

# *Ancient Metropolis of Gadara*

## *School of Poets and Philosophers*

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**T**he ruins of Gadara are situated 110km away from Amman in the northwest corner of Jordan close to the Syrian border and are dispersed on the edge of a 400m high plateau with the Jordan river lying 200m below sea level to the west of it.

Remains of a 3km long city wall can still be seen today and protected a glamorous metropolis with many important public buildings of which unfortunately little is left today. One could also call Gadara the black city, as most buildings were constructed with black basalt stone of the area.

Unlike other ancient sites in Jordan, archaeological restructuring efforts at Gadara have been very limited. It needs a bit of imagination to feel the cosmopolitan character of this important metropolis of which 90% lie in ruins today. How impressive these ancient buildings must have been in antiquity is also difficult to picture today.

Gadara's long main boulevard with a width of 14m





Just visualize a bustling city with three theaters, with the north amphitheatre seating 6,000 persons and the west theatre with capacity for 3,000. Plus a wide double colonnaded main boulevard with a width of 14m giving shadow to the many merchants selling their wide variety of goods from all over the Roman Empire on the spacious side walks and street paving with visible ruts left from the wheels of heavy loaded chariots.

Little is left of the huge arched gates – the west arch close to the hippodrome with two towers over 45m wide and possibly up to 15m high. The typical Roman octagonal columned food market supplied the many inhabitants with their daily needs, following Roman tradition to separate fresh produce supplies from other trading wares.

The lavish metropolis layout with various main arteries also included a huge colonnaded terrace of uncertain use and at least one main temple for worshipping the divine trinity of deities - of which we only know that goddess Tyche was one of Gadara's divine protectors.

Plus Gadara had many smaller temples for popular other gods in the vast Greco-Roman pantheon with over 500 known deities for every occasion. Later during Byzantine times a basilica was built west of the main street.

Gadara had at least one nymphaeum, a monumental double storey public fountain and even a hippodrome for the many sportive activities to amuse the inhabitants, was part of the city's central architecture.

Not to be missed the various obligatory public baths with their many different hot, cold and steam bath rooms for the hygiene-loving Romans built in palatial style.

From inscriptions we know that one therme was built by Herkleides. A huge mausoleum with a staircase leading to two subterranean halls on different levels, the first supporting it's ceiling with four columns, and a further staircase opening up into a domed tomb hall with eighteen circular arranged loculi for as many sarcophagi.

This principal tomb chamber was surrounded by a circular

corridor similar to certain temples, but not seen in mausoleums. In addition examples of different type of subterranean tomb called hypogeions were discovered on the slopes below the city.

In addition various natural cold and hot mineral springs were found close by in the Yarmouk river valley and were part of the ancient resort of Hammat Gader, where some philosophic inscriptions were found. Ancient scholars did not teach their students in the way we know it today, at desks in school rooms.

They moved around with their followers teaching them daily lessons as life presented them and had streaks of wisdom, when enjoying the hot springs, which still today are in use for medical purposes and produce mineral rich waters of 57°C.



View over Gadara octagonal black columned food market





Rebuilt houses



Amphitheatre

### Gadara's Famous Sons

But Gadara also established a unique regional reputation for its university attracting leading artists, writers, philosophers and poets, many of which moved later to Athens and Rome after becoming "world famous" for inventing new forms of poetry and setting classical writing standards. None of the other ancient cities I have introduced you to in my various articles has such an outstanding record of famous thinkers and writers, but nevertheless I have limited my references below to the eight most important local scholars.

**Philodemos** - Gadara's most famous son certainly was Philodemos, who lived from 110-43BC and who was a famed epicurean philosopher and poet. He was a student of Zenon of Sidon and studied at his school at Athens. He had discussions with Vergil and influenced the writing of Horace's work "Ars Poetica".

The "Anthologia Palatina" includes 34 poems of Philodemos most of which were erotic. One of the works handwritten comments also linked Philodemos to a circle of other important writers at the time, whose names might sound familiar to those of us who attended history lessons, such as Siron, Plotius Tucca, Lucius Varius Rufus and Quintilius Varus.

Around 80BC, Philodemos moved to Heraculaneum close to Rome, where he created an important library with over 800 surviving papyrus rolls in the Villa dei Papiri covering musical, rhetorical and ethical topics, which miraculously

survived with him the Vesuvius volcanic eruption on 24 August 79BC. It is assumed that this Villa belonged to Piso, father of Calpurnia, the wife of Julius Caesar. In contemporary times, this impressive villa was copied and built in California as a museum for the Getty Foundation.

**Menippos** - Interesting is the story of Menippos, who was previously a slave set free and made his money as beggar and money lender. He is assumed to have lived between 330-260BC and is considered as the father of the philosophical satire, of which some texts survived till today.

Menippos was the first to mix prose with verses creating a new kind of satire writing called Menippian Satire. In total we know of thirteen books he wrote of which "Decent into the Hades", "The Testament" and "Teasing Letters to the Gods" are the most famous. After reading some of them, I decided that you might be less confused reading this article, without me quoting some of these verses.

Menippos later moved to Greece and being a super cynic, he had to hang himself after he lost all his money in a scam. So you see history repeats itself and it's not only the bankers and stockbrokers of today, who follow this destiny. Nevertheless Menippos style of satire was used by many other writers such as Lukian of Samosata, Roman satiric writer Varro and Seneca.

**Meleagros** - Meleagros was another important satiric writer and an admirer of Menippos, born







View over Gadara octagonal columned food market with Golan Heights in the back

in Gadara around 130BC and raised in Tyros, he died on the Greek island of Kos around 60BC.

He formed the basis for the classical Greek epigram anthology by creating a collection of 600 years of epigrams from archaic, early classical and classical Greek epic grammar including works of Archilochos, Alkaios, Anakreon and Simonides. Only 134 epigrams are known to be written by Meleagros himself and again have an erotic focus.

**Theodoros** - Theodoros was the founder of the famous Gadara School in the 1st century BC and was rhetoric tutor to Roman Emperor Tiberius.

Various inscriptions of him were found all over the Greco-Roman empire, especially in Athens.

He wrote many rhetoric speeches recited by other famous scholars. Rhetoric skills were very important at the time and at the center of

ancient Roman politics. Well argued and accentuated rhetoric speeches were the basis for leaders to gain public support and convince the Roman Senate.

**Apsanes** - Apsanes lived from 190-250AD and written a famous handbook on rhetoric speeches, he later moved to Athens to teach at the university there.

**Lambichus** - Lamblichus lived from 250-330AD and became one of the leading neo-platonic philosophers at the time.

**Oemonaeus** - Oenomaeus was a religious critic and nihilist writing many satiric speeches during the 2nd century AD.

**Philo** - And last Philo was a mathematician living during the 3rd century AD, who improved the Archimedes calculations of "pi". Does this remind you of any good memories of your beloved math teacher and his tiring classes?



Nymphaeum fountain on the main boulevard





Godess Tyche



Moenippus - painting by Diego Velazques (oil on canvas) - 1639



Menippus

### Gadara's Water Tunnels

The most astonishing discovery in Gadara is that of a 94km long ancient water tunnel. Water supply was always of importance for the choice of location of ancient settlements, and it was no different for Gadara. In the beginning water needs for humans and their animals were limited to 20-30 liters per day and these needs could easily be supplied by using cisterns.

But with the Roman style living after 63BC introducing the use of public baths and fountains with running water, consumption needs went up to 400 liters per head per day. Compare this to today's average European consumption of 120-140 liters. So something needed to be done to bring lots of water to Gadara.

Therefore the longest tunnel in antiquity was built to transport sufficient water over 94km to the city of Gadara. Certain water tunnels in the area had already been discovered in the past, but never understood to

be part of a bigger Decapolis network, as they were not fully investigated. Only in 2004 did German specialists take a closer look and discovered that a tunnel network of three different waterlines adding up to 170km in total length and supplied a population of 80,000 in the three connected Decapolis cities.

Taking an average daily consumption of 400 liters per inhabitant into account, this would have needed a steady flow of 370 liters per second. This kind of water volume was only available at the Dille lake 60km away across today's border in Syria.

Further calculations have confirmed, that with the average Roman aqueduct gradient of 1.4 per thousand, a distance of 94km for the longest section to Gadara would work out fine, factoring into consideration in the altitude of Lake Dille at 565m and Gadara at 335m. The structures found clearly point to Roman origin and supplied the Decapolis cities of Gadara,

Raphana/Abila and Dion/Capitolias with water. It could be established, that the middle section was built between 130-210 AD taking over 80 years to complete.

These tunnels were built by using 2,900 shafts dug down approximately every 50m, some of which were up to 70m deep. Various sections of the water tunnels are still open today and have a height of 2m to maximum 5m and a width of 120-180cm. Water marks were found up to a height of 50-80cm, resulting in a waterflow between 300-700liters per second, or 25,000-60,000m<sup>3</sup> per day. This confirms earlier calculations and assumptions by hydro specialists.

In addition it was discovered, that all tunnel walls were plastered with waterproof lining to prevent seepage. We know from an earlier article that the Nabataeans discovered waterproof plaster 500 years earlier.

The so-called Qanat Firaun channeled water from the



Extensive Gadara water channel system







View over Gadara center

spring of Ain Turab, which is 11km away from Gadara. But this water tunnel had a length of up to 20km as it had to circumvent hills and valleys to maintain its natural flow gradient.

A 94km section equally circumnavigated valleys to fetch water from a source only 35km away, when measured in a straight line.

The ancient Roman aqueduct engineers used bridges to cross steep valleys, when no other solution was possible and even passed a watershed with a tunnel at a depth of 4m.

The 170km of tunnels were built in seven sections of

various lengths from 10km to 40km each.

Four of these sections were in use for a long time - up to 500 years until 636AD, when Islamic forces conquered the area. Other sections fell into disuse after only for short periods.

Raphana/Abila even got water supply from two sides. Besides using Lake Dille as a water source, the three natural springs of Ain Turab, Ain Rahub and Ain Guren were used to feed the network.

In summary this was a master piece of ancient hydro-engineering and used specialist resources from all over the Roman Empire to be built.



Amphitheatre passage

