
CURRICULUM VITA

NAME: Gary G. Clark

POSITION TITLE: Research Leader

EDUCATION/TRAINING:

1967 B.A. Zoology Southern Illinois University, Carbondale
1969 M.S. Wildlife Biology Colorado State University, Ft. Collins
1972 Ph.D. Med/Vet Entomol Colorado State University, Ft. Collins
1973-1975 Postdoctoral Researcher in Arbovirology, University of California, Los Angeles

POSITIONS AND HONORS:

Professional Positions

Research Leader, Mosquito & Fly Research Unit, CMAVE, ARS, USDA, 2006-Present
Chief, Dengue Branch, Centers for Disease Control and Prevention (CDC), 1990-2006.
Research Entomologist, Dengue Branch, CDC, 1986-89.
Research Entomologist, US Army Med. Res. Institute of Infectious Diseases, 1982-1986.
Lecturer, University of Illinois at Chicago, 1978-1982.
Assistant Division Chief and Laboratory Manager, Illinois Dept. Public Health (IDPH), 1980-1982.
Chief, Arbovirus Surveillance Program, IDPH, 1976-1982.
Assistant Professor of Biology, Missouri Western State College, 1975-76.
Research Parasitologist, Southern Research Institute, 1972-73.

Consultation Activities

Provided support and technical advice to the World Health Organization Pesticide Evaluation Scheme (WHOPES) in the development of "Guidelines for Efficacy Testing of Mosquito Repellents for Human Skin," "Guidelines for Efficacy Testing of Insecticides for Indoor and Outdoor Ground-applied Space Spray Applications," and "Guidelines for Efficacy Testing of Household Insecticide Products."

Lead writer for chapter on "Surveillance, emergency preparedness and response" and peer reviewer for chapter on "Vector management and delivery of vector control services" in WHO/TDR Dengue Guidelines for Diagnosis, Treatment, Prevention and Control (2009).

Member, External Scientific Advisory Committee (ESAC-2), for Innovative Vector Control Consortium (IVCC) through Liverpool School of Tropical Medicine (Funded by Gates Foundation), 2006-present

Latin American Dengue Prevention Board, Pediatric Dengue Vaccine Initiative, 2007

Advisory Committee for Malaria Prevention Project in Vanuatu, Rotary Foundation of Rotary International and the Bill and Melinda Gates Foundation, 2005-2006

Director, WHO Collaborating Center for Dengue and Dengue Hemorrhagic Fever, 1986-2006.

Subject Editor, *Journal of Medical Entomology*, 2005-present

Editorial Board, *Journal of American Mosquito Control Association*, 1987-1990, 2004-present

Editorial Board, *Journal of Vector Ecology*, 1986-1991

Leader or member of multi-national, multi-disciplinary teams for the Pan American Health Organization (PAHO) for evaluation of national dengue prevention and control programs in 13 countries in Latin America and Caribbean, 1992-2004

External reviewer, Rotary Foundation-funded vector-borne disease projects in seven Latin American countries, 1989-1996

Regional Director, Latin American-Caribbean Region, American Mosquito Control Association, 1992-1996

Co-rappeteur of PAHO Task Force to determine if hemispheric *Aedes aegypti* eradication policy should be reinstated, 1996

Actively participated in development, presentation, and implementation of PAHO *Guidelines for Prevention and Control of Dengue in the Americas* (1991-1994).

Executive Committee, Federal Emergency Management Agency (FEMA) & U. S. Virgin Islands Emergency Management Agency after Hurricane Hugo, 1989

Honors and Awards

Presidential Citation for Leadership of the Latin American Symposium (1991-2010), American Mosquito Control Association, 2010

Coordinating Centers for Infectious Diseases, CDC, "James H. Nakano Award" for publication "Use of the pupal survey technique for measuring *Aedes aegypti* productivity in Puerto Rico", 2006.

US Public Health Service (PHS) Outstanding Unit Citation for support for CDC-Mexico Border Infectious Disease Surveillance project, 2004

PHS Unit Commendation for support for dengue outbreak investigation in Hawaii, 2004

National Center for Infectious Diseases, CDC, "James H. Nakano Award" for publication "Community-based dengue prevention programs in Puerto Rico: Impact on knowledge, behavior and residential mosquito infestation" in *Am. J. Trop. Med. Hyg.*, 2002.

PHS Unit Commendation for support for dengue outbreak in Texas and Mexico, 2001

National Center for Infectious Diseases, CDC, "James H. Nakano Award" for publication "Using disability-adjusted life years to assess the economic impact of dengue in Puerto Rico, 1986-1994" by Meltzer, Rigau-Perez, Clark, Reiter & Gubler in *Am. J. Trop. Med. Hyg.* (1998)

Medal of Honor, American Mosquito Control Association, 2001

President, American Mosquito Control Association, 1997-98

CDC Group Award to Dengue Branch- Outstanding response to 1994 Puerto Rico epidemic, 1995.

Surgeon General's Exemplary Service Medal, 1993

PHS Foreign Duty Service Ribbon, 1991 and 1993 and PHS Commendation Medal, 1990

PHS Special Assignment Service Ribbon for Hurricane Hugo response to vectors, 1990

Certificate of Appreciation, Director, CDC, 1987

PHS Citation- Direction/coordination of major aerial control project for *Aedes aegypti*, 1987

Difco Award- Best Paper, Lab Section Annual Meeting Am. Public Health Assoc., 1980

Best Paper, Rocky Mountain Conference of Parasitologists, 1972

Relevant publications

Clark, G.G., J.G. Rigau-Perez, A.V. Vorndam, & J.M. Hayes. 2002. Imported dengue—United States, 1999 and 2000. *Morbidity and Mortality Weekly Report* 51:281-283.

Gill, J., L.M. Stark, & G.G. Clark. 2002. Dengue surveillance in Florida, 1997-98. *Emerg. Infect. Dis.* 6:30-35.

O'Leary, D.R., J.G. Rigau-Pérez, E. B. Hayes, A.V. Vorndam, G.G. Clark, & D.J. Gubler. 2002. Assessment of dengue risk in relief workers in Puerto Rico after Hurricane Georges, 1998. *Am. J. Trop. Med. Hyg.* 66:35-39.

Rigau-Pérez, J.G., A. Ayala-López, E.J. García-Rivera, S.M. Hudson, V. Vorndam, P. Reiter, M.P. Cano, & G.G. Clark. 2002. The reappearance of dengue-3 and a subsequent dengue-4 and dengue-1 epidemic in Puerto Rico in 1998. *Am. J. Trop. Med. Hyg.* 67:355-362.

Winch, P.J., E. Leontsini, J.G. Rigau-Pérez, M. Ruiz-Pérez, G.G. Clark & D.J. Gubler. 2002. Community-based dengue prevention programs in Puerto Rico: Impact on knowledge, behavior, and residential mosquito infestation. *Am. J. Trop. Med. Hyg.* 67:363-370.

Ashford, D.M., H.M. Savage, R.A. Hajjeh, J. McReady, D.M. Bartholomew, R.A. Spiegel, V. Vorndam, G.G. Clark & D.J. Gubler. 2003. Outbreak of dengue fever in Palau, Western Pacific: risk factors for infection. *Am. J. Trop. Med. Hyg.* 69:135-140.

Clark, G., D. Gubler & J. Rigau. 2003. Dengue fever. In: Centers for Disease Control and Prevention. Health information for international travel, 2003-2004. Atlanta: US Department of Health and Human Services, Public Health Service, pp. 55-57.

de Benedictis, J., E. Chow-Shaffer, A. Costero, G.G. Clark, J.D. Edman, & T.W. Scott. 2003. Identification of the people from whom engorged *Aedes aegypti* took blood meals in Florida, Puerto Rico, using polymerase chain reaction-based DNA profiling. *Am. J. Trop. Med. Hyg.* 68:437-446.

Renganathan, E., W. Parks, L. Lloyd, M.B. Nathan, E. Hosein, A. Odugleh, G.G. Clark, D.J. Gubler, C. Prattisuk, K. Palmer, & J.L. San Martin. 2003. Towards sustaining behavioural impact in dengue prevention and control. *Dengue Bulletin* 27:6-12.

Reiter, P., S. Lathrop, M. Bunning, B. Biggerstaff, D. Singer, T. Tiwari, L. Baber, M. Amador, J. Thirion, J.M. Hayes, C. Seca, J. Mendez, B. Ramirez, J. Robinson, J. Rawlings, V. Vorndam, S. Waterman, D.J. Gubler, G.G. Clark & E. Hayes. 2003. Texas lifestyle limits transmission of dengue virus. *Emerg. Infect. Dis.* 9:86-89.

Barrera, R., M.A. Amador & G.G. Clark. 2004. The use of household bleach to control *Aedes aegypti*. *J. Am. Mosq. Control Assoc.* 20:444-448.

Clark, G.G., D.J. Gubler, H. Seda & C. Perez. 2004. Social mobilization of pilot programs for dengue prevention in Puerto Rico: a case study. *Dengue Bulletin* 28 (Supplement):48-52.

Luna, J.E., I. Chain, J. Hernandez, G.G. Clark, A. Bueno, R. Escalante, S. Angarita & A. Martinez. 2004. Social mobilization using strategies of education and communication to prevent dengue fever in Bucaramanga, Colombia. *Dengue Bulletin* 28 (Supplement):17-21.

Parks, W.J., L.S. Lloyd, M.B. Nathan, E. Hosein, A. Odugleh, G.G. Clark, et al. 2004. International experiences in social mobilization and communication for dengue prevention and control. *Dengue Bulletin* 28 (Supplement):1-7.

Rigau-Perez, J.G. & G.G. Clark. 2005. *Como responder a una epidemia del dengue: vision global y experiencia en Puerto Rico*. (How to respond to a dengue epidemic: overview and experience in Puerto Rico). *Pan American J. Publ. Hlth.* 17:282-293.

Perez, C., H. Seda, E.J. Garcia-Rivera and G.G. Clark. 2005. Knowledge and attitudes of Puerto Ricans about dengue prevention. *Pan American J. Publ. Hlth.* 17:243-253.

Effler, P., L. Pang, P. Kitsutani, et al. G.G. Clark, & D.J. Gubler. 2005. An outbreak of dengue fever in Hawaii, 2001-2002. *Emerg. Infect. Dis.* 11:742-749.

Harrington, L.C., T.W. Scott, K. Lerdthusnee, R.C. Coleman, A. Costero, G.G. Clark, et al. 2005. Dispersal of the dengue vector *Aedes aegypti* within and between rural communities. *Am. J. Trop. Med. Hyg.* 72:209-20.

Barrera, R., M. Amador & G.G. Clark. 2006. Sample-size requirements for developing strategies, based on the pupal/demographic survey, for the targeted control of dengue. *Ann. Trop. Med. Parasit.* 100 (suppl. No. 1): S33-S43.

Barrera, R., M. Amador & G.G. Clark. 2006. Use of the pupal survey technique for measuring *Aedes aegypti* (Diptera: Culicidae) productivity in Puerto Rico. *Am. J. Trop. Med. Hyg.* 74:290-302.

Hayes, J.M., J.G. Rigau-Perez, P. Reiter, P.V. Effler, et al. G.G. Clark, B. Biggerstaff, & D.J. Gubler. 2006. Risk factors for infection during a dengue-1 outbreak in Maui, Hawaii, 2001. *Trans. Royal Soc. Trop. Med. Hyg.* 100:559-566.

Komar, N. & G.G. Clark. 2006. West Nile virus activity in Latin America and the Caribbean. *Pan. Am. J. Public Health* 19:112-117.

Rigau-Perez, J.G., J.V. Torres, J.M. Hayes, V. Vorndam, & G.Clark. 2006. Medical examiner samples: a source for dengue surveillance. *Puerto Rico Health Sciences J.* 25:67-69.

Beatty, M.E. & G.G. Clark. 2007. Dengue fever. In: Centers for Disease Control and Prevention. Health information for international travel, 2007-2008. Atlanta: US Department of Health and Human Services, Public Health Service, pp. 133-140.

Beatty, M.E., E. Hunsperger, E. Long, et al. G.G. Clark. 2007. Mosquito-borne infections after Hurricane Jeanne, Haiti, 2004. *Emerg. Inf. Dis.* 13:308-310.

Clark, G.G. 2007. Between 500,000 and 600,000 cases [of dengue in Texas]. *Wing Beats of the Florida Mosquito Control Assoc.* 18:16-17, 18.

Clark, G.G. 2008. Dengue and dengue hemorrhagic fever in Northeastern Mexico and South Texas: Do they really respect the border? *Am. J. Trop. Med. Hyg.* 78:361-362.

Katritzky, A.R., Z. Wang, S. Slavov, M. Tsikolia, D. Dobchev, N.G. Akhmedov, C.D. Hall, U.R. Bernier, G.G. Clark & K.J. Linthicum. 2008. Synthesis and bioassay of improved mosquito repellents predicted from chemical structure. *Proc. Natl. Acad. Sci.* 105:7359-7364.

Pridgeon, J.W., R.M. Pereira, J.J. Becnel, S.A. Allan, G.G. Clark & K.J. Linthicum. 2008. Susceptibility of *Aedes aegypti*, *Culex quinquefasciatus* Say, and *Anopheles quadrimaculatus* Say to 19 pesticides with different modes of action. *J. Med. Entomol.* 45:82-87.

Pridgeon, J.W., L. Zhao, J.J. Becnel, G.G. Clark & K.J. Linthicum. 2008. Developmental and environmental regulation of *AaeIAP1* transcript in *Aedes aegypti*. *J. Med. Entomol.* 45:1071-1079.

Pridgeon, J.W., L. Zhao, J.J. Becnel, D.A. Strickman, G.G. Clark & K.J. Linthicum. 2008. Topically applied *AaeIAP1* double-stranded RNA kills female adults of *Aedes aegypti*. *J. Med. Entomol.* 45:414-420.

Zhao, L., J.W. Pridgeon, J.J. Becnel, G.G. Clark & K.J. Linthicum. 2008. Cytochrome *c* gene and protein expression: developmental regulation, environmental response, and pesticide sensitivity in *Aedes aegypti*. *J. Med. Entomol.* 45:401-408.

Perez-Guerra, C. L., E. Zielinski-Gutierrez, D. Vargas-Torres, D. & G.G. Clark. 2009. Community beliefs and practices about dengue in Puerto Rico. *Pan American J. Publ. Hlth.* 25:218-226.

Pridgeon, J.W., Becnel, J.J., Clark, G.G. & Linthicum, K.J. 2009. Permethrin induces overexpression of multiple genes in *Aedes aegypti*. *J. Med. Entomol.* 46 (3): 580-587.

Pridgeon, J.W., Becnel, J.J., Clark, G.G. & Linthicum, K.J. 2009. Permethrin induces overexpression of cytochrome c oxidase subunit 3 in *Aedes aegypti*. *J. Med. Entomol.* 46 (4): 810-819.

Pridgeon, J.W., Becnel, J.J., Clark, G.G. & Linthicum, K.J. 2009. A high throughput screening method to identify potential pesticides for mosquito control. *J. Med. Entomol.* 46 (2): 335-341.

Zhao, L., Pridgeon, J.W., Becnel, J.J., Clark, G.G. & Linthicum, K.J. 2009. Mitochondrial gene cytochrome b: Developmental and environmental expression in *Aedes aegypti* (Diptera: Culicidae). *J. Med. Entomol.* 46 (6): 1361-1369.

Zhao, L., Pridgeon, J.W., Becnel, J.J., Clark, G.G. & Linthicum, K.J. 2009. Identification of genes differentially expressed during heat shock treatment in *Aedes aegypti*. *J. Med. Entomol.* 46 (3): 490-495.

Alphay, L., Benedict, M., Bellini, R., Clark, G.G., Dame, D.A., Service M.W., & Dobson, S.L. 2010. Sterile-insect methods for control of mosquito-borne diseases – an analysis. *Vector-Borne and Zoonotic Diseases.* 10(3):295-311

Clark, G.G. & Rubio-Palis, Y. 2010. Mosquito vector biology and control in Latin America – a 20th symposium. *J. Am. Mosq. Contr. Assoc.* 26(3):306-320.

Cooperband, M.F., Golden, F.V., Clark, G.G., Jany, W. & Allan, S.A. 2010. Prallethrin-induced excitation increases contact between sprayed ultra-low-volume droplets and flying mosquitoes (Diptera: Culicidae) in a wind tunnel. *J. Med. Entomol.* 47 (6): 1099-1106.

Katritzky, A.R., Wang, Z., Slavov, S., Dobchev, D. A., Hall, C.D., Tsikolia, M., Bernier, U.R., Elejalde, N.M., Clark, G.G. & Linthicum, K.J. 2010. Novel carboxamides as potential mosquito repellents. *J. Med. Entomol.* 47(5): 924-938.

Larson, R.T., Lorch, J.M., Pridgeon, J.W., Becnel, J.J., Clark, G.G. & Lan, Q. 2010. The biological activity of a-mangostin, a larvicidal botanic mosquito sterol carrier protein-2 inhibitor. *J. Med. Entomol.* 47(2): 249-257.

Mohammed, H., Ramos, M., Armstrong, J., Lewis, K.O., Ayala, A., Clark, G.G., Tull, E.S., & Beatty, M.E. 2010. An outbreak of dengue fever in St. Croix (U.S. Virgin Islands), 2005. *PLoS One.* 5(10):e13729. DOI: 10.1371/journal.pone.0013729

Pridgeon, J.W., Becnel, J.J., Bernier, U.R., Clark, G.G. & Linthicum, K.J. 2010. Structure-activity relationships of 33 carboxamides as toxicants against female adults of *Aedes aegypti* (Diptera: Culicidae). *J. Med. Entomol.* 47(2): 172-178.

Zhao, L., Becnel, J.J., Clark, G.G. & Linthicum, K.J. 2010. Expression of *AeaHsp26* and *AeaHsp83* in *Aedes aegypti* (Diptera: Culicidae) larvae and pupae in response to heat shock stress. *J. Med. Entomol.* 47 (3): 367-375.

Zhao, L., Becnel, J.J., Clark, G.G., Linthicum, K.J., Chen, J. & Jin, X.X. 2010. Identification and expression profile of multiple genes in response to magnesium exposure in *Culex quinquefasciatus* larvae. *J. Med. Entomol.* 47 (6): 1053-1061.

Bartlett-Healy, K., Hamilton, G., Healy, S., Crepeau, T., Unlu, I., Farajollahi, A., Fonscea, D., Gaugler, R., Clark, G.G., & Strickman, D.A. 2011. Source reduction behavior as an independent measurement of the impact of a public health education campaign in an integrated vector management program for the Asian tiger mosquito. *Int. J. Environ. Res. Public Health.* 8:1358-1367.

Clark, G.G., Bernier, U.R., Allan, S.A., Kline, D.L. & Golden, F.V. 2011. Changes in host-seeking behavior of Puerto Rican *Aedes aegypti* after colonization. *J. Med. Entomol.* 48 (3): 533-537.

Clark, G.G. & Rubio-Palis, Y. 2011. Mosquito vector biology and control in Latin America – a 21st symposium. *J. Am. Mosq. Contr. Assoc.* 27(2):165-167.

Tabachnick, W.J., Harvey, W.R., Becnel, J.J., Clark, G.G., Connelly, C.R., Day, J.F., Linser, P.J., & Linthicum, K.J. 2011. Countering a bioterrorist introduction of pathogen infected mosquitoes through mosquito control. *J. Am. Mosq. Contr. Assoc.* 27(2):165-167.

Unlu, I., Farajollahi, A., Healy, S., Crepeau, T., Bartlett-Healy, K., Williges, E., Strickman, D.A., Clark, G.G., Gaugler, R., & Fonseca, D.M. 2011. Area-wide management of *Aedes albopictus*: choice of study sites based on geospatial characteristics, socioeconomic factors, and mosquito populations. *Pest Mgmt Sci.* 67:965-974.

Zhao, L., Chen, J., Becnel, J.J., Kline, D.L., Clark, G.G., & Linthicum, K.J. 2011. Identification and transcription profiling of trypsin in *Aedes taeniorhynchus* (Diptera: Culicidae): Developmental regulation, blood feeding, and Permethrin exposure. *J. Med. Entomol.* 48(3): 546-553.

Clark, G.G. & Rubio-Palis, Y. 2012. Mosquito vector biology and control in Latin America – a 22nd symposium. *J. Am. Mosq. Contr. Assoc.* 28(2):102-110.

Halasa, Y.A., Shepard, D.S., Wittenberg, E., Fonseca, D.M., Farajollahi, A., Healy, S., Gaugler, R., Strickman, D.A., and Clark, G.G. 2012. Willingness-to-pay for an area-wide integrated pest management program to control the Asian tiger mosquito in New Jersey. *J. Am. Mosq. Contr. Assoc.* 28(3):225-236.

Clark, G.G. & Fernandez-Salas, I. 2013. Mosquito vector biology and control in Latin America - a 23rd symposium. *J. Am. Mosq. Contr. Assoc.* 29(3):251-269.

Clark, G.G., Golden, F.V., Allan, S.A., Cooperband, M.F. & J. McNelley. 2013. Behavioral responses of two dengue virus vectors, *Aedes aegypti* and *Aedes albopictus* (Diptera: Culicidae) to DUET™ and its components. *J. Med. Entomol.* 50 (5): 1059-1070.

Oliferenko, P.V., Oliferenko, A.A., Poda, G.I., Osolodkin, D.I., Pillai, G.G., Bernier, U.R., Tsikolia, M., Agramonte, N.M., Clark, G.G., Linthicum, K.J., & Katritzky, A.R. 2013. Promising *Aedes aegypti* repellent chemotypes identified through integrated QSAR, virtual screening, synthesis, and bioassay. *PLOS ONE* 8(9): e64547.

Tsikolia, M., Bernier, U.R., Coy, M.R., Chalaire, K.C., Becnel, J.J., Agramonte, N.M., Tabanca, N., Wedge, D.E., Clark, G.G., Linthicum, K.J., Swale, D.R., & Bloomquist, J.R. 2013. Insecticidal and fungicidal properties of novel trifluoromethylphenyl amides. *Pesticide Biochemistry & Physiology.* 107:138-147.