



# REINDEER

**ARTIODACTYLA**  
**Family: Cervidae**  
**Genus: Rangifer**  
**Species: tarandus**



**Range:** Arctic Circle to about 60° N latitude, introduced to the island of S. Georgia in S. Atlantic

**Habitat:** Tundra and boreal forest

**Niche:** diurnal, herbivorous, terrestrial

**Wild diet:** Lichen or “reindeer moss” and other mosses

**Zoo diet:** Some “moss” must be provided

**Life Span:** (Wild) 12 - 16 years, (Captivity) 20 years

**Sexual dimorphism:** Male larger than female

**Location in SF Zoo:** seasonal - between mother’s building and the playground

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## APPEARANCE & PHYSICAL ADAPTATIONS:

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Reindeer are semi-domesticated and smaller in height and weight of the wild caribou. They are the only deer with a fur-covered muzzle. The specially designed splayed hooves provide extra traction on the wet, spongy tundra during the spring. In the winter the footpads shrink and tighten, exposing the rim of the hoof which cuts into the ice and snow for a surer grip.

Both sexes have antlers, which are shed at different times of the year; the antlers play a significant role in establishing the hierarchy.

<b>Weight:</b> M - 350 – 400 lbs F – 180 – 260 lbs
<b>Length:</b> M – up to 6’
<b>SH:</b> 31 – 59 in.
Caribou are 2x weight and 1’ taller

Reindeer have a good sense of smell with nasal turbinate bones that dramatically increase the surface area within the nostrils. Incoming cold air is warmed by the animal's body heat before entering the lungs, and water is condensed from the expired air and captured before the deer's breath is exhaled. Reindeer use panting to cool down their blood when over-heating as they have no sweat glands. Reindeer are able to detect ultra-violet light that allows them to see when conditions are dim. Tapetum lucidum changes from gold in the summer to blue in the winter and the pupils stay fully dilated in the winter, helping reindeer eyes capture more light during the dark winter months.

Reindeer eat large quantities of food to increase their internal heat production; they are ruminators. Reindeer have long coarse, hollow guard hairs with dense fine fur underneath for insulation. These guard hairs trap air, providing excellent insulation and help keep them buoyant when swimming. The reindeer’s long, thin legs have a counter current circulation system to prevent heat loss.

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## STATUS & CONSERVATION

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Reindeer are considered Vulnerable on the IUCN Red List. The species is largely migratory and gregarious and is thus susceptible to declines as a result of landscape changes, including the establishment of barriers, which can disrupt migration routes and destroy seasonal habitat. A warming climate exacerbates the effects of disease and parasites including the possibility of an epidemic. Overall, there has been a 40% decline over the last 20-30 years. Reindeer are used by many circumpolar cultures for their meat, hide, milk and antlers.

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## COMMUNICATION AND OTHER BEHAVIOR

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Vocalization “bleats” occur between mother and calf while rutting males tend to bellow. When reindeer walk, their feet make a loud clicking noise due to a tendon slipping over the foot bone. This may help in finding the herd in harsh weather and is also a factor in establishing relative dominance.

Reindeer have a dominance hierarchy; the animal with the largest antlers is on the top. Males shed their antlers before the female. During the non-rutting season the female with the largest antlers can best protect her calve(s). Harems may range from 5 – 40 females. During late winter both sexes are found in mixed herds. Reindeer migrate to their calving grounds to avoid their main predators during birthing and throughout the summer, are on the move, either from insect harassment, or in search of high-quality food to build up strength for the coming winter.

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## COURTSHIP AND YOUNG

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Like other deer they have a rutting season (Sept/Oct) where only the strongest males do all the breeding. Calving occurs during May/June. Reindeer exhibit reproductive synchrony where all calves are born within several days. Young are born at an optimal time in spring so when weaning occurs there is an abundance of food plants. Fawns are spotless and are able to walk two hours after birth so they can keep up with the herd within 2 – 3 days. Females dig “craters” in the snow, with their, hooves, noses and the forward facing “shovels” of their antlers, so that calves can reach the lichen.

Gestation: 7.5 months

# of Mammas: 2

# of Young: 1 (rarely 2)

Sexual Maturity: females 4 yrs, males 6 yrs

Weaning Age: 2 months

Weight at birth: 11 – 26 lbs

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## MISCELLANEOUS

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Some reindeer travel 9 to 40 miles daily in the same area; others migrate 750 miles twice a year in large herds. Adult reindeer can swim 4 to 6 miles per hour and can run up to 50 miles per hour.

Very few mammals see UV light; humans can get snow blindness with too much UV light. Reindeer are able to see lichen as black against the lighter background of snow because the plant absorbs UV radiation. Reindeer are also able to see splashes of urine on the ground — a signal that their predators and/or their kin may be nearby.

### Sources:

updated: 12/16

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**Q) What is a reindeer?**

A) They are a member of the deer family: Kingdom: Animalia, Phylum: Chordata, Class: Mammalia, Order: Artiodactyla, Family: Cervidae, Subfamily: Capreolinae, Genus: *Rangifer*, Species: *R. tarandus*

**Q) How are they different from caribou?**

A) The term 'reindeer' is used to refer to the semi-domesticated deer and 'caribou' is their wild counterpart. As a result of domestication, reindeer are smaller than caribou: reindeer weigh from 175 to 300 pounds and stand up to 3 feet tall whereas caribou can weigh up to 650 pounds and stand up to 4 feet. A good way to explain the difference is a reindeer is to a caribou as a dog is to a wolf.

**Q) How long have reindeer been domesticated?**

A) Reindeer have been domesticated for thousands of years.

**Q) Where are reindeer found?**

A) Reindeer (or wild caribou) are found in the Arctic Circle, all over Scandinavia and Siberia as well as Northern Canada and Alaska ... A lot of places where it is really cold.

**Q) Where are these reindeer from?**

A) The reindeer at the San Francisco Zoo are from a farm in Bakersfield. "Holly" is an eight year old female and has the largest rack. "Belle" is 1 ½ years old female and has a small rack—no branches. "Tinsel" is a 1 ½ years old male. He has no antlers as they have already fallen off for the year and will grow back starting in the spring.

**Q) What makes reindeer so good at living in cold conditions?**

A) There are many answers to this question:

1. Pelage: Reindeer have very dense hair. It is at a density of 5,000/sq. in. at the longer guard hairs and at 13,000/sq. in. at the 'woolly' undercoat. The hair is also hollow, allowing air to get trapped and warmed by the body.
2. Hoofs: Reindeer hoofs are very wide, like snowshoes, and allow them to walk easily on snow. They are concave which makes it possible to swim better, dig through snow and walk on ice (which is also aided by long hair which grows on each foot).
3. Muzzle: Reindeer have facial hair, which extends down to their lips, protecting them when they put their face in the snow.
4. Nostril: The turbinate bone in the reindeer nose is like a 'rolled scroll,' increasing the surface area inside so blood flow can warm the cool incoming air.
5. Vision: Reindeer are thought to be the only mammal that can see ultraviolet light. This helps in the Arctic because urine and fur (which are not visible with normal vision) show up in sharp contrast in ultraviolet.
6. Legs: Reindeer have a tall gait (though not as high as caribou), making it easier to walk in snow. They also have a tendon in their leg, which clicks every time they take a step as it slips over the foot bone. This clicking keeps them from getting separated from one another during a snowstorm.

**Q) What do reindeer eat?**

A) In the wild, they eat lichen which they enjoy so much it has been called 'reindeer moss.' They will also eat small shrubs and leaves from trees.

**Q) What do the reindeer at the Zoo eat?**

A) Here at the San Francisco Zoo they eat a flake of hay each as well as 2 pounds of specially formulated grain mixture as well as some 'moss.'

**Q) Are reindeer endangered?**

A) No. They are of lowest concern.

**Q) How fast are they?**

A) They can run up to 40-50 miles per hour and up to 34 miles per day.

**Q) How long do they live?**

A) Males live 8-10 years and females up to 15.

**Q) When do reindeer mate?**

A) Mating occurs from late September to early November. The males make use of their antlers to battle for access to females. The most dominant male can collect up to 15-20 females.

**Q) When are babies born?**

A) Reindeer gestation is between 210-240 days (about 7 months); meaning babies are born in May or June. An hour after birth, a calf can stand and follow its mother around and after one day, it can outrun a human.

**Q) Can reindeer swim?**

A) Yes. They are excellent swimmers. Their hollow hair makes it easy to float and their shovel-shaped hoofs help them paddle through water quickly.

**Q) Do reindeer have natural predators?**

A) Since they are domesticated, humans keep them pretty safe. In the wild, caribou are hunted by bears, lynx and wolves.

**Antlers vs Horns:** While the two terms are commonly used interchangeably, the two are very different.

**Horns** (found on cattle, sheep, goats, bison and antelope) are composed of two pieces. The first piece is a bone which protrudes from the skull and is covered by the second piece, an exterior sheath of keratinized epidermis (keratin). This is the same material in nails, hair, hoofs and claws. Horns grow throughout the entire lifetime of an animal and since they grow from the base, if it breaks off, that piece is gone for good.

**Antlers** (which are found on all deer) are composed of a single bone, which grows from a protrusion on the skull called a pedicle. They grow and shed a pair every single year. The reindeer is the only species of deer which both the male and female grow antlers. Males shed their antlers after rutting and females keep them longer: a pregnant female will keep hers into the spring after giving birth and a non-pregnant female will drop hers in mid-winter.

While growing, antlers are covered in soft fuzz called '**velvet**.' This velvet contains blood vessels, which nourish the antler. As the antler calcifies, the blood vessels dry up and the velvet dies. Deer rub the velvet off and the antler also dies without blood supply. This point in the process coincides with mating season and the males use their antlers to fight for dominance. After mating season, the antlers are shed (rubbed off one at a time) and the surface around the pedicle heals over, only to have the process begin again. With each years' growth, antlers become larger and more complex, with additional points (though not one more per year for reindeer). In old age, the antlers become smaller, with fewer points.