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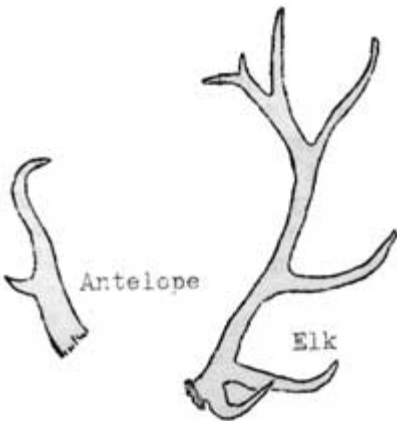
HORNS AND ANTLERS

by Junior Naturalist Frank Oberhansley

Elk antlers stimulate many questions on the part of visitors to Yellowstone Park. Some one is forever wanting to know where he can secure some "elk horns" or how many dead elk were necessary to provide the "makings" for the antler house at Mammoth. After close scrutiny of this structure, one visitor inquired as to the type of roots used in its construction.

For the reader who is not familiar with the major facts relating to horns and antlers the following is offered.

Only one animal in the world sheds his horns naturally and this is the American antelope (*Catelocarpidae americana*). This statement will immediately bring forth the challenge from many. "What about the deer, elk, and moose?" The answer lies in the fact that there is a distinct difference between horns and antlers. Horns are outgrowths of the skin similar to nails, claws, and hair, while antlers are true bone growths, exposed parts of the skeleton.



In the case of the elk (*Cervus canadensis*), the antlers are shed from late winter to early spring. A few spike bulls were observed carrying the antlers this year until late in May. Just what is the direct cause of the actual shedding is unknown. Perhaps the new growth has something to do with it, or it may be that the bony tissue attaching the antler

to the skull becomes dead and incapable of further supporting this great weight firmly. At any rate, there is some physiological change which causes the antler to drop at the correct season.

Almost immediately after the old antlers are shed new ones begin to replace them. From the beginning those new antlers are very blunt. Covered with a velvet-like tissue and richly supplied with blood vessels and nerves, they are comparatively soft and highly sensitive. The profuse blood supply enables the antlers to grow at an alarming rate until by September 1 they are fully mature. During the growing state the antlers are said to be "in the velvet" and when the growth is completed the velvet is commonly shed by rubbing the head against a small tree and exposing the true bony antler. Some maintain this rubbing is for the purpose of sharpening the antlers preparatory to the fighting incident to the mating season. Personally, I believe it to be a natural means of relieving an irritation incident to a stricture of the nerves and blood vessels at the base of the antler where a ring of bone solidifies and chokes off any further supply of raw materials.

As soon as the velvet is shed the bulls are ready to fight for the possession of a harem. Although the antlers are fully formed, they are still green and occasionally in the initial clashes between two bulls, the antlers may be sprung slightly so that they may become locked tightly and death comes to both combatants.

It seems to be Nature's plan that during, the time the cows are with calf and while the calves are using a large supply of milk, the bulls are undergoing changes in the generative organs simultaneous with the growth of antlers during which time the bulls and cows tend to range separately in groups of varying numbers. The shedding of the velvet is coincident with the mating instinct which brings the two sexes together again in the fall.

As the season progresses the antlers become increasingly dead tissue until the final shedding when the process is repeated.

The antelope sheds his horns in the late fall. In this case the outer sheath only is shed leaving a bony core. At this time he may be said to have antlers similar in structure at least to those of elk, since they are true bone. Coarse black hair soon covers this bony core and eventually these become cemented together with a chitinous like material to form the true horny sheath. As stated earlier, no other animal sheds its horns.



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