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Science

DNA Experts Expect to Identify Massacre Victims

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FORENSIC scientists from the United States say they believe they have a good chance of identifying bodies of massacre victims recently exhumed by the Croatian authorities from a mass grave in Bosnia and Herzegovina.

The scientists left the United States on Sunday for a stay in Split, Croatia, where they will examine bones and tissue taken from a mass grave in Kupres that contained the bodies of 50 people.

Because the bodies were decomposed, about half of them remain unidentified, and Croatian officials have asked the American specialists to help establish the identities of 24 victims.

One of the techniques the American team will use, analysis of DNA recovered from bones, was applied last year in the positive identification of bones found in an unmarked Siberian grave as those of Czar Nicholas II of Russia and his slain family. Mission of Volunteers

The newly discovered Bosnian victims are presumed to be residents of Kupres who were shot on April 10, 1992, when Bosnian Serbs occupied the town.

The volunteer mission was organized by the medical relief charity AmeriCares and includes Dr. Michael M. Baden, director of the New York State Police forensic sciences unit and Dr. Dragan Primorac, a Croatian doctor on the staff of the University of Connecticut School of Medicine.

"AmeriCares, which was founded a decade ago, ordinarily provides medical relief around the world, and this project differs somewhat from our usual work, which aims at helping the living," said Stephen Skakel, project director for the charity. "We take no political stand in this or any other project, and our sole purpose is to relieve the anguish of uncertainty for some of the families missing their loved ones."

Identification of the Kupres bodies has begun with interviews of family members, witnesses and others who could provide information about missing persons, Dr. Primorac said. Dental records and X-rays showing healed breaks or other features of bones have been especially useful.

DNA from the Bosnian grave has been degraded, he said, but enough probably remains intact to make positive matches with the DNA of relatives living in the area. Amplifying Genetic Information

Dr. Kristin Garvin, a forensic expert at the Perkin-Elmer Corporation, which donated equipment for the DNA analysis, said a procedure would be used that enabled British forensic scientists in 1993 to identify the last Czar of Russia and several members of his family, who were killed by their Bolshevik captors in 1918.

In 1991, the Russian authorities found a mass grave in a forest near Yekaterinburg, where the Czar and his family were killed, and suspected immediately that the bodies might be those of the royal family.

Russian bone experts found good matches between the skulls found in the grave and photographs of the royal family made in life, but conclusive identification awaited the results of DNA tests.

Investigators in England last year recovered minute amounts of DNA from the bones and "amplified" it using a technique invented in the United States called the polymerase chain reaction. The technique can quickly create trillions of copies of some selected segments of DNA from a single molecule, enough to analyze and compare with comparable DNA segments from possible relatives.

In the case of the Czar's family, Prince Philip of Britain was among the relatives from whom DNA samples were drawn. His maternal grandmother was Czarina Alexandra's sister.