

Chirisa Safari Area, Zimbabwe,  
1978 – on the right is the  
author with .505.

# Favourite Rifles

## and terminal performance

### Richard Harland

Although some publications date this cartridge as being introduced in 1911, Mark Crudgington, whose family has owned the George Gibbs Ltd company for over 40 years, assures me the correct date is 1913. Well, just an academic point of little importance.

My introduction to this great calibre was only in 1978, when I bought a .505 rifle built in 1927 by George Gibbs at his works in Bristol, England. I paid Zim\$500 for the weapon plus its original canvas-covered wooden case and 150 cartridges. Nick Holt sold a similar rifle of the same era at his last 2007 auction, which went for £8 000 (about R120 000). This reflects

the relative rarity of these *original* Gibbs pieces in .505 calibre, of which only about seventy have been built in the 95 years of its existence. In recent years, along with the .500 Jeffery, the .505 is experiencing a revival as befits these two big bolt-action cartridges.

In his excellent publication *Big Bore*



## The .505 Magnum

by George Gibbs

*Cartridge Load Data Collection*, Pierre van der Walt states, "The .505 Gibbs holds the distinction of being the largest cased bolt-action rifle cartridge around today," referring to the case capacity of 178.4 gr of water. Although Gibbs investigated the possibility of using 600-gr bullets, he settled on the 525-gr >>

>> weight, to keep pressures within his perceived limits as he was aware of high temperatures in India and Africa having noticeable effects on the cordite propellants in use. The standard load was 90 gr Cordite, which gave a velocity from test barrels of 2 300 fps. This probably translated to around 2 200-2 250 fps in the sporting rifles with 25-inch barrels.

So, is there a noticeable difference in performance between this 525-gr bullet at 2 250 fps and, say, a 500-gr bullet from the .458/.470 class at 2 150 fps? Yes, very noticeably so in my experience, both in apparent effect on impact and in penetration, on elephant and buffalo. These are certainly not scientific, measurable facts, just a hunter's observations. However, it might be interesting to look at what is possibly the best guide available at present in the field of formulae that try to mathematically evaluate bullet performance.

John 'Pondoro' Taylor made a commendable effort at this formulation with his 'Knockout Values', but to my thinking, Gregor Woods has improved upon it greatly by including emphasis on bullet cross-sectional area (not simply diameter), along with weight and, naturally, velocity. Gregor calls his values Relative Damage Potential (RDP) and this means the degree of tissue destruction, which is what largely determines the rapidity with which death overcomes the animal. Very sound, well-informed thinking. Let it also be said that muzzle energy is not a reliable indicator of 'killing ability'. Why? Because it is too dependent on velocity.

Using Gregor Woods' formula, the .470 cartridge with a 500-gr bullet (diameter .474) at 2 150 fps gives an RDP value of 27.1. The .505's 525 gr at 2 250 fps has a 33.8 RDP value, an increase of around 25%.

To achieve the .505s RDP value, the .470 NE would need to increase velocity to about 2 650 fps! The Weatherby .460, also with 500-gr slugs and travelling at 2 600 fps only shows an RDP value of 30.6.

As an aside, one of the major problems created by needlessly boosting velocities, apart from higher cartridge pressures and more bullet deformations, is the recoil. People are not machines, heavy recoil is not pleasant, and so far too many hunters do not shoot their headache-inducing cannons in practice before going into the field to hunt.

The .505 does have appreciable recoil but with sensible loading and with prac-

tice while standing, using shooting sticks and freehand, it is not unpleasant. I weigh only 75 kg (165 lbs) and find I can control the rifle and get off a magazine-full of shots quickly and accurately enough to be confident in stopping any attack by an animal. An important factor here is to have a rifle of sufficient weight; eleven pounds is about right. It goes without saying that 'fit' is also critical.

**The real domain of the .505 is in dealing with bull elephants. A big bull has a skull probably twice the size of a female's, thicker hide, far heavier bones, more massive muscles and internal organs, all of which offer enormous resistance to bullets.**

Before discussing modern bullets and powders available to reloaders, I'll mention a few examples of the .505's performance with original Kynoch ammunition firing conventional 525-gr RN steel-jacketed solids. I only use solids for elephant, and for backing up clients on buffalo hunts. For the first shot into a buffalo though, the soft nose is definitely required and is devastating.



Left: Six Barnes 600-gr solids; Right: Ten 525-gr Kynoch; all from elephant 📍

Very seldom have solids been recovered from buffalo – they just go through from whatever angle the animal is hit. An example of penetration was with a large buffalo cow shot, broadside on, through both shoulders, after which the bullet hit another cow that had been invisible in the

thick riverine forest. The bullet entered the back leg, high up next to the tail, travelled the length of the body and stopped against the sternum, carving a large groove through the heart on the way. This animal ran about twenty yards before dropping dead.

On many occasions I've had bullets pass through full-size cow elephants on shoulder shots while side brain shots offer very little resistance to these bullets. Much caution is called for to avoid wounding animals other than the one being targeted!

The real domain of the .505 is in dealing with bull elephants. A big bull has a skull probably twice the size of a female's, thicker hide, far heavier bones, more massive muscles and internal organs, all of which offer enormous resistance to bullets. On frontal head shots, the tusk sockets and ivory can stop heavy-calibre bullets, while the hard, thick hide on the forehead, the huge muscles of the top of the trunk and the distance through to the brain at the back of the skull, need a good mix of bullet weight and velocity, (i.e. momentum) and jacket strength to give reliable penetration every time, from all angles. I never had any disappointments with the .505 on such occasions.

I do not recommend the following technique, but under the circumstances I had little choice! One of a group of crop-raiding bull elephants was resting next to an acacia tree when I found the culprits after hours of tracking. The wind was

swirling around, the other bulls were nearby but not clearly visible for a shot. It was now or maybe never if I did not take the chance, quickly. Bushes obscured the heart/lung shot and the tree trunk, about 8-9 inches thick, covered the bull's zygomatic arch and ear hole. I planned to put



my shot through the centre of the tree, thinking that it would be less likely to veer off course than if it should strike the curve on entering the wood, or deflect when exiting the curve of the far side. Fortunately, it behaved perfectly, and after the tree, went through the elephant's brain and continued out of the head. The animal simply subsided against the tree trunk. This fellow carried 60 lbs ivory per side in his massive head and I was impressed with the way that bullet passed through it after some serious resistance from the hardwood acacia tree.

I recall only four occasions when I was forced to shoot oncoming bull elephants with the .505, after my clients had wounded the animals and could not stop their attacks. Two were in ordinary mopane bushveld, the other two were in thorny jesse thickets. Each was killed at distances of five to fifteen paces, a single shot to the brain bringing them down at full speed in spectacular fashion. I often wished I had owned this rifle back in the days when much of my time had been spent hunting bulls in tsetse fly corridors, tribal areas, cattle ranches, sugar farms, or just for the ivory. This is not to say the .458s I used were ever unsatisfactory.

Of the relatively few Kynoch bullets I

This bull charged us after the first shot by a client. The writer (left) dropped it from the position where the two kids are standing. The .505 comes into its own with such situations. Nyakasanga '90

have found inside animals I've shot, some were distorted in the manner of the early style steel or nickel jacketed solids. Either noses slightly flattened, bases squashed or the whole bullet bent in a slight curve. Since 1980, I have reloaded plenty with the old Barnes 600-gr, full copper jacketed, lead-cored solids and I must say that, keeping velocity to 2 120-2 150 fps, the performance on elephant is just great and recovered bullets were never badly distorted. I did not find any that had actually split or broken up, probably due to the jacket enclosing the bullet's base completely.

Today, we can use far stronger projectiles and of better design. Besides, we also have a choice of weights undreamed of in George Gibbs' day.

Woodleigh Bullets in Australia make excellent round-nosed 600-gr solids with thick steel jackets, and also soft nose – great buffalo medicine, I'm sure. These are probably the most widely used bullets for the .505 today. Dzombo Bullets of Pretoria (Bjinse Visser and Danie Joubert) turn out reasonably priced, well-designed, top-

quality brass (monometal) bullets in 570-gr and 600-gr weights, with flat noses. I have some of both loaded up, ready for the coming hunting season, and will report back on performance.

Also monometal but of slightly different designs are Rhino Bullets and GS Custom, both in South Africa. Amongst other makers of this calibre are A-Square, Barnes and Hawk. Norma of Sweden manufactures ammunition, with 600-gr bullets in both soft nose and solid, and Cabela lists them in its latest catalogue at US\$229.99 per 10. They are a great product, being Norma, but for range work and fun shoots, most of us could not afford the price. Thank heavens for reloading!

As of January 2008, Ian Crudgington has retired and closed his gunshop in Bath, England, but fortunately his son, master gunmaker Mark, now owns George Gibbs Ltd and continues the tradition. Anyone wishing to own a hand-built, best-quality rifle bearing the proud name of George Gibbs Ltd can contact Mark at [george.gibbsltd@btinternet.com](mailto:george.gibbsltd@btinternet.com)