CHAPTER 36
Forensic sciences in Libya and mass grave investigation

Amin Attia Alemam
Libyan Society of Forensic Odontology, University of Benghazi, Benghazi, Libya

Introduction

Forensic archaeology is not a recognised discipline in Libya, although much archaeological, anthropological and forensic expertise is present in the country. Recently, with the work of a number of scientists and the fall of the previous regime, the investigation of mass graves and the training and formation of the judicial and security forces has been undertaken. The excavation of clandestine graves has slowly been carried out and with the increase presence of forensic scientists, albeit the lack of forensic archaeologists. This chapter summarises the judicial system and the attempts to use forensic disciplines in mass grave investigation in Libya. Recently, the presence of international organisations has also highlighted and introduced the role and work of forensic archaeology, and training is under way to promote the value of the discipline, at least at the moment in mass grave investigation.

Background on the Libyan political and criminal justice system

Libya was a country based on the views, instructions and beliefs of one person after the Libyan Constitution was no longer in effect from 1977. Colonel Qadhafi (c. 1942–2011) replaced the Constitution after taking power with his Green Book and with what he called the People’s Declaration of 1977 (DPADM 2004). During Qadhafi’s regime, which lasted for 42 years (1969–2011), the Ministry of Justice and National Police experienced widespread corruption. The majority of security institutions were deliberately destroyed throughout that period. However, there were a number of security organisations that had authority and provided a high standard of facilities. This was because they were strongly supported, as they were originally founded mainly for protection purposes and for internal and external investigations for the benefit of that regime.

In the field of criminal investigations, there were Libyan institutions that had already been created during the period of the monarchy (1951–1969) of King Idris I, for example, the National Centre of Legislative and Criminal Research (المركز القومي للبحوث التشريعي والقضائية (Alshawari 2012). The Centre was founded in 1964. It included six branches distributed over six different areas: Tripoli, Benghazi, Sabha, the Green Mountain, Sebratah and the West Mountain Branch. It was concerned with all the legal issues that needed specialist investigation in different fields, forensic sciences among them.

In 2002 its name was changed from the Centre of Expert Witnesses to the Court of Laws and Research and it became more organised, with a separate forensic medicine department. The last available statistics for the number of cases in this department were for 2005, when 15,616 cases required examination (clinical cases): 12,979 cases were processed in that year, which represented about 83% as a percentage of completion. Statistics show that the highest numbers of cases were recorded by the Benghazi branch with 7897 cases, which represents half of the total number (50%), while the Tripoli branch took second place in terms of caseload, with 5503 cases.

The first officially recognised Libyan specialist in forensic sciences was Dr Fawzi Benomran. As noted by Benomran (Forensic Pathology in Libya, Personal Interview/Personal Comment, 7 May 2013, Derna, Libya), he was the first forensic pathologist in Libya. He held the post of Director of the Centre of Expert Witnesses to the Court of Laws and Research, and the Head of Department of Forensic Medicine and Toxicology at the Faculty of Medicine of Benghazi University until July 1997, when he left Libya for a job in Dubai, United Arab Emirates. Prior to Dr Benomran’s involvement, all forensic specialists at the Centre were expatriates from different nationalities (e.g. Egypt, India, Poland and Bulgaria). However, Libya still has a shortage of experts in the field of forensic investigation, where the domestically available specialties are restricted...
to one main forensic science – forensic pathology. Only four forensic pathologists currently hold a PhD, while some other sciences are completely absent, such as forensic anthropology, forensic archaeology, forensic odontology and forensic entomology. There are a few forensic toxicologists, and, lastly, since the revolution, there are now two specialists in forensic genetics, in DNA profiling and DNA fingerprinting respectively.

There are currently two forensic medicine departments at Libyan Universities. The first one is in the School of Medicine at the University of Benghazi, which opened in 1974, and the second is in the School of Medicine at the University of Tripoli, which opened in 1978. Both have an academic teaching function (Bencmara 2013).

The facilities and equipment inside the forensic departments in the justice and education sectors are still conventional and very simple. This shortage was very apparent during the liberation war in 2011.

**Status of forensic archaeology in Libya**

There are no forensic archaeological specialists in Libya at the moment. However, there are regular archaeologists present in Libya with experience in the excavation of (miss) graves. Since some of the excavated archaeological human remains are mumified, archaeological excavation experience could also be of use during forensic investigation of (miss) graves.

There have been a number of discoveries made by Libyan archaeologists of faunal and human skeletal remains. For instance, five mummies were discovered in 1995 at El-Jaghbub by Dr Fadel A. Mohamed, Advisor to the State for Antiquities and lecturer at the University of Omar al-Mukhtar. First he found well-preserved human remains in the area and when he sent samples to France for radiocarbon tests, the results were dated between 196 BC and AD 126 (Mohamed 2007). There have been a number of other discoveries made by international individuals and organisations, such as a child’s mumified body which was discovered in 1959 inside the Uan Muhuggiag cave in the Libyan desert by Professor Fabrizio Moro. A two and a half year old child was found bound in animal skin; and this skin has been radiocarbon dated to be between 3275 and 3635 years BC (Aufderheide 2003). Another example is the skeletal remains of two individuals who were earthquake victims during Emperor Gallinus’s fifth consulship in AD 262, exhumed from the Sanctuary of Demeter and Persephone at Cyrene, by the University of Pennsylvania Museum of Archaeology and Anthropology between 1973 and 1981 (White 1990). Moreover, human osteological material was excavated by C. M. Daniels and housed at the Jarma museum. This consists of 56 human skeletons retrieved from 68 archaeological features (Mattingly 2010). Recently, archaeologists have uncovered 20 Stone Age skeletons in and around a rock shelter in Libya’s Sahara desert. A new programme of territorial study was launched in the area of Wadi Takarkori, which is located in southwestern Libya on the border with Algeria in a strategic position between the Tassili and the Acacus Mountains. As part of the activities of the archaeological mission in the Sahara, a team from Sapienza University in Rome was supported by Libya and led by Dr Salah Agab who is the chairman of the Department of Antiquities in Tripoli (Lernia and Tahiri 2013).

Due to its strategic location and large surface area, about 1.8 million km², Libya has been strongly characterised by its history and archaeology. For millennia Libya has been a land of very different civilisations, including Greek, Roman, Islamic, Ottoman and Italian colonialism, as well as its original history as an African country. Therefore Libyan scientists believe that in Libya many archaeological discoveries are possible. Although this example is archaeological in nature and not forensic, it illustrates and emphasises that there are many experienced and qualified archaeologists and anthropologists in Libya whose skills should not be underrated for forensic and/or criminal investigation in the future.

**Identification process during the Libyan revolution**

The early days of the Libyan revolution (February 2011) clearly showed a deficit in the area of identification for the rebels’ unidentified bodies, but a great effort was made and is still being made locally, in an attempt to compensate for this lack of identification of the victims, despite the absence of subspecialties and unavailable facilities. The Centre of Expert Witnesses to the Court of Laws and Research in Benghazi, under the auspices of the Libyan Ministry of Justice at the beginning of the revolution, was one of the official institutions that belonged to the National Transitional Council (مجمع الوطن الليبي)، and when the west of Libya was liberated on the revolution’s sixth day. While the other parts of the country were not yet liberated, the forensic medicine department of this centre was responsible for dealing with all the different cases of the victims on the Eastern Front, with a restricted forensic team and a lack of facilities. The team consisted of four forensic pathologists and one dentist. All members were official staff of this centre except for the dentist, as he was a volunteer during that period.

Unidentified bodies presented with different injuries and even if they had clear body and facial features they sometimes could not be identified because of an absence
of ID. Furthermore, if there were no relatives who asked about them at the mortuary, they were usually buried in numbered individual graves, without a death certificate. Only photographs and a DNA sample were taken from this first group. The second type of unidentified victims was those whose facial and physical features were partially or completely lost due to the severity of their trauma. For example, on 2 April 2011, NATO mistakenly attacked the rebels; 13 people were killed and their bodies were severely burned and charred. For forensic anthropologists obtaining a biological profile in those cases is possible since forensic anthropologists can deal with such cases even if the remains are modified by the heat (Blau and Ubelaker 2009, 21). With the absence of dental records, as well as the lack of a DNA database and facilities for analysis, the identification process in this 2011 incident was difficult to apply.

This incident emphasised the challenge that the team faced regarding the increasing problem of identification. The situation made the team consider finding a substitute for DNA analysis, rather than collecting samples, to solve this problem. The team proposed to start dental diagnostic work at the conflict line by building up a dental record system for all the soldiers at the Eastern Front. This proposal was promoted by a group of dentists from the University of Benghazi Dental School. Another idea was to introduce a proposal to the military council and rebel leaders to make metallic military identification plates for all soldiers at the front line. Neither of these solutions was implemented and the number of unidentified bodies increased dramatically. The number of missing rebels also increased, starting with the first incident at Binjawad on 8 March 2011, when about 200 rebels were captured by Qadhafi's forces, the outcome unknown. In other conflict zones, mortality rates were not documented, but predictions based on previous experience were frightening. During that time new discoveries of multiple mass graves were also made, of people previously killed by Qadhafi's forces. The first mass grave to be investigated was at Zueitina village.

**Zueitina mass grave**
Zueitina is a coastal village 150 km west of Benghazi. News of a mass grave in that area reached one of the rebel battalions from an eyewitness in April 2011. Some battalion members then went to the site at Zueitina and after searching they uncovered their first evidence. They kept searching until three skeletonised human bodies were exhumed non-scientifically. They then decided to complete this mission under legal jurisdiction and the case was therefore handed over to the Centre of Expert Witnesses to the Court of Laws and Research in Benghazi, where the forensic department recruited a forensic team (Figure 36.1) led by a forensic pathologist, Dr Khaled Almgasbi. He was the Centre President and the Head of its forensic department. After that all the victims' remains were exhumed from the grave (Figure 36.2), and then transferred to an autopsy laboratory in the Benghazi Medical Centre (Figure 36.3).

Seven skeletons were arranged in order from one to seven, post-mortem dental records were made, photographs were taken and dental samples were collected for DNA analysis. Dental identification was attempted, but found impossible as ante-mortem dental records were absent. During the first days of the revolution the internal security headquarters, which most represented the repression of Qadhafi's security system, was invaded.

![Figure 36.1 The Zueitina mass grave investigation team which includes the forensic team (e.g. forensic pathologists, odontologists), rebels, prosecutors, and members of human rights organisations. April 2011.](image-url)
and destroyed by rebels. Some of the files detailing the regime's crimes were preserved by the rebels. These files held many secrets and one of these files related to the Zuëtina mass grave. It had contained all the necessary information about the crime, one post-mortem photograph of one of the seven victims (Figure 36.4) and also their names.

This file reached the crime investigator directly from the rebels and after that the seven families were informed as to what had happened to their sons. They accepted the news of their sons' fate as they had suspected the cause of the disappearance for about 15 years. In 1996 a group of seven friends, two of them brothers aged 17–25 years old, were secretly executed because they disagreed with Qaddafi's regime. The murder happened away from the burial place as recent stories from eyewitnesses mention the crime taking place near a small city east of Benghazi called Alabyar, about 220km from Zuëtina. These seven skeletal remains belonged to this group of friends, but the
forensic team found it difficult to differentiate between them and thus issue a death certificate for each of them. Libyan forensic specialists testified as to their findings to the Centre of Expert Witnesses to the Court of Laws and Research. The sample collection instructions for mitochondrial DNA analysis were given by the American Society of Forensic Odontology. After samples had been taken a funeral ceremony for the Zueitina Martyrs was held in Benghazi’s Liberation Plaza and they were buried in Alhawari Cemetery in May 2011 (Figure 36.5). DNA analysis for the seven cases and their families was conducted in the Genoma laboratory in Rome, Italy, and the results were finally disclosed on 8 July 2012.
Identification process after the Libyan revolution

Multiple mass graves were discovered in different places in Libya during and after the liberation. The largest one is the Ben Jawad grave, which includes 157 bodies of rebels killed by Qadhafi’s forces in March 2011. Ben Jawad village is located 150 km east of Sirte. Forensic investigation of this grave started on 2 March 2012 by the Centre of Expert Witnesses to the Court of Laws and Research, Benghazi branch.

The Libyan Ministry of the Affairs of the Families of Martyrs and Missing Persons estimates that there are around 10,000 people missing in Libya. This number includes people lost during the revolution as well as from previous events, such as the 1270 prisoners killed in 1996 in Abu Salim prison. There has been a great effort made by the Libyan provisional government to search for and identify the missing people. This has been done with the cooperation of international organisations. For example, the International Committee of the Red Cross (ICRC; Tidball-Binz and Hofmeister, Chapter 49 this volume) and the Physicians for Human Rights (PHR; Schmitt et al., Chapter 53 this volume) supported the Ministry of Affairs of the families of Martyrs and Missing Persons (MAFMM) by reuniting families, dealing with human remains, collecting and storing personal details and/or advising or the handling of missing person cases (ICRC 2013; PHR 2013).

The International Commission on Missing Persons (ICMP; Hanson, Chapter 48 this volume) director, General Kathryn Bomberger, and the Libyan Minister for MAFMM, Naser Jibril Hamed, agreed to cooperate in Tripoli in November 2012 to try to solve missing person cases from the Qadhafi’s regime and the latest conflicts (ICMB 2012).

This agreement includes the ICMP providing help in creating a Libyan Identification Centre (LIC). This is essential in developing a sustainable means of dealing with missing person cases in Libya in the future. The LIC plans to have a DNA laboratory system which will house a facility to manage biological samples for DNA identity testing and which will have the capacity to develop further in other areas. This centre should allow for better coordination of internal testing in Libya and the ability to provide assistance internationally.

Full training in successful recovery and identification has been provided by the ICMP for Libyan scientists involved in the identification process of mass grave victims, including archaeology and anthropology. Demonstrating the value of archaeology has certainly been focal in the last 2 years. In addition, a Libya-specific version of the Forensic Data Management System (FDMS), a specialised software solution internally designed by the ICMP to record identification, will be donated by the commission. In terms of legal support, the ICMP will assist Libya in writing specific missing person legislation.

Future of forensic sciences in Libya

Currently there are many Libyan students studying forensic sciences outside the country. Many of these sciences are completely absent in Libya. Meanwhile, there are others currently training in Libya to be a domestic forensic team able to deal with war victims and graves and who are receiving training including forensic archaeology. In addition, related civilian organisations have been founded during and after the liberation war, such as the Libyan Society of Forensic Odontology (Figure 36.6). Moreover, archaeologists from universities may receive training in forensics; this will be of value in the search, location and excavation of human remains buried in clandestine graves. Therefore it is anticipated that the field of forensics in Libya will grow significantly during the next few years.
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References


