

Buzz Words



The Newsletter of the Florida Mosquito Control Association
May/June 2006

Volume 6, Issue Number 3

**South Carolina Mosquito Control
Association
Annual Fall Meeting**

Nov 1 - 3, 2006

Ocean Creek Resort in Myrtle Beach, SC
for further information, please contact
Carolyn Morgan (803) 896-0655 or email:
morgancl@dhec.sc.gov

**Florida Mosquito Control Association
2006 Fall Conference**

Nov 12 – 16, 2006

Stuart, FL
Hutchison Island Marriot Beach Resort
and Marina
www.floridamosquito.org



Mark your calendars!
FMCA will host the 2007 AMCA Annual Meeting
March 31 – April 5, 2007



FMCA News

FMCA Correspondence

Just a reminder - ALL FMCA correspondence should be mailed to Kellie Etherson in Gainesville via FMCA's PO Box:

Kellie Etherson - Executive Director
Florida Mosquito Control Association
PO Box 358630
Gainesville, FL 32635-8630
Phone: 352.281.3020
Fax: 352.334.2286
email: floridamosquito@earthlink.net

From the Editors of *Wing Beats*

Wing Beats is looking for interesting field-related or technical articles about mosquitoes, mosquito control, and related topics. The articles are usually 1-4 pages in length (including graphics and figures). A considerable amount of applied research, outreach, equipment modifications, and application technique changes being conducted at mosquito control programs, universities, and military installations throughout the world would be of interest to the *Wing Beats* readership. We encourage you to consider publishing in *Wing Beats*. Please send articles to: Dr. Jack Petersen, JAMS PHEREC, 4000 Frankford Avenue, Panama City, FL 32405 or drjack3@hotmail.com.

FDACS News

Announcement for Public Health Pest Control (PHPC) Licensed Applicators: Continuing Education Units (CEUs)

For those of you who hold a valid Public Health Pest Control (PHPC) license to perform mosquito control in Florida, you should already be aware that you are required to receive continuing education in the category of Public Health, as part of your licensure requirements. Such training must be prior approved for CEUs by FDACS in order for you to earn CEUs.

Here are some important facts about PHPC training requirements, with which you should be familiar:

- All approved training activities for PHPC CEUs are announced on our website: www.flaes.org
 - Under Hot Topics, choose CEU Class Search
 - You may input a desired date range
 - Scroll down to chose category "Public Health"
- Courses not listed here are not approved for PHPC CEUs.
- You must earn 16 CEUs in the category of Public Health during your 4 year license period.
- When you attend FDACS approved training, you will receive a Record of Attendance Form: you must mail the original form to our office to receive CEU credit. BE SURE TO MAKE A COPY FOR YOUR RECORDS AND FOR YOUR EMPLOYER!
- FDACS is not responsible for keeping track of CEUs. License holders should keep records of how many CEUs they have earned, and need to earn, to satisfy requirements.
- FDACS is not responsible for notifying license holders who do not maintain their CEUs, or for those licenses which will not be renewed due to insufficient CEU training.
- License holders are responsible for keeping their contact and employment information up-to-date with FDACS. Failure to do so may result in inactivation or revocation of license.

For further information, or to answer any questions regarding your PHPC license, please contact us:

**Bureau of Entomology and Pest Control
Mosquito Control Section
1203 Governor's Square Blvd. Suite 300
Tallahassee, FL 32301
PHONE: (850) 922-7011
FAX: (850) 413-7044
EMAIL: simpsoj@doacs.state.fl.us**

News from Mosquito Control Districts

Anastasia Mosquito Control District plans to have an open house, June 24, 2006. For more information, call Rudy Xue, Ph.D., at 904/471-3107. www.anastasiamd.org

Recognize the individuals who have made outstanding contributions to Mosquito Control: Nominate them for the 2006 FMCA Awards!

Any Florida Mosquito Control Association member in good standing may nominate a candidate for any award by submitting supporting information to the Awards Committee, to include a short biographical sketch of the nominee, emphasizing those accomplishments deemed worthy of the award. There is no official nomination form. Endorsements and written support from other colleagues are encouraged. All submissions will be acknowledged.

The **Maurice W. Provost Memorial Award**, established as a memorial to the first Director of the Florida Medical Entomology Laboratory, honors persons who have made outstanding contributions to mosquito control and/or biting fly biology in Florida. Candidates must have been instrumental in each of the following areas: developing sound management and operational methods to reduce pesticide levels and to minimize habitat alteration while reducing mosquito populations; increasing our knowledge of mosquitoes and other biting insects and their habitats; and educating students and the general public about the importance of various environmental issues facing the citizens in protecting the fauna and flora in Florida. The candidate should be a FMCA member and have made significant contributions to the Association. Nominators must include a short biographical sketch of the nominee emphasizing the accomplishments deemed worthy of the award. Endorsements and written support from other colleagues are encouraged.

The **Joseph Y. Porter Distinguished Achievement Award**, which honors the first President of the Florida Anti-Mosquito Association and first State Health Officer of Florida, recognizes scientists who have made significant contributions to entomology, with special emphasis on the abatement of arthropods of public health importance. The candidate must have meritoriously contributed to the advancement of entomology research in the field of mosquito and/or other biting arthropod control in the State of Florida. The candidate should be a FMCA member and have made significant contributions to the Association. Nominators must include a short biographical sketch of the nominee emphasizing the accomplishments deemed worthy of the award. Endorsements and written support from other colleagues are encouraged.

The **Fred Stutz Memorial Award**, which honors the former director of the Dade County Mosquito Control office, recognizes outstanding contributions to mosquito control by development of procedures that increase effectiveness in

mosquito and/or other arthropod control, or the design and manufacture of equipment that helped revolutionize the control of mosquitoes and/or other arthropods of public health importance. The candidate should be a FMCA member and have made significant contributions to the Association. Nominators must include a short biographical sketch of the nominee including an evaluation and appraisal of the nominee's accomplishments. Endorsements and written support from other colleagues are encouraged.

The **FMCA Merit Award** recognizes outstanding individual contributions in promoting control of disease-transmitting and pestiferous mosquitoes or other arthropods of public health importance, for scientific advancement of the discipline, or for developing or extending the public interest in the control of such mosquitoes or other arthropods. The candidate should represent those characteristics generally associated with responsible leadership, good citizenship and personal integrity. The candidate should be a FMCA member and have made significant contributions to the Association. Nominators must include a short biographical sketch of the nominee emphasizing the accomplishments deemed worthy of the award. Endorsements and written support from other colleagues are encouraged.

The **James W. Robinson Memorial Award** was established in 2005 as a memorial to Jim Robinson, Director of the Pasco County Mosquito Control District, who was renowned for his innovative development of new equipment and adoption of new technologies. This award recognizes innovation and ingenuity in optimizing the safe and efficient operations of Florida public health pest control programs. The candidate must have contributed an outstanding improvement to equipment or techniques used by a non-commercial mosquito control related agency. This advancement should not be proprietary in nature, and must be freely shared with the Association. The recipient of the James W Robinson Memorial Award will receive \$500 cash, a commemorative certificate, and funding to attend the Annual Fall Meeting. Nominators must include a short biographical sketch of the

nominee emphasizing the accomplishments deemed worthy of the award. Endorsements and written support from other colleagues are encouraged.

The **Sherrie Yarberry Award**, named for a dedicated employee of the Jacksonville Mosquito Control office, recognizes continued outstanding contributions to operational program activities by veteran, non-administrative personnel of Florida mosquito control related agencies. The candidate must demonstrate exemplary performance resulting in enhanced unit efficiency or public recognition of excellence of the parent organization. The recipient of the Sherrie Yarberry Award will receive \$500 cash, a commemorative certificate, and funding to attend the Annual Fall Meeting. Nominators must

include a short biographical sketch of the nominee emphasizing the accomplishments deemed worthy of the award. Endorsements and written support from other colleagues are encouraged.

Send your nominations and supporting materials on or before Tuesday, August 15, 2006 to:

**Stephen Sickerman, FDACS
Bureau of Entomology and Pest Control
3920 Frankford Avenue
Panama City, FL 32405-1953
phone 850-872-4250
fax 850-872-4271
sickers@doacs.state.fl.us**



News from PHEREC

The quarterly newsletter of the John A. Mulrennan, Sr. Public Health Entomology Research and Education Center (PHEREC) is available online at <http://www.pherec.org/PHERECCNews/>. "PHEREC News" is published on the 15th of March, June, September, and December. For more information, email Dr. Jack Petersen at drjack3@hotmail.com.



JOB ANNOUNCEMENTS

Citrus County Mosquito Control District, Position of Director

The Board of Commissioners of the Citrus County Mosquito Control District is seeking applications for the position of **Director**. The applicant must have a minimum of a Bachelor's degree in entomology, basic sciences, engineering, pest control or a closely related field with a minimum of four years work experience in mosquito control.

This position requires the applicant to have or be able to obtain public health pest control certification, director's certification and a current Florida driver's license. Salary commensurate with applicant's experience and ability. Mail or fax cover letter and resume to Citrus County Mosquito Control District.

Applications will be taken until the position is filled.

Citrus County Mosquito Control District
P.O. Box 153
Lecanto, FL 34460
Phone: 352-527-7478
Fax: 352-527-9567

Hillsborough County Mosquito & Aquatic Weed Control, Senior Asset Coordinator, Class Code 1840-A

Hillsborough County Civil Service Board, 601 East Kennedy Blvd., 17th Floor, Tampa, FL 33602; P. O. Box 1110, Tampa, FL 33601; Job New Line: 813-262-6975; Fax: 813-272-5620; TDD: 813-262-5623; Office: 813-262-5621 x. 362; Website: <http://www.hccsb.org>; contact: nealt@hillsboroughcounty.org

Major Duties

Note: The following duties are illustrative and not exhaustive. The omission of specific statements of duties does not exclude them from the position if the work is similar, related, or a logical assignment to the position. Depending on assigned area of responsibility, incumbents in the position may perform some or all of the activities described below.

Supervises the work of technical subordinate staff by scheduling, assigning and reviewing work; providing training and counseling and evaluating performance; identifies the location and species of mosquito breeding sites throughout Hillsborough County, and recommends appropriate treatment, larviciding and/or adulticiding; coordinates the scheduling of equipment, manpower and materials; identifies the location and species of aquatic vegetation considered invasive throughout Hillsborough County, and recommends appropriate treatment; performs technical and analytical duties related to the development, installation and operation of Geographical Information System (GIS) computer software; meets with citizens and citizen groups to keep them informed of scheduled activities, responds to their needs and foster good customer relations; enters recommendations, information and other data into asset maintenance management database software programs and Vector Control Management System, or other programs as may be required; provides administrative and technical guidance and support to other personnel involved in customer service related activities; prepares reports and correspondence to keep management informed; responds to emergency situations and may perform supervisory duties over a team; performs other related duties as required.

Minimum Qualifications (must be attained before the recruitment ending date)

Graduation from high school or possession of a GED Certificate; and three years experience as a supervisor or lead worker in mosquito control, arbovirus surveillance, aquatic weed control, or right of way vegetation management; and possession of a current Florida Department of Agriculture and Consumer Services Restricted Pesticide License; and possession of a current Driver License.

OR

Graduation from high school or possession of a GED Certificate; and one year of experience as an Asset Coordinator; and possession of a current Florida Department of Agriculture and Consumer Services Restricted Pesticide License; and possession of a current Driver License.

Appointing authority requires possession of a current Aquatic Pest Control License and Right Of Way License within the probationary period.

Required documentation at time of application: A copy of a current Florida Department of Agriculture and Consumer Services Restricted Pesticide License; and a copy of a current Driver License.

Salary Range (minimum to maximum): \$34,964 to \$52,457 annually

Veterans' Preference

Preference in initial appointment will be given to eligible veterans and eligible spouses of veterans. Documentation to support entitlement to preference must be provided at the time of application.

Note: Depending on the agency of employment, individuals hired may be required to review Hillsborough County driving eligibility criteria and acknowledge their understanding of its provisions.

Notice: The employers of Hillsborough County have implemented a drug-free workplace and all offers of employment are conditioned on job applicants successfully passing a drug test.

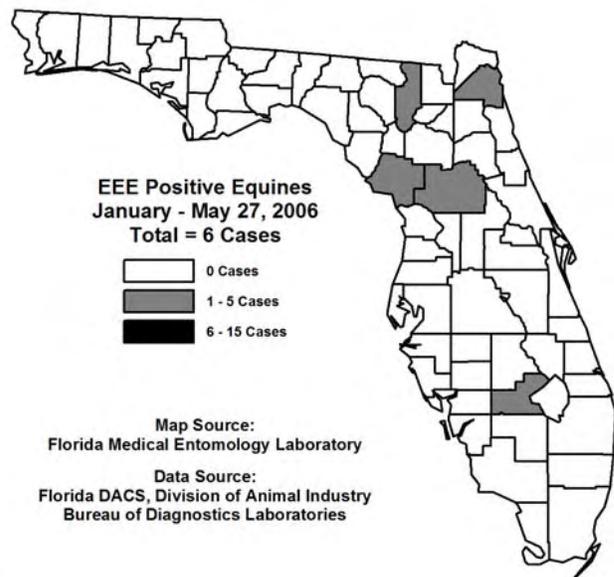
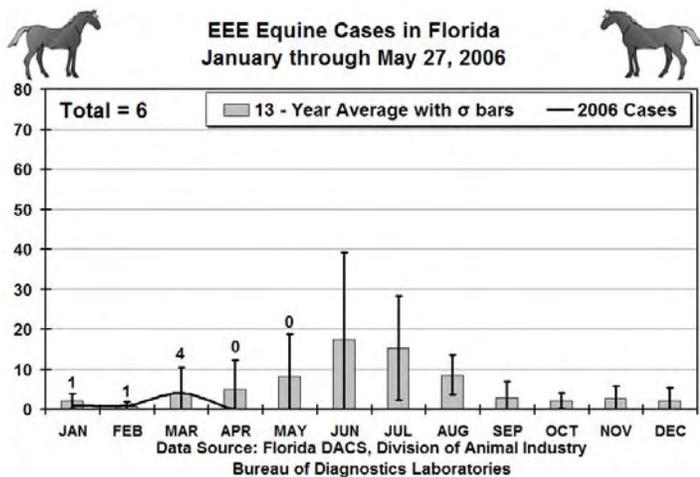
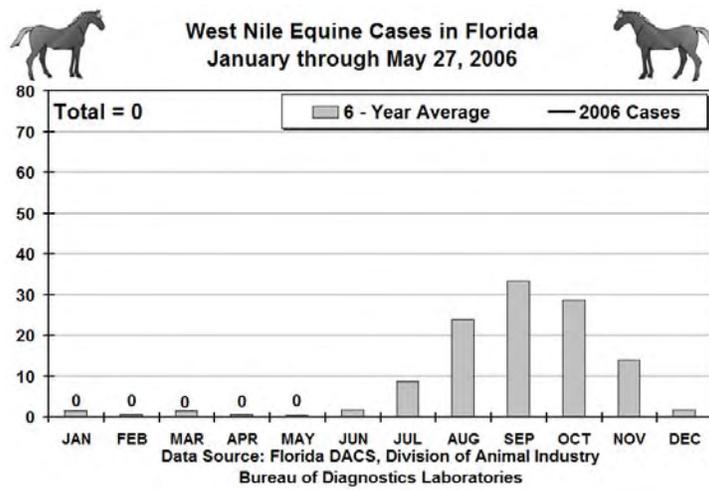
Examination: Applicants will be competitively rated on the basis of their training and experience.

Recruitment Period: Until further notice.

Martin County Government, Florida

- Mosquito Control Technician
- Fogger
- Entomological Inspector

For details on each of these positions, visit <http://www.martin.fl.us/> and click on JOB OPPORTUNITIES.



Building arbovirus surveillance programs in Central Asia

For the past few years, I have been engaged in research with colleagues in the Central Asian nation of Uzbekistan. Most people are completely mystified as to why, and are sincerely interested in the work itself once this is explained. So first, some history...

When the Soviet Union collapsed in the early 1990s, its vast arsenal of weapons of mass destruction (WMD) was left in an unprotected state. Concern that the tons of nuclear, chemical and biological weapons and materials might be accessible to rogue states or terrorists prompted the U.S. Congress to create a program to reduce this threat. The Cooperative Threat Reduction (CTR) program has the objectives of dismantling WMD infrastructure, consolidating related technology and material, increasing transparency of work performed by former WMD scientists, and preventing proliferation of WMD.

Within the CTR program exists the Biological Threat Reduction program (BTR), which has the same objectives as CTR, but concentrating solely on biological threats. This includes increasing the security of especially dangerous pathogens and legitimate research on them at particular facilities with particular personnel. Within the BTR program is the Collaborative Biological Research (CBR) program – this is where my research comes in. The CBR program works to improve the infrastructure of laboratories researching these critical pathogens, in order for the work to be done safely and securely. Furthermore, by encouraging collaboration between US and former Soviet scientists, peaceful research that serves the public health of all countries is enhanced. Finally, this program is charged with detecting the illicit use of the pathogens being studied, which gets us to surveillance.



Detecting illicit use of pathogens presupposes that you can detect naturally occurring transmission, cases or outbreaks. I have been working with the arbovirus laboratory at the Institute of Virology in Tashkent, Uzbekistan. This is a national level facility, much like our CDC laboratory in Fort Collins, CO. When I first arrived there, the laboratory was in very poor condition.

Apparently, when the Soviet Union collapsed, most of the equipment was transported back to Russia. Over the past few years though, we have helped the arbovirus laboratory become a very functional facility through renovations, equipment, and training of staff.

The project staff at the arbovirus laboratory is now in the third year of seasonal field expeditions throughout Uzbekistan. The purpose of these expeditions is to reestablish where arboviruses are being transmitted and determine their seasonal prevalence. In order to capture this data, the project staff is collecting ticks and mosquitoes for virus testing, and is working with archived human and animal blood to detect antibodies (indicating prior infection by an arbovirus). Eventually, a systematic monitoring of important sites is envisioned.

Together, the US and Uzbek scientists on this project have produced research articles in peer reviewed journals, and made presentations at a number of international conferences. These results embody the goals of the CBR program, and we have only just begun.

Christopher N. Mores, SM, Sc.D., Assistant Professor
UF/IFAS/Florida Medical Entomology Laboratory
Department of Entomology and Nematology



And Just When You Thought It Was Safe Out There, Along Comes Chikungunya

Emerging pathogens are always in the news – West Nile, SARS, Flu and more to come. The recent development of an Emerging Pathogens Initiative (EPI) at the University of Florida (UF) is Florida's effort to address emerging pathogens. Mosquito-borne pathogens and the resulting diseases they cause are one of the concerns of Florida Mosquito Control. Emerging pathogens are the priority issues to be addressed by the EPI and the reason why the Florida Mosquito Control Association played an important role in supporting UF to obtain the State funds to support the EPI.

Florida mosquito control, the FMEL, and PHEREC have a long history of addressing Florida's mosquito borne pathogens, all of which can be considered as emerging. Mosquito-borne pathogens emerge periodically to cause outbreaks in Florida. Our goal, reiterated often in previous *Buzz Words*, is to provide an ability to predict outbreaks in time and space well in advance of human cases so targeted effective control measures can be implemented. Our Florida sentinel surveillance system is set up with this objective as the primary goal. The topic on our plate the past few years has been West Nile virus. But of course we also have been aware of St. Louis encephalitis virus, Eastern equine encephalitis virus, dengue virus, malaria, yellow fever virus, and we have even heard papers at our Mosquito Control Association meetings on Rift Valley fever virus.

And then along comes chikungunya virus (CHIKV)!

Why the concern over CHIKV? Chikungunya is a disease that was first described in 1952 in Tanzania. The name is from the Makonde language (it is not Swahili as has been reported in the press and some articles) (see information at http://research.yale.edu/swahili/learn/?q=en/chikungunya_makonde). The name is derived from a word meaning to become contorted, and signifies the cause of a contortion or folding. Some say the word is from the phrase "to walk bent over." From these phrases alone readers should realize this is not something to be treated cavalierly – you do not want this disease. The disease has an incubation period of 4-7 days and then there is a sudden onset of the symptoms.

Patients often develop painful inflammation of the joints that result in a stooped posture. The other symptoms can include fever ($>104^{\circ}\text{F}$), headache, vomiting, nausea and a skin rash (ca. 80% of cases have the rash). The symptoms here can easily be confused with dengue. Although rarely fatal, children can develop neurological problems. Symptoms usually subside within 3-5 days. However, the joint pain can persist for many months or even years after the other symptoms have subsided. Approximately 12% of cases develop chronic joint symptoms. There is no vaccine and no specific therapies for treatment. The vectors unfortunately, and this should send a chill through U. S. mosquito control and public health workers, are *Aedes aegypti* and *Aedes albopictus*.

Although there have been historic epidemics of chikungunya, particularly in Africa, it is the recent epidemics in Asia that certainly are cause for alarm. Since late 2004 there has been an enormous outbreak in the countries bordering the Indian Ocean. The numbers of cases have been staggering. The French Island of Reunion (pop. 770,000) has had 244,000 cases and 200 deaths. One of every three people infected with the virus! More recently the epidemic spread to several states in India. The Indian State of Karnataka Bangalore has reported 78,000 cases and Andhra Pradesh reported ca. 200,000 cases. Cases also occurred in the Indian State of Maharashtra, and on the Indian Ocean islands of Mayotte, Mauritius, Seychelles, Madagascar, and Comoros. Humans develop a high viremia and therefore the mosquito-man-mosquito cycle can spread the virus. Literally 100s of thousands of people have been infected in this region. It is certainly of concern that France has reported 307 imported chikungunya cases from travelers returning to France from these regions. Although the animal reservoirs for CHIKV are jungle primates (monkeys and baboons) that are unlikely to directly spread to the U. S., it would not be difficult for CHIKV to gain a foothold with the arrival of a human infected traveler wherever there are *Ae. aegypti* or *Ae. albopictus*; hence the reason why the U. S. is at real risk.

Why chikungunya, and why now? Some light on this may have been provided by a recent paper by Schuffenecker et al. (2006. Genome microevolution of chikungunya viruses causing the Indian Ocean outbreak. PLoS Med. 2006 July; 3) that can be accessed on line at <http://www.pubmedcentral.gov/articlerender.fcgi?artid=1463904>.

The authors provide the complete sequence for 6 viral isolates from the outbreak obtained from patients in different areas and times. They also sequenced the viral gene E1 from 121 other patients because this gene was useful in establishing relationships in several previous studies going back to 1982. The authors show that the Indian Ocean strains were derived from East Africa, and that the East African strain quickly diverged into distinct variants in the Indian Ocean epidemic. There are several regions of the genome that diverged but the authors point to one segment on the E1 protein that is common to all the epidemic isolates. This change is in a region of the virus genome known to be important in forming the virus outer shell. The authors speculate that this change may have made this variant more efficient in replicating itself in the mosquito vector and this is the reason for the rapid and widespread outbreak. Of course this is speculation and this hypothesis will need to be tested directly.

CHIKV has caused an enormous epidemic in Asia possibly the result of some genetic changes in the virus. The mosquito vectors responsible for this epidemic are already present in the U. S., and of course in Florida. Imported human cases have already appeared in Europe. This is not good. Stay tuned; be watchful for a chikungunya outbreak in the U. S.

And now there is CHIKV.

Walter J. Tabachnick, Ph.D., Director and Professor
Florida Medical Entomology Laboratory
Department of Entomology and Nematology
University of Florida/IFAS/Vero Beach, Florida

Deadline for submissions to be included in the July/August 2006 issue of *Buzz Words* is July 31, 2006. Please send articles and change of address information to:

**Dr. Roxanne Rutledge, Editor, FMEL
200 9th Street S.E., Vero Beach, FL 32962 or buzzwords@ifas.ufl.edu**