



Camelus Dromedarius

Dromedary

By Robert Naumann



Geographic Range

Dromedary camels occupy arid regions of the Middle East through northern India and arid regions in Africa, most notably, the Sahara Desert. They have also been introduced to arid regions of central Australia where some of the only feral populations now persist (Nowak 1991). The original range of their wild ancestors was probably south Asia and the Arabian Peninsula. Dromedary camels prefer desert conditions characterized by a long dry season and a short rainy season. Introduction of dromedary camels into other climates has proven unsuccessful as they are sensitive to cold and humidity (Nowak 1991).

Physical Description

Dromedary camels are characterized by a long-curved neck, deep-narrow chest, and a single hump. The hump is composed of fat bound together by fibrous tissue, acting as food storage in times of need. The size of the hump varies with the nutritional status of the camel, becoming smaller and leaning to one side during times of starvation. The lips of dromedary camels are thickened to allow consumption of coarse, thorny plants. Dromedaries are typically caramel brown or sandy brown in color; however, coloration can range from almost black to nearly white. Hair length is longer on the throat, shoulder, and hump areas. The feet of dromedaries are pad-shaped and adapted for traveling on sand. They can be easily injured on sharp stones and are unsuitable for slippery or muddy conditions. Male dromedaries, in comparison to females, are about 10% heavier, weighing 400-600 kg, and are about 10 cm taller at shoulder height, measuring 1.8-2.0 m. Additionally, male dromedaries have an inflatable soft palate which is used to attract females. Dromedary camels have a total of 34 teeth.

Dromedary camels have remarkable adaptations for their desert lifestyle. Their eyes are protected from blowing sand and dust by a double row of eyelashes. Additionally, at the onset of a sandstorm, these camels have the ability to close their nostrils to prevent sand from entering. Dromedary camels are able to conserve water in a variety of ways. Water is conserved by the camel's ability to fluctuate its body temperature throughout the day from 34 degrees Celsius to 41.7 degrees Celsius. This fluctuation in body temperature allows the camel to conserve water by not sweating as the external temperature rises.



Groups of camels also avoid excess heat from the environment by pressing against each other. Dromedary camels can tolerate greater than 30% water loss, a condition which is lethal for most other mammals at 15%. Water is expended primarily from interstitial and intracellular bodily fluids. Furthermore, dromedary camels can rehydrate quickly, being capable of drinking 100 L of water in just 10 minutes, a feat which would be lethal to any other mammals.

Reproduction

During competition for females, males threaten each other by making low noises with the fleshy fold of their mouths, stand as tall as possible, and repeat a series of head movements including lowering, lifting, and bending their necks backwards. Upon confrontation, fighting males attempt to bring their opponent to the ground by biting at his legs and taking the opponent's head in between his jaws. Copulation time ranges from 7-35 minutes, averaging 11-15 minutes.



Mating System polygynous

Females reach sexual maturity around age 3 and mate around age 4 or 5. Males begin to rut by age 3, but do not reach full sexual maturity until age 6. Typically, males and females are seasonal breeders. Breeding occurs in winter and overlaps with the rainy season; both vary in respect to the camel's geographic range. The onset of the breeding season is believed to be cued by nutritional status of the camel and the daylength. The gestation period typically lasts for a period of 15 months, followed by the birth of a single calf.

Behavior

With the exception of rutting males, dromedary camels display little aggressive behavior. Confrontations among dromedary camels include pushing each other with their whole body or lowered head and neck; snapping at each other without biting; and occasionally vomiting cud when they are hurt or excited. Dromedary camels usually form groups of 2 to 20 individuals. The basic social unit is the family, consisting of one male, and one to several females, subadults, and young. The male within the family unit prevents contact between female camels within the family and stray males by either standing or walking in between them, or by driving the stray males away. The male is the dominant member of the family group and directs the family from the rear while the females take turns leading.



Dromedaries tend to travel by walking single file. Dromedary camels find comfort in scratching parts of their body with their front or hind legs, or with their lower incisors. They are also often observed rubbing against trees. Additionally, they seem to like to roll in sand.

Food Habits

Dromedary camels are herbivorous. They eat primarily thorny plants, dry grasses and saltbush; however, they will eat most anything that grows in the desert (Oakland Zoo 1993). Dromedaries primarily browse, with shrubs and forbs composing up to 70% of their diet. About 8-12 hours/day is spent grazing with equal amounts spent ruminating (Kohler-Rollefson 1991). When foraging, camels tend to spread over large areas and select only a few leaves from each plant. This type of feeding behavior reduces the stress on the plant communities and eases competition with other arid region herbivores (Busch Gardens 1996). For the camels, this kind of foraging may reduce their intake of any particular plant toxin by foraging on the widest variety of foliage. Additionally, dromedaries need 6 to 8 times as much salt as other animals for absorption and storage of water. Consequently, 1/3 of their food intake must be halophytic plants. Dromedaries browse up to a height of 3.5 m, breaking off branches or stripping off the leaves in one movement. While browsing, they use their lips to grasp the food, then chew each bite 40-50 times. The mouth is kept open while chewing thorny food (Kohler-Rollefson 1991).

Vocabulary:

Camelus Dromedarius Dromedary

Hump: joroba

Storage: almacenar

Starvation: ayuno

Slippery: resbaladizo

Feat: proeza

Cud: bolo alimenticio

Stray: apartados/vagabundos

Rear: parte trasera

Rut: celo