Photo by Ueli Ackermann

DALL SHEEP

This is the first of a two-part series on the Dall sheep, one of Alaska's most important game animals.

PART I

DALL SHEEP (*Ovis dalli dalli*) inhabit many of the high mountain ranges of Alaska, Yukon Territory, northern British Columbia and the western edge of the Northwest Territories. They are the only species of wild sheep found in Alaska and occur in portions of the Kenai, Chugach, Talkeetna, and Wrangell mountains as well as in the Alaska and Brooks ranges. Small herds are also found in the White Mountains and in the Tanana Hills northeast of Fairbanks.

Dall sheep range as far south as Lake Clark in the Alaska Range and the head of Kachemak Bay on the Kenai Peninsula. Their range extends to the northernmost mountains of the Brooks Range almost within sight of the Arctic Ocean.

In the southern portions of Yukon Territory and in northern British Columbia, the white Dall sheep merges with a dark subspecies, the blackish brown or grey Stone sheep (*Ovis dalli stonei*). The common names "Dall" and "Stone" are capitalized since these animals were named in honor of persons: A. J. Stone and W. H. Dall.

Where ranges overlap, sheep with mixed colors, such as white with grey saddles, are found. Formerly thought to be a separate species called the Fannin sheep, these are now recognized as merely color phases of the Dall and Stone sheep. Dall sheep on the Kenai Peninsula also were formerly thought to be a separate subspecies (*Ovis dalli kenaiensis*) but it is very doubtful if there is any real difference between these and the rest of Alaska's wild sheep.

Dall sheep are closely related to the snow sheep (*Ovis nivicola*) which inhabits mountains in the northeastern part of the U.S.S.R. across the Bering Strait from Alaska. Similar in size and conformation with the Dall sheep, this species is brown rather than white in color.

The pelage of Dall sheep is white with occasional black hairs in the tail. In early summer, the coat is pure white and composed of short, brittle, pithy hairs. As time goes by, the coat becomes stained and soiled so that some animals may appear quite dark. By September, the coat begins to thicken in preparation for the cold winter ahead. During winter, the dense coat may be two to three inches thick and is composed of long, crinkly, pithy guard hairs overlying a layer of fine, white wool, all serving to trap air and form an excellent layer of insulation which enables the animals to face severe cold with impunity.

By late May or early June, the spring molt occurs and the heavy winter pelage is shed and replaced with the new, short summer coat. During the molt, sheep often spend considerable effort rubbing against the sides of gulleys or cutbanks, probably because the molting process itches. This rubbing helps to remove old hair, but at the same time may rapidly discolor the new coat.

Both sexes have horns which, like claws, hooves and fingernails, grow from the skin and are composed

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(cont'd. from page 15)

of a material called keratin which is completely unlike the bony antlers of deer or moose. The horns grow over a bone core which is an extension of the skull. This core is shaped somewhat like a cone with the horn growing over it.

Horns are never shed, but continue to grow throughout the sheep's life. Maximum growth occurs during the second and third years, with diminishing increments added each year thereafter. Horn growth commences in the spring and continues until fall, probably ceasing as a result of reduced food supply in early winter, and is possibly influenced by hormonal changes as the breeding season arrives.

No horn growth occurs during the winter, and a growth ring, or annulus, forms around the horn at the end of each growing season. This growth ring is deeper than the other corrugations covering the horn's surface, and contains a fine, greyish-white line that circles the actual point where horn growth stops, then starts again the next spring.

Growth occurs along the outer surface of the bony core where layers of horn material are laid down. As these grow, they push previous layers of no-longer-growing horn outwards so that a sheep horn somewhat resembles a curling, inverted stack of ice cream cones stacked one upon the other. The outside visible joints between cones would represent the annual rings of the horn. These annual rings may be counted to obtain a fairly accurate estimate of the animal's age.

The horns of female sheep are relatively thin and flat in cross section and rarely exceed nine or 10 inches in length. Those of males, or rams, are heavier and more triangular in cross section and, as the animal reaches maturity, may reach 30-40 inches or more in length. The longest ever measured reached over 48½ inches in length with bases over 14½ inches in circumference.

Dall sheep horns are usually a light brown or amber in color and grow in the form of a spiral, curling outward from either side of the head. When viewed from the side or axis of the spiral, the outer surface of each horn follows an almost perfect circle as it grows. By the time a ram is four or five years old, the outer surface of the horn usually forms about three-fourths of a circle (270 degrees) and is commonly called "3/4-curl." When the ram reaches seven or eight years old (this age varies among individuals), the horns have probably curled around into a full 360-degree circle and are known as "full curl."

Mature Dall rams may average about 200 pounds in weight at the end of the summer growing season, with some individuals weighing even more.

Ewes rarely exceed 135 pounds and probably average around 120 at the end of the summer. Both sexes lose considerable weight during the winter and a ewe that entered winter at 120 pounds may weigh only 80 by spring. Rams stand about 38 inches high at the shoulder, while ewes average about 35 inches high.

Senses

Dall sheep depend primarily upon their excellent eyesight to avoid danger. Their golden-brown eyes are quick to locate unusual movements, sometimes at surprising distances. However, the animals may not recognize unmoving shapes, even when quite close. Sheep may feed right by a motionless observer with little sign of recognition, or they may spot him, but not be able to identify his shape as dangerous. They also have an excellent sense of smell which they heed with alacrity. Their hearing, while apparently good, does not seem to be heeded as much as their other senses in locating danger, probably because they inhabit a rather noisy environment where their own movement may cause a common tinkling of shale or crashing of rolling rocks.

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