

CLEMSON UNIVERSITY

~ URBAN ENTOMOLOGY EXTENSION & RESEARCH ~

Palmetto Pestalk December 2004 Newsletter¹

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The on-line program Mapquest tells me that I am 1,994 miles from home. I am starting this newsletter in my hotel room in Salt Lake City, Utah. Along with Pat Zungoli, other professors and students from Clemson, we are attending the Entomological Society of America (ESA) Annual Meeting. The first research paper presented was at 8:00 AM Sunday morning. Sessions go all day and don't end until Wednesday afternoon. Over 1,500 paper and poster presentations will be made including many that pertain to pest control, especially in the area of termite and ant control. Later in this newsletter I will highlight some of the information presented.

What struck me first on the opening day of the conference was this thought: "Wow, even though I'm a long way from home, it is amazing how many entomologists I know from across the country." Urban entomologists are an especially tight and congenial community of the greater pest control industry. In addition to knowing many of my colleagues personally, I realized how many of them have been authors of chapters in the Handbook of Pest Control,

originally by Arnold Mallis; and for my colleagues who may not be chapter authors, there is a good chance that their research is cited many times in the Handbook. I felt very fortunate to attend a meeting with all of these outstanding researchers and be one of the first to hear about their latest findings. Many of you who attend my training sessions know that I often start my programs by reviewing a few key reference books I think are important to have if you are in pest control. The second thing that struck me in Salt Lake City (I need a lot of striking sometimes to get things into my thick skull) was: "How could any pest control company not have the latest edition of the Mallis Handbook?" To not have the Handbook of Pest Control at your workplace is like a Christian church not having a copy of The Bible.

There are many excellent books and resources for pest control, but since 1945, the Handbook of Pest Control has been the rock on which other reference books have been built. Whether you are self-employed or part of a huge national business, the Handbook of Pest Control should be within easy reach of all employees. If you are interested, the 2004, ninth edition of the Handbook of Pest Control is published by GIE Media and ordering information can be obtained by calling 1-800-456-0707 or on the Internet at www.mallishandbook.com. If you can't be at a national

entomology meeting, at least you can grab the researchers off your shelf!

Piloting Pest Management

After you eat the last of your holiday turkey and watch a few ball games, you can contemplate that it is almost February and time for the 46th Annual South Carolina Pest Control Association Winter Meeting. Once again, it will be at the Adams Mark Hotel in Columbia, February 8 - 10.

The theme this year is Piloting Pest Management and will highlight a motivational talk by a SC National Guard Pilot on Wednesday morning, February 9th. Due to the situation in Iraq and tentative deployments, the Guard can not tell us who our guest speaker will be at this time, but whomever it is, he or she should have some interesting and motivational stories.

We do know that we'll have a high flying line up of super speakers to target key pest control issues. Dr. Bobby Corrigan, an internationally respected authority on rodent control will be speaking on rodents and performing outstanding commercial and residential pest inspections. Dr. George Rambo, renowned consultant in our industry, will tackle new development in termite control and the "whys and hows" of developing protocols. Dr. Harold Harlan from the National Pest Management Association will speak on wood

destroying fungi and will conduct a session on bed bug control. Dr. Harlan's bed bug presentation is one you don't want to miss if you are starting to have client calls about these pests!

We'll also have Mr. Paul Bello from Orkin to provide more insights on rodent inspections, Mr. Thomas Smith to address how to stay out of legal trouble, and Dr. Bill Simpson to talk about the real situation about humans and mold in structures. Barry Kostyk and Cam Lay from the Department of Pesticide Regulation, along with Pat Zungoli and me, will conduct a special Wednesday afternoon session on wood infestation reports. Donny Oswalt, a Clemson graduate student, will talk about uncommon wood destroying pests and Eric Paysen, another Clemson graduate student, will conduct an ant identification class. We will also have a "laboratory" with microscopes, ants, wood boring pests and wood damage samples for attendees interested in spending a little more time outside of the formal sessions to work on identification of key pests and their damage. On Wednesday afternoon we'll hold an open forum on issues with wood infesting pests and your greatest challenges in general pest control.

Our Piloting Pest Management Program should take attendees to new heights in understanding and performing quality pest control. Please take a moment to look at the entire program and details for registration enclosed in this issue of Pestalk. Please register by Friday, January 28, 2005! You can contact Jackie Ellis at 864/656-5048 or by email at

jells@clemson.edu if you have any questions about registration or the program. See you in Columbia!

Entomological Emanations For Your Edification

For four days, I sat through many paper presentations at the Entomological Society of America National Meeting in Salt Lake City. Most of the information presented focused on termites and ants. There were too many papers to report about everything presented. However, the following is a list of some of the entomological emanations that caught my attention:

- In South Carolina we currently recognize three species of native subterranean termites: *Reticulitermes flavipes*, *R. virginicus* and *R. hageni*. You've probably encountered all of these species, especially *R. flavipes*, the eastern subterranean termite. Several studies on the genetics of subterranean termites in the southeast, including SC, have indicated that we have at least one previously unrecognized species: *R. malletei*. While *R. malletei* isn't a new species, we haven't had the genetic techniques in the past to recognize it as a different species from the other native subterranean termites. Once these studies are published, we'll start to recognize four species of native subterranean termites in the Palmetto State.

-A study of the genetics of native subterranean termites and Formosan subterranean termites in Charleston by Dr. Ed Vargo at NC State University, found that most colonies of Formosan termites and *R. virginicus* tended to have larger foraging territories

than *R. flavipes*, the eastern subterranean termite. However, three colonies of *R. flavipes* did merge during the course of the study, fusing the three colonies into one. This study may have important ramifications for our understanding of how termite baiting systems impact termite colonies.

- Jen Nauman, a graduate student from our lab, reported that Argentine ants will forage 24 hours a day from the spring until the fall in SC. Contrary to reports that Argentine ants will exclude almost all other ants, especially native species from an area, Jen found 20 species of ants living in close association with Argentine ant trails. This has implications for very targeted treatments to kill Argentine ant colonies while preserving local native ant colonies.

- North Carolina State researchers, Grzegorz Buczkowski (yes, I've spelled his name correctly) and Jules Silverman reported on geographic variation in Argentine ant response to environmentally-derived nestmate recognition cues. Basically, they collected Argentine ants from the same colony. They separated the ants into two groups. They fed one group German cockroaches for several weeks and one group brownbanded cockroaches for the same amount of time. When they placed the ants back together, they fought. The ants picked up different compounds from their different cockroach meals and changed their recognition cues (odors) from their previous nestmates. They no longer recognized each other. You are what you eat!

-Two pest management professionals, Stuart Mitchell and Gerry Wegner, organized and moderated a session on Ekbon's Syndrome, also known as Delusory Parasitosis. This half day symposium had outstanding speakers including Dr. Nancy Hinkel from the University of Georgia, Dr. Mike Potter from the University of Kentucky, Dr. Jerome Goddard from the Mississippi Department of Health and Mr. Forrest St. Aubin, president of St. Aubin & Associates. The session addressed the concerns and pitfalls of dealing with clients who think insects or other related organisms are on their bodies when there are actually no pests present. All the speakers stressed that pest management professionals should not treat for biting pests if no pests have been found. This session had too much information to summarize here, so I'll direct you the Handbook of Pest Control, Chapter 9 by Dr. Jerome Goddard. I recommend that you read about itches, illusions and phobias. This information may help you through some difficult accounts in the future or even help you avoid a lawsuit!

- It has been known for awhile that termites exposed to imidacloprid in Premise termiticide causes the workers to behave in unusual ways. Michael Tomalski and Ed Vargo from NC State University reported that termites acting abnormally due to imidacloprid exposure induce other nestmates to tend to them via grooming. This behavior helps transfer imidacloprid through a colony, from worker to worker.

- Dina Richman and Jim Ballard from FMC Corporation reported on Acetamiprid, a novel

neonicotinoid insecticide (similar to imidacloprid) that FMC plans to market for termite and general pest control in the near future.

- Representatives from Dow AgroSciences gave several papers on the efficacy of Recruit IV, their new enhanced termite bait with 0.5% noviflumuron and a preferred textured cellulose matrix for subterranean termites.

- Mary Cornelius from the USDA-ARS laboratory in New Orleans found that Formosan termites more readily found stations over short foraging distances if they were installed with Summon Preferred Food Source Disks, manufactured by FMC.

-Weste Osbrink from the USDA-ARS lab in New Orleans stated that if you are going to use a non-repellent termiticide, make sure you know the treatment history around the structure. It won't do you any good to use a new non-repellent termiticide in soil that still has chlordane or a repellent termiticide.

- Nan-Yao Su from the University of Florida remarked that all termiticides would be repellent at high concentrations, but the low use rates on some of the new products make them "non-repellent".

Overall, the national ESA meeting was very informative. If you have any questions about my summary report or additional information you may hear from other sources, give me a call at 864/656-3111 and we'll talk.

Ornery Christmas Ornaments

As Christmas approaches, many families will go to tree farms to cut their Christmas tree. Along with family memories, many folks may get a little

something extra with their trees: bugs.

Preying mantid females often deposit egg masses on evergreen trees. Left outdoors, most mantid egg masses won't hatch until the spring. However, in a nice warm house, many baby mantids will emerge from their eggs during the holidays, causing concern with some homeowners. A mass of mantids will not cause any harm to people or their homes. Unfortunately, most mantids will not survive in a home or outdoors during the winter months when there is a dearth of food.

Another Christmas guest can be giant bark aphids, one of the largest aphid species in the States. Many homeowners think the slow moving, brown, oval-shaped aphids are ticks. While clusters of bark aphids will do a little damage to their host tree, they are not a threat to your clients or their homes. In a warm house or a dry tree, bark aphids can leave the confines of the branches and trunk of a Christmas tree and move about a home, spoiling the holiday spirit.

If aphids are present, lady beetles are also likely to be present. Lady beetles are natural enemies of aphids. After a nice aphid meal, in a warm room, lady beetles may move from a Christmas tree to areas around a house, especially around windows.

If you get a call from a client during the Christmas holidays about the sudden appearance of many bugs in their house, ask them if they have a real Christmas tree. If they do, they may be experiencing an extra holiday present in the form of mantids, aphids or lady beetles. In nearly every situation, these occasional nuisance pests

do not need chemical control. A few could be escorted outdoors or, if there are many, be dispatched using a vacuum cleaner. These control methods may not be a big money maker for your company, but your knowledge and proper diagnosis of the problem may reap extra benefits for you from an appreciative client long after the holidays!

More Awards

For Clemson Personnel

In the last issue of Pestalk, I reported that Donny Oswalt, a Ph.D. graduate student in our Urban Entomology Program, had been chosen as one of the three finalist for the very competitive Young Scientist of the Year Award, sponsored by Bayer. As part of his award, Bayer paid Donny's expenses to travel to the National Pest Management Association (NPMA) Annual Meeting in Hawaii this past October. At the meeting, Donny was awarded second place. Donny received a scholarship check for \$1,500 (along with his all-expense paid trip to Hawaii) and Bayer also donated \$1,000 to the Clemson general scholarship fund. At the NPMA meeting, Donny presented his outstanding research on the black carpenter ant.

Dr. Pat Zungoli was also recently recognized for the 2005 Distinguished Achievement Award in Teaching from the Southeastern Branch of the Entomological Society of America. Pat is a wonderful teacher with an outstanding rapport with her students. Pat will now represent our Clemson and the entire southeast for the National Teaching Award from the ESA. Good job Pat!

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¹Note: This newsletter is a regular submission to Palmetto Pestalk.

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