

Raul Ernesto Sedano Cruz

Education

08/2004 to 05/2007. MS in biology (emphasis: in evolutionary biology and systematics). San Diego State University, CA, US.

08/91 to 11/97. Biologist with emphasis in genetics. Universidad del Valle. Cali, Colombia.

Professional experience

IN PROGRESS. TEACHING ASSISTANTSHIP FOR LIFE SCIENCE COURSE I.

Tanager-Finches phylogeny

08/04-05/06. Research Assistant at Kevin Burns NSF project at San Diego State University. Collecting, sequencing and phylogenetic simulations.

USFS/USDA

05/02 to 09/02. I was an intern at USFS McKenzie River Ranger District, OR. Monitoring Avian Productivity and Survivorship for the Institute for Bird Populations (IBP): Mist netting and banding tempered forest birds.

International Center for Tropical Agriculture (CIAT).

12/97 to 01/00. Research Assistant at the virology unit: working at Molecular plant's viruses characterization, In this field I had worked with 26 plant species (*Solanum*, *Capsicum*, *Oryza*, *Phaseolus*, *Vitis*, *Nicotiana*, Araceae, sugarcane, watermelon and tropical fruits), 20 viruses strains, tissue conservation, methodology of DNA/RNA purification, nested PCR and RT-PCR, RFLP, Cloning systems, Sequencing (automated and old stuff), Primer design, AFLP, RAPDs, several software for DNA/Protein analysis, tons of reports, advise visitors and new personal in Lab and green house operation.

01/01 to 01/03. research assistant of wetland (rice) pathogens: Understanding plant-viruses-insects interactions around rice necrotic strike virus, germoplasma bank screening, green house operation of hundreds of material, microscopic identification fungi stages in rice roots. biosafety to control agents like aphid-virus and soil-borne virus, experimental design, ELISA and western Blot, statistical analysis, SAS software operation, results presentations.

03/03 to 01/04. research assistant of Bacteria-plant interactions in tropical environments: Cells management, DNA/Plasmid isolations, Nested PCR targeting specific nitrogen fixing genes, Antibacterial treatment for plants *in situ*, *Ex situ* plant conservation, Statistical support for colorimetric methods to test plant microbial response.

Undergraduate Experience

NGO CALIDRIS (for study and protect waterbirds in Colombia)

03/01-03/03

02/96 to 11/97. Undergraduate work was to describe human immunoresponse to the endemic virus in Colombia HTLV-I at the Molecular Laboratory at Universidad del Valle. Oriented by Felipe Garcia, Ph D. Associated Professor at the Universidad del Valle.

11/97 Undergraduate teaching assistantship at 'Universidad del Valle' for the following courses Biology 01, Biochemistry and Evolution

Publications (translation of titles appear in brackets at the end of each reference)

Sedano R and Burns K. Phylogeny and Biogeography of Mountain Tanagers. (Submitted JOB).

Sedano R. D. Fajardo and M. Reyes. Descripción de la anidación, comportamiento de forrajeo y las vocalizaciones del carpinterito gris (*Picumnus granadensis*). *Revista de Ornitología Colombiana* 6(2008) 5-14

Sedano R. 2003. Los humedales y la ocupación de aves en los cultivos de arroz. *In: Foro Arrocero Latinoamericano* 9(1/17):25-28. [Wetlands and Bird occupying rice agrosystems]

Reichel H.; Martínez A.; Arroyave J.; Sedano R.; Morales F.; Dutermi O.; Kummert J.; Lepoivre P. 2003. First report of a banana mild mosaic virus isolated from plantain in Colombia. *Plant Disease Note*. 87: 1150.

Morales F.J.; Lozano I.; Sedano R.; Castaño M.; Arroyave J.; Velasco A.C. 2002. Partial Characterization of a potyvirus affecting African oil palm in South America. *J. Phytopathology* 150:297-301.

UNDERGRADUATE PUBLICATIONS

Reyes M.; Sedano R.; Duran, S. 2002. Notas de las aves del campus de la Universidad del Valle, Cali, Colombia. *Boletín SAO* 8(24/25). [*Notes of bird fauna on the campus of the Universidad del Valle, Cali, Colombia*]

Reyes M.; Sedano R. 2002. Notas de la historia natural del carpintero buchipecoso (*Colaptes puctigula*). Asociación CALIDRIS. Cotinga, Autumn. 18:71-73 [Notes of the spotted-breasted woodpecker's (*Colaptes punctigula*) Natural History in Cali, Colombia]

Fajardo D.; Sedano R.; Reyes M. 1999. Las aves urbanas. Asociación para el Estudio y Conservación de las Aves Acuáticas en Colombia (Asociación CALIDIRIS), Cali, CO. 2d ed. 18 p. [*Urban birds*].

Sedano R.; Reyes M. 1999. Dinámica poblacional y reproductiva de especies de Rallidae en agrosistemas del Valle del Cauca Colombia (resumen). *In: Encuentro Nacional de Ornitología* (12, 1999, Santuario de Flora y Fauna Iguaque, Villa de Leyva, Boyacá, CO). Memorias. Asociación Bogotana de Ornitología. [*Population and reproductive dynamics of Rallidae species in the agrosystems of the Cauca River valley, Colombia, 1998-1999*]

Sedano R.; Claritza M.; Morales F. 1998. Caracterización Molecular de una cepa del Virus del mosaico de la Caña de azúcar aislada de maíz (*Zea mays* L.) en el Valle del Cauca. *Fitopatología Colombiana* 22(2):102-105. [*Molecular characterization of sugarcane mosaic virus strain, isolated from maize in Valle del Cauca, Colombia*]

Sedano R.; Blank A.; García-Vallejo F. 1997. IgG and their subclasses antibodies response in HTLV-I asymptomatic carriers, PET/HAM and ATL patients from Colombian Southwest. (Abstract). *In: International Conference on Human Retrovirology: HTLV-I* (8, 1997, Rio de Janeiro, Brazil). Proceedings. International Retrovirology Association- HTLV and Related Viruses; Instituto Nacional de Cancer, Rio de Janeiro, BR. p. I20.

Barceñas E.; Bejarano A.; Jiménez J.; Sedano R. 1995. *Temporary variation in the structure of coral reef community in Gorgona Island (Colombia)*. [Abstract]. *Int. Symp. of Coral reef* (8/1995, Panama).

- Sedano R.; Barcenas C.; Jiménez J. 1996. Evidencias de posibles adaptaciones de las algas rojas *Catenella impúdica* y *Bostrichia caliptera* a las condiciones de un manglar, basados en la fisiología de los pigmentos fotosintéticos [resumen]. In: Congreso de la Asociación Colombiana de Ciencias Biológicas (ACCB) (31, 1996, Guajira, Colombia). Memorias. [*Evidence of possible adaptations of red algae Catenella impúdica and Bostrichia caliptera to mangrove conditions based on the physiology of photosynthetic pigments*]
- Sedano R.; Barcenas C. 1995. Cuantificación de la energía cinética de olas en playas de alta y de baja energía. In: Seminario Estudiantil de Ecología, Pontificia Universidad Javeriana (1995, Bogotá, Colombia). Memorias. p. 69-78. [*Quantification of the kinetic energy of sea waves on beaches along Colombia's Pacific Coast*]
- Sedano R.; Estela F. (eds.). 1996. Memorias del IV Simposio de Biología y del I Simposio Nacional de Biología. Universidad del Valle; Fundación para la Educación Superior (FES).
- Sedano R.; Reyes M. 1999. Las aves del sur de Cali. Guest writer for the Cali-Sur Gazette of the EL PAIS Newspaper, Cali, Colombia. 10 Calisur, El PAIS, 2 October. [*Birds in the southern sector of the city of Cali*]

Honors/Distinctions/Funding

03/05. Frank M. Chapman Memorial Fund.

08/05. Mabel Myers memoria Scholarship

12/05. Colombia Biodiversa Fund

09/03. Fulbright-OAS Scholarship (Ecology program).

10/00 . The publication *Trees, Shrubs and Birdfauna in CIAT's agrosystem* got Golden Hawk award, which was given to CIAT by "Corporación Autónoma Regional del Valle del Cauca" (a Colombian governmental institution), for a relevant contribution to regional strategy for wildlife conservation 1998-2002.

12/97. I got a full scholarship for young Colombian scientist (COLCIENCIAS. 1998, code Spc-71) in molecular identification of plant viruses with economic significance to Colombia. Training work carried out at CIAT, Virology Unit.

Glass/Green-house and Agroecosystems conservation experience

Responsible for Virology Unit glass house at CIAT for plant virus studies in plants of Genus: *Solanum*, *Capsicum*, *Oryza*, *Phaseolus*, *Vitis*, *Nicotiana*, araceae sugarcane, watermelon and tropical fruits. Studying rice necrotic streak virus for 2.5 years. Specific activities:

Optimize a methodology to inoculate soil-borne virus and evaluation of rice germplasm response.

Maintain fresh tissues for virus extraction and microscopic identification fungi stages in rice roots.

Experimental design, data entry and Statistic analysis.

Biosafety responsibility in glass/green house with plants agents like aphid-virus and soil-borne virus.

Advising waterfowl conservation in the agrosystem at CIAT, Palmira-Colombia.