



# Trading cruelty –

how captive big cat farming fuels the traditional Asian medicine industry



# Contents

<b>Executive summary</b> .....	3
<b>Introduction</b> .....	4
An expanding industry – the proliferation of big cat breeding facilities.....	5
Declining populations – how the big cat trade affects wild cat numbers.....	6
Mapping the international trade in big cat body parts.....	7
• Legislation governing trade in big cat parts .....	7
• Legislation governing the tiger trade .....	8
• Legislation governing the lion trade.....	9
Methods.....	10
Findings.....	11
• Conditions for big cats at breeding facilities.....	11
• On the market – big cat products.....	19
• Trading lion bone products.....	21
• Viable alternatives – breaking the chain of big cat consumption.....	22
• Driving demand – big cat product consumers.....	23
• Consumer demographics.....	23
• Purpose and frequency of consumption.....	24
• Consumer product preferences.....	26
• Examining the future of big cat product consumption.....	29
<b>Addressing the problem – conclusions</b> .....	31
<b>References</b> .....	32
<b>Appendix I – Methods</b> .....	36

**Cover:** World Animal Protection believes that wildlife should be left in the wild and not used for medicine.

# Executive summary

Thousands of big cats, mostly lions and tigers, are farmed – bred and killed – annually for their body parts to fuel the highly lucrative global market for traditional Asian medicine products. These products include wines, capsules, gels and balms believed to cure ailments ranging from arthritis to meningitis.

The trade in big cat species is mostly either illegal or regulated by international and domestic laws. This report reveals an expanding industry with serious animal welfare concerns and fragmented enforcement. It also highlights how big cat farming facilities drive the commodification of wild animals, while failing to protect them from poaching. The cross-continental trade of tiger and lion bones, products for sale, and consumer attitudes are also explored.

Our research found the trade concealed by legal big cat venues and activities in countries including China, South Africa, Thailand, Vietnam and Lao PDR. In South Africa, for example, trophy hunting and seemingly benign tourist activities including cub handling and young lion walking, front the trade in big cat body parts. Between 6,000 and 8,000 captive lions and 280 tigers are reportedly housed across 200 facilities in South Africa.

While in China, venues featuring spacious enclosures holding a few tigers for tourist entertainment, are masking breeding facilities housing hundreds of tigers kept in row upon row of small metal cages. There are an estimated 5,000-6,000 tigers in captivity in China.

## Disregarding health and welfare

Our researchers identified management practices at farming facilities that were highly stressful for the animals. These practices showed a lack of attention to big cat health and disregard for even their most basic needs. Inbreeding is also common which creates offspring with health complications.

Captive populations are not the only big cats suffering and dying for the trade. Wild populations of big cat species, other than tigers and lions, are also affected by the increasing consumer demand. Wild poached snow leopards and jaguars poached from the wild have also been found in the traditional Asian medicine trade supply chain.

In 2018, the World Health Organisation officially recognised traditional medicines as viable treatment options. Such recognition most likely leading to a significant demand increase globally. And subsequently, the Chinese government showed signs of planning to lift the ban on tiger bone and rhino horn trade. This would allow these parts to be used for clinical research and medical treatment.

Consumer demand is clearly the core of the problem. However, this report and other literature shows consumers are open to sustainable non-animal alternatives if the right arguments are highlighted and if the alternative product is competitively priced. Consequently, intelligent, high-impact consumer-demand-targeted public campaigns combined with policy changes from businesses and governments will significantly shift demand for big cat ingredients towards sustainable non-animal-

## Urgent government action needed

Concerted action from the key governments whose countries are involved in the trade is urgently needed; these are China, South Africa, Thailand, Vietnam and Lao PDR. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) must also increase big cat protection.

This report includes 21 recommendations to governments and CITES to address the problem. These include:

- engaging traditional Asian medicine practitioners to promote existing, sustainable non-animal-based alternatives to big cat ingredients
- revising and closing loopholes of relevant current laws and regulations to facilitate an end of captive breeding of big cats for commercial use of their body parts and derivatives
- adequately resourcing and training the relevant authorities engaged in tackling the illegal wildlife trade
- combining a policy to prevent breeding on big cat facilities with the encouragement of owners to improve conditions for existing captive big cats to alleviate their suffering
- implementing policies restricting big cat breeding in facilities not serving a direct and immediate benefit to big cat conservation through participation in internationally-recognised wild reintroduction programmes.

By implementing these recommendations, governments and CITES will ensure this is the last generation of big cats suffering in poor captive conditions for the traditional Asian medicine trade.



**Uncertain fate:** Male lions at a South African tourist venue. Often these lions end up in the canned-hunting lion trade where they are shot by trophy hunters who are only want their heads. Their bodies are then exported for the traditional Asian medicine trade in South East Asia. Credit: Blood Lions



# Introduction

Tigers have long been hunted or bred and then killed for their body parts for use in traditional Asian medicine. Earliest accounts of medicinal use recorded in Chinese literature date back to 500 AD, although large scale big cat farming only started in the 1980s.

Today, the long-standing belief in the 'miracle effect' of tiger body parts, particularly bones, on health and vitality and their value as a status symbol still drives demand. And the demand threatens other big cats, such as leopards, lions, snow leopards, clouded leopards and jaguars.

Traditional Asian medicine big cat products usually include tiger bone soaked in wine, powders, pills/capsules, tonics, liqueurs, balm, soups, plasters and jelly (in Vietnamese 'Cao'). Tiger bone products are believed to cure a range of ailments from arthritis to meningitis; they are commonly used to treat rheumatic ailments and strengthen sinews and bones.

Although the international commercial trade in tiger products is illegal, high demand within Asian communities drives a persisting domestic trade. This trade is clearly linked with the illegal international supply of big cat products.

The World Conservation Union (IUCN) globally classifies the tiger as endangered, with some sub-species found in Asia listed as critically endangered. IUCN estimates that there are between 2,154 to 3,159 mature tigers left in the wild. Tigers are also listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Consequently, any commercial international trade in tigers or their parts is illegal as it poses a threat to their survival in the wild<sup>1</sup>.

## Rising demand

Despite the tiger's endangered status, the demand for tiger products is not diminishing. Alarming, as the wealth of the consuming nations (predominantly China and Vietnam) increases, the demand for these products has risen as well. To meet this demand an increasing trade in other big cat species, such as lions, jaguars and leopards, to supplement tiger products has been detected in recent years.<sup>2,3,4,5</sup> Products containing these big cat parts may be alleged to be tiger or marketed as supplements to tiger products. This is not decreasing the demand for tiger products, but sustaining it and creating an additional demand for other cat species.

A study conducted by TRAFFIC<sup>6</sup> found that only a few lion products are openly on sale in Asia, but products advertised as tiger were commonly observed. Additionally, some large-scale seizures of lion products revealed those involved in the trade believed they were smuggling tiger products. This suggests that the end-consumer product in some cases is marketed by implying it contains tiger bone. However, lion bone is being used as a possibly cheaper or more readily available supplement to meet a growing consumer demand<sup>7</sup>.

**Unnatural confinement:** A small barren enclosure houses two breeding tigers. Tigers are not native to South Africa, and there are approximately 280 kept in 44 breeding facilities across the country. Credit: Blood Lions



# An expanding industry – the proliferation of big cat breeding facilities

As wild tiger populations have declined drastically, traffickers and retailers have turned to captive-bred tigers and other big cat species to meet the demand<sup>8</sup>. The two main species of big cats bred in captivity for the traditional Asian medicine industry are lions (*Panthera leo*) and tigers (*Panthera tigris*). More and more commercial breeding facilities are farming thousands of captive tigers and lions for their body parts and derivatives.

Big cat breeding facilities are most prevalent in East and South-east Asia, and South Africa. There are an estimated 5,000-6,000 tigers in captivity in China<sup>9</sup>, 1,500 in Thailand<sup>10</sup> and smaller numbers in Lao PDR and Vietnam. Between 6,000 and 8,000 captive lions are reportedly housed across 200 facilities in South Africa<sup>11</sup>; 44 of these facilities also house an estimated 280 tigers<sup>12</sup>. Not all captive cats are kept for the sole purpose of breeding for the traditional medicine industry.

In Thailand, many tiger breeding venues also offer tourist experiences with the animals (eg cub feeding, tiger petting and tiger shows). Young tigers are used mostly for tourism interactions. The fate of adult tigers is often unclear, although cases of illegal tiger product trade from Thailand suggest a link to the traditional medicine or luxury item trade<sup>13</sup>.

In South Africa, lion farms often offer lion cub walking to tourists and trophy hunting as their main business. They charge around US\$12,000 – 15,000 per kill. As hunters are usually only interested in the heads, the farms can make additional profit by selling the rest of the body to lion bone exporter. Big cats are commodified at every stage of their life to maximise profit.

## Killing in large numbers

There are severe welfare concerns for big cats housed and farmed at commercial breeding facilities. Market pressure means large numbers of cats are being kept, killed and sold. This results in management practices that are stressful for the animals, show a lack of attention to their health, disregard even their most basic needs and fail to maintain genetic diversity. Furthermore, inbreeding at these captive facilities is yielding offspring with health complications.

Speed breeding is common. Cubs which would normally stay with their mothers for up to two years in the wild are removed from the mother within the first days to weeks. This enables her to start breeding again more quickly. In 2010, Sriracha Tiger Zoo in Thailand proudly stated that they achieve tiger birth rates up to 6-9 times higher than in the wild.<sup>14</sup>

Early separation of mother and cub carried out by speed breeders causes great stress to both animals. Furthermore, while baby and juvenile tigers are relatively easy to keep in captivity, adult tigers are less easy to handle and pose challenges for their husbandry.

What happens to older or dead speed-bred tigers at venues is often questioned, but never satisfactorily answered. It does not make economic sense for venues to keep adult tigers for their whole lives if they cannot profit from them through tourist interactions. There are clear concerns that in Thailand and other tiger and big cat-keeping countries, the tourism market leads to the illegal trade of body parts or live animals.



**Early separation:** These lion cubs range in age from three months to a year. In the wild, lion cubs stay with their mothers until they are around two years old. At facilities in South Africa, cubs are often taken from their mothers at only a few weeks old, and used to provide tourists with holding, stroking, bottle feeding, and walking experiences until they get too big. They may then be killed for the traditional Asian medicine trade.

Credit: Blood Lions



**Suffering close-up:** Just one of the 6,000-8,000 lions held captive in South Africa. South Africa is one of the world's biggest exporters of lion products; at least 70 metric tonnes were shipped between 2008-2016<sup>28</sup>. Credit: Blood Lions

# Declining populations – how the big cat trade affects wild cat numbers

Despite the growing numbers of big cats in captivity, wild populations are still facing unprecedented declines. African lion populations declined by 43 per cent between 1993 and 2014<sup>15</sup> and tiger populations are on the brink of extinction with only 3,159 remaining in the wild globally<sup>16</sup>. Poaching big cats for their body parts is not the only threat facing wild populations, but increased consumer demand for them is exacerbating their decline.

Wild populations of other big cat species are also affected by the increasing consumer demand. There is evidence of wild poached snow leopards<sup>17</sup> and jaguar<sup>18</sup> destined for the traditional Asian medicine trade.

A 2018 World Animal Protection investigation revealed a source confirming that 25 jaguars in South America were poached for the Asian market<sup>19</sup>. And the Environmental Investigation Agency (EIA) reports that seizures of jaguar since 2014, both in China and in South America from shipments destined for China, have notably consisted of teeth and bones<sup>20</sup>. These are body parts commonly used in traditional Asian medicine and could be passed off as tiger.

EIA found traders trying to pass off leopard skulls and bones as tiger parts. The traders also claimed the bone products were from tigers or lions hunted in the wild. This follows the popular belief that wild products will have greater potency than captive animal products, despite no proof to support these claims.

## Misleading quota challenge

In South Africa, trade and export of lion bones is legal within an annual quota relating to the number of lion skeletons that may be exported. A 2018 study highlighted discrepancies between the weight of exported lion carcasses and the declared number of skeletons. This indicates that 2-3 times as many lions, as allowed per the legal quota, are being exported through false declaration of how many skeletons a shipment contains<sup>21</sup>.

A legal quota for lion products originating from captive populations poses huge challenges to enforcement authorities. It makes it difficult for them to monitor the trade and prevent illegal exports. Wild-caught lions could also be declared as captive bred.

To maintain the supply of farmed lions, it is likely that wild lions are illegally trafficked by organised crime syndicates into the country from neighbouring states. These are then added to the lion farm populations. Efforts to investigate and prosecute poachers are inevitably less efficient than they should be due to South Africa's high levels of crime and limited resources.

South African authorities reportedly receive some support from NGOs in this respect, but most of that support tends to be focussed on preventing the rhino horn trade. Even when poachers are caught, the country's justice system is often not sufficiently robust<sup>22</sup>. Captive breeding facilities sustain demand for products met by both captive and wild lions. Consequently, they are keeping the pressure on wild lion populations that are already in serious decline.



# Mapping the international trade in big cat body parts

Since 2000, at least 5,559 Asiatic big cats have been intercepted in illegal trade<sup>25</sup>. This represents the deaths of at least 1,031 tigers, 4,189 leopards, 152 snow leopards, 26 clouded leopards and 17 Asiatic lions<sup>26</sup>. INTERPOL presumes that contraband seized is about 10% of what is being trafficked; this suggests that the actual number of big cats killed for the trade is vastly higher. More than 90% of the total was destined for markets in China.

Between 2007 and 2016, South Africa was the main legal exporter of lion products, with smaller amounts reported from Zimbabwe, United Republic of Tanzania, Namibia and Zambia<sup>27</sup>. At least 70 metric tonnes of lion bone product were shipped between 2008-2016<sup>28</sup>.

## Trafficking hub

Lao PDR plays a major role in receiving most lion bone and skeleton shipments from South Africa. Substantial evidence indicates that Lao PDR is a 'clearing house' for lion bone products legally exported from South Africa or illegally trafficked to the country.

Lao PDR is not only at the centre of the lion trade from South Africa, it also processes tigers from neighboring Thailand. In 2016, wildlife crime investigator Karl Amman found that Tiger Kingdom, a tiger-based tourism venue, had links with a laundering facility in the east of Thailand. This facility enabled the shipping of ship tiger carcasses over the border to Lao PDR<sup>29</sup>. Lao PDR is commonly considered a hub for illegal wildlife trafficking<sup>30</sup>, despite recent commitments by the country to curb their illegal wildlife trade industry.

Since 2000, at least 5,559 Asiatic big cats have been intercepted in illegal trade<sup>25</sup>

## Legislation governing trade in big cat parts

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments (Parties). It regulates the international trade of listed species of wildlife, including most big cat species. This is to ensure their trade does not threaten their survival in the wild. Species are classified by CITES as listed as Appendix I, II or III. Each classification dictates different qualities of regulations or restrictions relating to the commercial trade of these species or their products.

All big cat species other than lions are listed as Appendix I species. This listing prohibits any international commercial trade in body parts and derivatives unless they are from a CITES registered facility for captive breeding operations of Appendix I species. However, no such facility exists anywhere in the world.

**Speed bred:** This excessively overweight lioness has been forced to breed cubs at an alarming rate, usually 4 or 5 more litters of cubs than a wild lioness. Female lions are forced to speed breed cubs for the tourism, hunting and traditional Asian medicine trades.

Credit: Blood Lions



## Legislation governing the tiger trade

In addition to the Appendix I listing and its associated ban on international trade, CITES passed a 1993 resolution calling for domestic trade prohibitions and consolidation and destruction of stockpiles. In doing so CITES recognised that domestic trade was driving the poaching of wild tiger populations<sup>31</sup>. Then, in 2007, CITES Parties adopted decision 14.69 to further prevent commercial trade in captive tiger parts and products, stating “tigers should not be bred for trade in their parts and derivatives”.

But CITES regulations do not extend to domestic trade laws. It is the responsibility of the central government in each country with breeding facilities to establish their own laws regarding production and domestic trade of tiger products. Ideally, these should comply with CITES regulations and decisions, such as Dec.14.69 on restricting captive breeding of tigers.

### Thailand and Lao PDR

In Thailand, the government introduced a registration system in 2016 and advised big cat venues to voluntarily restrict their captive breeding efforts. However, tiger breeding in those facilities continues. This is because many tiger facilities are marketed to tourists and so they rely on a steady supply of tiger cubs to be profitable.

In September 2016, the government of Lao PDR unexpectedly stated its intentions to close all tiger breeding facilities. However, since then, no facilities have been closed and new ones are apparently being established<sup>32</sup>.

Tiger breeding in China is common and, with an estimated population of more than 5,000 tigers in breeding facilities, the commercial purpose of such operations is clear.

### China

China banned the use of tiger bone for medicinal purposes in 1993. But there was no breeding ban established for tiger facilities, and the growth of the quietly expanding legal trade in tiger skins from captive-breeding facilities was encouraged. Subsequently, this led to a lack of clarity over the use of bone from captive-bred tigers to make wine<sup>33</sup> which is likely to have further stimulated trade in and demand for tiger bone products. Additionally, tiger bone wine can be labelled in such a way to circumvent the law within China. Previous studies have highlighted alleged mislabelling of tiger bone wine as lion and bear wine<sup>34</sup>.

Tiger breeding in China is common and, with an estimated population of more than 5,000 tigers in breeding facilities, the commercial purpose of such operations is clear.

A recent revision of the wildlife protection law in China included some important changes but is still considered a failure by most conservation and welfare organisations. This is because it contains language potentially allowing the trade of currently banned wild animal products under certain circumstances. In 2018, a ban on tiger bone and rhino horn products for medicinal purposes was lifted and then quickly reinstated after severe international outcry.

### South Africa

In South Africa, tigers are not an indigenous species and a lack of regulations regarding the trade of tigers or their parts has led to concerns. South African legislation allows domestic trade in tiger parts and derivatives. However, there is little uniformity between provincial and national legislation on the issue; the responsibility of implementation of any legislation is bestowed on several different provincial authorities<sup>35</sup>.

South African legislation also allows some international trade in captive tiger parts and derivatives<sup>36</sup>. The CITES database shows more than 200 live tigers exported from South Africa over the past five years. The declared purposes were mostly ‘personal’, for ‘breeding in captivity’, ‘circus’, or ‘zoo’. There are concerns that claims of the non-commercial purpose of these trades are not always correct.



## Legislation governing the lion trade

The African lion is the only big cat listed on CITES Appendix II. Subsequently, international commercial trade of lion products is legal under CITES, if there are appropriate export permits. This is providing the exports are not detrimental to the lion population.

At the CITES Conference of the Parties (CoP) 17, hosted by South Africa in 2016, increasing the protection of African lions from Appendix II to Appendix I was proposed. This proposal was unsuccessful. Instead the CoP introduced a zero-export quota for all lion range countries. The quota relates to bones, bone pieces, bone products, claws, skeletons, skulls and teeth from wild lions.

South Africa obtained an exemption for exports of those parts from captive-bred lions and so still allows lion farming for commercial trade in parts and derivatives. The agreement was for South Africa to establish annual export quotas and communicate these to the CITES Secretariat annually. Furthermore, CoP 17 called for studies on legal and illegal trade in lions and lion parts, including bones, to be carried out with TRAFFIC and other relevant organisations. This was to determine origins and trade routes.

Despite international outcry by many conservation and animal welfare groups, South Africa increased their quota of legal lion exports to 1,500 carcasses per year in 2018. In December 2018, the country's Department of Environmental Affairs announced this quota would return to 800 for 2019.

**Health problems:** Lions kept in substandard and barren facilities, so different from their natural, wild homes, are vulnerable to mange and other diseases that cause them great discomfort and suffering. Credit: Blood Lions



# Methods

There is increasing evidence of an active, illegal, global market for trading big cats for traditional Asian medicine products. During 2018, World Animal Protection conducted several studies and investigations to further understand the use of big cat parts in traditional Asian medicine practices. These are detailed below.

**Table 1** World Animal Protection research on the use of big cats in the traditional Asian medicine industry

Study ID	Study/investigation	Year	Focus countries	Study type	Sample size
A	Chinese public attitudes to the consumption of big cat products (Commissioned to Dataway)	2018	China	Survey, focussing on consumer attitudes. Data collected via interviews and focus groups.	1,200 respondents across eight cities in China (N=150 respondents per city)
B	Attitudes of Chinese and Vietnamese people towards traditional Asian medicine and herbal alternatives (Unpublished study supported by World Animal Protection)	2018	Vietnam China	Survey, focussing on consumer attitudes. Interviews conducted online.	2,000 respondents (1,000 Vietnamese nationals and 1,000 Chinese nationals)
C	Availability of big cat products globally	2018	UK Canada Japan USA	Investigation of product availability in each target country. Retail survey of traditional Asian Medicine shops and pharmacies.	134 shops across six cities in four countries
D	Availability of big cat products in South Korea (In collaboration with Green Korea United)	2018	South Korea	Investigation of product availability. Retail survey of traditional Asian medicine markets.	105 shops across five traditional Asian medicine
E	Spot check on available products at a prominent, publicly accessible tiger breeding facility in China	2018	China	Investigation of product availability. Retail survey of an entertainment venue with onsite product sales.	A review of facilities at one location in China
F	Vietnamese public attitudes to the consumption of big cat products (Commissioned to Indochina Research)	2018	Vietnam	Survey, focussing on consumer attitudes. Data collected via respondents completing questions on a tablet.	705 respondents across five cities in Vietnam
G	Investigating lion bone trade practices in South Africa	2018	South Africa	Focus on trade links exporting lion products from farms in South Africa. Desktop research and interviews with relevant officials.	
H	International online trade and Chinese retail trade of big cat products in Special Administrative Regions (SARs) Hong Kong, Macau and Taiwan of China	2018	China	Investigation of product availability in retail shops and online trading platforms.	65 traditional Asian medicine shops surveyed across three locations (Taipei N= 20, Hong Kong N = 30, Macau N = 15)
I	Conditions at big cat breeding facilities in China	2018	China	Focus on animal welfare and farming scale. Document animal	Three prominent tiger breeding facilities in mainland China



# Findings

## Conditions for big cats at breeding facilities

The welfare of big cats in captivity is notoriously difficult to address. These animals typically need large areas of land to roam; and have complex behavioural needs that are difficult to address in captivity. These needs mean it is not usually possible to successfully house them in groups.

Many big cat breeding facilities in China are also tourist attractions and can be visited by the public, so the conditions in which the animals are kept are relatively transparent. The three facilities visited during this study were all publicly accessible, relatively well-known, well-resourced facilities catering to large numbers of visitors.

Reports from big cat breeding facilities in China revealed conditions resembling factory farming and sparked serious welfare concerns. There were hundreds of tigers typically kept in rows of metal cages with concrete floors. The facilities also usually featured larger green enclosures where fewer animals are kept; these are open to tourist bus groups.

The most immediate welfare concern at these facilities is the restricted space where the animals are kept. Individual cages have an area around 4x7m. Such confinement is severely inadequate – in the wild each tiger would normally have a territory ranging from 7 to 100 km<sup>2</sup>.

Depriving animals like tigers and lions of the large, wild home ranges they need, often makes them behave abnormally in captivity. They may start pacing back and forth along the same path for hours, bite their own limbs or tails, lose weight or develop illnesses.

The cages are mostly barren with no natural substrate or any enrichment to relieve the tigers' stress and boredom caused by this unnatural confinement. Studies show that novel objects, olfactory stimulation via the introduction of novel scents and enclosure rotations can enrich tiger's captive housing experience<sup>37</sup>. The barren cages in which the tigers in these facilities appear to live throughout their lives lack any such enrichment. Paired with the inadequate space and the immediate presence of hundreds of other tigers, this raises severe welfare concerns.

Researchers found the available larger enclosures to be better designed in parts. They also contained some natural vegetation, but were only available for a smaller number of tigers.

### Unacceptable housing

In breeding Facility 1 most cats were housed individually, with a few kept in the bigger enclosures. Cage formations were side by side in long rows. Combined with the unacceptable conditions in the individual cages, these formations contributed hugely to the serious welfare concerns.

A 2005<sup>38</sup> study concluded that the optimal social design for big cats in captivity is housing in compatible pairs with no neighbouring individuals and sufficient available space. But the housing, researchers found in most tiger breeding facilities, is the exact opposite of this design, and likely to lead to further animal stress.

At the opposite end of the spectrum, some enclosures seemed to be shared by a dozen tigers or more. Unfortunately, many of these enclosures, particularly at Facility 3, had limited shelter or structures to divide the space. These shortcomings can also lead to distress in adult tigers.

Facility 1 had an estimated capacity for at least 280 big cats. It held mostly tigers, but also several lions. Only a fraction of the animals seemed to have access to the large enclosures for the visitor experience.

Facility 2 had an estimated capacity for approximately 60 big cats. Again, primarily tigers were held, with a few lions and black leopards. This facility had a higher proportion of moderately-sized enclosures also containing some environmental enrichment and natural ground and vegetation. However, small enclosures with severely inadequate conditions were also present. One included a small bear in a cage behind a house.

Facility 3 claimed to house more than 1,000 Siberian tigers, South China tigers, Bengal tigers and white tigers, plus 250 African lions and some additional leopards. Although the establishment markets itself primarily as an entertainment venue, it breeds big cats and uses them to make traditional Asian medicine products and tiger bone wine.

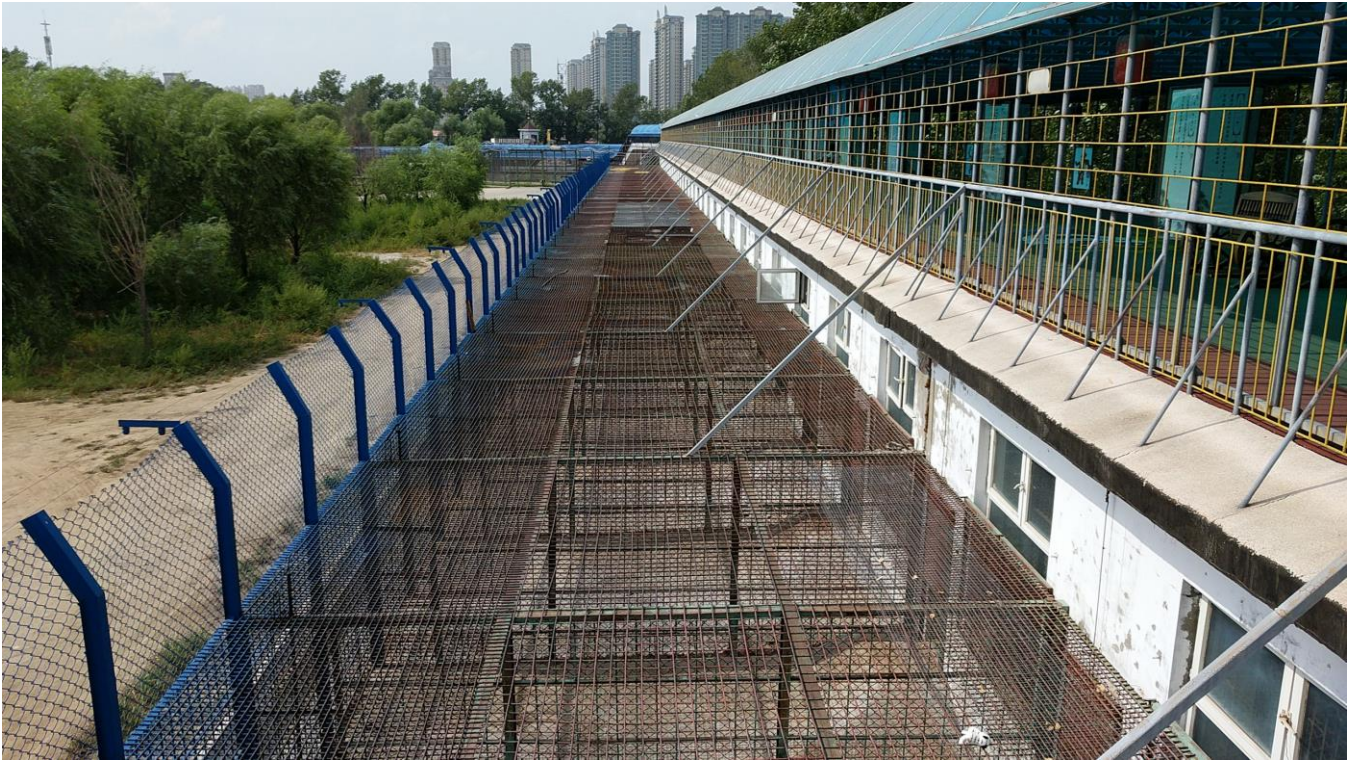
Most enclosures were in very poor shape. There were some medium-sized enclosures, but they provided inadequate shelters. There were many poorly sized small enclosures housing clearly distressed tigers. Facility 3 plans to reopen on a vastly bigger scale; construction has already begun.

Living conditions of animals visible to tourists in all facilities, were quite different from those in which most are kept. Only 10% of the cats appeared to live in larger areas of the site which include water features and grassy substrate. The other 90% were kept in cage blocks with restricted access to small, barren areas. These were too small for the number of animals and the amount of movement needed for their range of activity. Some animals appeared malnourished to the extent of emaciation and displayed clearly visible backbones. Others seemed grossly overweight or suffering from health disorders leading to severe overweight.

The cages are mostly barren with no natural substrate or any enrichment to relieve the tigers' stress and boredom caused by this unnatural confinement.



## Facility 1

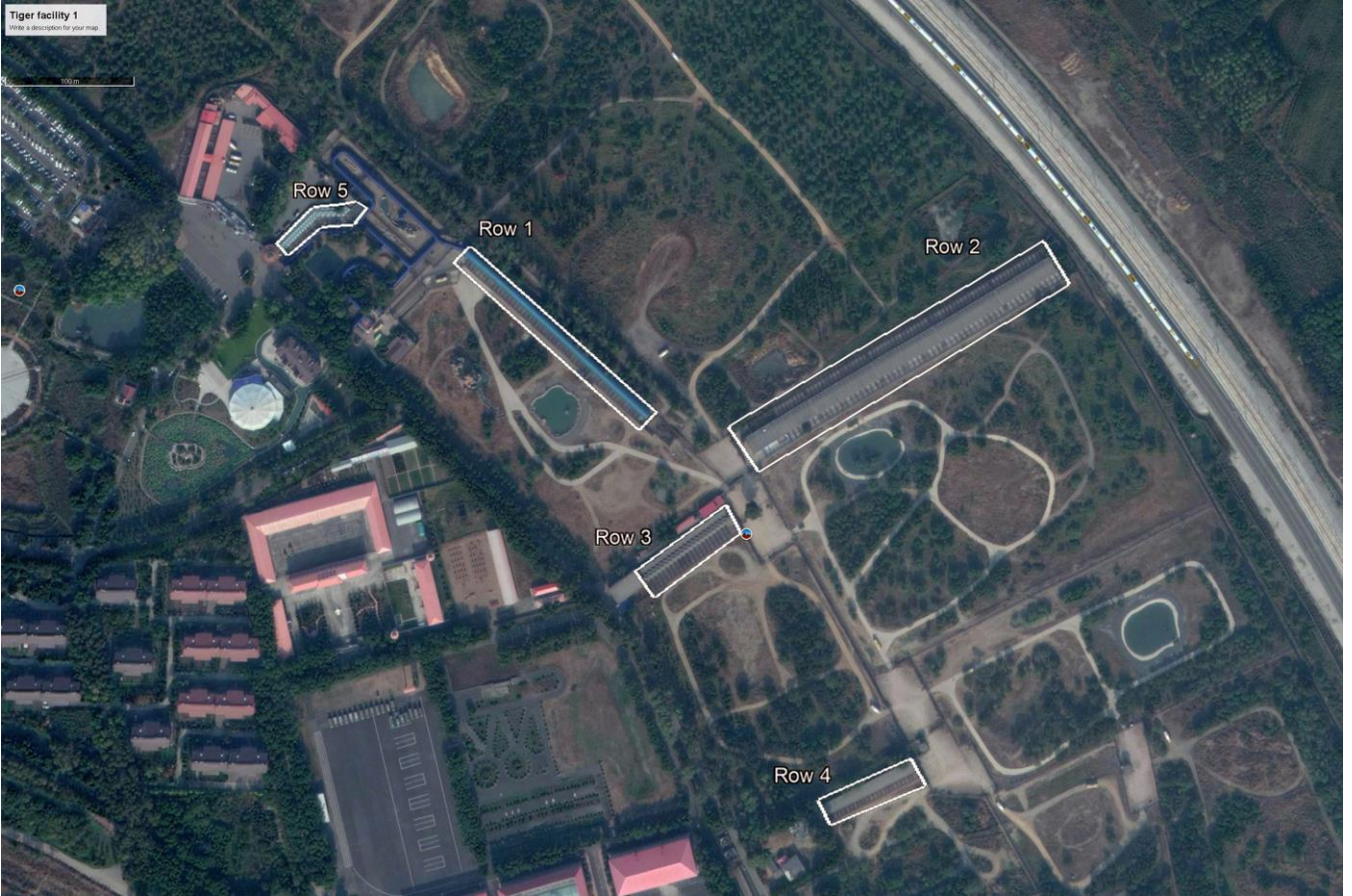


**Rows and rows:** Cages for hundreds of big cats were a feature of this facility. These structures have no considerations for the animals' natural behaviours and needs. In the wild a territory for individual tigers can extend from 7-100km<sup>2</sup>.





**Barren confinement:** Most cats are housed in small, enclosures with concrete floors which bear no resemblance to the animals' natural habitats. However, some animals have access to both indoor and outdoor areas, enabling them to seek shade.



**Size and scale:** Google Earth overview of Facility 1 with the cage row areas marked in white, representing hundreds of cages.





**Life-long captives:** This facility keeps around 280 big cats. Most are tigers with a few lions.

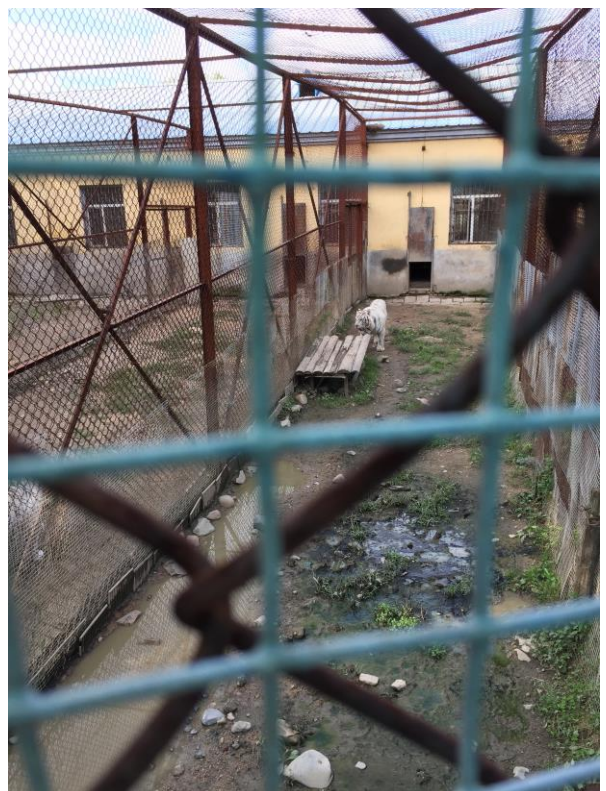
Some animals appeared malnourished to the extent of emaciation and displayed clearly visible backbones. Others seemed grossly overweight or suffering from health disorders leading to severe overweight.



## Facility 2



**Above. Public facing:** The enclosures seen by the public visiting Facility 2. The enclosures are moderately sized with some vegetation and enrichment such as trees, climbing structures and shelters.



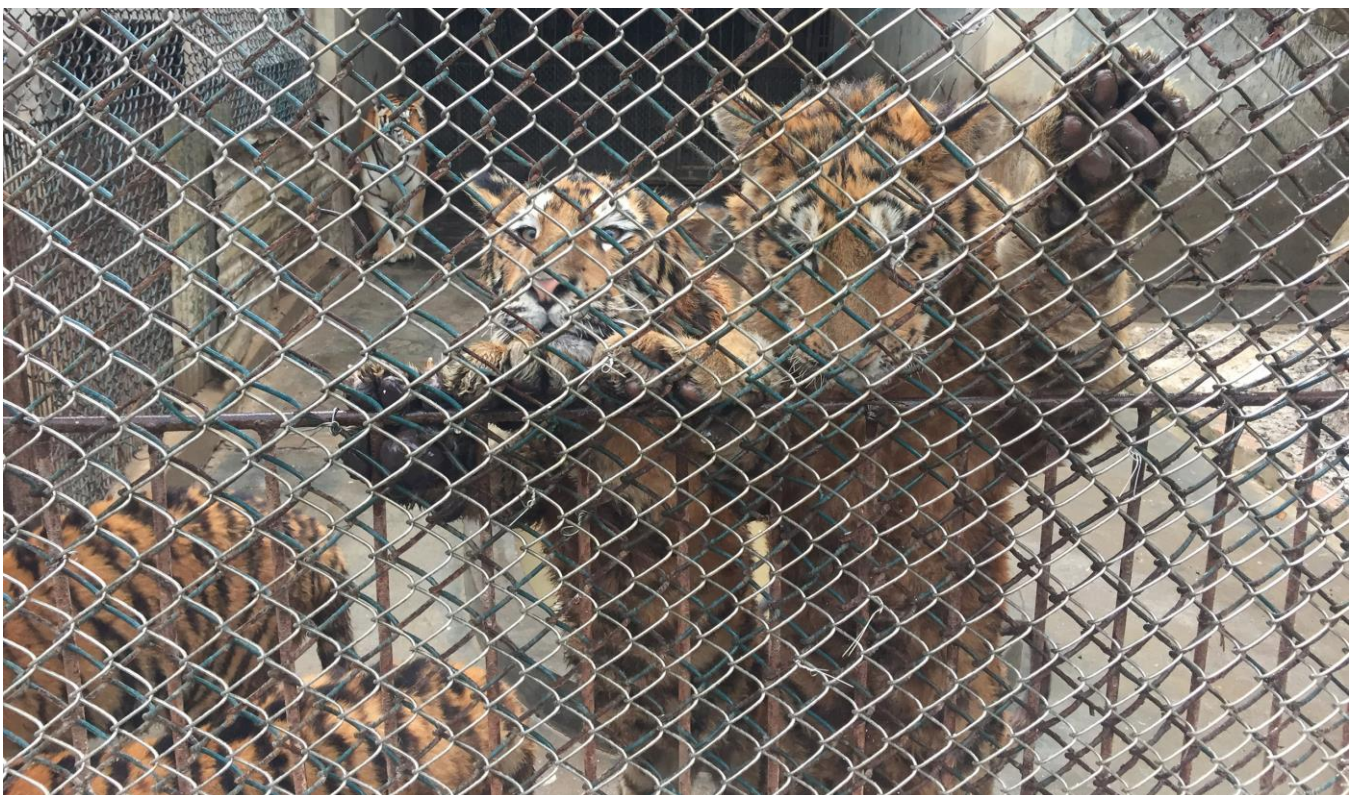
**Right. Behind the scenes:** One of the tigers kept in caged rows, in small barren enclosures with muddy and wet ground at Facility 2. The facility keeps around 60 big cats in total.



## Facility 3



**Inadequate enclosure:** An example of the way more than 1,250 big cats are housed at Facility 3. This facility is the largest of the three investigated in this report.



**No escape:** Tiger cubs bred and kept at Facility 3. Around 1,000 tigers are kept at this facility.





**On display:** Larger, but still inadequate, enclosures are available for public viewing.





**Unacceptable conditions:** Of the few enclosures that provide more space, and some stimulation – enrichment – conditions are still very poor. There is only minimal shade provided for the cats to protect themselves from the heat.



## On the market – big cat products

The studies looked both at online and retail shop availability of big cat products in China and several other countries. There were few big cat products at retail shops. None were found on sale in the UK, the USA, Japan, South Korea, Canada or cities in three Special Administrative Regions of China (SARs) – Taipei, Hong Kong, Macau – in China.

However, a store in Taipei suggested that products with 10g of tiger bone could be purchased via black market sources. Similarly, some stores in Hong Kong suggested availability of beast bone (獸骨), which allegedly contains a mixture of African lion and leopard bone. Two of the three tiger breeding facilities visited sold tiger bone wine.

A store beside Facility 1 sold different types of tiger bone wine. The seller claimed that the bones used in those liquors ‘comes from adult tigers that fight to the death’.

The different wines were based on the different parts of tigers used in their production. They included: tiger bone wines and those made from tiger kneecaps, penises, blood and tendons. Penis, blood and tendon wines were quoted the highest price. The wines were available at the shop or could be ordered through Wechat (China’s equivalent to WhatsApp) and delivered by express.

At tiger breeding Facility 3, tiger bone wine, Hongmao medicinal liquor (containing leopard bone) and ‘Strengthen-bone wine’ containing African lion bones were found on sale. The vendor claimed that Hongmao medicinal liquor is steeped with tiger bones during the production. He also explained that the tangible bones are prohibited to be on show in the bottles of final products. The wine is also available to buy on express delivery through contact with the seller via Wechat, and the products are available on the Guilin Xiong Sen Bear and Tiger Village online platform.

Many local pharmacies in the city where Facility 1 is located also sold medicines that contained big cat products. All of these had official drug batch registrations by the government. This also included Hongmao medicinal liquor, which contains leopard bones; it is considered a health product rather than a medicine and is often used as gift.

Online trade platforms in China were searched using Chinese keywords related to big cat products. The following platforms were reviewed.

- **Tao Bao**
- **1688.com**
- **315jjage.cn**
- **360kad.com**
- **Yaofangwang.com**
- **Shop.gztrt.com**

In total, nine ‘for sale’ ads of products claiming to contain tiger, 13 claiming to contain leopard and two claiming to contain lion were identified. These were found across the different internet trading platforms, including two of the largest: Tao Bao and 1688.com. The products were primarily tiger balm ointment (selling as 50g jar) and bone strengthening wine (500 or 600ml bottle). The two products that were labelled to contain lion content were sold in tiger-shaped bottles.

While some of the sale ads only showed availability of small numbers of these products, many ads referred to industrial scale inventory. Eleven of the 24 product ads showed an inventory between 90 to over 8,000 units.

Through the online and retail research three big cat product manufacturers were identified:

1. **北京同仁堂** Beijing Tong Ren Tang
2. **桂林雄森** Guilin Xiong Sen Bear and Tiger Village
3. **江西众源药业** Jiangxi Zhongyuan Pharmaceutical Industry Limited Company.

Beijing Tong Ren Tang used to produce tiger bone wine. However, they have apparently changed the bone wine ingredient to leopard and changed the wine product name from Tiger Bone Wine (虎骨酒 Hu Gu Jiu) to Strong Bone Wine (壯骨藥酒 Zhuang Gu Yao Jiu). For this they now have a government permit and each bottle has a sticker that features a government registration number. They also produce Protect Bone Wine (護骨酒 Hu Gu Jiu) using artificial synthetic ingredients of unknown composition instead of genuine tiger bone.

The findings suggest that most of the trade in big cat products is conducted online, or through WeChat or other social media sites, rather than through retail traditional Asian medicine shops. However, this contrasts with the consumer survey in this report. Researchers found that 78% of interviewed consumers across eight cities in China purchase big cat products via traditional Asian medicine pharmacies. Although big cat products were commonly sold in pharmacies in the city housing tiger breeding Facility 1, it is unclear how common those products are in other cities. Further investigation is required for a more comprehensive understanding of big cat product purchasing channels within China.

Eleven of the 24 product ads showed an inventory between 90 to over 8,000 units.





**On sale:** Big cat traditional Asian medicine product available to purchase online. It contains big cat bones soaked in wine and is believed to strengthen sinews and bones when consumed as a health tonic.



**Status symbol:** 'Strengthen-bone wine' at Facility 3.



**Big cat symbol:** 'Musk strengthen-bone plaster' for external application; it is believed to reduce rheumatic ailments such as arthritis and joint pain.

**Traditional product:** Thong tiger bone ointment which is believed to relieve muscle soreness and tension when applied to the skin.





## Trading lion bone products

Study G used interviews and open source desktop research to further investigate captive lion breeding farms in South Africa and their connection with the lion bone trade with southeast Asia. Excellent additional information has also been presented previously by two major studies in 2018<sup>39,40,41</sup>.

The research highlighted that the export of lion bone is done via dealers in South Africa, who work with several Chinese brokers operating out of Durban and Johannesburg. Several routes to export illegal lion carcasses out of South Africa have been suggested by sources, including water-based shipping routes as well air cargo airlines.

Some freight agents have also been mentioned by sources as playing a key role. Recent reports have identified three companies which act as receiving agents in Lao PDR: Xeosavang Trading Company<sup>42</sup> Vinasakhone<sup>43</sup> and Vannaseng Trading Company<sup>44</sup>. Detailed information on trade routes connecting the South African traders with the receiving agents in Lao PDR is still pending further investigation.

### Making the links

It must be assumed that most shipments primarily go to Lao PDR where the carcasses are then processed. Within Asia, products are then moved from Lao PDR to Vietnam to be manufactured into products ready for consumption. These products are then sold in Vietnam or shipped over the border to China, either using organised crime networks or via collusion with customs officials. A Chinese source believes road and/or air travel is the most common transportation method for these products within Asia (Study G).

The amount of lion bone destined for Lao PDR has significantly increased since 2008<sup>45</sup> and cross-border smuggling of lion cubs into South Africa has escalated with the rise in demand for lion bone. Sources stated that lions are illegally trafficked by organised crime syndicates into the country from neighbouring states. This is to maintain the supply of animals in the lion breeding facilities, and to meet demand for body parts.

A common example is Botswana, where, typically, a lion mother is shot, and her cubs are smuggled across the border into a South African lion farm. The mother's carcass then takes a different route. A key problem, as explained by one custom official, is that once the lions reach their destinations in South Africa, it is virtually impossible to prove their point of origin. In this way, the trade in lion parts in South Africa directly threatens the population of wild lions in surrounding countries.



### Exporting quotas

There are a handful of dealers legally authorised by the South African government to export lions up to the national quota. Four of the 'kingpins' of lion bone export include SH Rothman, Hatari Taxidermy (Klerksdorp), MP Steyl (associated with Williamson Savuti Taxidermy) and Andries van Tonder (Krugersdorp). These dealers primarily receive their lions from lion farm owners selling to them. The lion farmers apparently are unaware whether the dealer's quota has already been fulfilled or not.

Anecdotal comments suggest that some lion bone dealers export more than double their allowed quota. This is in line with findings in the report 'The Extinction Business' that estimates that the weight of exported lion bones equals 2-3 times the allowed quota of exported lions<sup>46</sup>. Those additional lions would be either poached from lion farms or from national parks, particularly Kruger Park. Poachers deliver illegal carcasses to lion breeders/dealers for approximately GBP £2,600 per animal.

It is possible that these dealers are also responsible for trading tiger bone. One lion breeder explained that there are increasing concerns raised about the growing presence of tigers on lion farms in South Africa.

The government has extremely fragmented legislation governing tigers, and officials from at least one province have stated that tiger management is not regulated at all<sup>47</sup>. The body parts and derivatives of tigers would still be subject to the necessary CITES checks prior to exports. However, an ineffective checking system and lax law enforcement means it is possible for tiger skeletons to be disguised as lion and exported using CITES Appendix II permits instead of Appendix I<sup>48</sup>. There is currently no official evidence of tiger being falsely exported as lion bone. Due to morphological similarities, DNA testing would be the only way to identify the species<sup>49</sup>.

Sources stated that lions are illegally trafficked by organised crime syndicates into the country from neighbouring states. This is to maintain the supply of animals in the lion breeding facilities, and to meet demand for body parts.

**Genetic cruelty:** Lion cubs born with deformed paws through captive in-breeding at unscrupulous facilities. In-breeding can also result in other body deformities and sight and hearing problems.  
Credit: Blood Lions



## Viabile alternatives – breaking the chain of big cat consumption

The demand for big cat products is mostly due to historic reference of tiger bone ingredients in traditional Asian medicine manuals. While clinical efficacy of those products has not been confirmed by modern medicine, traditional Asian medicine practitioners or individual consumers continue to promote or consume these products. This is despite the availability of a large range of non-animal based alternatives within the traditional Asian medicine manuals.

Generating awareness of those alternatives both in practitioners and in consumers is key to ending the trade in big cat products. It will enable traditional Asian medicine to embrace sustainable practices independent of endangered wild animals.

Traditional Asian medicine contains few ingredients derived from animals and even fewer from wild animals. This means there are a large number of non-animal based ingredients available for every use and application.

Pinyin <sup>52</sup>	Chinese	Species
Dú huó	獨活	<i>Angelica pubescens</i> MAXIM. <i>f. biserrata</i> SHAN & YUAN
Wēi líng xiān	威靈仙	<i>Clematis manshurica</i> RUPR. <i>C. hexapetala</i> PALL. <i>C. chinensis</i> OSBECK
Hǎi tóng pí	海桐皮	<i>Erythrina variegata</i> L. var. <i>orientalis</i> (L.) MERR.
Chuān tóng pí	川桐皮	<i>Kalopanax septemlobus</i> (THUNB.) KOIDZ.
Zhè tóng pí	浙桐皮	<i>Zanthoxylum ailanthoides</i> SIEB. & ZUCC.
Mù mián pí	木棉皮	<i>Bombax malabaricum</i> DC.
Mù guā	木瓜	<i>Chaenomeles speciosa</i> (SWEET) NAKAI
Sāng jì shēng	桑寄生	<i>Taxillus chinensis</i> (DC.) Danser
Hú jì shēng	槲寄生	<i>Viscum coloratum</i> (KOMAR.) NAKAI
Wǔ jiā pí	五加皮	<i>Acanthopanax gracilistylus</i> W.W. Smith
Xiāng jiā pí	香加皮	<i>Periploca sepium</i> BGE.
Lǎo guàn cǎo	老鸛草	<i>Erodium stephanianum</i> WILLD. <i>Geranium wilfordii</i> MAXIM <i>G. carolinianum</i> L.
Lù xián cǎo	鹿銜草	<i>Pyrola calliantha</i> H. Andres <i>L.ssp.chinensis</i> H. Andres <i>P. decorate</i> H. Andres

Due to international restrictions in trading tiger products, traditional Asian medicine practitioners in most countries outside China are not allowed to prescribe formularies that contain tiger bone (hǔ gǔ). However, this has not negatively affected traditional Asian medicine practices due to many alternative substances replicating the supposed attributes of tiger bone.

A review of several widely used references on Chinese herbal medicine<sup>50,51</sup> reveals 28 possible alternatives to hǔ gǔ. The actual substitution depends on the prescribing practices of the practitioner, and their style of practice or Chinese medical tradition.

The table below lists those 28 alternatives. This table is intended as an educational guide to understand that hǔ gǔ is not needed for the practice of Chinese medicine. It is not intended as a specific clinical reference for practitioners. The approach to replacing hǔ gǔ within an herbal formula will depend on the provider's training and clinical lineage.

Pinyin <sup>52</sup>	Chinese	Species
Shēn jīn cǎo	伸筋草	<i>Lycopodium japonicum</i> THUNB.
Xú cháng qīng	徐長卿	<i>Cynanchum paniculatum</i> (BGE.) KITAG.
Chuān shān lóng	穿山龍	<i>Dioscorea nipponica</i> MAKINO
Qīng fēng téng	青風藤	<i>Sinomenium acutum</i> (THUNB.) REHD. & WILS.
Liǎng miàn zhēn	兩面針	<i>Zanthoxylum nitium</i> (ROXB.) DC.
Hǎi fēng téng	海風藤	<i>Piper kadsura</i> (CHOISY) OHWI
Qiān nián jiàn	千年健	<i>Homalomena occulta</i> (LOUR.) SCHOTT
Qín jiāo	秦艽	<i>Gentiana macrophylla</i> PALL. <i>G. straminea</i> MAXIM. <i>G. crassicaulis</i> DUTHIE ex BURK. <i>G. dahurica</i> FISCH.
Sāng zhī	桑枝	<i>Morus alba</i> L.
Xī xiān cǎo	豨薟草	<i>Siegesbeckia orientalis</i> L. <i>S. pubescens</i> MAKINO
Chòu wú tóng	臭梧桐	<i>Clerodendron trichotomum</i> THUNB.
Luò shí téng	絡石藤	<i>Trachelospermum jasminoides</i> (LINDL.) LEM.
Kuān jīn téng	寬筋藤	<i>Tinospora sinensis</i> (LOUR.) MERR
Sōng jié	松節	<i>Pinus tabulaeformis</i> CARR. <i>P. massoniana</i> LAMB.



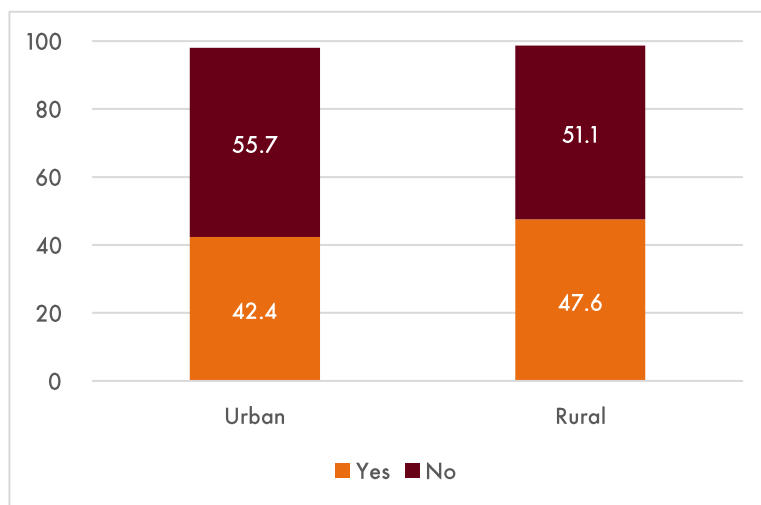
## Driving demand – big cat product consumers

The wildlife trade is largely driven by increasing wealth in consumer nations, and a growing accessibility to global markets. There is a widespread lack of awareness of the consequences of consuming wildlife products. Public engagement in protecting wildlife from illegal trade is still insufficient to curb the trade significantly. China and Vietnam are widely understood to be two of the largest consumer nations of big cat traditional Asian medicine products. To understand their attitudes and consumption behaviour, to help efforts to shift product demand, World Animal Protection conducted three consumer attitude surveys in 2018. These focussed on attitudes and perceptions of Chinese and Vietnamese nationals.

### Consumer demographics

Study A, interviewing 1,200 people in eight different Chinese cities, found that more than 40% had used or purchased drugs and health products containing big cat ingredients. Chinese consumers of big cat traditional Asian medicine products were more likely to be older, have a mid-level income and be less educated. Most (53.4%) consumers were educated to secondary school level, earned less than 6,000 yuan per month (around US\$870) and were over 50 years old. No demographic difference was found between genders. Only slight differences were found between rural and urban areas, showing a 5% higher percentage of rural residents that had consumed big cat products.

Figure 1: The % of respondents who had consumed big cat traditional Asian medicine products in urban and rural areas.



The study also found that consumption of big cat products varied by region. Among the eight cities surveyed, people in Guilin had the highest rate (60.5%) of purchasing or using big cat medicines and health products. This was followed by people in Beijing (46%) and those living in Chengdu (45.7%). Overall, Harbin had the lowest rate of consumption (34.6%).

In comparison, Study F found that Vietnamese consumers were also likely to be older (55+) but were more likely to have a higher than average household income. A gender difference was observed in the type of product most commonly consumed. Tiger plasters were most likely to be used by retired women, while tiger bone alcohol or liquor were most likely to be used by male business owners. Big cat product consumers were also significantly wealthier than the general population, earning more than US\$1,000 per month compared to the average income of US\$700 per month or less.

This trend for Vietnamese consumers of bone wine to be high earners reflects the perception of big cat products in Vietnam. Study J found that Vietnamese participants described traditional Asian medicine tiger products as “precious, unique, classy and strength enhancing”.

### Giving tiger gifts

There is a strong ‘gifting’ culture in Vietnam, where tiger products are often bought as a present for superiors or elders as a sign of honour and respect. Gifting is especially prevalent among affluent, Asian businessmen. Study F found that gifting was the second highest driver for buying big cat products - after health reasons. 32% of respondents felt that big cat products make a good gift, partially because they are considered to be luxurious.

The gifting culture appears to be a strong trigger for consumption. Study F found that close to half of Vietnamese consumers (45%) said that they first used a big cat product when somebody gave it to them as gift. Some participants claimed that they use big cat products when they are gifted to them, even if they do not believe in the efficacy of the product.



## Purpose and frequency of consumption

Studies A, B and F all found that the main reason Vietnamese and Chinese consumers gave for using cat products is to help their health and treat diseases.

Study A found that Chinese consumers particularly used big cat products to help bone injuries such as fractures (59.9%) and as a bone strengthening/calcium supplementation (50.3%). They also used them to help dispel symptoms of flus and colds (38.8%).

Study F found that the main reasons for use cited by Vietnamese consumers were relieving rheumatism (65%) and strengthening bones (60%). Across the three studies, the second highest reason given for consumption was relationship development, including gifting and special celebrations. Increasing sexual vigour and virility was also cited by 17% of tiger plaster consumers in study F.

Figure 2: The % of Vietnamese consumers that use big cat products for each health condition (Study F).

Health condition	% respondents (179)
Relieving rheumatism and chill	65%
Bone strengthening / calcium supplement	60%
Treatment of traumatic injury	34%
Treatment of osteoporosis and hyper osteogeny	20%
Strengthen yang and nourish yin	17%
Relieving symptoms such as insomnia and irritability	9%
Anti-inflammation	4%
Treatment of cardiovascular and cerebrovascular diseases	3%

Study F found that 89% of Vietnamese consumers believed tiger products have a good effect on health and can help cure diseases. Similarly, Study A found most Chinese consumers (71%) had purchased the health products because they thought that big cat products were effective.

Although big cat products are viewed positively as a health product in Vietnam and China, they are not used very frequently. Study F found that only 5% of Vietnamese consumers claimed to use products more than four times a year. Study A showed that the highest percentage (32%) of Chinese consumers used products 1-3 times a year, where a further 25% only purchased them when someone was ill at home.

Study A found that a key influencer in buying big cat products were the pharmacies and TCM doctors. 38% of Chinese consumers used the product for the first time through these two channels. Family and friends were very important sources too.

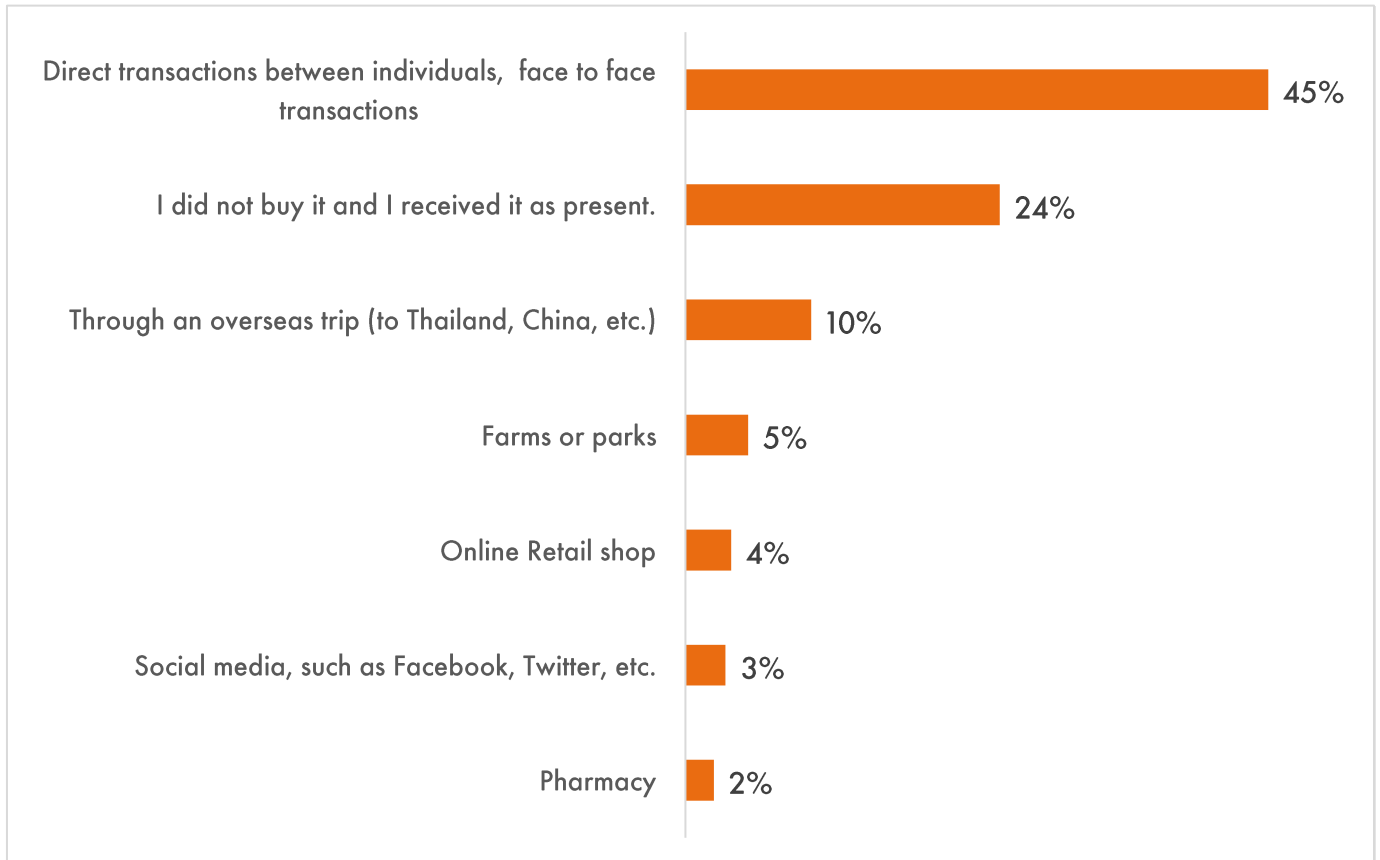
For Chinese consumers, traditional Asian medicine practitioners were the most common source of information about big cat products.

### Targeting sales points

Because so many consumers rely on information from traditional Asian medicine practitioners, it is vital to target health care professionals and their advice to achieve a reduction in demand. The research revealed the most common places for Chinese consumers to buy big cat products were local pharmacies or Chinese medicine shops (78.1%), hospitals (26%), and health products stores (14.7%) (Study A).

In contrast, only 2% of Vietnamese consumers bought their products from pharmacies, whereas the highest proportion bought them during face-to-face transactions with other individuals (45%) (Study F). This difference in purchasing channels is likely to be because big cat traditional Asian medicine products are strictly illegal in Vietnam. In China there are several loopholes and complications in the law allowing the legal sale of some big cat products.

Figure 3: The % of Vietnamese consumers that buy big cat products via each purchasing channel (Study F).

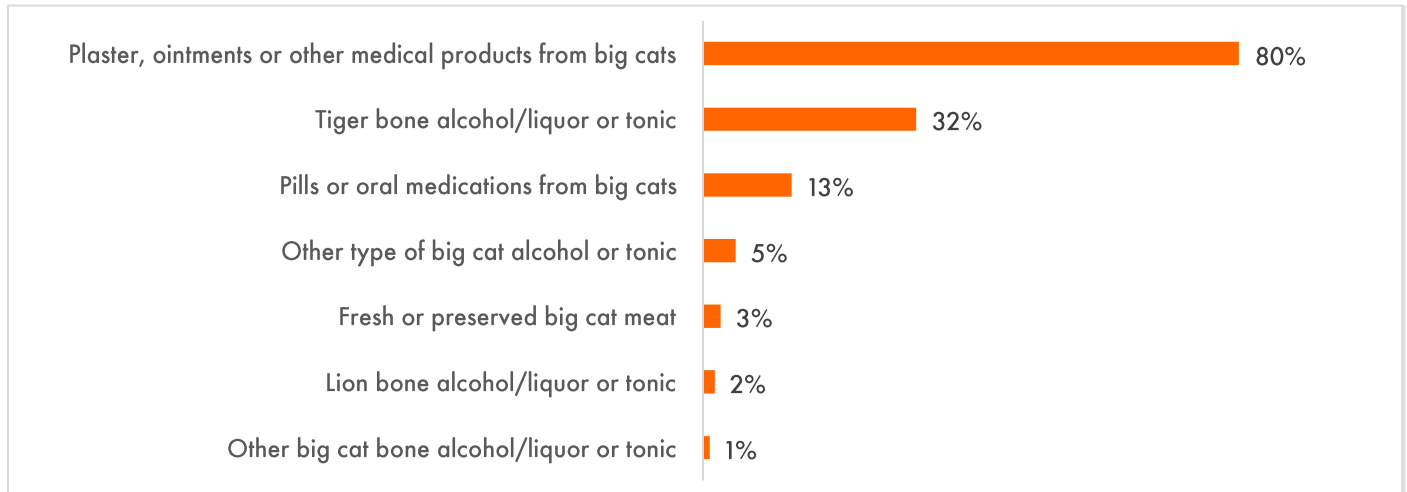




## Consumer product preferences

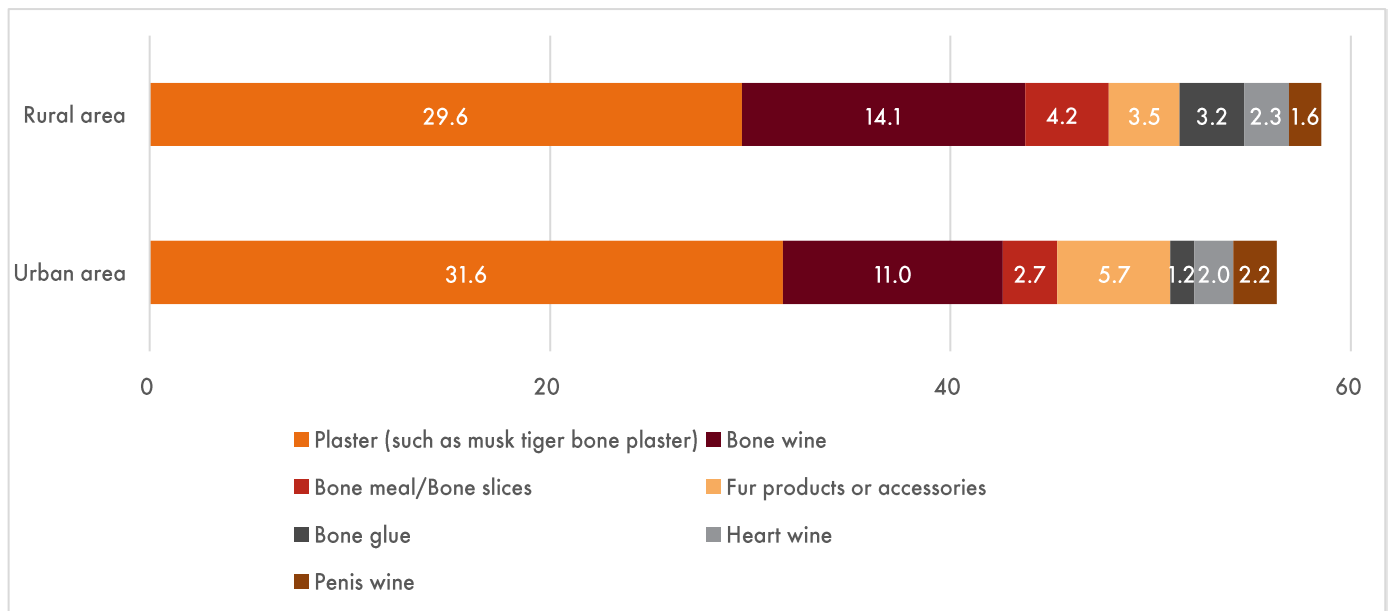
Study A found that the most popular product among Chinese consumers was tiger plaster, an externally applied poultice believed to contain tiger bone. Plaster was purchased by 31% of Chinese consumers, down from 38% in a previous study from 2008<sup>53</sup> Similarly, Study F found that 80% of Vietnamese consumers surveyed had purchased tiger plaster or other big cat medicinal products such as ointments. Bone alcohol or tonic were the second most popular big cat products for both Chinese and Vietnamese consumers (11.8% and 32% respectively).

Figure 4: The % of big cat consumers in Vietnam bought products in each category (Study F).



Chinese product preferences were similar for both urban and rural residents, with plasters the most commonly used product, followed by bone wine, bone meal and other products.

Figure 5: Product preferences for urban versus rural Chinese consumers.



The consumer studies also indicate a preference for wild big cat medicine over farmed products, showing that the presence of farmed products has not decreased attractiveness of wild ones.

These results are reaffirmed by Study F that shows 84% of frequent consumers from Vietnam stated a preference for wild big cat medicine. Study A also found 55.3% of Chinese consumers preferred their cat parts to be wild sourced. Of those Chinese consumers preferring wild products, 72% claimed it was because wild products were more potent than farm products. This is a popular belief that has never been verified.

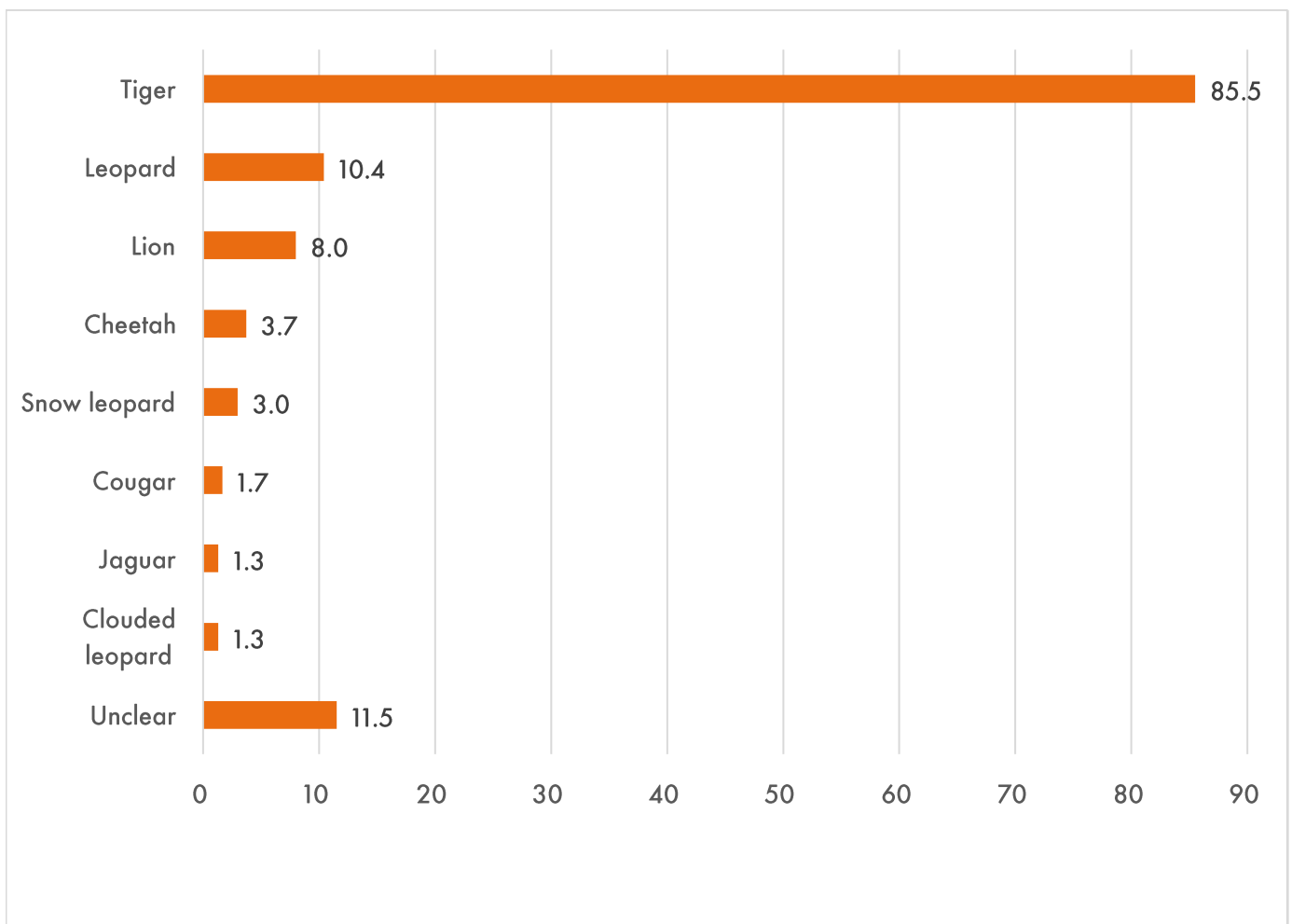
Of those Vietnamese respondents preferring farmed cat products, the main reason (incorrectly) cited was that farmed products are legal. These results demonstrate a poor awareness of laws and regulations surrounding big cat products among Vietnam citizens.

Although Study F found a preference for wild tiger products, only 10% of consumers said they could distinguish between wild and farmed ingredients. Consumers were not asked if they would be able to distinguish between different species of cats in the products. Most Vietnamese consumers surveyed in Study F believed that the big cat products they consume derive from tiger bones.

The study found that 99% of consumers who bought plaster, ointments and other medicinal products believed they contained tiger. All consumers who bought tiger bone liquor or tonic believed the product was tiger. Of these bone wine consumers, 8% also believed that other big cat products were in the product too. Similarly, 85% of the Chinese consumers surveyed in study A believed that tiger was the big cat component of their product.

Fewer than 10% of respondents believed other big cat parts were present in their traditional Asian medicine products. These results suggest that most consumers are not aware of the use of lion bone to supplement tiger products.

**Figure 6:** The % of big cat species that Chinese consumers believe are an ingredient in the big cat medicines they have purchased to use (Study A).





## Examining the future of big cat product consumption

Both Chinese and Vietnamese participants demonstrated a desire to continue big cat consumption in the future. Study F found that 71% of Vietnamese big cat consumers surveyed would consume again and 28% of non-consumers said they might try a product in the future. Similarly, Study A found that 69.3% of Chinese participants who had consumed big cat products previously would continue to use them and 27.9% of non-consumers stated that they might try them.

Participants from studies A and F were asked the most effective way to reduce big cat product consumption. Over half (54%) of Vietnamese participants in Study F said the most important action to take was to raise awareness of the cruelty linked with big cat product use. Participants believed this message would be more effective than raising awareness that big cats products could be unsafe, or that they might be ineffective.

Study A showed that Chinese participants believed the most effective action is imposing stricter laws by the state (34.4%). This was followed by telling people there are substitutes for big cat products, and they work just as well (21.3%).

The response to these statements suggests a lack of knowledge about the issues surrounding big cat product consumption. Study F found that 7 out of 10 respondents from the general public could not answer how many wild tigers there are in Vietnam and only 15% correctly said that there are less than 100.

This apparent lack of awareness of the big cat industry suggests that product demand could be reduced by effective messaging. Appropriate messaging would focus on the harmful effects of product consumption and the social issues surrounding wild cat farming and poaching. Of the study participants, 62% of the general population surveyed said they'd be willing to share awareness through social media articles. Thirty four percent also said they'd sign petitions and donate towards movements teaching people about the negatives of big cat products.

Study F investigated consumer attitudes towards herbal substitutes for big cat products. The results showed that many participants were willing to try herbal substitutes, but that price and effectivity was a factor. 67% of consumers were open to consume herbal or synthetic alternatives to big cat products. For 51% of consumers the price was a critical decision factor.

Of those participants that said they were willing to try substitutes, over half would prefer substitutes made from plants. This was true for both consumers and non-consumers.

Figure 7: The preference for different non-big cat alternatives by consumers and non-consumers (Study F).

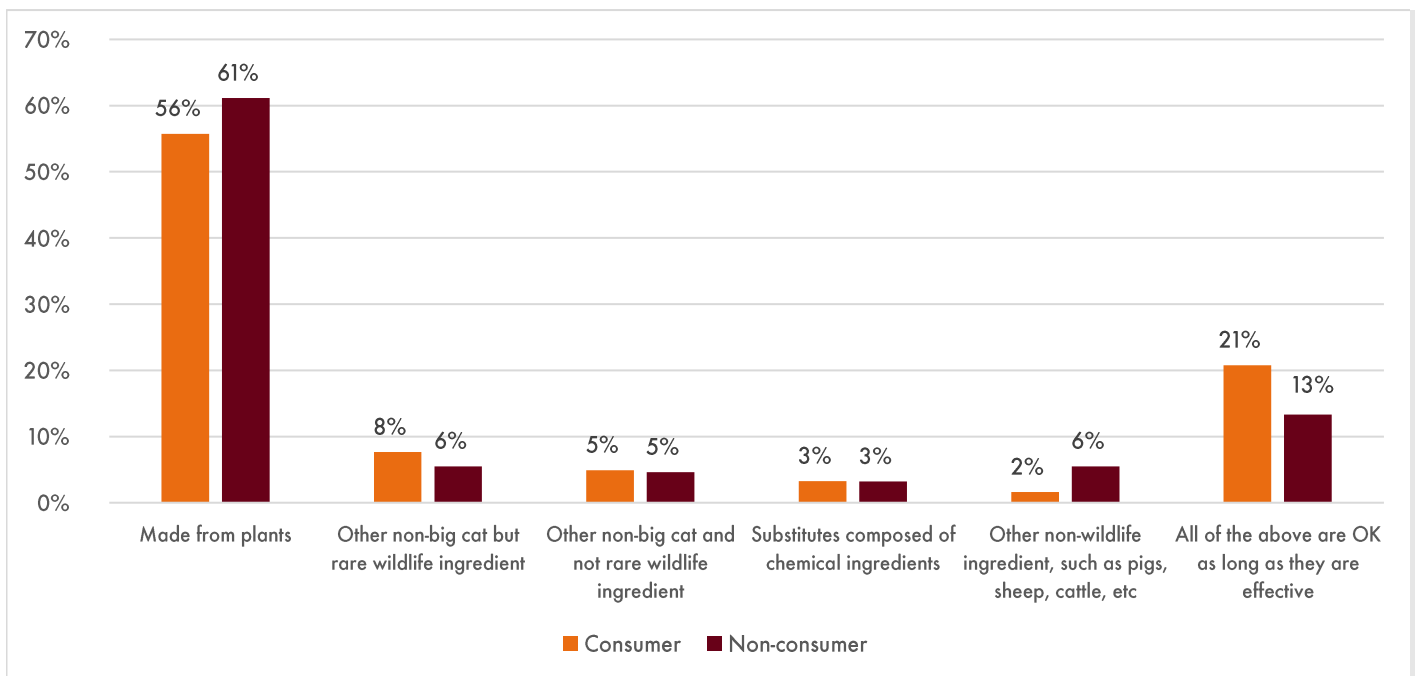
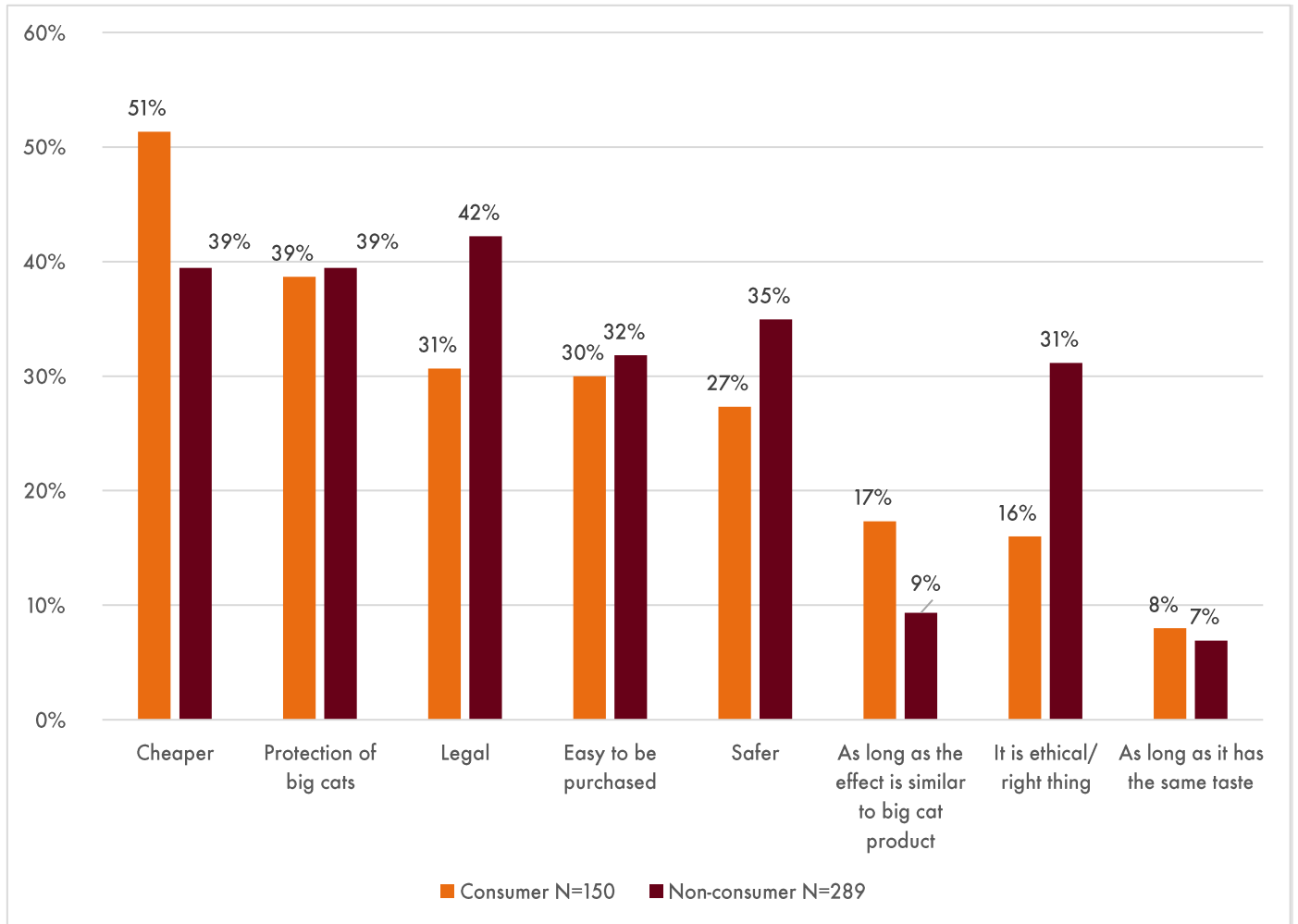


Figure 8 shows that the highest percentage of consumers (51%) were willing to accept herbal substitutes because they believed that it would be cheaper. However, the highest percentage of non-consumers (42%) were more concerned about legality. Among respondents who said they would not accept herbal substitutes, 58% said they would not try a substitute because they believed it would be less effective.

Figure 8: The % of respondents giving each reason they would try substitutes.



These study results suggest that although consumers of big cat traditional Asian medicine intend to continue purchasing products, they are generally uninformed about the negative issues involved. However, they are also open to the possibility of herbal alternatives. Therefore, effective information dissemination and an increase in the availability of herbal substitutes could help reduce big cat product demand among Vietnamese and Chinese consumers.



# Addressing the problem – conclusions

The continuous demand for products derived from big cats threatens wild populations of leopards, tigers, jaguars, snow leopards, clouded leopards and lions. This demand also causes intense suffering to thousands of captive big cats kept in breeding facilities across Asia and Africa.

For two decades two principle approaches to address the problems have been most commonly used.

The first approach is for **regulatory, sustainable-use**. This legalises part of the trade at a closely-monitored level to relieve poaching pressure on wild populations, while still meeting consumer demand. To achieve this, wildlife facilities that breed animals in captivity, often referred to as wildlife farms, are considered an important tool. This approach is based on the principle that a legal trade is easier to regulate and can be maintained at a level that still benefits conservation of the species in the wild<sup>54</sup>.

The second approach is for a **trade-ban and efficient implementation** of the ban through well-resourced law enforcement. It focusses on illegalising the entire trade of a product while decreasing demand through education and awareness efforts. This approach acknowledges economic analyses that suggest a strong demand elasticity for products such as tiger bone. This elasticity means that demand continues to persist, or even rise, despite regulatory measures of a sustainable-use approach<sup>55</sup>.

Increasing demand for wildlife products, easier consumer access to them through efficient global trade routes, and falsely declaring illegal products as legal via regulated trade, are significant risks to wild populations. Critics of this approach argue that so far efforts to curb consumer demand as part of trade-ban initiatives, are not decreasing demand sufficiently to deter illegal trade. It must be noted that in the case of leopards or tigers, there actually has not been a complete ban in trade in the primary consumer country China. Consequently, this cannot serve as an example of how trade bans might be ineffective or effective.

## Protecting animal welfare

In most cases, discussions of these approaches are conservation-led and disregard animal welfare. The issue of wildlife farms, where thousands of wild animals endure and suffer in poor conditions daily, is rarely acknowledged. Sustainable-use approaches often see wildlife farms as a useful solution to supply consumers with products that are not wild caught. However, evidence shows that in most cases wildlife farms are not an acceptable solution.

Wildlife farms in combination with a legal trade sustain the demand for wildlife products. This sustained demand continues to lead to poaching. This is either to resupply the wildlife farms with stock from the wild or through the false declarations of poached products as derived from wildlife farms.

A 2016 scientific review of wildlife farming outlined five key criteria that need to be met for wildlife farming of a species to serve a conservation purpose<sup>56</sup>. In the case of tigers, most criteria cannot be met, and so this must raise alarm bells when considering wildlife farms as conservation tools.

Furthermore, the farming of one big cat species to meet consumer demand for big cat products should be expected to affect the demand and conservation of other big cat species too. For example, one cannot evaluate the conservation and meeting-consumer-demand success of lion farming in isolation. Lion farming's impact must be evaluated regarding its effect on the consumer demand for products from other big cat species and how it affects their conservation.

Conditions for big cats in tiger and lion farms are unacceptable. Farms also drive the growing commodification of wild animals, while failing to protect them from poaching. Consumer demand is at the core of the problem. However, the studies in this report and in other literature show that consumers are open to switch to more sustainable non-animal alternatives. But the right arguments must be highlighted and the alternative product must be competitive in value.

## Targeting consumers

Smart, high-impact consumer-demand-targeted public campaigns, coupled with government and corporate policy changes, must be employed to significantly shift demand towards sustainable non-animal-based alternatives. Eschewing highly controversial ingredients such as tiger, lion or leopard bone will also give traditional Asian medicine both wider appeal and access to a global market. Considering that only a fraction of traditional Asian medicine contains animal products, such a shift away from big cat and other wildlife products is logical and viable.

With decreased consumer demand for products containing big cat products, the welfare of the existing captive animals will need to be addressed. Relocation to sanctuaries may only be an option for a few animals. Consequently, improving conditions at big cat facilities to alleviate animal suffering and a breeding ban is essential. This will ensure that the current generation of big cats kept in poor captive conditions for the traditional Asian medicine trade will be the last.

# Recommendations

To protect big cats from suffering and to allow consumer demand to shift to alternatives over the 15-20-year lifespan of one generation of big cats, World Animal Protection recommends the following:

## **The governments of China and Vietnam should...**

1. Engage traditional medicine practitioners to encourage the promotion of existing, sustainable non-animal-based alternatives instead of formulations containing big-cat ingredients.
2. Launch state-wide education and awareness campaigns promoting the shifting away from consuming big cat products, to the consumption of non-animal-based alternatives instead.
3. Discourage or ban promotion or advertising of products containing tiger or other big cat parts and derivatives in media channels, including social media, and the press.
4. Encourage retailers and online trade platforms to scrutinise their inventory and policies to prohibit the trade of products derived from big cats.
5. Sensitise corporates involved in illegal practices or animal cruelty to abandon these practices and the trade in such products.
6. Revise and close loopholes of relevant current laws and regulations (eg the Wildlife Animal Protection Law, the Traditional Chinese Medicine Law, the Chinese Medicine Ordinance, or the Vietnamese Biodiversity Law). This will facilitate an end of captive breeding of big cats for commercial use of their body parts and derivatives in traditional medicine, luxury items or healthcare products.
7. In combination with a policy to prevent breeding on big cat facilities, encourage the owners to improve conditions for existing big cats to alleviate their suffering.
8. Introduce a total ban on the trade of tiger and other big-cat products from any source, including captive-bred specimens.
9. Implement policies restricting big cat breeding in facilities not serving a direct and immediate benefit to big cat conservation through participation in internationally-recognised wild reintroduction programmes.
10. Adequately resource and train the relevant authorities engaged in tackling the illegal wildlife trade. Poachers, traffickers and other offenders implicated in wildlife crimes should be prosecuted to the maximum extent of the law.

## **The governments of South Africa, Thailand, and Laos PDR and other countries with big cat captive breeding facilities should...**

1. Implement policies restricting big cat breeding in facilities not serving a direct and immediate benefit to big cat conservation through participation in internationally recognised, wild reintroduction programmes.
2. Monitor existing captive big cat facilities and corporates involved in trading big cat products. This is necessary to prevent instances of restocking of captive populations from the wild, laundering of wild-caught products into legal stockpiles, conducting illegal exports or misusing export permit systems.
3. Enforce adequate management practices of captive-breeding facilities for big cat species and put controls in place to prevent parts and derivatives from entering commercial trade from or through such facilities.
4. Investigate zoos and places of entertainment holding and/or breeding big cats to determine the role these businesses play in supplying live animals, and their parts and derivatives to the black market. The number of zoos and places of entertainment involved in illicit trade should be recorded, along with the species and numbers held, numbers produced, and destination of sale.
5. Adequately resource and train the relevant authorities engaged in tackling the illegal wildlife trade and prosecute poachers, traffickers and other offenders implicated in wildlife crimes to the maximum extent of the law.
6. Ensure there is uniformity in national and provincial legislation to restrict and regulate the trade in big cat parts and derivatives.



### Furthermore, the governments of...

1. **Laos PDR** should act on their commitment from 2016 to shut down all tiger breeding facilities.
2. **South Africa** should tighten controls on keeping /exporting tigers and preventing their breeding where commercial intent is likely as part of the 2018 recommendation by the Portfolio Committee on Environmental Affairs.

### CITES Parties and Secretariat should...

1. Address weak implementation of CITES Decision 14.69 across countries with captive breeding facilities.
2. Support proposed revisions to Resolution Conf. 12.5 (Rev. CoP17) and the retention of Decision 14.69
3. Support proposed draft decisions with the following amendments in conjunction with draft decisions in CoP18 Doc 17.2:
  - a. Amend draft decision 18.DD to direct the 73<sup>rd</sup> CITES Standing Committee meeting (SC73) and future SC meetings to consider time-bound, country-specific measures
  - b. Amend draft decision 18.EE to specify that missions occur, and reports be submitted to SC73
4. Support draft decisions in CoP18 Doc 71.2 due to the urgency and delays to address these issues.
5. Support the draft decisions in Doc 71.2, which complement decisions in Doc 71.1.



# References

1. IUCN 2019. The IUCN Red List of Threatened Species. Version 2019-1. <http://www.iucnredlist.org>. Downloaded on 23 May 2019
2. Environment Investigation Agency. THE LION'S SHARE: South Africa's trade exacerbates demand for tiger parts and derivative. Environment Investigation Agency; 2017 Jul.
3. Williams V, Newton D, Loveridge A, Macdonald D. Bones of contention: An assessment of the South African trade in African Lion (*Panthero Leo*) bones and other body parts. TRAFFIC and WildCRU; 2015 Jul.
4. EMS Foundation. The Extinction Business: South Africa's "Lion" Bone Trade. EMA Foundation and Ban Animal Trading; 2018 Jul.
5. World Animal Protection. Uncovering a secret slaughter: Suriname's jaguar trade exposed. World Animal Protection; 2018 Sep.
6. Outhwaite W. The Legal and Illegal Trade in African Lions [Internet]. TRAFFIC; 2018 Jun. Available from: <https://cites.org/sites/default/files/eng/com/ac/30/Inf/EAC30-Inf-15x.pdf>
7. IBID
8. Environment Investigation Agency. Cultivating demand: The growing threat of tiger farms. Environment Investigation Agency, Education for Nature Vietnam and Wildlife Friends Foundation; 2017 Nov. 3.
9. Environment Investigation Agency. Hidden in Plain Sight: China's Clandestine Tiger Trade. Environment Investigation Agency; 2013
10. World Animal Protection. Tiger selfies exposed - A portrait of Thailand's entertainment industry [Internet]. World Animal Protection; 2016. Available from: [https://www.worldanimalprotection.org/sites/default/files/int\\_files/tiger\\_selfies\\_exposed\\_a\\_portrait\\_of\\_thailands\\_tiger\\_entertainment\\_industry.pdf](https://www.worldanimalprotection.org/sites/default/files/int_files/tiger_selfies_exposed_a_portrait_of_thailands_tiger_entertainment_industry.pdf)
11. Born Free Foundation. Cash Before Conservation: An overview of the breeding of lions for hunting and bone trade. Born Free Foundation; 2018.
12. Environment Investigation Agency. THE LION'S SHARE: South Africa's trade exacerbates demand for tiger parts and derivative. Environment Investigation Agency; 2017 Jul.
13. World Animal Protection. Tiger selfies exposed - A portrait of Thailand's entertainment industry [Internet]. World Animal Protection; 2016. Available from: [https://www.worldanimalprotection.org/sites/default/files/int\\_files/tiger\\_selfies\\_exposed\\_a\\_portrait\\_of\\_thailands\\_tiger\\_entertainment\\_industry.pdf](https://www.worldanimalprotection.org/sites/default/files/int_files/tiger_selfies_exposed_a_portrait_of_thailands_tiger_entertainment_industry.pdf)
14. IBID
15. Environment Investigation Agency. THE LION'S SHARE: South Africa's trade exacerbates demand for tiger parts and derivative. Environment Investigation Agency; 2017 Jul.
16. Goodrich J, Lynam A, Miquelle D, Wibisono H, Kawanishi K, Pattanavibool A, et al. *Panthera tigris*. The IUCN Red List of Threatened Species 2015 [Internet]. IUCN Red List of Threatened Species; 2015. (e. T15955A50659951). Available from: <https://www.iucnredlist.org/species/15955/50659951>
17. Coghlan ML, Maker G, Crighton E, Haile J, Murray DC, White NE, et al. Combined DNA, toxicological and heavy metal analyses provides an auditing toolkit to improve pharmacovigilance of traditional Chinese medicine (TCM). *Scientific reports*. 2015;5:17475.
18. Moreno R, Meyer N, Olmos M, Hoogesteijn R, Hoogesteijn AL. Causes of jaguar killing in Panama a long term survey using interviews. *CATnews*. 2015 Jul;62.
19. World Animal Protection. Uncovering a secret slaughter: Suriname's jaguar trade exposed. World Animal Protection; 2018 Sep.
20. Environment Investigation Agency. THE LION'S SHARE: South Africa's trade exacerbates demand for tiger parts and derivative. Environment Investigation Agency; 2017 Jul.
21. EMS Foundation. The Extinction Business: South Africa's "Lion" Bone Trade. EMA Foundation and Ban Animal Trading; 2018 Jul.
22. Outhwaite W. The Legal and Illegal Trade in African Lions [Internet]. TRAFFIC; 2018 Jun. Available from: <https://cites.org/sites/default/files/eng/com/ac/30/Inf/EAC30-Inf-15x.pdf>
23. Environment Investigation Agency. THE LION'S SHARE: South Africa's trade exacerbates demand for tiger parts and derivative. Environment Investigation Agency; 2017 Jul.
24. EMS Foundation. The Extinction Business: South Africa's "Lion" Bone Trade. EMA Foundation and Ban Animal Trading; 2018 Jul.
25. Environment Investigation Agency. Hidden in Plain Sight: China's Clandestine Tiger Trade. Environment Investigation Agency; 2013.
26. IBID
27. Outhwaite W. The Legal and Illegal Trade in African Lions [Internet]. TRAFFIC; 2018 Jun. Available from: <https://cites.org/sites/default/files/eng/com/ac/30/Inf/EAC30-Inf-15x.pdf>
28. Williams VL, Loveridge AJ, Newton DJ, Macdonald DW. A roaring trade? The legal trade in *Panthera leo* bones from Africa to East-Southeast Asia. *PLoS one*. 2017;12(10):e0185996.
29. Ammann K. Tiger farming - an industry with a range of profit centers [Internet]. 2014 Mar. Available from: [www.karlamann.com/docs/tiger-farming.docx](http://www.karlamann.com/docs/tiger-farming.docx)
30. Outhwaite W. The Legal and Illegal Trade in African Lions [Internet]. TRAFFIC; 2018 Jun. Available from: <https://cites.org/sites/default/files/eng/com/ac/30/Inf/EAC30-Inf-15x.pdf>
31. Environment Investigation Agency. Hidden in Plain Sight: China's Clandestine Tiger Trade. Environment Investigation Agency; 2013.
32. Livingstone E, Gomez L, Bouhuys J. A review of bear farming and bear trade in Lao People's Democratic Republic. *Global Ecology and Conservation*. 2018;13.
33. Environment Investigation Agency. Hidden in Plain Sight: China's Clandestine Tiger Trade. Environment Investigation Agency; 2013
35. IBID
36. IBID
37. Szokalski MS, Litchfield CA, Foster WK. Enrichment for captive tigers (*Panthera tigris*): current knowledge and future directions. *Applied Animal Behaviour Science*. 2012;139(1-2):1-9.



38. De Rouck M, Kitchener AC, Law G, Nelissen M. A comparative study of the influence of social housing conditions on the behaviour of captive tigers (*Panthera tigris*). *Animal Welfare*. 2005;14(3):229.
39. Born Free Foundation. Cash Before Conservation: An overview of the breeding of lions for hunting and bone trade. Born Free Foundation; 2018.
40. EMS Foundation. The Extinction Business: South Africa's "Lion" Bone Trade. EMA Foundation and Ban Animal Trading; 2018 Jul.
41. Williams V, Newton D, Loveridge A, Macdonald D. Bones of contention: As assessment of the South African trade in African Lion (*Panthero Leo*) bones and other body parts. TRAFFIC and WildCRU; 2015 Jul
42. Environment Investigation Agency. THE LION'S SHARE: South Africa's trade exacerbates demand for tiger parts and derivative. Environment Investigation Agency; 2017 Jul.
43. EMS Foundation. The Extinction Business: South Africa's "Lion" Bone Trade. EMA Foundation and Ban Animal Trading; 2018 Jul.
44. IBID
45. Environment Investigation Agency. THE LION'S SHARE: South Africa's trade exacerbates demand for tiger parts and derivative. Environment Investigation Agency; 2017 Jul.
46. EMS Foundation. The Extinction Business: South Africa's "Lion" Bone Trade. EMA Foundation and Ban Animal Trading; 2018 Jul.
47. Williams V, Newton D, Loveridge A, Macdonald D. Bones of contention: As assessment of the South African trade in African Lion (*Panthero Leo*) bones and other body parts. TRAFFIC and WildCRU; 2015 Jul.
48. IBID
49. IBID
50. Bensky D, Clavey S, Stöger E (2004) *Chinese Herbal Medicine Materia Medica*, 3<sup>rd</sup> edition. Seattle, Eastland Press.
51. <sup>[2]</sup> Chen, J., Chen, T. (2001) *Chinese Medical Herbology and Pharmacology*. City of Industry, Art of Medicine Press.
52. Pīnyīn (拼音) literally means combine sounds into syllables or phoneticize. This is one of two ways to Romanize Chinese characters, that is to render the character into letters. For example, the Chinese medicinal substance on which this monograph is based is 穿山甲, and can be Romanized as chuān shān jiǎ in the Pīnyīn system.
53. Gratwicke B, Mills J, Dutton A, Gabriel G, Long B, Seidensticker J, et al. Attitudes toward consumption and conservation of tigers in China. *PloS one*. 2008;3(7):e2544.
54. Biggs D, Courchamp F, Martin R, Possingham HP. Legal trade of Africa's rhino horns. *Science*. 2013;339(6123):1038-1039.
55. IUCN, SSC, Suli, CEESP, Cooney R, Kasterine A, et al. The trade in wildlife: A framework to improve biodiversity and livelihood outcomes [Internet]. International Trade Center; 2015. Available from: <https://portals.iucn.org/library/sites/library/files/documents/2015-014.pdf>
56. Tensen L. Under what circumstances can wildlife farming benefit species conservation? *Global Ecology and Conservation*. 2016;6:286-298.

# Appendix I – Methods

## Study A – Chinese public attitudes to the consumption of big cat products (Commissioned to Dataway)

This study aimed to understand the public's perceptions, attitudes, and consumer behaviours towards big cat products, to prepare for the later development of targeted propaganda activities and promote the protection of big cats.

A total of 1,200 respondents were surveyed across eight cities in China: Guilin, Harbin, Beijing, Shanghai, Guangzhou, Chengdu, Changsha, and Haikou. These cities were selected because of their concentrated consumption of big cat products.

The cities were determined by querying previous results of Dataway's research on wild animal consumption, combined with the distribution of tiger breeding facilities and product distribution centres across the country. These cities include three first-tier cities, located in North China, East China, South China, West China, and Central China, and the home cities of two large-scale tiger breeding facilities – Guilin and Harbin.

The quota sample size for the number of respondents in each city was N=150. Both rural and urban areas of each city were sampled.

The study was conducted in two sub-sections: attitudes of the general public and attitudes of actual consumers. To sample the general public, interception interviews were held in public areas with large amounts of pedestrian traffic flow. Every sixth person that passed the investigator was intercepted and approached with a pre-written, structured questionnaire. If the person did not accept the interview, the following person was asked, and so forth.

Focus group forums were used to gather information from members of the public who had previously consumed big cat products, referred to as 'actual consumers'. Guided by a professional moderator, open discussions were carried out between 6-8 participants, focussing on relevant topics, according to a prepared outline.

Data was exported from a database into excel and SPSS 13.0, which was used for statistical analysis of the data.

## Study B – Attitudes of Chinese and Vietnamese people towards traditional Asian medicine and herbal alternatives

(Unpublished study supported by World Animal Protection)

This study aimed to understand consumer attitudes towards the use of traditional Asian medicine products containing animal parts, and their knowledge and perceptions of herbal alternatives.

2,000 respondents (1,000 Vietnamese and 1,000 Chinese) were surveyed online. Interviews were conducted from 31/08/18 to 17/09/18.

## Study C – Availability of big cat products globally

World Animal Protection commissioned external investigators to visit traditional medicine shops in six locations across four countries:

- Osaka and Tokyo (Japan)
- Toronto (Canada)
- New York and San Francisco (USA)
- London (UK)

Four investigators were used to conduct the survey (one in each country). Each investigator was of Chinese nationality with Chinese language fluency, but held local residency in each respective country.

The number of shops sampled in each location differed:

- Tokyo (Japan), N= 5
- Osaka (Japan), N= 7
- Toronto (Canada), N= 25
- New York (USA), N= 44
- San Francisco (USA), N= 33
- London (UK), N = 20

The exact method used to determine which shops were surveyed, differed between each location:

**Japan:** A list of shops was taken from the Japanese traditional medicine association website. Google Maps and Google Earth were used to check whether shops still existed. Shops were then randomly selected from this short list. The method of random selection is unspecified.

**San Francisco:** Shops were shortlisted using online searches and directories of traditional medicine shops. Shops were then randomly selected from this short list. The method of random selection is unspecified.

**New York:** No information was provided about the selection process.

**Toronto:** Online searches and directories of traditional medicine stores were used in shortlisting shops. Shops were then randomly selected from this short list. The method of random selection is unspecified.

**London:** No information was provided about the selection process.

Once shops had been selected, investigators visited each one and asked for products while posing as buyers. Conversations were recorded covertly using specialist kit, while images of target products were captured using a smart phone. Conversations were steered to gather information about the price and source of the bear products. The investigators did not follow set scripts, but transcripts are available for each of the surveys.



## Study D – Availability of big cat products in South Korea

### (In collaboration with Green Korea United)

This study was done in collaboration with Green Korea United.

Between January and February 2018, 105 shops (randomly selected) across five traditional medicine markets in Korea were surveyed for the availability of big cat products. The markets were:

- Gyeongdong Market (Seoul)
- Moran Market (Seongnam)
- Yakcho Market (Jecheon), Haneuiyak Street (Daejeon)
- Yakryeong Market (Daegu)

The investigators worked in teams of two surveyors posing as customers. If no big cat products were available, the investigators asked the vendors if they could mediate the trade. Information was gathered about the products on sale and the products that vendors were claiming to mediate. This information included the price, the origin of the products, the year of production, the type of products, and the timing of mediation.

## Study E – Spot check on available products at a prominent, publicly accessible tiger breeding facility in China

Researchers visited a publicly accessible breeding facility in China, which is predominantly an entertainment venue that houses a range of wildlife species. These included more than 1,000 tigers: Siberian South China, Bengal and white. There were also more than 400 black bears, 250 African lions, and 100 kinds of rare wild animals such as leopards, deer, cranes, birds, snakes, turtles, crocodiles and monkeys.

The researchers collected data on the availability of wildlife products (traditional Asian medicine and other consumables) at the park. They also video recorded park staff selling tiger products in the wine shop beside the venue entrance. Investigators also visited nearby supermarkets, pharmacies, farmers' markets, health product shops, wholesale markets, speciality shops and retail stores close to the venue.

## Study F – Vietnamese public attitudes to the consumption of big cat products

### (Commissioned to Indochina Research)

The study aimed to gain a better understanding on the scale of the Vietnamese market and demand for big cat products. A total of 705 individuals, categorised as 'general population' or 'big cat consumers' were interviewed about their behaviours and preferences.

A total of 705 adults resident in five cities in Vietnam were interviewed in person, from 07/05/2018 – 2/06/2018. The interview questionnaire was presented on Tablet via SurveyToGo offline application.

The respondents were classified in two main groups:

- the general population sample (main sample): 600 respondents recruited by door-to-door random sampling approach with quota on gender, age group and income to be representative of the urban population of five key cities in Vietnam.
- consumers of big-cat products sample (booster sample): an additional 105 respondents who have used or bought any kinds of big-cat products for health-related purpose in the last five years were recruited by purposive sampling method.

Respondents were also categorised in to five consumer types:

- User: n=135 (in the general population sample), incidence of people who have bought or used any kind of big cat products, including medicine, general health care products, meat, jewellery, fur, decoration
- Consumer: n=225 (120 in the general population sample and 105 in the booster sample), people who have ever bought or used big cat medicine or general health care products
- Non-consumer: n=480 (in the general population sample), people who have never bought or used big cat medicine or general health care product
- Recent consumer: n=92 (in the general population sample and the booster sample), consumers who have bought or used big cat medicine or general health care product in the last year.
- Frequent consumer: n=104 (in the general population sample and the booster sample), consumers who have bought or used big cat medicine or general health care product at least four times a year.

## Study G – Investigating lion bone trade practices in South Africa

This research investigated the lion bone trade and its connection to captive lion breeding in South Africa. It included details regarding the trade chain involved and indications of illicit trade parallel to the legal trade permitted under current South African laws.

The study is based on two primary sources of information: interviews and open source desktop research.

Interviews were conducted with a range of sources knowledgeable on the subject matter. Most sources remain anonymous, but include the following:

four breeders currently involved in captive lion breeding

four sources connected to the South African government, these were:

- a senior official in the Department of Environmental Affairs (DEA)
- a consultant hired by the DEA
- a senior customs official involved in anti-smuggling work
- a police official with several years of service in anti-poaching and anti-smuggling divisions of the police.
- an official with the South African Society for the Prevention of Cruelty to Animals
- a Chinese dealer in lion bone products based in Hong Kong
- a Chinese customs and law enforcement agent based in Hong Kong.

Open source research included perusal of technical reports, briefings and relevant media articles.

## Study H – International online trade and Chinese retail trade of big cat products in Special Administrative Regions (SARs) Hong Kong, Macau and Taiwan of China

This 2018 study researched key international internet trade platforms, Chinese internet trade platforms and traditional Asian medicine retail shops in SARs Hong Kong, Macau and Taiwan of China for presence of big cat products.

The investigator approached selected traditional Asian medicine stores with a prescription from a traditional Asian medicine practitioner (from 10 years ago) for a medical remedy for broken bones. Tiger bone is listed on the prescription. The investigator asked vendors and pharmacists in traditional Asian medicine retail shops to provide all ingredients listed on the prescription. The investigator claimed the medicine was for a grandparent suffering with a rib pain.

A total of 65 TM stores were investigated across three locations:

- Taipei, N = 20
- Hong Kong, N = 30
- Macau, N = 15

## Study I – Conditions at big cat breeding facilities in China

During August and September 2018, three prominent big cat breeding facilities were visited. All facilities were open to public visitors and conditions for the housed animals were documented. Google Earth imagery of the layout and size of facility was also reviewed to gain further insight into the condition for animals at those facilities.



**We are** World Animal Protection.

**We end** the needless suffering of animals.

**We influence** decision makers to put animals on the global agenda.

**We help** the world see how important animals are to all of us.

**We inspire** people to change animals' lives for the better.

**We move** the world to protect animals.

## Contact us

### World Animal Protection

222 Grays Inn Road, London, WC1X 8HB

T: +44 (0) 7239 0500

F: +44 (0) 7239 0654

E: [info@worldanimalprotection.org](mailto:info@worldanimalprotection.org)

**Web** [worldanimalprotection.org](http://worldanimalprotection.org)

**Fb**/[WorldAnimalProtectionInt](https://www.facebook.com/WorldAnimalProtectionInt)

**Tw**/[@MoveTheWorld](https://twitter.com/MoveTheWorld)