

Deer Freaks!

By Jim Heffelfinger

Everyone loves the circus, and the sideshow freaks have always been my favorite part. I haven't been to the circus since I was a kid, but Mother Nature has filled the void with a sideshow of freaks all her own.

The freaks of the deer world include bearded ladies (antlered does), individuals with fangs (canines), animals that are half one thing and half

another (hybrids), albinos, individuals with grotesquely misshapen appendages (antlers) and even an occasional two-headed fawn.

We are inherently interested in freakish and bizarre things and a nuclear power plant nearby is not a prerequisite to satisfying that interest. There are a variety of things that are seen in the deer world that remind us that "normal" is a relative thing.

[CONTINUED ON PAGE 40]

Some examples of "Deer Freaks." (Clockwise from the top) The metatarsal gland on the outside of the hind leg of a hybrid deer; a mule deer doe mistaken for a yearling buck; a deer skull with canine teeth; and a hybrid buck that looks like a mule deer, but sports a whitetail-like tail and antlers.



JIM HEFFELFINGER PHOTOS

DEER FREAKS

[CONTINUED FROM PAGE 38]

A Deer of a Different Color

Several variations of the normal coat color have been reported in various areas. Albino deer are the most striking of the color anomalies reported. Albinism is a recessive genetic condition, which means if both parents possess this rare genetic trait, some of the offspring will be albinos.

Albino deer lack melanin in their cells, so that all hair, hooves and skin are without color pigments. The non-pigmented tissue with blood vessels running through it looks pink to the observer. These deer have white hair, pink eyes, pink noses, cream or pink hooves and even white antler velvet.

The pink color is caused by underlying blood vessels being visible through the non-pigmented tissue. Albinos also can't see well because of the lack of pigment in their eyes that helps block sunlight. Albino whitetails and mule deer have been reported in many states, but there are a few areas where this genetic trait is more common.

Piebald, or "pinto," deer are partially or mostly white, but are not albinos. The piebald condition is also a genetic abnormality where only some of the cells can produce melanin. These deer usually have pigmented hooves, eyes and skin, lacking pigment only in some areas of their pelt.

Besides varying degrees of white fur, piebald deer commonly have other genetic abnormalities, such as short legs,

a bowed nose, arching spine, short jawbones and oddly formed internal organs. The most severely deformed die soon after birth, but those with minor physical problems may live to adulthood.

As with albinos, these unusually-colored deer would be seen easily, but are rarely reported, which indicates just how scarce they are.

On the other end of the spectrum are deer that produce too much melanin pigment and that results in very dark or black fur. This coloration is even more rare than "white" deer, and it would seem such an individual would be at a great disadvantage during the hot, summer months.

Sometimes older deer even retain a double row of spots down their back—a holdover from their fawn pelage. Some deer have been described with unusually woolly coats and others with horse-like manes, but these are less common than color abnormalities.

Antlered Does and Girlie Bucks

Antlered does show up in the harvest every year somewhere in the U.S. This freak of nature has been reported in European roe deer, moose, fallow deer, red deer, wapiti, whitetails, blacktails and mule deer.

It is certainly possible for a doe to grow antlers under some situations, but some of the antlered "does" that are reported were actually bucks with deformed external genitalia. These bucks look like a doe to the field dresser looking for

something to grab onto in order to make the first cut.

Because many of these deer have all internal organs removed in the field, many times descriptions are not accompanied by a discussion of what the internal reproductive tract looked like. Looking at the arrangement of the internal organs is crucial when inspecting an antlered deer of questionable gender because there are three different types of animals that are commonly referred to as antlered does: 1) hermaphrodites, 2) cryptorchid psuedohermaphrodites (deformed bucks) and 3) true antlered does.

Hermaphrodites are deer that possess both male and female sex organs. They may have an ovary on one side and an internal testicle on the other (lateral hermaphrodites). These animals are not capable of reproducing and, because of the presence of testosterone, usually carry out a normal antler cycle—stripping velvet, polishing and shedding antlers. These deer have mineralized and polished antlers during the fall hunting season, unless the ovary produces enough female hormone to offset the effects of the testosterone.

Cryptorchid psuedohermaphrodites are not really does at all, but rather bucks with testicles that never descended into the scrotum. They remain inside the body cavity encased in fatty tissue. The penis is also inside the body and the buck urinates through an opening that looks very much like female genitalia. These animals clearly look like does, but are actually males. They usually have polished antlers in the fall because of the presence of testosterone produced by the internal testicles.

Most true antlered does have fully functional female reproductive tracts. These does can breed, become pregnant and successfully raise fawns. What actually initiates the antler development in these does is still somewhat of a mystery. It is known that the testicles are not the only source of testosterone to initiate antler growth; other glands in

SHOW YOUR STUFF



Our **SHOOTING JACKET PACKET** contains a dozen patches from leading reloading manufacturers, plus NRMA's own **RELOADER** patch. Send \$7.95 to NRMA Shooting Jacket Packet, One Centerpointe Dr., Suite 300, Lake Oswego, OR 97035.



WWW.RELOAD-NRMA.COM

both sexes can also produce this male hormone.

Researchers have been able to grow antlers experimentally in does by giving them shots of testosterone. Because of the lack of increasing testosterone levels in the fall, true antlered does in the wild do not have polished antlers. They never lose their velvet and the antlers are often deformed, lacking basal burrs and permanent (not shed).

There are cases of antlered females that are found to have a cyst or tumor on an ovary, which can disrupt the normal balance of hormones and provide enough male-type hormones (androgens) to initiate antler growth. Physical injury to the frontal bones of the skull can also induce the development of antlers in does.

Upper Canine Teeth

Deer have no upper incisors; the eight lower incisor-like teeth are pressed against a hard upper pad, or palate, to pinch and tear off plant parts. This confuses some people who look in the mouth of a deer and wonder what happened to the upper teeth. This toothless grin is shared by other ungulates as well, such as cattle, bison, pronghorn, bighorn sheep, etc.

Elk have a pair of upper canine teeth sometimes called "buglers" or "ivories." They are canines just like the tusks of an elephant, but whether they are "ivory" or not is a matter of semantics (all teeth can be considered ivory).

Upper canines are absent in deer except in rare cases. The eight lower "incisors" are actually six incisors with an outside pair of lower canines. Through evolution, these lower canines have moved forward in the jaw to look and function as incisors. The upper canines grow out of the maxillary bones of the skull and are evolutionary "throw-backs" from a time when deer ancestors had well-pronounced fangs.

When present, these canines are not large, but generally small, peg-like teeth just breaking the gumline. Many may be missed because some canines are too small to break through the gums and are not visible by simply looking in the

mouth. In populations where these teeth have been documented, 0.05 to 18 percent of the deer had upper canines.

Hybrids

Different species of animals, even those closely related, are normally kept from breeding with one another by being geographically isolated, by using different types of habitat or by having different courtship and breeding behavior.

In the case of whitetails and mule deer, courtship and breeding behavior is different enough that body language and scent cues given off by a female mule deer during the rut are not normally "understood" by a male whitetail and vice versa. This system of species segregation has worked remarkably well throughout their evolutionary coexistence.

However, in rare cases this system breaks down and hybridization occurs, resulting in a deer that is half whitetail and half mule deer. This hybridization between the two different deer species is extremely rare in most areas, but does occur in West Texas where their ranges overlap.

Hybrid deer show characteristics that are intermediate between mule deer and whitetails. Body size is usually indicative of mule deer, but the tail is more often dark, chocolate brown or black on the dorsal side and white underneath. The ears are larger than a whitetail, but smaller than a mule deer. The preorbital gland in front of the eye is also intermediate between the deep pits found in mule deer and the shallow depression of whitetails.

Most hybrids have whitetail-like antlers, but it is impossible to tell a hybrid by antlers alone. There is simply too much variation in antlers to serve as a reliable indicator of hybridization.

The best feature to determine if a deer is a hybrid is the size of the metatarsal gland on the outside of the lower portion of the rear legs. Unfortunately, this characteristic is nearly impossible to evaluate in the field from a distance. A whitetail/mule deer hybrid has metatarsal glands that are intermediate between the long, brown mule deer glands (over three

[CONTINUED ON PAGE 42]

CUSTOM DIGITAL MAPPING PACKAGES FOR YOUR FARM, RANCH OR HUNTING LEASE STARTING AT \$550



LANDITUDE. INC.
Solutions for Effective Natural Resource Management

QUALITY MAPS FOR QUALITY MANAGEMENT

TO SEE A COMPLETE LIST OF OUR SERVICES
VISIT US ON THE WEB AT
WWW.LANDITUDE.COM
OR
CALL US TODAY!
361-675-0469 OR 361-220-2310

WHAT ARE DIGITAL MAPS?

DIGITAL MAPS ARE COMPUTERIZED MAPS THAT USE GPS DATA TO SHOW THE LOCATION OF OBJECTS AS WELL AS INFORMATION ABOUT THEM. THEY ALLOW YOU TO:

- * TURN MAP LAYERS ON & OFF
- * OVERLAY GPS DATA ONTO:
 - AERIAL PHOTOGRAPHY
 - TOPOGRAPHIC INFORMATION
- * ACCURATELY MEASURE DISTANCES & ACREAGES
- * ZOOM IN & ZOOM OUT
- * FIND OBJECTS BY KEYWORD
- * PRINT DETAILED MAPS FROM YOUR OWN COMPUTER

ORDER YOUR DIGITAL MAP WITH:

- * DETAILED AERIAL PHOTOGRAPHY
- * YOUR OWN PERSONAL GPS POINTS
- * PROPERTY BOUNDARY & FENCE LINES
- * BLINDS, FEEDERS & FOODPLOTS
- * ROADS, RIVERS & LAKES
- * WINDMILLS & WATER WELLS
- * TOPOGRAPHIC CONTOURS
- * MAP PRINTING, LAMINATING & FRAMING

DON'T WORRY ABOUT NOT HAVING YOUR OWN GPS TO COLLECT POSITIONS FOR YOUR CUSTOM MAP. WE CAN LOAN YOU ONE OF OURS OR COME MAP IT FOR YOU!

DEER FREAKS

[CONTINUED FROM PAGE 41]

inches) and the small white glands of a whitetail (less than one inch). Hybrid metatarsals usually measure between two to three inches and may or may not be encircled with white hair.

Hybrids have been reported from captive facilities as early as 1898 when a whitetail/mule deer cross was produced at the Cincinnati Zoo. Occurrences were later reported from the zoo in Minot, North Dakota, deer pens in Alberta, Canada, and at other locations. The male hybrids are usually sterile, as is the case in mammals; however, female hybrids are fertile when bred back to one of its parent species.

Even in a captive facility where deer are pampered, survival appears to be very low in hybrids. Besides West Texas, whitetail/mule deer hybrids have also been reported in the wild from Alberta, British Columbia, Saskatchewan, Nebraska, Kansas, Colorado, Washington, New Mexico and Arizona.

Recent advances in DNA analysis technology provide better diagnostic tools to identify hybrids instead of looking at ears and antlers. A researcher in Montana used two genetic analysis methods to determine the extent of hybridization and found very little, if any, had occurred in that state. In West Texas, managers have reported an increasing trend in the number of hybrids they see on their ranches.

In the early 1980s, whitetails and mule deer in a five-county area were tested using serum albumin and researchers found that on the average 5.6 percent of the deer they tested were hybrids. Individual ranches ranged from 0 to 24 percent.

At the same time, other researchers were busy analyzing the genetics of whitetails and mule deer on a ranch in West Texas using mtDNA. They concluded hybridization was more common in this area. Researchers originally thought hybridization must

have occurred between mule deer bucks and whitetail does because the hybrids had whitetail mtDNA, which is always inherited from the mother.

However, more recent analysis of mtDNA sequencing of deer in this area indicates that it is more likely white-tailed bucks bred mule deer does to produce the hybrids they observed. This direction of hybridization (whitetail bucks breeding mule deer does) was later confirmed by analysis of the Y-chromosomes of bucks in the area.

Freaky Racks

When talking about antlers, the word "freaky" is always a good thing! One of the things that make antlers interesting is the infinite variety of shapes, colors, textures and unique characteristics. Discussion of abnormal points such as "kickers," "stickers," "cheaters," drop tines, forks, double brows and triple beams consume many hours of discussion among deer enthusiasts.

Because of the interest in non-typical antlers, much research has been directed at the causes of antler abnormalities. Many factors cause or affect the expression of antler abnormalities (The Freak Factors).

Many odd points and abnormalities are the result of the animal's genotype or genetic blueprint. Antler characteristics are inherited from the buck's parents. A non-typical buck will frequently produce a disproportionate number of offspring with non-typical points. Remember that for each fawn born, the doe contributed half of the genetic material. Because of this, does that had non-typical fathers may consistently produce buck fawns that grow up to be non-typicals, even though the fawns had different fathers.

Sometimes a buck fawn grows up with antlers that look amazingly similar to his mother's father and not at all similar to his own father. Palmated antlers, which are "webbed" like a moose, are an example of a characteristic that is probably genetically inherited in whitetails.

Physical injury or trauma to the velvet



Whitetail Trucks

HUNTING TRUCK CONVERSIONS



SPECIALIZING IN:

- HI-RACKS
- BEDLINER COATINGS
- 22', 28', & ↑ LIFTS
- FABRICATION & WELDING
- TOP DRIVES HYDRAULIC & MECHANICAL



1519 COUNTY RD. 129
ALVIN, TEXAS 77511

www.huntingtrucks.cc

281-996-7000





antlers or a major skeletal structure can result in antler abnormalities. Nicks and cuts in the velvet antlers can produce points and oddities. This has led some to suggest that the awe-inspiring double drop tine might be caused by bucks trying to slip through a fence and getting the underside of their main beams caught (and nicked) on a fence wire.

As interesting as this sounds, most people agree that drop tines are mostly of a genetic origin. Bucks in velvet do a very good job of protecting their growing antlers because of their sensitivity.

Injury to a large skeletal structure such as a broken leg bone often causes a misshapen antler as long as the deer lives. If it is a front leg that is injured, the same side of the rack will be affected, however, if the rear leg is injured, the opposite side of the rack is malformed. Some have written this off to coincidence, however, there is a significant amount of evidence from several species of deer showing this contralateral (opposite-side) effect is real.

Studies at the Kerrville facility by Rodney Marburger and others showed that amputation of a rear leg stunted the opposite side of the rack in all six experimental animals.

Injury to the pedicle (base) itself nearly always causes abnormalities. Extensive trauma to the pedicle before growth begins (or soon after) is the source for many of the most freakish racks. Bucks with two main beams on one side are usually the result of early damage to the pedicle. If one pedicle is injured severely, that side or both sides will be malformed during the next antler cycle.

Researchers working with sika, roe, fallow and red deer have also succeeded in making antlers grow out of abnormal places on the buck's skull. By grafting cells from a buck's pedicle to another place on the frontal bone (forehead), researchers have been able to produce deer with a third antler growing between their eyes.

All three antlers undergo the normal sequence of growth, velvet shedding and casting (drop off). One experiment involved grafting pedicle cells on to the leg of a European roe buck. Incredibly, a small antler grew on the leg, lost its velvet

and was later cast normally.

Abnormal or improperly-timed fluctuations of hormones can cause irregular antler cycles or abnormal antler conditions. A buck that is castrated while in velvet will never shed the velvet from his antlers because he lacks the rapid rise in testosterone that occurs in preparation for the rut.

Without the subsequent decrease in testosterone after the rut, a buck castrated in velvet does not drop his velvet antlers. The buck then continues to grow more

antler material in the next antler cycle, never shedding its antlers until he finally carries a grotesque mass of often stunted velvet antlers, earning him the label "cactus buck."

Oddities and freaks are normally not tolerated by nature; natural selection quickly removes them from the gene pool. However, Mother Nature is not perfect, and as a result we are intermittently treated to something unusual—and the unusual is always interesting. ♪

The Big Woods
on the Trinity River
Hunting Resort

7200 Acres of Wild, Primitive Forest (.just 90 minutes from Dallas)

Wild Turkey, Cougar, Bald Eagles, Russian Boar, Moss Back Deer and Mossy Oak Trees. The breeding site of greater Canadian Geese, Wood Ducks, and Black-Bellied Whistling Ducks... **if that sounds like river bottom heaven to you ... it is!** It is an unmatched haven for big game and waterfowl hunting. With hundreds of acres of flooded pin oak flats, wheat, corn and millet, you'll think that Stuttgart and the rice fields of Louisiana collided and came together in a continental-shift to just south of Big D.

Premium Guided Duck, Wild Boar & Deer Hunts

New Championship Sporting Clay Course!

We have a 7,000 sq. ft. Lodge with cabin area, featuring a Pro Shop & Snack Bar on site.

For information call:
The Big Woods (903) 928-2721

E:Mail to: TheBigWoods@earthlink.net
Visit us online at: www.bigwoods.net