

trated, or (4) a major visceral organ was hit, i.e.: kidney, liver, etc.

All usable meat from animals taken was salvaged. Non-usable parts were used in the predator feeding program at Mkuzi.

Data from 154 shot records was included in the analysis of broadhead performance. The accompanying tables present a representation of a small portion of that analysis. Some of the factors that an attempt was made to address were: (1) what are the most lethal shot angles, (2) what shot angles tend to offer the least chance of a lethal hit, (3) which style of head gives the greatest portion of lethal hits on the most difficult shot angles, (4) is there a significant difference in penetration among the types of heads and, if so, which penetrates better, and (5) would a restriction on what types of heads could be used on what class of animals be appropriate.

Any analysis based upon such a limited number of test reports certainly is open to criticism, but to the best of my knowledge this is the most extensive uniform methodology analysis of broadhead performance ever performed on actual game animals. The results, and my conclusions from those results, will most assuredly be controversial but the analysis was performed as uniformly and unbiasedly as possible.

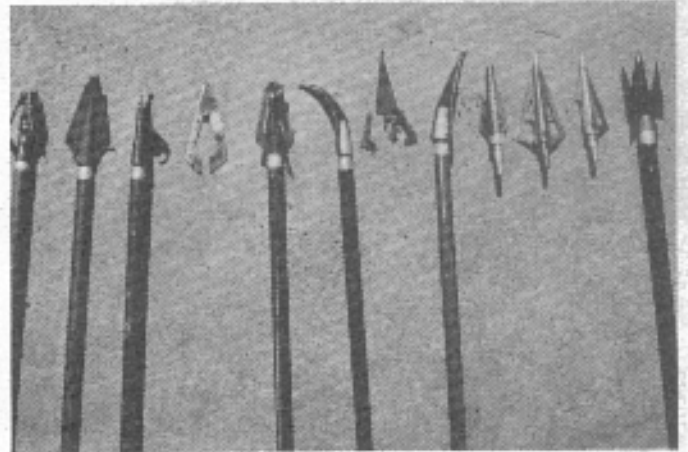
One of the striking features noted during the testing was that a large number of the broadheads tested were very fragile, often bending or breaking whether bone was hit or not. Table I reflects an evaluation of the different type and the percent damaged during the testing. The rigid 2 blade (or more accurately, single blade with two cutting edges) broadheads appear to be significantly more resistant to damage than either the rigid multiblade or the replaceable blade type of broadhead.

Table II is the result of evaluation of the probability of a hit being lethal based upon the hit location. Both brisket hits and shots from a forward quartering angle that hit back of the shoulder blade (to differentiate from shots taken into the very tough neck-shoulder junction area) were 100% lethal but this was based on a very limited number of shots. There were 25 shots quartering from the rear forward, with 24 of these being lethal hits. It is of little surprise that this shot is generally regarded by experienced bowhunters as the very best. Not only does it position the hunter so that he may move freely to position for the shot, but also gives a great probability of a quickly lethal hit.

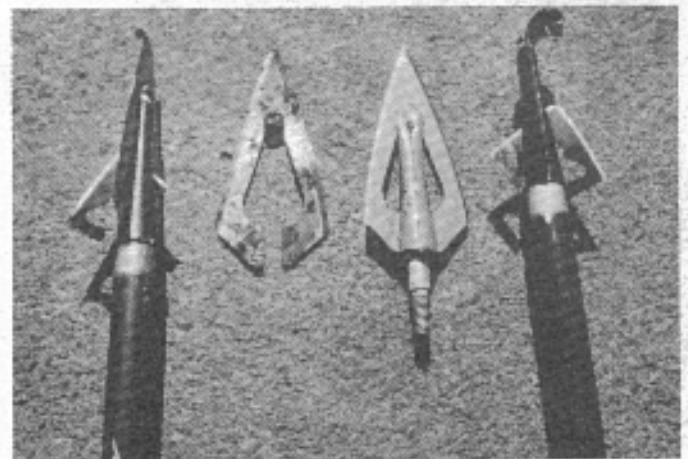
It is disturbing that almost 30% of the broadside shots into the chest-shoulder area were non-lethal. This has long been considered the "classic" shot. The rump hit proved fatal just over half the time — and is dependent on whether the femur is hit, whether the head can break the femur to reach the femoral and iliac vessels just deep of the femur, or whether the hit is medial to the femur and penetrates deep enough to reach the vessels (significant

penetration is required on a large animal such as a zebra). As had been expected from past experiences, the toughest shot on which to make a kill was into the area of the neck-shoulder junction.

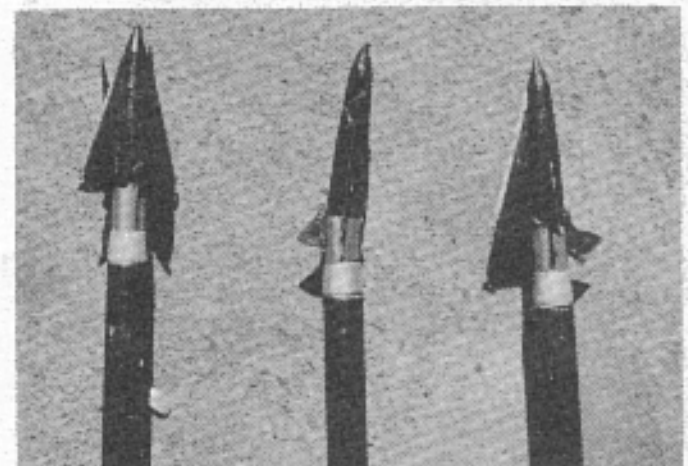
Table III reflects a further analysis of broadside shots when single blade heads are compared to multiblade heads; when only shots that hit the heavy shoulder blade are considered; and when a rib is hit on entrance.



Damaged broadheads from one morning's shooting.



Bear Razorheads, three stainless steel "Super Razorheads", one of the old style. Note bent tip on all three stainless heads.



"Viper" heads after soft tissue hits.