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**Plenary of the Intergovernmental Science-Policy
Platform on Biodiversity and Ecosystem Services
First session**

Bonn, Germany, 21-26 January 2013

Item 6 of the provisional agenda*

**Nomination and selection of the members of the
Multidisciplinary Expert Panel**

Compilation of curricula vitae of proposed members from Latin American and Caribbean States of the Multidisciplinary Expert Panel

Note by the secretariat

The annex to the present note, prepared by the secretariat of the United Nations Environment Programme, compiles the full curricula vitae of the candidates proposed as members from Latin American and Caribbean States of the Multidisciplinary Expert Panel, as submitted by Members of the Platform. The annex has been reproduced as received, without formal editing.

The candidates are the following:

Manuela Carneiro da Cunha, Brazil
Carlos Alfredo Joly, Brazil
Peter Herman May, Brazil
Edgar Selvin Pérez, Guatemala
Adoni Cubas Guerra, Honduras
Rodrigo Medellín Legorreta, Mexico
Julia Carabias Lillo, Mexico
José Sarukhán, Mexico
Dave D. Chadee, Trinidad and Tobago
Floyd M. Homer, Trinidad and Tobago
Howard P. Nelson, Trinidad and Tobago

* IPBES/1/1.



Annex

Compilation of curricula vitae of proposed members from Latin American and Caribbean States of the Multidisciplinary Expert Panel

Manuela Carneiro da Cunha
Traditional Knowledge

Manuela Carneiro da Cunha was born in Portugal in 1943 and raised in Brazil. After graduating in Mathematics in Paris and then moving into Anthropology under Prof. Claude Lévi-Strauss, she returned to Brazil.

She first published on Amazonian ethnology and on the structural connections between myth and history. This was followed by research in Nigeria on the descendant of Yoruba emancipated slaves who 'returned' from Brazil to West Africa in the nineteenth century. That research resulted in a prize-winning book on both emancipated slaves in Brazil and ethnicity in Nigeria.

Building on her grasp of ethnicity processes, she became particularly active since 1978 in the defense of indigenous rights in Brazil. She launched the study of the history of legal provisions on indigenous people in Brazil and - as the then president of the Brazilian Anthropological Association- subsidized the Constitutional Assembly of 1988 that included a full progressive chapter on indigenous rights. She also established a research center at the University of São Paulo dedicated to the History of Indigenous People that produced academic research as well as valuable data for the establishment of indigenous land claims. In 1992, she edited a book that remains to this day the most authoritative source on indigenous history in Brazil.

She then started research on the role of traditional people in conservation, co-leading a multidisciplinary team in the state of Acre, Brazil, in a collaborative study with local people funded by the MacArthur Foundation. "Can traditional people self-manage conservation areas? The case of the Upper Juruá". An edited book - the Forest Encyclopedia (2002) - came out of this research.

This was followed by research on traditional knowledge issues, seen as both systems in themselves and as what international legal provisions make of them. She is presently directing (at CEBRAP, Centro Brasileiro de Pesquisa, São Paulo) a collective research in Brazil, with colleagues from several different Brazilian universities on the effects of the United Nations bodies' provisions (such as WIPO, UNESCO, UNCTAD, FAO) on traditional knowledge itself. She is also doing research on the social production of agrobiodiversity in the Amazon, in collaboration with French researchers (IRD).

She is presently involved in launching a Brazilian program of collaboration between academic and traditional knowledge.

Manuela Carneiro da Cunha has taught anthropology at the University of Campinas (1972-1984), the University of São Paulo (1984-1994) and at the University of Chicago (1994-2009). As professor emerita, she is living in São Paulo, Brazil. She has published six books and edited another four. In 2009, she published in Brazil a book of essays

“Cultura com aspas”. One of these essays was also published in English as a pamphlet in the Prickly Paradigm Series (2009), under the title *“Culture” and culture. Traditional Knowledge and Intellectual Rights*, and was subsequently translated into French (2010).

She has held visiting positions in several universities, the latest of which was an annual chair at the Collège de France (2011-2012) on Traditional Knowledge. She has sat on a number of boards, such as the Independent Advisory Committee for the PPG-7 Program on Tropical Forests in Brazil (2002-2007). She is a member of the Brazilian Academy of Sciences and of the Third World Academy of Sciences. Among other honors, she is the recipient of the Order of Scientific Merit Brazil (Great-Cross, 2010) and the French Légion d’Honneur (2012).



Short Biography - Carlos A. Joly

Full CV Available at

<http://buscatextual.cnpq.br/buscatextual/visualizacv.jsp?id=K4783528Y5>



After graduating in Biological Sciences at the University of Sao Paulo in 1976, Carlos A. Joly did his MSc in Plant Biology at the State University of Campinas/UNICAMP (1977/79) with Prof. Gil Martins Fellipe, his PhD at the Botany Department – Univ. St. Andrews/Scotland (1979/82) with Prof. Robert M. M. Crawford, and a Post-Doc at Bern University, Switzerland (1993/94) with Prof. Roland Brändle. In 1997 he became full professor of Plant Ecology at UNICAMP.

During his career he has published more than 80 papers and/or book chapters, supervised 26 MSc and 15 PhD. His intellectual production includes editing 12 books, with prominence for the series **Biodiversity of the State of Sao Paulo: knowledge synthesis at the end of the XX century** (1998/99), the **Atlas of the remnants of native vegetation of Sao Paulo State** (2005) and **Guidelines for biodiversity conservation and restoration in Sao Paulo State** (2008). This last book was adopted by the State Secretaries of Environment, of Agriculture and of Justice of the State of Sao Paulo to establish and improve the state's legal framework for biodiversity conservation and restoration. **His GoogleScholar records show a total of 1854 citations, h index 25, i10 index 42.**

In his academic career he was member of the Botany/Ecology/Zoology Committee of CNPq (1987/90 & 1998/00) and the Biological Sciences Committee of FAPESP (1992/96). Today he is the Coordinator of the Brazilian Committee of The Latin American Network of Biological Sciences/RELAB, member of the Executive Committee of SCOPE and of the Scientific Planning Group of ICSU-LAC.

At the State University of Campinas/UNICAMP he was the **chairman of three PhD/MSc Programs** (Ecology, Plant Biology and Environment & Society), twice **head of the Plant Biology Department** (1986/87 and 2006/2010), and **Dean of the Graduate Scholl** (1996/98)

As **main mentor of the BIOTA/FAPESP Program** (<http://www.biota.org.br>), he was in charge of planning, setting and implementing it from 1996 to 2004, being recently reappointed as Chairman of the Program. Within the BIOTA/FAPESP he is also the Editor in Chief of the electronic peer reviewed scientific journal BIOTA NEOTROPICA (<http://www.biotaneotropica.org.br>). After a highly successful first



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period of 10 years – during which the **FAPESP** invested in the Program **US\$ 35.000.000,00**, and the Program trained **169 MSc, 108 PhD, 79 Post Docs**, **published more than 750 papers in indexed journals**, and produced a map of priority areas for biodiversity conservation and restoration that was adopted by the government of the State of Sao Paulo to improve public policies (there are now **20 State decrees or Resolutions** that cite specifically the work of the Program to justify the establishment on new Protected Areas, legislation on native gallery forest restoration and the agro-ecological zonation of sugar cane plantation) - **FAPESP's support to the program has been renewed until 2020.**

Carlos A. Joly also works to improve and/or establish better policies for biodiversity conservation and sustainable use. In this area his main activities were: a) advisor of the **Brazilian Congress**, focusing on the Environmental Chapter of the **Brazilian Constitution** (1987/88); b) member of the Scientific Advisory Committee of the Land/Inland waters ecotone UNESCO/MAB Program (1989/94); c) member of the **Brazilian Committee of the MAB/UNESCO Program** (1989/94); d) representative of UNICAMP in the State of Sao Paulo Environmental Council/CONSEMA (1990/94) and in the UN meeting in Rio (UNCED 92). In 1995 he was appointed advisor of the **State of Sao Paulo Secretary of Environment**, coordinator of the Division of Technical Information, Documentation and Research/CINP and chairman of the State Program for Biodiversity Conservation and Sustainable Use/PROBIO-SP. In 2002 he was a member of the Brazilian Delegation in the Rio+10 UN meeting in Johannesburg. During 2010/11 he was a member of the **Executive Committee of SCOPE** - Scientific Committee on Problems of the Environment. During 2011/12 he was the Director of Thematic Programs and Policies of the **Brazilian Ministry of Science, Technology and Innovation**, being in charge, among other activities, to organize the participation of the Ministry of the RIO+20 UN Conference.

His contribution to biodiversity conservation, restoration and sustainable use has been recognized by the prizes won: twice the **Henry Ford Conservation Prize** – CI & Ford (1999 & 2009), **Scientific Merit Medal** – Brazilian Government (2002), **von Martius Environmental Prize** – Germany/Brazil Chamber (2005) and



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Distinguished Scientist – Brazilian Research Council (2007), and the **MURIQUI Prize** in 2012, awarded by the Brazilian Atlantic Forest Biosphere Reserve to researchers with outstanding contribution to conservation and sustainable use of this Brazilian biodiversity hotspot.

On the area of **improving public understanding of the paramount importance of Biodiversity Conservation, Restoration and Sustainable use**, besides many contributions to news papers, radio and television interviews, Carlos Joly was in charge of producing a series of **four 30 min videos for open TV** in Brazil (BIOTA/FAPESP: The Virtual Institute of Biodiversity, The Atlantic Forest still alive; The mysteries of the Cerrado; Fresh water and marine biodiversity), and **three large expositions: The State of Sao Paulo Biodiversity: colors and shadows** (that was shown in many cities of the State of Sao Paulo during 2004/05); **Brazilian Nature: mystery and destiny** (shown at the Botanisches Museum Berlin-Dahlem/Germany – 2008; Haus der Wissenschaft, Bremen, Germany - 2009, Universität Leipzig, Germany 2011; Museum of the Universität Heidelberg, Germany – 2012; Ohio State University, US – 2012); and the large exposition **Brazilian Biomes** shown in Rio de Janeiro during the **RIO+20 UN Conference**.

Currently, Carlos A. Joly, is **full Professor in Plant Ecology** at the Biology Institute of the State University of Campinas/UNICAMP, **lecturing Plant Ecology and Biodiversity Conservation** for undergraduate and graduate students, Member of the **Steering Committee of the PhD in Environment and Society also at UNICAMP**, **Chairman of the BIOTA/FAPESP Program** (www.biota.org.br), **Editor in Chief BIOTA NEOTROPICA** (www.biotaneotropica.org.br), **Fellow of the Brazilian Academy of Science** and member of the **Scientific Committee (SC) da DIVERSITAS**.

His present research activities comprises: developing a long term research project on **Floristic composition, structure and functioning of the Brazilian Atlantic Forest** (with support from FAPESP, NSF/US and NERC/UK); Coordinator of the **GEF Project Recovery and protection of climate and biodiversity services in the Paraiba do Sul basin of the Atlantic Forest of Brazil**, and is part



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of the international team involved in the **Project The Future Okavango - Scientific support for sustainable land and resource management in the Okavango basin**, supported by the German BMBF.

Activity	Number
MsC Examination Board	46
PhD Examination Board	63
National Conferences, Round Table, Symposium, Workshops	109
International Conferences, Round Table, Symposium, Workshops	71
Organization of National Scientific Meeting	23
Organization of International Scientific Meeting	14
Number of Scientific Journals as Referee	11
Number of National Agencies as Ad Hoc reviewer of Research Projects/Proposals	09
Number of International Agencies as Ad Hoc reviewer of Research Projects/Proposals	03

Peter Herman May, PhD
Resource and Ecological Economics

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EDUCATION

Resource Economics, PhD, Cornell University, 1986
Regional Planning, MRP, Cornell University, 1979
Human Ecology, BA, The Evergreen State College, 1974

PRINCIPAL AREAS OF EXPERIENCE

Dr. May has been involved in training, research, project and grant administration on the economics and sustainable use of natural resources for equitable development in the tropics. His work has concentrated on natural resource valuation and policy, forest products utilization and trade, climate mitigation and biomass energy, and compensation for ecosystem services primarily in rural settings such as Brazil's Amazon and Atlantic Forests. Dr. May's experience embraces over 25 years in Brazil, and posts in Rome, Central America, Southeast Asia and the USA. He is fluent in Portuguese and Spanish.

SUMMARY OF PRINCIPAL PROFESSIONAL AND ACADEMIC POSITIONS

1991-today Associate Professor, Federal Rural University of Rio de Janeiro.
Vice-Coordinator, Master's in Development Practice

1990-91 Forestry Officer (Non-Wood Forest Products)
Forestry Department, UN Food and Agriculture Organization, Rome

1987-89 Program Officer (Rural Poverty and Resources)
The Ford Foundation, Rio de Janeiro

1979-80 Extension Associate/Resource Conservation Act
New York State Soil and Water Conservation Committee, Ithaca, NY

EXECUTIVE POSITIONS IN ENVIRONMENTAL ORGANIZATIONS

2005-2012 Amigos da Terra-Amazônia Brasileira, São Paulo. Associate Director.
Member of Board of Directors (to 2005)

2003-2008 Brazilian Agroforestry Network – REBRAf, Rio de Janeiro. Executive
Secretary.

1997-2002 Instituto Brasileiro de Pesquisas e Estudos Ambientais – Pró-Natura, and
Pro-Natura USA. Executive Director.

SCIENTIFIC AFFILIATIONS

International Society for Ecological Economics, Past-President (2008-09), former Treasurer,
member, Editorial Board – *Ecological Economics*
Brazilian Society for Ecological Economics, Founder, President, President of Advisory Board
Institute for Man and the Environment of Amazonia (IMAZON), Member Advisory Board
Instituto Centro de Vida (ICV), Member, Board of Directors
The Economics of Ecosystems and Biodiversity (TEEB), Member of Advisory Council
New York Botanical Garden, Institute of Economic Botany, Honorary Research Associate

*Peter H. May***PROFESSIONAL EXPERIENCE****Project and Program Administration**

- 2010- Coordinator, European Commission Project FP7-ENV-2009-1 – “Assessing the role of economic instruments in policy mixes for biodiversity conservation and ecological service provision”. Mato Grosso case study.
- 2001-3 National Project Coordinator, UNDP/GEF Project BRA/00/G31 – “Promoting biodiversity conservation and sustainable use in the frontier forests of Northwestern Mato Grosso, Brazil”.
- 1997-2002 Executive Director, Instituto Pró-Natura and Pro-Natura USA. Biological corridor restoration and protection, carbon sequestration, agroforestry systems diffusion, sustainable use of biodiversity and stakeholder consultation for sustainable enterprise, with support from GEF, Ford and Summit Foundations and resource industries.
- 1993-95 Coordinator, Eco-Eco Project, Rockefeller Foundation. Conceived and implemented a nationwide training and research network on Brazilian environmental and natural resource problems, leading to founding of Brazilian Society for Ecological Economics.
- 1990-91 Forestry Officer (Non-Wood Forest Products), Forestry Department, FAO, Rome. Initiated FAO’s technical assistance program on non-wood forest product utilization and marketing; missions to South and Southeast Asia, Turkey and Brazil; drafted program guidelines and publications.
- 1987-89 Program Officer (Rural Poverty and Resources), The Ford Foundation, Rio de Janeiro. Prepared grant justifications and monitored implementation and reporting for projects focused on the Amazon and Northeast regions.

Carbon and Forests

- 2010-11 Collaborator, “Who’s-who?” and financing for climate adaptation in Brazil, on behalf of WWF-Brazil.
- 2009- Coordinator, Global Comparative Study on REDD+, CIFOR-Brazil. Responsible for national policy analysis, field site selection and liaison with pilot projects.
- 2008-10 Collaborator, CEECEC project, Autonomous University of Barcelona/EC. Case study on carbon emissions mitigation through conservation offsets in Mato Grosso, Brazil.
- 2004-5 Coordinator, ANEEL/Eletrobrás/UFRRJ, “Agroforestry and reforestation for carbon sequestration and sustainable livelihoods in Seropédica, Rio de Janeiro”. Viability study for small-scale forest carbon project with Petrobras thermoelectric facility.
- 2002-3 Coordinator, IIED/Shell Foundation/DFID. “Local sustainable development effects of forest carbon projects in Brazil and Bolivia: a view from the field”. Analysis of socio-economic impacts of four major forest carbon projects.
- 2002-3 Coordinator, IPN/UFMT/Cornell/FNMA/Govt. of the Netherlands. “Viability study of reforestation models for carbon sequestration with small farmers in the Amazon”.

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- 2002-3 Coordinator-Forest Management, INEE/IPN/UNDP/UNF. "Viability study of timber industry residues for off-grid energy generation in the Amazon".
- 2001 Consultant, World Bank Development Research Dept. "Global overlay" of the environmental impacts associated with Minas Gerais' charcoal-based steel industry.
- 1993-94 Consultant, World Bank Environment Department. Coordinator, environmental segment: "Energy Alternatives for the Carajás Steel Pole", emphasizing charcoal production impacts on natural forests and communities in the Eastern Amazon.

Valuation and Payment for Ecosystem Services

- 2009-10 Coordinator, Forest carbon initiatives for PES in the Atlantic Forest. Study carried out to assist in structuring the KfW/FUNBIO Atlantic Forest PES Fund, GIZ.
- 2005-6 Coordinator, Petrobrás/IBAMA/Instituto Terrazul. Valuation of water resources for financial sustainability of protected areas, Tijuca National Park, Rio de Janeiro.
- 2004-6 Consultant, World Bank/Rio de Janeiro and Espírito Santo State Governments. Preparation of environmental service payments and financial sustainability components for micro-watershed and basin management projects submitted to GEF.
- 2002-3 Consultant, Ibama-DIREC/UNDP. "Model for economic valuation of the impacts of communication, electrical transmission lines and pipelines". Development of valuation system for compensation of management costs in five urban and regional parks.
- 2000-01 Coordinator, World Bank Development Research Department/REDES, Comparative analysis of municipal response to resources generated by the "Ecological Value-Added Tax" in Minas Gerais and Paraná states in Brazil.
- 1999 Consultant, Ministry of the Environment, Biodiversity and Forests Secretariat. Coordinator of a survey of economic valuation studies on Brazilian biodiversity.
- 1996 Consultant, World Bank / Getúlio Vargas Foundation. Studies of *cabruca* cocoa and protected area management in Brazil's Atlantic Forest and coastal zone.
- 1991-93 Researcher, Institute for Applied Economic Research-IPEA, Ministry of Planning, Brazil. Calculation of environmental losses resulting from conversion of forests to agropastoral land uses in Brazil for Estimates of National Environmental Accounts.

Forest Products Certification and Trade

- 2008 Coordinator, Ministry of Agrarian Development/REBRAAF. Development and testing of Agroforestry Manual for the Atlantic Forest, with 17 regional NGOs.
- 2006 Collaborator, Yale School of Forestry and Environmental Studies. case study of "Forest certification in Brazil", part of a 16-country project on non-state regulation.
- 2003 Consultant, IISD, Ottawa. Analysis of "Sustainable Coffee Contracts", as a contribution to the UNCTAD/IISD Sustainable Commodities Initiative.

Peter H. May

- 2003 Consultant, IIED/DFID, London. Research and action proposal on "Small and Medium Forest Enterprise in Brazil," including opportunities for micro furniture enterprises.
- 2002 Coordinator, APEX/IPN, "Horizontal project to promote sustainable products from agrarian reform projects in the Amazon in the European market" – ARCOAMAZON.
- 2000 Project Coordinator, IIED/GTZ/IPN. "Barriers to Certified Forest Management in the Brazilian Amazon: the importance of cost." (IIED Private Sector Forestry program).
- 1994-97 Consultant, DFID, Pará and Acre, Brazil. Participated in three project development and review missions for "Technical Assistance for Commercial Development of Safrole-Rich *Piper* in the Amazon."
- 1995 Consultant, FAO-RAPA / Royal Forest Department, Thailand. Field study of non-wood forest products in buffer zone management of Chachengsao wildlife refuge, Thailand.
- 1994-95 Consultant, UNCTAD. Responsible for resource management and market analysis of "environmentally friendly" products from Brazil.
- 1990 Consultant, USAID, Brazil. A Review of Existing Experience and Favorable Opportunities for Sustainable Forest Use, for the Brazilian Amazon.
- 1983-84 Field Research, New York Botanical Garden/State Babaçu Institute of Maranhão. Analysis of development prospects of vegetable oil and biomass energy industries using babaçu palm fruit, involving 15 months of fieldwork funded by USAID, Inter-American Foundation, National Science Foundation and Cornell University.

Corporate Socio-Environmental Responsibility

- 2005 Consultant, Brazilian Business Council for Sustainable Development (CEBDS). Preparation of paper on Business and Biodiversity for CDB initiative.
- 1998 Visiting Scholar, Energy and Resources Group, University of California-Berkeley. "Natural Gas Exploration in the Peruvian Amazon – Corporate Roles and Rewards in Promoting Sustainable Development". Case study of Camisea gasfield development project in Peru, and analysis of Royal Dutch/Shell Group sustainability policy.
- 1997 Stakeholder Assessment Consultant, Tangará Consultants. Ecological and Touristic Park of Penedo; Master Plan for Eco-Tourism for Ilha Grande; and Plan for Environmental Management for the Ilha Grande Basin.
- 1996 Brazil Survey Coordinator, Yale Center for Environmental Law and Policy / Avina Foundation. "Private International Finance and the Environment", focus on policies to increase the environmental content of international private financial flows into Brazil.
- 1990 Consultant, The World Bank, Latin American Environmental Division. Environmental Aspects of *Garimpo* Gold and Tin Mining in the Brazilian Amazon.

Peter H. May

Water Resource and Related Land Management

- 2006-7 Consultant, The Nature Conservancy-TNC. Great Rivers Partnership, Upper Paraguay and Paraná basins, Brazil. Diagnosis of principal factors affecting expansion in economic activities, infrastructure and environmental conservation in the two basins, as a basis for the definition of strategies for partnership and investment.
- 1991-93 Consultant, Inter-American Development Bank, Environmental Quality Division. Economic and financial analyses for Microwatershed and Protected Areas components of Pró-Guaíba: Program for Rational Development, Recuperation and Environmental Management of the Guaíba River Basin, Rio Grande do Sul, Brazil.
- 1986-87 Consultant, The Ford Foundation. Survey of policy and institutions in Northeast Brazilian irrigation water development.

OTHER ACADEMIC POSITIONS HELD

- 2009- Collaborating Professor, Graduate Program in Public Policy, Strategies and Development and Researcher, National Institute for Science Technology (INCT-PPED), Federal University of Rio de Janeiro, Institute of Economics.
- 2008-9 Visiting Scholar, Earth Institute and Center for Economics, Ecology and Society (CEES) Columbia University (CAPES grant for post-doctoral studies abroad)
- 2000-08 Collaborating professor, Graduate Program in Environmental Science, Federal Fluminense University – PGCA/UFF.
- 1998 Visiting Scholar, Energy and Resources Group, University of California-Berkeley (CNPq grant for post-doctoral studies abroad).
- 1990 Visiting Professor, Doctoral Program in Public Policy, State University of Campinas (UNICAMP), São Paulo.
- 1986-87 Visiting Professor, Agricultural Economics, Federal University of Ceará, Fortaleza.

PRINCIPAL PUBLICATIONS

- 2011 May, Peter H., Bruno Calixto & Maria Fernanda Gebara. *REDD+ politics in the media: a Brazilian case study*. Bogor, CIFOR Working Paper no. 55.
- May, Peter H. *Iniciativas de PSA de carbono florestal na Mata Atlântica*. In: *Pagamento para serviços ecossistêmicos na Mata Atlântica: estado da arte e desafios*. GIZ/MMA.
- Corbera, Esteve, Manuel Estrada, Peter May, Guillermo Navarro & Pablo Pacheco. Rights to land, forests and carbon in REDD+: Insights from Mexico, Brazil and Costa Rica. *Forests* 2, 301-342.
- 2010 May, Peter H. & Brent Millikan. *The context of REDD+ in Brazil: drivers, agents and institutions*. Bogor, CIFOR Occasional Paper no. 55.

Peter H. May

- 2010 May, Peter H. (ed.) *Economia do meio ambiente: Teoria e prática*. Rio de Janeiro: Elsevier/Campus/ECOECO.
- Muradian, Roldan, Esteve Corbera, Unai Pascual, Nicolás Kosoy & Peter H. May. Reconciling theory and practice: An alternative conceptual framework for understanding payments for environmental services? *Ecological Economics*. 69: 1202-1208.
- 2009 Vivan, Jorge L., Peter H. May, Luis H. Cunha, Walter S. Boef & Charles R. Clement. Analysis of information used in the management of plant genetic resources: a case study from northwestern Mato Grosso, Brazil. *Agroforestry Systems* 76: 591-604.
- Smeraldi, Roberto & Peter H. May. *Time to pay the bill; Amazonia, cattle ranching and deforestation*. São Paulo: Amigos da Terra-Amazônia Brasileira.
- 2008 Smeraldi, Roberto & Peter H. May. *The cattle realm: A new phase in the expansion of cattle ranching in the Brazilian Amazon*. São Paulo: Amigos da Terra-Amazônia Brasileira.
- 2008 May, Peter H. & Cassio M. Trovatto (coord.) *Manual agroflorestal para a Mata Atlântica*. Brasília: Ministério de Desenvolvimento Agrário/REBRAF.
- 2006 May, Peter H. Forest certification in Brazil. In: Cashore, B., et al. *Confronting sustainability: Forest certification in developing and transitioning countries*. Yale University School of Environmental Studies and Forestry, pp. 337-362.
- 2005 May, Peter H., Emily Boyd, Manyu Chang & Fernando C. Veiga Neto. Incorporating sustainable development into forest carbon projects in Brazil and Bolivia. SCIELO. Translated from *Estudos Sociedade e Agricultura*, Rio de Janeiro, v.13, n.1, p.5-50.
- 2004 May, Peter H. & Lauro Barata. Rosewood (Aniba rosaeodora) exploitation in the Amazon. *Economic Botany* 58:257-265.
- May, Peter H. Valoração econômica e cobrança dos serviços ambientais de florestas: identificação, registro, compensação e monitoramento de benefícios sociais In: Ademar Romeiro (ed.) *Avaliação e contabilização de impactos ambientais*. Campinas: Editora da UNICAMP, 2004, pp. 172-182.
- 2003 May, Peter H., Maria Cecília Lustosa & Valéria da Vinha (eds.) *Economia do meio ambiente: Teoria e prática*. Rio de Janeiro: Editora Campus.
- 2002 Viana, Virgílio, Peter H. May, Lucineide Lago, Maryanne Grieg-Gran & Olivier Dubois. *Instruments for sustainable private sector forestry in Brazil; An analysis of needs, challenges and opportunities for natural forest management and small-scale plantation forestry*. London: IIED.
- May, Peter H., Fernando C. Veiga Neto, Valdir Denardin & Wilson Loureiro. The "Ecological Value Added Tax": municipal responses in Paraná and Minas Gerais, Brazil. In: Stefano Pagiola, Joshua Bishop e Natasha Landell-Mills (eds.) *Selling Forest Environmental Services: Market-based Mechanisms for Conservation*. London, Earthscan, 2002, p. 173-199.

- 2002 May, Peter H., Alan W. Dabbs, & Valéria G. da Vinha. A corporate approach to social monitoring and assessment for development in a fragile environment. *Environmental Monitoring and Assessment* 76:125-134.
- 2000 May, Peter H., Fernando C. Veiga Neto & Antonio Claudio H. Barbosa. *Barreiras à certificação madeireira na Amazônia brasileira: a importância dos custos*. Pró-Natura/IIED/GTZ.
- Peter H. May, Fernando C. Veiga Neto & Osmar Chevez. *Valoração Econômica da Biodiversidade: Estudos de Caso no Brasil*. Ministério do Meio Ambiente, Brasília.
- 1999 Peter H. May (ed.) *Natural Resource Valuation and Policy in Brazil: Methods and Cases*. New York: Columbia University Press.
- May, Peter H. (coord.) Shell Group sustainability strategy. In: M. Hastings (ed.) *Corporate Incentives and Environmental Decision Making: A Case Studies And Workshop Report*. Houston Advanced Research Center / National Academy of Sciences, pp. 79-118.
- 1999 May, Peter H. (coord.) *Corporate roles and rewards from investing in sustainable development: lessons learned from Camisea*. Berkeley, California, Energy and Resources Group, Working Papers Series, UCB.
- 1997 May, Peter H. & Olman Segura B. The environmental effects of agricultural trade liberalization in Latin America: an interpretation. *Ecological Economics* 22:8-15.
- 1998 Gentry, Bradford (ed.). *Private Capital Flows and the Environment: Cases from Latin America*. UK: Edward Elgar Press. (coordinator, Brazil case studies)
- May, Peter H. *Comércio Agrícola e Meio Ambiente na América Latina*. Rio de Janeiro: Forense Universitária.
- 1996 May, Peter H. & Ronaldo Serôa da Motta. *Pricing the Planet: Economic analysis for sustainable development*. New York: Columbia University Press.
- May, Peter H. & Marília Pastuk. Valuing social sustainability: environmental recuperation on *favela* hillsides in Rio de Janeiro. In: Olman Segura B., Robert Costanza & Joan Martinez-Alier, Eds. *Getting Down to Earth: Practical Applications of Ecological Economics*. Washington, D.C.: Island Press.
- May, Peter H. & Rui Rocha. O cacau-cabruca: um sistema agrosilvicultural no sul da Bahia; and May, Peter H. & Marília Pastuk. Áreas de Proteção Ambiental do litoral baiano. In: Ighes Lopes et al. (org.) *Gestão Ambiental: Experiências e Sucesso*. Rio de Janeiro: Getúlio Vargas Foundation/World Bank.
- 1995 May, Peter H. (coord.) *Economia Ecológica: Aplicações no Brasil*. Rio de Janeiro, Editora Campus.
- 1994 May, Peter H. Measuring sustainability: forest values and agropastoral expansion in Brazil. In: F.J. Duijnhouwer et al. (Eds.) *Sustainable Resource Management and Resource Use: Policy Questions and Research Needs*. Advisory Council for Research on Nature and the Environment, Netherlands, RMNO Publication no. 98, pp. 139-164.

Peter H. May

- 1994 May, Peter H. & Ronaldo Serôa da Motta (eds.) *Valorando a Natureza: Análise Econômica para o Desenvolvimento Sustentável*. Editora Campus, Rio de Janeiro.
- Sound Public Policies for the Amazon Region; Harmonizing Public Policies with the Objectives of the Pilot Program for the Brazilian Rainforests*. São Paulo: GTA/Friends of the Earth International. (Co-Author and translator)
- May, Peter H. Common property resources in the neotropics: theory, management progress and an action agenda. In Padoch, C. & K. Redford, eds. *Conservation of Neotropical Forests: Working from Traditional Resource Use*. New York: Columbia University Press.
- 1991 Anderson, Anthony B., Peter H. May & Michael J. Balick. *The Subsidy from Nature: Palm forests, peasantry and development on an Amazonian frontier*. New York: Columbia University Press.
- 1990 May, Peter H. *Palmeiras em Chamas: Transformação Agrária e Justiça Social na Zona do Babaçu*. São Luís: EMAPA/FINEP/Ford Foundation.
- 1990 May, Peter H. Irrigação e/ou reforma agrária no Nordeste? In Pinto, L. G. & R. B. Fonseca, eds. *Irrigação, Estrutura Agrária e Organização dos Agricultores*, Campinas, UNICAMP.
- 1985 May, Peter H., Anthony B. Anderson, José Mário F. Frazão & Michael J. Balick. Subsistence benefits from the babassu palm (*Orbignya martiana*). *Economic Botany* 39(2):129-145.
- May, Peter H., Anthony B. Anderson, José Mário F. Frazão & Michael J. Balick. Babassu palm in the agroforestry systems in Brazil's Mid-North region. *Agroforestry Systems* 3:275-295. Republished in P.K. Nair, ed. *Agroforestry Systems in the Tropics*, ICRAF, 1989.

Rio de Janeiro
September 24, 2012

Resume

Edgar Selvin Pérez, Biologist of San Carlos University in Guatemala, has developed all his work experience in conservation biology, social sustainability; postgraduate studies in Rural-local, Human and Economic Development, Human Rights, and Social and Political Sciences. He has become involved in developing paradigm changes regarding the improvement of positive relationships between citizenship, public policy and the natural environment. Work and the Rural-local development Master studies in Spain and Social and Political Sciences Doctorate (current) studies, have allowed a holistic view of the necessary compatibility between conservation, sustainable use and rights approach on sustainable use of biologic diversity and the promotion of rural development, based on local work with social key stakeholders and the national and international impact from multilateral cooperation and public policies.

Work in protected areas and biological diversity management, community development, integrated biologic and traditional knowledge research, and the coordination and direction of local, national and international proposals have given Mr. Edgar Selvin Pérez the following outstanding achievements: A) Coordination and direction of the participatory development of the National Biological Diversity Policy in Guatemala based on the strategic valuation of biological diversity for climate change adaptation potential and the reduction of socio-environmental vulnerability, human and economic sustainable development, and the improvement of ecosystem goods and services from biologic diversity, such as water, food and nutrition security. The Policy allowed the development of a legal cross framework to achieve compliance with the Convention on Biological Diversity (CBD), ratified by Guatemala in 1995 through the 5-95 Decree. B) Lead the National Council for Protected Areas, in coordination with the Ministries of Foreign Affairs and Environment - Natural Resources, in national and international negotiations to include Guatemala in the **“Group of Like-Minded Megadiverse Countries”** in Nagoya, Japan. These 19 countries hold 70% of the world’s biological diversity and 50% of the population. C) Coordinate the Guatemalan Delegation in the X Conference of the Parties of the United Nations Convention on Biological Diversity. D) Participate in multilateral fundraising of 26million Quetzals to start the implementation of the National Biological Diversity Policy with the accompaniment of governmental and non-governmental institutions, indigenous leaders and municipalities dedicated to the management of biological diversity in the country. The outstanding achievements are a result of the team work of various organizations including the Ministries of Foreign Affairs and Environment - Natural Resources, non-governmental organizations; with the ongoing support of the National Conservation Fund, the National Science and Technology Council, the United Nations Development Program and the Global Environmental Fund (GEF); D) The coordination and organization of the **“1st National Congress on Traditional collective Knowledge and Biodiversity”** and E) Nominated National Expert to revise the Global Biodiversity Outlook - 4 .

Currently, Mr. Pérez is the Director of the Technical Biodiversity Office (OTECBIO) of the National Council for Protected Areas, and is United Nations National Focal Point for the Nagoya Protocol on Biosafety, Intergovernmental Panel of Biodiversity and Ecosystem Services IPBES; and the *Ad-hoc* Intergovernmental Committee for the Nagoya Protocol on Access and Benefit-sharing Clearing House. Mr. Pérez is also national representative and member of the Executive Committee of the Inter-American Biodiversity Information Network (IABIN) project of the Convention of Biological Diversity and the Organization of American States, representative of the Biodiversity Committee of the Central American Environment and Development Committee and President of the Inter-Sectorial Environment Committee of the National Science and Technology Council for the 2011-2012 period.



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Edgar Selvin Pérez Pérez

Political and Social Sciences Doctorate Student • International Master in Rural-Local Development, Polytechnic University of Madrid, 2007 • Biology Graduate, San Carlos University of Guatemala, 1998.

- Objective** Present my curriculum vitae to GIZ consideration and future opportunities.
- Experience** **From 2009 to the current date • Director of the Technical Biodiversity Office (OTECBIO) of the National Council for Protected Areas (CONAP). Focal Point for the Nagoya Protocol; Biosafety Clearing House of the Convention on Biological Diversity and meetings of IPBES.**
- The office is in charge of cross coordination of institutions for the implementation of the Convention on Biological Diversity (CBD), Cartagena Protocol and provisions issued by the Conference of the Parties (COP). In addition, through policies and rules, the Office promotes positive relations between biological diversity and society, based on the trans-generational use of natural resources and the fair and equitable sharing of the benefits arising from the utilization of biological resources. Collaborate in fundraising projects of up to US\$12 million for the Global Environmental Fund (GEF) in collaboration with the Ministry of Environment and Natural Resources and other departments of CONAP.
- 2012 National technical coordinator of the public consultation to develop national statements to the COP-10 and COP-11.**
- For two consecutive occasions, CONAP open the discussion to build national statements to attend Conference of Parties of the Convention on Biological Diversity.
- 2012 Ad honorem Coordinator of the Project "Ecological Restoration of Pine-oak ecosystem".**
- The project it is a consortium between the University of San Carlos de Guatemala and the Center of Conservationist Studies, CECON. Supported by the National Council of Science

and Technology.

2011-2012 • General Coordinator and member of the organizing committee of the "I National Conference on Traditional Indigenous Knowledge and Biological Diversity: implications for sustainable development" and the "OTECBIO, CONAP / DPI, CAPI.

Taking place between February and March of 2012, conferences hold financial support from the National Council of Science and Technology (CONCYT) and the Central American Bank of Economic Integration (BCIE), Counterpart USAID, among others. Co-organizer of more than 10 institutions including Governmental organizations (Ministries of Environment and Economy, Indigenous Women Defense –DEMI- and the Presidential Commission Against Discrimination and Racism –CODISRA-), civil society organizations (Sotzil, Utz Che, CALAS and Ak Tenamit) and education centers such as CECON of the San Carlos University and the Latin American Faculty of Social Sciences (FLACSO), among others.

2011 • Member of the World Expert Group for Access and Benefit Sharing and Clearing House Mechanism Construction

This group is in charge of the construction and proposal development to establish a clear mechanism for access to genetic resources, traditional knowledge and equitable sharing of benefits worldwide. This constitutes a transparency tool of the Nagoya Protocol mandates of the Convention on Biological Diversity.

2010 - 2012 • Coordinator of Project Phase I, II and III for the construction, socialization, validation and approval of the National Biological Diversity Policy, and National Biodiversity Strategy and Action Plan, NBSAP update. Financed by FONACON and UNDP.

Development of a National Biological Diversity Policy in a legitimate manner with civil society participation. National Policy was approved by Governmental Agreement number 220-2011.

2009 to current date • National Focal Point. Country Representative

- a) General Coordinator of Guatemala's Delegation that represented the country in the X Conference of the Parties in Nagoya, Japan.
- b) National Focal Point of the Intergovernmental Committee of the Nagoya Protocol (Recently approved in COP-10 in Nagoya, Japan).
- c) Focal Point for Biosafety Biosafety Clearing-house Mechanism of the Cartagena Protocol.
- d) National Focal Point of the Technical Committee of the Central American Committee for Environment and Development (CCAD) of the Central American Integration System.
- e) Focal Point and member of the Executive Committee of the Inter American Biodiversity Information Network (IABIN).
- f) Technical Contact to the Presidency of the Like-Minded Megadiverse Group of the Convention on Biological Diversity, currently presided by the Philippines.
- g) National nomination to assist at the IPBES meetings.

2010 – 2011 • General Coordinator of the "Guatemalan Delegation" that participated in the 5th Meeting of the Parties of the Cartagena Protocol and the 10th Conference of the Parties of the Convention on Biological Diversity. Country representation credited by the Ministry of Foreign Affairs and verbal representations of the Guatemalan Ambassador in High Level Meetings as representative in the COP-10.

Major achievements in public administration:

- i. Recognition of Guatemala as part of the “**Like-minded Megadiverse Countries Group**” during the COP-10. Coordinator and director of the process from CONAP with the support of the Environmental Unit of the Ministry of External Affairs, Guatemalan Mission to the United Nations and the Embassy of Guatemala in Japan.
- ii. Coordination of the development, socialization and validation of the National Biological Diversity Policy, its Strategy and Action Plan, as means to align the Aichi Targets of the CBD at a National level.
- iii. Coordination of the participative development of the Exotic Species Regulations for Guatemala
- iv. Construction in more than US\$10 million in CONAP’s project development for the Biological Diversity, Biosafety – Cartagena Protocol, Climate Change and Forests GEF windows, and enabling activities through the STAR-5 mechanism.
- v. Construction of Global Environmental Fund pre-proposals to apply to the country’s allocation funds in Biodiversity, Life Web initiative – CONAP and the Climate Change National Fund in a SWAP proposal with the German Government to finance restoration and reforestation activities in high risk areas. Coordination of the formulation and integration of Biosafety and ABS projects through RAF-4 and STAR 5 mechanisms.

2011 – 2012 • President of the Cross Sector Environmental Commission • National Council of Science and Technology (CONCYT)

Coordinate and mediate between CONCYT and civil society organizations to achieve specific objectives regarding science, technology and innovation.

2010 – 2011 • National Biotechnology Commission Secretary of the Biotechnology National Council 2010.**2011-2012 •President of the Cross Sector Commission on Environment****2010 – 2011 • Member of the Executive committee of the Inter American Biodiversity Information Network.****2009 – 2010 • Director of the “evaluation of the endemic bird *Tangara cabanisi* status in Guatemala, conservation and birdwatching development” project**

The project aims to know the distribution, habitat and genetic condition of the species, its implications for conservation and birdwatching development from a rural standpoint.

2008 – 2009 • Iberoamerican Science and Technology Network • CYTED – AECI

Iberoamerican Conferences of Science and Technology: “Science, Technology and Social Development”. Meetings in Cartagena, Colombia (2008), Valladolid, Spain (2009). Coordinator of the Guatemalan inter-university consultation project and member of the Iberoamerican University Network of Science, Technology and Social development.

2007 • Center for Conservation Studies (CECON), San Carlos University of Guatemala (USAC).

Coordinator of Institutional Development and Fundraising / Strategic Planning.

2007 • Center for Legal Environmental and Social Action of Guatemala (CALAS) / Association of Ecologic Farmers of the Laguna de Chikabal (ASAECO).

Adviser on rural development, conservation and co-administration consolidation of the Natural and Cultural Monument of the Laguna de Chikabal.

2007 • Integral Productive Cooperative: Beekeepers of Cuilco • R.L. / CIPAC,
Rural development advisor for gathering and commercialization improvement of the product at a local and international level for export to Germany, Switzerland and England
Development of proposals to adopt new technology and establish local markets for CONCYT and Austrian Cooperation.

2007 • Center for Conservation Studies (CECON-USAC) / Interethnic Studies Institute (IDEI-USAC)

Joint research proposal on "Chib'al Tradition: an encounter of traditional and scientific knowledge in Guatemala's Western Highlands" / "First research on insect migration in Guatemala and research advances on bird migration framed in the Chib'al tradition in Huehuetenango, Guatemala".

2005 – 2007 • Gulf Coast Bird Observatory / The Nature Conservancy

Consultant for the Migration Route Habitat Sampling of the Cerulean Warbler (*Dendroica caerulea*) in Guatemala.

2005 – 2006 • Defensores de la Naturaleza Foundation - The Nature Conservancy

Coordinator, planner and editor of the Project to develop a "Regional Conservation Plan of the Pine-Oak Forests and the Neotropical Migratory Bird *Dendroica chrysoparia*". Regional planning supported by 12 organizations in six countries (United States, Mexico, Guatemala, El Salvador, Honduras and Nicaragua). The development of this plan included site prioritization through Spatial Portfolio Optimization Tool (SPOT) program based on geographic information that analyzed various aspects that risk and/or favor conservation at specific sites.

2005 – 2006 • Alliance for Central American Pine-Oak Ecoregion and its Birds Conservation.

Acting *ad-honorem* coordinator for the Alliance for Central American Pine-Oak Ecoregion and its Birds Conservation conformed by 12 organizations from six countries. Responsibilities included maintaining contact with all Alliance member organizations, coordinate the development of projects and develop proposals aimed to achieve the Regional Conservation Plan and Alliance Consolidation.

2000 – 2007 • Various consulting projects on hydroelectric and electric interconnection projects.

Multidisciplinary team coordinator in charge of the construction of the environmental and biological diversity baseline for the hydroelectric Project in Rio Hondo, Sierra de las Minas for the Defensores de la Naturaleza Foundation.

Consultant in charge of the Jones Falls mini-hydroelectric project Environmental Impact Evaluation on the Jones River, Sierra de las Minas, for ElectrOriente.

Consultant of the pre-feasibility environmental evaluation team for the Pacific Electric Interconnection, for Unión Fenosa.

2000 – 2005 • Sierra de las Minas Biosphere Reserve, Defensores de la Naturaleza Foundation

Coordinator of Pine-Oak Forest and *Dendroica chrysoparia* Conservation Projects framed through rural development processes.

- **Forest cover recovery:** 162He of shade coffee and cardamom in sites that lacked forest cover. 104He planted of mixed pine-oak forest and a projected 183He for 2005,

through the Forest Incentives Plan of the National Forest Institute (PINFOR-INAB). Some 12 villages of private owners and associated collective cooperatives were involved, belonging especially to the Q'eqchi and Pocomchi ethnic groups.

- **Training in Fort Hood, Texas, USA**, in reproductive biological monitoring of *Dendroica chrysoparia*, through mist nets, banding and direct observation of nests.
- **Monitoring and research:** *Dendroica chrysoparia* species monitoring was developed for the 2000-2004 period, as an indicator for pine-oak forest management and anthropogenic influence. Follow-up research to Dr. John Rappole's study was carried out that produced innovative information regarding *D. chrysoparia*'s ecology in the Neotropics and forest management in Central America. Exploration and research began on the habitat and the species in the highlands and around Sierra de las Minas. All data was georeferenced (GPS) and analyzed through spatial densities by region and new distribution sites were identified for the species depending on forest type (quantity, quality and habitat continuity)
- **Habitat conservation and management:** Sierra de las Minas – Biotopo del Quetzal – Sierra de Chuacús biological corridor continued with the declaration of the Río Escondido natural Protected Reserve (RNP) and the development of reforestation projects in the Panimaquito, Chacalte, Nuevo Amanecer and Ribacó villages. Prevention and forest fire management activities were carried out.
- **Strategic alliances:** The Alliance for the conservation of Pine-Oak forests of Central America and its birds was established in the 2001 international workshop in Río Hondo. In 2003, an agreement as framework to establish the Alliance was signed in Tuxtla Gutiérrez, Mexico; eight countries participate, including Central America, Mexico and the United States. This workshop was organized by Oliver Komar, Claudia Macías and Edgar Selvin Perez. New national members were added to the Alliance, including agreements signed by the Private Natural Reserves of Guatemala Association (ARNPG) and the Cuchumatanes Project (MAGA – Embassy of the Netherlands).

Fundraising: During these four years a total of US\$270,000 were raised with the support of the Institutional Development office through national and international organizations including the National Fish and Wildlife Foundation (NFWF), US Fish and Wildlife Service (UFWFS), The Nature Conservancy (TNC), American Bird Conservancy and the National Conservation Fund (FONACON).

2005 – 2007 • Birdwatching Table • The Nature Conservancy – Guatemalan Tourism Institute (INGUAT) –Defensores de la Naturaleza Foundation (Ad honorem)

Conceptualization and unification support for the consolidation of the Table. Support as specialized birdwatching guide during Guatemala's First International Birdwatching Encounter's post tour from April 7-12, 2005. Member of the Site Development Commission.

2005 – 2006 • Eco-development and Conservation foundation (FUNDAECO)

Development of the consulting Project regarding the definition of Important Bird Areas in Huehuetenango, Guatemala, an integrated analysis on available habitat and important bird diversity conservation species.

2004 • Del Valle University of Guatemala

Birds of Guatemala Course Professor (Ornithology II) from June – November

1998 – 1999 • Audubon / Fundaselva

Kanti Shulll Natural Private Reserve, Tukurú, BV.

Reserve Director

- Rapid Ecologic Evaluation of the Reserve where a new species of the *Peperomia* genus is

discovered (Piperaceae Family)

- Image improvement and change in the Audubon chapter to FUNDASELVA to apply to national and international funds, increasing regional sales from 25 to 350 million Euros.
- Development of first fundraising activities for development and conservation projects in the area for US\$50,000.

1997–1998 • Mariana Aviary

Caobanal Farm, Auto Safari Chapín

Psittacid reproduction advisor

- Develop the first diet study for psittacids, recommending important trace elements to stimulate reproduction
- Revise preventive and curative medicine for fledglings, recommending new products
- Recommend cavities for Red Macaw (*Ara macao*) nesting, Green Macaw (*Ara militaris*) and *Ara ararauna*.
- Improve work shifts to produce psittacid diet in less time

1996 – 1997 • ProPetén / Conservation International

Laguna del Tigre National Park, Mayan Biosphere Reserve

Scientific Component Researcher

- The first study on Red Macaw (*Ara macao cyanoptera*) was developed regarding habitat availability and reproduction rate. This study included an ARCVIEW analysis of available habitat and a physical evaluation of habitat quality, including food components and cavities for nesting.
- Development of the conservation strategy for the species and projects of a program that is currently being developed in Sierra del Lacandón and the Laguna del Tigre National Parks, including telemetry and artificial nests.

1992 – 1995 • USFWS - FUNDAECO

Cerro San Gil Spring Reserve, Volunteer of the Winter Survival and Resident and Migratory Landbird Monitoring Project

- Volunteering in bird banding, mist net management, bird extraction from mist nets
- Vegetation analysis
- Point Counts

Education

2009 – 2011 • Pontifical University of Salamanca, Guatemala headquarters

Political and Social Sciences Doctorate student . 2th year of 5.

2011 International Specialization Diploma on Economic, Social and Cultural Rights (COPREDEH-FUND/ HENRY DUNANT), Chile.

2011 • International Diploma on Social, Economic and Cultural Rights and Public Policy. Henry Dunant Foundation and the Presidential Committee on Human Rights (COPREDEH).

2008 • Iberoamerican Science and Technology Network. CYTED - AECI

Iberoamerican Science and Technology Network: "Science, Technology and Social Development". Cartagena, Colombia. 40 hours.

2008 • International Cooperation Center, Ministry of Foreign Affairs of Israel – MASHAV

Participation in the "Local and Regional Competitive" course, scholarship from the United Nations Organization, Habitat and the Weitz Center for Development Studies, Regional

Urban Studies Center (CERUR), Israel.

2007 • Regional Technical Economical, Agricultural Policies and Rural Development Training Cooperation Project in Latin America (FODEPAL, FAO).

Distance learning course on "Food quality and safety in the food chain". Regional Technical Economical, Agricultural Policies and Rural Development Training Cooperation Project in Latin America (FODEPAL, FAO, Spanish Agency for International Cooperation, Polytechnic University of Madrid).

2006 – 2007 • Polytechnic University of Madrid

International Master in Rural – Local Development. Madrid, Spain. Scholarship from the Carolina Foundation.

2006 • Institute for Community Development, IDC. County Council, Spain.

International Seminary on Sustainable Development. The local Agenda 21 in low population density territories. November 23rd - 24th, 2006.

2005 – 2006 • Regional Technical Economical, Agricultural Policies and Rural Development Training Cooperation Project in Latin America (FODEPAL, FAO).

Distance learning course on "Collective action and rural development in Latin America and the Caribbean". Regional Technical Economical, Agricultural Policies and Rural Development Training Cooperation Project in Latin America (FODEPAL, FAO, Spanish Agency for International Cooperation, Polytechnic University of Madrid).

2003 • ITESM, Rafael Landívar University, The Nature Conservancy – Social Leaders Program. Partial scholarship from TNC

- Planning and conservation strategies.
- Marketing and fundraising
- Project management, planning and administration
- Civil society organizations

2002 • Tayasal Business School, Guatemala City

Executive Direction and Administration Diploma

1991 – 1997 • San Carlos University of Guatemala, Guatemala City

Biology degree in pure and applied sciences. Scholarship from Student Welfare / San Carlos University of Guatemala

Computer Programs

Windows Environment, Microsoft Excel, Word, Power Point; internet browsing through Internet Explorer and Mozilla Firefox.

Statistical packages: JUMP 3.1.2., Krebs, moderate comprehension of SPSS software.

Business Profitability: Rent Agro

Geographic Information Systems: ARCVIEW 3.2, ARC GIS 9.0 and full management of GPS, knowledge of SPOT program data interpretation (tool for habitat optimization and prioritization) and related software

Language

- English technical comprehension written (80%), conversation (70%). Current

student to improve language skills

- Queqchi, basic.

Publications

1. CONAP, 2011. Direction, development and edition of the document. CONAP 2011. National Biological Diversity Strategy and Action Plan. National Council for Protected Areas. (in press).
2. CONAP, 2012. Second National Report on Biosafety. Cartagena Protocol.
3. CONAP, 2011. Direction, development and edition of the document. CONAP 2011. National Biological Diversity Policy. National Council for Protected Areas.
4. CONAP, 2011. Development and direction of the Project: Institutional capacities strengthening to approach threats provoked by the introduction of exotic species in Guatemala. Financed by FONACON. Publication: CONAP, 2011. Exotic Species Regulation.
5. CONAP, 2010. Development and direction of the document: Biosafety and Genetically Modified Organisms (GMOs): Implementation of the Cartagena Protocol in Guatemala. Technical Document 77 (01-2010) June 2010. 47pp.
6. CONAP 2010. Co-author of the conceptual booklet: "Guatemala's Biodiversity: importance, contribution and interaction with society". National Council for Protected Areas. 10pp.
7. CONAP, 2010. Development and direction of the technical document. IV National Report on the Compliance with the Convention on Biological Diversity Agreements to the Conference of the Parties. National Council for Protected Areas. 135pp.
8. Pérez, *et al.* The Chib'al Tradition. Documentary.
9. Pérez, E. S.; Secaira, E.; Macías C. y Morales S. 2007. Pine-Oak Forests of Central America and the Migratory Bird *Dendroica chrysoparia* Conservation. Ed: Edgar Selvin Pérez. Continental Alliance for the Conservation of the Pine-Oak Forest Ecoregion and its Birds. The Nature Conservancy and Defensores de la Naturaleza Foundation.
10. Pérez, E. S. 2007. Strategic Plan Proposal for Rural-Local Development of the Motagua – Polochic System, Guatemala. Thesis *Ad gradum*. International Master on Rural – Local Development. Polytechnic University of Madrid – INFODAL Group.
11. Pérez, E.S. 2004. Baseline for biological monitoring in the Colorado River, Río Hondo Sierra de las Minas. Sierra de las Minas Foundation. March, 2003.
12. Pérez, E. S. 1998. Evaluation of available habitat for Red Macaw (*Ara macao*) in Petén, Guatemala. Thesis for Biology Degree. Biology School, Chemical and Pharmaceutical Sciences Faculty. San Carlos University of Guatemala. *In: Memoirs of the III Conference of the Mesoamerican Biology and Conservation Society*. Managua, Nicaragua, C.A.
13. Pérez, ES and Castillo M. 2000. A Rapid Assessment of Avifaunal diversity in aquatic Habitats of Laguna del Tigre National Park, Peten Guatemala. *In: A Biological Assessment of Laguna del Tigre National Park, Peten Guatemala. RAP of Biological Assessment No 16*. Center for Applied Biodiversity Science (CABS) Conservation

International (CI), Consejo Nacional de Areas Protegidas (CONAP), CANAN KAX, Comisión nacional del Medio Ambiente (CONAMA) Edited by Bestelmeyer T B and Alonso L. 56-60 pp.

14. Coauthor of the "Conservation Site Plan for the Motagua Semiarid Valley", 2002. The Nature Conservancy, Defensores de la Naturaleza Foundation.

15. Articles sent to international magazines such as The Condor and Wilson's Bulletin:

- The Chib'al Tradition: an encounter between traditional and scientific knowledge in the Western Highlands of Guatemala.
- Altitudinal Gradient and Food-Biomass Productivity for Insectivorous Birds in Eastern Guatemalan Pine - Oak Forests
- Foliage structure and Food availability for the Golden – cheeked Warbler in Eastern Guatemala Highlands
- New localities for the Golden – cheeked Warbler *Dendroica chrysoparia* in Guatemala, Central America.
- Welton M.; Anderson L, Medina D y Pérez-Selvin. 2005. Migration habitat for Caerulean Warblers and other Neotropical Songbird in Northern Central America. Gulf Coast Bird Observatory.
- Notes on Chib'al tradition.

Interests

Rural sustainable development and public policies; biological diversity and the fair and equitable sharing of benefits; science, technology and innovation; traditional and scientific knowledge; microeconomics; governability; project planning, evaluation and monitoring through results; social organization; food sovereignty; applied research; fundraising, planning and strategic thinking; languages; indigenous cultures; painting and music

References

Recent Boss: Licenciada Raquel Sigüenza, PSR National Coordinator, Wetlands International. Cellular phone: 502 53164556 (English speaker) siguenza.raquel@gmail.com

Lic. Francisco Castañeda Moya, CEO of National Council of Protected Areas, CONAP . Mobil phone: 502 58400523 fcmoya@yahoo.es castaneda.francisco@usac.edu.gt

Lic. Eduardo Calito, Guatemalan Embassy in Washington, DC. emejia@minex.gob.gt eduardomejia125@gmail.com Cellular phone USA 2028348717 GT: 502 59909909.

Adoni Cubas Guerra

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Barrio Lempira, contiguo a SERSO

½ cuadra al sur de la Municipalidad

Jutiapa Atlántida

Honduras Centroamérica

Id Number: 0104-1969-00228

Date of Birth: July 1st 1969

JOB EXPERIENCE

- February 2011 – present: Chemonics International. USAID Regional Program for the Management of Aquatic Resources and Economic Alternatives. Site Coordinator: Honduran Moskitia – Bay Islands – La Ceiba.
- February 2010 – January 2011: National Chamber of Tourism of Honduras/Community Network of Tourism of Honduras. Project Director of Tourism in Protected Areas among the Caribbean coast.
- November 2009 – January 2010: Intensive Heart Ventures/Grupo de Apoyo al Desarrollo Foundation. Advisory on coastal-marine conservation and community development issues.
- January 2007 – October 2009: Cayos Cochinos Foundation. Conservation and Sustainable Development Director for Cayos Cochinos Natural Marine Monument.
- June 2003 – December 2006: Cayos Cochinos Foundation. Science and Management Director at Cayos Cochinos Natural Marine Monument.
- July – December 2003: Centro Universitario Regional del Litoral Atlántico. Ecotourism Faculty. Professor of Anthropology and Ethnology. La Ceiba, Atlántida.
- May 2000 – June 2003: Cayos Cochinos Foundation. Interim Executive Director
- March 1998 – May 2000: Cayos Cochinos Foundation. Sub-Director and Community Development Program Coordinator.
- July 1997 – March 1998: Ministry of Environment and Natural Resources, Environmental Analyst, Biodiversity Department, Tegucigalpa, M. D. C.
- July 1994 – June 1997: Harvard University, Natural Resources Economics. The Mosquito Coast, Honduras.
- January 1994 – June 1994: British Museum of Natural History. Field Researcher in ethno-botany. The Mosquito Coast, Honduras.
- 1993: United States Department of Agriculture/Ministry of Natural Resources, Quality Control. La Ceiba, Atlántida.
- 1993: Centro Universitario Regional del Litoral Atlántico. Agronomy Faculty. Profesor of Systematic Botany. La Ceiba, Atlántida.
- 1992 – 1993: Escuela Nacional de Agricultura. Professor of General Botany, Systematic Botany and Genetics. Catacamas, Olancho.
- 1991 – 1992: Universidad Nacional Autónoma de Honduras, Biology Faculty. Curator at the Museum of Flora. Tegucigalpa M. D. C.
- 1991: Consultant in Botany. Tegucigalpa M. D. C.

ACADEMIC:

1987 - 1991: Universidad Nacional Autónoma de Honduras. Degree in Biology

- Graduated with honors

ADDITIONAL STUDIES / EXPERIENCE

- Languages: Spanish (first language), English (fluent written and spoken), Miskito [indigenous language] (Basic)
- PADI Rescue Diver, Emergency First Response
- Coral reefs rapid assessment
- Management effectiveness assessment of protected areas
- Sites conservation planning
- Strategic planning and financial sustainability
- Community based conservation
- Socioeconomic research and monitoring
- Conservation initiatives planning at the international level
- Research and monitoring protocols for coastal marine resources
- Preparation of presentations for international conferences and congresses
- Management Plan preparation for coastal-marine protected areas
- Project preparation and evaluation
- Agro Forestry
- Reef restoration techniques
- Research and monitoring techniques of coral reefs, reef. fish, mangroves, seagrass.
- Design, planning, construction and installation of: artificial reefs, fish and lobster aggregator devices, under water interpretative trails, demarcating and tying buoys
- Cofounder and active board member of **Grupo de Apoyo al Desarrollo (GAD)** foundation, areas of action: Education, Environment and Community Business Development

PUBLICATIONS

- Local financial benefits of rain forests: comparative evidence from Amerindians societies in Bolivia and Honduras. *Ecological Economics*, Vol. 40. 2002.
- Human Capital, Wealth, Property Rights and the Adoption of New Farm Technologies: The Tawahka Indians of Honduras. *Human Organization*, Vol. 59, No. 2. 2000.
- Valuations of Consumption and Sale of Forest Goods from a Central American Rain Forest. *NATURE*, Vol. 406. 2000.
- Conservar para la Comunidad es Hacerlo con la Comunidad. WWF Centroamérica. 2000.
- Household Determinants of Deforestation by Amerindians in Honduras. *World Development*, Vol. 25, No. 6. 1997.
- Rates of Return on investments in Cattle among Amerindians of Rain Forest of Honduras. *Human Ecology*, Vol. 24, No. 3. 1996.
- Construction of one Picante: Experiences of a Tawahka Group, 1995.

C U R R I C U L U M V I T A E

Dr. Rodrigo Medellín Legorreta

Rodrigo A. Medellín has studied and worked on the ecology and conservation of mammals in Mexico for over 30 years. After completing his undergraduate studies at the University of Mexico he obtained his Ph.D. from the University of Florida. Working in diverse settings in the field from rainforests to deserts to montane forests, he uses a diverse approach including community ecology, plant-animal interactions, population biology, and molecular ecology.

He has produced more than 150 publications including over 60 scientific papers in international journals, more than 40 popular publications, and 35 books and book chapters on bat ecology and conservation, mammal diversity analyses, and conservation of large mammals. His presence in the media is continuous, with dozens of appearances in local and national TV, radio stations, and the press each year.

Rodrigo was head of the Wildlife Department of the Mexican Federal Government in 1995-96. He has been President of the Mexican Society of Mammalogists, served as Chair of the Committee for International Relations and also chaired the Latin American Fellowship Committee of the American Society of Mammalogists, was Associate Editor of the Journal of Mammalogy from 2005-2010 and has been a member of the Board of Directors of the same Society for six years and was reelected in June, 2004 for a third 3-year term.

In 2004 he was elected President of the Austral and Neotropical America Section of the Society for Conservation Biology, where he has been a member of the Board of Governors as Chair of the Awards Committee and member of the Education Committee and the Governance Committee. In 2011 he became President Elect of the same Society for Conservation Biology. He was a member of the Scientific Advisory Board of Bat Conservation International for 11 years, from 1996 to 2005, and again since January 2011.

He currently serves in the Scientific Advisory Board of the La Selva Biological Station of the Organization for Tropical Studies and of the Lube Bat Conservancy, and is the founder and director of the 15-year-old Program for the Conservation of Bats of Mexico. Rodrigo is Co-Chair (with Paul Racey) of the Bat Specialists Group of the Species Survival Commission of IUCN, and is Senior Professor of Ecology at the Institute of Ecology, University of Mexico, where he was Head of the Department of Ecology and Biodiversity for three years.

Rodrigo has taught conservation biology and community ecology for over 20 years at the graduate and undergraduate levels, and directed over 35 theses of graduate and undergraduate students. His students have received many awards for their work. He is also adjunct professor at Columbia University in New York, at Andalusia International University in Spain, at the University of Arizona, and Associate Researcher at the

American Museum of Natural History and the Arizona-Sonora Desert Museum. From January to June, 2011 he was the Director for Science and Conservation of the Arizona-Sonora Desert Museum. Rodrigo is currently an Associate Editor for the journals *Conservation Biology*, *ORYX* (the International Journal of Conservation), and *Acta Chiropterologica*.

In 2000 he was appointed representative of Mexico before the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Animals Committee by the Mexican federal government. In 2002 he was elected representative of North America and also vice-Chair of the CITES Animals Committee, and in 2004 and again in 2007 at the request of the governments of Canada and the United States, he was re-elected for the same positions. In 2002 he was invited to join the Millennium Project (Chaired by Jeffrey Sachs) of the United Nations as a member of Task Force 6: Environmental Sustainability, and continues to be advisor of the Mexican Federal Government for wildlife issues.

Dr. Medellín has received various recognitions. In April of 2004 he received the Whitley Award for International Nature Conservation from the hands of Her Royal Highness, Princess Anne of England. Then in October of that year the North American Society for Bat Research gave him its highest honor, the Gerrit S. Miller Award, given to persons "In recognition of outstanding service and contribution to the field of chiropteran biology." In November 2004, Mexico's President Vicente Fox gave Rodrigo the 2004 National Nature Conservation Award. In June of 2007 the American Society of Mammalogists distinguished him with its highest recognition in conservation, the Aldo Leopold Award, given to individuals who have made outstanding and lasting contributions to the conservation of mammals and their habitats. Only three individuals have received this award before Rodrigo: Edward O. Wilson, Russell A. Mittermeier, and George B. Schaller.

Also in 2007 he received the Outstanding Alumnus Award from the Department of Wildlife Ecology and Conservation of the University of Florida. Rodrigo is the first recipient of this award, "in recognition of outstanding contributions to the field of wildlife ecology and to the conservation of wildlife in Mexico". In November of that year he received the 2007 Conservation Scientist of the Year from Wildlife Trust in New York City. Wildlife Trust selects one scientist every year to recognize him/her in a gala in New York. Rodrigo was chosen for his life-term career working on conservation in Mexico and Latin America.

Rodrigo received the 2008 Rolex Associate Award for Enterprise, given by Rolex after a world-wide selection. Rodrigo is only the third Mexican in over 30 years that the award has been given. In 2008, over 1,500 people participated and only 10 were selected. Rodrigo was chosen because of his then 14-year-old on-going bat conservation and research project. On the same month, he received the 2008 Volkswagen "For the Love of the Planet". This award is given once a year by Volkswagen Mexico to a researcher or group of researchers whose primary work is on protected areas of Mexico.

Rodrigo was selected for his work on bighorn sheep, pronghorn antelope, jaguar, and bat research for conservation in over 12 major protected areas of Mexico, plus the current work for the creation of new protected areas to benefit large bat populations. More recently,

BBVA Banking Corporation of Spain selected Rodrigo and his Program for Conservation of Mexican Bats as recipients of their prestigious Premio Fundación BBVA a las Actuaciones en Conservación de la Biodiversidad en Latinoamérica, the largest award of its kind given in Latin America, which comes with a cash prize of 250,000 Euro. In May 2012 he received the first-ever Whitley Gold Award from Princess Anne of England again, the first individual ever to receive two Whitley Awards.

C U R R I C U L U M V I T A E

MASTER OF SCIENCES JULIA CARABIAS LILLO

Julia Carabias Lillo was born in 1954 in Mexico City, Mexico. She completed her undergraduate and graduate degrees (1973 - 1981) at the Faculty of Sciences of the National Autonomous University of Mexico (UNAM). At UNAM she developed programs in the areas of scientific research and education development from 1977 to 1994.

She has taught courses and been thesis advisor in the Faculty of Sciences of the UNAM, as well as in several institutions of research and higher education in the areas of botany, ecology, natural resource management, ecological restoration and conservation.

The focus of Ms. Carabias' research in ecology has been in the areas of tropical forest regeneration, environmental restoration, natural resource management, productive systems and ecology, urban ecology, calculation of the value of natural environmental, global change, poverty and the environment as well as environmental policy. She has published numerous scientific articles on these themes, in addition to co-authoring various books, which include: **Ecology and Alimentary Self-sufficiency; Rural Production in Mexico: Ecological Alternatives; For Earth's Sake; and Natural Resource Management and Rural Poverty**. Additionally, her work has been published in the following compilations: **Ecology and Natural Resources; Traditional Practices and Integral Resource Management; Culture and Sustainable Natural Resource Management; Towards a Policy of Sustainable Development; and Poverty and the Environment**.

Ms. Carabias has presented her work and delivered speeches in national as well as international fora. Between 1984 and 1994, she coordinated a research and rural development program in extremely impoverished peasant communities in four regions of Mexico within PAIR, (Integrated Use of Natural Resources). It was an inter-sector program, with the participation of UNAM, federal and state governments, rural organizations and the private sector, which searched for environmentally low-impact alternatives for natural resource exploitation and improvement in living conditions.

She was a member of the Commission for Developing Countries and Global Change, which published the report **For Earth's Sake** during the 1992 United Nations Conference on the Environment and Development in Brazil.

Ms. Carabias is currently a member of several consultative councils and forms part of the academic councils of various national and international organizations. She was member of the Board of Directors of Leadership for Environmental and Development (LEAD INTERNATIONAL) until March 2001, and the Scientific Committee of SCOPE between 1994 to 2000. At present she is member of the National Steering Committee of LEAD Mexico, member of the Board of Directors of the World Wildlife Fund and on the Board of Directors of Resources for the Future. In 2001 she received the international Getty Prize from the WWF.

In February of 1994, Ms. Carabias was named President of the National Ecology Institute, which was at that time a decentralized agency of the Social Development Ministry. On December 1st, 1994, she was named by the President of Mexico, Dr. Ernesto Zedillo Ponce de León, as Secretary of Fisheries. The following 28th of December, the Ministry of Environment, Natural Resources and Fisheries was created, which Ms. Carabias headed until the end of the administration in November 2000.

She represented Mexico in global environmental fora such as the United Nations Environment Program, the Commission for Sustainable Development of the General Assembly of United Nations, the OECD Committee on Environment Policy, OAS, as well as the conventions on climate change, biodiversity and desertification.

She is currently a member of the Faculty of Sciences of the National Autonomous University of Mexico (UNAM) coordinating the Master's Degree in Restoration Ecology Program.

During 2002-2003, Ms. Carabias coordinated the Capacity Building Task Force for the World Parks Congress. The work was based on regional workshops that previously took place in Latin America, Asia and Africa and resulted in publications "Capacity Needs to Manage Protected Areas" for each of the regions (co-author) which were used for both the WPC and COP 7.

She is the president of a non governmental organization, Centro Interdisciplinario de Biodiversidad y Ambiente (CEIBA).

She does not have any political party affiliation.

June 2011.

JOSE SARUKHÁN*SUMMARY OF CURRICULUM VITAE***General**

Born in Mexico City, 15 July, 1940

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E-mail sarukhan@servidor.unam.mx

Currently: Comisión Nacional Para el Conocimiento y Uso de la Biodiversidad CONABIO, liga Periférico-Insurgentes Sur 4903, Tlalpan 14010, México, D.F.

Degrees awarded

1964. Graduated in Biology from the National University of Mexico (UNAM)

1968. Master's degree in Agricultural Botany from the Postgraduate College (Chapingo, Mexico City)

1972. Ph.D. in Ecology from the University of Wales (Bangor)

Areas of academic interest

His main areas of academic interest have been Structure and Dynamics of Tropical Vegetation, Plant Population Ecology and Systems Ecology of temperate and tropical ecosystems, Biodiversity and the use of the information about it to support Conservation Policies. He has also developed interest and experience in training and education in Ecology and the role of Higher Education, Science and Technology in the development of Mexico. He has also written on sustainability of social development and the ethical issues involved in it

He has published over 190 papers and several books and has taken part in more than 300 national and international congresses and has supervised 27 bachelor's, master's and doctor's thesis. He has been the promoter in Mexico of the most important ecological research group of Latin America. (see extended CV).

Academic positions

Present day: National Coordinator of the Comisión Nacional Para el Conocimiento y Uso de la Biodiversidad (CONABIO) on leave of absence from his post as full professor at the Institute of Ecology, UNAM

1972- Associate Professor, Institute of Biology, UNAM
 1979. Director of the Institute of Biology, UNAM
 1987-1988 Vice-Chancellor for Science, UNAM
 1987. Full Professor, Institute of Ecology, UNAM
 1988-1996. Rector of the National Autonomous University of Mexico (UNAM)
 2007. Visiting Professor of Ecology, Universitat de Barcelona
 1997. 1998 Tinker Professor , Stanford University
 2008. Emeritus Professor, Institute of Ecology, UNAM

Memberships in Academies of Science

1975. Academia Mexicana de Ciencias
 1986. Academia de Ciencias de América Latina
 1987. El Colegio Nacional (an academic body equivalent to the *College de France*, with only 40 members representing the foremost in the Arts, Literature, Science and Culture in Mexico)
 1991. Third World Academy of Sciences
 1993. Foreign Member US National Academy of Sciences
 2003. Foreign Member Royal Society
 2004. European Academy of Sciences
 2008. National Academy of Arts and Sciences
 2010. Institut de Estudis Catalans (Science Academy of Cataluña)

Membership in scientific societies

1. Sociedad Botánica de México. Miembro Vitalicio; Elección de la Membresía y reelección como Presidente. 1972-1975. México
2. Academia de la Investigación Científica (Academia Mexicana de Ciencias). Miembro Regular 1980; Vice-Presidente, 1982-1983; Presidente, 1984-1985. México
3. Association for Tropical Biology. Regular Member; Elect President, 1986-1987; Honorary Fellow, 1996. USA
4. British Ecological Society. Regular Member. 1981.
5. Linnean Society of London. Fellow.
6. Sociedad Mexicana para la Divulgación de la Ciencia y la Técnica, A.C. (SOMEDICYT). Miembro Titular. 1986-
7. International Society for Plant Demography. Founding Member.
8. Asociación Mexicana de Epistemología. Miembro. 1976.
9. Academia Nacional de Ciencias Forestales. 1978. Miembro de Número.
10. International Association for Ecology (INTECOL). Regular Member
11. International Society for Ecological Economics. Member. 1992-1999.
12. Society for Natural Phylosophy. Regular Member. USA
13. International Society of Evolutionary Biologists. Member
14. Academia Latinoamericana de Ciencias. Académico de Número
15. Ecological Society of America. Honorary Member, 1988, Honorary Fellow, 1994. USA
16. Sociedad Mexicana de Geografía y Estadística. Socio Honorario, 1991.
17. Third World Academy of Sciences (TWAS). Corresponding Fellow, 1991-1994; Fellow, 1994;
18. Sociedad Mexicana de Historia y Filosofía de la Medicina. Miembro Activo, 1992.

19. Academia de Ciencias de América Latina (ACAL). Miembro, 1993
20. American Association for the Advancement of Science (AAAS). International Member, 1993; AAAS, Fellow, 1999. USA
21. Societe Europeenne de Culture. Viena, Miembro, 1995-
22. California Academy of Sciences, USA. Honorary Fellow, 1998
23. Sociedad Mexicana de Bibliófilos, A.C. Miembro Fundador, 1997
24. Society for Ecological Restoration. Member, 1998-
25. Academia Nacional de Ciencias Agrícolas de México, A.C. Miembro Titular, 2002
26. Member of the European Academy of Sciences (EAS). Agosto, 2004
27. Fellow of The World Academy of Art and Science. April, 200
28. Sociedad Científica Mexicana de Ecología, A.C. Miembro, 2006. México

Honorary degrees

1991. Universidad Nacional de San Marcos, Lima
1992. Universidad Tecnológica de Santiago, Chile
1993. University of Wales, Swansea
1994. New York University
1995. Colegio de Postgraduados, México
1996. Universidad de Colima
1997. Universidad Autónoma de Hidalgo
2006. Universidad Autónoma del Estado de Morelos

Honors

1964. *Summa cum Laude* School of Sciences, Professional Dissertation
1966. Medal to the best thesis presented in Botany, Botanical Society of Mexico
1972. President of the I Congreso Latinoamericano de Botánica. Sociedad Botánica de México.
1976. National Forestry Prize, to the best research work on forestry in Mexico
1984. The Mexican Academy of Sciences, Natural Sciences' Prize
1990. The Mexican Government National Prize of Science,
1991. The Botanical Merit Medal of the Botanical Society of Mexico
1991. The "Alfonso L. Herrera" Medal in ecology and conservation;
1991. The Missouri Botanical Garden's Henry Shaw Medal,;
1993. First Emeritus Professor, Universidad Tecnológica Metropolitana de Santiago, Chile
1994. Emeritus Director of Conservation International
1995. The Pericles Medal, Fundación Amparo de Puebla; for outstanding services to Culture
1996. The Lázaro Cárdenas del Río Medal, for Services to Higher Education, México
1996. Honorary Fellow of the Ecological Society of America
1996. Honorary Fellow of the Association for Tropical Biology
1998. Honorary Fellow of the California Academy of Sciences
2000. Medal of the Fellows of the California Academy of Sciences 2000
- 2001 Distinguished Achievement Award of the Society for Conservation Biology.
- Medalla de Oro al Mérito Universidad Veracruzana. Xalapa, Ver. Septiembre 27, 2002
- 2002 Reconocimiento de la Asociación Latinoamericana de Botánica. Bogotá, Colombia. Octubre 13,

2002 Medalla "José Vasconcelos". Asociación de Egresados de la Universidad Nacional Autónoma de México en Hidalgo. Pachuca, Hgo. Noviembre 29,
 2003 Premio Interamérica 2003 de la Organización Universitaria Interamericana (OUI). Xalapa, Ver. Noviembre 10,
 2006 Centennial Award of The Botanical Society of America. Abril,
 2006 Héroe de la Conservación de The Nature Conservancy. Mayo,
 2007 Award Certificate for the Nobel Peace Prize to Intergovernmental Panel on Climate Change (IPCC) For being a Chapter Leader 2001: Impacts, Adaptation, and Vulnerability) Oslo, Norway
 2008 Medalla por 35 Años de Labor Académica en la UNAM. Mayo 15,
 2008 Medalla John C. Phillips de IUCN. Octubre 11,
 2009 Award of the 2009 Science Lectureship. Faculty of Science of Chiba University. Chiba, Japan.
 2010 Condecoration of the Orange-Nassau Order, Kingdom of the Netherlands

Past and present Committees

1981-1984. Member of the Scientific Advisory Committee, IGBP.
 1991- 1995. Member of the Advisory Committee on the Environment, ICSU.
 1994. Member of the Advisor's Group on Higher Education for Federico Mayor, Director General (UNESCO).
 1997. Member of the International Advisory Group for World Resources Institute's New Forest Frontiers Initiative.
 1998-2002. Chairman of the Scientific Steering Committee of DIVERSITAS (ICSU/UNESCO) an International Programme on the Science of Biodiversity,;
 1998-2004. Member of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST/UNESCO)
 1998. Member of the Scientific and Technical Advisory Panel of the Global Environment Facility (World Bank/UNDP/UNEP)
 1999. Member of The World Resources Institute Board of Directors
 1999. Member of the Consejo de Administración del Instituto Internacional de la UNESCO para la Educación Superior en América Latina y el Caribe (IESALC/UNESCO)
 1999 Member of the Steering Committee of the Millennium Assessment of the State of the World's Ecosystems,
 2000-, Member of the Consultative Council of the Mexican National Water Board;
 2000- Member of the Board of Governors, El Colegio de México,
 2002- Co-Chair of the Editorial Board of the *Millennium Ecosystem Assessment*
 Member of the Inter Academy Council for a *Study on Science and Technology strategies for improved agricultural productivity and food security in Africa* requested by the Secretary General of the UN, Kofi Annan
 2009. Member of the Board of Governors, Universidad Veracruzana

Positions held

Between 1964 and 1968 he was director of a research group on the ecology of pharmaceutical yams (*Dioscorea* spp.) that involved the first major studies of the vegetation and ecology of the Mexican tropics. After his return to Mexico in 1972 from having obtained his doctoral degree in the U.K, he entered the National University of Mexico (UNAM) as full-time research staff at the Institute of Biology, where he organized the first Ecology Department at the University.

He was appointed as a member of the Board of Directors for environmental impacts of the National Institute of Nuclear Research 1979-1980, and has been a Board member of the National Committee on scientific capacity building of the Mexican National Council for Science and Technology, (CONACYT) 1982-1987; in a similar capacity served as a Board member of IVIC, the Venezuelan Institute for Scientific Research 1984-1986

In 1987 he founded, with his first group of graduate students, the Institute of Ecology at UNAM, the most important ecological research institution in Latin America, which at present has over 65 Research Staff with doctoral degrees, and over 180 graduate students reading for their doctoral or MSc. Degrees, with three branches in different parts of Mexico.

He was elected President of the Latin American Union of Universities (UDUAL) in November 1992 for a period of 3 years, and Vice President of the Iberoamerican Association of Graduate Universities (AUIP) from 1994 to 1996. In April 1998 he was elected as Coordinator of the Latin American Plant Sciences Network, a consortium of Universities of the region, offering scholarships for trans-country graduate training in the areas of Plant Sciences, which he founded in 1987.

After seven years as research staff he was elected by the Board of Governors of UNAM to be director of the Biology Institute of the University for two consecutive periods, holding this post from 1979 until 1987. The Institute of Biology is the foremost research institution in Taxonomy and Systematics in Mexico, housing all the national systematics collections of the country.

In February 1987, he was appointed Vice Chancellor for Science at UNAM, and in December 1988, was elected by the Board of Governors as Rector of this university for the period 1989-1993 and reappointed for the same post for the period 1993-1997. UNAM is one of the two oldest Universities in the American Continent (founded in 1551) and one of the largest in the Continent. It runs on an annual budget of over two billion US dollars. He returned to his post as Senior Professor at the Institute of Ecology after ending his period as Rector and spending a sabbatical year as Visiting Professor at Stanford University, in 1988. During the period of his Rectorate at UNAM, *UNIVERSUM*, the University's Science Museum was conceived by him and his colleagues and opened in 1994, receiving over 1.2 million visitors a year. Sarukhán was president of the Botanical Society of Mexico from 1972 until 1975. He was also President of the Mexican Academy of Sciences in 1984-85, a period in which he played an important role in the creation of the Sistema Nacional de Investigadores. It is an academic performance-based salary bonus system, which was devised to stop the disintegration of the Mexican scientific community at the time of serious economic distress in Mexico and severe

brain drain. He was also elected as President of the Association for Tropical Biology during the period 1986-1987.

The President of Mexico appointed him in 1992 as Coordinator of the Mexican National Committee on the Study and Conservation of Biodiversity (CONABIO), responsibility that he holds until today. Sarukhán conceived CONABIO as a semi-private, interministerial organization, whose mission is the integration of a mega database of the organisms and ecosystems of Mexico within a Geographic Information context. It provides fundamental information for the development of policies on conservation and sustainable use of natural resources in Mexico. It is one of the two or three such national organizations existing in the world and has been considered an example of the application of informatics to Biodiversity knowledge and conservation. Presently it runs what is considered as the largest, electronically accessible, operational, biodiversity database for a country in the World. It served as model and inspiration for the development of the Global Biodiversity Information Facility, (GBIF) belonging to the OECD, located in Copenhagen. It can be accessed at www.conabio.gob.mx

In September 2000 Sarukhán designed and established a Master's Programme on Restoration Ecology aimed at training mid-career professionals in charge of conservation, restoration and management of natural resources. The programme is based at the Institute of Ecology, UNAM and is run in collaboration with Prof. Julia Carabias, the former Minister of the Environment of Mexico.

In December, 2000 he was invited by President Vicente Fox of Mexico to become Commissioner for Human and Social Development in his Executive Office, being responsible for the coordination of the Ministries of Education, Health, Social Development, Environment, Agriculture, Labour and Agrarian Reform. Sarukhán resigned this position on the 1st of February, 2002, and was back at his laboratory in the Institute of Ecology, UNAM

Teaching experience

1. Teaching assistant Técnicas selectas de laboratorio. Facultad de Ciencias, UNAM. 1961.
2. Lecturer. Botánica General. Escuela Nacional de Agricultura, Chapingo, México. 1963-1965.
3. Lecturer. Ecología Forestal. Colegio de Posgraduados, Chapingo. 1965.
4. Lecturer. Fundamentals of Tropical Ecology. Organization for Tropical Studies, Costa Rica. 1965.
5. Assistant Professor. Plant Population Biology. School of Plant Biology, University College of North Wales. 1971.
6. Lecturer. Ecología de Poblaciones. Facultad de Ciencias (Postgrado), UNAM. 1973-1980.
7. Lecturer Tropical Population Biology. Organization for Tropical Studies, Costa Rica. 1973-1976.
8. Lecturer. Métodos Cuantitativos en Ecología (Biología de Campo). Facultad de Ciencias, UNAM. Licenciatura. 1974.

9. Lecturer. Ecología de Poblaciones. División de Ciencias Biológicas y de la Salud, UAM. 1976-1978.
10. Lecturer. Ecología de Comunidades. División de Ciencias Biológicas y de la Salud, UAM. 1977.
11. Visiting Professor. Departments of Zoology and Botany. University of Texas, Austin. E.U.A. 1978.
12. Visiting Professor. Biología de Poblaciones de Plantas. Instituto de Zoología, Universidad Central de Venezuela. 1982.
13. Visiting Professor. Ecología de Malezas. Facultad de Agronomía, Universidad de Buenos Aires. 1983.
14. Senior Lecturer. Doctorado en Ecología. IB/CCH, UNAM. 1986.
15. Distinguished Professor in Ecology. Colorado State University. Abril 1986.
16. Profesor. Curso El Origen del Origen. El Colegio Nacional. Septiembre 5-7, 1987.
17. Profesor. Primer Curso de Cultura Ecológica Básica. El Colegio Nacional. Nov 14-18, 1988
18. Senior Lecturer Curso de Fundamentos de Ecología. ENP/UNAM. Junio 17-26, 1991
19. Profesor visitante. Cátedras en Restauración Ecológica, Ecología y Diversidad Biológica en México y en Educación Superior y Desarrollo en Latinoamérica. Departamento de Ciencias Biológicas, Centro para la Biología de la Conservación y Centro de Estudios Latinoamericanos de la Universidad de Stanford, Cal. Agosto, 1997 a Julio, 1998
20. Visiting Professor Curso sobre Biodiversidad Global y de México: Ecosistemas y bienestar humano (10 semanas). Universitat de Barcelona. Barcelona, España. Abril-Mayo, 2005
21. Profesor. Curso sobre Biodiversidad Global y de México. Posgrado en Ciencias Biológicas-UNAM, Semestre 2007-1, para alumnos de la Maestría en Restauración Ecológica. Instituto de Ecología, UNAM. Verano-Otoño, 2006
22. Profesor. Curso Taller: Desarrollo cultural de Jalisco a través de sitios de importancia mundial (40 horas) Universidad de Guadalajara: Cátedra de Biodiversidad "Enrique Beltrán". Guadalajara, Jal. Marzo 22-31, 2007
23. Visiting Professor Seminar Creating intelligence for the sustainable management of Mexico's Natural Capital. Trinity University. San Antonio, Texas. Febrero 10-12, 2008

Supervision of students

Has directed 28 students' theses at the graduate and undergraduate levels, at UNAM, Simon Frazer University (Canada), Stanford University, University of Reading, and Université de Toulouse. Not listed for brevity, available if requested.

Editorial and refereeing work

1. *Agroecosystems*. Editorial Board. Editor. 1974-1982
2. *Boletín de la Sociedad Botánica de México* Comité Editorial. Editor.. 1976-1984.
3. *Evolutionary Theory* Editorial Board. Editor.. University of Chicago. 1976-1979.
4. *Ciencias (2ª época)*. Comité Editorial. Editor. México. 1977-2001
5. *Evolution*. Referee. USA
6. *Science*. Referee. USA
7. *Biotrópica*. Referee. USA. 1992-
8. *Ecology*. Referee. USA
9. *Oecologia*. Editorial Board and Referee. USA. 1998-2000

10. *National Science Foundation* Evaluating Committee of Research Projects. USA. 1978.
11. National Research Council. Canadá Evaluating Committee.. 1978.
12. *Agroforestry Systems. An Internacional Journal on Agroforestry Research.* Editorial Board. Editor. 1982-1986
13. *National Geographic Society* Evaluating Committee. Referee.. USA. 1984.
14. Evaluador de proyectos de investigación en el área de Ecología. Fondo Nacional de Desarrollo Científico y Tecnológico. CONICYT. Chile.1985
15. *Ciencia y Desarrollo* Comité Editorial de la Serie, CONACyT. México. 1982-1993.
16. *Naturaleza.*Comité Editorial México. 1982-1986.
17. *La Ciencia desde México* Comité Editorial de la Serie. Fondo de Cultura Económica 1989-
18. *Mexican Studies/Estudios Mexicanos* Consejo Editorial de la Revista. Miembro Honorario. 1989-1997
19. *Annual Review of Ecology and Systematics* Editorial Committee 1989-1992
20. *World Resources* Editorial Advisory Board, World Resources Institute. 1990-1996
21. *Voices of Mexico* Miembro del Consejo Editorial. 1991-1995
22. *Biotropica* Editorial Board. Association for Tropical Biology (ATB). 1992
23. *International Journal of Ecology and Environmental Sciences.*Advisory Editorial Board 1994-1996
24. *Fitotecnia Mexicana* Miembro del Comité Editorial. Sociedad Mexicana de Fitogenética, A.C., (SOMEFI). México. 1994-1995 y 1999-2000
25. *Environmental Conservation* Advisory Editor 1995-1998
26. *Agrociencia* Consejo Editorial. Colegio de Postgraduados. México. 1996

27. *Millennium Ecosystem Assessment* Co-Chair of the Editorial Board. Washington, D.C. January, 1999-2001. May, 2002-2005
28. *Investigaciones Geográficas* Comisión Dictaminadora Instituto de Geografía, UNAM. México. 1999-2000
29. *Revista Digital Universitaria* Miembro del Comité Editorial de la. México. 1999-2000
30. Member of the Evaluation Panel of the Finnish Biodiversity Research Programme (FIBRE). University of Turku, 2002-2003
31. *National Geographic en Español* Miembro del Comité Editorial y Socio Honorario de National Geographic Society. Marzo 3, 2009

Publications

1. SARUKHAN, J. 1963. Fitomejoramiento de *Bursera simaruba* (L.) Sarg. Seminario de Genética y Botánica. Col. de Post. México. 1:92-109.
2. SARUKHAN, J. 1964. Estudio sucesional de un área talada en Tuxtepec, Oax. En: *Estudios Ecológicos de las Zonas Tropicales Cálido Húmedas de México.* Publ. Esp. INIF.México. 3:107-172.
3. GOMEZ-POMPA, A., VAZQUEZ-SOTO, J. y SARUKHAN, J. 1964. Estudios ecológicos de las zonas tropicales cálido-húmedas de México. *Publ. Esp. INIF*. México 3:1-36.
- 4.* PENNINGTON, T.D. y SARUKHAN, J. 1968. *Arboles Tropicales de México*, INIF y FAO. México, 417 pp.
5. SARUKHAN, J. y HERNANDEZ XOLOCOTZI, E. 1968. Sinecología de las Selvas de Terminalia amazonia en la vertiente del Golfo de México. Análisis de la metodología de estudio. *Agrociencia* 3:1-17. Reimpreso (1970) por solicitud de *Rev. For. Latinoamericana*. 33:3-20.

6. SARUKHAN, J. 1970. A study of the population dynamics of three *Ranunculus* species. *Proc. 10th British Weed Control Conference*, 1:20-25.
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Conferences attended

Has attended over 750 conferences and symposia, both in Mexico and abroad, the vast majority by invitation of the organizers; these are not listed here for brevity but are available if requested.

CURRICULUM VITAE
OF
DAVE D. CHADEE
(AUGUST 2012)

1. Personal Details

NAME: Dave D. Chadee POST: *Professor*
Department of Life Sciences
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Trinidad.

QUALIFICATIONS:

<u>Degree</u>	<u>University</u>	<u>Dates</u>
B.Sc.	Dalhousie University	10/76
M.Phil.	University of the West Indies (UWI)	01/84
Ph.D	Dundee University	11/87
D.Sc.	Dundee University	07/99
MPH	Dundee University	07/01

Certificate in Human Participants Protection Education for Research Teams by National Institute of Health (NIH) (2007).

EXPERIENCE:

<u>Post</u>	<u>Organization</u>	<u>Dates</u>
Entomologist/ Parasitologist	Insect Vector Control Division Ministry of Health, Trinidad W.I.	1979-1997
Director	Trinidad Public Health Laboratory Ministry of Health, Trinidad	1997-1999
Lecturer (Temporary)	Department of Para-Clinical Science Faculty of Medicine University of the West Indies Mt. Hope, Trinidad W.I.	2000
Associate and Senior Associate Lecturer	Department of Para-Clinical Science Faculty of Medicine University of the West Indies Mt. Hope, Trinidad W.I.	1990-2004

Adjunct Associate Professor	School of Public Health and Tropical Medicine Tulane University New Orleans, Louisiana LA 70112 USA.	1995-2007
Adjunct Professor	Department of Epidemiology and Global Public Health Program University of Miami, South Campus Miami, FL 33177, USA.	2004-2013
Director	National Public Health Laboratory Srvs. Ministry of Health Trinidad W.I.	2003-2004
Lecturer	Department of Life Sciences University of the West Indies St. Augustine, Trinidad	2004-2007
Senior Lecturer	Department of Life Sciences University of the West Indies St. Augustine, Trinidad	2007-2010
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AWARDS

- **Wellcome Trust Scholarship- 1985-1987.**
- **Gorgas Memorial Fellowship 1998**
- **Selected in the 60 under 60 UWI Program (2009)**
- **Vice-Chancellor Award for Research Excellence, University of the West Indies, 2010.**

POSTGRADUATES (Completed)

1. Adrian Gonzalez (1997). Master of Public Health (MPH), Tulane University, New Orleans, Louisiana, USA
2. Colleen Wunderlich (2000), Master of Science (MD/MSc), St. Georges University, St. Georges, Grenada, W.I.
3. Paul I. Howell (2003). Master of Public Health (MPH), Rollins School of Public Health, Emory University, Atlanta, Georgia, USA.
4. Adriana Troyo (2007). Doctor of Philosophy (PhD), University of Miami, Miami, USA. (Committee Member).
5. Denise Dowlat(2010). Master of Science (MSc), University of the West Indies, St Augustine, Trinidad, W.I.
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7. Karen A. Polson (2011). Doctor of Philosophy (PhD), University of the West Indies, St. Augustine, Trinidad, W.I.
8. Ryan Hemme (2011). Doctor of Philosophy (PhD), University of Notre Dame, Indiana, USA (Committee Member)
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Postgraduate Examiner

1. **Stacy Marie Kathryn Syne (2009) Master of Philosophy (MPhil), University of the West Indies (Internal Examiner).**
2. **Jeanette Latoya Browne (2010). Master of Philosophy (M.Phil), University of the West Indies (Independent Referee)**
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CURRENT DUTIES:

- 1. Professor in Parasitology and Environmental health**
- 2. Lecturer and Coordinator for the Postgraduate Course in Bioethics (BIOL 6062)**
- 3. Lecturer and Course Coordinator of Diversity of Organism course (BIOL1261)**
- 4. Supervisor of Research Projects for Undergraduates**
- 5. Member of the Management Committee in the Department of Life Sciences**
- 6. Supervisor of Postgraduates including:**
 - 1. PhDs student: Maria Cecilia De Fatima Vega Corredor, Chavin Gopaul, and Keerisha Khan**
 - 4. M.Phil's (K. Sharma, SueMin Nathaniel, Mia Avril, Akila Stewart, and Sherine Huntley, UWI, Mona campus with Dwight Robinson).**
- 7. Co-Chairman of the Tropical Medicine Cluster: Infectious Diseases**
- 8. Co-Chairman of the Biodiversity and Environmental Cluster: Biogenics of Natural Products**
- 9. Postgraduate Coordinator in the Department of Life Sciences (2009-)**
- 10. Member of the Board for Graduate Studies and Research (2012-**

PREVIOUS POSITIONS HELD IN THE DEPARTMENT OF LIFE SCIENCES

- 1. Chairperson of the Staff- Undergraduate Student Liaison Committee in the Department of Life Sciences (2005-2007)**
- 2. Chairperson of the Staff-Postgraduate Student Liaison Committee in the Department of Life Sciences (2006-2008)**
- 3. Postgraduate Coordinator in the Department of Life Sciences (2006-2008)**
- 4. Subject Leader, Environmental and Natural Resource Management in the Department of Life Sciences (2006-2009).**

5. Departmental Representative to the Faculty of Science and Agriculture Standing Committee for Graduate Studies and Research (2007-2010)

2. *List of Publications*

(a) MONOGRAPHS

1. Chen, A.A, **D.D. Chadee** and S.C. Rawlins (2006). Climate Change Impact on Dengue: The Caribbean Experience: University of the West Indies, Phoenix Printery Ltd., Kingston, Jamaica
2. Laurent, E.C., A. Le Maitre and **Dave D. Chadee** (1991). Vector control operations during a sylvatic yellow fever outbreak in Trinidad (1978-1980). In E.S. Tikasingh (Ed.). Studies on the Natural History of Yellow Fever in Trinidad. CAREC Monograph Series, 1: 117-122. Caribbean Epidemiology Centre, Port of Spain, Trinidad and Tobago.
3. Rawlins, S.C., R. Martinez, **Dave D. Chadee** and B. Hull (1991). Yellow fever studies in Trinidad 1988-1989: Attempts to demonstrate transovarial transmission of the yellow fever virus in Haemagogus mosquitoes collected in nature. In E.S. Tikasingh (Ed.). Studies on the Natural History of Yellow Fever in Trinidad. CAREC Monograph Series, 1: 169- 174. Caribbean Epidemiology Centre, Port of Spain, Trinidad and Tobago.
4. **Chadee, Dave D.** and A. Le Maitre (1991b). Emergency vector control of urban vectors during the epizootic of yellow fever in Trinidad (1988-1989). In E.S. Tikasingh (Ed.). Studies on the Natural History of Yellow Fever in Trinidad. CAREC Monograph Series, 1: 175-184. Caribbean Epidemiology Centre, Port of Spain, Trinidad and Tobago.
5. **Chadee, Dave D.**, R. Paul and C.N.L. Macpherson (1993). Instruction and Information Manual for Evaluators of the Malaria Surveillance Programme in Trinidad and Tobago. Ministry of Health, Barataria, Trinidad p. 28.
6. Rosenbaum, J., R. Singh, S.C. Rawlins, M. Nathan, C. Gayle, **D.D. Chadee**, R. Martinez and L. Lloyd (1993). Survey of Community Knowledge, Attitudes and Practices regarding Environmental Sanitation in Trinidad and Tobago. (CAREC Entomology Division, PAHO/CPC, Insect Vector Control Division, Ministry of Health, Trinidad. This project was funded by the Government of Italy in support of the program for Community-based strategies for the control of Aedes aegypti in the Caribbean). Mimeograph Document. p. 32.

(b) ARTICLES PUBLISHED IN REFEREED JOURNALS

1. Chadee, Dave D., A. Le Maitre and N.K. Connell (1981). The collection of Haemagogus equinus Theobald from household containers in Tobago, W.I. Mosquito News, 40: 568-569.
2. Chadee, Dave D. and E.S. Tikasingh (1982). Occurrence of Phaeotabanus cajennensis Fab. in Trinidad, W.I. Journal of Medical Entomology. 19: 211.
- 3 Chadee, Dave D., A. Le Maitre, R.M.A. Doug Deen and E.C. Laurent (1983). A case of imported Plasmodium ovale infection in Trinidad, W.I. West Indian Medical Journal, 32: 56-58.
4. Le Maitre, A. and Dave D. Chadee (1983). Arthropods collected from aircraft at Piarco International Airport, Trinidad, W.I. Mosquito News 43: 21-23.
5. Chadee, Dave D. (1983b). Rockhole breeding Haemagogus mosquitoes on Monos Island, Trinidad, W.I. Mosquito News, 43: 236-237.
6. Chadee, Dave D. (1984a). Aedes aegypti aboard boats at Port of Spain, Trinidad, W.I. (1972-1982). Mosquito News, 44: 1-3.
7. Chadee, Dave D. (1984b). An evaluation of Temephos in water drums in Trinidad, W.I. Mosquito News, 44: 51-53.
8. Chadee, Dave D. and S.B. Ferreira (1984). The collection of Aedes berlini Schick in artificial containers in Tobago, W.I. Journal of the Florida Anti-Mosquito Association, 55: 47-48.
9. Chadee, Dave D., N.K. Connell, A. Le Maitre and S.B. Ferreira (1984). Surveillance for Aedes aegypti in Tobago, W.I. Mosquito News, 44: 490-492.
10. Chadee, Dave D. and E. S Tikasingh (1985). Distribution of Haemagogus equinus Theobald (Diptera: Culicidae) in Trinidad and Tobago, W.I. Mosquito Systematics, 17: 32-35.
11. Chadee, Dave D., R.C. Persad, N. Andalcio and W. Ramdath (1985). Distribution of Haemagogus mosquitoes on small islands off Trinidad, W.I. Mosquito Systematics, 17: 147-152.
12. Chadee, Dave D. (1985a). Toxorhynchites moctezuma : a potential biological control agent in Trinidad, W.I. Journal of the American Mosquito Control Association, 1: 376-378.

13. **Chadee Dave D.** (1985b). An evaluation of Malathion ULV spraying against natural and caged populations of *Aedes aegypti* in Trinidad, W.I. Cahiers OSTROM, serie Entomologie medicale et Parasitologie, 23: 71-74.
14. **Chadee, Dave D.** (1985c). Occurrence of *Aedes taeniorhynchus* on Monos Island, Trinidad, W.I. Journal of the Florida Anti-Mosquito Association, 56: 22-23.
15. **Chadee, Dave D.** and E.S. Tikasingh (1985). Laboratory observations on the life history of *Culex (Melanoconion) caudelli* Dyar and Knab in Trinidad, W.I. Journal of the Florida Anti-Mosquito Association, 56: 90-93.
16. **Chadee, Dave D.** (1986a). Description of the egg of *Culex (Melanoconion) caudelli* Dyar and Knab (Diptera: Culicidae). Mosquito Systematics, 18: 196-198.
17. **Chadee, Dave D.** (1986b). Mosquitoes of Gaspar Grande Island, Trinidad, W.I. Journal of the Florida Anti-Mosquito Association, 57: 26-27.
18. **Chadee, Dave D.** (1986c). A comparison of three *Aedes aegypti* sampling methods in Trinidad, W.I. Cahiers ORSTOM, serie Entomologie medicale et Parasitologie, 24:199-205.
19. **Chadee, Dave D.** and E.S. Tikasingh (1986). Description of the eggs of *Culex urichii*. Mosquito Systematics, 18:284-287.
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21. **Chadee, Dave D.**, S.F. Hubbard, P.S. Corbet (1987). Diel patterns of oviposition in the field of the mosquito, *Toxorhynchites moctezuma* (Diptera: Culicidae) in Trinidad, W.I. Journal of Medical Entomology, 24:1-5.
22. **Chadee, Dave D.** and P.S. Corbet (1987). Seasonal incidence and diel patterns of oviposition in the field of the mosquito, *Aedes aegypti* (L.) (Diptera: Culicidae) in Trinidad, W.I.: a preliminary study. Annals of Tropical Medicine & Parasitology, 81:151-161.
23. **Chadee, Dave D.**, G.J. Small and S.L.C. O'Malley (1987). A description of the eggs of *Toxorhynchites moctezuma* (Diptera: Culicidae) from Trinidad, W.I. With notes on other eggs. Mosquito Systematics, 19: 237-242.
24. **Chadee, Dave D.**, A. Le Maitre, R. Paul and E.C. Laurent (1988). Serum cholinesterase levels of vector control workers in Trinidad, W.I. West Indian Medical Journal, 37: 16-31.

25. Chadee, Dave D. (1988a). Landing periodicity of the mosquito Aedes aegypti (L.) in Trinidad in relation to the timing of insecticide space-spraying. Medical & Veterinary Entomology, 2: 189-192.
26. Chadee, Dave D. (1988b). Effects of "closed" houses on the Aedes aegypti eradication programme in Trinidad. Medical & Veterinary Entomology, 2: 193-198.
27. Chadee, Dave D. and R. How Chung (1988). Malaria resistance from Guyana, South America. Caribbean Medical Journal, 49: 33-34.
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29. Chadee, Dave D. and H. Bennett (1988). Description of the eggs of Culex sitens from Oman (Diptera: Culicidae). Mosquito Systematics, 20: 370-373.
30. Chadee, Dave D. (1989a). Imported malaria in Trinidad and Tobago, W.I. (1968-1986). Annals of Tropical Medicine & Parasitology, 83, 107-114.
31. Chadee, Dave D. and E.S. Tikasingh (1989a). Diel biting activity of Culex (Melanoconion) caudelli Dyar and Knab in Trinidad, W.I. (Diptera: Culicidae). Medical & Veterinary Entomology, 3: 231-237.
32. O'Malley, S.L.C., S.F. Hubbard and Dave D. Chadee (1989). Oviposition habitat preferences of Toxorhynchites moctezuma mosquitoes in four types of tropical forest in Trinidad. Medical & Veterinary Entomology, 3: 247-252.
33. Chadee, Dave D. and P.S. Corbet (1989). Diel pattern of oviposition in the laboratory of the mosquito, Aedes albopictus (Skuse) (Diptera: Culicidae). Annals of Tropical Medicine & Parasitology, 83: 423-429.
34. Chadee, Dave D. and E.S. Tikasingh (1989b). Observations on the seasonal incidence and diel oviposition periodicity of Haemagogus mosquitoes (Diptera: Culicidae) in Trinidad, W.I.: Part I. Haemagogus janthinomys Dyar. Annals of Tropical Medicine & Parasitology, 83: 507-516.
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38. **Chadee, Dave D.** and H. Bennett (1990). Scanning electron microscopy of the eggs of Haemagogus celeste and Haemagogus equinus (Diptera: Culicidae) from Trinidad and Tobago. Mosquito Systematics, 22: 11-14.
39. Corbet, P.S. and **Dave D. Chadee** (1990). Incidence and diel oviposition periodicity of Aedes aegypti (Diptera: Culicidae) in the field in Trinidad, W.I., with relation to the solar aspect. Annals of Tropical Medicine & Parasitology, 84: 63-78.
40. **Chadee, Dave D.** and P.S. Corbet (1990a). The indoor diel oviposition periodicity of the mosquito, Aedes aegypti in the field in Trinidad, W.I.: a preliminary study. Annals of Tropical Medicine & Parasitology, 84: 79-84.
41. Rawlins, S.C., B. Hull, **Dave D. Chadee**, R. Martinez, A. Le Maitre, F. James and L. Webb (1990). Sylvatic yellow fever activity in Trinidad (1988-1989). Transactions of the Royal Society of Tropical Medicine & Hygiene, 84: 142-143.
42. **Chadee, Dave D.** and A. Le Maitre (1990). Ants: Potential mechanical vectors of hospital infections in Trinidad. Transactions of the Royal Society of Tropical Medicine & Hygiene, 84: 297.
43. **Chadee, Dave D.** (1990a). Aedes aegypti surveillance in Tobago, W.I. (1983-1988). Journal of the American Mosquito Control Association, 6: 148-150.
44. **Chadee, Dave D.** and E.S. Tikasingh (1990). Seasonal incidence and diel oviposition periodicity of Haemagogus mosquitoes (Diptera: Culicidae) in Trinidad, W.I. Part II. Haemagogus equinus Theobald. Annals of Tropical Medicine & Parasitology, 84: 267-275.
45. Tikasingh, E.S., B. Hull., E. Laurent and **Dave D. Chadee** (1990). Entomological activities during the yellow fever epidemic in Trinidad. Bulletin of the Society for Vector Ecology, 15: 41-47.
46. Linley, J.R. and **Dave D. Chadee** (1990). Fine structure of the eggs of Psorophora columbiae, Ps. cingulata, and Ps. ferox (Diptera: Culicidae). Proceedings of the Entomological Society of Washington, 92: 497-511.
47. **Chadee, Dave D.** and P.S. Corbet (1990b). A night-time role of the oviposition site of the mosquito Aedes aegypti (L.) (Diptera: Culicidae). Annals of Tropical Medicine & Parasitology, 84: 429-433.

48. **Chadee, Dave D.** (1990b). Seasonal abundance and diel landing periodicity of Sabethes chloropterus (Diptera: Culicidae) in Trinidad, W.I. Journal of Medical Entomology, 27: 1041-1044.
49. **Chadee, Dave D., P.S. Corbet, J.J.D. Greenwood** (1990). Egg-laying yellow fever mosquitoes avoid sites in which eggs have already been laid by conspecifics. Entomologica Experimentalis et Applicata, 57: 295-298.
50. **Chadee, Dave D.** (1990c). Metodos de evaluacion de la poblacion de Aedes aegypti y tratamientos con insecticidas en una poblacion de Trinidad, Antillas. Boletin de la Oficina Sanitaria Panamericana, 109: 350-359.
51. **Chadee, Dave D., E. Furlonge and C. Naraynsingh** (1991). Tungiasis in Trinidad. Case Study. Transactions of the Royal Society of Tropical Medicine & Hygiene, 85: 308.
52. **Linley, J.R. and Dave D. Chadee** (1991). Fine structure of the eggs of Haemagogus equinus and Haemagogus janthinomys (Diptera: Culicidae). Journal of Medical Entomology, 28: 434-445.
53. **Chadee, Dave D., R. Ganesh and R.C. Persad** (1991-92). Feeding behaviour of the Great Kiskadee, Pitangus sulphuratus on fish in Trinidad, W.I. Journal of the Trinidad and Tobago Field Naturalist Club, Living World, p.42-43.
54. **Hubbard, S.F., Dave D. Chadee and S.L.C. O'Malley** (1991). Oviposition container preferences of Toxorhynchites moctezuma mosquitoes in Trinidad (Diptera: Culicidae). Journal of the Florida Mosquito Control Association, 62: 12-17.
55. **Chadee, Dave D. and G.J. Small** (1991). Egg cannibalism of Toxorhynchites moctezuma in Trinidad, West Indies. Journal of the Florida Mosquito Control Association, 62: 20-21.
56. **Chadee, Dave D. and A. Le Maitre** (1991a). A study on the serum cholinesterase levels of vector control workers in Trinidad, West Indies. Annals of Tropical Medicine & Parasitology, 85: 345-348.
57. **Chadee, Dave D., E. Furlonge, C. Naraynsingh and A. Le Maitre** (1991). Distribution and prevalence of Tunga penetrans in coastal south Trinidad. Transactions of the Royal Society of Tropical Medicine & Hygiene, 85: 549.
58. **Chadee, Dave D.** (1991a). Seasonal incidence and vertical distribution patterns of oviposition by Aedes aegypti in an urban environment in Trinidad, West Indies. Journal of the American Mosquito Control Association, 7: 383-386.

59. **Chadee, Dave D.** and P.S. Corbet (1991). The gonotrophic status of female *Aedes aegypti* (L.) resting overnight at the oviposition site (Diptera: Culicidae). *Annals of Tropical Medicine & Parasitology*, 85: 461-466.
60. **Chadee, Dave D.** and E.S. Tikasingh (1991). Seasonal incidence and diel oviposition periodicity of *Haemagogus* mosquitoes (Diptera: Culicidae) in Trinidad, W.I. Part III. *Haemagogus celeste* (Dyar & Nunez Tovar) and *Haemagogus leucocelaenus* Dyar and Shannon. *Annals of Tropical Medicine & Parasitology*, 85: 543-550.
61. **Chadee, Dave D.** (1992a). Indoor and outdoor host seeking rhythms of *Anopheles albitalaris* (Diptera: Culicidae) in Trinidad, West Indies *Journal of Medical Entomology*, 29: 567-569.
62. **Chadee, Dave D.**, E.S. Tikasingh and R. Ganesh (1992). Seasonality, biting cycle and parity of the yellow fever vector mosquito *Haemagogus janthinomys* Dyar in Trinidad, West Indies. *Medical & Veterinary Entomology*, 6: 143-148.
63. **Chadee, Dave D.** and E.S. Tikasingh (1992). Distribution and seasonality of *Culex (Melanoconion) caudelli*, a vector of arboviruses in Trinidad. *Medical & Veterinary Entomology*, 6: 149-153.
64. **Chadee, Dave D.**, A. Le Maitre and C.C. Tilluckdharry (1992). Reappearance of vivax malaria in Trinidad, West Indies. *Transactions of the Royal Society of Tropical Medicine & Hygiene*, 86: 485.
65. **Chadee, Dave D.** (1992b). Seasonal incidence and horizontal distribution patterns of oviposition by *Aedes aegypti* in an urban environment in Trinidad, West Indies. *Journal of the American Mosquito Control Association*, 8: 281-284.
66. Corbet, P.S. and **Dave D. Chadee** (1992). The diel pattern of entry to outdoor oviposition sites by female *Aedes aegypti* (L.) (Diptera: Culicidae) that then laid eggs there: a preliminary study. *Annals of Tropical Medicine & Parasitology*, 86: 523-528
67. **Chadee, Dave D.** (1992c). Bacterial pathogens isolated from guppies (*Poecilia reticulata*) used to control *Aedes aegypti* in Trinidad. *Transactions of the Royal Society of Tropical Medicine & Hygiene*, 86: 693.
68. **Chadee, Dave D.** (1992d). Life table characteristics of a selected laboratory population of *Aedes aegypti*(L.) in Trinidad, W.I. *Journal of the Florida Mosquito Control Association*, 64: 68-72.
69. **Chadee, Dave D.** (1992e). Effects of moonlight on the landing activity of *Anopheles bellator* Dyar and Knab (Diptera: Culicidae) in Trinidad, W.I. *Bulletin of the Society for Vector Ecology*, 17: 119-124.

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71. Chadee, Dave D., J.O. Hingwan, R. Persad and E.S. Tikasingh (1993). Seasonal abundance, biting cycle, parity and vector potential of the mosquito, Haemagogus equinus in Trinidad, W.I. Medical & Veterinary Entomology, 7: 141-146.
72. Chadee, Dave D. and P.S. Corbet (1993). The gonotrophic status and diel pattern of entry to outdoor oviposition sites of female Aedes aegypti (L.) (Diptera: Culicidae). Annals of Tropical Medicine & Parasitology, 87: 263-268.
73. Corbet, P.S. and Dave D. Chadee (1993). An improved method for detecting substrate preferences shown by mosquitoes than exhibit "skip" oviposition. Physiological Entomology, 18: 114-118.
74. Chadee, Dave D. (1993a). Laboratory observations on the oviposition response of Aedes aegypti mosquitoes to different concentrations of hay infusion in Trinidad. Journal of the Florida Mosquito Control Association, 64: 22-23.
75. Chadee, Dave D., A. Lakhan, W.R. Ramdath and R.C. Persad (1993). Oviposition response of Aedes aegypti to different concentrations of Hay infusion in Trinidad, W.I. Journal of the American Mosquito Control Association, 8: 346-348.
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77. Chadee, Dave D. (1993d). Size of emerging and host-seeking Aedes aegypti and the relation to containers and blood-feeding success in Trinidad, West Indies. Bulletin of the Society for Vector Ecology, 18: 105-108.
78. Chadee, Dave D. (1993c). Oviposition response of Aedes aegypti to the presence of conspecific eggs in the field in Trinidad, W.I. Journal of the Florida Mosquito Control Association, 64: 63-66.
79. Doon, R., Dave D. Chadee, C.C. Tilluckdharry, A. Le Maitre, T.M.W. Poon-King and A. Chen (1993). Falciparum malaria treated with a Chloroquine suspension administered rectally in Trinidad, West Indies. West Indian Medical Journal, 42: 56.
80. Chadee, Dave D., S.C. Rawlins, R. Doon and S. Baboolal (1994). Presence of annular rings on Mansonella ozzardi microfilariae. Transactions of the Royal Society of Tropical Medicine & Hygiene, 88: 356.

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82. **Chadee, Dave D.** (1994). Life table characteristics of a laboratory population of Culex quinquefasciatus Say the vector of Bancroftian filariasis. Bulletin of the Society for Vector Ecology, 19: 121-124
83. **Chadee, Dave D.** (1994). Seasonal abundance, biting cycle and parity of the mosquito Anopheles homunculus in Trinidad, West Indies. Journal of the American Mosquito Control Association, 10: 522-526.
84. **Chadee, Dave D., P.S. Corbet and H. Talbot** (1995). The proportion of eggs laid by Aedes aegypti on different substrates within an ovitrap during the wet and dry seasons in Trinidad, West Indies. Medical & Veterinary Entomology, 9: 66-70.
85. **Chadee, Dave D., C.C. Tilluckdharry, S.C. Rawlins, R. Doon and M.B. Nathan** (1995). Mass chemotherapy with Diethylcarbamazine for the control of Bancroftian filariasis: a 12-year follow-up in North Trinidad. American Journal of Tropical Medicine and Hygiene, 52: 174-176.
86. **Rosenbaum, J., R. Ragoonansingh, S.C. Rawlins, M.B. Nathan, C. Gayle, D.D. Chadee and L. Lloyd** (1995). Community participation in dengue prevention and control. A survey of knowledge, attitudes and practices in Trinidad and Tobago. American Journal of Tropical Medicine & Hygiene, 52: 11-22.
87. **Chadee, Dave D. and John C. Beier** (1995). Blood engorgement kinetics of four Anopheline mosquitoes from Trinidad, W.I. Annals of Tropical Medicine and Parasitology, 89: 55-62.
88. **Chadee, Dave D.** (1995). Diel oviposition patterns of Anopheles albitalarsis in Trinidad, West Indies. Journal of the American Mosquito Control Association, 11: 103-106.
89. **Chadee, Dave D., R. Ganesh, J. Hingwan and E.S. Tikasingh** (1995). Seasonal abundance, biting cycle and parity of Haemagogus leucocelaenus in Trinidad. Medical and Veterinary Entomology, 9: 372-376.
90. **Chadee, D.D. and J.C. Beier** (1995). Blood digestion kinetics of four Anopheles species from Trinidad, West Indies. Annals of Tropical Medicine and Parasitology, 89: 531-540.
91. **Chadee, D.D.** (1995). Book Review. Dengue and Dengue Hemorrhagic Fever in the Americas: Guidelines for Prevention and Control. Pan American Health Organization, Washington, DC. Scientific Publication No 548. 98p. Journal of the American Mosquito Control Association, 11: 385-386.

92. Beier, J.C., **D.D. Chadee**, A. Charran, N.M. Cromiskey and D.M. Wesson (1995). Country-wide prevalence of *Ascogregarina culcis* (Apicomplexa: Lecudinidae), a protozoan parasite of *Aedes aegypti* in Trinidad, West Indies. Journal of the American Mosquito Control Association, 11: 419-423.
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94. **Chadee, D.D.**, J.C. Beier and R. Martinez (1996). The effect of the cibarial armature on blood haemolysis of four Anopheline mosquitoes. Bulletin of Entomological Research, 86: 351-354.
95. Tilluckdharry, C.C., **D.D. Chadee**, R. Doon and J.N. Neehall (1996). A case of vivax malaria presenting with psychosis. West Indian Medical Journal, 45: 39-40.
96. **Chadee, D.D.** and J.C. Beier (1996). Diel oviposition and fecundity of *Anopheles oswaldoi* (Peruassu) in Trinidad, West Indies. Journal of the American Mosquito Control Association, 12: 562-567.
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98. **Chadee, D.D.** and J.C. Beier (1996). Natural variation in blood feeding kinetics of four mosquito vectors. Journal of Vector Ecology, 21:151-155.
99. **Chadee, D.D.**, C.C. Tilluckdharry, R. Doon, S.C. Rawlins, V. Naraynsingh, D.C. Ariyanayagam, S. Teelucksingh and P. Gaxotte (1996). Ivermectin treatment of Mansonellosis in Blanchisseuse, Trinidad, West Indies. Annals of Tropical Medicine and Parasitology, 90: 645-649
100. **Chadee, D.D.** and S.C. Rawlins (1997). *Dermatobia hominis* in humans from Trinidad, West Indies. Transactions of the Royal Society of Tropical Medicine and Hygiene, 91: 51.
101. Focks, D.A. and **D.D. Chadee** (1997). Pupal survey: An epidemiologically significant surveillance method for *Aedes aegypti*. An example using data from Trinidad, West Indies. American Journal of Tropical Medicine and Hygiene, 56:159-167.
102. **Chadee, D.D.** and J.C. Beier (1997). Factors influencing blood-feeding duration for laboratory-reared and wild *Aedes aegypti* from Trinidad, West Indies. Annals of Tropical Medicine & Parasitology, 91: 199-207.
103. **Chadee, D.D.** (1997). Effect of forced egg-retention on the oviposition patterns of *Aedes aegypti* (L.) mosquitoes. Bulletin of Entomological Research, 86: 539-541

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105. **Chadee, D.D.** (1998). Tungiasis among five communities in south-western Trinidad, West Indies. *Annals of Tropical Medicine and Parasitology*, 92: 107-113.
106. Yan, G., **Dave D. Chadee** and Dave W. Severson (1998). RFLP variation of the yellow fever mosquitoes: evidence for genetic hitch hiking effect associated with insecticide selection. *Genetics*: 148:593-600.
107. **Chadee, D.D.**, R.A. Ward and R. Novak (1998). Natural habitats of *Aedes aegypti* in the Caribbean - A Review. *Journal of the American Mosquito Control Association*, 14: 5-11.
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3. *List of Research Activities*

Research projects:

1. **Xenomonitoring for Lymphatic filariasis** in Brazil, Costa Rica, Dominican Republic and Trinidad and Tobago (funding from the Pan American Health Organization, Washington, DC, USA).

Outline

In 1997, the World Health Organization passed a resolution calling for the elimination of Lymphatic Filariasis (LF) as a public health problem. However, at this time all of the tools necessary to monitor the elimination programs were not fully developed. In 2001 the Xenomonitoring protocol for the collection of resting, blood engorged *Culex quinquefasciatus* Say mosquitoes and their examination for microfilariae using a PCR approach was developed as a way of detecting whether LF occurs in a particular locality. Based on these findings the Pan American Health Organization and Glaxo-Smith-Kline provided funding to Dr D. Chadee and others to conduct similar programs of xenomonitoring in the last endemic foci of LF in the Americas, namely Brazil, Costa Rica, Guyana and the Dominican Republic.

2. **Dengue seroprevalence** in secondary school children and adult population in Trinidad (funding Ministry of Health, Trinidad and Tobago).

Outline

The Dengue virus is transmitted by the mosquito *Aedes aegypti* Linn. and is a major threat to public health in the tropics and subtropics. Infection can manifest as dengue fever, which range from mild to temporarily incapacitating. Dengue can also cause a more severe and potentially fatal disease, dengue haemorrhagic fever. There are four distinct serotypes of dengue (DEN 1, DEN 2, DEN 3, and DEN 4) that can each cause a separate infection in the same individual and no dengue vaccine currently exists. A total of 2317 dengue cases was reported in Trinidad and Tobago in 2002. In 1998, an epidemic year, there were 3014 total dengue cases, including 114 cases of dengue haemorrhagic fever. No study of dengue seroprevalence has ever been done in Trinidad and Tobago. It is important to determine the proportion of the population that has already been exposed to dengue because there is a risk of dengue haemorrhagic fever upon secondary infection with a new serotype. The number of reported cases is probably an underestimate of the actual prevalence of dengue because an infected individual may be asymptomatic or may have such a mild case that he or she does not seek treatment. Such individuals would still have a higher risk of developing dengue haemorrhagic fever if an epidemic with a different serotype were to occur. A cross-sectional study in four co-educational primary and four co-educational secondary schools shall be conducted to determine the dengue prevalence rates and to determine the risk for haemorrhagic fever in the school children population. This study was approval by the Ministry of Education, Trinidad and Tobago. A postgraduate student Mr. K Sharma (M.Phil student) is currently working on this project as part of his thesis work under my supervision.

3. **Prevalence of *Trichomonas vaginalis* in Trinidad** (in collaboration with the Queen's Park Counseling Centre, Ministry of Health, Trinidad)

Outline

Trichomonas vaginalis is one of the most common sexually transmitted infections in the world. In Trinidad, the prevalence rates among men and women are not known. This study will determine the prevalence rates of trichomoniasis in men and women attending the Queen's Park Counseling Centre, Ministry of Health, Trinidad. A combination of classical and contemporary molecular techniques will be used to investigate individual cases. This study has been approved by the Ministry of Health, Trinidad.

4. **Population genetics of *Aedes aegypti* in Trinidad** (Part of a NIH Grant with Prof. D.W. Severson from University of Notre Dame, Indiana, USA).

Outline

Arthropod-borne viral diseases have re-emerged as a major health problem in most tropical countries. For example, the incidence of dengue fever has increased greatly over the past 20 years, recently including its haemorrhagic form with associated human fatalities. Dengue is a threat to >2.5 billion people, with an annual incidence in the tens of millions and ~24,000 deaths per year. The mosquito *Aedes aegypti* is the primary vector. Dengue control efforts have been limited by the lack of progress in vaccine development, development of pesticide resistance in mosquito vectors, and general decline in organized mosquito control efforts. The objective of this study is to investigate the biology and ecology of *Aedes aegypti* at the population level, with an emphasis towards factors involved in the maintenance and transmission of dengue. A combination of classical field and contemporary molecular techniques will be used to investigate the interaction between complex biotic and abiotic factors that often result in explosive epidemics of human disease. The specific aims of this project are: 1) investigate *Ae. aegypti* population dynamics relative to local dispersal behaviour and foci of dengue transmission, and 2) examine the population genetics of *Ae. aegypti* dispersal. **Jennifer Schnieder** and **Ryan Hemme** completed their PhD at University of Notre Dame, Notre Dame, USA but work on this project is continuing.

5. **Longevity of *Aedes aegypti* eggs and egg hatching strategy in Trinidad**

Outline

Eggs of the *Aedes aegypti* mosquitoes are usually laid above the water-level, where they may remain viable for long periods while awaiting submergence. On flooding, however, they do not usually all hatch together, even though they may all be the same age. Indeed, hatching, even in continuously submerged eggs, may go on in small installments over a period of many months. This study is designed to determine the factors which enhance egg hatching over a one year period. **Manuscripts are in preparation.**

6. **Climate Change and Dengue outbreaks in the Caribbean** (with Prof. A. Chen, University of

the West Indies, Mona, Jamaica)

Outline

Research has revealed that the occurrence of Dengue fever is sensitive to temperature increase and rainfall; thus projections of future climate change and associated changes in the hydrological cycle are therefore cause for serious concern. The starting point of this project will be the construction of climate and epidemiological databases of past and present climate and dengue indicators for the Caribbean region. Based on these databases, retrospective and prospective studies will be undertaken to determine epidemiological patterns of dengue fever and its vectors in relation to climate. Future projections of climate for the Caribbean will be downscaled from model outputs using SRES emission scenarios. These projections together with (i) relevant socio-economic information and (ii) knowledge gathered from the database analyses will form the basis for an analysis of impacts and adaptation strategies for climate change induced dengue. A pilot project will be designed for Jamaica and Trinidad to implement an integrated system capable of monitoring vector and disease, of forecasting climate and dengue incidence, and of undertaking diagnostics and adaptation applications for the near term (next 10 years). Adaptation strategies for the longer term will be evaluated based on knowledge gained during the project and experience gained during the pilot project. **Two papers were published, as well as a book. This project is completed but work is continuing on the impact of climate change in Trinidad and Tobago.**

7. Seroprevalence of *Helicobacter pylori* in Trinidad (with Adash Ramsubhag and Gail Bacchus-Taylor).

Outline

Helicobacter pylori is a spiral shaped bacterium that lives in the stomach and duodenum (section of intestine just below stomach). It has a unique way of adapting in the harsh environment of the stomach. The inside of the stomach is bathed in about half a gallon of gastric juice every day. Gastric juice is composed of digestive enzymes and concentrated hydrochloric acid, which can readily tear apart the toughest food or microorganism. Bacteria, viruses, and yesterday's steak dinner are all consumed in this deadly bath of chemicals. It used to be thought that the stomach contained no bacteria and was actually sterile, but *Helicobacter pylori* changed that.

H. pylori is believed to be transmitted orally. Many researchers think that *H. pylori* is transmitted orally by means of fecal matter through the ingestion of waste tainted food or water. In addition, it is possible that *H. pylori* could be transmitted from the stomach to the mouth through gastro-esophageal reflux (in which a small amount of the stomach's contents is involuntarily forced up the esophagus) or belching, common symptoms of gastritis. The bacterium could then be transmitted through oral contact.

Stomach cancers (gastric adenocarcinomas) are often associated with *H.pylori* (70-90%). In an extensive review of gastric cancer and *H.pylori* the Eurogast Study Group determined that presence of *H.pylori* confers an approximately six fold risk of gastric cancer, accounting for about half of all gastric cancers. Supposedly, chronic gastritis leads to intestinal metaplasia (atrophic gastritis) which then undergoes malignant change. In the final stage *H.pylori* may no longer be detected on biopsy but immunologic studies may show evidence of past infection.

Mucosa associated lymphoid tissue (MALT) may undergo malignant change causing a low-grade lymphoma of the stomach. Retrospective biopsy studies show that 90% of such MALT lymphomas are associated with *H.pylori*. Early reports indicate about a 50% cure for localized MALT after cure

of *H. pylori*. The level of *H. pylori* infections in the general population in Trinidad is unknown and this study will provide some useful information on the prevalence, mode of contamination and possible control measures. (Ms. Nisha Mangroo a postgraduate student is conducting this project as part of her M.Phil thesis).

8. Vector Borne Disease Control in urban areas in Costa Rica and Trinidad (part of a NIH Grant with Prof. J.C. Beier, University of Miami, Florida, USA)

Outline

Vector-borne diseases, like malaria, dengue and West Nile are major public health problems in cities throughout the world. The extent of disease in each city varies largely as a function of the environment that regulates the dynamics of insect vector populations. Poverty, urban farming, water and sanitation availability, increased population movement, deteriorating infrastructure, overcrowding in urban areas, and natural disasters all contribute to the development of conditions that modify the natural habitats of insect vectors. These complex problems can best be addressed through interdisciplinary approaches, as history has shown that medical and entomological approaches alone are not sufficient. The specific aims of this project are 1) construct study designs that incorporate appropriate interdisciplinary approaches to study the ecology and control of vector-borne disease in Trinidad and Costa Rica, 2) assess current and future risk of vector-borne diseases and 3) conduct small scale field studies in Costa Rica and Trinidad using approaches obtained from the interdisciplinary information on key factors affecting temporal and spatial risks of mosquito-human contact and vector borne diseases. A postgraduate student Ms. Adriana Troyo completed her PhD at the University of Miami under my supervision and Prof. J.C. Beier, University of Miami, Florida, USA. This work is continuing in both Costa Rica and Trinidad and Tobago.

9. Biological control of the *Aedes aegypti* mosquitoes.

Outline

The study will investigate the biology, ecology and control of *Aedes aegypti* mosquitoes at the population level, with an emphasis on the factors involved in the maintenance of breeding sites and the transmission of dengue fever. A combination of classical and contemporary techniques will be used to investigate the interactions between the *Ae. aegypti* mosquitoes and their breeding sites that often result in explosive epidemics of dengue and dengue haemorrhagic fever. Our objectives are based on the general hypothesis that detailed knowledge of this interaction will identify novel tools for disease prevention and control. Our studies will involve communities infested with *Ae. aegypti* and will determine the suitability of fish as a biological control agent. We have designed experimental protocols to achieve the following specific aims:

1. Investigate *Aedes aegypti* population dynamics in water drums relative to climatic factors.

2. Examine the potential use of predatory fish like guppies (*Poecilia reticulata*) to control the aquatic larval stages of the mosquito.

A postdoctoral grant was awarded to Dr Dave Chadee, Dr. Indar Ramnarine, Dr A. Ramsubhag and Dr. J. Rampersad to conduct this project.

10. **Detection, quantification and viability** of *Cryptosporidium* spp in water.

Outline

This project will investigate the presence of *Cryptosporidium* spp in water samples from natural water courses and from potable water in Trinidad. A combination of classical and contemporary techniques will be used to quantify and determine viability of these parasites. This is especially important because the parasites are not killed during chlorination and may serve as a pathogen for gastrointestinal complications. **A postgraduate student Ms. Nneka Gill, (MSc) is currently conducting this research project under the joint supervision of Dr. Gail Baccus-Taylor and my supervision.**

11. **Evidence based public health with reference to Leptospirosis in Trinidad.**

Outline

Leptospirosis is an important bacterial zoonosis of worldwide importance. In Trinidad isolates have been reported in animals and from humans during the 1970's and early 1980's but within recent years cases have been reported but it is uncertain whether it is a major public health threat. This project is designed to identify the potential threat using an evidence based approach together with GIS tools to determine the temporal and spatial distribution of this disease. **Ms. Andrea Mohan (M.Phil student) successfully completed her Master of Philosophy in 2011.**

12. **Co-founder of two Research Clusters at the University of the West Indies, St. Augustine, Trinidad.**

1. **Tropical Medicine: Infectious Diseases Cluster (Co-Chairman** with Prof. A. A. Adesiyun). This cluster brings together academics from Veterinary School, Medical School and Department of Life Sciences

Two postdoctoral grant applications were prepared and submitted for funding. In addition, two research grants were received from the Caribbean Health Research Council.

2. **Biodiversity and Environment Cluster: Biogenics of Natural Products (Co-Chairman** with Dr. A. Maxwell, Head Department of Chemistry). This cluster brings together academics from the Department of Chemistry and Department of Life Science, Faculty of Science and Agriculture.

Research is currently ongoing on the insecticidal quality of numerous plants and two manuscripts have been prepared for publication.

13. Developed collaborations with Ministry of Health in Suriname

A project on the epidemiology of malaria in Suriname is currently being conducted. Contracts have been prepared for training, evaluation and surveillance work for the Malaria Mission in Suriname. The Business Office of the University of the West Indies, St. Augustine Campus is currently handling the scope of work and contracts.

14. Preparation and signing of a Memorandum of Understanding between UWI and the University of Alabama.

During 2008 I visited collaborators at the University of Alabama and initiated research projects on vector borne diseases. These collaborations led to the Principal of the St. Augustine Campus visiting the University of Alabama Campus and developing further mutually beneficial across campus projects/collaborations which would increase the number of courses being offered at the St. Augustine Campus of UWI.

15. Bill & Melinda Gates Foundation Grant.

This project was developed to reduce the dengue vector populations using novel lethal ovitraps. Details of this project can be provided upon request. Patents are pending and this is the major reason for no details of this work. Aspects of this project started in October 2011 and will continue until 2014.

16. International Atomic Energy Agency Research Grant

Successful integration of the Sterile Insect Technique (SIT) into area-wide programmes against the *Aedes aegypti* mosquitoes may prevent dengue transmission to the tropical regions of the world. In 2008 the International Atomic Energy Agency (IAEA) awarded a research grant entitled "Copulation vigor of sterile *Ae. aegypti* males in the field in Trinidad, West Indies" to the University of the West Indies, St. Augustine, Trinidad to examine the following objectives:

1. to determine the time of peak copulation in the field;
2. to determine the insemination status of field collected females collected during the act of copulation;
3. to determine whether sterile males maintain similar mating patterns as virile males from the field;
4. to identify wild females inseminated by sterile males following a release. **We have successfully completed two aspects of this project and this project has been renewed for the period 2009-2013.**

17. The impact of Cell Tower radiation on the health and well being of three study populations in Trinidad.

This project was developed to address the concerns raised by local and international scientists on the effects of non-ionizing radiation on people living in close proximity to cell tower bay stations. A 20 year prospective study was undertaken in 2006 at two study sites with cell towers and one control site (without a cell tower) and these sites have been monitored each year by UWI medical students. Currently we are analyzing the first 5 years of data and will continue this study until 2025.

18. The rearing of *Philornis downsi* in Trinidad

Philornis downsi is a major bird parasite on the Galapagos Islands. These parasites are affecting the Darwin finches which is now listed as endangered bird species. In order to understand the biology of *P. downsi* the International Atomic Energy Agency Awarded Professors John Agard and Dave D. Chadee a research grant to help colonize the flies so that biological control options can be developed. Work is ongoing with cage populations being maintained in the Parasitology laboratory in the Department of life Sciences, UWI, St. Augustine and research is continuing.

4. *Public, Professional and /or Extra Departmental services*

1. **Member of the Expert Committee on Defining the roles of Vector Control and Xenomonitoring in the Global Program to Eliminate Lymphatic Filariasis** (World Health Organization, Geneva)
2. **Member of the Regional Program Review Group (RPGG) for Lymphatic filariasis Elimination in the Americas** (WHO/ PAHO).
3. **Member of the CARICOM Task Force** for developing Environmental Health Courses for the region.
4. **Advisor to Costa Rica, Brazil, Dominican Republic and Trinidad Lymphatic Filariasis programs** for the Pan American Health Organization.
5. **Advisor to the Ministry of Health, Trinidad and Tobago Government on the National Public Health Laboratory Development Program**
6. **Member of the Trinidad and Tobago Cabinet Appointed Committee on Laboratory Accreditation, Trinidad and Tobago Bureau of Standards** (2004- present).
7. **Life Member** of the American Mosquito Control Association (1980- present)
8. **Fellow** of the Royal Society of Tropical Medicine and Hygiene (1989- present)
9. **Member** of Entomological Society of London (1986- present)
10. **Member** of the Society for Vector Ecology.
11. **Member** of the American Society of Tropical Medicine and Hygiene (1990-present)
12. **Member of the Editorial Board** of the Journal *Entomologia Experimentalis et Applicata* (2000-present)
13. **Member of the Editorial Board** of the *European Journal of General Medicine* (2005-present)
14. **Member of the Editorial Board** of *Annals of Medical Entomology* (1995- present)
15. **Member of the Editorial Board** of the *Open Public Health Journal* (2008-)

16. **Member of the Editorial Board of the Journal of Parasitology Research (2008-)**
17. **Member of the National Essential Health Research Council of Trinidad and Tobago (1995- present)**
18. **Member of the Management Committee of the National Essential Health Research Council of Trinidad and Tobago (2005-present).**
19. **Member of the Cabinet Appointed Working Group to determine the implications of Global Warming, Climate Change and Sea-Level rise (UWI representative) December 2005 –December 2008).**
20. **Local Secretary of the Royal Society of Tropical Medicine and Hygiene (UK) (Appointed January 2006-present).**
21. **Consultant to the Eric Williams Medical Sciences Complex Laboratory (2005-present)**
22. **Member of the Network for the Gates Funded Grant: Genetic strategies for the control of Dengue Virus Transmission (2005-2010).**
23. **Member of the Ministry of Health Dengue Task Force (2008-)**
24. **Member of the Clinical Governance and Ethics Committee, South West Regional Health Authority, Ministry of Health, San Fernando, Trinidad, West Indies (2010-**
25. **Appointed a Lead Author of Chapter 11 (Health and Climate Change) for Working Group 11, Impact, Adaptation and Vulnerability for the Fifth Assessment Report, International Panel for Climate Change (2010-2014).**
26. **Appointed Chairman of the Scientific Review Committee (SRC) of the South West Regional Health Authority Clinical Governance and Ethics Committee (2011-)**
27. **Member of the North Central Regional Health Authority Public Health Observatory Steering/Research Committee (2010-).**
28. **Member of the World Health Organization, Temporary Expert Committee to Develop Core Curriculum for Dengue vector Control Training and Workshops, April 2011, Geneva, Switzerland.**
29. **Member of the International Atomic Energy Agency Expert Panel to Advise Pakistan Dengue Control Program (October-November 2011)**

Reviewer for the following Journals: Annals of Tropical Medicine and Parasitology, Tropical Medicine and International Health, Journal of Medical Entomology, Journal of the American

Mosquito Control Association, Tropical Biomedicine, Emerging Infectious Diseases, Journal of Clinical Infectious Diseases, Transactions of the Royal Society of Tropical Medicine and Hygiene, American Journal of Tropical Medicine and Hygiene, Acta Tropica, Medical and Veterinary Entomology, Japanese Society of Tropical Medicine and others

5. *Other Activities*

President of the Tableland Rebels Cricket Club (1988 to present)

Life Member of the Barbados Cricket Association

Member of the Queen's Park Cricket Club

Cocoa Farmer since 1990

Curriculum Vitae
of
Floyd M. Homer

Present Address: #7, Latania Drive, **Citizenship:** Trinidadian
Roystonia, Couva,
Trinidad and Tobago.

Tel: 868 679-4012
Email: fmhome@gmail.com

Languages: English - Mother tongue, excellent. Spanish - fair

Education: PhD. (Forest Ecology), 1996
University of the West Indies, St. Augustine, Trinidad and Tobago.
Research area: Post-fire succession at the Melajo Nature Reserve, Trinidad.

Bachelor of Science (Natural Science) Honours, 1986
University of the West Indies, St. Augustine, Trinidad and Tobago.
Major fields of study: Botany, Chemistry, Food Technology.

Summary of Experience :

My experience over the past 20 years has been through the coordination and implementation of international and national programmes in the Caribbean and Latin American region. These programmes involved resource and land use issues related to forests, wetlands and coral reefs. The target groups for these activities were governmental agencies and NGOs, as well as community based organisations in 18 countries, involved in the management of terrestrial and marine resources. Specific responsibilities have included project design, planning and implementation, review and approval methodologies, as well as financial tracking, administration, training, monitoring, assessment, reporting, policy review and formulation, technical assistance, supervision of consultants, awareness building, liaison and negotiation, and community mobilization.

Employment History:

May 1997 - :- Independent Consultant

Major duties and responsibilities include-

Facilitating environmentally responsible development – Policy, Planning, Management, Assessment and Evaluation.

- 1996 - 1997 :- Environmental/Coastal Resources Management Officer United Nations Centre for Human Settlements (UNCHS) P.O. Box 625C, Bridgetown, BARBADOS.
- Major duties and responsibilities include -
1. Technical back-stopping for UNCHS projects in the Caribbean with management responsibility for projects in Anguilla, St. Lucia, Grenada and St. Vincent.
 2. Assistance in the integration of coastal and environmental concerns into the physical planning process in Caribbean Community (CARICOM) member states.
 3. Assistance in the compilation and analysis of related environmental indicators.
 4. Training for NGOs and government agencies in appraisal of EIAs.
 5. Contract negotiation, preparation of terms of reference and coordination of the work of environmental specialists engaged for specific tasks.
- 1994-1996 :- Coordinator-Marine Parks and Protected Areas Programme, Caribbean Conservation Association, Savanna Lodge, The Garrison, St. Michael, BARBADOS. Major duties and responsibilities include –
1. Administration and coordination of marine parks pilot projects in ten Caribbean islands.
 2. Development of training agenda and coordination of workshops for pilot project managers and park rangers.
 3. Provision of technical assistance to pilot projects in policy formulation, operational management, enforcement, research and monitoring.
 4. Liaison with regional and international agencies, fund raising, and report preparation.
 5. Contract negotiation, preparation of terms of reference and coordination of the work of specialists engaged for specific tasks.
- 1991-1993 :- Coordinator - Technical Collaboration Caribbean Natural Resources Institute Clarke St., Vieux Fort, ST. LUCIA

Duties and responsibilities included -

1. Assistance in programme development.
2. Preparation of project proposals.
3. Project administration.
4. Liaison with international and regional agencies.
5. Provision of technical assistance.

1987- 1991 :- Chief Technician, Department of Soil Science University of the West Indies St. Augustine, TRINIDAD AND TOBAGO

Other Training:

2010 :- Fundamentals of Microfinance

2010 :- Fundamentals of Corporate Governance

2010 :- Arbitration and Alternative Dispute Resolution

2009 :- Fundamentals of Risk Management

2009 :- Conflict Resolution and Negotiation Skills for Integrated Water Resources Management.

2005 :- ISO 14001 Lead Auditor.

1997 :- Implementing and Documenting an Environmental Management System. Internal Auditing for Environmental Management Systems.

1994 :- Microsoft Project.

1991 :- Computer Literacy, trouble-shooting and minor repairs.

1989 :- Mass Media Application for Public Natural Resource Education.

1986 :- Advanced Open Water Diver (PADI).

Short term assignments undertaken within last 10 years

- Multilateral Environmental Agreements Unit, Environment Policy and Planning Division, Ministry of Housing Environment and Water Resources, Trinidad & Tobago
Assignment: Biodiversity Specialist Oct. 2011-
- UN Food and Agriculture Organisation, Barbados
Assignment: Trainer on Disaster Risk Management in the agricultural sector. Sep. 2011
- The Trust For Sustainable Livelihoods
Assignment: Design, implement and manage reforestation of 50 hectares of degraded lands in south Trinidad. Jul. 2011 – Oct. 2012
- National Commission for Self Help, Trinidad & Tobago
Assignment: Preparation of policy manual for administration, procurement, human resources management and operations of the institution. Mar. – May 2011
- CAB International
Assignment: Revision of the Caribbean Invasive Alien Species Strategy. Feb. – Jun. 2011
- Government of Anguilla
Assignment:- Technical assistance to soil amelioration project and preparation of best soil management practices policy. Jun. 2010 – May 2011
- British Gas International Limited.
Assignment:- Determine the impacts of gas flaring on an adjacent forest in south Trinidad. Mar. - Apr. 2010
- Government of Anguilla
Assignment:- Facilitate a process of broad-based consultation and identify the future role for the Department of Agriculture. Sep. 2009
- CARICOM Climate Change Centre, Belize
Assignment:- Coordinate International Technical Forum on Climate Change Adaptation for the Commonwealth of Dominica. Aug. - Oct. 2009
- Government of St Kitts and Nevis
Assignment:- Assessment of Capacity Building Needs and Country Specific Priorities for Biodiversity Conservation. Jul. 2009 – Dec. 2010
- The Nature Conservancy and Dept. of Fisheries, The Bahamas
Assignment:- Development of a Management Plan for the South Berry Islands Marine Reserve, The Bahamas. Jul-Aug. 2009
- Union Island Environmental Attackers, St Vincent and the Grenadines
Assignment:- Preparation of the strategic management plan for Clifton Harbour, Union Island. Oct. – Dec. 2008

- Institute of Marine Affairs, Trinidad & Tobago Assignment:- Evaluation of the Status of Mangroves at Pt. Lisas, Trinidad.	Feb. – Mar. 2008
- UNDP, Guyana Assignment:- Evaluation of Capacity Building for the Management of Natural Resources and the Environment Project, Guyana.	Dec. 2007
- Water and Sewage Authority, Trinidad & Tobago Assignment:- Training in Evaluation of Environmental Impact Assessment Reports.	Nov. 2007
- Government of Anguilla Assignment:- Preparation of the National Biodiversity Strategy and Action Plan.	Oct. 2007 – Nov. 2008
- Ocean Earth Technologies, USA Assignment:- Ecological Survey of Resort Site at Flat Cap Point, Anguilla.	Oct. 2007
- National Quarries Company Ltd. – Trinidad and Tobago Assignment:- Environmental Impact Assessment of Operations at the Turre Estate.	Jul.- Dec. 2007
- GEF Small Grants Programme, UNDP – Barbados Assignment:- Preparation of the SGP Country Strategy Programmes for Grenada and St Vincent and the Grenadines.	Jun.- Aug. 2007
- Ocean Earth Technologies, USA Assignment:- Ecological Survey of Rendezvous Bay, Anguilla.	Jan. 2007
- Environmental Management Authority- Trinidad & Tobago. Assignment: Preparation of the Technology Needs Assessment for climate change in Trinidad and Tobago.	Sep. –Dec. 2006
- British Gas International Limited. Assignment:- Evaluate soil erosion and slope stabilization works at the BG Central Block in south Trinidad and provide training in erosion control.	Jul. – Dec. 2006
- British Gas International Limited. Assignment:- Develop and implement a monitoring programme to determine the impacts of gas flaring on an adjacent forest in south Trinidad.	Mar.- Nov. 2006
- Government of St Kitts and Nevis Assignment:- Preparation of the National Action Plan under the UN Convention to Combat Desertification.	Dec. 2005 –Apr. 2006
- Environmental Management Authority – Trinidad and Tobago Assignment:- Preparation of the Third National Report under the UNCBD (with The Trust For Sustainable Livelihoods)	Aug. 2005- Jan. 2006
- Environmental Management Authority – Trinidad and Tobago Assignment:- Stocktaking and preparation of the proposal for the Second National Communications under the UNFCCC.	May – Oct. 2005

- Government of St Kitts and Nevis
Assignment:- Implementation of the National Capacity Self-Assessment for commitments under the UNFCCC, UNCBD and UNCCD. May 2005- Feb. 2006
- Government of Belize
Assignment:- Quality control/assurance of the Stocktaking and Assessment of capacity constraints in the implementation of the UNCBD. May 2005-Jun. 2005
- Mesoamerican Barrier Reef Systems Project of the Central American Commission for Environment and Development/National Protected Areas Policy and System Plan Project, Belize
Assignment:- Assess and analyse existing Protected Areas Legal, Administrative and Management Structure and Recommend New Framework Feb. 2005-May 2005
- Government of Anguilla
Assignment:- Revision of the National Environmental Management Strategy and Action Plan. Nov. 2004-Dec. 2004
- Government of the Commonwealth of Dominica
Assignment:- Develop strategy and action plan for capacity building related to biodiversity conservation. Nov. 2004-Dec. 2004
- Carana Corporation – Barbados
Assignment:- Develop recommendations for programming in the areas of farming and forestry for Grenada following the impact of Hurricane Ivan. Oct. 2004
- Organisation of Eastern Caribbean States, Environment and Sustainable Development Unit - St. Lucia
Assignment:- Preparation of the National Environmental Management Strategy and Action Plan for the Governments of Antigua/Barbuda, and St Kitts/Nevis. May -Aug. 2004
- Environmental Management Authority – Trinidad & Tobago
Assignment:- PDF Block B proposal preparation for the assessment of national implementation of activities under selected capacity for the multilateral agreements. Nov. 2003- Apr. 2004
- United Nations Volunteers – ARLAC, Bonn, Germany
Assignment:- Evaluation of UNV Caribbean Programme in Support of GEF SGP. Jul-Aug. 2003
- Organisation of Eastern Caribbean States, Environment and Sustainable Development Unit - St. Lucia
Assignment:- Preparation of the National Environmental Management Strategy and Action Plan for the Government of St Vincent and the Grenadines. Jul.2003-Jan. 2004
- United Nations Educational, Scientific and Cultural Organisation – Office for the Caribbean, Jamaica
Assignment:- Preparation of a proposal for natural disaster management in the Caribbean. Apr-May 2003
- Special responsibilities within last 5 years**
- Director, Cunupia Farmers Association – Trinidad Jul. 2012-
- Facilitator, Proposal Preparation Workshop – St Lucia.
(Trust for Management of Rivers) Jul. 2010

- Facilitator, Integrated Water Resources Management for Media Personnel Regional Workshop – Barbados (Global Water Partnership-Caribbean)	Dec. 2010
- Trainer, Review of EIA Reports Workshop – St Kitts and Nevis. (Government of St Kitts and Nevis/SUSTRUST)	Jul. 2010
- Trainer, Communicating Information in Training of General Audiences Workshop – Trinidad. (Forestry Division/SUSTRUST)	Nov. 2009
- Producer, Video documentary on “Beyond the Curve” - Trinidad (National Quarries Company Ltd)	Aug. 2009
- Member, Steering Committee, Global Water Partnership-Caribbean	May 2009 – Apr. 2011
- Trainer, Introduction to NGO Governance Workshop – St Lucia. (The Trust For Sustainable Livelihoods)	Apr. 2009
- Trainer, Training of Trainers in Marine Protected Areas Management: Management Planning and MPA Management – Tobago. (UNEP/CAMPAM)	Mar. 2009
- Producer-Video documentary on “Anguilla: Biodiversity is our business” (Government of Anguilla/SUSTRUST)	Aug. 2008
- Director, Todd’s Road Citrus Farmers Association – Trinidad	Apr. 2008 – Jul. 2009
- Coordinator/Author, Implementation of the Mauritius Strategy-Progress Report for May 2006 to April 2007- Trinidad and Tobago. (SUSTRUST/Government of Trinidad and Tobago)	Aug. 2007
- Coordinator/Lead Resource Person-Leadership in Governance of Protected Areas Workshop – Anguilla. (WCPA-Caribbean/SUSTRUST/IUCN-US/USNPS)	Nov. 2006
- Resource Person–Natural Heritage, National Workshop on the World Heritage Convention and National Tentative Lists-Trinidad & Tobago. (UNESCO World Heritage Centre)	Aug. 2006
- Resource Person–Natural Heritage, Sub-regional conference on Outstanding Universal Value, Authenticity and Integrity in a Caribbean Context-Barbados. (UNESCO World Heritage Centre)	May 2006
- Resource Person–Natural Heritage, Regional Training Workshop for the Caribbean on Marine World Heritage-St Lucia. (UNESCO World Heritage Centre)	Feb. 2006

Professional and Honorary Societies :

Institute of Ecology and Environmental Management
IUCN World Commission on Protected Areas

The British Ecological Society
Society for the Environment

Dr. Howard P. Nelson

Department of Life Sciences, University of the West Indies, St. Augustine, Trinidad and Tobago
Telephone: 868 662 2002 ext 83739 Email:howien@hotmail.com

Birth date:	8 July 1966	Citizenship:	Trinidad & Tobago
Phone:	1 868 788 5291	Marital status:	Married

Synopsis

- Lecturer in Life Sciences with 15 years' experience teaching wildlife ecology and forestry;
- Twenty years' experience in biodiversity management, policy and planning in a broad spectrum of governance settings ranging from Government, NGO to academia;
- Over 20 years' experience in wildlife and tropical forestry research in the Caribbean;
- Extensive service on national, regional and international committees and organisations related to biodiversity conservation

Education

1997 – 2004 University of Wisconsin-Madison, Wisconsin, United States
Doctor of Philosophy (Ph.D.), Double Major: Wildlife Ecology, Forestry
'Tropical forest ecosystems of Trinidad: Ecological patterns and public perceptions'.
Supervisors: Professor Stanley A. Temple and Professor Raymond P. Guries

1993 - 1996 The University of the West Indies, St Augustine, Trinidad
Master of Philosophy Degree (M.Phil.), Major: Zoology
'Ecological studies of forest mammals in the West Indies, with a focus on Trinidad.'
Supervisors: Professor Stanley A. Temple and Dr. Mary Alkins-Koo

1985 - 1989 The University of the West Indies, St Augustine, Trinidad
Bachelor of Science Degree (B.Sc.), Major: Zoology, Minor: Chemistry

OTHER TRAINING AND QUALIFICATIONS

2010 The University of the West Indies, Open Campus
Managing and Facilitating Online Instruction (Certificate)

2010 University of Oxford:
Biodiversity Informatics Workshop (Co-Organiser)

Current Position

2012-Present. **Lecturer**, Department of Life Sciences, University of the West Indies, St. Augustine, Trinidad West Indies.

Responsibilities include: Administration and management of the MSc in Biodiversity Conservation and Sustainable Development in the Caribbean involving 4 higher education

institutions (University of Belize, University of Guyana, Anton de Kom University of Suriname), and over 30 graduate students.

Courses taught/coordinating:

Environmental Resources Policy, Conservation and Management of Biodiversity, Principles and Practice of Geoinformatics, Advanced GIS, Threats to Tropical Biodiversity, Sustainable Use and Development of Natural Resources.

Previous Employment

- 2009 - 2011. **Project Manager and Scientific Coordinator**, European Union-funded Edulink Biodiversity Project, Office of Research Development and Knowledge Transfer, Office of the Campus Principal, University of the West Indies-St. Augustine.
Responsibilities: Administration and project management for a new regional MSc involving 4 universities (University of Belize, University of Guyana, Anton de Kom University of Suriname, Oxford University), including a needs analysis, course development and student supervision.
- 2009 – 2010. **Consultant**, Environmental Management Authority.
Review of Certificates of Environmental Clearance process to increase stakeholder knowledge of biodiversity issues through a programme known as the Compliance Assistance Programme.
- 2009 – 2010. **Consultant** Strategic Environmental Services (SES)
Conducting rapid terrestrial mammal survey in a tropical forest designated for potential development by the oil and gas industry.
- 2008 – 2009. **Biodiversity Specialist**, Multilateral Environmental Agreements Unit, Ministry of Planning, Housing and the Environment.
(One-year contract position for National Capacity Self Assessment Project.)
Responsibilities: To advise on national policies related to implementation of the Convention on Biological Diversity, Biosafety Protocol, UN Convention to Combat Desertification and the Global Environment Facility.
- 2007 - 2008. **Consultant**. Caribbean Natural Resources Institute, Aripo Savannas – Environmentally Sensitive Area (AS-ESA) Management Plan Project.
Responsibilities Conduct training for community groups on use of GPS and GIS in protected areas management; Focus group facilitation for development of a resource management plan for the AS-ESA; Preparation of a biodiversity management plan for the AS-ESA; **Accomplishments:** Prepared a natural resources management and implementation plan.
- 2005 – 2008. **Chief Executive Officer**, Asa Wright Nature Centre, Trinidad, W.I.
Responsibilities: Fiscal and administrative oversight of a 74-person ecotourism facility with an annual budget of US\$1.4 million; Management of an education and community outreach programme reaching 3,000 school children annually.
Accomplishments: Creation and recruitment of new 2-person education and community outreach unit; initiated development of new US\$900,000 administrative facility using “green” building design; establishment of community education outreach programme.
- 2003 – 2008. **Manager, Environmental Conservation**, Asa Wright Nature Centre, Trinidad. W.I.
Responsibilities: Management of the William Beebe Tropical Research Station (WBTRS) at Simla, Trinidad; management and restoration of the Nature Centre’s 1300-

- acre tropical forest; provision of technical advice to visiting students and professors to the WBTRS. **Accomplishments:** Completion of US\$100,000 restoration of WBTRS; 200% increase in field station use by visiting ecologists; secured US\$40,000 for the publication of the 3rd edition Birds of Trinidad and Tobago by Richard French; secured funding from US Forest Service for a regional bird monitoring workshop at the WBTRS in 2009.
- 2000 – 2001. **Environmental Biologist**, Ministry of the Environment, Trinidad and Tobago
Responsibilities: To advise on national policies related to implementation of the Convention on Biological Diversity, Biosafety Protocol, UN Convention to Combat Desertification and the Global Environment Facility; development of protected areas systems, and wildlife conservation policy.
- 1998 – 1999. **Fauna Specialist & Assistant to Team Leader**, National Biodiversity Strategy and Action Plan, Trinidad and Tobago. Environmental Management Authority (EMA).
Responsibilities: Preparation of an analysis of the state of the country's fauna; administrative assistant to the Team Leader **Accomplishments:** Completion of report of status of Trinidad and Tobago's fauna; editorial review of final draft National Biodiversity Strategy and Action Plan.
1996. **Natural Resources Specialist**, United Nations Development Program Case Study for Capacity 21 Programme: The Asa Wright Nature Centre as an ecotourism model.
Responsibilities: Preparation of a study on the ecotourism model used by the Asa Wright Nature Centre and its potential application for habitat conservation.
Accomplishments: Publication of final report on the Asa Wright Nature Centre's ecotourism experience.
- 1989 - 1995. **Biologist**, Wildlife Section - Forestry Division. **Responsibilities:** enforcement/ implementation of the Convention on International Trade in Endangered Species (CITES). Design/management of endangered species projects on mammals and birds (e.g. radio-telemetry studies of ocelots), enforcement of national wildlife legislation. Assisted co-ordination and training of community-based conservation groups.
1992. **Local Co-ordinator**, Caribbean CITES Implementation Training Seminar, Mount Hope, Trinidad, in conjunction with the CITES Secretariat, US Fish and Wildlife Service and TRAFFIC USA. Prepared seminar discussion paper: CITES Networking.

Research Grants and Scholarships

RESEARCH GRANTS AND FUNDING RECEIVED

2012. **US\$ 14,000** UNEP TEEB follow-on project developing TEEB gap analyses in the Caribbean.
2012. **US\$ 18,000.** Government of Trinidad and Tobago, to organise a joint UWI/Forestry Division national conference on forest research and prepare a conference publication, in commemoration of International Year of Forests.
2011. **US\$ 62,000** UNEP to organise a Caribbean Regional Training Workshop on The Economics of Ecosystems and Biodiversity (TEEB).
2011. **Open** Repsol Oil Company, undertaking on-going marine biodiversity research projects within Biodiversity Management Programme within the Teak-Samaan-Poui Block Oil Field, S.E. Coast Trinidad

2011. **US\$ 100,000** UNEP to organise and host the Group of Latin America and the Caribbean (GRULAC) meeting of Ozone Officers under the Montreal Protocol.
2010. **US\$ 20,000.** Government of Trinidad and Tobago, for organisation of a joint UWI/Ministry of Housing and Environment national conference on biodiversity and prepare a conference publication in commemoration of the International Year of Biodiversity.
2008. **US\$16,000.** Birdlife International, for a stakeholder conference and community-led field research on the critically endangered Trinidad Piping Guan (*Pipile pipile*).
2007. **US\$60,000.** Government of Trinidad and Tobago, Forestry Division of Trinidad and Tobago *National Wildlife Survey for Trinidad and Tobago*
2007. **US\$20,000** Government of Trinidad and Tobago's Environmental Management Authority. *Population dynamics of the threatened orchid *Cyrtopodium parviflorum*.*
- 2003 **US\$7,000 Rufford Small Grants** Programme Research project – Biodiversity of the Madamas River Valley
2003. **US\$4,000 Royal Geographic Society** Research project - Biodiversity survey of the Madamas River Valley
- 2002 **Marie Christine Kohler Fellowship** awarded by the Knapp Memorial Graduate Centre, The Graduate School, University of Wisconsin Madison.
2002. **US\$2,000 Graduate Student Research Grant** from the Zoological Society of Milwaukee County for research on "Survey of Public Attitudes to Conservation in Trinidad and Tobago."
1998. **US\$2,000 Graduate Student Research Grant** from the Zoological Society of Milwaukee County for research on "Ecosystem classification for the island of Trinidad"
1996. **US\$1,000 Graduate Thesis Completion Grant** from the University of the West Indies.

RESEARCH ACTIVITIES

- 2011 – present. **Principal Investigator**, *Development of practical assessment tool to determine harvest rates of game species in Grenada.* Funded under the FAO TCPF Programme, in collaboration with the Forestry Department, Government of Grenada.
- 2009 – present. **Principal Investigator**, *Breeding seabird survey of offshore islands,* Collaborators: Wildlife Section – Forestry Division, Caribbean Forest Conservation Association, Environmental Management Authority. **Facilitated by Trinidad and Tobago Coast Guard (in-kind).**
- 2007 - present. **Research Collaborator**, *National Wildlife Survey for Trinidad and Tobago.* Coordinating/Funding agencies: Forestry Division of Trinidad and Tobago and the

University of the West Indies-St. Augustine.

- 2007 - present. **Principal Investigator**, *Population dynamics of the threatened orchid *Cyrtopodium parviflorum**. Collaborators: Trinidad and Tobago Orchid Society.
- 2007 – present. **Research Associate**, Status and conservation of the Trinidad Piping Guan, World Pheasant Association, Fordingbridge, United Kingdom.
- 2008 – 2010 **Chair**, Pawi Study Group. Assisted in direction of NGO-based research on the critically endangered Trinidad Piping Guan (*Pipile pipile*).
- 2005 – 2008. **Local Collaborator**. Darwin Initiative funded *A biodiversity monitoring system for Trinidad and Tobago*. Project with Dr. Nick Brown (P.I.) and Dr. Steven Harris of the Department of Plant Sciences, University of Oxford.
2005. **Principal Investigator**, *Non-volant small mammal survey* of a premontane forest at the Asa Wright Nature Centre using live trapping.
- 1997- 2004. **PhD research**, *Natural upland forests* of Trinidad and Tobago (tree and avian species distributions), and study of human attitudes to biodiversity. This research used extensive GIS modelling and vegetation and avian sampling techniques, as well as social survey techniques.
2003. **Principal Investigator**, *Madamas River Valley expedition*. Elevational transect study of the birds, terrestrial mammals, bats and vegetation of a potential national park, using a wide variety of sampling techniques.
- 1993 – 1996. **M.Phil. research**, *Terrestrial mammalian communities* of Trinidad. This study included 11 months of live mammal trapping for ocelots (*Leopardus pardalis*) and small mammals, use of line transect surveys and infra-red remote cameras in a protected area in south-eastern Trinidad.
1993. **Principal Investigator**, *Field survey of status of the endemic Tobago Striped Owl (*Asio clamator oberi*)*. Presented to the Society for Caribbean Ornithology's Annual Conference (1993), Playa Giron, Cuba.
1992. **Wildlife Section coordinator**, *Hollis Reservoir biodiversity survey*, with the University of the West Indies and the Ecosystem Sustainability Initiative, The Open University (UK)
1992. **Project Coordinator**, *Technology transfer* between the US Forest Service and Forestry Division, development of canopy- platforms for census of parrot populations.

Teaching Experience

- 2009 – 2011. **Assistant Lecturer**, Department of Life Sciences, University of the West Indies
Course: **The Practical Toolbox**; Level: MSc in Science and Management of Tropical Biodiversity; No. of students: 20.

2009. **Assistant Lecturer**, Department of Life Sciences, University of the West Indies, St Augustine. Course: **General Ecology and Biometry**; Level: Introductory undergraduate; No. of students: 10
- 2004 – 2007. **Assistant Lecturer**. Department of Life Sciences, University of the West Indies, St Augustine. Course: **Conservation Biology**; Level: Advanced undergraduate; No. of students: 140.
2005. **Visiting Lecturer**. Department of Biological and Chemical Sciences, University of the West Indies, Cave Hill, Barbados, West Indies. Course: **Human Ecology and Conservation**; Level: Advanced undergraduate; No. of students 15.
- 2000– 2001, 2004. **Guest Lecturer**. Department of Animal Production, University of the West Indies, St. Augustine. Course: **Zoo and Wildlife Management**; Level: Graduate.
- 1997, 2002. **Teaching Assistant**, Department of Wildlife Ecology, University of Wisconsin, in course on biodiversity conservation. Course: **Extinction of Species**; Level: Intermediate undergraduate.
- 1991 – 1996, 1998. **External Lecturer**, Eastern Caribbean Institute of Agriculture and Forestry, Trinidad. Course: **Wildlife Management**; Level: Para-professional.
- 1993 - 1994. **Workshop Leader**, CITES enforcement for the Trinidad and Tobago Customs and Excise Training School.

Selected Invited Lectures/Seminars

2012. Lecture in commemoration of World Forestry Day – “*Forests for the Future, Forests for People.*” to the staff of Atlantic-LNG, Point Fortin, Trinidad.
2011. Lecture on “*Managing Changing Caribbean Forest Landscapes – Challenges and Opportunities*”, for the Jamaica Forestry Department, on the occasion of International Year of Forests (IYF) celebrations, Kingstown, Jamaica.
2011. Lecture to the 15th Annual Health, Safety, Security and Environment (HSSE) Conference and Exhibition of the American Chamber of Commerce of Trinidad & Tobago on “Title: “*The National Protected Areas and Forests Policies: A Paradigm Shift in Natural Resources Management*”, Port of Spain, Trinidad.
2011. Lecture to the National Conference for Environmental Management, on “*Defining a future for biodiversity in Trinidad and Tobago*”, the University of the West Indies, St. Augustine, Trinidad.
2009. Lecture on “*Bird Monitoring Techniques*” for US Forest Service-funded Regional Bird Monitoring Workshop at William Beebe Tropical Research Station, Arima, Trinidad.

2007. “Introduction of line transect surveys” (including data analysis using DISTANCE). Lecture to the Wildlife Section, Forestry Division, Trinidad. 2-day Training workshop for National Wildlife Survey. St. Joseph, Trinidad.
2007. “Vanishing mammals: Our state of unknowing”. Lecture for the Environmental Management Authority, World Biodiversity Day Workshop on endangered species. Arima, Trinidad.
2006. “Research for Recovery: A field study agenda for the critically endangered Trinidad piping guan”. Workshop on the status of the Pawi (Trinidad Piping Guan). The University of the West Indies, Grande Riviere, Trinidad.
2006. *Prioritizing species for Environmentally Sensitive Species listing – Non-volant mammals*. Stakeholder Consultation. Environmental Management Authority, Port of Spain, Trinidad. (Conducted/presented PVA analysis for the ocelot, and 12 other large mammals in Trinidad and Tobago using VORTEX).

Graduate Student Supervision/Co-Supervision

- 2009 – present. Supervision/co-supervision **16 MSc. students** working on aspects of biodiversity conservation in Trinidad and Tobago, through weekly research lab meetings at UWI-St. Augustine including:
- Kele Taylor: *Population Density Estimate of the Cook’s Tree Boa (Corallus ruschenbergii) in the Caroni Swamp, Trinidad*. – Graduated
 - Darshan Narang: *Population Dynamics and General Ecology of An Introduced Primate – The Tufted Capuchin (Cebus apella) In Chaguaramas, Trinidad*. – Graduated with Distinction.
 - Nikita Ali: *An overview of the factors influencing community structure on Tobago’s coral reefs*. – Graduated.
 - Bethia Daniel: *Imposex in Marine Gastropod Molluscs in St. Lucia and its Relationship to Boating Intensity*. – Graduated with Distinction.
 - Hanaa Bhagratty: *Population density of the silky anteater (Cyclopes didactylus) in the Caroni Swamp, Trinidad*. - Graduated.
 - Paige Fifi: *The Distribution and Abundance of Avifauna on the Northern and South Eastern Coasts of Trinidad* – thesis submitted
 - Keisha Manaure: *Conservation status of the endemic tree fern (Cyathea sagittifolia)*. - thesis submitted.
 - Danielle Morong: *Distribution of the invasive frog Eluthrodactylus johnstoneii in Trinidad*. – thesis submitted
 - Vishnu Debie: *Phenology of body condition indices in the banana-quit in Trinidad* – thesis submitted.
 - Jody Belcon: *Phylum Porifera (Sponges): Status of Black Jack Hole, Tobago 2008-2010*. – thesis submitted.
 - Janielle Bacchus: *Genetic diversity in Jamaican Cocoa strains*. – project underway.
 - Jijaya Frankstan-Paul: *Survey of marine gastropods in Trinidad for imposex* – project underway.
 - Jenelle Sobion: *Analysis of 10 years of agouti MDF hunting data* – project underway.
 - Jaya Sookraj: *GIS modelling of fire frequency in Trinidad using MODIS satellite data* – project underway.

- Rachel Amoroso: *Survey of beach macro-fauna on disturbed and undisturbed beaches in Trinidad* - project underway.
- Maritsa Harry: *Distribution of the rare orchid Otostylis brachystalix in Aripo Savannas* - project underway.

Current M.Phil/Ph.D. students I am supervising/co-supervising include:

- Aleesha Naranjit: *Impact of by-catch on cetaceans in Trinidad*.

1997 – 2004. During my PhD field research I supervised and mentored over 20 undergraduate students from both the UW-Madison and the University of the West Indies who participated as volunteers.

Participation in National Boards and Committees

- 2011 – present. **Member** – Cabinet-appointed Technical Advisory Committee for the development of a **National Wildlife Policy for Trinidad and Tobago**.
- 2007 – present. **Member** - Guardian Life Wildlife Trust. Funding secured for 2010: US\$150,000 from UNDP, for public education grant on the Trinidad Piping Guan developed for the Guardian Life Wildlife Trust and the Asa Wright Nature Centre.
- 2009 – 2012. **Member** – Asa Wright Nature Centre Board of Management.
- 2008 – 2010. **Chairman** – Cabinet-appointed Green Fund Advisory Committee. (A technical committee which advises the Minister of Planning, Housing and the Environment on the use of a US\$300 million community conservation fund in Trinidad and Tobago).
- 2008 – 2010. **Chair** – Pawi (Trinidad Piping Guan) Study Group, University of the West Indies. (Member 2004-present).
2007. **Chair** - Council of Presidents of the Environment (An umbrella organisation for environmental NGOs in Trinidad and Tobago) (Member 2004 – 2007).
- 2007 - 2009. **Member**, Cabinet-appointed Technical Advisory Committee for Development of a **National Forest Policy and National Parks and Protected Areas Policy for Trinidad and Tobago**.
2007. **Vice-chair**, Programme (Curriculum) Advisory Council for Forestry – Eastern Caribbean Institute for Agriculture and Forestry (ECIAF).
- 2006 – 2007. **Member** – Cabinet-Appointed Honorary Game Warden’s Administrative Committee.
2006. **Member** – Biodiversity Advisory Committee - Environmental Management Authority.
- 2000 – 2001. **Representative** of Trinidad and Tobago's Ministry of the Environment on the **National Biodiversity Task Force** of the Environmental Management Authority.
- 1991 - 1994. **Member**, Trinidad and Tobago's **National CITES Network**.

Participation in International Boards and Committees

- 2010 – present. **Vice-President** – Society for the Conservation and Study of Caribbean Birds (SCSCB).
- 2006 – present. **Member of Board of Directors. Explore** – a U.S.-based NGO involved in sustainable coastal development issues and their impacts on critically endangered wildlife and habitats, and preservation of local cultures. (Current Project: Conservation of coastal habitats of Puerto Los Cabos, Baja, Mexico).
1994. **Vice-Chair of 31st Standing Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).**
1994. **Regional Representative** for Central America, South America and the Caribbean at the **Standing Committee** of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- 1992 - 1994. **Country Representative** to the Society for Caribbean Ornithology.

Publications

BOOK EDITORSHIPS

Lawrence, A and **H. P. Nelson**. 2010. *Proceedings of the first Research Symposium on Biodiversity in Trinidad and Tobago – International Year of Biodiversity 2010*. Department of Life Sciences, UWI, St. Augustine, 146p.

BOOKS

Nelson, H.P., J. Garraway and C. J. James. 1999. *Ecotourism as a Strategy for Sustainable Development – The Experience of the Asa Wright Nature Centre*. United Nations Development Programme, Port of Spain, Trinidad

Nelson, H.P. and E.S. Nelson. *A field guide to the mammals of Trinidad and Tobago. (in prep.)*

SCIENTIFIC PAPERS

Taylor, K, **Nelson H. P.**, and A. Lawrence. 2010. *Population Density of the Cook's tree Boa (Corallus ruschenbergii) in the Caroni Swamp, Trinidad*. In Proceedings of the first Research Symposium on Biodiversity in Trinidad and Tobago – International Year of Biodiversity 2010. Department of Life Sciences, UWI, St. Augustine p:8-18.

Narang, D., **Nelson, H. P.**, and A. Lawrence. 2010. *Demography and general ecology of an introduced primate – the tufted capuchin (Cebus apella) in Chaguaramas, Trinidad*. In Proceedings of the first Research Symposium on Biodiversity in Trinidad and Tobago – International Year of Biodiversity 2010. Department of Life Sciences, UWI, St. Augustine p:19-29.

Khan, I., Starr, C. K., **Nelson, H. P.** and Andrew Lawrence. 2010. *Spatial and Temporal Diversity in Ground Level Fruit Feeding Butterflies*. In Proceedings of the first Research Symposium on Biodiversity in Trinidad and Tobago – International Year of Biodiversity 2010. Department of Life Sciences, UWI, St. Augustine p:30-41.

Fanovich, L., **Nelson, H. P.**, and A. Lawrence. 2010. *Spatial Distribution of intertidal benthic macrofauna in three sandy beaches in Trinidad*. In Proceedings of the first Research Symposium on Biodiversity in Trinidad and Tobago – International Year of Biodiversity 2010. Department of Life Sciences, UWI, St. Augustine p:55-71.

Nelson, H. P., Omah-Maharaj, I., Nathai-Gyan N., and A. Ramnarine. 2010. *Population density of the agouti *Dasyprocta leporina* at the Central Range Wildlife Sanctuary, Trinidad*. In Proceedings of the first Research Symposium on Biodiversity in Trinidad and Tobago – International Year of Biodiversity 2010. Department of Life Sciences, UWI, St. Augustine p:123-129.

Nelson, H. P., Laurent, S., McMillan C., and E. Devenish-Nelson. *Life and death in the savannas – a study of the rare terrestrial orchid *Cyrtopodium parviflorum* Lindl. (1843)*. In Proceedings of the first Research Symposium on Biodiversity in Trinidad and Tobago – International Year of Biodiversity 2010. Department of Life Sciences, UWI, St. Augustine p:136.

Nelson, H. P. and Nelson, E.S. Population Density of Small Mammals in the Arima Valley, Trinidad. *The Living World: Journal of the Trinidad and Tobago Field Naturalists Club* 2008: 8 -14

Devenish, E.S., **Nelson, H.P.**, Lucas, F. and Erdmann, E. 2007. A Preliminary Assessment of the Species Richness of the Madamas Watershed: A proposed National Park. *The Living World: Journal of the Trinidad and Tobago Field Naturalists Club* 2007: 69-78

PAPERS IN PREPARATION

Nelson, H.P. Predicting extinction risk of terrestrial mammals on the island of Trinidad.

Nelson, H. P., Laurent, S., McMillan C., and E. Devenish-Nelson. Reproduction, mortality and conservation status of an isolated population of *Cyrtopodium parviflorum* on the island of Trinidad.

TECHNICAL REPORTS

Nelson, H. P., Nathai-Gyan N., and I. Omah-Maharaj. 2012. Central Range Pilot Wildlife Survey 2007: Final Report to the Wildlife Conservation Committee (WLCC) 33pp.

McGowan, P., Devenish, C., Bobb-Prescott N. and **H. P. Nelson**. 2010. Pawi species recovery strategy. The Pawi Study Group, World Pheasant Association and Birdlife International. 25pp.

Nelson, H. P. 2007. An Introductory Manual for Wildlife Transect Surveys For The Pilot National Wildlife Survey. 15pp.

Nelson, H.P. 2007. Aripo Savannas Environmentally Sensitive Area – Resource Management Plan. CANARI. 44pp.