BORDER HEALTH NEWSLETTER - JUNE 2012

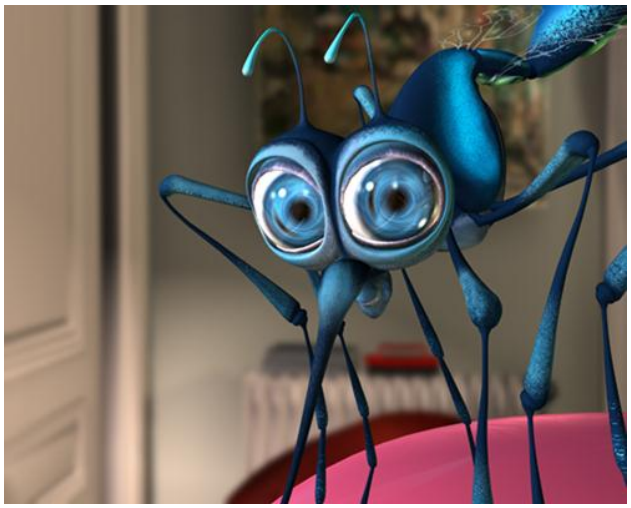
WELCOME!

Hi everyone. I hope your winter is treating you well. Not many mozzies flying around our area at the moment following snow, frosts and a week of wet and grey days, I imagine many of you are in the same situation. A hardy few have however, been out in all weathers and managed to scrape up a small number of adult mozzies and some larvae as well shown in the adjacent table.

INCURSIONS/INTERCEPTIONS

There were no interception callouts this month.

Photo of the Month



Paf the Mosquito
Image ex
http://history.pifan.com/eng/film/film_detail.asp?f_num=5&cat1=43&cat2=0&uid=240

Paf the Mosquito is a 1999 French short film directed by Jerome Calvet and Jean-Francois Bourrel submitted to the Puchon International Fantastic Short Film Festival in 2001. It's a 3minute 3D colour animation with no dialogue.

SAMPLES

During June, 373 samples were collected by staff from all 12 District Health Boards, with only 30 positive. Sampling numbers were down on last month which is expected during the winter season and also down slightly on this time last year. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
Ae. notoscriptus	0	476
Culex pervigilans	1	131
Cx. quinquefasciatus	9	73
Opifex fuscus	0	19
Exotics	0	0
TOTAL MOSQUITOES	**10**	**699**

WEBSITE

We are continually adding more information and items as enquiries from the public and our clients come in. Newsletters and reports are all able to be downloaded from the website and if you find something you think should be listed, we'd love to hear from you. The SMS training pages have also been updated to provide more detail on several of the courses coming up. In particular the Border Health and Ships Sanitation course have background reading available for download.

PHU and government departments' commercial clients are able to use the purchase order option for any supplies that are required, this is followed up with an invoice direct to you. Please ensure you include an order number for referencing in the invoice. If a product is listed as please enquire, there are generally restrictions on its sale. We hope you are finding this on-line service useful and are always happy to address any enquiries or matters you may wish to discuss. Please feel free to contact us through the website, or email us directly at enquiries@smsl.co.nz or taxonomy@nzbiosecure.net.nz.

MOSQUITO-BORNE DISEASES

JAPANESE ENCEPHALITIS AND OTHER - INDIA: (BIHAR, UTTAR PRADESH)

Source: Daijiworld, Indo Asian News Service (IANS) report [edited] 16 Jun 2012 reported on ProMED Mail 17 Jun 2012
http://www.daijiworld.com/news/news_disp.asp?n_id=140409

Acute encephalitis syndrome (AES), the deadly mosquito-borne disease that has hit Bihar and Uttar Pradesh, 2 of India's most populated states, is spreading. More deaths of AES patients, mostly children from poor families, from the states have been reported and the outbreak of the ailment seems far from being contained.

With 9 more children dying of AES in Bihar's Gaya, Muzaffarpur, and Patna districts, according to officials Saturday [16 Jun 2012], the toll has risen to a shocking 159 in just 3 weeks. "Fresh AES cases have been reported from all 10 affected districts," a state health department official said.

In Uttar Pradesh, 88 people have succumbed to various strains of AES in the last 2 weeks, prompting the state government to press the panic button. Most of the cases have come from the eastern district of Gorakhpur, near Bihar.

In Bihar, as many as 409 children have been detected with AES and of them, 159 have died and 82 admitted to hospitals, said Additional Secretary (Health) RP Ojha. The rest have been discharged, he said.
The worst affected districts include Patna, Gaya, Muzaffarpur, Sitamarhi, East Champaran, and Vaishali. Health officials say AES has killed lives of 100 children in Muzaffarpur alone.

Alarmed, Health Minister Ashwani Kumar Choubey has asked the striking junior doctors of the Patna Medical College Hospital to resume work.

A team from New Delhi is now in Muzaffarpur, around 75 km [47 mi] from Patna, to help contain the fatal viral disease.

"All medical colleges and hospitals have been directed to provide free medicines to patients having AES symptoms," said Health Secretary Vayasji.

However, Bihar is yet to declare AES an epidemic.

In Uttar Pradesh, health officials say that till 10 Jun [2012], 467 cases of AES came to primary health centres, hospitals and the BRD Medical College in Gorakhpur.

Director General of Medical Health Ram Ji Lal said: "The disease has begun spreading a little early this time round, but we are ready to take it on."

The disease, which killed more than 600 people last season [2011], is peaking in areas around Gorakhpur, officials say.

Lal said the maximum number of deaths have been reported from Gorakhpur followed by Kushinagar, Deoria, and Maharajganj.

However, no infection of Japanese encephalitis, a virulent strain, has been reported, said health officials. But they caution that this did not mean that the disease had been contained.

"We are keeping our fingers crossed and doing our best to prevent the epidemic-like situation as last year [2011]," an official told IANS.

MOSQUITO RELATED RESEARCH

MOZZIE'S MASS KEEPS IT RAINPROOF

Source: The Press 6 Jun 2012

Leonardo would approve.

Just as da Vinci looked at birds as inspiration for his sketches of aeroplanes about 500 years ago, engineer David Hu of the Georgia Institute of Technology is taking a close look at mosquitoes to understand how they can withstand the pounding of heavy rainfall.

This isn't just idle curiosity: Hu's research could help improve the design of insect-sized flying robots, which he says are being designed for use in military surveillance and search-and-rescue operations.

Hu is an assistant professor of medical engineering and biology at Georgia Tech in Atlanta. His research findings appeared in yesterday's online edition of the Proceedings of the National Academy of Sciences.

He looked at how mosquitoes, which often thrive in rainy, windy regions – and have done so for at least 170 million years – manage to survive impacts with raindrops during flight.

"These raindrops are moving at a very high speed of about 22mph (35.4km/h), which is too fast for mosquitoes to dodge while in flight," he says.

Though similar in size to mosquitoes, a single raindrop can weigh more than 50 times what a mosquito does. (A mosquito has the same ratio to a raindrop as a person would while trapped under the wheel of a car.)

Hu's team at Georgia Tech used high-speed cameras to film mosquitoes flying in a cage exposed to a water jet, which simulated rainfall. The study's authors found a mosquito's strong exoskeleton and low mass render it impervious to falling drops and help them survive collisions.

"The mosquito's low mass causes raindrops to lose little momentum upon impact and so impart correspondingly low forces to the mosquitoes."

TICK-BORNE DISEASES

ROCKY MOUNTAIN SPOTTED FEVER - USA (TENNESSEE)

Source: Herald-Citizen [edited] 3 Jun 2012 reported on ProMED Mail 7 Jun 2012
http://www.herald-citizen.com/view/full_story/18837660/article-18-cases-of-spotted-fever-reported?instance=homefirstleft

The latest numbers are in and, so far, 18 cases of Rocky Mountain spotted fever [RMSF] have been reported in the Upper Cumberland Region -- more than 100 cases statewide this year [2012] alone. "There's a fair amount of (the disease) here; it's not common but it's certainly not uncommon," Dr Mark Pierce, an infectious disease specialist at Cookeville Regional Medical Center, said. "Eastern Tennessee is probably worse than Western Tennessee."

He adds there is no way to visibly tell if a tick is carrying the disease. "(Specialists) can culture ticks and see if they carry it but you can't tell by looking at it," Pierce said.

RMSF is considered the most serious tickborne disease in the United States. "RMSF is present in the United States through Canada (and) South America, for the most part," Pierce said. "In the US, the most common areas are the south eastern United States and the south central United States so this is one of the highest endemic areas. Usually North Carolina and Tennessee are the 2 states that carry the most of it."

Symptoms of Rocky Mountain spotted fever typically appear 2 to 14 days after bite from an infected tick. Early symptoms of the disease include: sudden onset fever and headache, nausea, vomiting, muscle pain, lack of appetite, and severe headache. Later symptoms include rash, abdominal pain, joint pain and diarrhoea. Pierce says the symptoms of nausea, vomiting and diarrhoea are more common in children.

"If you have a tick (on you) that has actually fed for a while, at least a few hours, then

there's a possibility it's transmitted (the disease)," Pierce said. He adds that if you know you've had a recent tick bite and then develop symptoms, that's when a trip to the doctor is recommended. The disease can have devastating effects and can be fatal, even in normally healthy people, if not treated correctly. It can be treated effectively with antibiotics.

The best way to prevent tickborne diseases, as suggested by the Centers for Disease Control and Prevention (CDC), is to prevent tick bites in the 1st place. CDC recommends [see <http://www.cdc.gov/rmsf/>]: wear light-colored clothing; tuck pants into socks to keep ticks off your legs; apply repellents [DEET (N,N-diethyl-m-toluamide)] to discourage tick attachment; search your entire body for ticks upon return from a potentially tick-infested area; and remove any tick you find on your body. To do so, grasp with tweezers and pull straight back, if the tick is attached. Check children for ticks, especially in their hair, when returning from potentially tick-infested areas. Ticks may also be carried into your home on clothing and pets, so examine both carefully. Reduce tick habitats around your home by removing leaf litter and brush.

Pierce adds that cases of RMSF can occur at any time of the year but spring and summer are when the majority of cases are reported. "This is clearly the height of the season right now when ticks are starting to be active," Pierce.