

## RUDOLPH THE RED-NOSED REINDEER

Across the United States, children and adults alike recognize Rudolph the Red-Nosed Reindeer as the leader of Santa Claus' sleigh at Christmas. Reindeer first pulled St. Nicholas' sleigh in a poem by Clement Clarke Moore appearing in a Troy, New York, newspaper just before Christmas, 1823.

The poem titled "Twas the Night Before Christmas" gave names to the eight original reindeer: Dasher, Dancer, Prancer, Vixen, Comet, Cupid, Donner and Blitzen. Rudolph joined the team in 1949 when Gene Autry first introduced him in a song.

The reindeer (*Rangifer tarandus*) is part of the deer family (Cervidae), but it differs fundamentally from most other members. Reindeer are the only members of the deer family whose females grow antlers. A reindeer has a very thick coat providing excellent insulation and its muzzle is covered in hair, unlike the American white-tailed deer. Each of these unique reindeer characteristics has evolved naturally, as the species adapted to its harsh environment on the arctic tundra and margins of the northern boreal forest.

The tundra is an open, treeless landscape located around the rim of the Arctic Ocean in Asia and North America. Beneath the first few inches of the ground's surface is permafrost, permanently frozen "subsoil" that extends 1,000 feet (305 m) deep in places. At the surface, however, lies the "active layer,"

a few inches of soil that thaws during the short summer. Since the water created from the thawing cannot seep through the permafrost, the active layer becomes a few inches of soft mud, covered by a thin layer of mosses, lichens, short grasses and flowering plants. Reindeer must navigate this surface and feed on these plants.

The reindeer's large cleft (divided) hooves allow it to travel over snow in winter and soft saturated surfaces during the summer. The hairy muzzle provides protection for the reindeer's nose as it feeds on the plants beneath the snow.

On the tundra's barren surface with few places to hide for protection from predators, reindeer must rely on speed and endurance. Since there are few physical hurdles on the rolling tundra, reindeer never developed the jumping abilities of the whitetail deer. How-

Reindeer are actually semi-domesticated caribou. Smaller than their wild caribou cousins, an adult reindeer is relatively short at about 3.5 feet (107 cm), but weighs in at a hefty 300 pounds (140 kg). Reindeer are also lighter in color than caribou.

Scientists believe that reindeer have been domesticated in Eurasia for at least 2,000 years. Lapps of Lapland were the first herders of reindeer. The Lapps are a small and stocky people residing north of the Arctic Circle in present-day Norway, Sweden, Finland and Russia (Kola Peninsula).

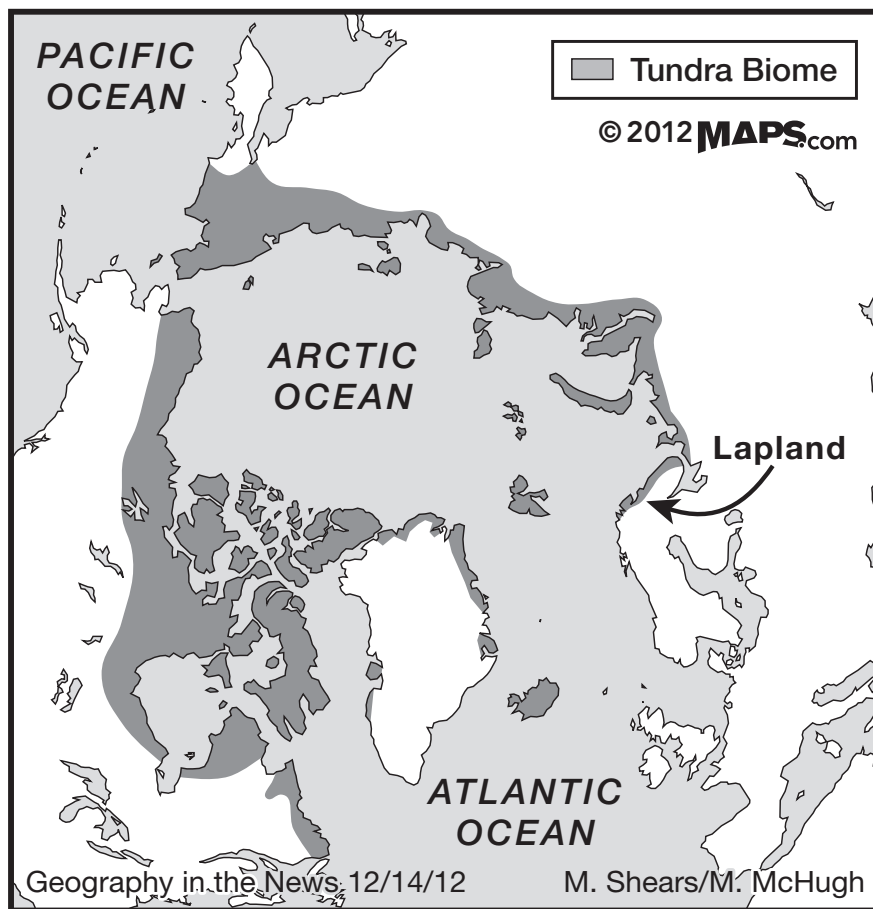
The successful relationship between the Lapps and reindeer has led to efforts to introduce the animals into other cultures living in the arctic environments across Northern Asia, Alaska and Canada. The Saami of Scandinavia and the Nenets, Chukchi and others of Russia today also herd reindeer. The animal's territory continues

to expand as the species is introduced into new territories. No other human culture, however, has been as successful at herding reindeer as the Lapps.

The reindeer serves as the Lapps' cow and horse. Although some of the animals are allowed to range free, others are treated as domestic livestock. Some are milked after bearing young and others are trained to the harness. Lapps use every part of the animal: its milk, meat, hide and bones. The reindeer is an intelligent and malleable animal that can be trained to draw a sleigh or act as a decoy to attract free-ranging reindeer herds into traps.

The legend of St. Nick would not be complete without the arctic symbol of the reindeer. Although it took some poetic license to have reindeer fly, those who understand the animal's intelligence and utility certainly know that reindeer can do just about

## Potential Reindeer Habitat



ever, evolution provided the female reindeer with antlers, with which to protect her young.

In addition to their dense woolly undercoat, reindeer have a unique longer overcoat of hollow hairs that help trap air and provide needed insulation. These hairs also afford reindeer increased buoyancy that makes them robust swimmers. Besides crossing swift rivers, reindeer can also navigate the frozen waters of the Arctic Ocean.

everything else.

And that is *Geography in the News*. December 14, 2012. #1176.



Co-authors are Neal Lineback, Appalachian State University Professor Emeritus of Geography, and Geographer Mandy Lineback Gritzner, University News Director Jane Nicholson serves as technical editor.