

Buzz Words



The Newsletter of the Florida Mosquito Control Association

Upcoming Events

Southeast Regional Public Health Pest and Vector Management Conference - Panama City, FL February 22 - 24, 2000. Deadline for Pre-registration is January 24, 2000. Contact [Dr. Jack Petersen](#): by e-mail or call 850-872-4184 ext. 36

American Mosquito Control Association 66th Annual Meeting Atlantic City, New Jersey - March 12 - 16, 2000.
<http://www.mosquito.org>

Fourth Workshop on Salt Marsh Management and Research Vero Beach, FL October 24-27, 2000. Contacts: Doug Carlson, Indian River County Mosq. Cont.; Jorge Rey, Fl. Med. Ent. Lab; Joe Carroll, Carroll and Assoc.; Scott Taylor, Brevard County Mosq. Cont.; Alex Cordero Fl. Dept. of Env. Protection.

Please Note!!

Buzz Words will be handled through the Florida Medical Entomology Laboratory by Dr. Roxanne Rutledge, Extension Medical Entomologist. Please send news and address changes for Buzz Words to:

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FMCA Web Page News

Have you visited your FMCA web site (<http://www.floridamosquito.org>) this month? We averaged more than 5000 hits/month the last 6 months of 1999. We are listed on most browsers and search engines. If you find one where we aren't listed, let me know. Things of interest this month on the web site include the program for The Dodd Short Courses in Gainesville in both html and PDF format including a registration form. Changes to the program are updated here. In the coming months look for information on registration, call for papers and the program for the Spring FMCA meeting at Safety Harbor Resort in Tampa/St. Pete in May. Information concerning the FMCA Aerial Program in Ft. Myers next month will appear soon. Monthly Arbovirus reports from The Florida Department of Health, Bureau of Laboratories in Tampa are regularly added to the site. Updated Buzz Words, Wing Beats and addresses for your Association officers are also located on the web page. The web links page is a place where you can go to check out other Florida mosquito control agencies' web pages and find information and resources (that you don't have to search for); just click. Remember to use the Classifieds Section when you have employment opportunities or something to sell.

--[Tom Floore](#) FMCA Webmaster

New Faces at FMEL

The Florida Medical Entomology Laboratory in Vero Beach, FL welcomes two new employees. **Dr. Walter Tabachnick** moved from Laramie, WY, and is the new Director of the lab. The new extension medical entomologist is **Dr. Roxanne Rutledge**, who recently moved from Baton Rouge, LA.

News from PHEREC

On December 10, 1999 *Dr. J. Dukes* participated in the Coastal Zone Management Workshop: Mosquito Control: Reducing Non-Target Impacts, held in Naples, FL which was sponsored by the Florida Department of Environmental Protection.

Drs. J. Smith, J. Cilek, H. Zhong and *J. Petersen* presented papers/posters on their current research at the recent Entomological Society of America annual meeting held in Atlanta, Georgia, December 12-16, 1999.

The John A. Mulrennan, Sr. Entomology Research and Education Center was well represented at the FMCA Dodd Short Courses January 24-28, 2000. *Dr. Eric Schreiber* is a Co-Chairperson this year. Eric taught "Introduction to Mosquito Control, The Full Course." *Dr. H. Zhong* was an instructor in the course "Advanced Beekeeping and Mosquito Control." *Drs. J. Dukes, J. Petersen* and *Mr. M. Greer* conducted the course "Monitoring Insecticide Resistance in Mosquitoes." "Constructing a Basic Home Page (Web Page)" was conducted by *Mr. T. Floore*. *Dr. J. Cilek* coordinated the course "Biting and Non-Biting Pest Arthropods of Public Health Importance."

Spring semester 2000 *Dr. E. Schreiber* is teaching ENY 6665 Integrated Pest Management for Public Health at the main campus of Florida A&M University.

--*Dr. Jack Petersen* Extension Medical Entomologist, PHEREC

Getting Started As the Director of the FMEL

Welcome to this new edition and new format for Buzz Words. It has been an exciting six months for me. Stepping into being Director of a great institution like FMEL is a great challenge. My predecessors, Drs. Maurice Provost and Richard Baker, showed vision and dedication in supporting research that helped the Florida Mosquito Control Association in becoming the premier organization that it is today. Maury Provost and Dick Baker will be a tough act to follow.

I arrived at FMEL about the same time that West Nile virus arrived in New York City. Who would have thought - West Nile in New York of all places! This outbreak was a wake-up for us all. Florida is at risk for new and expanding arthropod-borne pathogens, and it will be up to research centers like the FMEL to provide information to reduce such risk. Check Dr. Jon Day's column featured in this issue, and additional information on West Nile virus in North America on the FMEL home page: WWW.IFAS.UFL.EDU/~VEROWEB

Dr. Roxanne Rutledge, Buzz Words Editor, has allowed me access to this column to communicate to the many partners, collaborators and supporters of FMEL and Florida Mosquito Control, on issues that I hope you will find interesting. I would appreciate receiving your comments and ideas on topics that you would like in future such columns.

By way of introduction to the Buzz Words readers who may not know me, I was formerly the Research Leader at the USDA ARS Arthropod-borne Animal Diseases Research Laboratory, a wayward New Yorker, in Laramie, Wyoming. I have studied genetic differences among mosquito populations, and population differences in vector transmission of arboviruses. Prior to Laramie, I was at Loyola University of Chicago, and before that I was a Research Associate at Yale University where I studied *Aedes aegypti* and *Culex pipiens*. Coming to the FMEL has returned me to medical entomology, and then too, life in Florida is a much smarter move than enduring those Wyoming winters.

Enjoy Buzz Words. We hope it will continue to serve as a newsletter from the FMCA, with communications from both Florida mosquito research laboratories - at the FMEL, and our research partners at the John Mulrennan, Sr. Public Health Entomology Research and Education Center (PHEREC), to our many collaborators, friends and customers throughout Florida.

--*Walter J. Tabachnick*, Director, FL Medical Entomology Laboratory



If you picked up a FMEL survey from *Dr. Tabachnick* or *Dr. Rutledge* at the FMCA meeting in Daytona, please fill it out and send it back to FMEL. We encourage your input on the research at FMEL and appreciate your time in completing this important survey. Thanks!

Deadline for contributions to the April/May 2000 issue of Buzzwords is

March 27, 2000.

WEST NILE VIRUS IN NORTH AMERICA: IS FLORIDA NEXT?

West Nile (WN) virus is a member of the virus family Flaviviridae and is closely related to Japanese encephalitis virus and St. Louis encephalitis (SLE) virus. West Nile was first isolated in 1937 from a woman in the West Nile province of Uganda, Central Africa. Since then, the virus has been reported from North Africa (Egypt), East, Central, and South Africa, Israel, Western Europe (France), Eastern Europe (Romania), Pakistan, India, and, most recently, the Queens borough of New York City, USA.

The earliest epidemics caused by WN were reported in Israel. The first involved more than 500 clinical cases in 1950. Additional epidemics were reported from Israel in 1951, 1952, 1953, and 1957 and in the Rhone delta region of France in 1962, 1963, and 1964. The largest epidemic of WN, involving thousands of clinical cases, was reported in South Africa in 1974. Epidemic activity was again reported in South Africa in 1983 and 1984. Human cases were reported in southeast Romania in 1996 and 1997.

As with other mosquito-borne viruses, many vertebrate hosts show evidence of natural infection with WN. Wild and domestic birds, however, show the most consistent evidence of infection. Hooded Crows and House Sparrows in Egypt showed high antibody prevalence and virus has been isolated from naturally infected Hooded Crows. The WN virus has also been isolated from horses showing signs of clinical encephalitis infection and from camels in Sudan. A strain of WN was isolated from a tick collected on a camel in Central Kara-Kum in Eastern Europe.

West Nile is apparently more mobile than other closely related viruses like SLE in North America and Murray Valley encephalitis in Australia. The WN virus has spread from Africa to Western Europe, the Middle East, Eastern Europe, and North America. This apparent ease of movement may explain why WN has an extensive geographic distribution while SLE is confined to the Western Hemisphere. It is precisely this mobility that makes WN a threat to much of North America. Any region that currently experiences outbreaks of SLE is at risk of WN introduction because, in all likelihood, competent mosquito vectors and avian amplification hosts are already in place awaiting the arrival of WN virus.

Wild birds will be the most likely means of dispersal for WN. To date, at least 20 avian species have been found to be infected by the virus in the northeastern USA. These include migratory species such as the Mallard, Red-tailed Hawk, Belted Kingfisher, American Robin, Broad-winged Hawk, American Kestrel, Yellow-billed Cuckoo, and Cooper's Hawk. In addition, species that disperse during the autumn and winter months were infected; these included the American Crow, Ring-billed Gull, Laughing Gull, Blue Jay, Fish Crow, and Herring Gull.

A possible scenario for virus dispersal would be through a migratory or dispersing bird that was infected in the New York City area last fall. Newly infected birds are viremic for 8-10 days, but infective to mosquito vectors only for 4-6 days. Given the proper meteorological conditions, however, this infective period allows birds to move considerable distances. Conceivably, infected birds could settle down after several days of flight and infect local mosquito vectors, which may then go on to initiate a local focus of WN. In this way, the virus could hopscotch out of the original transmission focus and establish secondary foci along avian migration and dispersal routes. To date, virus infected birds have been recovered as far north as Albany, New York and as far south as Baltimore, Maryland. However, there is presently no evidence of virus transmission outside of the New York City metropolitan area.

The WN virus is likely here to stay in North America. Whether and how quickly it spreads remains to be seen. Factors that may facilitate WN movement include the number and movement of infected humans, infected vectors (ticks and mosquitoes), and infected amplification hosts (domestic birds, wild resident birds, and wild migratory birds). It is not difficult to envision ways in which this virus may quickly move around the country. Many cities have large populations of vector mosquitoes capable of transmitting the virus. These vectors include *Cx. pipiens* in the north, *Cx. quinquefasciatus* in the south, *Cx. tarsalis* in the west, and *Cx. nigripalpus* in the Deep South. If the virus is introduced into any of these regions, it will surely show itself in the form of wild avian or human infection.

***“The answer is simple:
surveillance. surveillance.”***

An important final question is "What can be done to monitor the movement and introduction of WN virus to new cities and localities throughout North America?" The answer is simple: surveillance,

surveillance, surveillance, and more surveillance. Vector surveillance, amplification host surveillance, meteorological surveillance, and virus surveillance. A comprehensive integrated arboviral surveillance program for SLE in Florida has been proposed and implemented by Day and Lewis (1992, An integrated approach to St. Louis encephalitis surveillance in Indian River County, Florida. Florida J. Pub. Health 4:12-16). Programs similar to this should be established in areas that are at risk for arboviral transmission, especially WN, SLE, and dengue viruses. It is only through vigilant surveillance that epidemics can be recognized before local, state, and federal health officials are blind-sided by the unexpected appearance of large numbers of infected humans in places like NYC.

---Jonathan F. Day

Florida Medical Entomology Lab

Don't get caught breeding!

As of January 2000, anyone in Barbados caught with mosquitoes breeding on their property will be prosecuted. Chief Environmental Health Officer David Watson said that despite publicity in the media and one-on-one talks, householders still come up with "frivolous excuses". He is sure that there is no one in Barbados who does not know about dengue and he has directed health officers to start prosecution by January 3, 2000. If convicted, penalties range from \$5000 Barbados dollars or 3 months in jail, or both, to a fine of \$200 per day for each day mosquito breeding sites remain inside and around homes.

- ProMED www.promedmail.org 8 Dec 1999

Heartwater in Florida

The state of Florida has put in place an emergency ban on the importation of any African spurred tortoises (*Geochelone sulcata*) or leopard tortoises (*Geochelone pardalis*). *Amblyomma* ticks collected from imported tortoises in a Hillsborough County reptile facility tested positive for *Cowdria ruminantium*, the rickettsial agent that causes heartwater. Heartwater does not affect humans, but can cause a rise in body temperature, respiratory distress, incoordination, and paddling movements of the limbs, terminating in convulsions and prostrations in domestic and wild cattle, sheep, goats, deer and antelope. Introduction of heartwater into Florida would be devastating to the beef and cattle industries. If the disease enters the U.S., estimated mortality rates in susceptible species are from 40% to 100%. Prevention relies on tick control.

- ProMED, www.promedmail.org, 4 Jan 2000



Job Announcements

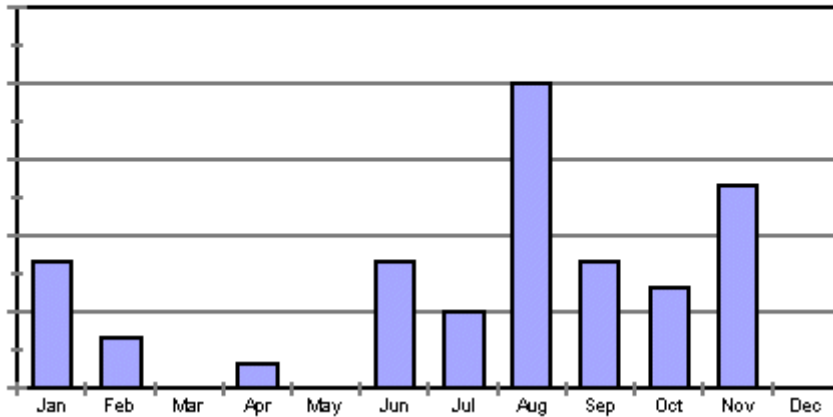
Biologist - Manatee County Mosquito Control District: \$11.00/hr. Upon successful completion of 9 month probationary period, \$12.50/hr. Professional and scientific position involving the design and field evaluation of mosquito control programs, requiring extensive overtime work during the mosquito season (summer and fall months). Minimum requirements: BS degree in biology, entomology, or a related field from an accredited college or university; a Florida driver's license; must be certified within six months of hire. Contact: Mark Latham, Director, Manatee County Mosquito Control District, 2317 2nd Avenue West, Palmetto, FL 34221. 941-722-3720 (phone); 941-721-0452 (fax).

Mosquito Control Superintendent - Martin County: \$34K-53K. Knowledge of equipment and procedures used in the total mosquito and weed control program Must know federal, state and local laws governing mosquito control. HS diploma or equiv. 3 years exp. in mosquito control as asst. superintendent or certified equipment operator. Must have FL drivers license with good record. Contact Martin County Board of County Commissioners, Job Center, 2401 SE Monterey Road, Stuart, FL 34996; 561-288-5437 (Job Hotline); 561-223-4812 (Fax); <http://www.martin.fl.us/GOVT>

Equine Cases of EEE in Florida

Equine Cases of EEE in Florida

Through November 1999



Sentinel Chickens

Sentinel Chickens

The numbers of sera submitted and counties participating in surveillance activities during December were less than for November. In this table, seroconversions which are listed as unconfirmed have not yet had a second serum ("rebleed") submitted from that bird.

There were a total of 6 seroconversions to Eastern Equine Encephalitis virus (EEE) during December in Hillsborough, Orange and Volusia counties. This is similar to the December average EEE seroconversion rate.

There were 6 seroconversions to St Louis Encephalitis virus (SLE) during December, in Charlotte, Hillsborough and Lee counties. This is similar to the median annual SLE seroconversion rate for December. Birds which seroconverted late in November and were confirmed in December had been submitted from Charlotte (1), Hendry (2) and Lee (2).

Year	# of birds	# + <u>EEE</u>	# + <u>SLE</u>
1988	218	2	2
1989	na	10	25
1990	626	4	28
1991	755	2	2
1992	494	0	0
1993	403	2	18
1994	597	2	2
1995	625	1	1
1996	479	13	4
1997	560	0	22
1998	665	16	10
1999	595	6	6
average(1988-98)		4.7	10.4
median (1988-98)		2.0	4.0

FLORIDA
Department of Agriculture
and Consumer Services

Bob Crawford, Commissioner



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