

NATURE DETECTIVES

Fall 2010

Show Time for Antlers

The young bull elk strutted near a few cow elk grazing in the meadow. Although the cows were ignoring him, the bull practiced holding his neck just so, showing off his polished antlers. From the far side of the meadow came the bugling call of another male. The cows lifted their heads and listened. The caller was an eight-year-old bull and as he walked toward the cows, his strong arched neck held a heavy rack of antlers over his back. The cows watched this healthy, mature bull with interest.

Without ever viewing his own antlers in a mirror, the young bull knew he was no match for the new arrival. To prove he was not a competitor, the young bull lay down. In a few years, with good food, health and luck, he would carry such antlers and younger bulls would give way for him.

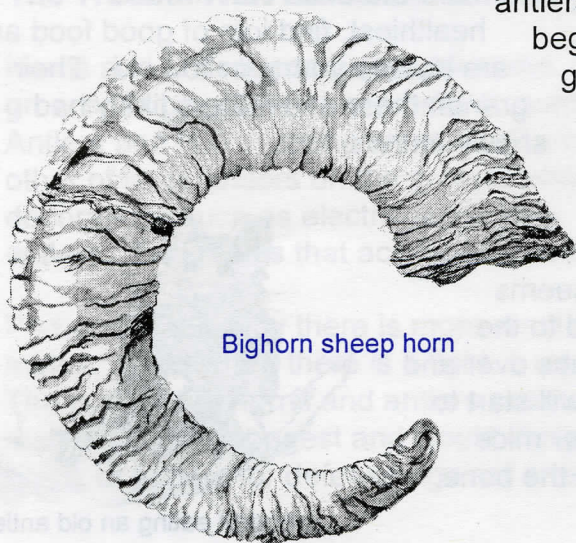


Deer antlers

Also Prime Time for Horns

A couple months later, higher in the mountains, two male bighorn sheep backed away and charged headfirst at each other. Hikers a mile away heard the impact as the animals' large curled horns crashed together. The closely matched rams kept up their clashes until the more exhausted ram finally staggered off.

Antler and horn contests like these happen every fall. Male deer, elk and moose flaunt antlers. They'll drop their old antlers in winter and soon begin to grow new ones. Bighorn sheep, mountain goats and pronghorn display permanent horns. Here is how to remember which animals grow which kind of these amazing body ornaments:



Bighorn sheep horn

The horns of a pronghorn,
Mountain goat or sheep
Never fall off because
Their horns are to keep.

Antlers appear on the heads
Of male elk, moose and deer
And, though it's hard to believe,
They grow new ones each year.

How'd You Get Those Antlers?

An antler grows from a bony base on the skull called the pedicle. Antlers are true bones that grow from the tips. The growing bone bump is covered with skin and short hair. The covering looks like soft velvet fabric so that's what it is called. The velvet grows along with the antlers. Blood vessels carry calcium and phosphorus to build the new bone. Antlers grow really fast, up to ½ inch a day. The growing antlers are soft and sensitive so the males are careful with them.

The spongy new growth gradually hardens into finished bone antlers. By fall, the moose bulls, deer bucks and elk bulls are ready to show them off. But first they have to get rid of the velvet, which has become dry, itchy and tattered. The males start attacking bushes and trees with their antlers. As the itchy velvet is scraped off, leftover blood and plant juices stain the white bone. Soon the antlers shine with rich dark color. As the bulls and bucks thrash the plants, they get a true sense of their antlers' size. The antlers are strong now and won't break off from their base pedicles.



Bull moose

Whoa, Those are Big Antlers

Moose get to grow the biggest antlers. A record size moose can have antlers seven feet wide that weigh almost 80 pounds. Big elk antlers might be five feet across. An extinct elk that lived in the time of mastodons and mammoths had moose-like antlers that grew to 14 feet across.

The males that grow the biggest antlers, then and now, are the ones that are the healthiest, find lots of good food and are not too young or too old. Their grandfathers and fathers likely had showy antlers, too.

Winter Cast Off

After spending so much energy growing antlers, it seems strange that they just fall off in the winter. The bond to the pedicle weakens; the antlers fall off; the pedicle scabs over and is covered with new velvet. Soon new antler buds will start to grow. Rabbits, porcupines and rodents such as deer mice nibble the shed antlers for the nutritious minerals in the bone.

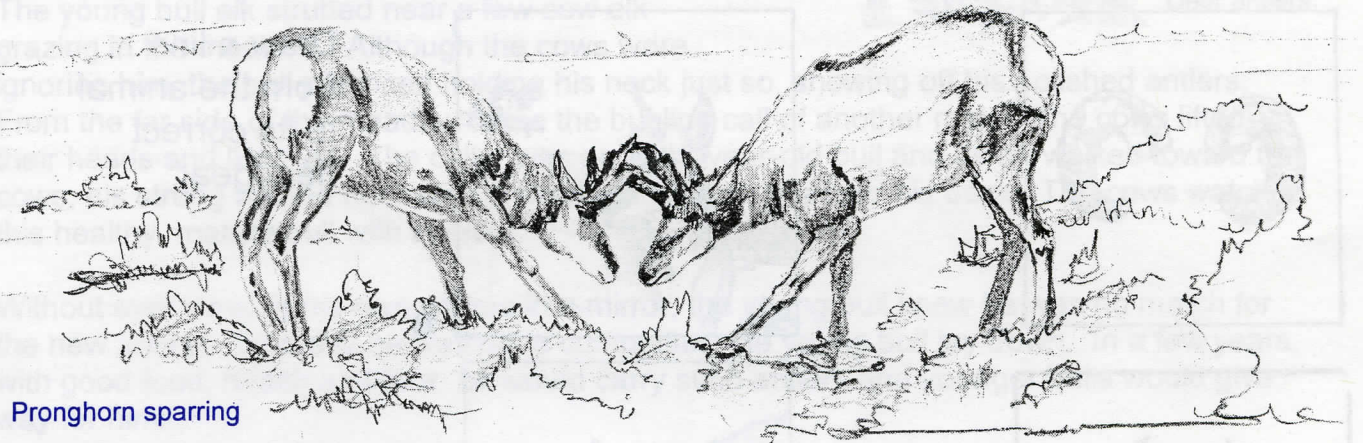


Woodrat eating an old antler

Horns Come With Their Own Covers

Like antlers, sheep and goat horns are bone, but they grow completely differently from antlers. Horns grow from the base of the horn next to the skull rather than growing like antlers from the tips. Horns are permanent and usually grow bigger every year until old age. Female pronghorn, bighorn sheep and mountain goats have horns, too, but their horns are smaller and plainer than male horns.

Unlike antlers, the bony horns have a cover. The cover is made of keratin. Cat claws, your fingernails, hooves and bird beaks are also made of keratin. Oddly, pronghorn shed the keratin covers on their horns each year and grow new ones to fit their new horn size. On the sheep and goats, the keratin cover grows along with the horns and is not shed.



Pronghorn sparring

Antler and Horn Shoving Contests

When they are old enough to become dads, male moose, elk and deer start practicing strength contests with other young males by having antler-shoving matches. Baby goats and sheep begin playfully butting horns with each other soon after they are born. They learn how strong they are in these games and how their antler or horn size compares to others.

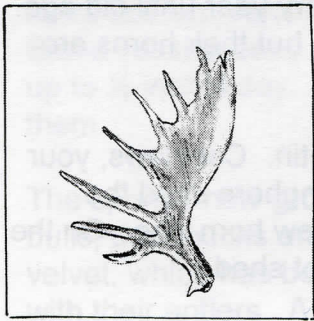
The Trouble With Horns and Antlers

Horns and antlers can be troublesome. The curved horns of the male bighorn sheep can grow so large, some sheep have to purposely break off the ends on rocks so they can see. Antlers and horns are heavy to carry around. Sometimes males will try to rest one side or the other of large antlers on the ground while they sleep. Antlers can collect unwanted decorations such as electric fence wire. A Colorado elk once got a lawn chair stuck on his antlers. Two males that accidentally lock antlers will starve if they can't untangle.

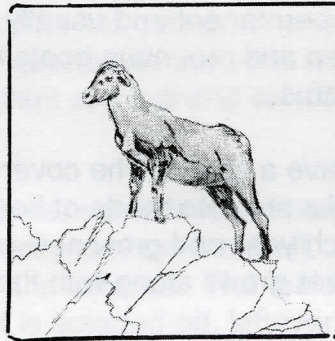
Perhaps that is why there is more strutting around and bluffing than actual combat between males. Even when there is a fight, it rarely results in death.

The purpose of horns and antlers seems mainly to show females of each species which males are the strongest and would likely father strong babies. Hooves are used more than horns or antlers for defense against enemies like coyotes or wolves.

Antler and Horn Match-up

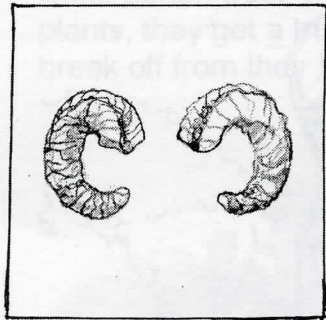


1

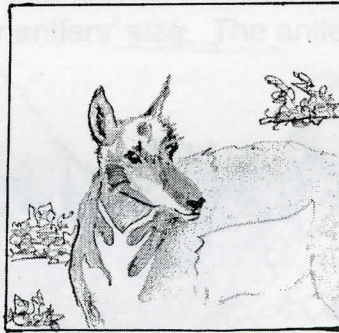


A

Can you tell which of these hoofed animals belongs to which set of horns or antlers?



2

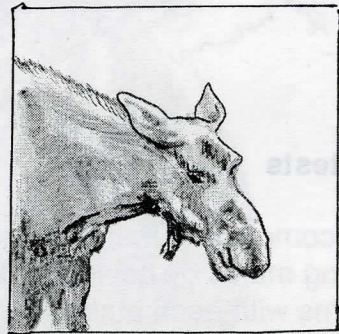


B

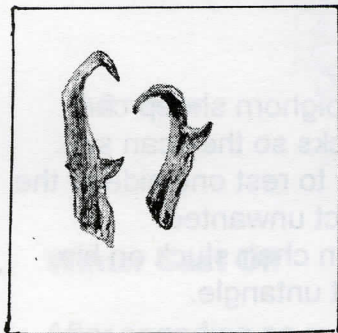
Draw a line from the animal to its correct headgear.



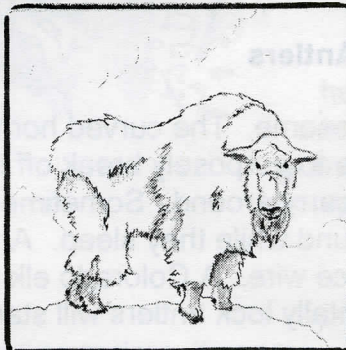
3



C



4



D

Design Your Own

If you were going to design horns or antlers, what would they look like and why?

Answers: 1C, 2A, 3D, 4B