
Internet Resources For Mosquito Control

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Abstract

The Internet, the largest network of connected computers, provides immediate, dynamic, and downloadable information. Internet is transforming lives of many people in the world. Nowadays Internet has become one of the most common media to extract information of interest to researchers. The Internet is composed of a large number of smaller interconnected networks called Intranets. These Intranets connect thousands computers enabling them to share information with each other and to share various resources such as powerful super computers, software and databases of information. It has made it possible for people all over the world to effectively and inexpensively communicate with each other. The Internet has become world's biggest library where retrieval of scientific resources is only a mouse click away. The geometric growth in Internet usage is mainly due to the great success of "World Wide Web". Various useful databases on mosquito and mosquito borne diseases are already on 'the Net' and many more being added regularly. The present article is an attempt to provide a review of several sites that may be of importance to the public health researchers, students etc.

INTRODUCTION

Arthropod-borne diseases are major causes of death and morbidity throughout the world (Elston, 2004). Mosquito-borne infectious diseases are emerging or resurging as a result of changes in public health policy, insecticide and drug resistance, shift in emphasis from prevention to emergency response, demographic and societal changes, and genetic changes in pathogens (Gubler, 1998). Female mosquito species can transmit diseases such as Eastern equine encephalitis, Japanese encephalitis (JE), La Crosse encephalitis, St. Louis encephalitis, West Nile virus, Western equine encephalitis, Filariasis, Malaria, Dengue, Yellow Fever, Murray valley, Rift Valley Fever etc to humans, and as well as to variety of diseases to wildlife and domestic animals. To combat mosquitoes and mosquito born diseases World-wide-wide Mosquito Control Programs and Research have been operating through out the world. The information regarding these programmes should be reached to the end users. With the help of electronic media necessary information like vector control, parameters influencing the disease, non-insecticidal methods like biological control, environmental management etc should be integrated in order to disseminate the vital information to scientists.

WWW offers access to millions of pages of information on computer all over the world (Jain 2003). The information on a WWW is accessed via client program or browser. The

most commonly used browsers are Netscape Navigator and Microsoft Internet Explorer. The programs can provide moving images, video clippings and sound etc. The Internet has become the single largest source of mass medium, which provides sharing of all kinds of resources across the globe. The Internet with its vast network of computers spanning the entire globe has resulted in explosion of information in virtually all fields of human interests including socio-medicine and medical entomology. It provides access to data, test, graphics, sound, software and communication. There are a number of technologies used in the transferring the information from one computer to another computer via internet, like electronic mail (e-mail), hypertext (www), remote login (telnet), file transfer (ftp).

The present article is an attempt to provide a review of several sites that may be of great significance to the public health officials, health researchers and medical/health students before execution for new assignment/project. This article provides the comprehensive information on different aspects of mosquitoes, mosquito borne diseases, and mosquito control.

METHODS

Different search engines such as General; Cluster; Directories, and Meta search were used to conduct the entire search for any mosquito related information from the World Wide Web (WWW). The keywords "MOSQUITO" and

“MOSQUITO CONTROL” were used.

RESULTS

The following useful URLs contain the information on research institutes (table 1); mosquito biology (table 2); mosquito systematics (table 3); mosquito genomics (table 4); mosquito control (table 5) and medical entomology related journals (table 6).

Table 1: Research Institutes working in Mosquito Borne Diseases

- All India Institute of Medical Sciences, New Delhi - <http://www.aiims.ac.in>
- Center for Disease Control & Prevention (CDC), Atlanta - <http://www.cdc.gov>
- Center for Research in Medical Entomology (CRME), Madurai, India - <http://www.icmr.nic.in/pinstitute/crme.htm>
- Florida Medical Entomology Laboratory, Florida - <http://fme1.ifas.ufl.edu>
- Hannover Medical School, Germany - <http://www.mh-hannover.de/institute/epi/eng/index.htm>
- Harvard School of Public Health, USA - <http://www.hsph.harvard.edu>
- ICGEB, New Delhi - <http://www.icgeb.trieste.it/RESEARCH/ND/Chauhan.htm>
- Indian Institute of Chemical Technology, India - www.envisiict.org
- London School of Hygiene & Medicine, London - <http://www.lshtm.ac.uk>
- Malaria Research and Reference Reagent Resource Center - <http://www.malaria.mr4.org>
- Malaria Research Center, New Delhi - <http://www.mrcindia.org>
- National institute of Allergy and Infectious diseases - <http://www.niad.nih.gov>
- National Institute of Communicable Diseases, New Delhi - <http://www.nicd.org>

- National Institute of Health - <http://www.nih.gov>
- National Institute of Virology, Pune - <http://www.icmr.nic.in/niv.htm>
- Pan American Health Organization - <http://www.paho.org>
- Regional Medical Research Centre, Bhubaneswar - <http://www.icmr.nic.in/bhubaneswar>
- Regional Medical Research Centre, Dibrugarh - <http://www.icmr.nic.in/rmrc.htm#dibrugarh>
- Regional Medical Research Centre, Jabalpur - <http://www.icmr.nic.in/pinstitute/jabalpur.htm>
- Regional Medical Research Centre, Jodhpur - <http://www.icmr.nic.in/000518/dmrc.htm>
- Regional Medical Research Centre, Port Blair - <http://www.icmr.nic.in/rmrcpb/index.htm>
- The Canadian Health Network - <http://www.hc-sc.gc.ca>
- Tulane University - <http://www.tulane.edu/~tropmed>
- U S Department of Agriculture - <http://cmave.usda.ufl.edu/~mosqfly>
- United States Department of Health & Human Services - <http://www.os.dhhs.gov>
- University of North Carolina, Carolina - <http://www.sph.unc.edu>
- Vector Control Research Centre (VCRC), Pondicherry - <http://www.pon.nic.in/fil-free/vcrc/da5.html>
- World Health Organization (WHO), Geneva - <http://www.who.int>

Table 2: Detailed information on mosquito biology

- <http://www.mosquito.org/mosquito.html>
- <http://www.rci.rutgers.edu/~insects/mosbiol.htm>
- http://www.co.leon.fl.us/mosquito/mceduc/mosquito_biology_main_page.htm
- <http://www.mosquitoes.org/technical/Mosqbio.htm>

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- <http://www.iictenvis.nic.in/>
- <http://www.ent.iastate.edu/maillinglist/mosquito-l/>
- http://www.doh.state.fl.us/chdEscambia/mosquito_biology.htm
- http://www.deh.enr.state.nc.us/phpm/Asian_Tiger.pdf
- <http://www.townofbrookfield.com/biology.htm>
- <http://www.sutter-yubamvcd.org/index.htm>
- <http://pested.unl.edu/catmans/public/chapter2.pdf>
- http://www.gov.edmonton.ab.ca/comm_services/parkland_services/pest_management/mosquito_biology.html
- <http://pubs.cas.psu.edu/FreePubs/pdfs/uf014.pdf>
- http://plantsci.sdstate.edu/ent/entpubs/mosq_SD_species.htm
- <http://www.manateemosquito.com/mosquitobiology.html>
- <http://www.keysmosquito.org/biology.html>
- <http://www.ento.okstate.edu/mosquito/biology.html>

Table 3: Information on mosquito systematics

- http://wrbu.si.edu/www/culicidae/mosquito_sys_entry_page.html
- <http://www.uel.ac.uk/mosquito/issue6/russian.htm>
- <http://www.sel.barc.usda.gov/diptera/doings.htm>
- <http://www.nhm.ac.uk/entomology/staffpages/rharbach.html>
- <http://wrbu.si.edu/www/MS/17/MS17N02P083.PDF>
- <http://informatics.icipe.org>
- <http://www.sph.uq.edu.au/ACITHN/ento/culicId.html>
- <http://www.envisiict.org/ano.htm>

- <http://www.envisiict.org/culex/main.html>

Table 4: Mosquito Genome Sites

- Mosquito Genomics WWW Server - <http://mosquito.colostate.edu/>
- Aedes aegypti - <http://www.tigr.org/tdb/e2k1/aabe>
- Aedes albopictus - <http://klab.agsci.colostate.edu/albopictus/albopictus.html>
- Anopheles gambiae - <http://mosquito.colostate.edu/cgi-bin/ace/simple/AgADB>
- Anopheles gambiae - <http://www.tigr.org/tdb/tgi/aggi/>
- Culex pipiens - <http://mosquito.colostate.edu/cgi-bin/ace/simple/CupDB>
- Anopheles database - <http://www.anobase.org/>

Table 5: Information on mosquito control associations.

- American Mosquito Control Association - <http://www.mosquito.org/>
- Florida Mosquito Control Association - <http://www.floridamosquito.org/>
- Louisiana Mosquito Control Association - <http://www.lmca.us/>
- Michigan Mosquito Control Association - <http://www.mimosq.org/>
- Mosquito and Vector Control Association of California - <http://mvacac.org/>
- Mosquito Control - <http://www.co.leon.fl.us/mosquito/>
- Mosquito Control Association of Australia Inc - <http://www.mcaa.org.au/mainset.html>
- Mosquito Information and Control - <http://www.scapest.com/index.html>
- New Jersey Mosquito Control Association - www.rci.rutgers.edu/~insects/njmca.htm

- Northeastern Mosquito Control Association - www.nmca.org/
- Pennsylvania Vector Control Association- home.earthlink.net/~pvca/pvca.htm
- Public Health Entomology Research & Education Center - <http://www.pherec.org>
- South Carolina Mosquito Control Association - www.scmca.net
- Texas Mosquito Control Association - www.texasmosquito.org/Index.html
- Virginia Mosquito Control Association - www.mosquito-va.org
- http://www.zmuc.dk/EntoWeb/Ent_sca.htm
- <http://www.entsoc.org/pubs/jee/index.html>
- <http://www.entu.cas.cz/eje/>
- <http://www.elsevier.nl/locate/ibmb>
- <http://www.elsevier.nl/inca/publications/store/2/3/1/>
- <http://www.entsoc.org/pubs/jme/index.html>
- http://www.oznet.ksu.edu/kes/issue75_3.htm
- http://www.biosis.org/zrdocs/zoolinfo/j_ukrent.htm
- <http://wwwmez.med.uoeh-u.ac.jp/~mez/eng/ejournal.html>

Table 6: Journals Related To The Medical Entomology

- <http://www.acponline.org/journals/annals/01jun98/mosquito.htm>
- <http://www.blackwell.de/jen.htm>
- <http://www.sove.org/journal.html>
- <http://www.up.ac.za/academic/entomological-society/journal/journal.html>
- <http://www.entsoc.org/pubs/ae/>
- <http://arjournals.annualreviews.org/loi/ento?cookieSet=1>
- <http://www.interscience.wiley.com/jpages/0739-4462/>
- <http://www.cdc.gov/ncidod/EID/index.htm>
- <http://www.blackwellpublishing.com/journals/aen/>
- <http://www.cabi-publishing.org/JOURNALS/BER/index.asp>
- <http://esc-sec.org/canent.htm>
- <http://www.wiley-vch.de/publish/en/journals/alpha/beticIndex/2224/>
- <http://www.blackwellpublishing.com/journals/een/>
- <http://www.uel.ac.uk/mosquito/>
- <http://www.kluweronline.com/issn/0013-8703>
- <http://www.senckenberg.uni-frankfurt.de/add/IEV.HTM>
- <http://www.sciref.org/net/index.htm>
- <http://www.cabi-publishing.org/JOURNALS/Abstract/RAE/Index.asp>
- http://www.cabi-publishing.org/focus/mv_entomology/Index.asp
- <http://www.ib.usp.br/sbe/sbe-english.htm>
- <http://www.ento.psu.edu/home/bugbits/bugbits.html>
- <http://www.bioinformation.net>

CONCLUSION

Internet is the ace source of the information of interest and public health professionals are routinely exports information from the Internet since, a large number of resources related to mosquito are available on the Net globally. This attempt to include the most of the resourceful sites for the searching information for different groups of medical entomologists, public health research workers, students etc.

Nowadays, Mosquito borne diseases are re-emerging continuously and becoming a major threat to the human and animal populations. Many organizations conducted research on different aspects for searching the different management applications for mosquito borne diseases. Internet is providing very curious information for awareness about

mosquito management and control through many ways.

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