



## Archaeology meets agriculture in the desert

By Kristi Skebo



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• Over the next two seasons (2003-2004), Oleson and his team will focus their excavation efforts on the fort itself. "I try to accept at least a few volunteers from the University of Victoria to help with the project. Particularly those who have some knowledge of ancient culture." For more information on Oleson's project, visit his Web site. <http://web.uvic.ca/~jpoleson>

### facts from the **EDGE**

• Oleson's Humayma excavation project is funded by the Social Sciences and Humanities Research Council of Canada, the Taggart Family Foundation, the Van Berchem Foundation, the American Schools of Oriental Research, the American Center of Oriental Research, the Canada Council for the Arts and UVic.

• Collaborators include scholars and experts from the Jordanian Department of Antiquities, the American Centre of Oriental Research in Amman, the Islamic Art Institute in London, students from Yarmouk and Jordan University, the University of Victoria, and other North American universities, and hundreds of local Bedouin workers.

### Oleson with 3rd-century altar at Roman fort

Over 2,000 years ago, Aretas III, king of the traditionally nomadic Nabatean pastoralists in what is now southern Jordan, saw a vision of a man in white. Legend says that this vision inspired him to establish an agricultural settlement. Hawara, as the settlement was named, means "white" in Aramaic.

For the past 16 years, Dr. John Oleson of UVic's department of Greek and Roman studies and his team have been studying this desert settlement, known in modern times as Humayma. Their excavations have resulted in some extraordinary discoveries that illuminate the remarkable history of this region.

The settlement used stone cisterns to collect the sparse desert rainfall, but "the most impressive single feature of the settlement is a 26.8-km aqueduct," Oleson explains. Commissioned by King Aretas III, the aqueduct conducted spring water to Hawara, making possible a permanent settlement along the North Arabian trade route.

"Humayma was constructed around the design of the aqueduct. That required a lot of

planning and forethought," according to Oleson.

At its height, Humayma housed about 600 residents. "The area only received 80 mm of rain per year, yet hundreds of people not only survived there, they thrived," says Oleson. Although the site has been known to archaeologists for over 100 years, it wasn't until Oleson began surveying the site in 1986 and excavating in 1989 that remains were finally unearthed.

To date, Oleson and his team have excavated Nabatean and Roman houses, a Roman bath and fort, Byzantine churches, and an early Islamic manor house and mosque built by the politically important Abbasid family.

The Roman fort was the earliest of its kind in what was then the Roman province of Arabia. "The mosaics and coins found around the fort show us that the Romans occupied the settlement from about 115 to 300 A.D." says Oleson. "We think the Nabateans had more influence culturally on the Romans than the Romans had on them since a number of Nabatean mosaics and ceramics appear in the Roman fort."

Dating and cataloguing the material unearthed at the site is a laborious process. "The trampling of tiny sheep and goat hooves

over millennia has broken most of the surviving ceramics and pottery into small bits." Their hooves have also wreaked havoc on the stratigraphy of the soil.

Archaeologists use finely defined layers of soil to help them date artefacts. The churning of the sand and soil by the herds make this a very difficult process.

This season, advanced technology will supplement old-fashioned digging. An "x-ray" of the site will be taken; ground-penetrating radar, magnetometry and resistivity equipment will be used to define the structures inside the fort and to find the *vicus*, the

associated civilian settlement outside the walls. The soldiers went to the *vicus* for recreation (baths, taverns and brothels), for worship, to visit their unofficial families and to trade. "By combining the information we'll get this summer with existing aerial photographs and excavations, we should be able to construct a virtually complete plan of the fort by the end of the 2004 season," says Oleson.

"While we have a pretty good idea of the succession of occupants and events at Humayma, we've barely scratched the surface of information the site holds."

Kristi Skebo wrote this as a participant in the SPARK program (Students Promoting Awareness of Research Knowledge), funded by UVic, the Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council.



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## HUMAYMA — UNEARTHING 2000 YEARS OF DESERT HISTORY

**80 BC** — Settlement established by King Aretas III. The 26.8-km aqueduct is built.

**106 A.D.** — A fort is built at Humayma to help administer the newly formed Roman province of Arabia.

**3rd & 4th century A.D.** — The Roman army abandons the fort, but the village continues to thrive.

**5th & 6th century A.D.** — Christianity reaches Humayma; the Byzantines establish five churches there.

**7th & 8th century A.D.** — The Abbasid family builds a fortified house and a mosque, in which they plot the overthrow of the Umayyad caliphate.

**19th century** — European travellers discover Humayma's ruins;

archaeologists determine its ancient name (Hawara) from Greek historical texts and Roman maps.

**Early 1980s** — A group of archaeologists studying the Roman roads in southern Jordan ask Oleson to study the settlement.

**1986** — Site surveyed and aqueduct found. Oleson begins excavations and unearths evidence of Roman, Byzantine and Islamic occupation, including frescoes and mosaics from the Roman fort and carved ivory furniture from the Abbasid house.

**2002** — A geophysical survey of the site will define the internal structures of the Roman fort and locate the civilian settlement associated with it.

**2003–2004** — Further excavation of the Roman fort is planned.