



B30 DNA Typing and the Families of the Asociación Pro-Búsqueda (Pro-Search Association) de Niñas y Niños Desaparecidos (of Disappeared Children) in El Salvador

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After attending this presentation, attendees will learn of a protocol for collecting DNA samples, typing, creating a database, and using the information to help reunite family members separated by war or mass disaster. To realize that DNA typing is a powerful tool for human identification and kinship determination. Not only can DNA typing be used along with traditional means of identification such as anthropology and odontology but it can be utilized to help reunite families. The Learning Objective is to demonstrate a methodology that can easily be adapted at the local and state law enforcement agencies working with missing persons programs. This presentation will impact the forensic community and/or humanity by demonstrating how the setting of a procedure in place can expedite identifying human remains as well as collect DNA from families to assist and relocate missing children that may have been separated from their families. In the early 1980's, a violent twelve yearlong civil war surged throughout the country of El Salvador. As a result, many children were taken by the military and brought to orphanages or given to top military officials often with scarce documentation. Many of these children, now young adults, are still alive.

In 1994, the non-governmental human rights organization Asociación Pro-Búsqueda (Pro-Search Association) de Niñas y Niños Desaparecidos (of Disappeared Children) was established to assist the families in El Salvador looking for their children. In the fall of 2003, Lance Gima, Bureau Chief, Bureau of Forensic Services, California Department of Justice (CAL DOJ) and Criminalist Cristián Orrego established a collaboration with the Human Rights Center (HRC) at the University of California, Berkeley and the Boston-based group, Physicians for Human Rights (PHR) to assist Pro-Búsqueda, founded by Father Jon de Cortina, to develop and implement procedures for collecting DNA samples (buccal) from the registered families.

In April 2004, a team of volunteers from the Bureau of Forensic Services (BFS), CAL DOJ and from PHR, traveled to El Salvador to assist Pro-Búsqueda with this task. The team was composed of Bureau Chief Lance Gima, Criminalists Lara el Khazen (Santa Barbara Laboratory), Nicole Inacio and Brian Harmon (both from the Jan Bashinski DNA Lab), and forensic anthropologist Ms. Henriette Stratmann, along with computer scientist Mr. Lorenz Kenter (both based in the Netherlands and affiliated with the Forensic Program of PHR).

The team provided Pro-Búsqueda with training on procedures for collecting DNA samples and on the implementation of software specifically designed with Pro-Búsqueda to store the information obtained from the family interviews. The team collectively developed a process from sample collection and eventual kinship analysis consisting of four phases.

Phase One is the interview and sample collection of approximately 1,300 family members, from 721 requests (496 registered families), and entry of the information from the interviews into the database. This phase is to be completed by the end of 2005, with 694 samples collected to date.

Phase Two is DNA analysis of the samples, conducted by qualified volunteers at the CAL DOJ Jan Bashinski DNA Lab with the permission of the Office of the Attorney General Bill Lockyer and with materials and reagents costs funded from grants received from HRC and PHR (152 samples typed to date).

Phase Three is the construction of a DNA database, which will be the exclusive property of Pro-Búsqueda. This phase includes the training of a scientist affiliated with Pro-Búsqueda on computational kinship analysis using DNA-VIEW, the software package designed by forensic mathematician Dr. Charles Brenner. In the meantime, in late August of 2004, volunteers from the Jan Bashinski DNA Laboratory received training on DNA-VIEW from Dr. Brenner, with particular emphasis on running kinship simulations to determine the best choice of relatives, of those available to collect from, who would be the most informative to analyze. This training has allowed the CAL DOJ team to provide Pro-Búsqueda with ongoing decisions on collection strategy given a certain family composition, which eventually could best match a child to a family, should that child become available for DNA typing.

Phase Four is the Missing Children Sample Analysis, which includes searching for and reporting kinship matches using the database of family profiles. Should a match be recorded, the Pro-Búsqueda scientist will evaluate the match and write a report.

The goal of this collaboration is to work directly with the relatives of the victims and human rights organizations in their efforts to reunite families. This collaboration may provide a guide for volunteer work from the forensic science community to assist families searching for their loved ones torn apart from war, and still in fear or distrust of their government.

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