Archaeologist Uncovers Evidence of Ancient Chemical Warfare

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(PhysOrg.com) -- A researcher from the University of Leicester has identified what looks to be the oldest archaeological evidence for chemical warfare--from Roman times.

At the meeting of the Archaeological Institute of America, University of Leicester archaeologist Simon James presented CSI-style arguments that about twenty Roman soldiers, found in a siege-mine at the city of Dura-Europos, Syria, met their deaths not as a result of sword or spear, but through asphyxiation.

Dura-Europos on the Euphrates was conquered by the Romans who installed a large garrison. Around AD 256, the city was subjected to a ferocious siege by an army from the powerful new Sasanian Persian empire. The dramatic story is told entirely from archaeological remains; no ancient text describes it. Excavations during the 1920s-30s, renewed in recent years, have resulted in spectacular and gruesome discoveries.

The Sasanians used the full range of ancient siege techniques to break into the city, including mining operations to breach the walls. Roman defenders responded with ‘counter-mines’ to thwart the attackers. In one of these narrow, low galleries, a pile of bodies, representing about twenty Roman soldiers still with their arms, was found in the 1930s. While also conducting new fieldwork at the site, James has recently reappraised this coldest of cold-case ‘crime scenes’, in an attempt to understand exactly how these Romans died, and came to be lying where they were found.

Dr James, Reader in the School of Archaeology and Ancient History at the University of Leicester, said: “It is evident that, when mine and countermine met, the Romans lost the ensuing struggle. Careful analysis of the disposition of the corpses shows they had been stacked at the mouth of the countermine by the Persians, using their victims to create a wall of bodies and shields, keeping Roman counterattack at bay while they set fire to the countermine, collapsing it, allowing the Persians to resume sapping the walls. This explains why the bodies were where they were found. But how did they die? For the Persians to kill twenty men in a space less than 2m high or wide, and about 11m long, required superhuman combat powers—or something more insidious.”

Finds from the Roman tunnel revealed that the Persians used bitumen and sulphur crystals to get it burning. These provided the vital clue. When ignited, such materials give off dense clouds of choking gases. “The Persians will have heard the Romans tunnelling,” says James, “and prepared a nasty surprise for them. I think the Sasanians placed braziers and bellows in their gallery, and when the Romans broke through, added the chemicals and pumped choking clouds into the Roman tunnel. The Roman assault party were unconscious in seconds, dead in minutes. Use of such smoke generators in siege-mines is actually mentioned in classical texts, and it is clear from the archaeological evidence at Dura that the Sasanian Persians were as knowledgeable in siege warfare as the Romans; they surely knew of this grim tactic.”

Ironically, this Persian mine failed to bring the walls down, but it is clear that the Sasanians somehow broke into the city. James recently excavated a ‘machine-gun belt’, a row of catapult bolts, ready to use by the wall of the Roman camp inside the city, representing the last stand of the garrison during the final street fighting. The defenders and inhabitants were slaughtered or deported to Persia, the city abandoned forever, leaving its gruesome secrets undisturbed until modern archaeological research began to reveal them.

You can read more about Dr James' work at:
www.le.ac.uk/archaeology/schoo … taff_simonjames.html
www.le.ac.uk/ar/stj/dura.htm
www.le.ac.uk/archaeology/Resea … ura-EuroposSyria.htm

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