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TECHNICAL NOTE

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Handmade Guns in Trabzon, Turkey

ABSTRACT: A wide variety of handmade firearms have been involved in criminal cases in the city of Trabzon, Turkey. Although they are often very similar to commercially manufactured firearms in terms of design, loading and locking mechanisms, and cocking and firing arrangements, these guns are constructed from cheap materials and are not safe for firing. Handmade firearms manufactured in the Black Sea region of Turkey, particularly in the city of Trabzon, are similar to pistols manufactured by Browning, Luger, Star, Smith and Wesson, Berretta, and MAB. A total of 201 handmade guns referred to the Criminal Police Laboratories for examination from 2003 to 2005 were evaluated with respect to type, number of barrels, size and caliber, rifling, design, mechanism, operability, legality, and similarity to commercial models. We found that most of these handmade guns resembled commercial models in several aspects.

KEYWORDS: forensic science, ballistics, handmade guns, firearms, firearm examiner, criminal laboratories

A wide variety of firearms are used in violent crimes. In addition to commercially available weapons, there are various instruments of peculiar origin and purpose, such as pen guns, mole guns, and key holder guns, which are sometimes used as lethal weapons and are often handmade (1–7).

Locally made illegal firearms are commonly encountered in criminal cases in Turkey and other developing countries (8). These handmade guns are produced in simple workshops or even at home in the Black Sea region of Turkey. One reason for the rise of this informal industry is that handmade guns are very cheap to produce. Second, it is difficult to obtain a licensed firearm in this area. Third, demand for these weapons is high, both from people living in the Black Sea region, who like having and using guns, and from criminals. Hence, a variety of guns similar to those manufactured by Browning, Luger, Star, Smith and Wesson, Berretta, and MAB are produced in the Black Sea region, particularly in the city of Trabzon.

In this technical report, we briefly summarize our findings for a variety of handmade guns seized over a 3-year period from 2003 to 2005.

Materials and Methods

The guns examined here were involved in cases prosecuted by the Head Attorney of Trabzon and sent to the Criminal Police Laboratories between 2003 and 2005. A total of 201 handmade guns were examined. These firearms were evaluated with respect to type, number of barrels, size and caliber, rifling, design, mechanism, operability, legality, and similarities to commercially available models.

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Results

The yearly number of handmade guns sent for examination ranged from 48 in 2005 to 79 in 2004. The overall size of the guns, measured as maximum length, ranged from 12.5 to 24.5 cm. The maximum length of the barrels ranged from 7 to 15 cm. In terms of caliber, 1 (0.5%) was 12-gauge, 2 (1.0%) were 20-gauge, 68 (34.1%) were 7.65-mm, and 130 (64.4%) were 9-mm. The maximum weight was 1100 g and the lightest gun was 350 g.

A variety of handmade firearms manufactured in the Black Sea region of Turkey were similar to pistols manufactured by Browning, Luger, Star, Smith and Wesson, Berretta, and MAB. The detailed dimensions of these handmade guns are shown in Table 1, and some examples of handmade guns, firing pin impressions, and breechblocks are shown in Figs. 1–5.

Of the 201 handmade guns examined, 183 (91%) were pistols and 18 (9%) were revolvers. Eight guns were inoperative. One hundred and ninety-eight had rifled barrels, but the remainder had smooth bores. Trigger pull was not evaluated in all cases; for safety reasons, most of the guns were mounted in a fixture and test-fired with a rope lanyard.

Although these handmade guns were probably produced in simple workshops or at home, they were used with commercially available cartridges. Indeed, our data did not show any evidence of homemade cartridges.

Discussion

A firearm examiner does not encounter handmade guns as frequently as commercially available guns. However, pen, mobile phone, and key holder guns have been produced (9). In Turkey, the circumstances and probable legality of the use of firearms are described in Act 6136. This Act also describes fitness for use and calibers and types of firearms.

A study on the most common causes of death in Trabzon, as determined via autopsy, revealed that firearms account for 23% of all deaths, which is the highest gun-related death rate in Turkey (10). Because people in the Black Sea region, particularly in the city of

TABLE 1—*Detailed dimensions of handmade guns seized in the Black Sea region of Turkey.*

	Similar to Browning		Similar to Star		Similar to Smith and Wesson		Similar to Beretta		Similar to MAB		Similar to Luger		Others with Smooth Bore	
Category	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Overall length (cm)	15	20.5	18.5	19.5	19.5	24.5	13.7	19.5	16.5	17	20.5	31.5	12.5	22.5
Barrel length (cm)	8	12.3	10	11.2	8.8	11.2	7	11.5	9	9.5	7.5	15.5	6.5	12.5
Caliber (mm)	7.65	9	9	9	7.65	9	7.65	9	7.65	7.65	9	9	20	12*
Total weight (g)	550	1100	950	1050	500	820	510	1100	750	790	900	1140	350	860
Weight unloaded (g)	500	1040	890	990	450	770	450	1030	710	750	830	1050	320	810
Trigger pull (kg)	6	16					5.5	10						

*Gauge.

FIG. 1—*Two examples of handmade guns.*

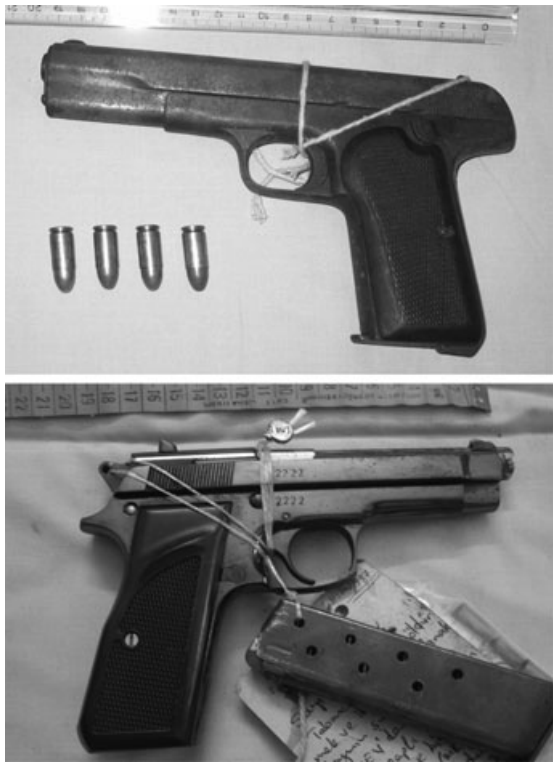

FIG. 2—*Two examples of other handmade guns.*

Trabzon, like having and using guns, firearm-related injuries and deaths are much more common.

Mole guns, which primarily originated in the rural areas of Middle Anatolia, are commonly used to protect fruit and vegetable crops from wild animals. A typical mole gun generally consists of three parts: a metal ring in the front, connected to a trigger mechanism, a barrel, and a trigger mechanism. People migrating from rural to urban areas may continue using their mole guns for other

FIG. 3—*Two examples of other handmade guns.*

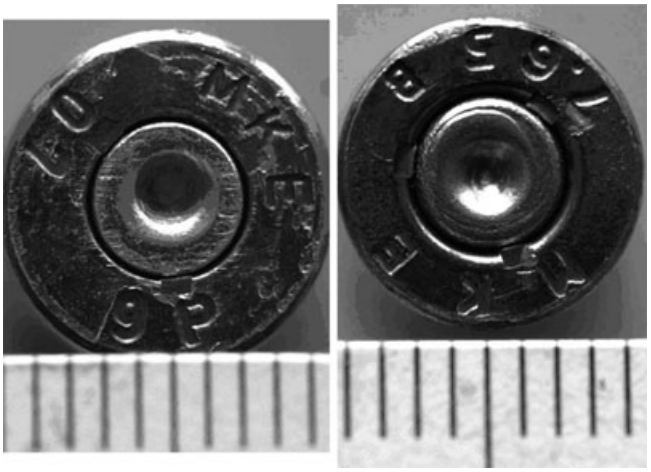

FIG. 4—*Firing pin impressions and breech face markings on cartridge cases fired in handmade pistols. Left, 9-mm Luger-type handgun; right, 7.65-mm Browning-type handgun.*

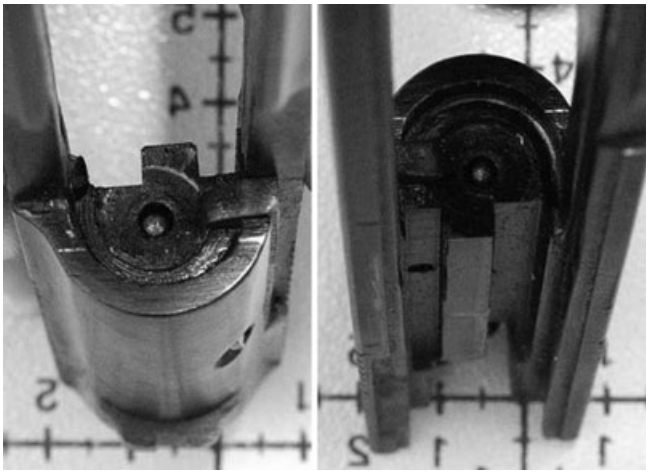

FIG. 5—*Photographs showing the breechblock of a partially dismantled 9-mm handmade gun.*

purposes, including protecting their property against theft. Injuries and deaths from mole guns have also been reported. In contrast to mole guns, which are relatively primitive, handguns made in the Black Sea region are more complex (3,4,11).

It is noteworthy that the largest numbers of pen guns originate from South East Anatolia, where a widespread wave of terrorism has lasted for decades. In contrast, very few pen guns were seized in the Black Sea region; in general, people in this region prefer guns that are similar to commercially available models. Deaths from pen guns have also been reported (5–7).

Handmade guns are also produced and in use in Brazil, Chechnya, Croatia, Germany, India, Italy, the Philippines, Poland, South Africa, and the United States of America (1,5,12–19). However, Indian and Turkish handmade guns differ in shape, size, firing mechanism, and the design of opening, loading, and cocking (8). In general, Indian handmade guns are crudely manufactured using nonstandard techniques and designed to chamber and fire standard cartridges within two or more close calibers (8). In contrast, Turkish handmade guns closely resemble commercial models, such as Berretta and Browning (20). Indeed, the wide variety in these firearms reflects the skill and knowledge of the person responsible for manufacturing each gun (8). However, whether skillfully constructed or not, the cheap materials used in the manufacture of handmade guns make them unsafe for use.

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