

KID'S KORNERS

Reindeer hoofs and noses make Christmas eve a breeze

When Santa selected reindeer to lead his sleigh, he made an excellent choice. They're ideally suited for travel on snow and ice.

And although their noses may not really glow, they're invaluable for reindeer navigation, communication, and even survival.

Donner and Blitzen's modern-day counterparts don't leap from rooftop to rooftop, but they probably could. Reindeer are small and fleet—and their hoofs are engineering marvels.

Their hoofs' broad surfaces function as snowshoes in deep snow, and are surrounded by sharp, horny rims that grip rocks, hard snow, and ice securely. The centers are padded and concave, providing traction for running down rocky hills and leaping over icy terrain.

Even the tiniest reindeer is undaunted by the difficult.

"I've seen reindeer only a few hours old running at breakneck speed over the sheer ice of a frozen lake, then jumping in vertical leaps up a steep slope with rocks and bushes taller than the calf itself," reports Dietland Muller-Schwarze, animal behaviorist at

the State University of New York.

Muller-Schwarze has observed reindeer in their native territory of Scandinavia, where they are herded by the Saami people—widely known as the Lapps. Recently he joined a family of Saami and their reindeer for the spring migration from Sweden's forested coastline to its mountainous interior—some 120 miles on cross-country skis.

The Saami lead their reindeer into the mountains above the timber line each April to bear calves and to save the food supply in the forests for the harsh winters.

Reindeer thrive in the arctic; most of the world's reindeer live in icy Siberia. Along with North America's caribou, reindeer are the only animals able to survive with lichen as their main food supply, and they can smell it through several feet of loose snow. They don't get cold: long hollow guard hairs together with fine short underfur keep them warm in the bitter winters of the north.

Like that of other arctic animals, the nose of the reindeer is an insulator for its respiratory system—a nasal air conditioner. It allows reindeer to retain both moisture and heat and avoid becoming dehydrated and exhausted in the cold.

In the arid frozen arctic, reindeer can survive on less than a tenth-liter of water a day, explained Dr. Vaughan Langman, animal physiologist at Wellesley College, Wellesley, Mass. Both Langman and Muller-Schwarze have conducted field work on large mammals with the support of the National Geographic Society.

The animals' noses serve them in many other ways. Through scents, reindeer recognize their offspring, communicate alarm and

willingness to mate, and manage to stick together during the migration, Muller-Schwarze said. Five different glands in the hoofs, hind legs, the tail, and under the eyes, secrete scented fluids that send out a variety of signals.

Muller-Schwarze recently named and described the fifth gland, the caudal gland in the tail

previously unknown to science. The scents emitted by the caudal gland permit reindeer cows to recognize their calves and also help to alert the herd to potential danger, he explained.

Secretions from the gland in their hind hoofs mark the migration route for other reindeer. "Our experiments show that this

secretion is important for herd coherence—that dispersed animals find their way back to the group by sniffing for footprints."

Reindeer and caribou are members of a single widespread species, Rangifer tarandus. Some 500 years of partial management in

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Reindeer thrive in the cold, some spending their winters prancing in the forests of Scandinavia. But when spring comes, it's time for migration to inland pastures, guided by Saami, or Lapp people. Reindeer also are native to Siberia.



COLOR THIS!

- | | |
|-----------|---------------|
| 1. BLACK | 6. ORANGE |
| 2. RED | 7. GREEN |
| 3. YELLOW | 8. LT. BROWN |
| 4. BLUE | 9. LT. BLUE |
| 5. PEACH | 10. LT. GREEN |

CHRISTMAS.. A JOYFUL SYMBOL OF CHRISTMAS GIFT GIVING IS SANTA CLAUS, HIS TWINKLING EYES AND CHEERFUL FACE SET A MOOD OF GOOD CHEER AND HAPPINESS FOR ALL PEOPLE DURING THIS SEASON OF LOVE AND JOY. THIS SEASON IS THE HAPPIEST AND BUSIEST TIME OF THE YEAR FOR MILLIONS OF CHRISTIANS IN THE UNITED STATES AND IN ALL PARTS OF THE WORLD.



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