UNPACKING SICK 5
South Africa is one of the few countries in Africa that allows the intensive captive breeding and keeping of lions and other big cats for commercial purposes. In 350+ facilities, lions, cheetahs, leopards, caracals, servals, and many exotic species, such as tigers, jaguars, pumas, and even ligers (a crossbreed between lions and tigers), are bred and kept in mostly substandard conditions.

The vast majority of these facilities are situated in the North West, Free State, Limpopo and Eastern Cape provinces.

The lion population is by far the largest of all captive predators in South Africa and it is projected that there may be 8,000-12,000 captive lions – three to four times more than lions in the wild in South Africa!

The exact size of the captive big cat population is however unknown, as the industry has never been fully audited and its numbers are in a continuous state of flux. Throughout the year, these big cats are traded among lion farmers, many are killed in captive trophy hunts and/or slaughtered for the lion bone trade.

In the past 10 years, South Africa legally exported nearly FIVE LIONS EVERY DAY (>17,000 dead or alive) for commercial purposes, with the vast majority coming from the captive population.
Poor animal welfare can create the perfect conditions for the transmission of zoonotic diseases.

Since 2016, many calls have been made for the development of national norms and standards for the breeding and keeping of predators in captivity. This issue has still not been fully addressed and straddles the mandates of the Department of Environment, Forestry and Fisheries, Department of Agriculture, Land Reform and Rural Development, and the provincial authorities - meaning no one takes full responsibility.

This has led to poor animal welfare conditions in the captive predator breeding industry, such as poor hygiene protocols, insufficient dietary requirements, unsatisfactory enclosure designs, lack of enrichment programmes, insufficient shelter and lack of veterinary treatment for injured or unhealthy animals.

These are just some of the animal welfare issues encountered by the NSPCA Wildlife Protection Unit during their inspections.
Zoonotic diseases are infectious diseases caused by bacteria, parasites or viruses that can be passed between mammals and people. Diseases like SARS, MERS, Ebola, and Sars-CoV-2 have all originated in wild animals (in many cases with bats as the reservoir host), often transmitted through an intermediate host (domestic or wild animals) and ultimately spilled over to humans.

The pathogens causing zoonotic diseases are transmitted through close contact between wildlife and people, as is the case on commercial lion breeding farms. As we have seen during the current COVID-19 pandemic, outbreaks of zoonotic diseases can have widespread consequences for public health and the global economy. It is believed that every year two billion people fall ill with a zoonotic disease and over two million people die as a result of such diseases.

Zoonotic diseases can have serious ramifications for the health and wellbeing of people, the thousands of captive lions, other captive animals, as well as their wild counterparts.
We carried out a systematic review of nearly 150 existing scientific studies on zoonotic diseases associated with wild and captive African lions, showing that –

- There are 63 pathogens known to affect lions, although this number will undoubtedly grow.
- The pathogens include 35 parasites (such as ticks), 17 viruses and 11 bacteria.
- Three novel pathogens of unidentified and undescribed species were found.
- These pathogens can be transmitted between individual lions, and to other wild or captive animals through direct physical contact, excrement, saliva, and/or droplets from nose and mouth.
- There are 83 diseases and clinical symptoms associated with these pathogens.

Many of these infectious diseases can be transmitted from lions to lions, to other wild and domestic animals, as well as to people, potentially posing a range of health risks.

Pathogens are bacteria, viruses, or other micro-organisms that can cause disease.

Reference: https://www.mdpi.com/2076-2615/10/9/1692
IMPLICATIONS FOR LIONS

NONE of the microbiological or zoonotic disease studies reviewed were conducted on commercial lions breeding farms in South Africa. Here, the conditions are even further from ideal compared to captive situations, like zoos and sanctuaries.

Poor welfare conditions reduces the animal’s resistance to pathogens and increases the risk for transmission of zoonotic diseases.

Poor welfare conditions associated with commercial captive breeding include:-

➢ Large numbers of predators in overcrowded spaces
➢ Lack of shelter
➢ Poor physical condition
➢ Poor hygiene
➢ Poor diet
➢ Stress

Some of the diseases identified in our study are highly contagious with symptoms including severe weight loss, hair loss, diarrhea, seizures, twitching and depression in lions.

The more harmless pathogens can become dangerous when lions are infected by more than one pathogen, such as the combination of babesiosis and canine distemper virus infection causing severe mortalities.

Lions are also vulnerable to Bovine tuberculosis (TB) and infected animals show visible hygromas.

Many cubs on commercial farms are prematurely separated from their mothers and raised on inappropriate milk formulas. This can lead to nutritional deficiencies and weakened immune systems, leaving these animals even more susceptible to pathogens.

Reference: https://www.mdpi.com/2076-2615/10/9/1692
HUMAN HEALTH

The commercial captive predator industry promotes close direct physical contact between lions (but also other big cats) and people, such as farm staff caring for the animals, tourists/visitors interacting with these predators, taxidermists preparing the hunting trophies, and slaughterhouse staff killing lions and preparing their skeletons.

This puts every one of these people at risk of infection with potential zoonotic diseases.

The lack of the most basic hygiene protocols at these facilities makes it even easier for zoonotic diseases to be transmitted from lions to people.

THE SICK 5 identified are Human Ehrlichiosis, Human Babesiosis, African Sleeping Sickness, Toxocariasis and Trichinosis.

The first two are tick-borne diseases, where bacteria and parasites are transmitted from animals to people by ticks.

Toxocariasis and Trichinosis parasites are transmitted more directly to humans, the former for example by handling faeces contaminated soil and the latter has a direct animal-human transmission.

African Sleeping Sickness is caused by a parasite transmitted by the tsetse fly.

Reference: https://www.mdpi.com/2076-2615/10/9/1692
The World Health Organisation have identified lions as hosts for a range of different diseases known as Neglected Tropical Diseases (NTD), including the African Sleeping Sickness and a parasitic disease caused by tapeworms (Echinococcosis). Neglecting these NTD can have serious socio-economic consequences.

No evidence currently exists on the transmission of feline coronavirus from lions to humans. However, providing the right conditions are created for the virus to adapt to other [intermediate] mammal hosts, thereby enabling the transmission to people, it can most certainly pave the way for another potentially devastating epidemic or even pandemic.

It has already been proven that big cats and mink can be infected by people with the Sars-CoV-2 virus and recently a mutant strain of the virus has been transmitted back from mink, bred on captive fur farms in Europe, to humans.

Underestimating the impact of these pathogens on humans could lead to a future epidemic, where reduction in life expectancy, and increased child and maternal death, are rife.

Reference: https://www.mdpi.com/2076-2615/10/9/1692
To prevent future zoonotic disease outbreaks, we need to significantly improve animal welfare standards, veterinary care and biosecurity protocols in the commercial captive lion breeding industry.

However, lions can be asymptomatic to certain pathogenic disease infections and biosecurity would require highly sophisticated and expensive disease monitoring.

We therefore need to avoid unnecessary contact between people and wildlife.

Reference: https://www.mdpi.com/2076-2615/10/9/1692
To avoid potential health risks and future pandemics, THE SICK 5 campaign focusses on three major calls to action for members of the public and other entities:

1. Asking the public to stop interacting with captive wildlife – the predator breeding industry has been condemned by global conservation authorities and leaders in the tourism sector.

2. Urging the South African Minister of Environment, Forestry and Fisheries to set a zero CITES lion bone export quota.

3. Calling for the World Health Organisation to exclude the use of wildlife in the production of, or direct use as, traditional medicine and encourage the use of equally effective, but more humane and safer plant-based alternatives.

Read the full peer-reviewed paper here:
African Lions and Zoonotic Diseases: Implications for Commercial Lion Farms in South Africa

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