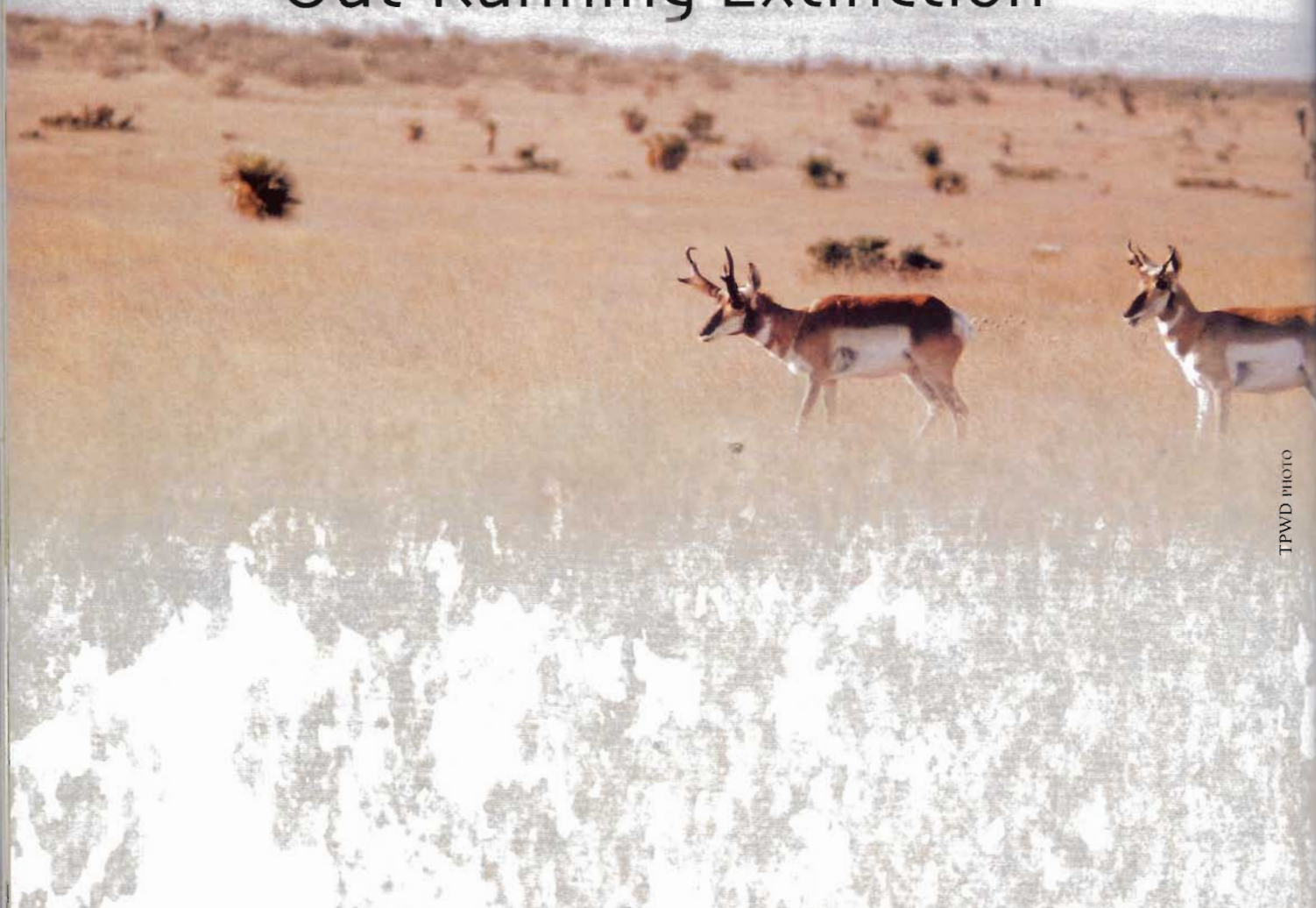


The Pronghorn:

Out-Running Extinction



TPWD PHOTO

By Jim Heffelfinger

There are two kinds of animals: extinct and extant. Extinct animals no longer roam the earth, while those that are extant have survived the many challenges Mother Nature threw at their ancestors. Animals that are still with us are the survivors who were successful in running the gauntlet of evolution. Those species making it to safety at the end of the gauntlet rarely come through the ordeal unchanged, both physically and behaviorally. These changes, or adaptations, allowed some species to survive changing environments while others perished.

Toward the end of the Pleistocene, about 10,000 years ago, great sheets of ice covered much of the northern portion of North America. For some groups of animals, this environmental change drove an icy wedge between the extinct and extant.

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THE PRONGHORN: OUT-RUNNING EXTINCTION

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With this glacial period came mass extinctions of many species of large mammals across the North American continent. Those that survived this period did so because they were able to adapt. These adaptations allowed each species to occupy a particular habitat and to do something different than the other animals, allowing it to live with minimal competition for food and shelter.

It has been said that throughout evolution prey species avoided extinction by adopting one of three strategies: 1) they got armor (turtles, armadillos); 2) they got big (horses, hippos); or 3) they got out of the way!

The present-day pronghorn antelope is perhaps the finest example of the latter. Originally there were dozens of species in the pronghorn family, Antilocapridae. Only one species survived the rigors of

evolution.

The modern pronghorn survived the Ice Age because of the many adaptations it acquired in its race through the millennia. The adaptation that pronghorns are most famous for is their speed. There are many incredible stories of documented speeds in excess of 60 m.p.h. Regardless of their exact maximum speed, they are undoubtedly the fastest land mammals on the continent. Not only are they unbelievably fast, but they seem to love speed—nature's original speed demons; the teen-agers of the mammal locomotion.


How or why did they develop such great speed if there are no North American predators today that possess comparable running abilities? For the answer we must look at some of the predators that did not make it out of the Ice Age alive. Was there an extremely fast predator that co-evolved with the pronghorn and chased them through evolution, nipping at their heels? Indeed there was.

This critter was known as *Acinonyx Trumani* in Latin. It has no common name in English because it became extinct in the late-Pleistocene while humans were too busy running from large predators to spend too much time with names. *Acinonyx Trumani* was North America's version of the Cheetah, which is the fastest land mammal on earth. With a predator like that, the slowest individuals in each herd were removed from the population. Survivors didn't have to outrun the predator, just their companion. Pronghorn became faster.

To generate and maintain such speed, pronghorns evolved long legs with a strong bone structure. Large lungs, windpipe and heart allow for rapid delivery of a massive amount of oxygen to the muscles, supplying fuel to this turbo-charged ruminant rocket. Research has shown that pronghorns have three times the rate of oxygen consumption of similarly sized animals.




The "pronghorn" portion of the name comes from the forward projecting prong on each horn, which probably serves as a defensive structure to deflect the horns of

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other males during fights over breeding territories. The horns themselves are unique to the animal kingdom. True antelope have horn sheaths over a bony core and never shed the horn sheaths.

While members of the deer family annually produce and shed their antlers, the pronghorn splits the difference. It has a horn sheath covering a bony core, but sheds the horn sheath each year shortly after the rut. Why this adaptation proved useful is anyone's guess, but we could speculate that if the males "throw down their weapons" as soon as the rut is over it may reduce strife and stress when they begin combining into large winter groups following the breeding season.

Pronghorns have also evolved incredibly large eyes ("the better to see you with, my dear"). The pronghorn's eyes are about two inches in diameter, even larger than a steer weighing 10 times as much. Not only are the eyes large, but they are set out from the skull to give them nearly 360 degrees of peripheral vision.

Many sources quote the oft-repeated "fact" that pronghorns have 8X eyesight, that is, objects appear eight times closer than for a human's eyes. This is commonly believed to be true because frequently when you find an antelope through your 8- or 10-power binoculars, the prairie goat is already looking at you.

I have always wondered whether a two-inch eyeball could actually produce that kind of magnification by itself without an extension tube of some kind. I'm not convinced their optical superiority is due to a significantly greater magnification, but rather a more acute awareness of subtle changes in their open grassland habitat.

We humans generally operate within a 100-yard radius, whether we are in our backyards or driving in the car. Pronghorns spend their whole lives operating in at least a one-mile radius. They pay attention to detail because their life depends on it. Regardless of the magnification factor, they always notice that the bush with the broadhead sticking out of it is getting closer to them. Humans generally won't notice potentially dangerous situations when they are still

one mile away, but such vigilance is a matter of survival to the pronghorn.

Part of this long distance vigilance is a function of the habitat pronghorns have adapted to. The deer's strategy for survival is to hide in the brush and timber using their ears and nose to detect approaching predators. Pronghorns adopted the opposite strategy; they stand in the open and use their incredible eyesight.

Anyone who has been a predator of both animals appreciates the different strategies required when attempting to prey on each species. Pronghorns will make every effort to keep potential threats in sight. This instinctive "need" to see danger gets them in trouble sometimes when they approach foreign objects lying in the grass. Curiosity kills more than cats.

Gregariousness, the habit of staying in large groups, is another predator-avoidance strategy they developed. More animals in the group means the chances are much greater that one of them will spot danger. Sneaking up to a group is like trying to defeat 15-20 overlapping surveillance cameras.

Pronghorns have also adapted to a remarkable range of temperature extremes. Hollow hairs with a spongy core trap air and act as an insulating blanket against frigid or searing temperatures. Pronghorns not only do well in the harsh temperatures of the wind swept Wyoming prairie in January, but also the hot deserts of West Texas and south into Chihuahua, Mexico.

The Ice Age prepared them well for their journey to the present. However, with human encroachment into their habitat and competition with other land uses, their environment is changing faster than they can evolve. The future of their existence will depend heavily on our stewardship of their remaining habitat. 🐾

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