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## RESEARCH

# HOW MUCH DOES IT WEIGH?

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WHEN viewing or discussing East African wild life, a question that often arises is "How much does it weigh?". This is also of great interest to the scientist or game manager. An accurate knowledge of the weights of wild animals is important for biological or ecological research, wild life management, game cropping, field immobilization and capture work and legal matters involving game. However, except for occasional trophy records, very few weight records exist for East African wild animals.

During the past 18 months, as part of our ecological investigations, we have made detailed examinations of a series of 237 wild animals, 170 of which we have weighed directly in the field. These weights come from live animals captured or collected by us, and from animals collected by others which we examined. The summary results of these weighings (through December 1960) are presented in the accompanying table.

Most of the animals involved have come from western Masailand, the Narok District of Kenya and the adjoining region of Tanganyika near the Serengeti National Park. Somewhat different average weights might be obtained from different populations of the same species of animals in other parts of East Africa.

We wish to express our gratitude to the Kenya Veterinary Department for provision of the Salter balance which has made this work possible.

*Method:* Live weights have been determined by a Salter trade spring balance which weighs up to 1120 lbs. The animal is placed in a canvas sling under the balance and hoisted up for weighing by means of a winch and derrick mounted on the rear of our Land-Rover.



The two authors at work on their experimental weighings. They are engaged on the Wild Life Research Project sponsored jointly by the Government of Kenya, The United States National Academy of Sciences, National Research Council, Rockefeller Foundation and New York Zoological Society.

Animals too large to be weighed in one piece are sectioned. Blood and viscera are weighed by placing them in a canvas or pan. Items weighing less than 8 lb. are weighed on 0-8 lb. Salter scales. The weighing machines are checked periodically for accuracy and temperature effects.

*Live Weight:* The live weights in the accompanying table represent the total weight of a live animal (immobilized or otherwise captured), or that of a freshly killed one including blood. The blood loss from a large bullet wound can represent from one to four per cent of the total body weight.

The live weight figures are divided into adult males, adult females, and yearlings. Unless otherwise noted, adults are animals which have reached maturity in terms of bodily development, although they may still be increasing slowly in body weight. Therefore in small animals adults may be 18 to 24 months old and older, while in larger animals they may be 3 to 4 years

## LIVE WEIGHTS AND VISCERAL WEIGHTS OF EAST AFRICAN ANIMALS

All animals weighed by L.M. and M.H. Talbot Wildlife Research Project

(Weights are given in pounds)

Species:	Adult Males:			Adult Females:			Yearling Average:	Viscera** Percent of Total Weight:
	Min:	Max:	Ave:	Min:	Max:	Ave:		
Black Rhinoceros				1584*†±				27
Burchell's Zebra			598			588		23
Dik Dik	11	12	11.5					18.4
Eland	800†±			622*¶				20.2
Grant's and Robert's Gazelle	130	158	142.3	98	103	101	81	19.3
Impala	118	145	131			101	91	21.8
Kongoni	305	338	332					21.7
Lion				220*				
Masai Giraffe				1760*†				21
Reedbuck							70*	
Spotted Hyaena	123*							
Thomson's Gazelle	46	66	54	37	43	41	33	21
Topi	277	305	292			252		25.9
Wildebeest	362	559	456	302	424	256.5	200	26

\*Record from one animal.  
†Plus blood.

± Estimated to be three to four years old.  
¶ Three years old.  
|| Old, in very poor condition.

\*\*Viscera includes the total contents of the body cavities. The figures given are averages for each species; individual percentages vary somewhat according to food and water content of the digestive tract, pregnancy, age, and general condition of the animal.

old and older. Yearlings are roughly 12 months old. The figures are given as averages for the species, and where it appears significant, the maximum to minimum spread of adults is also given.

*Visceral Weight:* One often does not have a chance to weigh an animal until it has been cleaned and brought back to camp. To help determine the live weight of such animals, we have included visceral weights in the accompanying table. The visceral weights refer to the total contents of the body cavities, such as would be removed in rough field cleaning of an animal.

In the table the average visceral weights are expressed as a percentage of the average live weights of each species. In individual cases this figure may vary as much as 10 per cent, depending on the water and food content of the digestive tract, age, and condition of the animal. Advanced pregnancy increases the percentage even more.

*Additional Records:* We are in the process of compiling a more complete table of weights of East African animals, and consequently we are in need of additional weight records. We should greatly appreciate it if weight records, with their source and any other measurements and pertinent data could be sent to us, c/o Kenya

Game Department, P.O. Box 241, Nairobi, Kenya.

*Kongoni are amongst those animals on which data have been collected. This one was photographed drinking before the drought, in Nairobi National Park by C.A.W. Guggisberg.*

