

Camels in Desert Rock Art

Importance of Camels on the Arabian Peninsula

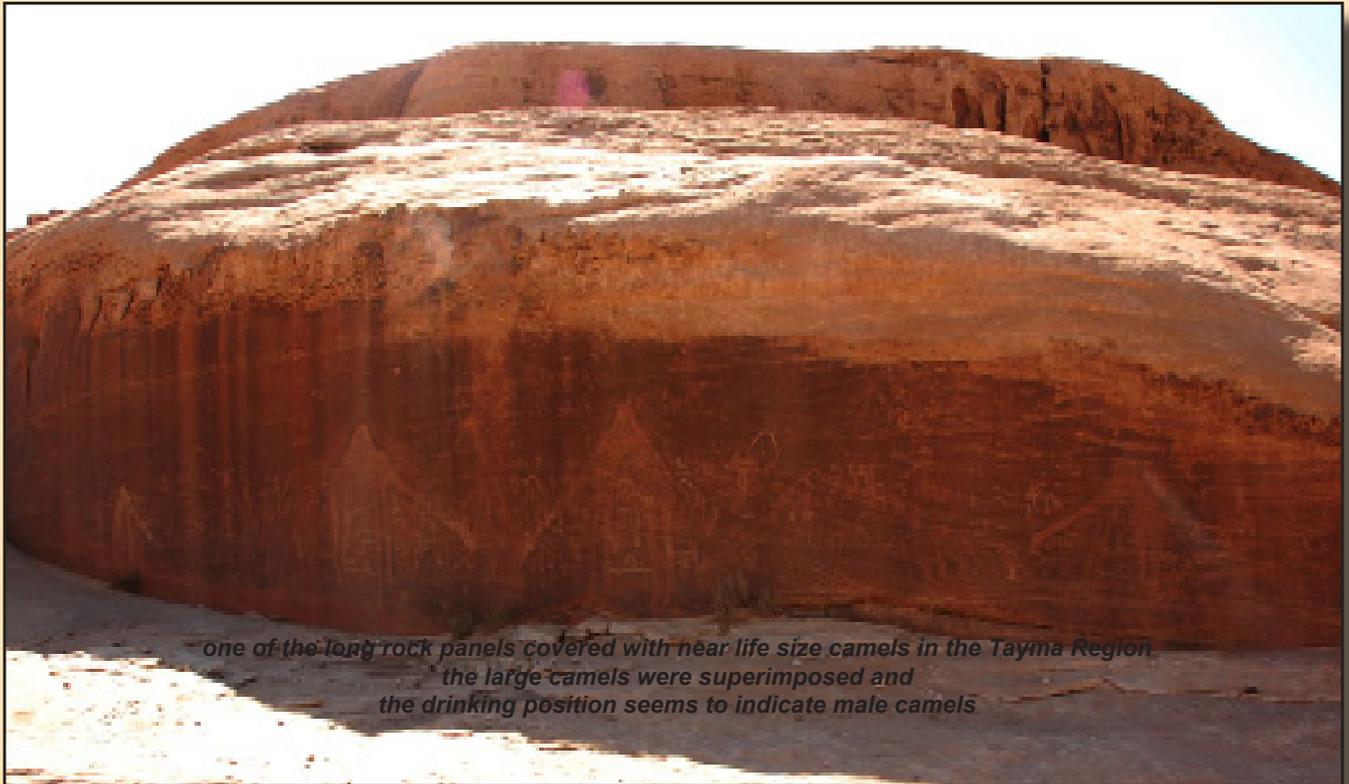
by Thomas Kummert

www.ancient-cultures.info www.paleolithic-neolithic.com



The idea to analyze and write about the many Neolithic engravings on rock panels, came to my mind, when I first saw the various and so different camel depictions during my numerous desert travels. We know, that camels today are wide spread around the world from Far East Asia via the Near East to Northern Africa and

lately with men's help also in Australia. There are two main types, the single hump *camelus dromedarius*, which today represents 90% of the total world population of around fourteen million animals. Only in Central and Far East Asia the double hump *camelus bactrianus* is at home. But this is not part of this evaluation.



one of the long rock panels covered with near life size camels in the Tayma Region the large camels were superimposed and the drinking position seems to indicate male camels

Animal Domestication

Now let's take a step back and look at the time line of first animal domestication. Despite their long existence and huge benefits camels were domesticated as one of the last useful animals. All other animals have been domesticated up to 6,000 years earlier by ancient men. This included: dog, horse, donkey, cattle, pig, sheep and goat. Animals were domesticated for a simple reason, as a useful source of nutrition. All provided meat and some also milk plus leather and fur. Others were used for hunting and some for transport.

But why was the camel one of the last, where it offered all of these useful attributes? This is difficult to understand, because the camel is such a peaceful animal and also was easy to domesticate. But we have to look at the environmental issues such as the prevailing climate at the time.

Domestication Time Line

From the recent discovery of an unknown ancient civilization in the Saudi Arabian southern desert we have learnt, that horses were first domesticated 9,000 years ago at Al Magar and not as previously thought in Central Asia around 2,500 BC. But how was this possible? The answer lies in

the drastically changing climate. At the time the Saudi desert was no arid barren land and resembled more a lush green Parkland, like a typical English landscape today with rivers and trees. This explains why horses were more useful than camels. This changed, when the climate in the region became more and more arid.

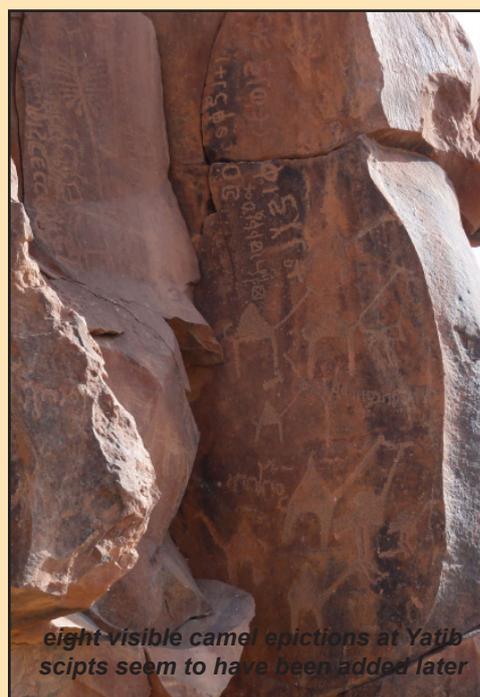
Change in Climate

The desertification not only on the Arabian Peninsula changed everything. At first donkeys were used to transport the valuable frankincense to Mesopotamia from the mountains in the Hadramaut Region in Yemen via one of the largest deserts the Rub al Khali or "Empty Quarters".

The annual monsoon winds *khareef* brought enough rain to the desert and this created large lakes between the sand dunes. These lakes are called by Arabs *sabkah* and allowed donkey transport during winter months. After the climate became even drier, they fully dried out and camels now came into play.

Camel Domestication

The camel domestication happened on the Arabian



eight visible camel epictions at Yatib scripts seem to have been added later

Peninsula exactly for that purpose around 3,000 BC. But for the double hump camel in Bactria it took place about 500 years later. It is interesting to note, that two different camels were bred for the important purpose of frankincense transport. There are many theories, where exactly in the Near East the first camel domestication took place. Possibly it happened at the same time at various places in the region. But the theory, which makes the most sense, points at the Ad Tribe in the southern part of the Arabian Peninsula.

They actually needed camels with different attributes for mountain passes and desert crossings. So they bred two different kinds. Smaller camels with small hoofs to better manage the narrow and treacherous mountain passes and larger camels with wide hoofs to resist sinking too deep into the loose sand. The "People of Ad", who spoke a totally different language, than any other tribe in the region, operated over fifty breeding stations for camels. From no other area in the region this activity was reported.

Frankincense & Camels

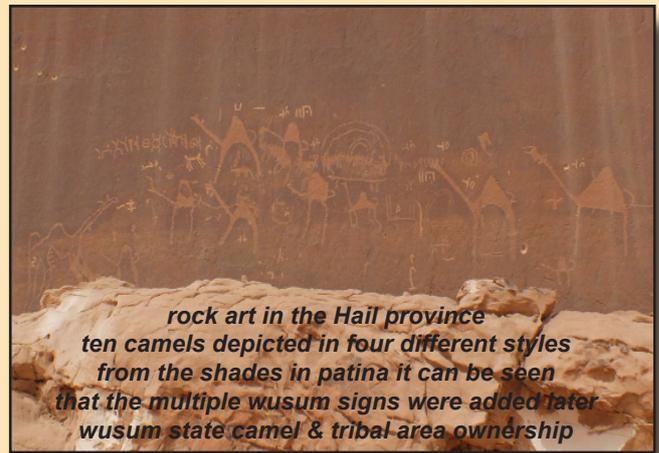
Frankincense was produced in Yemen also called "Arabia Felix", southern Oman, Somalia and Ethiopia. It is the gum resin collected from small cuts in the bark of an evergreen shrub or tree *boswellia carteri*, which create an intense smell and sensation. The white sap is drying to hard drops of semi-transparent light yellowish or reddish yellow color. But the best frankincense comes from the Dhofar Region in southern Oman close to Mansura or modern-day Salalah.

The summer monsoon rains had a positive influence on the silver frankincense tree *boswellia sacra* with the best resins originating from the arid belt behind the Cara Mountain range in the Dhofar Region. This variety is a rather small tree and grows at an altitude of 600-700 meters. This so-called silver frankincense belt stretches over an area of 150 square kilometers.

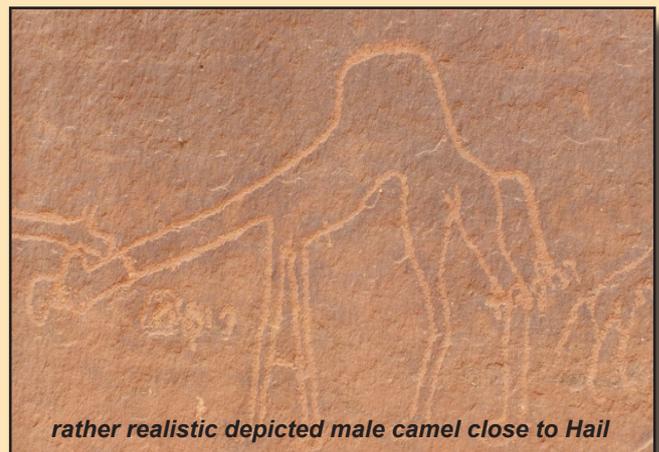
The regular use in the numerous Egyptian, Greek and Roman temples created a huge demand of over 3,000 tons per annum. Frankincense was also used for embalming in Egypt and for cremations in Rome to mask the bad smell. In Dhofar the controlling Ad Tribe made the harvesting a sacred act. Due to its scarcity frankincense carried a higher price than gold at the time. For example in Rome the price was approximately 2,000 US Dollar for one kilogram.

Camel Caravans

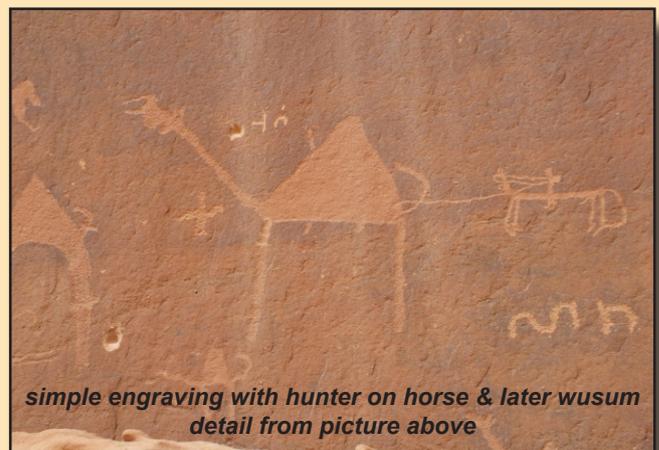
Already 7,000 years ago ritual incense usage and transports were first mentioned in Sumerian texts. And in Egyptian pyramid texts frankincense was first



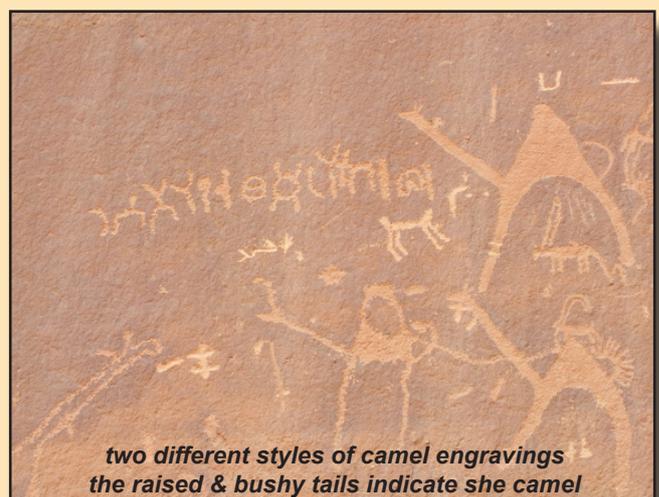
*rock art in the Hail province
ten camels depicted in four different styles
from the shades in patina it can be seen
that the multiple wusum signs were added later
wusum state camel & tribal area ownership*



rather realistic depicted male camel close to Hail



*simple engraving with hunter on horse & later wusum
detail from picture above*



*two different styles of camel engravings
the raised & bushy tails indicate she camel*

attested in 2,800 BC. The first reference in cuneiform texts in Mesopotamia happened about 500 years thereafter. The first caravans about 6,000 years ago used donkeys and mainly traveled during cooler winter times.

But with the domestication of camels they became "the beast of burden" enabling annual round trips. Camels were more economical as they took 300 kilogram loads and could go two weeks without water. The trip from "Arabia Felix" took around ten weeks and in today's monetary terms a camel load generated a profit of up to 4,000 US Dollar.

Camel Benefits

This shows how important and valuable camels were for their Bedouin owners. And over time including the recent years many more useful attributes became known. Camels have an especially strong immune system and drinking their urine and milk is believed to be able to cure certain forms of cancer.

But the key question is: How can camels go so long without water? Let's look at some rather interesting facts. An average 600 kilogram body weight dromedary camel can drink 200 liters in about three minutes. When crossing the desert without water resources it metabolizes the important fat storage in its hump. This process generates one gram of water out of one gram of fat.

In addition camels are masters in reducing evaporation of valuable body water. They barely sweat and their nostrils are able to filter water out of their moist breath and reuse it. Consider this, their urine contains little liquids, as it is thick like

syrup. Even their dung is so dry, that it can be burnt immediately in the Bedouin desert fires.



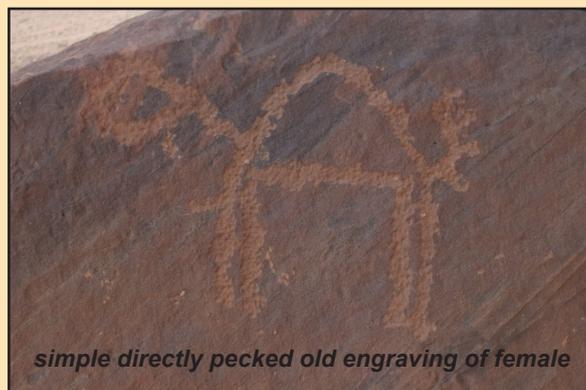
three old camel engraving already showing four legs on the so-called drum rock

Best Desert Adoption

But how do they sustain desert temperatures of over fifty degrees? The leather thick skin in their throat allow them to inhale extremely hot air without burning. They are actually so well adapted, that even their red blood cells changed. Their unique oval form creates a better blood flow in the dehydration status, they are normally in. So they can survive long desert trips without water easily.

Camels are also the only animal with a daily changing body temperature. At night they cool down to 34 degrees centigrade, but during the day it rises to 40 degrees. So it is surprising, that they become up to fifty years old.

Amazing is also their running speed. They can maintain speeds of forty kilometers per hour and can even reach maximum speeds



simple directly pecked old engraving of female

of sixty five kilometers. It is no wonder, why Bedouins love camels and keep them like we keep dogs

as companions and horses for our riding hobby.

To support the fact that the first domestication took place in southern Arabia, experts found that the first camel saddles also came from the same region. Only later they were enhanced in northern Arabia for higher loads and military use.

We know that Nabataeans used camels about 2,500

years ago in battles to defend and expand their trading interests. They used two riders sitting back to back and shooting arrows in both directions.

Camels & Rock Art

Camels were the most prominent animal in Saudi Arabian rock art. Depictions are found all over the Arabian Peninsula of both domesticated and wild camels. But there is no record of camel being sacred or totemic animal.

From the many pictures you see the different ways how camels were engraved on rock panels in the desert. Some look rather primitive, others very realistic. Interestingly there are more camel engravings in the northern desert region, which can't be really explained.

But let's look at the beginning of rock art in the deserts of the Arabian Peninsula. The oldest engravings date back some 15,000 years and show men with the first animals they had domesticated. But the largest number of depictions show wild animals they hunted.

A real explosion in rock art creation took place some 7,000 years ago. Today there are more than 4,000 engraving sites registered with over 500,000 depictions. This shot Saudi Arabia



rather busy panel at al Ula, interesting here is the howdah on the camel to transport women

in recent years up into the world top three rock art countries.

If we look at camels, we see a rising number of their depictions around 5,000 years ago, around the time when they were first domesticated. The last representations created are dated during the Iron Age about 1,500 years ago. This does not mean, that wild camels were not hunted and engraved on rock panels before 3,500 BC.

It has to be noted, that all camel depictions are shown in static side perspective only with no movement or dynamism as known from some European rock art of even older age.

Engraving Techniques

An indication of the age of rock carvings is the way they have been engraved. It is the same for all animal depictions. Interestingly human engravings differ. Please see my separate article "Human Depiction".

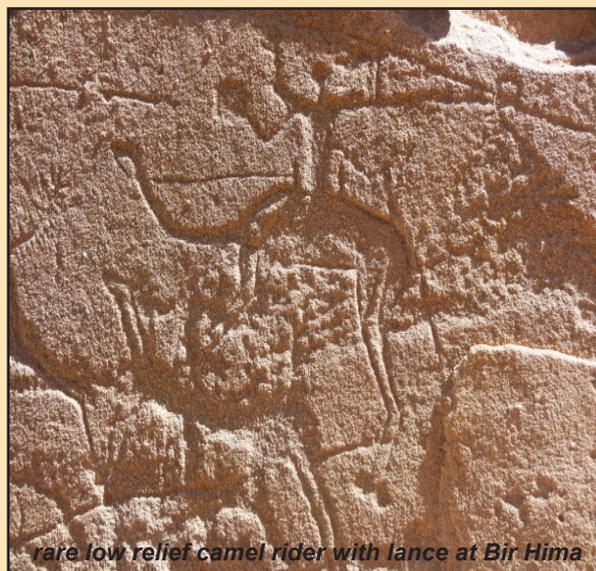
The first technique used was direct pecking with a

hammer stone. These engravings are a rough irregular outline of the animal body looking a bit primitive due to the lesser accuracy of pecking. From the pictures in this article we can see, that the wild camel engravings were executed in this way.

In a second step the whole body was chiseled out in deep relief and this was done by the indirect pecking technique. The creators used a hammer stone and stone chisel to create finer and precise lines. The composition, strength

and depth of pecking show, that carvings were done already by skilled artists. They used sophisticated tools, but animals not depicted in motion.

The lack of dynamism suggests that engravings represented a symbolic message. The majority of desert rock art was created with these pecking techniques. As this is still an old way to create rock art images, it has to be assumed, that these depictions, like the one picture from the Janin Cave, still show wild camels.



rare low relief camel rider with lance at Bir Hima

Desert Varnish

For those of you who have visited any desert before, will possibly remember the darkish rock surface coverage called desert varnish. It is produced over a long period of time of up to 60,000 years by iron and manganese oxide particles present in the rock.

They react with wind transported clay dust and some organic matter on

the wind opposite side of rock surfaces. This biochemical reaction need high desert temperatures and some morning condensed water dew.

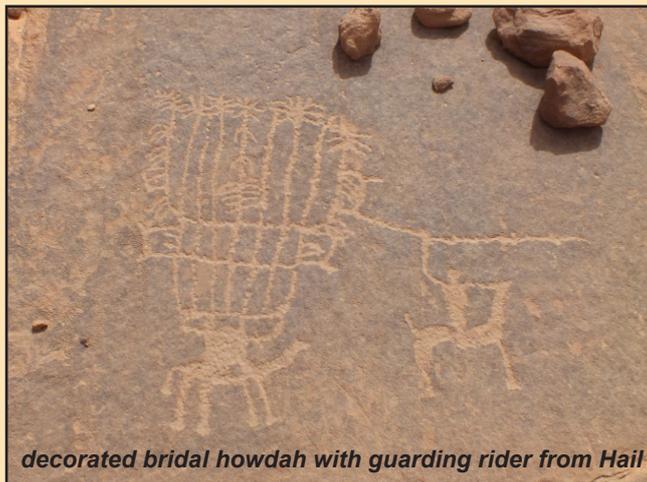
A big unanswered question for experts still is the fifty to sixty times higher concentration of manganese in desert varnish compared to the much lower average concentration of less than one tenth of a percent in the rock itself.

What we know is, that lots of bacteria use manganese for growth and they also play a part in the production process of desert varnish. Dark dull desert varnish colors indicate a dominant bacteria growth, light shiny surfaces are proof of dominant clay accumulation.

Black surfaces are created by manganese domination and reddish desert varnish shows higher concentration of iron particles. Ancient men loved desert varnish surfaces as rock art working platforms. Because it was very easy to simply scratch figures and signs with any type of stone scraper tool exposing the lighter colored stone surface beneath.

Other Techniques

Scratching was an easy and quick way to create animal rock art depictions. It was done on those rock surfaces covered with desert varnish. It was also used on soft sandstone to scratch off the surface, which created a well



decorated bridal howdah with guarding rider from Hail

visible difference in color. The arid climate maintained these depictions so well, giving the impression they were created yesterday. The rubbing technique was another variation, but used seldom by rubbing off desert varnish areas around figures.

Low and bas relief depictions are rare. This carving technique is not used frequently on the Arabian Peninsula. These camel representations are found only in early rock art work at Jubbah in the Hail Province and other early sites. Our sample picture on the following page was taken on trip from Hail to Tayma in a very isolated open desert area with some rocky outcrops.

Different Shapes

Next to the engraving techniques we have another way to distinguish camel depictions by looking at their shapes. This can also tell us something about their age. If we look at their size, we have anything from a few centimeters to life size depictions. But the shapes can be categorized in three main styles.

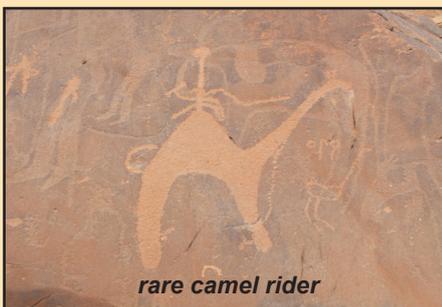
Possibly the simple directly pecked single line depictions are the oldest. Interestingly these are done with either two or four legs and as a variation also created with full body pecking. All these were rather small engravings ranging from twenty to forty centimeters.

Thereafter followed the realistic shape with four legs. These look very nice, as the hind legs show rounded muscles. They are the only depictions giving the impression of movement. But most of these creations have only a little round hump, a fact that disturbs the perfect look.

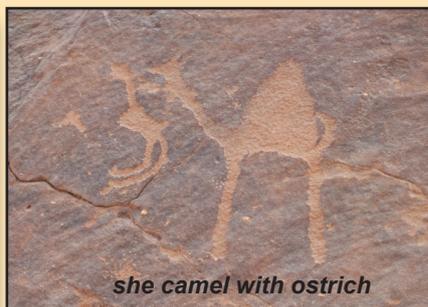
Quite often these are also found with lowered heads as if they were drinking. Talking about the humps. Some camels are shown with huge oversized humps. It can be assumed that they should represent camel with valuable frankincense loads.

The third most important shape is the so-called "A frame". Camels are engraved with a triangular hump and legs plus belly carved as an igloo. These are normally much larger up to life size and fall into the great caravan era.

Very often these depictions are accompanied with *wusum*, a sign representing tribal ownership of camels and herding



rare camel rider



she camel with ostrich



full body directly pecked



rare rock art panel full of camels at Mada'in Saleh



rare life size camel worked out in realistic bas relief

areas. These *wusum* were often added later, as their engraving is lighter in color and less patinated and therefore younger.

Special Camel Depictions

Very fascinating are those camels depicted with huge oversized cage like structures on their backs, as shown in some of the pictures in this article. These were not heavy loads. But we can assume, that they should show tent like carriages or *howdah* for female transport.

One example is so nicely decorated with tassels, that we can suggest this depiction is representing a bride transported to her groom. This assumption is supported by the guarding rider on horseback in front swinging a lance. In another older directly pecked depiction the *howdah* is shown as a single line bubble like baldachin with a person presumed to be a woman well visible inside.

It is remarkable to see, that only few camels sport riders. All riders are shown as simple stick figures and are armed. They were possibly created in the last period of camel representations about 2,000 years ago.

One would assume, that stick figure humans are very old, but it is exactly the opposite. Very realistically engraved human depictions are the oldest and stick figures are the youngest.

Today experts agree, rock art was created to pass on a message to others. So the conclusion is, that from the various forms of human stick figures representing each a message, the first letters were developed.

The age of rock art can be derived also from the context they are found in. That means the other animals around them and the patina of their engravings. We

have one very fine example on a picture in this article.

Various camels are superimposed, that means engraved on top of older creations. In this case we see the shadows of various old Jubbah Culture style men, possibly hunters or the typical cattle herders.

Interesting Camel Sites

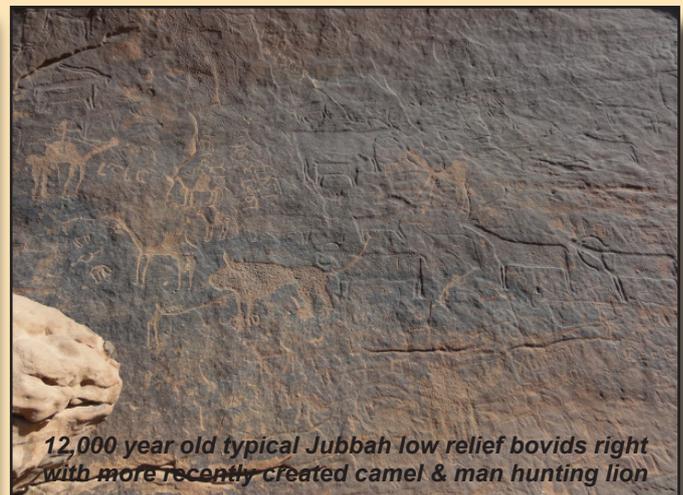
South of Tuwair near al Jawf in northern Saudi Arabia, five camel riders are depicted fighting each other with long lances and swords. The tribal emblem or *wusum* "IO" has been identified as the ownership sign of the local tribe.

Al Jawf was the capital of the ancient little known Adumatu Kingdom. It was mentioned by Assyrians around 1,000 BC that powerful queens resided here.

Near Tayma to the south of al Jawf a fallen boulder on a hill slope is covered with camels, horse riders, humans and other



camel rider at Jubbah with older engravings below



12,000 year old typical Jubbah low relief bovids right with more recently created camel & man hunting lion



two very realistically shaped male camels on a prominent panel on top of Yatib hill including rare palm tree

animals. Six camels with raised feathered tails indicate, that they are female camels. They are also accompanied by a wusum.

Tayma is another most interesting ancient capital. 2,500 years ago the last Neo-babylonian King Nabonid put his son in charge of Babylon and resided here for fifteen years to end an disagreement with the priesthood of God Marduk.

North of al 'Ula still in northern Saudi Arabia, a large camel representation is chiseled, scratched and abraded on a rock surface. The camel's legs and body is shown in the typical "A" shape with nearly no hump.

Many smaller camels in various forms like "A" shape, triangular hump and stick figure are part of the composition. In addition we see many inscriptions in Thamudic dated 1,000-500 BC and

some later first Arabic inscriptions in Kufic dated 600 - 700 AD during the rise of Islam. To the northwest of al 'Ula, five camels are shown on a panel with horse riders and two fighters on foot one with bow and arrow and the other with sword and club.

In the same area we also found a

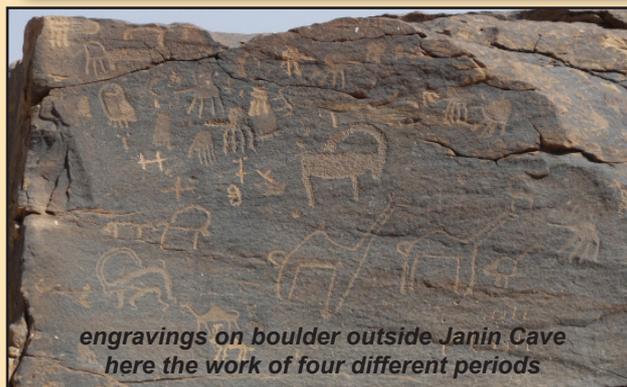
rare depiction of a camel feeding its baby. This seems to be an important depiction for their creators, because the image is surrounded by lots of *wusum*. It possibly should indicate, that many tribes were successfully breeding camels in the area.

Al Ula is possibly the most interesting archaeological site as it is home to two important cultures. More than 3,000 years ago Dedan was an important oasis and trading center. Only few kilometers away the Nabataeans established their southern capital and trading center Mada'in Saleh.

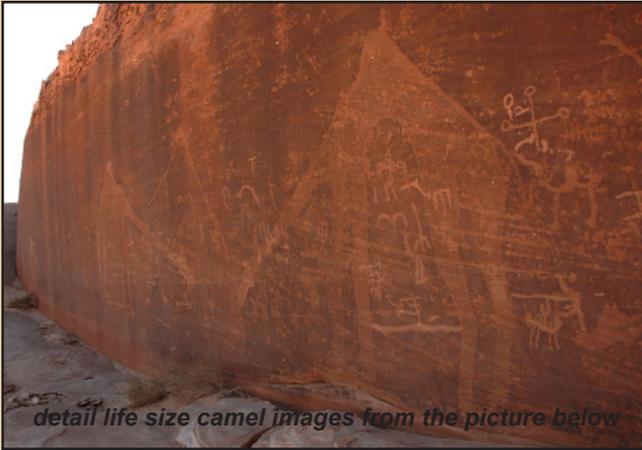
Shuwaymis is another very important old and isolated site. Here a large panel split after engraving in three parts. Two large camels with triangular hump and hanging tails with tassels are engraved. Plus twenty smaller camels all in the same shape, but with raised tails indicating that they are females.



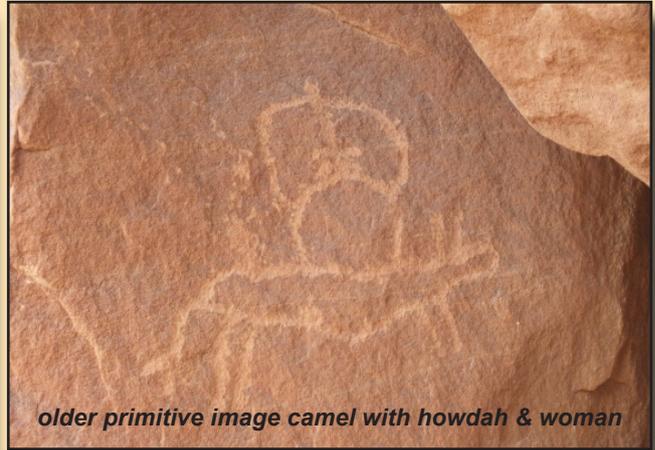
two early camel engravings in Janin Cave plus the rare ancient hand stencils



engravings on boulder outside Janin Cave here the work of four different periods



detail life size camel images from the picture below



older primitive image camel with howdah & woman

This is always an indication for female camels. Some mothers are shown with baby camels between their legs.

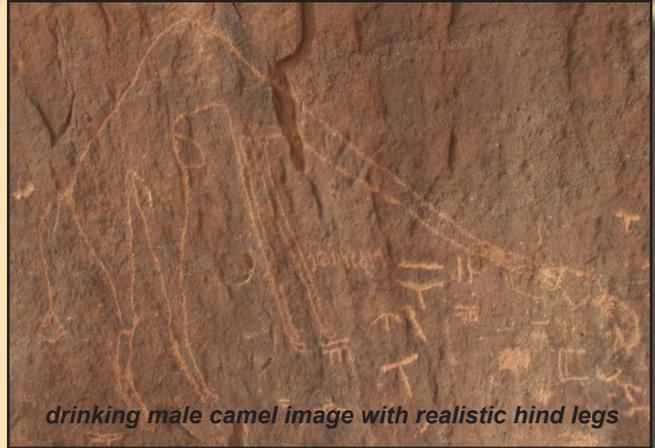
Another huge boulder on the slope of the valley. But interestingly only the southern valley side has camel depictions which are dated between 1,000 - 500 BC. The north side only has much earlier created cattle images. It is rather unique to see two separate periods unmixed on different valley sides.

Summary

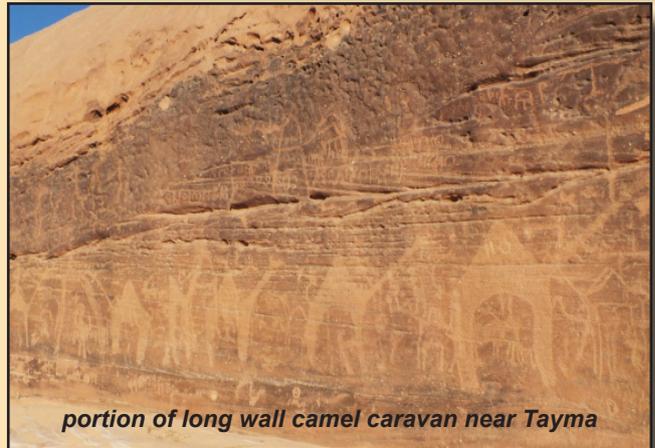
The desert rock art is really amazing stuff and gave me this “WOW”! feeling, each time I stood in front of one of these astonishing panel covered with an uncountable number of animal depictions.

These “super panels” as I call them are huge compositions, filled over thousands of years with ever new motifs, many just superimposed on each other.

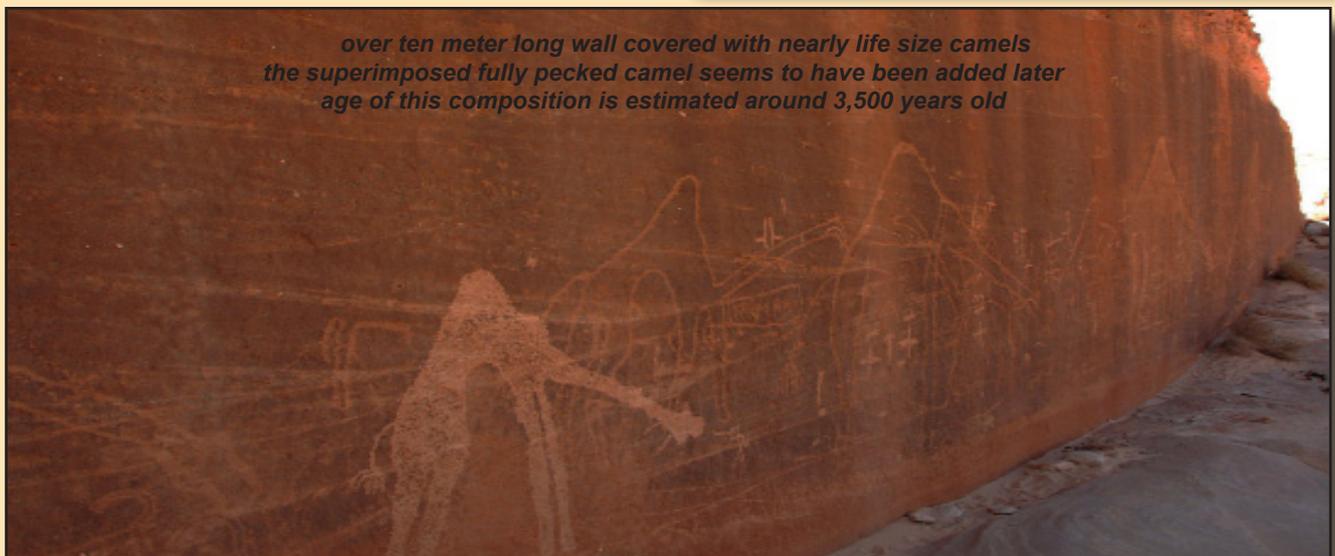
You really can't believe it, if you have not seen it. Even this article and the pictures just can give you a small glimpse of what there really is lying in the desert. The whole vast desert area is fully worth the status of a UNESCO World Heritage site.



drinking male camel image with realistic hind legs



portion of long wall camel caravan near Tayma



*over ten meter long wall covered with nearly life size camels
the superimposed fully pecked camel seems to have been added later
age of this composition is estimated around 3,500 years old*