

# Buzz Words



The Newsletter of the Florida Mosquito Control Association  
July/Aug 2007

Volume 7, Issue Number 4

## FMCA Annual Fall Meeting

November 11 – 14, 2007

Crowne Plaza, 1201 Riverplace Blvd., Jacksonville, FL 32207  
904-398-8800 ext. 500; Rooms will be \$119.00 before 10/11/2007  
Second call for papers inside this issue of *BuzzWords*



## Northeastern Mosquito Control Association Annual Meeting

Radisson Hotel Plymouth Harbor, Plymouth, MA

December 3<sup>rd</sup> -5<sup>th</sup>, 2007

Submit paper titles and abstracts no later than September 30, 2007 to  
Emily DW Sullivan, 261 Northern Blvd., Newburyport, MA 01950

[nemmc.edws@comcast.net](mailto:nemmc.edws@comcast.net)



## 2008 FMCA Dodd Plenary Short Courses

January 28 – February 1, 2008

Ocala Hilton, 3600 SW 36<sup>th</sup> Avenue, Ocala, FL, 352.854.1400

Rooms: \$109.00 S/D before 12/7/07.

On-Line reservation code will be available soon at [www.floridamosquito.org](http://www.floridamosquito.org)



## Southeast Regional Public Health & Vector Management Conference

February 19 – 21, 2008

[www.pherec.org](http://www.pherec.org)



## FMEL Advanced Mosquito Identification & Certification Course

March 10 – 21, 2008

Registration at <http://mosquito.ifas.ufl.edu>



## News from PHEREC

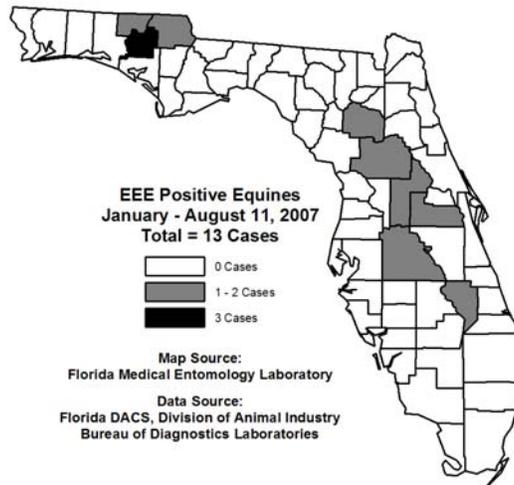
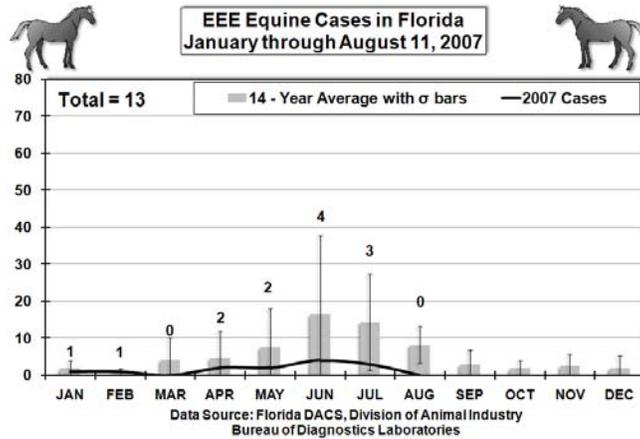
Dr. James Cilek has been selected to receive the 2007 Outstanding PHEREC Faculty Award. He received the highest score based on 11 productivity measures and also scored highest in a separate survey conducted by the staff. In honor of his accomplishment, Dr. Cilek's name will be added to a PHEREC Outstanding Faculty Award plaque on permanent display in the foyer of the Dr. Andrew J. Rogers' Administration Building located at PHEREC in Panama City. He will also receive a \$1,000 expense award in his divisional budget. Congratulations Jim!

Dr. Hyun-Woo Park, Assistant Professor, has been notified by the FY 2007 Peer Review Panel for the USDA CSREES 1890 Institution Capacity Building Grants Program, that his application, "**Construction of chimeric**

**mosquitocidal toxins to improve stability and toxicity**" has been recommended for funding. The funding request is for \$ 276,947 for thirty six (36) months, with the project scheduled to begin on September 1, 2007. Congratulations, Hyun-Woo!

Dr. Harry Zhong has been officially recommended for promotion to Full Professor. Congratulations, Harry!

The 2007 PHEREC Research Advisory Council will meet at Florida A&M University on Friday, October 26, 2007 in conjunction with the CESTA Research Forum. For more information on both these meetings, please go to: <http://www.pherec.org> home page.





Florida Mosquito Control Association  
SECOND CALL FOR PAPERS  
2007 ANNUAL FALL MEETING  
Crowne Plaza Jacksonville Riverfront  
1201 Riverplace Boulevard  
Jacksonville, FL 32207  
904.398.8800  
November 11 – 14, 2007

You are invited to submit a title for a paper to be presented at the 2007 Annual Fall Meeting of the Florida Mosquito Control Association, to be held at the Crowne Plaza Jacksonville Riverfront hotel, 1201 Riverplace Boulevard, Jacksonville, FL from November 11-14, 2007. Type the title, author(s), organization(s), and address (es) exactly the way they are to appear on the program. If more than one author is listed, place an asterisk after the name of the author who is to present the paper. **Send this form to Dr. Frank Van Essen, Collier Mosquito Control District, 600 North Road, Naples, FL, 34104-3464, E-mail: [cmcd@collier-mosquito.org](mailto:cmcd@collier-mosquito.org), Telephone: 239.436.1000; FAX: 239.436.1005.** Please submit as soon as possible so there is time to plan and organize the program.

**TITLE:** \_\_\_\_\_  
\_\_\_\_\_

**AUTHOR:** (INCLUDE E-MAIL, TELEPHONE AND FAX NUMBERS OF PRESENTER)

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**ORGANIZATION:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**MAILING ADDRESS:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**REQUESTED DURATION OF PRESENTATION:** \_\_\_ 10 min \_\_\_ 15 min \_\_\_ Symposium \_\_\_ Other

**AV EQUIPMENT REQUIRED:** \_\_\_ Slide \_\_\_ LCD \_\_\_ Overhead \_\_\_\_\_ Other (please specify)

**PAPER CATEGORY:** \_\_\_ Research \_\_\_ Operations \_\_\_ Regulatory \_\_\_\_\_ Other (please specify)

# FMCA Fall 2007 Annual Meeting



Crowne Plaza, 1201 Riverplace Blvd., Jacksonville, FL 32207  
904-398-8800 ext. 500

Rooms will be \$119.00 before 10/11/2007



For reservations:

<http://cpjacksonville.com/>

Enter check in and check out dates, click the drop down menu for Corporate, Group & IATA ID and enter "FMC" to get the \$119.00 room rate.

More meeting info will be available soon.

## Identity Crisis: The practical consequences of proposed generic name changes for Florida mosquitoes formerly grouped in the genus *Aedes*

Back at the turn of the Century, John F. Reinert proposed a new classification for the genus *Aedes* in which the subgenus *Ochlerotatus* was raised to generic level. Following that, two articles were published in *BuzzWords* to lay out just how these changes would affect mosquito workers in Florida (Darsie 2000; Tabachnick 2000). Then in 2004, Reinert, Harbach and Kitching published *Phylogeny and classification of Aedini* (Diptera: Culicidae) *based on morphological characters of all life stages*, which explored higher level relationships within the tribe Aedini and proposed raising the number of genera from 12 to 46 (a "tribe" is a group of related genera within the same subfamily, in this case the subfamily "Culicinae"). The 2004 changes would split off three Florida species to the genera *Stegomyia* and *Howardina*, a fact noted by Reinert (2005) in *BuzzWords*. The paper of Reinert et al. (2004) anticipates that additional changes in genus names are likely after other species in the group are more carefully analyzed. For a time line and the "bottom line" for Florida, refer to Table 1.

In 2004, Savage and Strickman stated that they believed the use of *Aedes* and *Ochlerotatus* should be restored to their traditional usage of the time period 1906-2000. Then in 2005 (in response to the changes proposed by Reinert et al. 2004), Savage warned that future studies of Aedini using "different sets of morphological characters or/and molecular data will produce different fragments" that will "lead to a disruption of communication among those interested in mosquito-borne diseases, the destruction of the information system associated with a stable classification, and difficulties in literature search and database management." Tabachnick (2005) stated that "The proposed reclassification of Aedine mosquitoes has sweeping implications with impacts that include a likely increase in confusion in the literature and throughout the discipline of biology."

We believe that too little attention has been paid to the potential of these serial nomenclature changes to generate confusion amongst Florida "rank and file" mosquito control personnel. The potential for confusion is particularly great for new employees attempting to learn basic mosquito biology and identification in order to successfully pass examinations for Florida pesticide applicator licenses. While the research and the debate continues, and the taxonomists and systematists work on this "troublesome" issue (the Greek translation of "Ochlero" is troublesome), what do we do? The field inspectors, the mosquito identifiers, the teacher and trainers, the writers, the public health workers, and all of us who are not taxonomists or systematists, are in limbo. Many of us changed the labels on our pinned specimens, Dr. Richard Darsie changed the keys to the Florida mosquitoes to reflect the rise of *Ochlerotatus* to generic level (Darsie and Morris 2000), and all of the new employees going through the Dodd Courses and other training classes, learned to use *Ochlerotatus* for all but 4 of the 22 Florida species formerly grouped under the genus *Aedes*. None of the Darsie keys incorporate the more recent generic name changes proposed by Reinert et al. (2004).

Authors must refer to the policies of the journals where they want to submit their papers, since many of the peer-reviewed journals have published their policy on names of Aedine mosquito genera and subgenera. In general, the position stated is that more research needs to be conducted and authors should maintain the usage of traditional names (<http://www.mosquitocatalog.org/main.asp>) except when the author has taxonomic reasons for not doing so. For those who are convinced of the elevation of various genera proposed by Reinert (2004), they are asked to include the previous name when first mentioned in the manuscript. Examples: *Stegomyia albopicta* (= *Aedes albopictus*, see Reinert et. al 2004); *Ochlerotatus triseriatus* (= *Aedes triseriatus*, see Reinert 2000.) The following journals adhere to this policy: The American Journal of Tropical Medicine and Hygiene, Annals of Tropical Medicine

**Table 1. Time line and bottom line for mosquito workers.**

<b>Date</b>	<b>Publication</b>	<b>Author</b>	<b>Bottom Line</b>
2000	<i>J. Am. Mosq Control Assoc.</i>	Reinert	Raises <i>Ochlerotatus</i> to generic rank; primary distinguishing characters are in the male and female genitalia
2000	<i>BuzzWords</i>	Darsie	<i>albopictus</i> , <i>aegypti</i> , <i>cinereus</i> , and <i>vexans</i> stay in the <i>Aedes</i> ; all other Florida <i>Aedes</i> will now be <i>Ochlerotatus</i>
2000	<i>BuzzWords</i>	Tabachnick	Get used to it!
2004	<i>J. Am. Mosq Control Assoc.</i>	Savage & Strickman	Suggest use of <i>Aedes</i> as genus and <i>Ochlerotatus</i> as subgenus within <i>Aedes</i> ; "restored to the traditional usage during the interval 1906-2000."
2004	<i>Zool J Linnaean Soc</i>	Reinert	New classification raising number of genera in Aedini from 12 to 46
2005	<i>BuzzWords</i>	Reinert	Points Florida readers to the new classification scheme from 2004
2005	<i>BuzzWords</i>	Tabachnick	"...perhaps the quick acceptance of <i>Ochlerotatus</i> was premature." Stay tuned...
2005	<i>J. Med. Entomol.</i>	Edman	More research needs to be conducted and authors should maintain the usage of traditional names ( <a href="http://www.mosquitocatalog.org/main.asp">http://www.mosquitocatalog.org/main.asp</a> ) except when the author has taxonomic reasons for not doing so.
2005	<i>J. Med. Entomol.</i>	Savage	Stable nomenclature needs to be maintained; refrain from making changes based on preliminary data
2005	European SOVE MOTAX group	Schaffner & Aranda	Adopted a "common position proposal" that is similar to the peer-reviewed journal policies. Their position is to allow use of the former names before Reinert's work (2000, 2004), and to wait for a consensus on major changes before adopting a name change.

and Parasitology, Emerging Infectious Diseases, Genetics and Evolution, Journal of the American Mosquito Control Association, Journal of Medical Entomology, Journal of Vector Ecology, Medical and Veterinary Entomology, Transactions of the Royal Society of Tropical Medicine and Hygiene, Vector-Borne and Zoonotic Diseases, and PROMED. See the reference section of this article for the Journal of Medical Entomology policy citation (2005).

But what about the rest of us? How do we teach this during the Dodd Short Courses, during the Advanced ID Course, to new employees, to those taking exams for applicator licenses for Public Health? Dr. Phil Lounibos of the FMEL stressed to mosquito control districts the importance of keeping a collection of voucher specimens from local areas (Lounibos 2000). How many of those in your collection were changed to *Ochlerotatus*? And how frustrated are you that it could be either *Aedes* or *Ochlerotatus*? Should Florida mosquito control personnel stop referring to "*Aedes albopictus*," and instead call this mosquito "*Stegomyia albopicta*" as specified by Reinert et al. 2004? Have the naming issues caused confusion in communicating with news reporters or local educators who have access to web materials that may not use the same generic names? Do you have long-term surveillance databases that are now more problematic to update or search because of uncertain nomenclature? Issues such as these are not trivial.

We believe that the Florida mosquito control community needs to actively address the need for consensus on name usage for the "Aedes" group so that we can provide consistent

education of our personnel, administrators, and the general public with whom we communicate. Don Shroyer, Roxanne Connelly, Larry Hribar, and Jack Petersen plan to present a series of short, informational talks at the FMCA Fall Meeting in Jacksonville (see p. 1 of this issue of *BuzzWords* for meeting information). After the background and issues have been described, we would like to start a dialogue with the audience about the desirability of adopting standard guidelines for Florida. We feel that FMCA, FDACS, FMEL, and PHEREC should take the lead on this and develop an unambiguous and easy to understand policy that will guide mosquito professionals in the state of Florida, whether they are trainers, writers, collectors, inspectors, directors, or identifiers.

For references mentioned in this article, and others not specifically cited but related, consult the reference list below. If you have time before the Fall FMCA meeting, read some of these so that you can participate in the discussion. We look forward to your input during the meeting.

## REFERENCES

- Black, W. 2004. Learning to use *Ochlerotatus* is just the beginning. *J. Am. Mosq. Control Assoc.* 20:215-216.
- Darsie, R. F., Jr. 2000. A revision to the genus *Aedes*. *BuzzWords*. Dec. 2000. p 4-5.
- Darsie, R. F., Jr. and C. D. Morris. 2000. Keys to the adult females and fourth instar larvae of the mosquitoes of Florida (Diptera: Culicidae). Technical Bulletin of the Florida Mosquito Control Association. Fort Myers, FL. 159 pp.
- Edman, J. D., Editor-in-Chief and Subject Editors of JME. 2005. Journal policy on names of Aedine mosquito genera and subgenera. *J. Med. Entomol.* 42(5):511.
- Lounibos, L. P. 2000. Forms and Vouchers. *BuzzWords*. Aug/Sep 2000. p 9-10.
- Lynch Arribalzaga, F. 1891. Dipterologia Argentina. *Revista del Museo de la Plata.* 1:1-72.
- Meigen, J. W. 1818. Systematische Beschreibung der bekannten europaischen zweiflugeligen Insekten. Volume 1, Aachen, Germany.
- Reinert, J. F. 2000. New classification for the composite genus *Aedes* (Diptera, Culicidae, Aedini), elevation of subgenus *Ochlerotatus* to generic rank, reclassification of the other subgenera, and notes on certain subgenera and species. *J. Am. Mosq. Control Assoc.* 16(3): 175-188.
- Reinert, J. F., R. E. Harbach, and I. J. Kitching. 2004. Phylogeny and classification of Aedini (Diptera: Culicidae), based on morphological characters of all life stages. *Zool. J. Linn. Soc.* 142:289-368.
- Reinert, J. F. 2005. Changes in names of Florida mosquitoes. *BuzzWords*. 5(1):3.
- Reinert, J. F. and R. E. Harbach. 2005. Generic and subgeneric status of aedine mosquito species (Diptera: Culicidae: Aedini) occurring in the Australasian Region. *Zootaxa* 887: 1-10.
- Savage, H. M., and D. Strickman. 2004. The genus and subgenus categories within Culicidae and placement of *Ochlerotatus* as a subgenus of *Aedes*. *J. Am. Mosq. Control Assoc.* 20:208-214.

Savage, H. M. 2005. Classification of mosquitoes in Tribe Aedine (Diptera: Culicidae): Paraphylyphobia, and classification versus cladistic analysis. *J. Med. Entomol.* 42(6):923-927.

Tabachnick, W. J. 2000. What's in a name? *Aedes* to *Ochlerotatus*. *BuzzWords*. Dec. 2000. p 6.

Tabachnick, W. J. 2005. The name game: thoughts on the proposed reclassification of Aedini. *BuzzWords*. 5(3):9.

**Roxanne Connelly, Associate Professor, UF/IFAS/FMEL**  
**Donald A. Shroyer, Medical Entomologist, IRMCD**



### **Is West Nile virus a Threat to Florida? Reasons for Concern**

The 2007 West Nile season is underway in the U. S. As of August 9, 2007 there were a total of 308 West Nile cases in the U. S. reported to the CDC. Already there are predictions, based on comparisons to cases in previous years, about the U. S. West Nile forecast for 2007 (see NY Times July 26, 2007 with prediction from Dr. Lyle Peterson, U. S. Centers for Disease Control). Will it be a high West Nile transmission year? The number of cases reported so far in 2007 for the U. S. is ahead of what had been reported during the 2006 season last year at this time. As of August 10, 2007, Florida had a single reported West Nile human case that was unfortunately someone who had died from the disease.

Why has Florida so far been spared the brunt of a major West Nile outbreak? Readers of *BuzzWords* should be able to address this question. The reasons why Florida has been spared a "big event" have been discussed on many occasions in previous *BuzzWords* columns. Several different factors must come together in the proper sequence and timing for Florida's vector mosquitoes to amplify sufficient West Nile virus in the bird and mosquito populations. It is only after these specific environmental conditions result in rapid and efficient viral amplification that high enough mosquito infection rates are realized allowing the spill-over of virus to human and horse populations. *BuzzWords* has previously discussed the importance of winter drought followed by a specific pattern of wetting and drying in the spring and early summer and how these specific environmental conditions drive bird and mosquito populations into contact and maximize the probability of efficient amplification of West Nile virus. Thankfully, so far in Florida these specific environmental conditions have failed to materialize and create a situation of a widespread viral amplification and epidemic transmission in Florida. Florida has reported focal transmission of WNV in Coconut Grove, Dade County in 2004 and Pinellas County in 2005, but so far has been spared West Nile virus epidemics on the scale reported in Illinois, North Dakota, South Dakota, Nebraska, Colorado, Arizona, California, and Idaho. The current forecast, thankfully, is that Florida will again be spared a major West Nile epidemic in 2007 (see the Florida Medical Entomology Laboratory Encephalitis Information System at <http://eis.ifas.ufl.edu>). Based on previous experience, counties throughout the state must remain vigilant to prevent or mitigate against focal outbreaks through information to the public on risk and risk prevention, and efficient, effective and environmentally proper mosquito control.

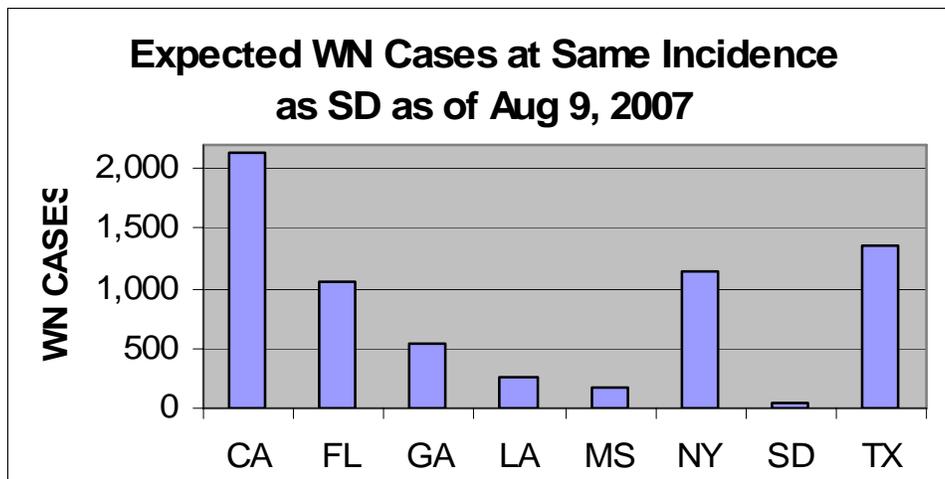
One only needs to consider the current reports of West Nile virus transmission reported in the rest of the U. S. to illustrate the danger from this virus. Though so far in 2007 there have been 308 human

cases in the entire U. S., this figure is better appreciated if one considers the incidence of West Nile virus transmission in selected areas where it is clear that the risk for disease is quite high. For example California has 64 cases to date reported to CDC, while South Dakota has had 46 cases. South Dakota? One might ask “so what?” After all, it is only 46 cases. I know a little about South Dakota because my wife is from South Dakota and my wife’s family still live in South Dakota where we visited them every year. There are ca. 776,000 South Dakotans. With 46 West Nile cases as of August 9, 2007, South Dakota has one of the highest West Nile incidences of any state in the U. S. so far this year (actually at this time only North Dakota is slightly higher – not good for the Dakota’s). South Dakota is about on track with the number of West Nile cases reported this time last year though in the end more cases were ultimately reported.

It is this incidence of West Nile in the South Dakota population that should draw your attention. In the attached graph I use South Dakota’s incidence of 0.592 per 100,000 people to draw your attention to what the number of cases might be in some other states, if these states had the same incidence i.e., the same West Nile transmission rate to humans. The number of cases in the example is appalling, and this is only early August. California would already have ca. 2200 cases, and Florida with 19 million people would have ca. 1150 cases if we were to experience the same transmission rate that is currently reported in South Dakota. If you think Florida’s past arboviral epidemics have been bad, consider the prospect of Florida being in South Dakota’s present position. This would be the major epidemic, the “big event” in Florida that concerns all of us. Under these conditions, most counties would already be under a Medical Alert and there is little doubt that some counties would be considering issuing a Medical Emergency. And it is only early August. So if you think 2007 might be a bad West Nile year in the U. S., think of South Dakota and North Dakota, where it is already a bad year for West Nile.

Incidentally, my 18 year old nephew who lives in South Dakota had West Nile in 2006. He told me that it was not pleasant at all and he was very sick. Fortunately he has fully recovered. He was one of 173 West Nile cases that year in South Dakota, bringing the total number of South Dakotan human cases to 1469 between 2000-2006. This translates to ca. 36,000 cases if the incidence was the same for Florida!

**Walter J. Tabachnick, PhD**  
**Director and Professor**  
**Florida Medical Entomology Laboratory**  
**Department of Entomology and Nematology**  
**University of Florida – IFAS**  
**Vero Beach, Florida**



The deadline for submissions to be included in the  
Sept/Oct 2007 issue of  
*BuzzWords* is October 1, 2007.

Please send change of address or newsletter submissions to:  
Roxanne Connelly, Editor, 200 9<sup>th</sup> Street SE, Vero Beach, FL 32962  
or [buzzwords@ifas.ufl.edu](mailto:buzzwords@ifas.ufl.edu)