

Camel, a Deliberative Creation of God

by

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- Introduction
- Feet for All Types Terrains
- The Hump as Food Store
- Fur and Ideal Temperature Control
- Spectacular Shelter from Sand
- Ultimate Survival
- Special Milk
- Diabetes Cure
- Incredible Water Utilization Unit
- Great Benefits from Food and Water
- Ideal Blood Structure
- Points to Ponder
- References

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Introduction

In one of my recent trips to the Gulf I was taken for a Desert Safari. Before our voyage the tire pressure in the 4x4 Safari vehicle was reduced to nearly half. When asked for the reason my host replied, ‘for the vehicle to surf easily with good grip on the sand, otherwise the vehicle will get stuck or spin relentlessly’. This reminded me of the Camel and its ‘cushion-like’ feet which enable them to firmly grasp the sand.

The Holy Quran invites us to ponder upon the creations of Allah so that the truth reveals onto us. It also mentions various animals with a variety of privileges as a gift to mankind. As a sign of His greatness, Allah has created all creatures with a variety of attributes and advantages either at sea or on land. Among those animals, mentioned in the Quran (as a miracle) is "the Camel". Allah says in the holy Quran:

Do they not then look at the Camel, how it is created? (88 :18)^[1]

أَفَلَا يَنْظُرُونَ إِلَى الْإِبِلِ
كَيْفَ خُلِقَتْ ۗ وَقَفَّهٗ

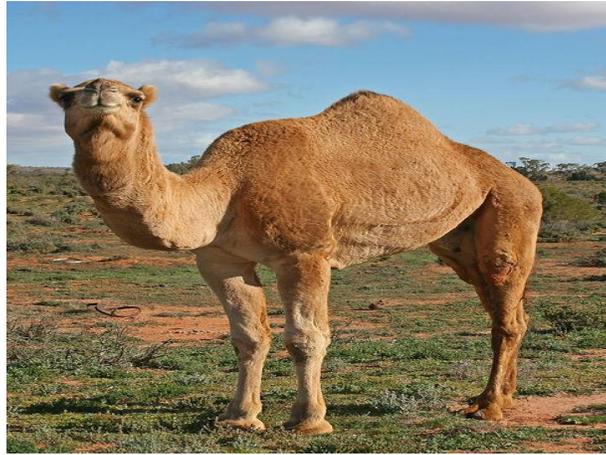


Figure 1: A *Bactrian* (single hump) Camel

Allah invites all the believers and non believers to think upon His creation. In this article we will discuss some marvellous attributes of a Camel.

Feet for All Terrains

The feet of Camel are equipped with two toes connected to each other with a flexible cushion. The bottoms of the feet consist of four “fat balls” which enables it to firmly grasp

the land. These feet are perfect for all kinds of land conditions. Its nails protect the foot against any potential damages that may occur as a result of blows. Its knees are covered with a leathery structure called “callus”, which is composed of skin as hard and thick as horn, thus protecting the animal from being deflected by the extremely hot sand while sitting or resting on it.^[2]



Figure 2: Camel feet showing the toe bones being embedded in a broad ‘cushion-like’ pad that helps him in walking easily on sand.

The Hump as Food Store

The hump of the Camel is a mass of fat which provides nutrition to the animal for weeks, in times of starvation. Under good circumstances, if the food is in abundance, it can weigh up to 80 pounds. When the food is scarce, the Camel uses the fat stored in its hump to keep him alive, and it may lose the hump eventually if conditions do not get better. When the hump is full it stands erect and after losing fat it may lean or totally disappears. This is a lesson from Allah Almighty that we should learn from His creations and be prepared for the bad times that may come ahead.

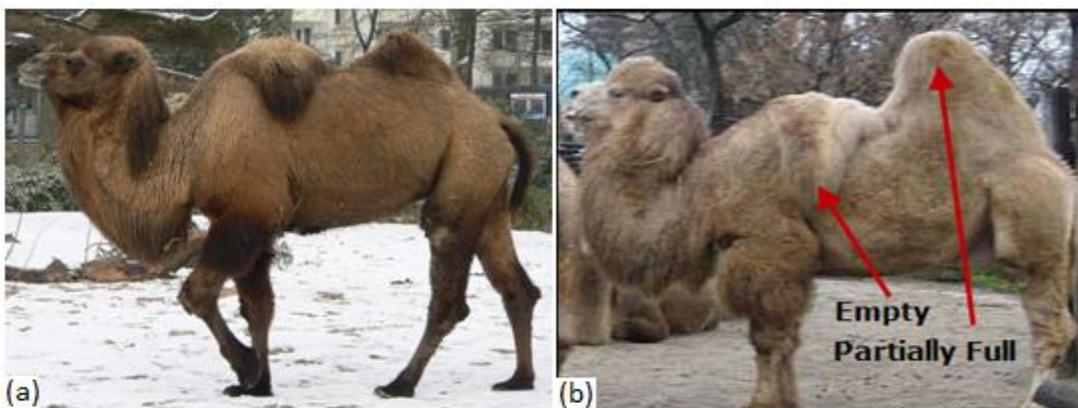


Figure 3: Picture of *Dromedary* Camel (two humps) (a) Both humps filled (b) one filled and one empty hump

Small amount of fat stored can keep such a massive beast alive for months without food and water. We must study and research about the components that the Camel stores in its hump. If a food supplement or some other eatable is manufactured with studying the structure of the fat stored in Camel, it can ravish the hunger of many suffering from famine in African region. Instead of transporting grains in large amount, this supplement would be helpful in fulfilling the same requirement of people in comparatively much small quantity.

Fur and Ideal Temperature Control

The fur consists of felted thick hair that not only protects the body of the Camel from hot and cold climatic conditions, but also eliminates the water loss of the body. Camels do not sweat; instead Allah has given them an ability to vary their body temperatures. Its body temperature can rise and fall from 97.7°F to 107.6°F^[3]i.e. it can vary its body temperature by 10°F, while in humans an increase of only 2°F is a sign of illness; and, a core temperature rise of 6°F will result in vital organ damage and the person will eventually die. When the upper limit exceeds, evaporation of their sweat takes place. This evaporation takes place at the skin level, not at the surface of their coat, thereby being very efficient at cooling the body, compared to the amount of water lost through perspiration. Thanks to this mechanism, the animal keeps the water loss at the minimum level in the extreme hot climates of the desert.

The *Hecin* Camel can delay the perspiration of its body by means of increasing its body temperature up to 105° F, and thus prevents the water loss. With its thick fur, Camels in Asia can survive high temperatures reaching up to +122° F in summer and falling down to -122° F in winter.

While constructing in desert area, one should be careful about the structure of the building so that it remains cool in day time and does not get too cold at night. Thick walls and ceiling with heat lamination would be very helpful.

Spectacular Shelter from Sand

The Camel's head, though small, is one of its most interesting features. The two large eyes on either side of the head are shaded from the sun by a projecting ridge of bone on which the thick bushy eyebrows sit on.



Figure 4: Eye structure of a Camel

The eye lashes of the Camel have a structure like two separate combs clamping together. In case of danger, these eyelashes clamp together and the eyes are automatically closed. With this special design, even a single grain of sand is not able to enter the eye of this magnificent creature. In addition to this, each eye also has a very thin third protecting sheet that moves with a side-to-side motion. This acts as a windshield wiper brushing away sand and can close to protect the eye while still allowing the Camel to see. In this way, a Camel can see well enough to keep walking in the midst of a sandstorm, hence making it the most suitable animal for the desert areas. Glands in the Camel's eyes supply a lot of water to clean the eye and also to keep the eye moist under extremely dry conditions.

Nose and ears are covered with long hair for protection against dust and sand. Its long neck helps the animal to reach and feed on the leaves, which are more than 3 meters high from the ground. ^[4]

These attributes of a Camel can be very useful for the people living in areas with frequent dust storms. Window shades should be constructed that extend well outward, thus protecting from ruthless sun. Using the structure of the eyelashes, protectors could be designed that close every entrance and window of the house during dust storm.

Ultimate Survival

When the conditions are harsh and climate is dry, Camel would survive even if it has to lose 40% of the water in its body, whilst losing just 12% would cause a man's death. ^[5]And when there is water, a Camel can drink 30 gallons of water in 10 minutes, as a backup for dry weather. Scientists have even found a Camels stomach empty, just 10 minutes after drinking 20 gallons of water. In other animals, drinking that much water would result in water intoxication in no time. This is a dangerous condition, where low electrolyte levels (sodium, etc) in the blood serum force the water into the cells and tissues

of body through osmosis. In humans, this electrolyte imbalance and tissue swelling can cause an irregular heartbeat, allowing the fluid to enter the lungs, and put pressure on nerves and brain. In severe cases, swelling brain tissues can cause coma, seizures and ultimately death.

Droughts in Africa, Mongolia and India have showed that Camel can give herdsman an excellent chance for survival as the magnificent structure of the Camel allows it to live more than a month without water and due to its ability to produce milk on the poorest of diets.

Special Milk

Camel milk is a rich source of proteins with potential antimicrobial and protective activities. These proteins are not found in cow milk or found only in small amount. Camel milk has enough nutrients to sustain a person throughout the day. In many countries, Camel milk is given to babies suffering from malnutrition. Compared to cow and buffalo, Camel's milk contains less short chained fatty acids, but the same amount of long-chained fatty acids. Camel milk has a high vitamin, mineral and immunoglobulin content.

Camel milk is low in lactose as compared to cow's milk while the levels of iron, manganese, potassium, magnesium, copper, sodium and zinc are higher than in cow's milk. Camel milk is 3 times higher in vitamin-C and 10 times higher in iron than cow's milk. ^[6]

In the countries across the oceans, adults and children suffering from a wide variety of diseases including crohn's, colitis, autism and diabetes have found relief and reduced their symptoms with Camel's milk.

Diabetic Cure

Health benefits of Camel milk are attributed to the presence of high concentration of insulin like protein and other factors that have a positive effect on the immunity. The fact that it does not coagulate easily in an acidic environment e.g. in the stomach, makes it available for absorption in the intestines. The anti diabetic action of Camel milk has been attributed to the Camel's choice i.e. grazing on natural vegetation in the desert, including salty herbs and plants some medicinal plants like the Neem.

In Somalia and Kenya, some diabetics who recognized the value of Camel milk, are using it as a therapy to control their diabetes.

Incredible Water Utilization Unit

As discussed earlier, Camels can consume approximately 130 liters of water, which is approximately one third of their body weight. Camels also have a mucus structure in their nose, which is 100 times larger in area than humans. Every time it breathes, air is moisturized by the mucus, while every time we breathe, we lose 16 milligram of water vapor for every liter of air. However, with this incredible structure of the mucus, Camels can take advantage of the moisture in the air in a ratio of 66%.^[7]

Great Benefits from Food and Water

The Camel's kidneys can concentrate their urine to the consistency of syrup, with the salt level twice as the content of sea water. Their pellets are so dry that they can be used as fuel for fire, immediately after voiding. Most of the animals die when the accumulated urea in their body gets into the blood circulatory system while Camel keep it refining and consequently use it as a source of protein and water. Both the blood and cell structures of this animal are specialized for enabling this animal to survive for long periods of time.

Hump is another aid to the Camel. One fifth of the Camel's body is stored as fat in its hump. The storage of the body fat in only one part of the body prevents it from losing water all through body. This lets its body to consume minimum amount of water. Even though a Camel with hump can take in 30 to 50 kilograms of food in a day, it is also able to live more than one month with only 2 kg of grass.^[8]

Furthermore, Camels have very strong and "rubber like" lips that make it easier for them even to eat thorns, sharp enough to pierce leather. The three chambered stomach of this wonderful animal gets use of everything. It possesses such a strong digestive system that it can digest everything that comes across, like plastic plates, copper wire and reeds. It is rather obvious that how precious these features of the Camels are in a dry climate.^[9]

Ideal Blood Structure

Unlike those of other mammals, the red blood cells of Camel have an oval in shape, which facilitates the flow of blood in dehydrated state. These cells are also more stable in order to withstand high osmotic variation without rupturing when drinking large amounts of water in a single drink. These oval red corpuscles are not found in any other mammal, but are present in reptiles, birds, and fish.

Like humans, Camel blood contains 94% water. But during dehydration, their blood can lose up to 40% of its water safely. According to doctors, human blood must stay very

close to 94% water. If 5% of its water loses, you go blind; at 10%, you can't hear and go insane and at the loss of 12% your blood is as thick as molasses. At last the blood is unable to circulate and you are dead.

Points to Ponder

Have you not seen that Allah has pressed for you into service whatever is in the heavens and whatever is in the earth, and has completed His favors on you, both externally and internally? And among men there are some who dispute concerning Allah, without knowledge or guidance or an illuminating Book. (31: 21)^[10]

أَلَمْ تَرَوْا أَنَّ اللَّهَ سَخَّرَ لَكُمْ مَّا فِي
السَّمَوَاتِ وَمَا فِي الْأَرْضِ وَأَسْبَغَ عَلَيْكُمْ
نِعْمَهُ ظَاهِرَةً وَبَاطِنَةً ۗ وَمِنَ النَّاسِ
مَنْ يُجَادِلُ فِي اللَّهِ بِغَيْرِ عِلْمٍ وَلَا هُدًى
وَلَا كِتَابٍ مُنِيرٍ ﴿٢١﴾

Now, let us think in the light of this information: Has the Camel adapted its own body to the desert conditions on its own? Has he formed his own mucus of the nose or the hump on its back? Has he designed his own nose and eye structure? Has he arranged his own blood and cell structure based on the principle to prevent waste of water? Has he chosen himself the type of the hair covering its body? Has he converted itself to a 'desert ship' on its own? Has he composed his milk to be lactose intolerant and good for diabetic patients? How is he able to vary his own body temperature?

Just as any other living being, surely the Camel cannot execute any of the above listed features in itself. Moreover, it cannot make itself advantageous or beneficial to mankind. The verse in the Quran emphasizing "Do not they look at the Camel, how it is created?" explains the creation of this excellent animal in the best way. As the other beings, Camel is too, created with many characteristics and then placed on earth as a sign of the excellence of the Creator in creation. While it is created with such superior physical features, it has been given to the service of mankind. On the other hand, mankind is given the responsibility to see similar miracles of creation throughout the whole universe and know the Creator of all beings, Allah...

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