

Evolution of Sambar

As Prey of Tiger, Leopard, Wild Dog & Man

Sambar have co-evolved as the favourite prey of the tiger for at least twelve thousand years. So it is not surprising that wildlife biologist Dr. A. J. T. Johnsingh tells his students and trainee forest officers that in the hilly areas of India, 'sambar conservation is tiger conservation' for sambar are biologically, behaviourally and ecologically adapted to be the best prey of tiger.

Dr A. J. T. Johnsingh

It is commonly stated by hunters and wildlife biologists that sambar are an incredibly elusive and wary creature whose senses have been honed to a keen edge as the direct result of having evolved as prey of the tiger. This statement implies that sambar evolved through the process of natural selection or what is often referred to as 'survival of the fittest'. That is, those who were best adapted to their environment survived to reproduce and pass on their genes to their offspring, and the best adapted offspring survived and passed on their genes to their offspring and so forth. But to what extent can this statement be shown to be true? Whilst I investigate predation by leopard, wild dog and man, the primary aim of this chapter is to determine to what extent sambar evolved as prey of the tiger.

Brief History of the Tiger in India

The earliest tiger fossils discovered, tell us that tigers first entered India around twelve thousand years ago (or ten thousand radiocarbon years). Two thousand to one thousand years ago, tigers maintained a wide distribution throughout India. This was before the invention of the gun. With people far less numerous and no firearms, tiger populations maintained an equilibrium (Thapar 2004, pp. 5-7).

When the proliferation of firearms and cars facilitated hunting for sport and medicinal purposes, the tiger population suffered unprecedented

Right: *The stalk and subsequent pursuit illustrated on the following pages culminated with the tigress delivering one powerful bite, crushing the calves cervical vertebrae and windpipe. The calf emitted a shrieking wail and instantly death was upon it.*

As Forest Officer Gobind Sagar Bhardwaj was busy photographing every moment of this once in a lifetime wild action, his heart was thumping and he was gushing with adrenalin fueled excitement.

However, tigers do not seem to single out the young, the old or the sick. In fact, several studies in India have revealed that the tiger's preference is for large prey such as gaur or Indian bison and sambar (Thapar 2004, p. 116). Gobind Bhardwaj (2008. p.140) noted that of 36 kills he found, 17 were sambar, 11 were domestic stock, five were nilgai and three were chital. Of 88 sightings of tiger kills at Ranthambhore National Park between October 2002 and November 2005, 50 per cent were sambar, followed by chital, nilgai and boar.

In Nepal where sambar were not the most abundant prey available, adult sambar were still selected by the tiger. In the Bandipur Tiger Reserve in southern India, tigers prefer sambar and avoid chital. Although there are many other ungulates available, the most notable being chital, hog deer, barasingha, wild boar, gaur, nilgai, cattle, buffalo and black buck, sambar are preferred.

Images were taken in April 2008 in Rajbag area of Ranthambhore National Park India, by Forest Officer Gobind Sagar Bhardwaj.

