THE MAGNIFICENT MIGRATION

Best known today for inhabiting hot, arid regions of North Africa and the Middle East, as well as colder steppes and deserts of Asia, the family Camelidae had its origins in North America. The signature physical features of camels today—one or two humps, wide padded feet, well-protected eyes—may have developed first as adaptations to North American winters.

Domestication of camels began between 3,000 and 4,000 years ago—slightly later than horses—in both the Arabian Peninsula and western Asia.

World camel population today is about 30 million: 27 million of these are dromedaries; 3 million are Bactrians; and only about 1,000 are Wild Bactrians.

Land bridge
8 MY–14,500 Y

About 6 million years ago, camelids began to move westward across the land that connected Asia and North America.

Camelini

Camelid ancestors

Lamini

About 3 million years ago, camelids of the Lamini tribe entered South America.

About 300,000 now-feral dromedaries inhabit Australia's Outback. They descend from camels imported from India in the 19th century.

The World's Most Adaptable Traveler?

Camels have adapted to some of the Earth's most demanding environments. Both dromedaries and Bactrians can go days, even weeks, without a drink of water. This is thanks to adaptations in its physiology, its circulatory and digestive systems, and its ability to let its body temperature change more than any other mammal. These traits have also helped camels keep a distance from predators.

Circulation

Blood cells that can swell up to three times their normal size are what allow the camel to drink so much water. As it uses water, the same cells narrow to keep flowing, allowing the camel to become more dehydrated than other mammals.

Eyes

Camels see well in both bright desert sun and at night. Their eyelids are semitranslucent, which allows a camel to walk with its eyes shut. Extra-long eyelashes, too, protect against sand and dust.

Nose

A camel can close its nostrils. This helps keep out sand, and it also helps cool exhaled air, which helps conserve water.

Humps

These store fat, not water. The fat in the hump gives camels a reserve of energy when no vegetation is available for grazing.

The First Camels

The earliest-known camelids, the *Protylopus* and the *Poebrotherium*, ranged in sizes comparable to modern hares to goats. They appeared roughly 40 million years ago in the North American savannah. Over the 20 million years that followed, more than a dozen other ancestral members of the family Camelidae grew, developing larger bodies, longer legs and long necks to better browse high vegetation. Some, like Megacamelus, grew even taller than the woolly mammoths in their time. (Later, in the Middle East, the Syrian camel may have been even larger.) Around 25 million years ago, two tribes of camelids divided: The Camelini gradually migrated north and west, and the Lamini drifted south.

Dromedary
Bactrian
Wild Bactrian
Llama
Vicuna
Guanaco
Alpaca

Dromedary (*Camelus dromedarius*)
Weight: 400–600 kilograms
Shoulder height: 1.6–2 meters

Bactrian (*Camelus bactrianus*)
Weight: 600–1,000 kilograms
Shoulder height: 1.6–1.8 meters

Camelops
4 MY–10,000Y

Megacamelus
10–5 MY

Aepycamelus
21–5 MY

Procamelus
22–5 MY

Poebrotherium
40–32 MY

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