

{ “Tanzania is the world’s  
stronghold for giraffe...” }



By Monica Bond

PHOTO: CYST NASSARIY

# STANDING TALL FOR TANZANIA’S NATIONAL ANIMAL

## Research and Conservation of Giraffe

The lanky, loveable goliath we all know as a giraffe is unlikely to be mistaken for any other animal on the planet. But how and why did this enthralling creature get to be so tall? The story starts many millions of years ago, when the first ancestors of modern giraffe called ‘giraffids’ evolved in the northern forests of Eurasia and eventually spread southwards into Africa

Giraffids were browsers that specialized in eating the leaves of trees – but many other kinds of browsers also competed for those same leaves. It is likely that rivalry for the most nutritious leaves meant that early giraffids with longer necks and legs could reach leaves higher in the canopy than their competitors, and thus survived better. These traits were passed on to their offspring, resulting in taller and taller individuals over time. About one million years ago, the modern, extremely long-necked giraffe arose. Towering more than five meters high with a nearly two-meter-long neck, it is the tallest animal on the planet: a classic example of the wonders of the evolutionary process.

Prehistoric environmental changes caused the extinction of all but two types of giraffids: the okapi (found only in the

Congo Basin) and the modern, long-necked giraffe. The modern giraffe is restricted to sub-Saharan Africa, yet is undoubtedly one of the most beloved and recognizable animals to people around the world. Its unique shape and extreme height, the beautiful coat patterns, and its elegant, unhurried stride and mild nature make this gentle giant an immensely popular safari and zoo attraction.

Unfortunately, despite its popularity, the wild giraffe is becoming increasingly endangered throughout Africa due to deforestation for charcoal, conversion of savanna woodland habitat to agriculture, and a troubling surge in bush meat poaching. The Giraffe Conservation Foundation estimates that giraffe numbers throughout Africa have plummeted by forty percent in the last decade to less than 80,000 individuals—far fewer than the current number of African elephants.

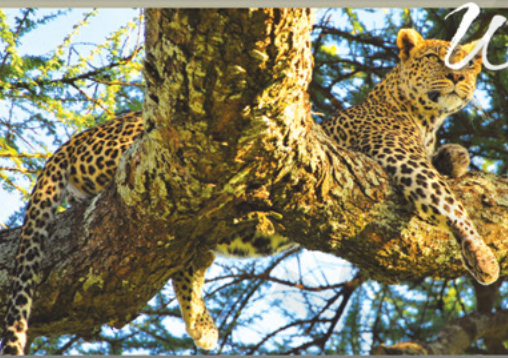
Tanzania is the world’s stronghold for giraffe, supporting more than any other country. Although the Masai giraffe is the national animal of Tanzania, populations have declined here since the 1980s. Aerial surveys conducted by the Tanzanian Wildlife Research Institute

(TAWIRI) indicate population losses in the Katavi-Rukwa and Ruaha-Rungwa regions since 1986. Yet few people in Africa and elsewhere are aware of the plight of our beloved giraffe. A group of determined giraffe enthusiasts are aiming to change that, by raising world-wide awareness and increasing local conservation efforts.

### The Need for Research

On-the-ground field research can reveal where giraffe are faring well and where they are doing poorly, help wildlife authorities understand the reasons for population declines, and provide science-based recommendations on where and how to focus conservation efforts. Research on ecology of wild giraffe began in the 1950s, but tapered off after the 1970s. In ensuing years, little work had been conducted, leaving authorities with no strong information about the ecological causes of the recent population declines observed from aerial surveys, and few data to guide conservation efforts. Demographic studies that examine individual survival and reproduction are particularly important, but previous studies were too small-scale and too short-term to provide much useful data. »





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Recently, however, a resurgence of interest in giraffe has spurred two large-scale demographic research projects in Tanzania: one in the Serengeti Ecosystem and one in the Greater Tarangire Ecosystem. These projects are taking advantage of exciting new technological advances to provide important information about this imperiled animal: the use of digital photographs and pattern-recognition computer software to identify and track individual giraffe by differences in their coat patterns, which are as unique as human fingerprints. These technologies

reproduction, and movements of giraffe. These data can offer insights into what may be the most effective conservation measures. For example, Derek Lee of Dartmouth College and the Wild Nature Institute has been studying demography of giraffe in the Greater Tarangire Ecosystem since 2011. His study area includes the landscape inside and surrounding Tarangire and Lake Manyara national parks. Lee's project aims not only to understand factors affecting survival and reproduction in landscapes subjected to different human uses, including parks and village lands,

**Illegal poaching for bush meat is a growing threat to the declining giraffe population**

have allowed wildlife biologists to compile demographic data on hundreds or even thousands of giraffe—sample sizes unheard of in the days before digital photography. Moreover, using photographs to identify individuals eliminates the need to capture and place a mark on the animal, and so is entirely non-invasive and non-traumatic, and far less expensive.

The demographic data are used to test complex hypotheses about how factors like sex, age, disease, location, vegetation quality, water availability, predators, density of other hoofed mammals, climate, and proximity to human settlements affect the survival,



but also to pinpoint important calving grounds and identify critical movement pathways. These data are disseminated to the wildlife authorities to guide land-use planning for the benefit of giraffe in the region.

**Trouble for the Tall Ones**  
Giraffe in Tanzania are facing myriad human-caused problems, including illegal poaching, tree cutting for charcoal, and conversion of savanna habitat to cultivated agriculture. Since the 1940s, human population and agricultural expansion in the Masai Steppe of northern Tanzania have increased fivefold, causing substantial habitat loss and fragmentation. Natural predation by lions and hyenas can also negatively affect giraffe survival, but this problem is exacerbated as wildlife are increasingly harassed out of village lands and squeezed into smaller areas. Most giraffe populations are now largely restricted to lands in and around national parks.

Illegal poaching for bush meat is a growing threat to the declining giraffe population in Tanzania. Recent research by Dr. Christian Kiffner of the School for Field Studies, based in Karatu, suggests that each year poachers from Kigongoni (the bush meat hunter stronghold in the Tarangire-Manyara ecosystem) kill perhaps ninety giraffe in the western part of the ecosystem, which includes Lake Manyara National Park, Mto wa Mbu game controlled area, and Manyara ranch. On average, selling the meat of one giraffe brings around TSH 300,000 of revenue. Giraffe are usually hunted at night, dazzled by spotlights and/or perplexed by loud horns and killed with machetes or spears. Even giraffe within massive protected areas like the Serengeti are not safe. Dr. Megan Strauss of the University of Minnesota, who conducted the demographic study of giraffe in the Serengeti Ecosystem, notes that poachers in the Serengeti target giraffes with wire snares set in the tree canopy. Dr. Strauss believes that poaching has contributed to observed declines in giraffe density in some regions of the Serengeti compared with the 1970s. >>



Research in Tanzania and elsewhere can help guide management policies aimed at conserving viable giraffe populations throughout their range. In addition to demographic research, scientists are working to understand the genetics of giraffe. Historically, nine subspecies within the single species *Giraffa camelopardalis* were recognized, but some biologists have proposed recently that as many as eight of these should be recognized as distinct species. The Giraffe Conservation Foundation and the LOEWE Biodiversity and Climate Research Centre are conducting additional genetic sampling required to make a final decision. Along with



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genetic research, Dr. Julian Fennessy of the Giraffe Conservation Foundation is spearheading a population status review for each country, with Derek Lee, Megan Strauss, and Dr. Douglas Bolger of Dartmouth College collaborating on the status review for Tanzania. Right now the giraffe is designated a species of “least concern” on the International Union for the Conservation of Nature’s (IUCN) Red List. That may change if the different giraffe subspecies become recognized as separate species: when the status reviews are completed, each species is likely to be listed as threatened and receive stronger protections.

### **Saving Tanzania’s National Animal**

Much remains to be done to safeguard a future for wild giraffe. Giraffe research remains underfunded, and we have limited information about the current status of the various subspecies, although efforts are being made to rectify this situation. But without increased awareness, our national animal will continue to slide quietly towards extinction. That is why 21 June, has been declared World Giraffe Day. The longest day (in the northern hemisphere) or night (in the southern hemisphere) is a perfect time to celebrate the tallest animal and advocate for its conservation! Wildlife biologists, land managers, government

officials, conservation organizations, and members of the public can work together to stand tall for giraffe, as we recently have for elephants.

As Tanzanians there are several ways we can demonstrate our pride in our national animal and reverse its trend towards extinction. Avoid purchasing and eating bush meat, and encourage friends and family to refrain as well—and spread the word about the devastating effects of bush meat poaching on wildlife populations. Contact TANAPA and TAWIRI officials and let them know you care about giraffe and you support efforts to conserve habitat and prevent poaching. Finally, let your shillings do the talking; donate to non-governmental organizations and institutions that are engaged in giraffe research and conservation.

It is distressing to imagine a world without this most beloved of African icons, but with the development and implementation of effective conservation measures, we may not have to. 🦒

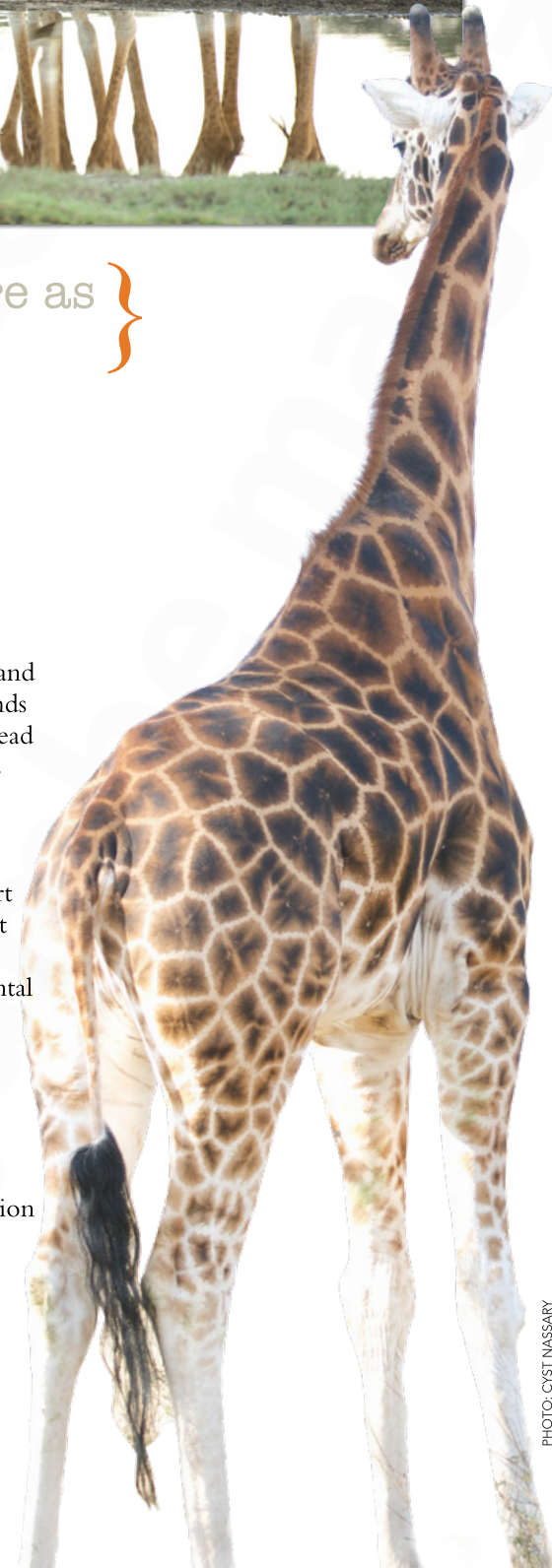


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