4:38 [68] **Parasitism of Blueberry Gall Midge (Diptera: Cecidomyiidae) Infesting Blueberry Flower and Leaf Buds**
Craig R. Roubos and Oscar E. Liburd, University of Florida, Entomology and Nematology Dept., Bldg. 970 Natural Area Dr., Gainesville, FL 32611, roubosc@ufl.edu
- 4:50 [69] **Effect of temperature on blueberry gall midge larval and pupal development**
Liburd O.E. and C.R. Roubos, University of Florida, Entomology and Nematology Dept., Bldg. 970 Natural Area Dr., Gainesville, FL 32611. oeliburd@ufl.edu
- 5:03 [70] **Predatory competition at the margins.** Jeffrey Shapiro, Paul Shirk, Stuart Reitz, and Jean Thomas. USDA, ARS, CMAVE, 1700 SW 23rd Drive, Gainesville, FL 32605, jeff.shapiro@ars.usda.gov

WEDNESDAY MORNING, July 28, 2010

SYMPOSIUM:

Center for Systematic Entomology

AMBERJACK- ROOM

Organizers: J. E. Eger, Dow AgroSciences, Tampa, FL, and J. H. Frank,
Dept. of Entomology and Nematology, University of Florida, Gainesville, FL

Center For Systematic Entomology Symposium - 25th Anniversary: Honoring Ross Arnett

8:00 Introduction: **J. E. Eger**

8:05 [71] **Ross Arnett: Contributions to Entomology.** E. J. Gerberg, Dept. Entomology and Nematology, University of Florida, Gainesville, FL

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- 8:25 [72] **Studies on the order Ephemeroptera (Insecta) in Cuba.**
Carlos Naranjo López (1), Janice G. Peters (2) & Merlin García Núñez (1) . (1)Oriental Center of Ecosystems and Biodiversity (BIOECO), Museum of Natural History Tomás Romay, 601 Saco St., Santiago de Cuba. (2)Entomology, 409 Perry-Paige Florida A&M University Tallahassee, FL 32307.
- 8:45 [73] **Termite diversity surveys of the Caribbean Basin, 1989-2010.** R.H. Scheffrahn, J. A. Chase, J. R. Mangold, and J. Krecek., Ft. Lauderdale Research and Education Center, University of Florida, Ft. Lauderdale, FL,
- 9:05 [74] **Richness and phenology of moth community in north-central Florida.**
Andrei Sourakov and George Austin, McGuire Center, Florida Museum of Natural History, Gainesville, FL.
- 9:25 [75] **Pentatomoidea collected in French Guiana.** J. E. Eger, Dow AgroSciences, Tampa, FL
- 9:45 [76] **A review of the Antillocorini (Heteroptera: Rhyparochromidae) from French Guiana.**
J. Brambila, USDA-APHIS-PPQ, Gainesville, FL

10:05

10:20- 10:35 BREAK

WEDNESDAY MORNING, July 28, 2010

WORKSHOP : Africanized Bee Workshop POMPANO- Room

Organizer : Dr. Bill Kern, University of Florida, Ft. Lauderdale, FL

10-12:00 am- Dr. Bill Kern-

Management and control of AHB, for PCO's, property managers, and others that might need to deal with feral colonies.

SYMPOSIUM: Contributed Papers, General Entomology

Moderator: __TBA__ as needed __

POMPANO ROOM

8:00- Introduction (Notes: times 8 min/presentation, 2 min/for questions.

8:05-9:00AM