BROADHEAD PERFORMANCE

Among the single blade hits, 12 penetrated the scapula (shoulder blade) and rib cage to enter the thorax to be lethal hits. Four failed to reach the thorax: an Anderson 245 shot as a single blade (penetration was 3/8" into a zebra scapula); a Black Diamond, which according to my field recording, "bent into a long curve" on impact with a zebra scapula; a Premium 1 which hit a warthog scapula and "bent at a 90-degree angle, arrow deflected, head destroyed"; and a Grizzly which penetrated the thickest part of a zebra scapula and a rib, but did not enter the thorax sufficiently to be considered lethal.

Only three of the three blade heads hit a scapula: 2 Rocky Mt. Razors (one on a zebra, one on a wildebeeste) and a Bodkin (zebra). None penetrated the scapula.

Among the four, five, and six blade heads, there were eight hits on the scapula. Only two of these penetrated the bone: an Interceptor which penetrated a zebra scapula, and a Kolpin 6 used on a warthog. The Kolpin 6 achieved 10" of total penetration, but most of the blades (five of six) were sheared off and left in the scapula.

If the analysis of the effect of hitting bone on entrance is carried one step further, in order to see the effect of hitting a rib on entrance, all of the single blade heads were lethal hits, with an average penetration of 19.1" (Table IV). There were ten shots in this group. Among three blade heads, only three shots hit ribs on entrance and only one of these, a Snuffer that chipped a rib on entrance on a warthog, penetrated to be a lethal hit. Penetration on this shot was 14". The two non-lethal hits were both with 150 grain Rocky Mt. Razors (one on a nyala and one on a wildebeeste). With the other multiblade heads, seven of twelve hits encountering a rib on entrance penetrated to be lethal. Five failed to penetrate the rib.

The last section of Table III was the most striking result of all. If one considers only that most difficult of all shots, with the animal quartering toward the archer and the arrow striking in the area of the neck-shoulder junction, it is noted that only 51.5% of all the hits were lethal (Table II). Eighty-five percent of all the hits with single blade heads were lethal (17 of 20 hits) and none of the hits with multiblade heads were lethal (zero of 16). Only three single blade heads failed to penetrate. All three bent on impact with bone. The bulk of these shots (8 of 17) with the single blade heads were on the animal we judged to have the heaviest bone structure of all the test animals, the wildebeeste. The wildebeeste also has an average skin thickness of 8mm. Most shots with the multiblade heads were taken on lighter built animals (4 on warthog, 7 on nyala, and 2 on wildebeeste).

A glance at Table IV reveals that when a bone of any type is hit, the single blade head offers vastly

superior penetration. Even with a soft tissue hit, the single blade heads penetrate substantially better than the multiblade heads. If the thorax is entered, the superior penetration of the single blade would be offset, to some degree, by the greater cutting area of the multiblade heads. But, there is a significant reduction in the percentage of shots reaching a lethal area with multiblade heads.

The strong point of the single blade heads is the vastly superior penetration. Nowhere was this more clearly evident than when analysis was completed on shots that hit the vertebral column. There were 12 hits on the vertebral column with single blade heads, 10 of these penetrating sufficiently to sever the spinal cord. Of these 10 hits, six penetrated the scapula before hitting the spine! One hit penetrated a rib before hitting the spine. Nine multiblade heads hit the spine, none hit bone before hitting the spine, and none penetrated enough to reach the spinal cord!
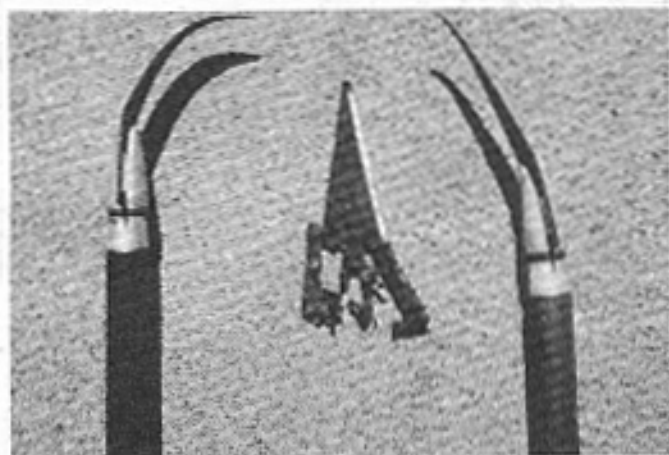
"Premium I" broadheads damaged by impact with bone.

Shattered "Magnum II" broadhead that hit only soft tissue (L). "Magnum I" (R) notice bent adaptor.

A number of items were observed as our testing progressed, some of which we had not kept track of sufficiently to analyze fully and some of which could not be quantified.

Since we had plans to test a large quantity of