CURRICULUM VITAE

PERSONAL INFORMATION

Name: Dulce Maria BUSTAMANTE ZAMORA
Date of Birth: November 11th, 1979
Work Address: Escuela de Biología, Edificio T-10 segundo nivel, Ciudad Universitaria, Universidad de San Carlos de Guatemala, Ciudad de Guatemala.
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EDUCATION

1. Undergraduate: Bachelors' degree in Biology
Institution: Department of Biology, School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala City, Guatemala.
Date: November 2001.
Thesis Subject: Morfometría de seis poblaciones del principal vector de la enfermedad de Chagas en Guatemala, *Triatoma dimidiata* Latreille 1811 (Triatominae: Hemiptera: Reduviidae), para la caracterización geográfica de la especie.

2. Graduate: Master in Applied Statistics
Institution: Department of Experimental Statistics, Louisiana State University, Louisiana, USA.
Date: May 2005.
Special Problem Subject: Estimation of death rates in *Apis mellifera* (Hymenoptera: Apidae) colonies exposed to *Varroa destructor* (Mesostigmata: Varroidae), using a recurrence data approach.

3. Graduate: Doctor of Philosophy (Medical Entomology)
Institution: Department of Entomology and Nematology, University of Florida, Gainesville, Florida, USA.
Date: December 2009.
Dissertation Subject: *Culex nigripalpus* (Diptera : Culicidae) population age structure under heterogeneous environments and sources of error on the estimation of mosquito infection rates.

PROFESSIONAL EXPERIENCE

1. Associate Professor (January 2003-Indefinite) at the Department of Biology, School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
    a. **Classes taught**: Introductory Biology, Statistics, Entomology, and Ecological Systems Analysis.
2. Statistician (May-July 2005). Laboratory of Applied Entomology and Parasitology, Department of Biology, School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
3. Graduate Research Assistant, FMEL, August 2005-December 2009
4. Fulbright Scholar (August 2003-May 2005) Louisiana State University, Department of Experimental Statistics
5. Associate Researcher (2001-2003). Laboratory of Applied Entomology and Parasitology, Department of Biology, School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
6. Research Assistant (1998-2001). Laboratory of Applied Entomology and Parasitology, Department of Biology, School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.

Activities:

1. Research: morphometry and ecology of Chagas Disease Vectors, grant proposal writing, preparation of manuscripts for publication, field work, statistical analysis of entomological survey data.
2. Participation in Projects (*also as co-author):
    - Population movements of *Triatoma dimidiata* during one year, and parental relationships of the bugs colonizing one house.
    - Genetic and morphometric characterization of sylvan, domestic and peridomestic populations of *Triatoma dimidiata* from different departments of Guatemala.
    - Morphometrics and distribution patterns of *Triatoma nitida* in Guatemala.
    - Morphometrics and PCR-RAPD for studies of migration and reinfestation patterns of *Triatoma dimidiata* and *Rhodnius prolixus* in Guatemala.
    - Cost-reduction of insecticide intervention for the control of *Triatoma dimidiata* in Guatemala.
    - Habitat suitability predictions for Chagas disease vectors in Guatemala, using environmental information systems.*
    - Population movements of sylvan *Triatoma dimidiata* during one year.
    - Morphometric and genetic characterization of sylvan, domestic and peridomestic populations of *Triatoma dimidiata* from Mexico, Central America and Colombia*.
    - Reducing the intradomestic reinfestation by *Triatoma dimidiata* in Guatemala, using an integrated control based in environmental management and community participation.*

PUBLICATIONS

1. **Bustamante DM**, Lord CC. 2010. Sources of error on the estimation of mosquito infection rates used to assess risk of arbovirus transmission*. Am J Trop Med Hyg,* 82: 1172–1184*.*

2. Dujardin JP, Costa J, **Bustamante D**, Jaramillo N, Catala S. 2009. Deciphering morphology in Triatominae: the evolutionary signals. *Acta Tropica* 110: 101-111.

3. Monroy C, **Bustamante DM**, Pineda S, Rodas A, Castro X, Ayala V, Quinones J, Moguel B, Trampe R, Revolorio R. 2009. House improvements as community participation in the control of *Triatoma dimidiata* re-infestation in Jutiapa Guatemala. *Cadernos de Saude Publica* 25 (Sup 1): S168-S178.

4. **Bustamante DM**, Monroy C, Pineda S, Rodas A, Castro X, Ayala V, Quinones J, Moguel B, Trampe R, Revolorio R. 2009. Risk factors for intradomiciliary infestation by the Chagas vector *Triatoma dimidiata* in Jutiapa, Guatemala. *Cadernos de Saude Publica* 25 (Sup 1): S83-S92.

5. Villa JD, **Bustamante DM**, Dunkley JP, Escobar LA. 2008. Changes in honey bee (Hymenoptera: Apidae) colony survival and swarming rates associated with *Varroa destructor* (Acari: Varroidae) in southern Louisiana. *Ann Entomol Soc Am* 101: 867-871.

6. **Bustamante DM**, Monroy MC, Juarez JA, Malone JB. 2007. Environmental determinants of the distribution of Chagas Disease vectors in south-eastern Guatemala. *Geospatial Health* 2: 199-211.

7. Calderon Fernandez G, Juarez MP, Monroy MC, Menes M, **Bustamante DM**, Mijailovsky S. 2005. Intraspecific variability in *Triatoma dimidiata* (Hemiptera: Reduviidae) populations from Guatemala based on chemical and morphometric analyses. *J Med Entomol*, 42: 29-35.

8. **Bustamante DM,** Monroy C, Menes M, Rodas A, Salazar-Schettino PM, Rojas G, Pinto N, Guhl F, Dujardin JP. 2004. Metric Variation among Geographic Populations of the Chagas Vector *Triatoma dimidiata* (Hemiptera: Reduviidae: Triatominae) and Related Species. *J Med Entomol*, 41:296-301.

9. Monroy C, **Bustamante DM**, Rodas A, Enriquez E, Rosales R 2003. Habitats, Dispersion and Invasion of Sylvatic *Triatoma dimidiata* (Hemiptera: Reduviidae: Triatominae) in Peten, Guatemala. *J Med Entomol*, 40: 800-806.

10. Monroy C, **Bustamante DM,** Rodas A, Rosales R, Mejia M, Tabaru Y 2003. Geographic Distribution and Morphometric Differentiation of *Triatoma nitida* Usinger 1939 (Hemiptera: Reduviidae: Triatominae) in Guatemala. *Mem Inst Oswaldo Cruz*, 98: 37-43.

11. **Bustamante DM** 2001. Morfometría de seis poblaciones del principal vector de la enfermedad de Chagas en Guatemala, *Triatoma dimidiata* Latreille 1811 (Triatominae: Hemiptera: Reduviidae), para la caracterización geográfica de la especie. Thesis. School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala, 122 pp.

12. Monroy MC, Rodas, A, **Bustamante DM**, Chavez JJ, Bor S, Melgar S, Morales-Betoule ME, Menes M, Landaverde P 2001. Movimientos poblacionales de *Triatoma dimidiata* a lo largo de un año y relaciones parentales de la misma especie en una vivienda demolida. Dirección General de Investigación, Universidad de San Carlos, Guatemala, 32 pp.

SHORT COURSES

1. Analysis of organismal form, an introduction to morphometrics delivered as a web-based course. University of Manchester, England. November 8th – December 17th, 2010.
2. Ecology and Evolution of Infectious Diseases, Athens, Georgia, 40 hours, May 2009.
3. Glimmix Course, University of Florida, Gainesville, Florida, 16 hours, May 2007.
4. Mosquito Identification and Certification, Florida Medical Entomology Laboratory-University of Florida, Vero Beach, Florida. 80 hours, March 2006.
5. Ecosystem Approaches on Human Health, National Institutes of Public Health, Cuernavaca, Mexico. 40 hours, August 2002.
6. Ecoepidemiology of Chagas Disease, University of Antioquia, Medellin, Colombia. 40 hours, June 2001.
7. Biology, Ecology and Control of Triatominae Insects, Rene Rachou Research Center/Fiocruz, Belo Horizonte, Brazil. 80 hours, November 2000.
8. Traditional and Geometric Morphometry for Triatominae Insects, National Institute of Health Laboratories, La Paz, Bolivia. 80 hours, June 2000.

CONFERENCES AND MEETINGS

1. Annual Meeting of the New Champions 2011 and 4th IAP Young Scientists Conference, Dalian, China, September 2011. Panelist in the “New Access to Healthcare” discussions.
2. First International Congress of Environmental Health, Guadalajara, Mexico, October 2010. Oral presentation.
3. Entomological Society of America, Reno, Nevada, November 2008. Poster presentation.
4. American Society of Tropical Medicine and Hygiene, Philadelphia, Pennsylvania, November 2007. Poster presentation.
5. Society of Vector Ecology, Springfield, Illinois, September 2007. Oral presentation.

6. American Mosquito Control Association, Orlando, Florida. Poster and oral presentation. April 2007.
7. Florida Mosquito Control Association, Stuart, Florida. Oral presentation. November 2006.
8. Entomological Society of America Annual Meeting, Fort Lauderdale, Florida. Poster presenter. December 2005.
9. International Forum on Ecosystem Approaches on Human Health, Montreal, Canada. Oral presentation. May 2003.
10. International Meeting for the Establishment of Criteria to Certify the Elimination of *Rhodnius prolixus*. Guatemala City, Guatemala. Participant. March 2003.
11. Second Biennial Netropica Meeting, Playa Blanca, Panama. Oral Presentation. January 2003.
12. First International Meeting on Tropical Diseases NETROPICA 2001, Antigua Guatemala, Guatemala. Oral Presentation. March 2001.

HONORS AND SCHOLARSHIPS

1. First prize poster category, Student Competition for the President's Prize, Entomological Society of America, Reno, Nevada, 2008.
2. Member of the Honor Society of Agriculture, Gamma Sigma Delta, Louisiana State University Chapter. Awarded by the LSU Chapter of Gamma Sigma Delta, Baton Rouge, Louisiana, 2004.
3. Member of the National Society of Collegiate Scholars, Louisiana State University Chapter. Awarded by the Honorary Board of Directors of the National Society of Collegiate Scholars, Washington D.C., 2004.
4. Fulbright Grant for Graduate Studies in the United States. Awarded in 2003 by the J. William Fulbright Foreign Scholarship Board, Washington D.C., United States of America.
5. Best Graduation Thesis for the Period 2001-2002. Awarded by the Director's Board of the School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
6. Recognition as part of the Outstanding Research Team of San Carlos University for the year 2001. Awarded by the State Research Office, San Carlos University, Guatemala.
7. Honors Student for the year 2000. Awarded by the Director's Board of the School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
8. Integral Biology Student for the year 2000. Awarded by the Teacher's Staff of the School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
9. Best Biology Student for the year 2000. Awarded by Mario Dary Foundation, Guatemala City, Guatemala.
10. Best Student of the Period 1999-2000. Awarded by the Director's Board of the School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
11. Recognition as the 4th Best Grade Point Average 1999. Awarded by the Students Association of the School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.
12. Honor Student 1998. Awarded by the Director's Board of the School of Chemical Sciences and Pharmacy, San Carlos University, Guatemala.

SOCIETIES

1. Colegio de Farmaceúticos y Químicos de Guatemala.
2. Consejo Nacional de Ciencia y Tecnología de Guatemala.

RELEVANT SKILLS

1. Languages: Spanish, English. (Proficient in speaking and writing)
2. Computer Software: Microsoft Office, R and TinnR, basic knowledge of ArcGis 8.0, SAS, and SPSS.
3. Journal reviewer: Journal of Medical Entomology, Memórias do Instituto Oswaldo Cruz.