



Rapid Giraffe Assessment

Saadani National Park, Tanzania

December 2024

Background

The Masai giraffe (*Giraffa tippelskirchi*) is listed as “endangered” on the IUCN Red List due to population decline in recent decades. In Tanzania’s Ruaha landscape giraffe face threats from poaching for their meat, skin, liver, tail, and fat, with uses varying by ethnic group. These threats are representative of conservation issues in the country. In Saadani National Park (SANP), a higher risk of human interaction exists due to its proximity to towns and cities (Bagamoyo, Dar es Salaam, and Zanzibar), with human pressure likely leading to increased poaching.

In response to these threats, the Tanzania Research and Conservation Organization (TRCO), in partnership with the Giraffe Conservation Foundation (GCF), carried out a rapid assessment of the Masai giraffe population in SANAPA. The study focused on evaluating the current population dynamics, giraffe skin disease (GSD), signs of attempted predation, and snare injuries. This report presents the findings in SANAPA to update the Masai giraffe status in Tanzania.

Objectives

To assess the current population status, demographics, disease prevalence, snare injuries, and predation risks affecting Masai giraffe in SANP.

Methodology

In 2024, Tanzania experienced El Niño rainfall in several regions, including the SANP landscape. As a result, in August 2024, SANP remained green and wet, providing unfavorable conditions to conduct the first recce survey. The first round of surveys allowed mapping of the accessible road network. Although the survey was intended to follow five systematically established road transects, many roads were impassable. As a result, a random road transect survey was conducted across the park, with each road surveyed four times, resulting in a total of eight survey occasions. During the first round of surveys, visibility impacted the recording of encountered individuals, prompting the timing of the second surveys to be rescheduled to October-November when park managers had burned, thus improving the detection and recapture rates. The surveys were conducted using a vehicle traveling at ~40 km/h, with both the left and right sides of the roads being monitored. Photographic mark-recapture method was used to identify individual Masai giraffe based on right-side photos of their unique coat

Patterns. These photographs were analyzed using Wild ID software for identification.

To assess disease risk and snare injuries, the survey team closely examined the limbs of encountered giraffe, documenting those with GSD or other health issues, such as inflammation or difficulty walking. To evaluate attempted predation, the team closely examined all encountered individuals for signs of claw marks, wounds, or missing tails.

Results

Demography

A total of 1,121 photos were taken during the survey, 599 of which were suitable for Wild ID analysis. A total of 401 individuals were identified. Of these, 75% (n=301) were adults, 12% subadults, 9% juveniles, and 4% calves. Females accounted for 55% (n=219), 39% males (n=158), and 6% (n=24) unknown (Fig. 2).

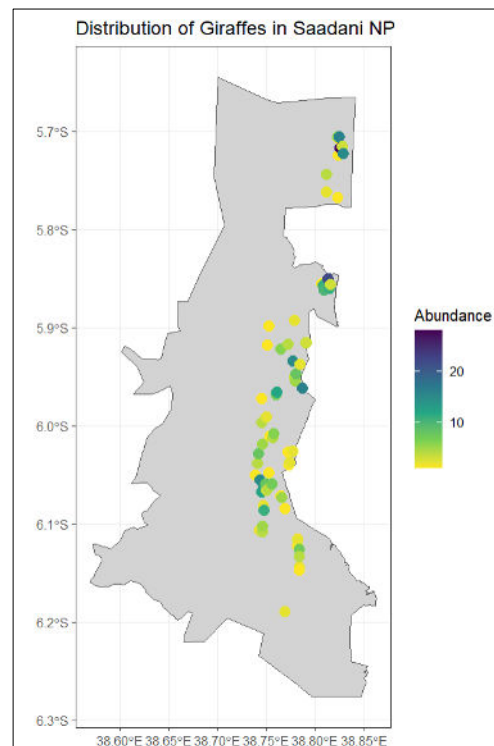


Figure 1: Abundance and distribution of Masai giraffe encountered during the surveys in Saadani National Park.

Abundance

Herd size ranged from 1 to 28 individuals, with an average herd size of 5 individuals. Most giraffe were encountered in the eastern part of the park near the coastal habitats of the Indian Ocean (Fig. 1). We also

observed numerous pit-traps which were likely set by poachers.

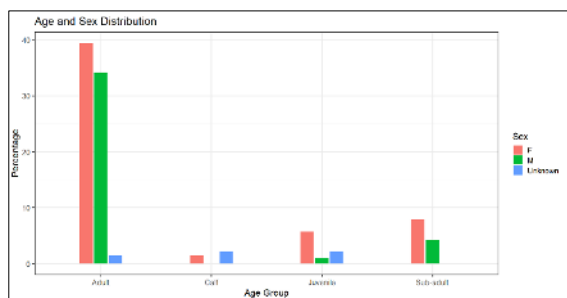


Figure 2: Percentage of age and sex of all identified Masai giraffe in Saadani National Park.

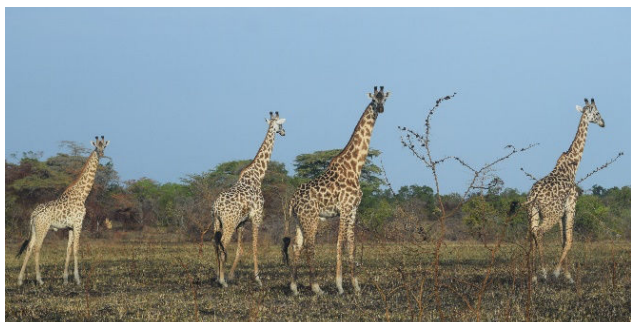


Figure 3: Masai giraffe bachelor herd roaming in Saadani National Park. Photo credit: Leon Hermenegild, TRCO.

Skin disease

Sixty (n=15%) of all encountered giraffe, exhibited GSD lesions (Fig. 4). These lesions were primarily found on the hind limbs, extending from just below the belly to the knees. This is different from what has been observed in other areas in Tanzania, where lesions predominantly occur on the front limbs. During the survey, the team also encountered one giraffe with an abscess on the lower joint of its left front foot and had difficulty walking. The park ecologist was notified, and the giraffe was later treated by a TANAPA wildlife veterinarian. The source of the injury, however, remained unclear.

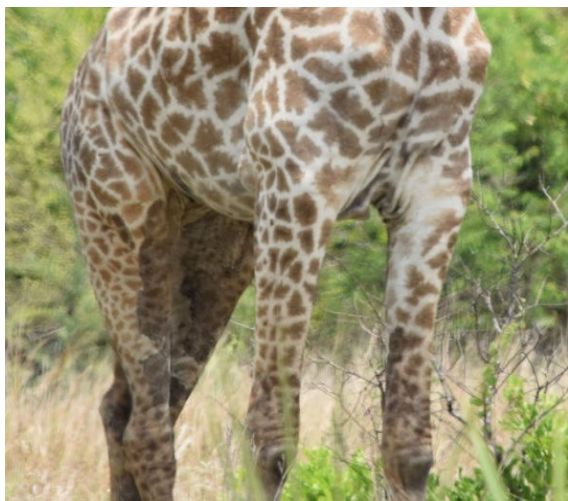


Figure 4: Masai giraffe with a skin condition on its hind legs. Photo credit: Leon Hermenegild, TRCO.

Predation risk

Only one Masai giraffe exhibited signs of predation (Fig. 5). Additionally, we observed one carcass surrounded by lion during the survey. No claw marks were observed. However, with the low number of subadults and calves observed, we hypothesize that predation by lion and leopard may have a big impact on population growth.

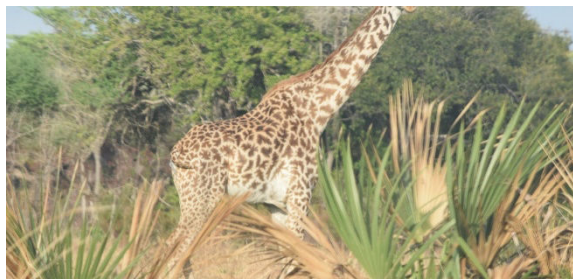


Figure 5: Masai giraffe with a missing tail in Saadani National Park. Photo credit: Leon Hermenegild, TRCO.

Conclusions and Next Steps

Currently, SANP supports a stable Masai giraffe population, with a significant proportion of reproductive individuals (75% adults), including a higher number of females. With a minimum of 401 individuals, these numbers are similar to an aerial survey estimate of 483 (± 197) giraffe in 2014. The risks of GSD and predation reported appear lower compared to those observed in the Ruaha landscape.

Given its proximity to large towns and cities, further investigation into poaching in SANP and the illegal consumption of giraffe as bushmeat in nearby villages and towns is recommended. Additionally, equipping several individuals with GPS tracking units would provide valuable insights into their seasonal movements, habitat use, and interactions with humans in this landscape, helping identify risks and develop mitigation strategies.

Lastly, repeat surveys could provide opportunities to better understand their population dynamics, as well as increased accessibility into other areas in SANP. Applying these methods in other landscapes e.g. Mkomazi and Muyowosi-Kigosi, could provide additional opportunities for updating the conservation status of Masai giraffe in Tanzania whilst also supporting capacity building opportunities in country.

Acknowledgments

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