

Buzzing Bees or Mushrooms?

Which is safest?

(A response to the article by Sundown Jones, SASS #5403, in the February, 2003 *Cowboy Chronicle*)

In a sport that thrives on fun and safety it is easy to have all the fun one wishes. There is the camaraderie of friends and fellow competitors. There is the soul-mate feeling of sharing a part of history in a living and active activity that epitomizes the culture and values of the Old west. There is even the fun of dressing the part, looking the part and doing so with a small sense of anonymity by using an alias instead of our day-to-day names and titles. Fun, yes, even in the stares and gawks from the public when we stop along the way to a shoot for eats and fuel. But what about the safest?

We have range rules, SASS rules, RO's, conscientious observers, and even clearly marked loading and unloading areas. Everyone is "safety conscious" and enforces the behaviors of safe and sane shooting practices. But what about after the bullet goes down range? We have berms, bales and all kinds of barriers to protect us from direct ricochets. We set targets at angles conducive to the best control of deflections and splatter and we are dedicated in setting stages as best as possible so the contestants are out of harms way. But still, we have a problem.

In February this year there was an article by Sundown Jones, SASS # 5403, in the SASS *Cowboy Chronicle* about the buzzing bees (Bouncing Bullets) that seem to fly and buzz around any given cowboy shoot on any given day and stage. These buzzing bees have been known to ricochet off rifles, pistols, gear, umbrellas, gun carts, hats, eye protection and not too uncommonly actually imbed themselves into exposed skin of any random shooter or bystander. I know. In the last three years alone I have been the target and recipient of the effect of these buzzing bees at least nine times. Three of which I actually had to have capable assistance with tweezers to extract the nimble little devil out of my neck, cheek and ear. Now I only shoot about three matches per month on average, I can just imagine a shooter who shoots even more and the odds of their contact with the elusive stingers. Anyway the close of the article asked the question about what can/should we do about it.

I would like to offer some insight on what we can do based on a brief bit of research.

A month or so ago, back in March, a few of us were shooting at a fellow SASS members home shooting range and noticed that we could hear shrapnel from his loads bouncing on the metal roof of his hay barn. This wasn't too unusual or exciting until we realized the barn was a good twenty yards *behind* us! We also soon discovered that it was only his loads that were fragmenting and causing the rattle on the roof. The others shooting that day were field-testing some bullets from a new bullet company that produces a very soft

lead alloy. The alloy the others were shooting was in the range of about 8 Brinell Hardness (BHN). The loads from Wild Gene Hickup's ammo were from another company and were advertised as being an alloy in the range between 19 and 23 BHN. We all decided to stop and do a fairly structured test to see if there really was a difference.

We selected one target that seemed to predominate in sending the bullet pieces back over our heads and on to the roof. We then marked the spot from which the shots were fired and loaded a pistol with the harder alloy bullets. Sure enough, of the five rounds fired three resulted in the rattle of buzzing bees on the roof. We then loaded the same pistol with the same velocity load only using the softer alloy from the new company. Miraculously there were no reports of raining splatter on the roof. This procedure was repeated several times and the same results were experienced. Next the group decided to see how much of the bullets were recoverable from the catch pit under the target.

After raking a clean area beneath each of the five metal loosely hanging targets the pistols were loaded with the harder alloy ammunition. Again the raining of bees was evident. After a series of 25 shots we all went forward to inspect the ground under the targets. It was surprising to discover that we could only find eleven significant pieces of the individual bullets. The most common discovery was the bore sized base equal to about half of the original length of the bullet. This half a bullet piece was almost completely bore diameter, except for the very nose end, which had about a .040" to .080" bell effect (where did the rest of the bullet go?). The area was again raked clear and the same pistol was loaded with the same velocity load using the softer alloy bullet. Again 25 shots were fired at the series of targets. As before with these bullets, there was no rattle of raining buzzers on the barn roof. After the series of shooting we went forward to inspect the catch pit area. To our surprise we discovered that most of the bullets were of about "quarter sized" tulip blossomed mushrooms. These were bullets fired from a 357 magnum Ruger Vaquero using a standard cowboy action load. Those flattened bullets not found immediately below the target plates were found along a parallel axis to the target stands and ranged as far as ten feet to the side. Not all the recovered bullets (21) produced the classic tulip petal mushroom but all did demonstrate a complete flattening and weighed between 70% and 90% of original weight. The harder alloy bullet remains weighed at best 30% to 40% of original weight.

The accompanying photographs represent a sample of the recovered bullets. The larger "mushrooms" are from a 45 Colt using 200 grain bullets at a velocity of about 800 fps. The smaller mushrooms are from the test 357 Ruger using a 125gr bullet at near 700 fps. The two cylinders in the middle are 125gr hard alloy with a BHN between 19 and 23. One photo is from the nose end and the other is from the base end so you can see the petal expansion and the comparative amount of base left on the mushroom compared the longer base section from the harder bullet.

Please realize this was not a fully controlled experiment but it did seriously demonstrate the difference between soft and hard alloy bullets and fragmenting and ricocheting. We plan to do additional testing and would encourage any other readers so inclined to try the

same tests. Who knows, we may even discover a new way to hang targets, or at the very least get some significant data to support a call for recommending softer alloy bullets for those ranges with minimal stage-to-stage protection.

A second interesting observation from the use of the softer bullets was the concept of “time on target” for the reactive and tip over type targets. The harder bullet still fragmented and bounced back, while the softer bullet continued to give its mushroom performance. The result was that some of the targets did not break away with the harder bullet while the softer bullet did not ever fail to break the set and react. We will leave it to some physicist to convert all the principles and reactions from Newton’s Laws and explain this phenomenon.

Well regardless of any side effects, I do consider the insights gained from this collection of observations near enough to data to suggest that there is something we can do to make our activities safer and even perhaps more pleasant. Here at least is an idea to pursue in trying to limit the “Buzzing Bees” and maybe promote more “Mushrooms”.

Our next session to test the effects of splatter and ricochet will consist of wrapping butcher paper completely around a metallic target that is perpendicular to both the ground and the firing point. The paper wrap will not only cover the horizontal but vertical planes as well. With the paper in place we will shoot a series of at least 20 shots with different grades of bullets with varying ratings of BHN. For those interested, please keep reading the next few issues and perhaps the results will be in. In the meantime, shoot straight and be safe.

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