**Status of giraffe in trade: Results from a survey of trends**

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**Introduction**

Giraffe are one of the most iconic megafauna on our planet, yet population size, viability and the variables impacting improved conservation are still poorly understood. In 1998 the IUCN estimated the total number of giraffe in Africa to exceed 140,000. By 2012, according to assessments coordinated by Giraffe Conservation Foundation (GCF), this had dropped to fewer than 80,000 individuals, representing a 40% reduction over fifteen years. Despite this dramatic decline, giraffe are currently not listed as a species of concern by the IUCN or afforded protection under the Endangered Species Act or CITES. Currently, two giraffe subspecies are listed as ‘Endangered’ on the IUCN Red List of Threatened Species and a forthcoming review is likely to add additional giraffe subspecies to this precarious list while uplisting the giraffe species as a whole. Poaching, disease, habitat fragmentation, degradation and loss due to growth and expansion of the human population, and war/civil unrest have all impacted giraffe numbers and distribution across Africa – and continue to do so. Many threats arise from direct, indirect or perceived competition for resources with humans and their livestock. Illegal hunting (poaching) of giraffe parts for non-medical treatment (e.g. HIV/AIDS) have also been reported.

The purpose of this study is to provide information in the literature on the trade of giraffe parts and products. Currently, research in this area is lacking, making it difficult to track trends and understand trade issues. This research serves as a launching point for further investigation into the state of giraffe trade.

**Background**

There are currently nine recognized subspecies of giraffe, each occupying distinct geographical areas across Africa (Tab. 1). While recent genetic assessment suggests *Giraffa* might more accurately be described as four distinct species (Fennessy et al., 2016), the IUCN increased the status to Vulnerable in 2016 as part of an “interim consensus” that based on the taxonomic *status quo* the species is declining overall. Reevaluation of taxonomic status based on continued evidence is likely to paint a much more urgent picture of multiple giraffe species facing a conservation crisis.

**Table 1:** Distribution of giraffe subspecies and conservation status

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| ***Giraffa (sub)species*** | **Estimated population** | **Conservation status** | **Range** |
| *G. c. angolensis* | <13,000 | Vulnerable | Namibia, central Botswana,  |
| *G. c. antiquorum* | <2,000 | Vulnerable | Chad, Central African Republic, Cameroon, DRC, South Sudan |
| *G. c. tippelskirchi* | <33,000 | Vulnerable | Kenya, Tanzania |
| *G. c. camelopardalis* | <650 | Vulnerable | Ethiopia, South Sudan |
| *G. c. reticulata* | <8,000 | Vulnerable | Kenya, Somalia, possibly Ethiopia |
| *G. c. rothschildi* | <1,500 | Endangered | Uganda, Kenya |
| *G. c. giraffa* | <35,000 | Vulnerable | South Africa, Botswana, Zambia, Zimbabwe, current reintroduction efforts in Mozambique |
| *G. c. thornicrofti* | <1,000 | Vulnerable | Zambia |
| *G. c. peralta* | <400 | Endangered | Niger |

Giraffe are native to Angola, Botswana, Cameroon, Central African Republic, Chad, The Democratic Republic of the Congo, Ethiopia, Kenya, Mozambique, Nambia, Niger, Namibia, Somalia, South Africa, South Sudan, United Republic of Tanzania, Uganda, Zambia, and Zimbabwe. There are introduced populations in Rwanda and Swaziland. The species faces a complex web of threats, including decreasing habitat quality, decline in area of occupancy, and exploitation for subsistence/trade. Hunting of giraffe is legal throughout parts of southern Africa, with illegal harvesting occurring widely throughout the range. Evidence indicates that trade of giraffe occurs frequently as a food commodity and is common in locally crafted jewelry, beadwork, and ceremonial items.

**Methods and findings**

*Survey*

We created a survey for dissemination to professional networks and contacts in the United States and Africa, particularly focusing on giraffe range countries. In creating these questions, we consulted with giraffe researchers who offered suggestions and feedback for information that would be useful to furthering giraffe conservation efforts. Following this need-finding effort, we wrote survey questions based on three categories of giraffe products: food, clothing and souvenirs, and medicine. Within these categories, we asked questions about location, price, and description of the product. A copy of the survey can be found in Appendix 1.

For dissemination of the survey, we used a snowball sampling method. We generated an initial list of 50 recipients based on conversations with giraffe researchers and advisors. These contacts received the initial survey request as well as a follow-up after three weeks if they did not respond. The survey was also distributed on conservation list-servs, such as a the Emerging Wildlife Conservation Leaders, and posted on social media by the Giraffe Conservation Foundation. We encouraged recipients to pass the survey to other interested parties.

The survey received 90 responses from representatives working throughout Africa. Of these 90 responses, 38 (43%) indicated that they had come across giraffe products for sale. The following analysis is on these 38 responses.

Responses came from 18 countries in Africa and one country in Europe. Most responses came from respondents in South Africa and Kenya; respondents were able to select multiple countries. The most frequently represented countries are listed in Table 1. Other countries represented with one or two responses include Ethiopia, Niger, Guinea, Malawi, Mozambique, Rwanda, Zambia, Somalia, Cameroon, South Sudan, Swaziland, Botswana, and Uganda.

Table 1. More frequently represented countries in trade survey

|  |  |
| --- | --- |
| **Country** | **Percent of responses** |
| Kenya | 42% |
| South Africa | 34% |
| Namibia | 26% |
| Tanzania | 18% |
| Zimbabwe | 16% |

*Clothing and Souvenirs*

The majority of responses referenced clothing or souvenir items made with giraffe parts. Jewelry, such as giraffe hair bracelets, accounted for 12 responses. Other related items in this category included skins, taxidermy mounts, carved giraffe bone, tails, and purses. Respondents were asked to share the years in which they first encountered giraffe parts sold for these purposes as well as the most recent year that these were seen. First encounters occurred as early as 1980 and as recently as 2014. Most recent encounters were made in 2016. With one exception, clothing and souvenirs were found inside the country of origin, meaning they were not traded across international borders.

*Food*

Giraffe meat was encountered on 12 occasions, including in the form sausages, dried meat (biltong) and bushmeat. Giraffe meat was first seen for sale in 2002 and most recently seen in 2016. Meat was most commonly sold in markets inside the country of origin. One respondent indicated that giraffe meat was being used for subsistence purposes; two others said that they had encountered giraffe meat in restaurants in Nairobi and Kruger National Park.

*Medicinal purposes*

Eight respondents indicated that they had seen giraffe products sold for medicinal purposes. These products included aphrodisiacs, headache cures, and “magic potions,” indicating a connection with folk medicine. One respondent said that they had “heard of giraffe leg bones or leg bone marrow being used as a cure for AIDS in rural NW Tanzania,” and another shared that they had heard of bone marrow being used for Chinese Traditional Medicine in Kenya. Data on years in which these products were seen were scarce.

*Trends in use of giraffe products*

We asked survey respondents to give their perspective on whether giraffe trade was increasing, decreasing, or remaining stable based on their observations in the field. Most respondents (15) believed that trade of giraffe products was stable. Respondents who believed that giraffe trade was becoming less common gave several reasons, including increased awareness of trade penalties and a “low number of giraffe in general.” Alternatively, respondents who believed that giraffe trade was becoming more common cited increased activity in TRAFFIC newsletters, more personal sightings, and a general increase in trade on wildlife products, of which they assumed giraffe would be included.

*Panjiva searches*

In addition to collecting *in situ* survey data, we conducted searches for trade data in Panjiva, a global trade database of international commercial shipments. We reviewed over 13,000 shipping records, looking at Import and Export records of the U.S.A. and China with African nations. Our search method included assessing data on shipments that took place between 14 October 2011 and 13 October 2016, and evaluating results for relevance by individually reviewing records. For example, while searching for “Giraffe trophy” returns a relevant result for a giraffe game hunting trophy shipped from Singapore to New York, it also returns results for “polyresin giraffe trophy” which is unlikely to be a relevant record. Therefore we further refined Import searches by filtering through HTS (Harmonized Tariff Schedule) Codes, a standardized numbering system which codifies internationally traded commodities. The use of HTS Codes helped us identify relevant records by filtering for bone/horn, leather, hair/pelts, and other organic material indicative of trade in animal parts. Of the more than 13,000 shipments examined, we were able to identify 745 records of interest. After the elimination of items not considered to originate as organic giraffe parts, such as plush toys or figurines, three records were determined to represent an import or export of animal parts (bone or hair) and two records documented import of a game hunting trophy. However, it should be noted that based on the current trade status of giraffe, import records were only available for shipments flagged for other violations. Therefore, while Panjiva provided additional insight into the international movement of giraffe parts, it is by no means a comprehensive tool at this stage, and offers a labor intensive glimpse into a highly diluted pool of data.

**Conclusion**

As with many aspects of giraffe biology, data on the trade of giraffe parts are difficult to come by, existing primarily in anecdotal evidence. This study indicates that giraffe trade is occurring in many of the animal’s range countries, and some of this trade may be crossing international borders. The most common results include jewelry and souvenirs, though there are indications that the use of giraffe parts for medicinal purposes may be increasing. These findings suggest that more research within giraffe range countries is warranted and indeed necessary.

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Fennessy, Julian *et. al*. Multi-locus Analyses Reveal Four Giraffe Species Instead of One. *Current Biology.* 26:18, 2543-2549 (2016).