



Andres Aguilar, PhD (1974-Present)

Assistant Professor, Department of Biological Sciences

California State University, Los Angeles

“Take advantage of all opportunities as soon as you possibly can. If students take advantage of opportunities, they will be able to explore many different scientific fields.”

Overview

Dr. Andres Aguilar is a professor in the Department of Biological Sciences at California State University, Los Angeles. His research focuses on evolutionary and conservation genetics and he teaches courses on introductory biology, evolutionary biology and conservation biology. In his research lab, Aguilar investigates the following research topics: Conservation Genetics, Population Genetics/Phylogeography, and Genomics. His current projects include: investigating genetic variation in small /declining populations in redwood forest amphibians, studying the genetic structure and the genetic basis of adaptation (physiological & morphological) in California freshwater fishes, and generating sequence data from expressed sequence tag libraries from rockfish multiple (*Sebastes*) species. Some of his many publications include:

- A. Aguilar, G. Roemer, S. Debenham, M. Binns D. Garcelon & R. K. Wayne. 2004. High MHC diversity maintained in an otherwise genetically monomorphic mammal. *Proc. Natl. Acad. Sci. USA*. 101: 3490-3494.
- A. Aguilar. 2006. Analysis of FST outliers at allozyme loci in Pacific salmon: implications for natural selection. *Environmental Biology of Fishes*. 76: 329-339.
- A. Aguilar, D. Jesup, J. Estes & J. C. Garza. 2008. The distribution of nuclear genetic variation and historical demography of sea otters. *Animal Conservation*. 11: 35-45.
- A. Aguilar. 2012. Range-wide and local drivers of genetic structure in an endangered California vernal pool endemic crustacean. *Conservation Genetics*. 13: 1577-1588.
- A. Aguilar, R.B. Douglas, E. Gordon, J.D. Baumsteiger, & M.O. Goldsworthy. 2013. Elevated genetic structure in the coastal tailed frog (*Ascaphus truei*) in managed redwood forests. *Journal of Heredity*. 102: 202-216.

Aguilar continues to work in the environmental field because he enjoys the research questions that arise. He believes the unique aspects research questions can inform planning and policy for resource and

conservation management. He also believes that teaching is extremely rewarding because it enables him to help students become more engaged in conservation biology issues.

Early Life

Born August 13, 1974 in Los Angeles, Andres Aguilar became interested in environmental science as a young child when his father took him on fishing, camping, and hiking trips. His time spent fishing in particular sparked his interest in marine science and ecology. This interest remained with Aguilar after he completed high school and was accepted at Humboldt State University. One summer, during his undergraduate tenure, Aguilar received his first environmental job, as a researcher in ecological toxicology at the University of California, Davis. *One summer, during his undergraduate tenure, Aguilar was employed in his first environmental job. He conducted research for the University of California, Davis research program in ecological toxicology.* Aguilar credits this program as providing him with a good introduction to scientific research, and further influenced him to pursue a career in the environmental field.

Education

In 1997, Aguilar completed his studies at Humboldt State University and received a BA in biology. He went on to obtain his PhD in biology at the University of California, Los Angeles (UCLA) in 2003. Afterwards, he did post-doctoral work at the University of California, Santa Cruz for the National Marine Fisheries Service from 2003-2006. Aguilar is currently a faculty member in the Department of Biological Sciences at CSULA; a position he has held since 2012. His research focuses on evolutionary and conservation genetics and he teaches courses on introductory biology, evolutionary biology and conservation biology.

Challenging Times

Aguilar's career path was rewarding but also challenging. One of the lowest point in Aguilar's career was completing his PhD. He states that working so intimately with one's own research can become lonely and relatively draining. However, his perseverance paid off and now is a current faculty at UC Merced, which he states is the highlight of his career. While his career is very meaningful for him, Aguilar considers his family to be his biggest achievement in life.

Importance of Mentorship to Career Development

Aguilar's success is due, in-part, to the outstanding guidance he received from several mentors over the years. One of those mentors included Dr. Jacob Varkey, a genetics professor assisted Aguilar during his undergraduate term. Aguilar states that Dr. Varkey urged him to go into scientific research and to explore the many opportunities within the field. At UCLA, Aguilar's role model was Dr. Scott Edwards, a successful scientist in Aguilar's field. Aguilar's postdoctoral advisor, Dr. John Carlos Garza, was also an important

mentor to Aguilar; Dr. Garza help shape his science professionalism skills by preparing him to present his research at symposiums and conferences.

Mentoring Others

In turn, Aguilar mentored many minorities who sought to become PhD students and later faculty members in the environmental field. At CSULA, Aguilar is a mentor in the MORE (Minority Opportunities in Research) programs. The goal of this program is to “enhance the development of minority students who wish to pursue research careers in basic science disciplines, mathematics and engineering” by providing them with valuable research opportunities and the guidance of faculty mentors. Aguilar is also a member of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS); a society of professional scientists that offer support, career development and research prospects to fellow members. This is a professional association that Aguilar has been a part of since graduate school. He spoke at their annual meetings and engaged in other informal mentoring activities. He continues to seek out underrepresented students who have an interest in ecology and related fields and encourages them to work in his lab.

Aguilar has continued to work in the environmental field because he enjoys the research questions that arise. He believes the unique aspects research questions can inform planning and policy for resource and conservation management. He also believes that teaching is extremely rewarding because it enables him to help students become more engaged in conservation biology issues. For students of color considering a career in the environmental field, Aguilar emphasizes the importance of, “taking advantage of all opportunities as soon as a student possibly can. Scientists can oftentimes get stuck in the pre-medicine or biomedical route, but if students can take advantage of other opportunities, they will be able to explore many other scientific fields.”

Advice to Young Professionals

Aguilar has continued to work in the environmental field, because he enjoys exploring the mystery of science. He believes the unique aspects of research questions can inform planning and policy for resource and conservation management. He also believes that teaching is extremely rewarding, because it enables him to help students become more engaged in conservation biology issues. For students of color considering a career in the environmental field, Aguilar emphasizes the importance of, “taking advantage of all opportunities as soon as a student possibly can. Scientists can oftentimes get stuck in the pre-medicine or biomedical route, but if students can take advantage of other opportunities, they will be able to explore many other scientific fields.”

For More Information

Email: Andres.aguilar67@calstatela.edu

Website: web.calstatela.edu/faculty/aaguil67/index.html

Personal Website: andresaguilar.weebly.com

This interview was conducted in 2015.