

Domesticating Large Mammals: Why Eurasian Dominance?

Domesticated animals are selectively bred in captivity and thereby modified from their wild ancestors.

The big domestic animals (100 lbs +) were crucial in that they provided meat, milk products, fertilizer, land transport, leather military assault vehicles, plowing power, wool, and bad germs.

Just 14 "big" mammals were domesticated before the 20th century: cow, sheep, goat, pig, horse (the 5 most significant), llama/alpaca, camel (2 types), donkey, reindeer, water buffalo, yak, banteng, and gaur. All but one are of Eurasian origin (none from sub-Saharan Africa, North/Central America, or Australia).

Questions: *Why was it that the Eurasian peoples were able to domesticate so many useful large mammals (all but one), but the peoples of the rest of the world were not? Were the people of Eurasia more capable?*

Probably not - evidence:

- 1) universal human tendency to keep pets suggests that nearly every wild animal had its chance to be domesticated
- 2) the early domestication of the Ancient Fourteen, and subsequent failure to domesticate other large mammals anywhere (all domesticated 8000 to 2500 BC)
- 3) repeated independent domestication of some of the Ancient Fourteen in diverse places, and
- 4) rapid acceptance of Eurasian domesticates by non-Eurasian peoples (Bantu farmers of W. Africa, horse by Native Americans)

It can be surmised from the above that the past failures to domesticate the large residue of wild candidate species arose from shortcomings of those species, rather than from shortcomings of ancient humans.

For a large mammal to be domesticated for widespread use, it must possess several different characteristics. Lack of even one of these characteristics precludes its domestication:

- 1) Must be non-carnivorous. Strict carnivores are only about 10% as efficient as herbivores in converting primary food to meat.
- 2) Must grow quickly. Slow growing animals use too much of their food for bodily maintenance rather than growth, meaning that they are inefficient. (not gorillas, elephants)
- 3) Must breed in captivity. Due to courtship rituals and other factors some animals simply won't reproduce unless in their wild habitat. (not cheetahs, vicuñas)
- 4) Must not be excessively mean or aggressive. Examples: grizzly bears, zebras, rhinos too dangerous
- 5) Must not have a tendency to panic. gazelles, antelopes, others self-destruct in confinement
- 6) Must conform to particular social characteristics
 - a) maintain a well-developed herd based dominance hierarchy – thus not deer, antelopes, bighorn sheep
 - b) herds occupy overlapping home ranges (tolerance) – thus not antelopes

Key: *Wild large herbivorous mammals having all of these characteristics were almost entirely confined to Eurasia. Therefore, Eurasian peoples inherited the numerous momentous advantages linked to these animals.*

Large Mammalian Candidates for Domestication

	Eurasia	Sub-Saharan Africa	The Americas	Australia
Candidates	72	51	24	1
Domesticated species	13	0	1	0
% of candidates domesticated	18%	0%	4%	0%

Source: Jared Diamond, *Guns, Germs, and Steel*.

Domesticating Large Mammals: Why Eurasian Dominance?

Domesticated animals are selectively bred in captivity and thereby modified from their wild ancestors.

The big domestic animals (100 lbs +) were crucial in that they provided meat, milk products, fertilizer, land transport, leather military assault vehicles, plowing power, wool, and bad germs.

Just 14 "big" mammals were domesticated before the 20th century: cow, sheep, goat, pig, horse (the 5 most significant), llama/alpaca, camel (2 types), donkey, reindeer, water buffalo, yak, banteng, and gaur. All but one are of Eurasian origin (none from sub-Saharan Africa, North/Central America, or Australia).

Questions: *Why was it that the Eurasian peoples were able to domesticate so many useful large mammals (all but one), but the peoples of the rest of the world were not? Were the people of Eurasia more capable?*

Probably not - evidence:

- 1) universal human tendency to keep pets suggests that nearly every wild animal had its chance to be domesticated
- 2) the early domestication of the Ancient Fourteen, and subsequent failure to domesticate other large mammals anywhere (all domesticated 8000 to 2500 BC)
- 3) repeated independent domestication of some of the Ancient Fourteen in diverse places, and
- 4) rapid acceptance of Eurasian domesticates by non-Eurasian peoples (Bantu farmers of W. Africa, horse by Native Americans)

It can be surmised from the above that the past failures to domesticate the large residue of wild candidate species arose from shortcomings of those species, rather than from shortcomings of ancient humans.

For a large mammal to be domesticated for widespread use, it must possess several different characteristics. Lack of even one of these characteristics precludes its domestication:

- 1) Must be non-carnivorous. Strict carnivores are only about 10% as efficient as herbivores in converting primary food to meat.
- 2) Must grow quickly. Slow growing animals use too much of their food for bodily maintenance rather than growth, meaning that they are inefficient. (not gorillas, elephants)
- 3) Must breed in captivity. Due to courtship rituals and other factors some animals simply won't reproduce unless in their wild habitat. (not cheetahs, vicuñas)
- 4) Must not be excessively mean or aggressive. Examples: grizzly bears, zebras, rhinos too dangerous
- 5) Must not have a tendency to panic. gazelles, antelopes, others self-destruct in confinement
- 6) Must conform to particular social characteristics
 - a) maintain a well-developed herd based dominance hierarchy – thus not deer, antelopes, bighorn sheep
 - b) herds occupy overlapping home ranges (tolerance) – thus not antelopes

Key: *Wild large herbivorous mammals having all of these characteristics were almost entirely confined to Eurasia. Therefore, Eurasian peoples inherited the numerous momentous advantages linked to these animals.*

Large Mammalian Candidates for Domestication

	Eurasia	Sub-Saharan Africa	The Americas	Australia
Candidates	72	51	24	1
Domesticated species	13	0	1	0
% of candidates domesticated	18%	0%	4%	0%

Source: Jared Diamond, *Guns, Germs, and Steel*.