

World Wildlife Fund

Big-game hunters are not biologists

Hunters justify their sport on the grounds that they improve breeding stock. But do they?

Tim Caro

BIG-GAME hunters are keen to justify their sport, but their arguments are based on spurious interpretations on conservation biology. Hunters maintain that they conserve wildlife by weeding out old and sick animals and hence ensure that only the strongest are allowed to breed. The New York State Department, for instance, introduces its pamphlet *Conservation* with the argument that:

The harvesting of surplus game is good conservation. Since wildlife almost always produces more young than the habitat can support, the surplus is lost by death in some manner, including starvation, predation or disease, and thus is wasted. Good conservation and waste are incompatible. Ideally the hunter takes only what would be lost anyway and the gun can be much more humane than slow death by starvation or disease.

Perhaps because of its simplicity, this message is persuasive; rarely is it seriously questioned by other people with an interest in preserving wildlife.

But now that Kenya is about to lift its seven-year-old ban on organised hunting, we should take a hard-headed look at this hunter's maxim. A popular idea is that in many populations of wild animals, males are ousted by younger competitors and are "put out to

grass", usually several years before natural death. These individuals are said to be "surplus to the population's requirements" and are thought to compete with adult females for food. Hunters maintain that "selective shooting can regulate the numerical balance between the sexes, the healthy growth of stock, with the elimination of aged or otherwise surplus animals". What is the evidence for this?

Taking the most spectacular hunter's trophy first, a study of elephants in Kenya's Amboseli national park by Joyce



John MacDougall

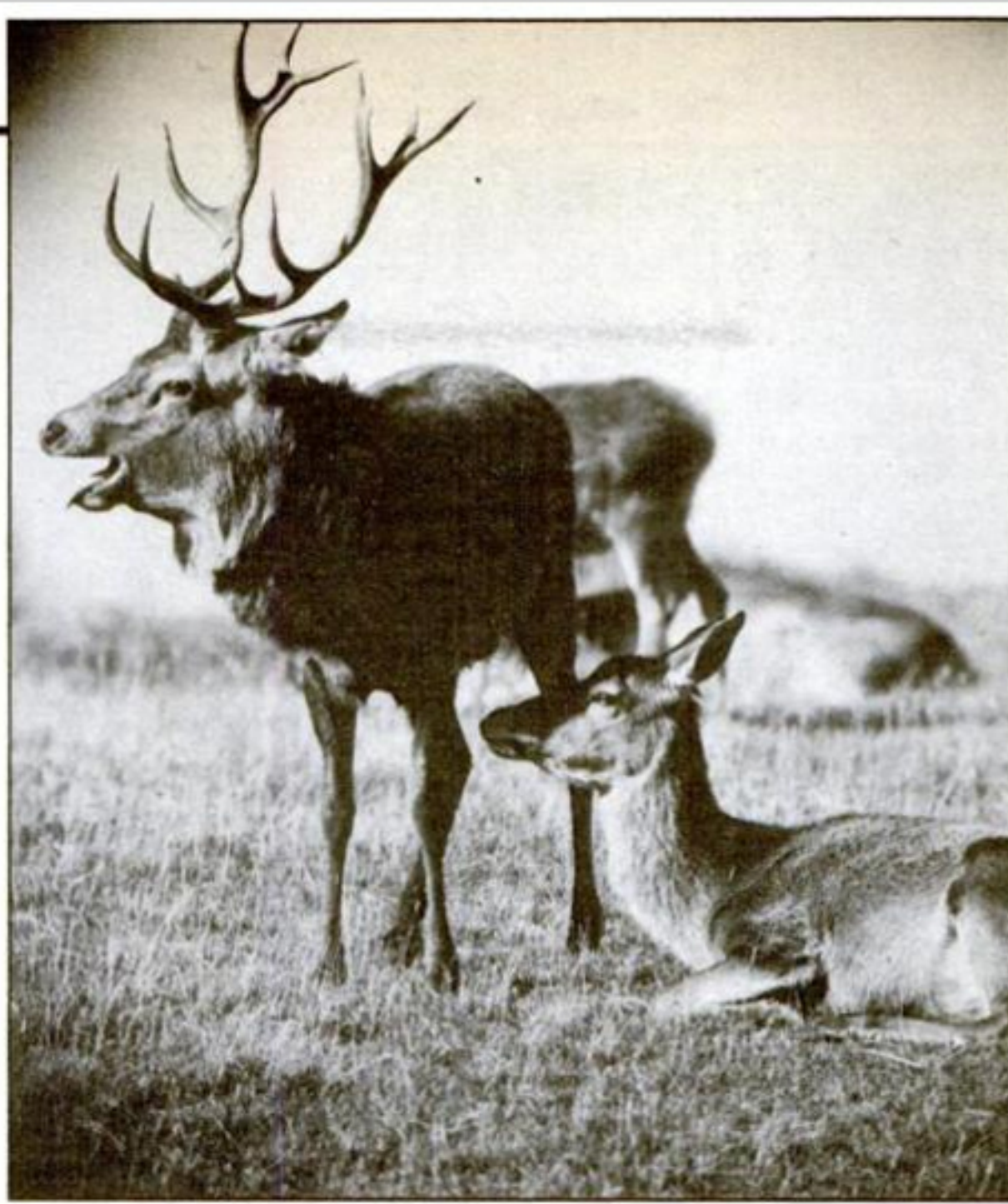
Big tusks come from males that were successful breeders before they were shot

Poole showed that males go on growing and breeding throughout their lives. The oldest, and hence biggest, individuals gain a high proportion of copulations. These individuals tend to be those that are fittest in the Darwinian sense, because their complement of genes has survived environmental hardship and intraspecific competition over many years. As every hunter knows, weight of ivory is a direct measure of age, so big tusks belong to those males that were successful breeders when they were shot.

The ungulates show a different pattern of growth in their weaponry. Horns increase in size from birth through puberty, but then gradually stop growing longer. In Zimbabwe, Martyn Murray showed that the horn sheath of male impalas wears away in old age, resulting in a decrease in the length of the horn. Thus, hunters who shot the biggest head of horns, their usual objective on safari, are shooting prime breeding males. This pattern of growth is not restricted to the antelope; in deer, the growth of antlers also plateaus in middle age. During a long-term study on the Isle of Rhum, off the west coast of Scotland, Tim Clutton-Brock, Steve Albon and Fiona Guinness found that red deer stags experience their greatest reproductive success between 7 and 10 years of age, when the number of points on their crown has already reached its maximum. One can be fairly sure that the head of the royal stag nailed to the dining room wall belonged to a harem-holding male. Thus attempts to shoot males late in their prime, to prevent their reaching senescence, contradict one of the hunters' stated objectives: to prevent less capable males from breeding.

Sick animals may be genetically inferior, and hunters argue that the population will suffer if these animals pass on their genes to future generations. But is there any evidence that sick animals get a chance to breed?

Sportsmen tend to kill large species. In mammals, large species are generally polygynous; that is, one male has exclusive mating rights to a number of females. Among polygynous species, competition for females is intense, and sickly animals have little chance of successfully holding harems. In red deer, only the top 5 per cent of breeding males sired more than four offspring in any given year. Weak individuals are, therefore, unlikely to be a genetic burden on the population. Nor are they a burden on the food resources of females. Males in many polygynous



Male deer in the prime of life, between 7 and 10 years of age, make the most spectacular trophies

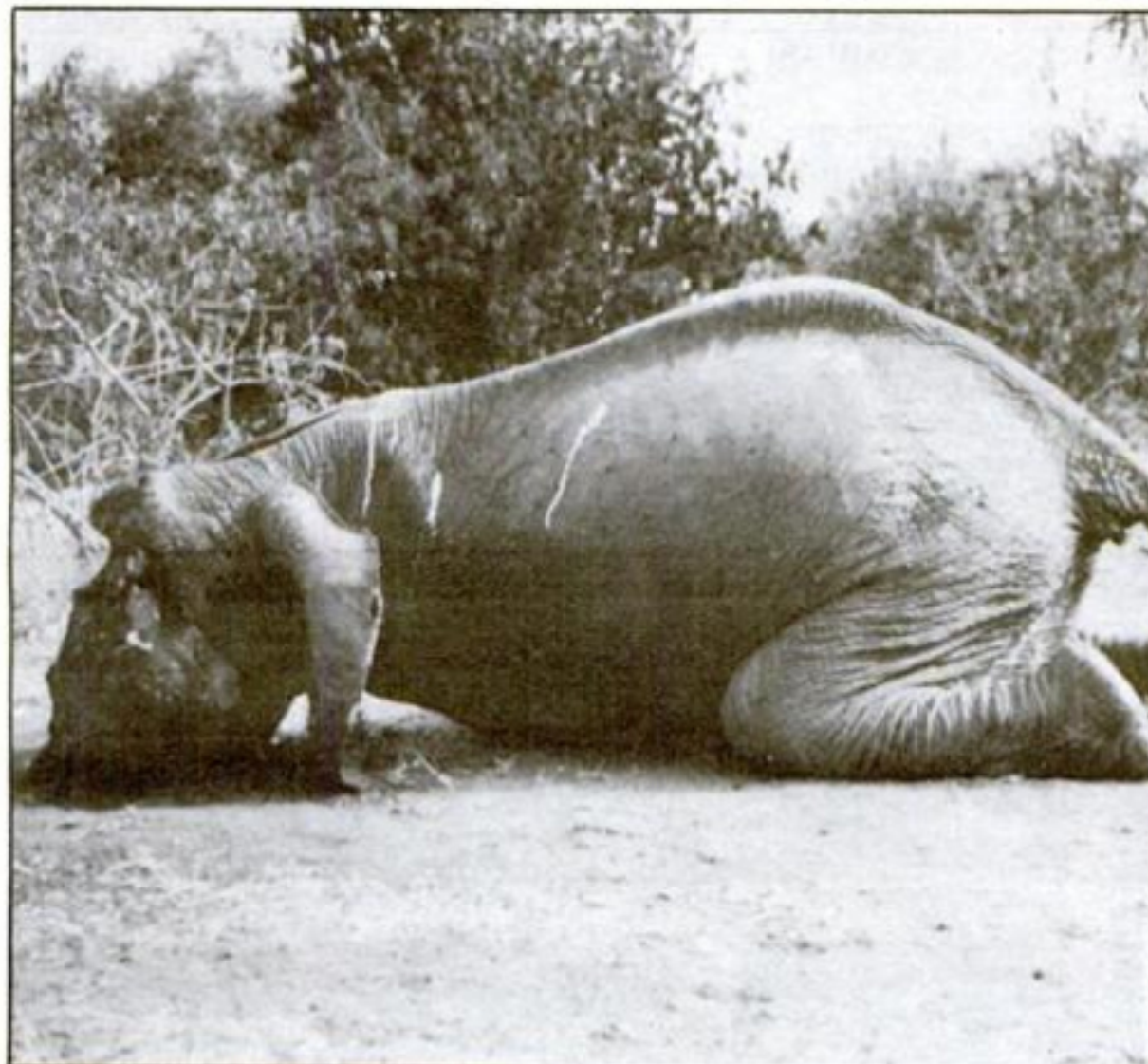
species of ungulate have different feeding requirements from females. They forage less selectively and, outside the breeding season, they feed in areas quite removed from those of cows or hinds. Weak or sick individuals compete for food only with other males, and often successfully. Although good data on injured or weak animals are scarce, it appears that on the Isle of Rhum 10 per cent of mature red deer stags die from injuries sustained in fights; and this is an area where there are no natural predators.

In hunting areas in East Africa where predators still exist, wounded animals have an even smaller chance of surviving. In his classic study of the Serengeti lion, George Schaller showed that 20 per cent of the zebra caught by lions were in poor condition. Lions and spotted hyenas, the two predators with the biggest impact on the ungulate populations in East Africa, take a large number of weak and sick prey. A professional hunter is therefore unlikely to encounter a sick male in a population of wild herbivores.

Lions are a crucial part of any big-hunter's collection. The usual aim is to bag the biggest male lion seen on safari. Lions are also polygynous, and only the biggest and strongest males will hold prides. But lions are different from ungulates in that infanticide is common in lion society. In the Serengeti, Craig Packer and Anne Pusey found that in 17 out of 19 cases where new male lions entered a pride of females, the males killed the cubs. The newcomers thereby ensure that the females quickly come into oestrus, enabling the males to sire new offspring. If large males, usually pride holders, are shot, new males will soon take over the pride without a fight and subsequently kill as many cubs as they can. Inadvertently, hunters are damaging their own interests because they dramatically reduce the rate of recruitment into the population.

Hunters contend that people have eliminated predators in many areas of the world, removing natural checks on herbivore populations. Hence, they argue, it is our responsibility to provide a check on the prey populations. This argument is valid in some parts of North America and Europe. The number of caribou in the Canadian tundra, for instance, is limited by both local hunting and resident wolves. However, this reasoning cannot be applied to Africa, where predators are still abundant in most regions.

In Africa, hunters argue



A victim of the hunters' "eugenic" policy

Karl von Orsdel

that only "weak" animals are found in and around national parks, while the "strong" ones survive in other areas. But in national parks, animals are still subject to selection pressures. David and Linda Burney have shown that lions and spotted hyenas are often extremely numerous in national parks. Selection due to high numbers of predators is likely to be more rigorous than the arbitrary selection imposed by humans.

Another example of misdirected thinking concerns the shooting of red deer in Western Europe. Estate managers may put out food for the deer to encourage the males to carry more points on their antlers. However, research shows that the weight and condition of hinds is the best predictor of the body weight of their sons. Thus, it would be more effective to give food to hinds before and during pregnancy than to provision the young males themselves.

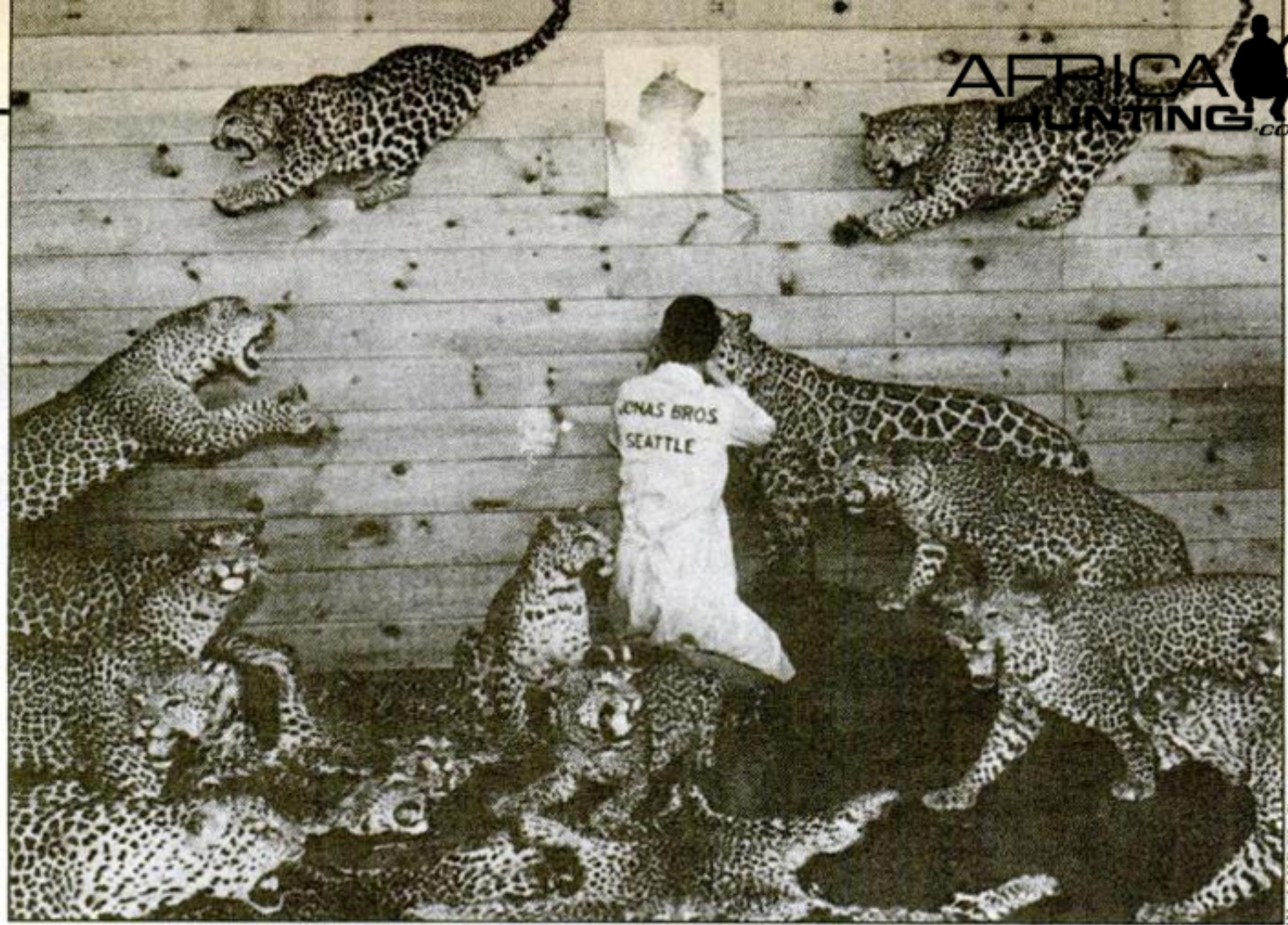
If the adages of hunting folklore are far from correct, what of their practical application? Do hunters really know what are they doing? Often the trophies hanging on sportsmen's walls are the heads of females. Yet the axiom of professional hunters is that only the males are shot. Does this mean that hunters cannot tell the difference between the males and females? Among species such as the leopard, even experienced biologists find it difficult to tell males from females except when close enough to see the male's testes. Indeed, hunters have killed protected cheetah in East Africa, saying they mistook them for leopards! Some hunters take insufficient care in what they shoot. In 1894, Lieutenant Ludwig von Hohnel was exploring Africa. He wrote:

At the same moment he heard a growling nearby, and saw some animal approaching him through the long grass. Thinking it was a wild boar, or something of that kind, he changed his rifle for a gun and fired, little dreaming of what he had done. There was a rolling over

and over in the grass, and then he saw the paws of a great leopard. Quickly the rifle was seized again; but the danger was past, the animal was quite dead.

Normally, however, leopards are shot by first attracting them to a bait in the vicinity of the hunters' camp. Each night a cache of meat is secured to a tree and the hunters wait nearby in the hope that a leopard will make a visit during the course of the night. This method attracts resident individuals that use the same area repeatedly. But the resident males will be superior individuals that have won that particular territory. Females may also be attracted to the bait and can easily be mistaken for males.

These examples of theory and practice in hunting show that hunting folklore bears little relation to the biological world. It is only on economic grounds that hunters have an arguable case. In Third World countries, especially in Africa, hunting provides a rich source of foreign exchange. Huge prices are paid for the privilege of killing the "Big Five", or Big Four, now that the rhino is officially protected throughout most of its range. Hunters may have to spend \$15 000 each to cover the costs of hotel services, camping fees, travel



Leopards that fall into the hands of the taxidermist are rarely sick or elderly



Hunters should admit that they do it for fun

expenses and the hiring of professional hunters who must accompany them. In 1981, marksmen had to pay \$1220 to shoot an elephant, \$135 for a buffalo, and \$750 for a lion. However, a lion alive in a Kenyan National Park is worth far more: during its lifetime, sightseeing tourists contribute a total of \$115 000 to see each lion. In some cases, corruption notwithstanding, these sums are ploughed back into the wildlife business: new hunting blocks are set up and areas are more adequately patrolled against local poachers. Some money might even find its way into the management of national parks. Much more often, however, the foreign exchange is used to buy imported goods, including fuel. This, in turn, keeps the economy buoyant and may temporarily relieve local pressures on wilderness areas, especially if it helps farmers to utilise their land more effectively. Governments can justify setting aside land for wild animals because of the foreign exchange it generates.

Hunting areas around national parks in East Africa undoubtedly drain the parks of their animal inhabitants. Tame lions accustomed to tourist vehicles inside a park may approach cars outside to within 10 metres, and many present-day hunters shoot from cars. Yet hunting areas do provide a buffer zone between increasing land settlement and areas set aside entirely for the protection of wildlife. Hunting areas also protect many species of small mammals, birds and plants at the expense of the trophy species. If adequately patrolled, hunting areas may be justified on these grounds. Professional hunters themselves may help protect the area because they have little regard for local poachers; their influence may be particularly important in countries where wildlife enforcement agencies are already stretched to their limits.

Against these arguments, big-game hunting opens the doors to corruption. In the field, low-paid scouts can be bribed with cash in hand, enabling hunters to shoot more than their allowed quotas. Policing such activities in remote areas is virtually impossible. Once a country allows animals to be shot within its borders, the source of any animal artefact on sale in that country can be attributed to a source of legal hunting; undoubtedly in many cases it has been poached. But Kenya is virtually the only country trying to instigate tough measures against the sale of illegally-shot trophies.

Big-game hunters can, therefore, be advocates for the interests of wildlife in Africa, but not for the reasons commonly espoused by their fraternity. If hunters admitted that they hunted for personal gratification and not because they were managing animal populations we might dismiss them less readily and consider their effects on economics and conservation a little more seriously. □



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