
Second International Lygus Bug Symposium
April 15 – 19, 2007
Asilomar Conference Grounds
Pacific Grove California



Acknowledgements

Organizers:

Peter B. Goodell and Peter C. Ellsworth

Scientific Committee:

Steve Naranjo and Peter Ellsworth, Chairs

James Barbour
Héctor Cárcamo
Peter Goodell
Jeff Gore

Kim Hoelmer
Roger Leonard
Peter Mason
Charles Pickett

Session Moderators:

Steve Naranjo
James Barbour
Héctor Cárcamo
Peter Ellsworth
Al Fournier

Peter Goodell
Jeff Gore
Kim Hoelmer
Roger Leonard
Charles Pickett

Local Arrangements:

Peter Goodell
Jennifer Thayer and Jennifer Claassen
UC Davis Campus Events and Visitor Services
Sean Swezey, Charlie Pickett and Frank Zalom

Sponsors:

FMC
University of California, Statewide IPM Program
University of Arizona, Arizona Pest Management Center
A grant from USDA-CSREES, Risk Avoidance and Mitigation Program (RAMP)

Cover Drawing:

Washington State University, Doug Walsh

Audio Visual:

Peter Goodell, Jay Bancroft and Larry Godfrey

Special Thanks:

Kate Reardon, Vicki Barker and Peter Ellsworth for their work in preparing abstracts and ensuring local arrangements ran smoothly and to Kim Hoelmer for coordinating the "raffle".

Welcome and Introduction

The organizers of this Second International Lygus Symposium welcome you to Asilomar, “the refuge by the sea”. This location is designed for a relaxing and social experience in which entomologists dedicated to increasing our understanding of this key mirid pest can meet and exchange information and knowledge. This location, located on the edge of the North American Continent on one of the most scenic coastlines in the world is designed to allow engagement and interaction of the participants.

Asilomar was originally designed as YWCA regional conference center and purchased by California State Park and Recreation System in 1951 who have continually operated it since. Many of the buildings were design by California architect, Julia Morgan best known for work at Hearst Castle in San Simeon, California, about 150 miles to the south. Additional adjoining land has been added over the years to provide a forest, dune and sea shore park.

This Symposium follows the 2005 Meeting in Ottawa Canada on Ecology and Management of Lygus Plant Bugs. That first symposium provided a unique opportunity for entomologists to gather and integrate a wide range of topics from biology, ecology, management and physiology. From that symposium, it was decided that entomologists working with Lygus should meet again and continue the dialog and exchange.

At the time this Welcome was being written, we have 52 registrants from six nations and 11 states representing university, public agencies and private entities. We have a full agenda of papers covering a wide range of topics from the molecular to the landscape. Most importantly we have the opportunity to strengthen networks, exchange information and build collaboration.

About this program: We have included the abstracts for all speakers and posters. Please note the number by each speaker in the agenda is indexed to the abstract number. The abstracts, with consent of authors, will be published in the Journal of Insect Science. All activities are listed but some locations may change so pay attention to announcements being made during the sessions.

So thank you for taking time out of your valuable schedule to attend this Symposium. We believe the setting and the community of entomologists will provide a rewarding, stimulating and valuable experience to everyone.

Peter B. Goodell
IPM Advisor & Interim Director
University of California Statewide IPM Program
Kearney Agricultural Center
Parlier, California
April 2007

Welcome to our "Refuge by the Sea!"

We hope that we have answered all of your questions in this brochure. If you think of anything we can do to make your stay more enjoyable, please call our Front Desk at extension 2232.

Guest Service

Telephone extension 2232

Accessibility Needs

Please inform the front desk and security staff of any arrangements that need to be made for guests with special needs.

Activities

Outdoor year-round heated swimming pool, a sand volleyball court, ping-pong and billiard tables are available for guest use. Ranger and campfire programs can be planned in advance by calling the Park Ranger Office at (831) 372-4076. A lending library and board games are at the Front Desk. Coastal boardwalk and self-guided walking tours are also available.

Bike Rentals

Located at the Asilomar Park Store. Hours of operations are 9 am to 6 pm daily. All bike rentals include a helmet, a bike lock, and a bike trail map. All renters are required to go through a short safety orientation and are required to complete a rental agreement and liability release. Bikes are rented by the full or half day and are suspended on rainy days. For bike rental rates, please inquire at the Park Store.

Business Center

Located next to the front desk. Hours of operation are 6:30 am to 12 midnight daily. Charges are collected on the honor system. A list of charges are posted in the business center.

Features include:

1. four dedicated local access lines
2. one personal computer for word processing
3. speaker phone for conference calls

Photocopies and faxes are handled at the front desk.

Check-In Time: After 3:00 pm

Check-Out Time: By 12:00 noon

Guests will be charged 1/2 day rate for staying beyond 12:00 noon. After 4:00 pm, a full day's charge is made. Guests are responsible for unnecessary destruction, breakage or misuse of property.

Dry Cleaning

One day service is available if items are brought to the front desk by 8:30 am.

Facility Services

Telephone extension 2232

Heat is regulated in the individual rooms by ventilators, radiators or thermostats. For any problem involving plumbing, electrical or heating, contact facility services at extension 2232.

Housekeeping Service

Telephone extension 2276

Guest Amenities

Irons, ironing boards, hair dryers, and extra blankets and pillows can be delivered to guest rooms by our housekeeping staff. There are 5 ice machines on the grounds for your convenience (see map for locations). Ice buckets are in the guest rooms.

Jitney

Telephone extension 2232

Asilomar's jitney is available for transporting guests anywhere on the grounds. Guests with disabilities will have priority.

Lost and Found

Telephone extension 2276

Articles left in rooms will be held for call for 90 days. Before checking out, check your room to be sure you have not forgotten anything.

Mail and Package Service

Post your letters in the mail slot at the front desk. Outgoing mail is picked up at 7:00 am daily. Incoming mail should be addressed:

Your Name

c/o The Name of the Conference you are attending

Asilomar Conference Grounds

P.O. Box 537

Pacific Grove, CA 93950

Indicate estimated arrival date. All guest mail is held at the front desk for pickup. Due to limited space, Asilomar Conference Grounds cannot accept packages delivered prior to your conference. Please contact TRICORD Convention & Exhibit Services (831) 373-4347 or alternate delivery service to store and deliver your packages.

Messages and Faxes

Telephone extension 2232

Incoming messages are received at the front desk. Telephone messages are delivered periodically to the guest's room. Fax services are available at the front desk for a nominal charge.

Meal Service

All meals are served semi-cafeteria style at Crocker Dining Hall. Your group will be seated together at designated tables.

Breakfast	7:30 am to 9:00 am
Lunch	12:00 noon to 1:00 pm
Dinner	6:00 pm to 7:00 pm

Neither cooking nor coffee making is permitted in the guest rooms or meeting rooms. Individual visitors are also welcome at Crocker Dining Hall. Meal tickets for individual meals may be purchased at the front desk.

Medical Service

Please contact the front desk for medical assistance by calling extension 2200 or dialing "0." No attempt is made to provide

medical service or give advice or treatment. The Emergency Room of the Community Hospital of the Monterey Peninsula is located on Highway 68 east near Highway 1. Telephone is 624-5311. Asilomar is not responsible for personal injury to guests as a result of their carelessness.

Park Store

Telephone extension 2906

The Park Store is located in the administration building (Phoebe A. Hearst Social Hall). Hours of operation are 6:30 am to 9:00 pm daily. Coffee and espresso drinks, bakery items, cold beverages, personal care items, phone cards, and gifts are available.

Telephone Service

Asilomar's telephone number is (831) 372-8016

To preserve the refuge atmosphere at Asilomar, our guest rooms are free from the distraction of televisions and telephones. An in-house telephone is located in each building for on-grounds calls only. In an emergency, dial "0." Use the nearest public telephone for local or long distance calls. Locations of public telephones are marked on the map. TDD machine may be obtained from the front desk for your use while at Asilomar.

Your Valuables

Safe deposit boxes are available at the front desk for your use. (Note: Under California law, the innkeeper assumes a maximum liability of \$500.00 for any items under his safekeeping. Civil Code 1840.) Please lock your windows and doors whenever you leave your room.

Park Information (831) 372-4076

Quiet Hours on Grounds

Please respect your neighbors' rights and maintain quiet between 10:00 pm and 6:00 am. (California Code of Regulations, Sec. 4320a.)

The Environment

Asilomar's 107 acres are dedicated to a natural ecological environment. Please walk on paved area only. The dunes are a particularly fragile environment and we request that you use the boardwalk to the beach. Trash receptacles are located throughout the grounds for litter. Asilomar encourages recycling whenever possible. Receptacles are available. Please do not litter in the park. Use cigarette receptacles for cigarette butts. No collecting of wood, animals, rocks, shells or sand is allowed.

Parking

Parking at Asilomar is provided for guests residing on grounds. Guests are required to park in designated areas. Disabled parking is available where indicated on the map (on the reverse side). Please note the one-way roads, speed limit of 15 mph and 10 minute parking zones. Roads must be kept clear at all times for emergency and service vehicles. Violators are subject to citation under California Vehicle Code and under State Park Rules and Regulation. No RV's are allowed on grounds.

Pets and Service Animals

State Park regulations do not permit pets overnight in any park building and suggests that no pet be left unattended in a closed vehicle overnight, hence, we must ask you to leave your pet at home.

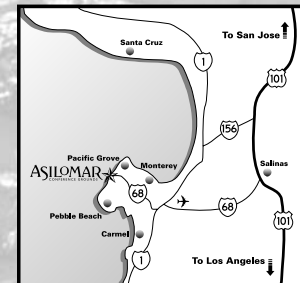


Experience the
Monterey Peninsula's
"Refuge by the Sea"

800 Asilomar Avenue
Post Office Box 537
Pacific Grove, California 93950

Telephone (831) 372-8016
Reservations (831) 642-4242
Group Sales (831) 642-4222
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www.VisitAsilomar.com



Location: Located just 71 miles south of San Jose and 120 miles south of San Francisco. Conveniently served by the Monterey Peninsula, San Jose, San Francisco and Oakland airports.

CALIFORNIA STATE PARKS
Delaware North Parks Services

HOUSE PHONE EMERGENCY NUMBER • DIAL 2200

NO RV's ON GROUNDS

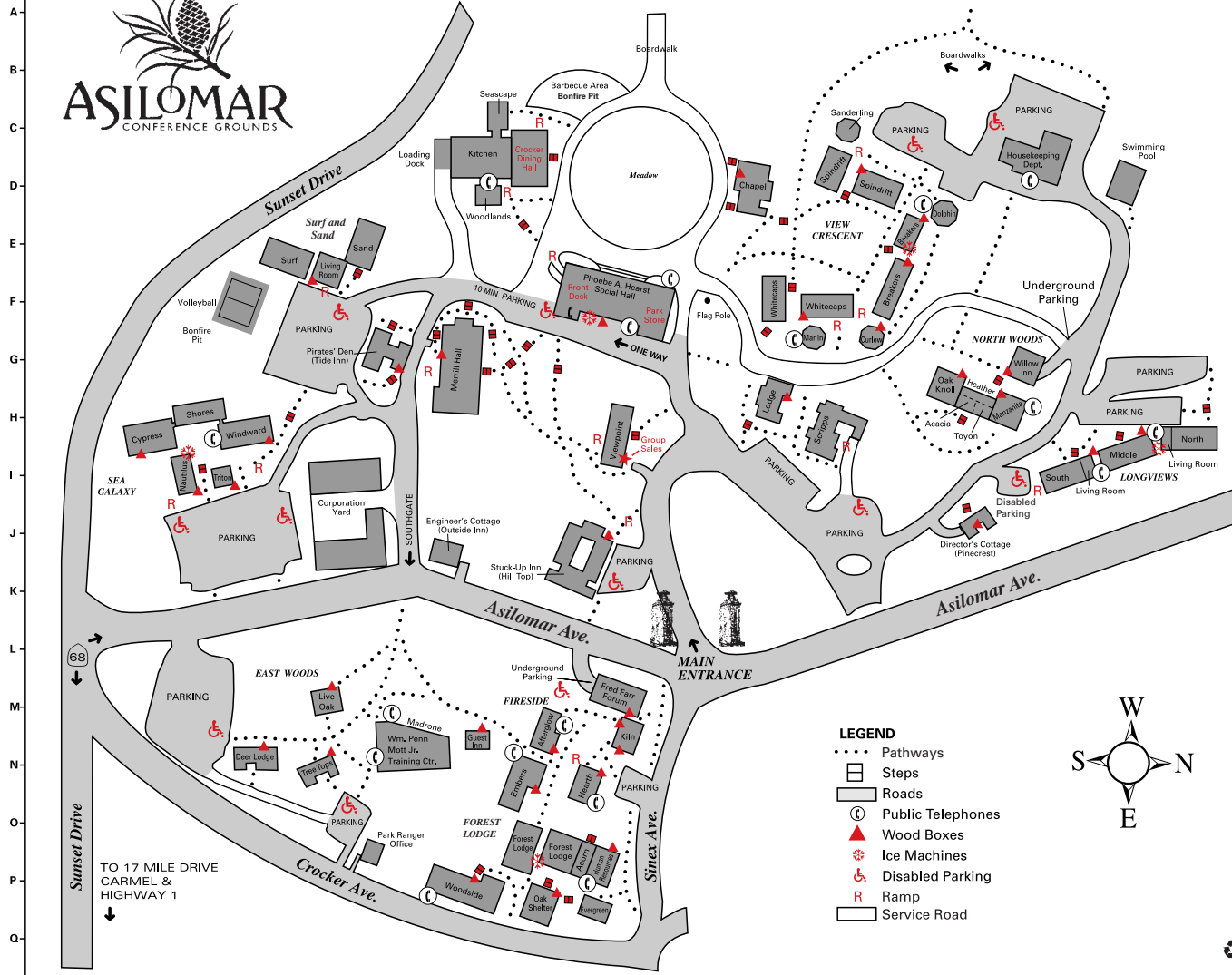
NO CAMPING FACILITIES

NO SLEEPING BAGS

NO BIKES IN ROOMS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

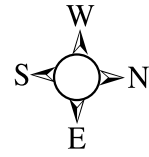
PACIFIC OCEAN



FACILITY	ROOM #	MEETING ROOMS	LOC.
Longviews (H-21)			
Longview North	101-110	North Living Room	H-22
Longview Middle	111-120		H-21
Longview South	121-130	South Living Room	I-19
North Woods (G-18)			
Willow Inn	1025-1036	Heather	G-19
Manzanita	1001-1012	Toyon	H-18
Oak Knoll	1013-1024	Acacia	H-17
View Crescent (E-15)			
Whitecaps South	801-808	Marlin	F-14
Whitecaps North	809-820		F-15
Breakers East	821-832	Curlew	F-16
Breakers West	833-840	Dolpin	E-16
Spindrift South	841-848	Sanderling	D-15
Spindrift North	849-856		D-16
Fireside (O-10)			
Afterglow	1301-1312	Fred Farr Forum	M-9
Hearth	1325-1336	Kiln	N-10
Embers	1313-1324		N-9
Guest Inn	901-903		M-8
Forest Lodge (M-10)			
Forest Lodge	1201-1211	Acorn	O-10
		Evergreen	P-11
		Oak Shelter	P-8
Historic Core			
Lodge	201-218		H-14
Scripps	301-323	Scripps Meeting Rm	H-15
Stuck-Up Inn (Hilltop)	401-414		K-10
Pirates' Den (Tide Inn)	501-510		G-6
Director's Cottage (Pinecrest)	1401-1403		J-18
Viewpoint		Viewpoint East	I-11
Group Sales Office			I-11
Merrill Hall			G-8
Chapel			D-14
Front Desk & Park Store / Phoebe A. Hearst Social Hall			F-10
Crocker Dining Hall		Crocker, Woodlands & Seascape	D-9
Engineer's Cottage (Outside Inn)			J-8
Fire Academy Offices			J-8
Sea Galaxy (G-4)			
Sand	605-610	Surf & Sand Room	E-6
Surf	601-604		E-4
Windward	701-708	Triton	H-4
Shores	709-716		H-3
Cypress	717-724	Nautilus	H-2
Eastwoods (M-4)			
Live Oak	1101-1110		M-5
Tree Tops	1111-1120		N-5
Deer Lodge	1121-1130		N-3
William Penn Mott Jr. Training Center			M-7
Madrone			N-7
Activity Locations			
Barbecue Area			C-10
Swimming Pool			D-21
Volleyball Court			F-4
Corporation Yard		Facilities	J-6
Housekeeping			D-19
Woodhaven - Park Ranger Office			O-7

LEGEND

- Pathways
- Steps
- Roads
- Public Telephones
- Wood Boxes
- Ice Machines
- Disabled Parking
- Ramp
- Service Road



PROGRAM

**Second International Lygus Symposium
Asilomar Conference Grounds
Pacific Grove, California
15 April to 19 April 2007**

SUNDAY, April 15, 2007

3:00 PM	Check into Conference Grounds
3:00-8:00 PM	Conference Registration – Information Desk
6:00 PM	Welcome BBQ dinner for all participants



MONDAY, April 16, 2007

- 7:00 Breakfast for registered guests in Crocker Dining Hall
8:00 Conference Registration – Information Desk
11:00
8:45 Introduction/Welcome - Peter Goodell, Peter Ellsworth and Steve Naranjo

AM SESSION: ECOLOGY--Moderators: Steve Naranjo and Peter Goodell

- 9:00 **1** KEYNOTE Biology, ecology and management of the green mirid, *Creontiades dilutus* (Stål) in Australia Gregg, P.C.
- 9:30 **2** Quantifying movement of *Lygus* and its natural enemies using a protein mark-capture technique Hagler, James, Blackmer, Jackie, and Naranjo, Steve
- 9:50 **3** Intercrop movement of *Lygus hesperus* in the Texas high plains: Potential for landscape level management Parajulee, Megha N., Shrestha, Ram B., and Carroll, Stanley C.
- 10:10 **4** Measuring localized movement of *Lygus* into cotton Goodell, P.B.
- 10:30 BREAK
- 11:00 **5** Landscape modeling of *Lygus hesperus* populations Bancroft, Jay S. and Goodell, Peter B.
- 11:20 **6** Population dynamics of *Lygus rugulipennis* in agroecosystems of NW Italy Tavella, L. and Pansa, M.G.
- 11:40 **7** Survey and evaluation of *Lygus* bugs on lesquerella and guayule, two new desert crops in the western USA Naranjo, S.E., Dierig, D., and Ellsworth, P.C.
- 12:00 LUNCH – Crocker Dining Hall for registered guests



MONDAY, April 16, 2007

PM SESSION: Integrated Pest Management

Moderators: Peter Ellsworth and Al Fournier

- 1:30 **8** *Lygus spp.* as pests of cotton in the United States O'Leary, Patricia F.
- 1:50 **9** Damage assessment and action threshold for mirids, *Creontiades spp.* in Bollgard II cotton in Australia Khan, M., Quade, A., and Murray, D.
- 2:10 **10** Action thresholds and selective insecticides for management of *Lygus* in Arizona cotton Ellsworth, P.C. and Naranjo, S.E.
- 2:30 **11** Impact of field margin vegetation management on tarnished plant bug, *Lygus lineolaris* (Palisot de Beauvois) infestations in cotton, *Gossypium hirsutum* (L.) Cook, R., Burris, E., and Leonard, B. R.
- 2:50 BREAK
- 3:20 **12** Reduced rate of chemical plus additive - an effective IPM tool for managing mirids, *Creontiades spp.* in Australian cotton Khan, M., Quade, A., and Murray, D.
- 3:40 **13** Control of western tarnished plant bug *Lygus hesperus* Knight (Hemiptera: Miridae) in California organic strawberries using alfalfa trap crops and tractor mounted vacuums Swezey, Sean L., Nieton, Diego J., and Bryer, Janet A.
- 4:00 **14** Managing *Lygus* in seed alfalfa Mueller, Shannon C., and Goodell, Peter B.
- 4:20 ADJOURN
- 4:30-6:00 CASUAL RECEPTION
- 6:00-7:00 Dinner at Crocker Dining Hall for registered guests



TUESDAY, April 17, 2007

7:00 Breakfast for registered guests in Crocker Dining Hall

AM SESSION: Biology, Behavior & Systematics (A)

Moderators: James Barbour and Kim Hoelmer

- 9:00 **15** KEYNOTE The role of diapause in the remarkable adaptation of the tarnished plant bug to its environment in the mid-South
Snodgrass, Gordon L.
- 9:30 **16** Sex pheromones of the green mirid, *Creontiades dilutus*
Del Socorro, A.P., Lowor, S.T. and Gregg, P.C.
- 9:50 **17** Sex pheromone of the European tarnished plant bug, *Lygus rugulipennis*
Cross, J. V., Innocenzi, P. J., Hall, D. R., and Fountain, M. T.
- 10:10 **18** Polygalacturonase isozymes in *Lygus hesperus* salivary glands
Celorio-Mancera, Maria de la Paz, Allen, Margaret L., Greve, L. Carl, and Labavitch, John M.
- 10:30 BREAK
- 11:00 **19** Functional genetics of *Lygus lineolaris*
Allen, Margaret L.
- 11:20 **20** *Lygus hesperus* polygalacturonase characterization and role in plant damage
Celorio-Mancera, Maria de la Paz, Greve, L. Carl, Ahmadi, Hamid, Teuber, Larry, Shackel, Ken, Allen, Margaret L., and Labavich, John M.
- 11:40 **21** Techniques for evaluating feeding preferences of *Lygus lineolaris* in Midsouth cotton
Teague, Tina Gray, Lund, Jennifer, and Snagepogu, Twinkle J.
- 12:00 LUNCH in Crocker Dining Hall for registered guests

PM SESSION: Biology, Behavior & Systematics (B)

Moderators: James Barbour and Kim Hoelmer

- 1:30 **22** Evaluation of color traps for monitoring *Lygus spp.*: Design, placement, height, time of day, and non-target effects
Blackmer, Jacquelyn L., Byers, John A., and Rodriguez-Saona, Cesar
- 1:50 **23** Biocontrol & systematics: A winning symbiosis
Goulet, Henri
- 2:10 **24** Morphometry of *Lygus* bugs: Implications in pest management
Parajulee, Megha N., and Shrestha, Ram B.
- 2:30 **25** Measuring genetic variation of tarnished plant bug, *Lygus lineolaris*, over temporal and spatial scales
Perera, O. P., Gore, Jeff, Snodgrass, Gordon, Scheffler, Brian, and Abel, Craig
- 2:50 **26** Molecular phylogeny and genetic diversity of *Lygus*
Roehrdanz, R., Footit, R., Burange, P., Maw, E, Sears, S., and Boetell, M.
- 3:10 Adjourn to View Posters

POSTER SESSION (3:10-4:45)

- 27 Responses to plant volatiles by the green mirid, *Creontiades dilutus* Del Socorro, A.P. and Gregg, P.C.
- 28 Age specific fecundity of *Lygus hesperus* in high, fluctuating temperatures Bancroft, Jay S., Thompson, Rikki, Garcia, Maria, and Welch, Jason
- 29 Area-wide pest management of *Lygus hesperus* Carrière Yves, Ellsworth Peter C., Dutilleul, Pierre, Ellers-Kirk, Christa, Barkley, Virginia, and Antilla, Larry
- 30 Intercept traps for monitoring *Lygus* flux between fields Bancroft, J.S. and Goodell, P.B.
- 31 Examining the dispersal capabilities of *Lygus hesperus* and its natural enemies in California's San Joaquin Valley Sheller, F. J., Rosenheim, J. A., and Hagler, J. R.
- 32 Distribution & status of *Peristenus digoneutis*, an introduced parasitoid of *Lygus lineolaris* in the NE U.S.: An update Day, W. H. and Hoelmer, K.A.
- 33 Effects of seeding date, canola species and pesticides on *Lygus* bugs in Alberta, Canada Otani, J., Cárcamo, H., Dosedall, L., Blackshaw, R., Clayton, G., Harker, N., Turkington, K., and O'Donovan, J.
- 34 Economic impact of *Lygus* in Arizona cotton: A comparative approach Fournier, Al, Ellsworth, Peter C., and Barkley, Virginia M.
- 35 Egg parasitoids of *Lygus* bugs in southern Alberta Cárcamo, Héctor, Huber, John, Larson, Tracy, and Bouchier, Rob
- 36 Management of plant bugs in Europe under greenhouse conditions Rämert, Birgitta, Nedstam, Barbro, Ovarfordt, Erika, and Åsman, Karolina
- 37 Insecticide resistance and efficacy of novaluron and flonicamid for control of *Lygus* bugs in alfalfa seed Barbour, James D.
- 38 Endigo™ A new, enhanced product with two modes of action to protect cotton against key mid-to late-season pests Belles, D. and Savinelli, C.
- 39 Flonicamid mode of action studies Black, Bruce, Argentine, Joe, Chaguturu, Rathnam, Dargar, Ratna, Dungan, Leo, Eldridge, Russ, Kinne, Lyle, Peters, Russ, Wrzesinski, Amy, and Yuhás, Debbie

POSTER SESSION (3:10-4:45)
(Continued)

- 40** Feeding disruption in *Myzus persicae* by a new insecticide, flonicamid
Black, Bruce C. and Gravelle, Bill
- 41** Metaflumizone, a new BASF insecticide for *Lygus* management in cotton
Harden, J.S., Guice, J.B., Jose, L.A., Munger, P.H., Sikuljak, T., and Youmans, C.D.
- 42** Flonicamid mechanism-of-action studies using whole-cell patch-clamping of cultured insect neurons
Hayashi, Jon H., Kelly, GERALYN, and Kinne, Lyle P.
- 43** Efficacy against *Lygus rugulipennis* of insecticides commonly used in IPM peach orchards of NW Italy
Pansa, M.G. and Tavella, L.
- 44** Effects of azinphos-methyl and cypermethrin on tarnished plant bug populations collected in orchards and vineyards in southern Quebec and Ontario
Fleury, D., Bostanian, N.J., Mauffette, Y., Vincent, C., and Lasnier, J.

4:45-6:00 Casual Reception – Poster Area
6:00-7:00 Group Dinner for all participants
Mexican Buffet in Crocker Dining Hall



WEDNESDAY, April 18, 2007

7:00 Breakfast in Crocker Dining Hall for registered guests

SESSION: Insecticides and Resistance

Moderators: Roger Leonard & Jeff Gore

- 9:00 **45** KEYNOTE Challenges of managing *Lygus* in strawberry plantations on the central coast of California Zalom, F. G.
- 9:30 **46** Status of insecticide resistance and management strategies of *Lygus lineolaris* in the Mid-south USA Gore, J., Snodgrass, G., and Catchot, A.
- 9:50 **47** Western tarnished plant bug management in California field crops - insecticide efficacy in cotton and dry beans Godfrey, L.D., Canevari, W.M., Wright, S.D, Pierce, T.L., and Lewis, R.R.
- 10:10 **48** Insecticide use strategies in mid-south cotton fields for tarnished plant bug Leonard, B. R. and Cook, D.
- 10:30 BREAK
- 11:00 **49** Effects of flonicamid (Carbine) on *Lygus hesperus* feeding behavior Joost, Houston P.
- 11:20 **50** Metaflumizone uses in cotton for management of *Lygus lineolaris* Harden, J.S., Guice, J.B., Jose, L.A., and Youmans, C.D.
- 11:40 **51** Metaflumizone: A new insecticide for management of *Lygus hesperus* in western U.S. Crops Munger, P.H., Sikuljak, T., Jose, L., and Harden, J.S.
- 12:00 Adjourn and meet at tour bus
A Box Lunch will be provide on the bus
- 12:15-6:45 Field Trip through local agriculture: View *Lygus* management field research including alternative management approaches to *Lygus* in strawberries, e.g. trap crops, biological control
- 6:45-9:00 *Lygus* evening gala – sponsored by FMC
Monterey Bay Aquarium

The field trip is designed to introduce Symposium participants to central California coastal agriculture. We will travel from Pacific Grove to strawberry fields near Watsonville and circle around to Salinas Valley. Crops to be viewed include strawberries, artichokes, and lettuce. We will return to Monterey for our evening at the Aquarium. After dinner, the bus will return us to Asilomar.

The Farewell Dinner will provide the participants another opportunity to enjoy each other's company during the last evening while viewing exhibits of and strolling through Monterey Bay Aquarium. The reception will take place at the Ocean's Edge area and dinner will be served in front of the Kelp Forest. A docent will be available to answer questions and guide guests through some of the premier displays of Central California Pacific Coast sea life. Dress is casual as we will go directly to dinner from the field trip and not return to Asilomar until after dinner.

THURSDAY, April 19, 2007

7:00 Breakfast in Crocker Dining Hall for registered guests

SESSION: Biological Control

Moderators: Héctor Cárcamo and Charles Pickett

- | | | | |
|-------------|-----------|--|---|
| 8:00 | 52 | Implementing biological control of <i>Lygus lineolaris</i> in strawberries in Ontario, Canada | <u>Broadbent, A. Bruce</u> , Mason, Peter G., and Haye, Tim |
| 8:20 | 53 | Introductions of a European parasitoid, <i>Peristenus relictus</i> (= <i>P. stygicus</i>), against tarnished plant bug in the mid-Atlantic states | <u>Hoelmer, K.</u> , Fuester, R., Taylor, P., Coutinot, D., Dorsey, T. Hudson, W., Robbins, G., Peiffer, R., and Barczewski, R. |
| 8:40 | 54 | Colonization of <i>Lygus</i> nymphal parasitoids in the Monterey bay region, California | <u>Pickett, C.</u> , Dugama, D., Swezey, S., Bryer J., Nieto, D., Erlandson, M., Bolda, M., and Colfer, R. |
| 9:00 | 55 | Parasitism of <i>Lygus</i> bugs by native <i>Peristenus</i> species in southern Alberta, Canada | <u>Cárcamo, Héctor</u> , Goulet, Henri, Herle, Carolyn, and Otani, Jennifer |
| 9:20 | 56 | Development of species-specific PCR assays for detection and identification of parasitoids associated with <i>Lygus</i> plant bugs | <u>Erlandson, M.A.</u> , Gariepy, T.D., Haye, T., and Kuhlmann, U. |
| 9:40 | 57 | A molecular approach to quantify predation rates on <i>Lygus hesperus</i> | Hagler, James R. |
| 10:00 | | BREAK | |
| 10:15-12:00 | | Session Wrap-up & Raffle
Travel Home Safely | P. Ellsworth, P. Goodell & S. Naranjo |

A few gifts have been provided to entice participants to stay as until the end of the Program. These will be given away in a raffle to Symposium participants but attendee must be present to win!



Second International Lygus Symposium

Abstracts of Papers and Posters



Second International Lygus Symposium

List of Participants



Second International Lygus Symposium Participant List

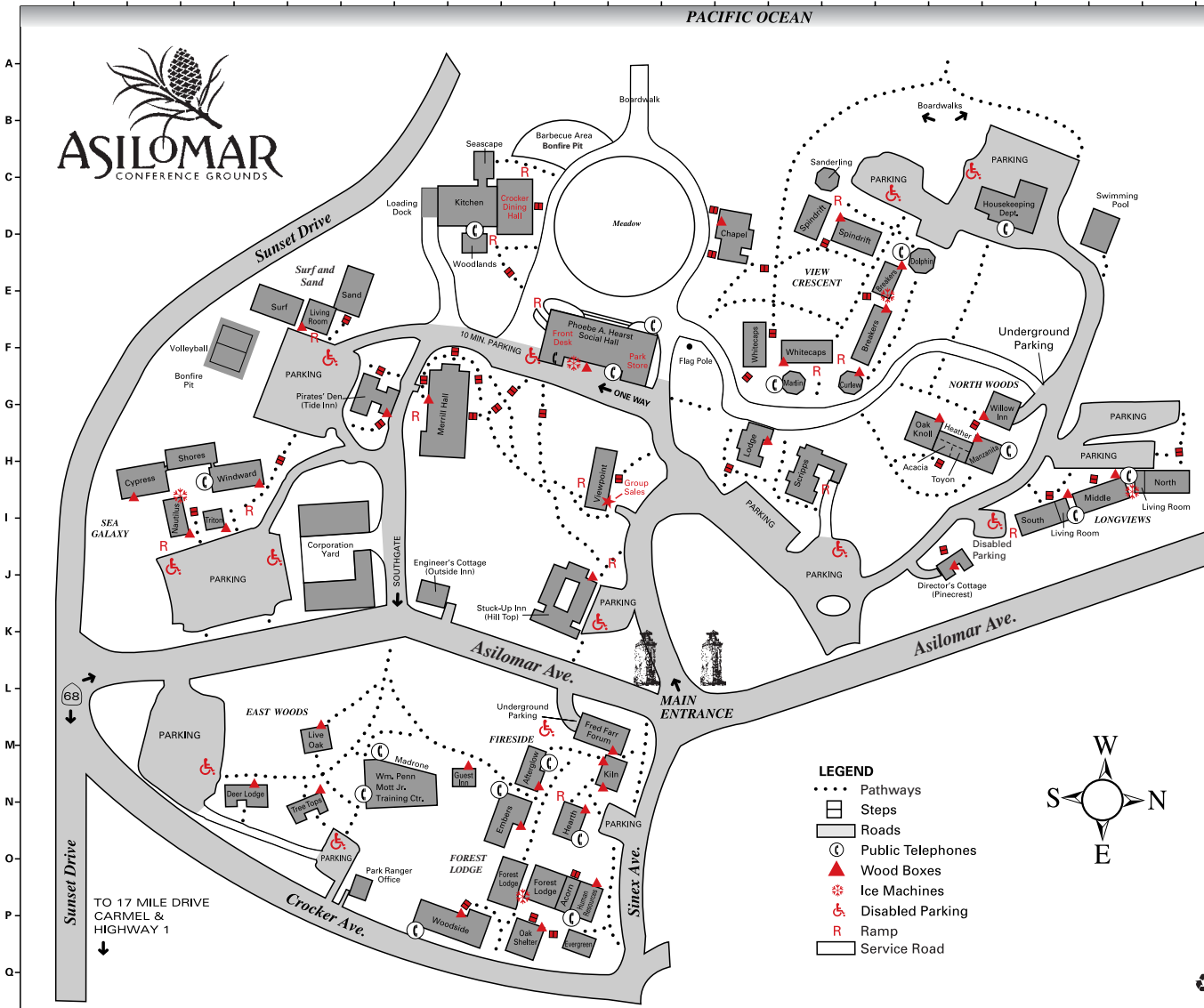
Name	Affiliation	Email
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FACILITY	ROOM #	MEETING ROOMS	LOC.
Longviews (H-21)			
Longview North	101-110	North Living Room	H-22
Longview Middle	111-120		H-21
Longview South	121-130	South Living Room	I-19
North Woods (G-18)			
Willow Inn	1025-1036	Heather	G-19
Manzanita	1001-1012	Toyon	H-18
Oak Knoll	1013-1024	Acacia	H-17
View Crescent (E-15)			
Whitecaps South	801-808	Marlin	F-14
Whitecaps North	809-820		F-15
Breakers East	821-832	Curlew	F-16
Breakers West	833-840	Dolpin	E-16
Spindrift South	841-848	Sanderling	D-15
Spindrift North	849-856		D-16
Fireside (O-10)			
Afterglow	1301-1312	Fred Farr Forum	M-9
Hearth	1325-1336	Kiln	N-10
Embers	1313-1324		N-9
Guest Inn	901-903		M-8
Forest Lodge (M-10)			
Forest Lodge	1201-1211	Acorn	O-10
		Evergreen	P-11
		Oak Shelter	P-8
Historic Core			
Lodge	201-218		H-14
Scripps	301-323	Scripps Meeting Rm	H-15
Stuck-Up Inn (Hilltop)	401-414		K-10
Pirates' Den (Tide Inn)	501-510		G-6
Director's Cottage (Pincrest)	1401-1403		J-18
Viewpoint		Viewpoint East	I-11
Group Sales Office			I-11
Merrill Hall			G-8
Chapel			D-14
Front Desk & Park Store / Phoebe A. Hearst Social Hall			F-10
Crocker Dining Hall		Crocker, Woodlands & Seascape	D-9
Engineer's Cottage (Outside Inn)			J-8
Fire Academy Offices			J-8
Sea Galaxy (G-4)			
Sand	605-610	Surf & Sand Room	E-6
Surf	601-604		E-4
Windward	701-708	Triton	H-4
Shores	709-716		H-3
Cypress	717-724	Nautilus	H-2
Eastwoods (M-4)			
Live Oak	1101-1110		M-5
Tree Tops	1111-1120		N-5
Deer Lodge	1121-1130		N-3
William Penn Mott Jr. Training Center			M-7
Madrone			N-7
Activity Locations			
Barbecue Area			C-10
Swimming Pool			D-21
Volleyball Court			F-4
Corporation Yard		Facilities	J-6
Housekeeping			D-19
Woodhaven - Park Ranger Office			O-7