

TWO CAMEL-LIKE WILD SPECIES (THE GIRAFFE AND THE OKAPI)

By

Ali Saad Mohamed

Department of Fisheries and Wildlife Biology, College of Veterinary Medicine and Animal Production, Sudan University of Science and Technology.

ABSTRACT

The giraffe (*Giraffa camelopardalis*) and the okapi (*Okapia johnstoni*) are two wild ungulates that look and behave like camels in many aspects. They tolerate to be off water for long periods.

The dentition of the giraffe is very close to that of the camel. The dental formula of the latter being; 1/3: 1/1: 3/2: 3/3 while that of the former is 0/3: 0/0: 3/3: 3/3.

The giraffe makes use of its long prehensile tongue for browsing tree leaves, whereas the camel utilizes the structural modification of its upper lip for browsing tree tops. The giraffe, however, differs from the camel by having two skin-covered horns in both sexes. There is no gall bladder in the giraffe as it is the case with the camel.

The okapi is similar to the giraffe, except for the short neck of okapi and the presence of skin-covered horns in the male only.

The giraffe lives in open forests of low rainfall at sahara edges like the camel, but the okapi, on the other hand, is a dweller of thick rain forests in the Congo. All the three species, camel, giraffe and okapi, are similar ruminants.

The giraffe is now disappearing from its natural habitats in Northern Sudan at an alarming rate. It is recommended that rehabilitation and reintroduction of the giraffe into its natural ranges should receive prime consideration as most of the camelidae species are threatened by extinction. Such animal species, being adapted to adverse and hard environmental conditions, can avail an important resource potential for gene banks, molecular biology and genetic engineering in the future.

INTRODUCTION

As the camel is representing the genus *Camelus* in the domestic stock, there are some wild animal species that resemble the camel in a way or another; of these are the giraffe (*Giraffa camelopardalis*) and the okapi (*Okapia*

johnstoni). Both species belong to the order *Artiodactyla* "even-toed ungulates" and are both ruminants and browsers. In this study, the main characteristics which they share with camels will be discussed.

THE GIRAFFE

It's the tallest mammal living in the present world, as an African dweller unmistakable for its very long legs and neck (Guggisberg, 1969). The average weight of giraffe is 875kg. It stands about 5.50m from fore hooves to the tips of the horns. There are two horns in the male and the female (different from domestic camel) (Brocklehurst, 1913).the shoulder heights 2.90m and 2.45m for male and female, respectively (Innes, 1969). The giraffe has a prehensile tongue and long narrow muzzle. Giraffes drink every few days if water is available. There is considerable controversy on the amount of water required by the giraffe. As observed in zoological gardens, it was reported that a giraffe drinks 10 gallons a day on the average when the temperature is about 32°C, while it drinks 2.64 gallons in cool weather (Faster, 1966). It was also stated that giraffes, similar to camels, can go without water for long distances.

The dental structure of the giraffe is composed of three premolars and three molars on each side of the upper jaw. The lower jaw has three incisors, one canine, three premolars and three molars with a dental formula as 0/3:0/1:3/3:3/3 totaling 32teeth. The grinding teeth are of the low-crowned type, as a characteristic of all browsers, again similar to camels. The vertebral column of the giraffe consists of 7cervical, 14 thoracic, 5lumbar, 3-4sacral and 17-20caudal vertebrae. The hide is very tough and of 2.54cm thick. There is a brush- like mane extending from the back of the head to the base of the neck, the tail is 76.2cm tall ending in a tuft of long wiry hairs. Some interesting anatomical and physiological arrangements worth to be mentioned. Giraffe neck height would make blood flow to the head very difficult or even impossible but this problem has been overcome by the presence of special valves that serve to regulate arterial blood flow to the head (Arambourg, 1964). Pulse is around 66/minute, and the animal breathes about 11 times a minute. The 2-4 mammae are in the inguinal position. The gall bladder is only in the early faetal stages but later disappears at the time of birth, similar to the adult camel.

The normal gait is of the type of pacing, in which both limbs on one side move forward, almost in unison.

The long neck helps the animal to browse at tree canopies, but when it wants to drink or to nibble at a herbaceous plant or to pick a mouthful of salty soil, it has to straddle its forelegs apart.

The giraffe, in South West Africa, mate in the rainy season. According to observation in zoological gardens the gestation period varies from 420 to 468days, differing from the camel which has a range of 360-390days.

The newly born calf which has an average height of 130cm and weighs between 46 and 70kg. Usually struggles to lift its feet in 30minutes to one hour after birth.

THE OKAPI

The okapi is a browser that lives in the rain forests of the Congo. It uses its tongue in licking at its skin and used for grooming the coat. Body colour varies from darkest blackish-brown to brilliant golden red. It has an excellent sense of hearing. The cervical vertebrae are seven, resembling those of the camel. There are 14thoracic vertebrae, 5 the lumbar, and 5 and 13-14sacral and caudal vertebrae, respectively. The dentition is similar to that of the giraffe.

The adult female stands 148.75cm at the shoulder and 217.5cm long of which 35cm represent the tail, not including the fairly short terminal tuft. The male has two short skin-covered horns, conical in shape and sloping backwards, which arise from the frontal bones.

The distribution of okapi extends from the Semiliki River in the east to the Mongola and Ubangi River in the west. Okapi is a browser, feeding on leaves and shoots, perhaps also on fruit. The animal browses on more than thirty plants, of these plants are the following species:-

A *Rubiacea*, *Bandia conglana* and several *Euphorbiacea* are thought to be among its favourites (Kirby, 1895).

The gestation period of okapi varies between 426 and 457days. The female eats the faetal membranes. The calf staggers to its feet in 40minutes after birth. The baby measures on its first day 85cm at the shoulder and weights 21.7kg.

As for as the giraffe is concerned, it has been noticed that the animal has disappeared from most of its natural habitats in Northern Sudan. The last giraffe seen in the Dinder National Park was in the early nineties of the last century. It is recommended that there is an urgent need to rehabilitate the giraffe natural environments and introducing the species to start regaining its past natural distribution. The giraffe and relative species are adapted to living in harsh and adverse environmental conditions and thus, playing a great role in animal biodiversity. (Table 1) shows the characteristic of camels, giraffe and okabi.

Table (1): Characteristics of camels

Characteristic	Camel	Giraffe	Okabi
Distribution	Africa	Africa	Africa
Habitat	Savanna, desert, semi-desert	Savanna, semi-desert.	Rain forests
Feeding habits	Browser	Browser	Browser
Type of digestive tract	Ruminant	Ruminant	Ruminant
Hump	Present	Not present	Not present
Skin covered horns	Not present	Present in both sexes	Present in the male
Gall bladder	Not present	Not present	Not present
Legs	Long	Long	Medium length
Neck	Long	Long	Short
Gestation period	360-390 dm.	426-460 dm.	426-457dm.
Anatomical peculiarities	Fissured upper lip	Prehensile tongue	Prehensile tongue

REFERENCES

- 1- Arambourg, C. (1964). Continental Vertebrate Faunas of the Tertiary of Northern Africa. In: Africa Ecology and Human Evaluation. London.
- 2- Brocklehurst, (1931). Game Animals of Sudan. London.
- 3- Faster, J.B. (1966): Giraffe of Nairobi National Park. Home Range, Sex Ratios, the Hard and Food: E.A. Wildlife Journal. Vol. IV.
- 4- Guggisberg, C.A.W. (1969). The World of Animals: The Giraffe. Arthur Barker Limited, London.
- 5- Innes, A.C. (1969). The Behaviour of the Giraffe (*Giraffa camelopardalis*) in Eastern Transvaal. Proc. Zool. Soc. London. (cited from Guggisberg).
- 6- Kirby, F. Vaughan (1969). In Haunts of Wild Game. London, 1895. Cited from Guggisberg, 1969.
- 7- Moberly, C.T Astley (1963). The Game Animals of Southern Africa. Johannesburg. (cited from Guggisberg,1969).