

Wildlife

Investing in Extinction

How the global financial sector profits from traditional medicine firms using threatened species

October 2023



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ABOUT EIA

We investigate and campaign against environmental crime and abuse.

Our undercover investigations expose transnational wildlife crime, with a focus on elephants, pangolins and tigers, and forest crimes such as illegal logging and deforestation for cash crops such as palm oil. We work to safeguard global marine ecosystems by addressing the threats posed by plastic pollution, bycatch and commercial exploitation of whales, dolphins and porpoises. Finally, we work to avert climate catastrophe by strengthening and enforcing regional and international agreements that tackle short-lived climate super-pollutants, including ozone-depleting substances, hydrofluorocarbons and methane, and advocating corporate and policy measures to promote transition to a sustainable cooling sector and away from fossil fuels.

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Front cover: Of the eight pangolin species, three are critically endangered, three are endangered, and two are vulnerable

Above: Three of the five extant species of rhino are critically endangered

CONTENTS

Executive Summary	4
Background	6
Leopards and pangolins in crisis	8
Protection from trade - the CITES context	9
China's law and policy – enabling continued exploitation	12
China's amended Wildlife Protection Law	14
TCM products containing leopard, pangolin, tiger and rhino	15
Foreign investors linked to pangolin and leopard TCM products	17
Responses by investors	24
Investor commitments	25
Norges Bank – setting a precedent	27
Change and challenges to the TCM status quo	28
Recommendations	31
Appendix I - List of all products documented as stated to contain leopard, pangolin, tiger and rhino	32
References	38



Executive Summary

Leopards and pangolins are threatened with extinction and are among the most trafficked mammals on the planet.

The two species are listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which prohibits international commercial trade in them, their parts and derivatives.

Additionally, CITES has recommended voluntary internal trade prohibitions for leopards since 2002 and the closure of domestic commercial markets contributing to poaching or illegal trade of leopards since 2019 and pangolins since February 2023.

However, EIA's research, conducted over the past two years, reveals the continued online availability of at least 88 traditional Chinese medicine (TCM) products stated to contain leopard, pangolin and, in a few cases, tiger and

rhino, manufactured by 72 Chinese companies which have been licensed by the National Medical Products Administration of China.

EIA found no publicly available or verifiable information on the source of the leopard, pangolin, tiger or rhino derivatives being used in the medicinal products identified in this report. In the case of leopards, given that they are not known to be bred in captivity at scale, the small population in China and the CITES ban on international commercial trade since 1975, it is unclear how procurement for these products can be met through legal supplies. The availability of legally licensed products containing tiger and rhino appears to contradict not just CITES recommendations, but China's own stated position that it does not allow use of tiger bone and rhino horn in medicine.

Furthermore, EIA has discovered that 62 banks and financial institutions – many of which are Fortune 500 companies and household names – based in Australia, Canada, the EU, Japan, Switzerland, the UK and the USA have invested in three major Chinese pharmaceutical groups which manufacture nine products stated to contain leopard and/or pangolin.

Many of the investors named in this report are signatories to the Principles for Responsible Investment or are members of the International Corporate Governance Network (ICGN) which has publicly expressed concerns about biodiversity loss and species extinctions.

Some are members of The Royal Foundation's United for Wildlife Financial Taskforce, founded in 2018 to stop trafficking of wildlife, and the senior representatives of some are members of the Taskforce on Nature-related Financial Disclosures as well.

Despite much publicity around the financial sector's support for biodiversity conservation, particularly at the 15th Conference of the Parties to the Convention on Biological Diversity, concrete commitments remain

few and, even where they exist, do not seem to prevent investment in companies which use and market products containing threatened species.

Among other recommendations in this report, we strongly urge stakeholders in the financial sector to publicly commit not to invest in companies that use and market products containing threatened wild animals, to screen their investments for this threat to biodiversity and to divest themselves of such shareholdings when it comes to their notice.

We also strongly urge the Government of China to fulfil CITES recommendations, amend legislation and prohibit the use of leopards, pangolins, tigers and rhinos for all commercial purposes.

Above: Leopards are vulnerable to extinction and Asian leopards have disappeared from 85 per cent of their range



Background

In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) declared nature to be declining at accelerating and unprecedented rates, with approximately one million species of animals and plants now threatened with extinction.¹

The growth and interconnectivity of global trade networks² and the emergence of the COVID-19 pandemic in 2020 have shone a light on the biosecurity and public health implications of the wildlife trade,^{3,4} underscoring the need for coordinated responses to address the interfaces between biodiversity and the health of humans, animals and the environment.⁵

In recent years, there has been increasing recognition that business and financing practices can negatively impact upon biodiversity, sustainability and climate change⁶ and the finance sector has begun to address

biodiversity loss as presenting a number of risks to financial investment.^{7,8} In December 2022, against the backdrop of the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD CoP15), which was chaired by China, 150 financial institutions – from across the investment industry and responsible for more than \$24 trillion in assets under management – came together to highlight the role of financing and investment in the protection and restoration of biodiversity and called on governments to align all economic actors in delivering nature-based solutions to sustainable development challenges.^{9,10} The Conference resulted in the adoption of the historic

Kunming-Montreal Global Biodiversity Framework to tackle biodiversity loss and ecosystem declines, which contains provisions to enable businesses, including large transnational companies and financial institutions, to support biodiversity recovery and sustainability measures.¹¹

Despite these laudable efforts, our research reveals that international financial service providers – including banks, insurance companies, pension funds and asset managers – are invested in Chinese company groups which produce traditional Chinese medicine (TCM) products containing parts of endangered and threatened species in the form of leopard bones and pangolin scales. These medicines are available from online platforms which are accessible from outside China.

Building on our previous research on the availability of leopard and pangolin products in China, published in *A Bitter Pill to Swallow* (2020) and *Smoke and Mirrors* (2020) respectively, this report documents the continued availability of these products, the companies making them and the foreign investors in the publicly listed companies involved.

“The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.” - IPBES Chair, 2019¹²

Above: Tigers are endangered and are now functionally extinct in Cambodia, Vietnam and Laos

Leopards and pangolins in crisis

Leopards

Asian big cats, i.e., tigers (*Panthera tigris*), Asian leopards (*Panthera pardus*), snow leopards (*Uncia uncia*), mainland clouded leopards (*Neofelis nebulosa*), Sunda clouded leopards (*Neofelis diardi*) and Asiatic lions (*Panthera leo leo*), are all listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which protects them from international commercial trade. However, their populations are currently decreasing^{13,14,15,16} and they remain threatened by habitat loss and poaching for their body parts.^{17,18}

The International Union for Conservation of Nature (IUCN) assesses that leopard populations in both Africa and Asia are 'vulnerable' and anticipates future population declines,¹⁹ while leopards in Asia have disappeared from 85 per cent of their range.²⁰ Of nine leopard subspecies, the Indian leopard (*Panthera pardus fusca*) is the largest leopard population outside of Africa and the largest within continental Asia,²¹ yet records of poaching and illegal trade show that leopards are also the most frequently poached and seized big cat within India.²²

Across South-East Asia, leopards face a precarious existence and there are indications of growing demand for leopard bone in China and Vietnam.^{23,24} The Indochinese leopard (*Panthera pardus ssp. delacouri*) is assessed as critically endangered (facing a very high risk of extinction in the wild). With the recent news that they have been extirpated in the wild in Cambodia as well as Laos and Vietnam²⁵ the estimated population of Indochinese leopards has declined to between 68 and 674 mature individuals as of 2018.²⁶ Indonesia's Javan leopard (*Panthera pardus ssp. melas*) is also endangered and numbers an estimated 319 mature individuals in the wild.²⁷ The Sri Lankan leopard (*Panthera pardus ssp. kotiya*) is considered vulnerable and its population extends up to 777 mature individuals.²⁸ In 2017, based on several previous studies, researchers estimated a total population of 174-348 leopards in both confirmed and potential locations in China.²⁹

Pangolins

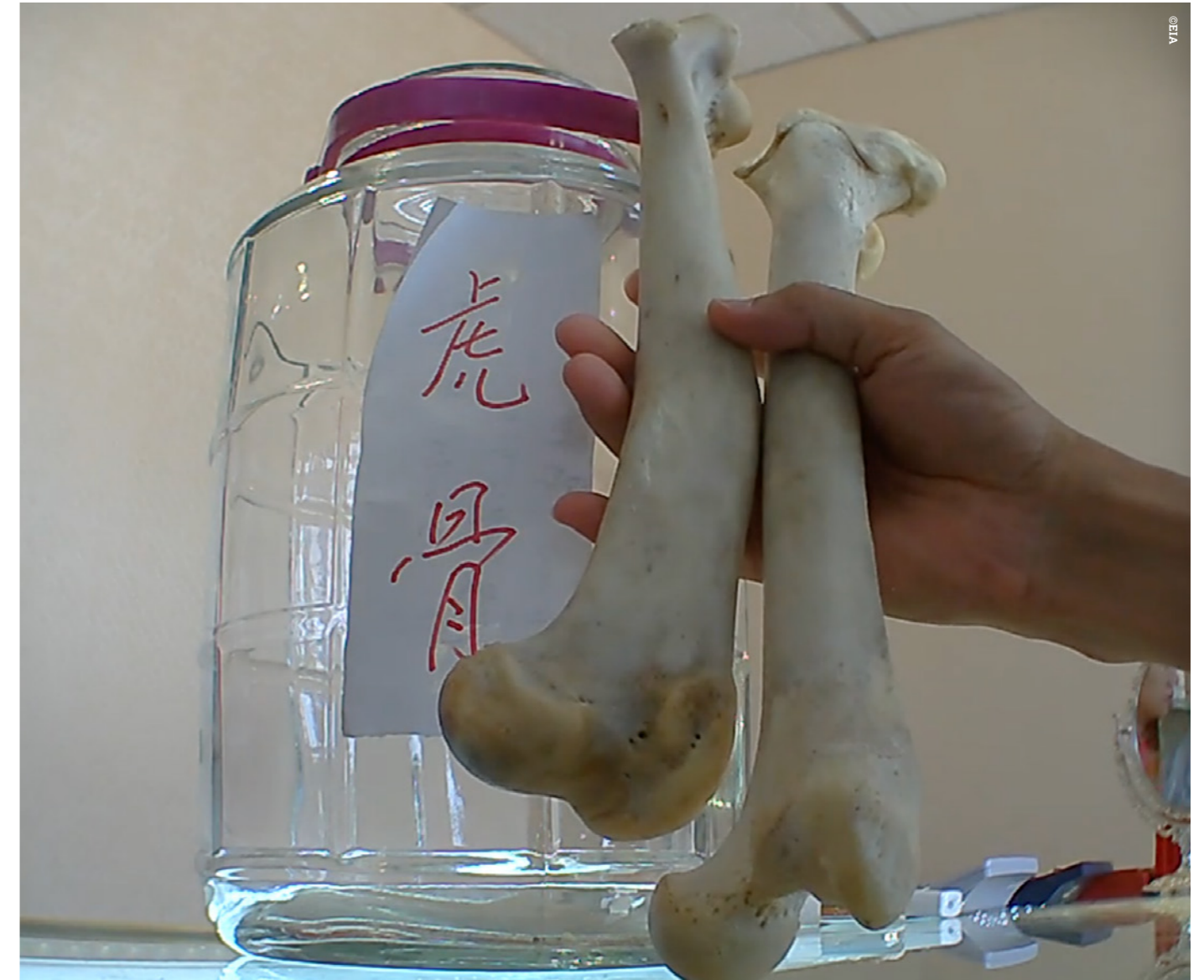
Pangolin populations are in decline globally.³⁰ The IUCN now assesses three Asian pangolin species as critically endangered – the Sunda pangolin (*Manis javanica*),³¹ the Philippine pangolin (*Manis culionensis*)³² and the Chinese pangolin (*Manis pentadactyla*).³³ Key drivers and facilitators of overexploitation of Asian pangolins include the high value of pangolin parts and derivatives from local to international levels, governance and law enforcement challenges^{34,35,36,37} and, in China, the legal and illegal use of Chinese pangolin derivations in traditional medicine.³⁸ Meanwhile, the endangered Indian pangolin (*Manis crassicaudata*) has become increasingly targeted following the declines in



populations of other Asian pangolin species.³⁹

African pangolins are also increasingly threatened by demand from consumer markets in Asia. In Africa's Congo Basin, traffickers have exploited existing supply chains for subsistence and traditional medicine,⁴⁰ while pangolin scales from West, Central and East Africa have been trafficked on an industrial scale into China. The giant ground pangolin (*Smutsia gigantea*)⁴¹ and the white-bellied pangolin (*Phataginus tricuspis*)⁴² have been particularly targeted and are now classified as endangered. There is evidence of increased trade to Asia of Temminck's pangolin (*Smutsia temmincki*), which is classified as vulnerable,⁴³ and, more recently, also the black-bellied pangolin (*Phataginus tetradactyla*).⁴⁴ Habitat loss, including from mining and logging, pose further threats⁴⁵ and, furthermore, Chinese investment in West and Central Africa and the promotion of China's Belt and Road Initiative are seen as factors which are relevant to increased trafficking and demand for pangolins and their parts.^{46,47}

Above: Leopards and pangolins are amongst the most trafficked mammals on the planet



Protection from trade – the CITES context

Asian big cats

In 1975, the international community recognised the threats facing leopards and listed them on Appendix I of CITES,⁴⁸ thereby prohibiting international commercial trade in the species and its parts and derivatives. By 1987, all Asian big cat species were similarly protected from international trade through CITES Appendix I listings.⁴⁹

As early as 1994, CITES adopted a recommendation urging Parties to voluntarily prohibit internal trade in parts, derivatives and products of tigers and called on both Parties and non-Parties to consolidate, control and, where possible, destroy stocks of tiger parts and derivatives.⁵⁰ In 2002, these recommendations were extended to cover all Appendix I Asian big cats.⁵¹ In 2007, Parties adopted a Decision that tigers should not be bred for trade in their parts and derivatives and the summary record for the meeting documents Parties' intention that this should apply not just to international trade.⁵² Since 2019, Parties with legal domestic markets for Asian big cats which are contributing to poaching or illegal

trade have been urged to take all necessary legislative, regulatory and enforcement measures to close such domestic commercial markets.⁵³ CITES Decision 18.105, also adopted in 2019, called on Parties to take serious consideration of concerns regarding illegal trade in leopard parts and derivatives.⁵⁴

The Parties to CITES have noted their concern regarding the use of medicines and products containing Asian big cat parts and derivatives.⁵⁵ CITES recommends a range of measures for Asian big cat consumer states to take, including working with traditional medicine communities and industries to reduce and eliminate the use of Asian big cat parts and derivatives, the removal of references to parts and derivatives from the official pharmacopoeia and the inclusion of acceptable substitute products which do not endanger other wild species, along with educational measures.⁵⁶

Above: Tigers, leopards, rhinos and pangolins are all listed on Appendix I of CITES (threatened with extinction)

Pangolins

During the 20th century, Asian pangolin scales were legally and illegally traded from across South-East Asia to China for use in TCM.⁵⁷ In 2000, CITES implemented trade controls on Asian pangolin species against the backdrop of trade-induced population declines.⁵⁸ Wild-sourced African pangolins could, however, still be traded and from 2013-17, four African countries – Burundi, Democratic Republic of the Congo, Congo (Brazzaville) and Uganda – legally exported about 13 tonnes of pangolin scales, primarily to China.⁵⁹

In 2016, in response to increasingly unsustainable trade from Africa, all eight global pangolin species were listed on CITES Appendix I and therefore an international commercial trade ban came into effect from January 2017.⁶⁰

In November 2022, at the most recent Conference of the Parties to CITES, China argued that the domestic management and security of markets and stockpiles were beyond the remit of CITES.⁶¹ However, Parties voted to recommend the closure of legal domestic markets for commercial trade in pangolin parts and derivatives that are contributing to poaching or illegal trade.^{62,63} The updated CITES Resolution on pangolins also recommends measures that consumer states of pangolin specimens can take, including the removal of references to pangolin parts and derivatives from the official pharmacopeia, the inclusion of acceptable substitute products that do not endanger other wild species and the introduction of educational programmes.⁶⁴



Rhinos

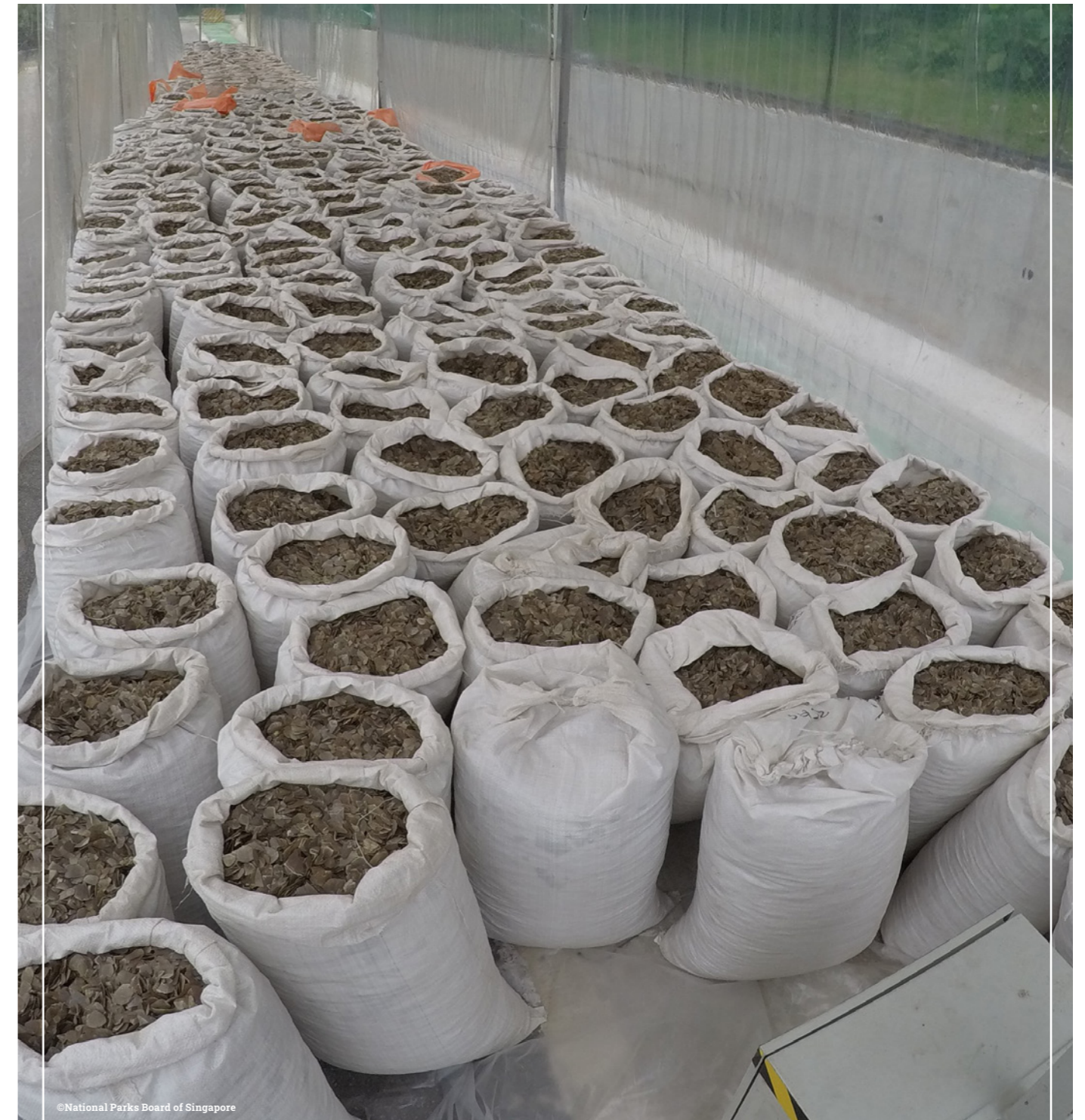
The three Asian rhino species – greater-one horned, Javan and Sumatran – and the northern white rhino were among the first species listed on Appendix I of CITES when the Convention entered into force in 1975.⁶⁵ All rhinos (*Rhinocerotidae*) were added to Appendix I at the first Conference of the Parties in 1976.⁶⁶ The African rhino listings entered into force in 1977 and international commercial trade in rhino horn has been prohibited ever since.

While the southern white rhino populations of Eswatini, Namibia and South Africa have since been transferred to Appendix II, the annotations accompanying the Appendix II listings limit trade to live animals and/or hunting trophies. International commercial trade in rhino horn remains prohibited for all populations of all rhino species.⁶⁷

The CITES Resolution on rhinos further urges Parties to adopt and implement comprehensive legislation and enforcement controls, including internal trade restrictions, aimed at reducing illegal trade in rhinoceros parts and derivatives, as well as the development and implementation of well-targeted strategies for reducing the use and consumption of rhinoceros parts and derivatives.⁶⁸

Below, left: In 2022, CITES recommended closure of domestic markets which are contributing to poaching and illegal trade of pangolins

Below: CITES recommends comprehensive legislation and enforcement controls, including internal trade restrictions for rhino horns.



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Illegal trade statistics

From 2000 to early August 2023, body parts representing at least 6,585 leopards have been seized globally; at least 6,428 of these leopards were seized in Asian big cat range states,⁶⁹ while tiger and leopard products, including medicines, have been seized globally including in the USA coming from Asia.⁷⁰ During the same time period, at least 416 tonnes of pangolin scales have been seized globally, at least 10 tonnes of rhino horn have been seized⁷¹ and, between January 2000 to June 2022, 3,377 tigers were recorded in illegal

Above: Tonnes of pangolin scales have been seized en-route from Africa to Asia

trade.⁷² There are numerous cases of convergence in the supply chain of the body parts of these species for use in traditional medicines.

However, seizure data represents just a fraction of illegal trade. It has been estimated that about 600,000 pangolins were illegally traded between 2016-19.⁷³ Observations in both physical and digital marketplaces reveal that trade in pangolin, rhino and Asian big cat parts and products persists.⁷⁴



China's law and policy – enabling continued exploitation

In 1993, the Chinese State Council banned use of tiger and rhino parts for import, export, sale, purchase, transport, carrying and use in medicine and the Ministry of Health ordered manufacturers to stop using tiger bone, but permitted the use of leopard bone as a substitute.⁷⁵ Since at least 1994, there have been reports of leopard bone in packaged TCM products in China,⁷⁶ while tiger bones continued to be informally used, including in tonics.⁷⁷

Since 2003, the Chinese authorities have operated a 'special marking' scheme bearing the China National Wildlife Mark (CNWM) to label, authorise and regulate legal trade in products containing parts of protected species and this scheme applies to leopards⁷⁸ and pangolins.⁷⁹ EIA investigations have revealed that the

CNWM marking scheme and its oversight are inefficient and subject to abuse, showing that traders fraudulently re-use official permits and that wine and medicinal products claiming to contain leopard bone are sold without visible Government-approved labels.^{80,81} A 2022 study on the availability of pangolin products advertised

online reported that only nine per cent of the Chinese-language advertisements displayed CNWM markings.⁸²

Chinese Government regulations issued in March 2006 ordered that pharmaceutical manufacturers could use only existing stocks of leopard bone for medicines meant for human consumption and could not source any new stocks, while manufacturers of leopard bone plasters were ordered to stop making them.^{83,84} However, in 2014 the Government approved a brand of leopard bone wine as "intangible cultural heritage".⁸⁵ In 2018, despite an outcry over the source of leopard bone used in mass-market medicinal wine, central Government authorities permitted wine manufacturer Hongmao Pharmaceutical to purchase 1.23 tonnes of leopard bone for use in the production of Chinese medicine products, but without publicly verifiable proof of legal origin of the bone.^{86,87,88}

Outside China, seizure records show that leopards continue to be detected in illegal trade in high numbers,⁸⁹ with China as a major destination. Given that leopards are not known to be bred in captivity at scale, the small population of leopards within China and the CITES ban on international commercial trade, it is unclear how continued procurement for TCM products can be met through legal supplies. The lack of publicly available

information on the size, source and usage of China's leopard bone stockpiles raises legitimate questions as to the legality of the source of leopard derivatives used in TCM products.

Research has revealed persistent loopholes and regulatory weaknesses in China's medicinal pangolin trade. Reports suggest that illegally sourced pangolin scales enter the legal TCM market,⁹⁰ along with instances in which pangolin scales have been sold without the required legal markings,⁹¹ and other instances in which hospitals with permits have sold also illegal products.⁹²

Furthermore, during the course of EIA's investigations into the sourcing of African pangolin scales for Chinese medicine, an insider pointed towards the existence of "established smuggling channels" for pangolin scales into China and alleged that some companies licenced to use pangolin scale stockpiles "constantly recycle" labels they have been issued and do not declare all the stock they hold.⁹³

Above: Continued legal trade sends mixed messages to consumers, and fuels demand for parts and derivatives of threatened species

China's amended Wildlife Protection Law

In May 2023, China's amended Wildlife Protection Law came into effect. Despite CITES recommendations to close legal domestic markets which are contributing to poaching and illegal trade of tigers, leopards and pangolins, and to adopt internal trade restrictions on rhino parts and derivatives, the amended law retains previous exemptions that enable the breeding and utilisation of these and other species which are under Special State Protection.

The amended law does ban trade in most wild animals for consumption as food and improve the scope for law enforcement and the protection and restoration of important ecosystems. However, it provides for permissions to be issued for species under Special State Protection to be bred, traded and utilised for captive breeding (which the law seems to treat as an end in itself), public exhibition and shows, cultural relics



protection and other undefined special circumstances. The lack of clear definitions for key terms such as "utilisation", coupled with the exemption for "other special circumstances", provide scope for species with the highest level of protection to be bred and utilised for any potential purpose.⁹⁴

Above: The existence of a major legal market presents opportunities to launder illegal parts and obstacles to enforcement

Endangered and threatened species in TCM

Tiger bone 虎骨: *Os tigris* in TCM standards, used to "dispel wind", for strengthening sinews and bones, and for pain relief,⁹⁵ including for rheumatic pain.⁹⁶

Leopard bone 豹骨: *Os pardii* in TCM standards, used as a substitute for tiger bone, and used in plasters^{97,98} and pills.⁹⁹ As the Pharmacopeia does not include *Os pardii*, medical standard regulations in China stipulate that provincial standards are to be used as reference. While the majority of standards state that *Os pardii* should come from

the leopard,¹⁰⁰ some provincial standards include snow leopard and clouded leopard as source species.¹⁰¹

Pangolin scales 穿山甲甲片: *Squama manis* in TCM standards, to assist with blood circulation, to promote human lactation and treat rheumatism.^{102,103}

Rhino horn 犀角: *Cornu rhinoceri asiatici* in TCM standards, used for its perceived cooling effect to reduce fevers and detoxify the body.¹⁰⁴

TCM products containing leopard, pangolin, tiger and rhino

In 2019 and 2020, EIA researched the availability of leopard and pangolin TCM products in China, publishing the findings in *A Bitter Pill to Swallow* (2020) and *Smoke and Mirrors* (2020). In 2023, we reviewed the NMPA permit numbers documented during earlier research and verified whether or not the products were still available on the associated manufacturer websites or on third party websites. While the focus was on leopard and pangolin, we were surprised to find products stated to contain rhino and tiger.

In all, we documented a minimum of 88 products stated to contain pangolin, leopard and, in a few cases, tiger bone and rhino horn, which are licensed by the National Medical Products Administration (NMPA) of China for manufacture by 72 Chinese companies. A full list of these products is available in the Appendix to this report. We found one product for which the NMPA appeared to be present but was not clearly legible and this product is included in Table 1a on page 18 but has not been included in the total of 88.

From the total, 48 products were stated to contain pangolin, of which one was stated to contain pangolin along with tiger bone and rhino horn. A further 32 products were stated to contain leopard bone. Five more products were stated to contain both leopard and pangolin, including one product for which the manufacturer website listed only leopard, but for which a third party site listed both leopard and pangolin. One more product was stated to contain pangolin on one website and leopard on another. Two more products were stated to contain tiger bone and rhino horn, rather than leopard or pangolin.

Review of the prevalence of the products across different websites revealed that 47 of the 88 products were shown on manufacturer websites. This includes the two tiger bone and rhino products and the pangolin product with tiger bone and rhino horn. Of the 47, 26 products were also shown on third party websites. The remaining 41 leopard or pangolin products were found solely on third party rather than manufacturer websites.

One of the products – named Jian Bu Qiang Shen Wan / 健步强身丸 with NMPA permit number Z11020137 – has previously been purchased in Australia and found to contain snow leopard DNA.^{105,106} The manufacturer website still lists leopard bone as an ingredient. Export of a product containing leopard or snow leopard bone without relevant permits is a contravention of CITES and permits cannot be granted where the trade is for primarily commercial purposes.

We identified only one instance in which a third party website carried a warning that the product shown was banned. Among the 72 companies identified were

Yunnan Baiyao and subsidiaries of Beijing Tong Ren Tang, signatories to a 2015 pledge to "renounce the use of legally protected plants and animal" parts.¹⁰⁷



Above: Our research documents the availability of at least 86 products stated to contain leopard and/or pangolin



Tiger and rhino TCM products

In 1993, the Chinese State Council banned use of tiger and rhino parts for import, export, sale, purchase, transport, carrying and use in medicine.¹⁰⁸ In October 2018, the Chinese Government sought to repeal the 1993 ban on the use of tiger and rhino parts in TCM and allow the use of farmed tiger bone and rhino horn in “eligible hospitals” through a notice.¹⁰⁹ Following a domestic and international outcry, a State Council spokesperson reportedly stated that the “three strict bans”, including the ban on use in medicine, would continue to be enforced and that detailed regulations for implementation of the 2018 notice had been postponed until after a study.¹¹⁰

EIA expressed concern at the time that these “three strict bans” did not appear in legislation and did not explicitly cover the use of captive-source specimens.¹¹¹ As recently as March 2022 at the 74th meeting of the CITES Standing Committee, China stated it had banned national and international trade in tigers.¹¹² The online display of products with NMPA numbers stated to contain tiger and rhino would appear to contradict not just CITES recommendations on tigers and rhinos but China’s own previously stated position.

Above: Our research documents the availability of at least three products stated to contain tiger and rhino



Foreign investors linked to pangolin and leopard TCM products

Methodology

To profile foreign investment in TCM companies which manufacture products listing leopards and pangolins as ingredients, we focused on the following three TCM groups which have publicly listed and traded subsidiaries and also display at least one pangolin or leopard product on their own websites:

1. the Beijing Tong Ren Tang group, which produces at least five medicinal products listing leopard as an ingredient and one medicinal product listing pangolin as an ingredient
2. the Tianjin Pharmaceutical group, which produces one medicinal product listing leopard as an ingredient and at least one medicinal product listing pangolin as an ingredient
3. the Jilin Aodong Medicine group, which produces one medicinal product listing pangolin as an ingredient.

Two further TCM company groups with publicly listed subsidiaries, the GangYuYuan Chinese Herbal group and Lushang Health group, also appear to be linked to products with NMPA numbers listing leopard or pangolin as ingredients. However, since these products were advertised on third party websites only, they were excluded for the purpose of enquiry. To our knowledge, the companies with products listing tiger and rhino as ingredients did not have publicly listed subsidiaries.


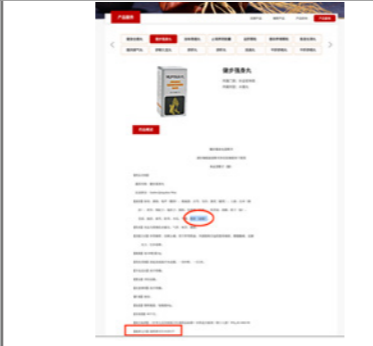


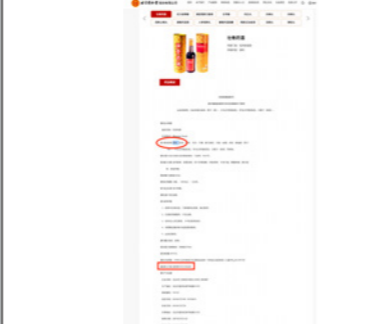
We commissioned a financial intelligence company, Themis, to provide us with shareholding data from Bloomberg for six publicly listed subsidiaries of the above three company groups to get snapshots of the investors for each company. As per the most recent search in April 2023, 62 foreign investors based in seven jurisdictions, i.e., the USA, UK, EU, Switzerland, Canada, Australia and Japan, were identified.

A list of leopard and pangolin products displayed by the three TCM groups is provided in Table 1a on page 18. A list of the foreign investors in the three TCM groups based on Bloomberg data from April 2023 is provided in Table 1b on page 20. This information should be read with the caveat that Bloomberg aggregates data on shareholding and the shareholding patterns may have changed since the filing dates recorded on Bloomberg. The investors are banks, financial service providers, insurance companies, pension funds and asset managers, many of which are Fortune 500 (2022) companies.

EIA corresponded with the investors (except for one whose registration appeared to have been terminated), drawing their attention to the impact of their investments and offering a right to reply prior to publication of this report.

Above: We identified 62 investors based in the USA, UK, EU, Switzerland, Canada, Australia and Japan in three TCM groups displaying leopard and / or pangolin products on their websites

Table 1a: Leopard and pangolin products displayed by three TCM groups with publicly listed subsidiaries

TCM group	NMPA permit number	Indicated to contain	Screenshot of product
Beijing Tong Ren Tang group	Z11020090	Leopard	
Beijing Tong Ren Tang group	Z11020137	Leopard	
Beijing Tong Ren Tang group	Z11020189	Leopard and pangolin	
Beijing Tong Ren Tang group	Z11020295	Pangolin	
Beijing Tong Ren Tang group	Z11020460	Leopard	

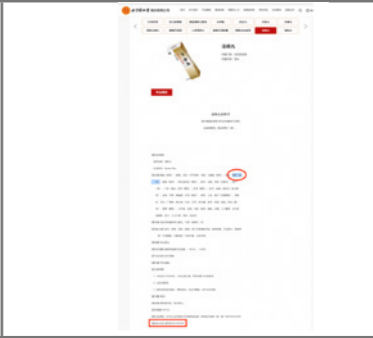



TCM group	NMPA permit number	Indicated to contain	Screenshot of product
Beijing Tong Ren Tang group	Z11020546	Leopard	
Tianjin Pharmaceutical group	Z12020270	Pangolin	
Tianjin Pharmaceutical group	Z12020620 [original entry] [WM visible but NMPA not visible]	Leopard	
Jilin Aodong Medicine group	Z22021227	Pangolin	

Table 1b: Foreign investors as per April 2023 Bloomberg data in three TCM groups displaying leopard and / or pangolin products

Disclaimer: Bloomberg aggregates data on shareholding and the shareholding patterns may have changed since the filing dates recorded on Bloomberg.

Investors	Beijing Tong Ren Tang group	Tianjin Pharmaceutical group	Jilin Aodong Medicine	Responsive	Comments
Abrdn PLC	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Allianz SE	Tong Ren Tang Technologies Co. Ltd. (Hong Kong)			No	
Allspring Global Investments Holding	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
American Century Cos Inc	Tong Ren Tang Technologies Co. Ltd. (Hong Kong) and Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong)			No	
Amundi Asset Management SAS	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
AssetMark Inc	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
AXA SA	Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
Azimut Holding SpA	Tong Ren Tang Technologies (Hong Kong)			No	
Bank of New York Mellon Corp	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
BlackRock Inc	Tong Ren Tang Technologies Co., Ltd. (Hong Kong), Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Singapore)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
BNP Paribas SA	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Casa 4 Funds Lux European Asset	Tong Ren Tang Technologies Co., Ltd. (Hong Kong)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Singapore)		NA	From our best efforts to locate the managers of this fund, we had contacted Link Fund Solutions (Luxembourg) S.A. who absorbed Casa4Funds on 30 September 2021. Link Fund Solutions however communicated that they no longer manage this fund since 2022.
Citigroup Inc	Tong Ren Tang Technologies Co., Ltd. (Hong Kong)			No	
Credit Agricole Group	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Credit Suisse Group AG	Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	Credit Suisse was acquired by UBS in June 2023.
Danske Bank A/S	Beijing Tongrentang Co., Ltd. (Shanghai)			No	

Investors	Beijing Tong Ren Tang group	Tianjin Pharmaceutical group	Jilin Aodong Medicine	Responsive	Comments
Deutsche Bank AG	Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
Dimensional Fund Advisors LP	Tong Ren Tang Technologies Co., Ltd. (Hong Kong), Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd., (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
Dodge & Cox	Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong)			No	
Eaton Vance Corp	Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong)			No	
Federated Hermes Inc	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Fidelity International	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
FlexShares Trust	Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong)			No	This fund appears to be owned by Northern Trust Asset Management.
FMR LLC / Fidelity Investments	Tong Ren Tang Technologies Co., Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd., (Shanghai)			No	
Franklin Resources Inc	Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)		Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	Yes	
FundRock Management Co SA	Beijing Tongrentang Co., Ltd. (Shanghai)		Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
Geode Capital Management LLC	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Global X Management Co LLC	Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	
HSBC Global Asset Management Canada	Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	
HSBC Holdings PLC	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Invesco Ltd	Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
Investeringsforeningen	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
KLP Kapitalforvaltning AS	Beijing Tongrentang Co., Ltd. (Shanghai)			No	

Investors	Beijing Tong Ren Tang group	Tianjin Pharmaceutical group	Jilin Aodong Medicine	Responsive	Comments
Krane Fund Advisors LLC	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
LahiTapiola Asset Management Ltd	Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong)			Yes	Communicated that they have since sold their shares and are no longer invested in Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong).
Lazard Ltd	Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong)			No	
Legal & General Group PLC	Tong Ren Tang Technologies Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)		Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	Yes	
LWI Financial Inc	Tong Ren Tang Technologies (Hong Kong)		Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	We were unable to find a contact for this investor and its registration appears to have been terminated.
Manulife Financial Corp	Tong Ren Tang Technologies Co., Ltd. (Hong Kong), Beijing Tong Ren Tang Chinese Medicine Co., Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd., (Shanghai)		Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	Yes	Communicated that they do not own shares in the Jilin Aodong Medicine Group.
Mediolanum International Funds Ltd	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Mercer Global Investments Management	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Mitsubishi UFJ Financial Group Inc	Tong Ren Tang Technologies Co., Ltd. (Hong Kong)			No	
Northern Trust Corp	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Pictet Funds SA	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Principal Financial Group Inc	Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
Prudential PLC	Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)		Yes	
Robeco Luxembourg SA	Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	Communicated that they have since sold their shares and are no longer invested in Beijing Tongrentang Co., Ltd. (Shanghai).
Royal Bank of Canada	Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	
SEI Investments Co	Tong Ren Tang Technologies Co., Ltd. (Hong Kong)			No	
State Street Corp	Tong Ren Tang Technologies Co. Ltd. (Hong Kong), Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Singapore)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	

Investors	Beijing Tong Ren Tang group	Tianjin Pharmaceutical group	Jilin Aodong Medicine	Responsive	Comments
Sunsuper Fund	Tong Ren Tang Technologies Co. Ltd. (Hong Kong) and Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Singapore)		No	
Swiss Rock Asset Management AG	Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong)			No	
Teachers Insurance & Annuity Association of America	Tong Ren Tang Technologies Co. Ltd. (Hong Kong), Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)			No	
The Charles Schwab Corp	Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)		Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
The Goldman Sachs Group Inc	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
The Vanguard Group Inc	Tong Ren Tang Technologies Co. Ltd. (Hong Kong), Beijing Tong Ren Tang Chinese Medicine Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)	Jilin Aodong Pharmaceutical Group Co. Ltd. (Shenzhen)	No	
Thrivent Financial	Tong Ren Tang Technologies Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)			No	
UBS AG	Tong Ren Tang Technologies Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	
Voya Investment Management LLC	Beijing Tongrentang Co., Ltd. (Shanghai)			No	
Wells Fargo & Co	Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	Communicated that they had sold Wells Fargo Asset Management which held the relevant funds in 2021 and that the firm was now called Allspring Global Investments.
WisdomTree	Tong Ren Tang Technologies Co. Ltd. (Hong Kong) and Beijing Tongrentang Co., Ltd. (Shanghai)	Tianjin Pharmaceutical Da Ren Tang Group Corp. Ltd. (Shanghai)		No	
Zuercher Kantonbank	Beijing Tongrentang Co., Ltd. (Shanghai)			Yes	

Responses by investors

Of the 62 foreign investors identified in April 2023 and contacted by EIA, only 14 responded to our letters. Four of these investors – Link Fund Solutions (Luxembourg) S.A. (former owner of Casa4Funds Lux European Asset), Wells Fargo & Co (former owner of Allspring Global Investments), Robeco Luxembourg S.A. and LahiTapiola Asset Management Ltd – informed us that they had either sold the funds which were invested in the TCM companies or had sold their shares in the companies.

Robeco further informed us that it had brought the issue to the attention of its research provider on environmental, social and governance (ESG) safeguards, and was monitoring the issue but had not taken any action in its exclusion policy.

LahiTapiola Asset Management informed us that it will not hold a stake in Beijing Tong Ren Tang Chinese Medicine Co Ltd (Hong Kong) in the future but clarified that this was due to a change in regional focus of the relevant fund. Link Fund Solutions, Franklin Resources Inc and Manulife Financial Corp were open to further information and discussions about the issue.

Responses from three of the investors – Robeco, Franklin Resources Inc and Prudential PLC – appeared to corroborate what our overall research into ESG policy suggests, i.e., that the development of biodiversity-related ESG policy is at an early stage for most investors and that they may not be aware of the risks posed to threatened species from use in TCM. Franklin Resources Inc indicated it was in the process of developing a biodiversity-related ESG policy and that it was a new priority. Prudential PLC stated it was committed to enhancing its biodiversity-related policy, but did not currently have a dedicated policy on leopard/pangolin-related investments and neither did any peers it was aware of.

Three of the investors – HSBC Global Asset Management Canada, Royal Bank of Canada and Zuercher Kantonbank – stated their investments in the TCM



companies were limited to passive or 'tracker' funds rather than actively managed funds, i.e., where the funds invest in shares based on a linked index (such as the FTSE 100) which they track. HSBC Global Asset Management Canada stated that the inclusion of companies in the tracked index triggers a fiduciary duty for it to invest in shares on behalf of its clients. Similar reasoning was provided by Prudential PLC and Legal & General, although it was not clear from their communication that their investments were limited solely to passive funds. Manulife Financial Corp and UBS also referred to positions held on behalf of clients as reasons for their shareholding.

Above: We received responses from only 14 of the investors we wrote to

Opposite page: Despite much publicity around the issue, the development of concrete biodiversity-related ESG commitments appears to be at a nascent stage for most investors. Meanwhile not only are leopards at risk, but also other species used as a substitute, such as snow leopards and clouded leopards



Investor commitments and statements relevant to biodiversity

In all, 26 of the 62 investors or their related group entities are members of the International Corporate Governance Network¹¹³ which supported biodiversity measures under discussion at CBD CoP15 and furthermore recommended that investors should, *inter alia*, integrate natural capital considerations into "stewardship activities across asset classes, [and] investment decision-making."¹¹⁴

A total of 47 of the 62 investors or their related group entities are signatories to the Principles for Responsible Investment (PRI),¹¹⁵ a UN initiative which aims to support

an international network of signatories in efforts to incorporate ESG considerations into investment decisions.¹¹⁶ In December 2022, CBD CoP15 featured the

first-ever Finance Day¹¹⁷ where businesses and financial institutions supported the call to adopt requirements on biodiversity reporting.¹¹⁸

Senior representatives of identified investors, AXA, Blackrock, BNP Paribas, HSBC and UBS are members of the Taskforce on Nature-related Financial Disclosures (TNFD),¹¹⁹ which followed the Taskforce on Climate-related Financial Disclosures (TCFD) and was launched in 2021 to support a shift in global financial flows toward nature-positive outcomes.¹²⁰ However, in 2022 civil society representatives highlighted that the TNFD framework under development did not require companies to publicly report on the actual and potential harms and impacts from corporate activities to nature and communities, so risked perpetuating greenwashing.¹²¹ Among the identified investors, BNP Paribas, Mitsubishi UFG, Citigroup, Credit Suisse (now acquired by UBS), HSBC, Deutsche Bank and Wells Fargo & Company are also members of United for Wildlife, a group formed to foster collaboration in the private sector to stop trafficking of wildlife products.

Many of the investors include information about their ESG commitments on their websites. While much attention is devoted to climate change and carbon neutrality, most of the investors do not appear to have made, in our opinion, adequate substantive commitments regarding biodiversity protection, particularly regarding investments connected to use or trade of threatened species of wildlife. A number of the investors discuss biodiversity as an emerging issue, noting that there is increasing attention being paid to it or recognising that it is a topic for regulation or disclosures or future ESG commitments.¹²² Where biodiversity is mentioned, it tends to be with a focus on habitats¹²³ rather than in the context of consumption, use or trade of endangered or threatened species.

A few of the investors mention partnerships with conservation organisations or support for conservation programmes. AXA co-developed a report with WWF on how biodiversity loss may be tackled by investors¹²⁴ and states that it had signed a three-year partnership with WWF to tackle biodiversity risks.¹²⁵ Robeco also mentions a partnership with WWF Netherlands and Credit Suisse states that it acted as the sole conservation bond structurer on the World Bank's Wildlife Conservation Bond, or Rhino Bond, raising funds *inter alia* for rhino conservation in South Africa.¹²⁶

Some of the investors have commitments relating to use or trade of threatened species. Citigroup states that no portion of its Citi Social Finance Bond(s) shall be used to support "production or trade in any product ... deemed illegal under... international conventions and agreements or subject to international phase-outs or bans such as wildlife or wildlife products regulates under" CITES.¹²⁷ Mitsubishi UFG states that businesses which violate CITES are defined as "Prohibited Transactions".¹²⁸ Neither Citigroup nor Mitsubishi UFG responded to EIA's effort to engage with them for this report.

Credit Suisse states that it will not finance or provide advice on activities by forestry and agribusiness companies in areas of high conservation value, which



includes a prohibition on harvesting or trading tree species protected under Appendix I of CITES.¹²⁹ It is unclear why this prohibition has not been extended to animal species listed on Appendix I of CITES. UBS, in its reply to us as part of our engagement for this report, stated it will not knowingly provide financial or advisory services to clients whose primary business activity, or where the proposed transaction, is associated with severe environmental or social damage to or through the use of *inter alia* endangered species of wild flora and fauna listed in Appendix I of CITES.

The existence of commitments relating to CITES species indicates that some investors are aware of the risks and threats involved in investing in businesses which use or trade threatened species of wildlife such as pangolins and leopards. In the case of businesses trading Appendix I listed CITES species domestically, verification of legal sourcing of the products should be an essential component of the due diligence checks that an investor conducts before investing in a company. Beyond mere legality, however, and especially when CITES recommends domestic trade prohibitions or restrictions for species, investors who are committed to sustainability should be screening their investments for this risk and disinvesting from businesses using and trading these species.

Above: For businesses trading Appendix I listed CITES species, verification of legal sourcing of the products should be an essential component of the due diligence checks that an investor conducts before investing in a company



Norges Bank – setting a precedent for sustainable investment

In September 2021, Norges Bank – the central bank of the Norwegian Government, which manages one of the world's largest sovereign wealth funds, the Government Pension Fund Global¹³⁰ – announced its Executive Board's decision to exclude four Chinese pharmaceutical companies from its investment portfolio. The decision followed reviews and recommendations from the Council on Ethics for Norges Bank Pension Fund Global to exclude the companies "due to unacceptable risk that the companies contribute to serious environmental damage."¹³¹

The four companies were China Traditional Chinese Medicine Holdings Co Ltd, Tong Ren Tang Technologies Co Ltd, Beijing Tong Ren Tang Chinese Medicine Co Ltd and China Grand Pharmaceutical and Healthcare Holdings Ltd.^{132,133} All four companies have been found to manufacture and market TCM products containing parts from globally threatened animal species – variously, leopard bones, pangolin scales, saiga antelope horn and musk from musk deer.^{134,135,136} The Council further reported that it had considered whether the companies provided details of verification and traceability in purchasing and provenance and transparency in company practices.^{137,138}

In December 2021, Norges Bank announced a further decision to exclude another Chinese pharmaceutical company, Yunnan Baiyao Group Co Ltd, due to its use and sale of pangolin body parts.¹³⁹ Yunnan Baiyao Group Co Ltd did not respond to the Council on Ethics' correspondence and was found to not publish information about its use and sale of body parts from endangered species.¹⁴⁰ It is also one of the companies that signed a 2015 pledge renouncing use of legally protected wildlife.¹⁴¹

In recognising the environmental damage and reputational risk incurred from investing in companies

which manufacture and sell TCM products stated to contain threatened species, Norges Bank has taken laudable steps to align its practices with global biodiversity goals and has sent an unequivocal message in favour of protecting biodiversity and ecosystems.

Despite previous media reporting which named investors with interests linked to TCM companies using threatened species¹⁴² and recent positive signals towards mitigating negative impacts on global biodiversity, financial institutions and service providers can and should do more.

As a first step, investors could review asset portfolios and exclude investments in TCM companies which manufacture and sell products containing threatened species. Furthermore, investors can publicly commit to a moratorium on future investments in TCM companies using and trading threatened species and correspondingly enhance their investment risk screening processes to include indicators related to threatened species in TCM.

Above: By recognising the environmental damage and reputational risk involved in investing in TCM companies using threatened species, Norges Bank has set a positive precedent for the financial sector.



Change and challenges to the TCM status quo

In 2020, the official Chinese Pharmacopeia listed 616 ingredients, of which 98 – fewer than one fifth – were animal-based.¹⁴³ Formal TCM involves regulated medicinal and pharmaceutical practices¹⁴⁴ and can use ingredients not listed in the official Pharmacopeia, along with species which are potentially used as substitutes.¹⁴⁵ The Government of China has promoted the expansion of the TCM industry both domestically and abroad, including as a key pillar of its Belts and Roads Initiative.

In 2019, through a decision which signalled acknowledgment of pluralism in global medical paradigms,^{146,147} the World Health Organisation (WHO)

included TCM in its International Classification of Diseases (ICD) which categorises medical conditions.¹⁴⁸ The ICD inclusion is not an endorsement of treatments¹⁴⁹

and the WHO did not specifically comment on the use of wild animal parts in TCM.¹⁵⁰

Issues around consumer demand and exploitation of species for TCM – and the use of wild animals and plants in medicines more broadly – raise concerns about the impacts of TCM on biodiversity and the survival of species in the wild.^{151,152} For example, some consumers may be unaware that medicinal ingredients might be derived from wild animals,¹⁵³ or unaware about the conservation status of substitute species,¹⁵⁴ whereas other consumers may prefer products which contain wild-harvested ingredients in the belief that these are more effective.^{155,156}

In contrast to the Chinese Government's current position on the use of threatened species, members of the global TCM community and allies have long recognised the need to align TCM with wildlife protection. In 2010, the World Federation of Chinese Medicine Societies urged

its members not to use tiger bone or any other parts from endangered wildlife¹⁵⁷ and Chinese NGOs have since advocated for restrictions on the medicinal use of wild animals.^{158,159} At its 2020 World Congress, the IUCN cautioned that the use of wildlife in traditional medicines had “the capacity to damage biodiversity, in particular those species that are known to be endangered in the IUCN Red List”, and went on to note that national pharmacopoeias had already removed wildlife threatened by trade.¹⁶⁰

In the wake of the COVID-19 pandemic, researchers in China welcoming the ban on the consumption of wildlife for food noted that it was insufficient, given that use for medicine was not covered. Further, they noted that without reform, the traditional medicine industry would continue to present a risk to wildlife.¹⁶¹

In October 2022, the New York College of Traditional Chinese Medicine and Virginia University of Integrative Medicine organised a Conference on Wildlife Protection in TCM to highlight the urgency to protect “endangered species still in use and at risk of extinction” and noted the important role TCM professionals can play in guiding consumer behaviour.¹⁶² The conference was attended by delegates from nearly 20 countries and regions and resulted in a declaration of commitment to “protecting wildlife and not using any endangered wildlife [animal] products in Chinese medicine”, which was signed by 30 acupuncture organisations, Chinese herbal medicine practitioners and educators, Chinese herbal manufactures and other parties.¹⁶³

The TCM Alternatives to Wild Animal Preparations (TAWAP) platform, endorsed by TCM organisations, provides resources for Chinese medicine practitioners to identify plant-based alternatives to wild animal-based preparations, including for pangolin scales (*Chuan shan jia*), tiger bone (*Hu gu*) and deer musk (*She xiang*), deer antlers (*Lu rong*, *Lu jiao*, *Lu kan jiao*, *Lu jiao jiao*, *Lu jiao shuang*) and rhino horn (*Xi jiao*).¹⁶⁴

The scientific community has an important role in shifting medicinal demand away from wild animals, but there remains a need to further broaden the evidence base on plant-origin substitutes. In 2022, an academic review of Chinese scientific journals published between 2001-20 highlighted knowledge gaps around plant-origin substitutes and advocated for further research in order to better inform efforts towards changing consumption.¹⁶⁵

On 29 June 2023, China's State Food and Drug Administration established an expert working group to “provide technical support and recommendations on the formulation of regulatory policies and technical requirements for substitutes for rare and endangered Chinese medicinal materials”.¹⁶⁶ It remains to be seen whether this signals any shift in policy away from using threatened species such as leopards, pangolins, tigers and rhinos in TCM.

Above, left: Only a small percentage of TCM products contain threatened animals, and voices from within the sector have called for change to this practice



Recommendations

To financial service providers:

- Review asset portfolios and exclude investments in TCM companies which manufacture and sell products stated to contain threatened wild animals
- Publish divestment decisions taken on the basis of threats to biodiversity as positive precedents to influence the financial sector's role in halting biodiversity loss
- Publicly commit to a moratorium on future investments in TCM companies that use threatened wild animal species in medicines
- Enhance investment risk screening processes to include indicators related to use of threatened wild animal species in TCM products
- Incorporate due diligence checks to verify legal sourcing of CITES-listed species by businesses utilising them in their products before investment
- Enhance transparency and accountability in commitments and reporting through mechanisms such as the TNFD and TNCD
- Extend biodiversity commitments and exclusion decisions regarding companies whose businesses threaten biodiversity to index linked or passive funds and shares held on behalf of clients

To other finance sector stakeholders:

- For national financial regulators – to publish guidance and require reporting on investments relating to the use of threatened species of wild animals
- For ESG advisors – to include use and trade of threatened species of wild animals in TCM as a topic for research and advice to clients

To the Government of China:

- Further review the Wildlife Protection Law and take measures in the near future to, at a minimum, prohibit domestic commercial trade in the parts and derivatives

of threatened wild animal species, prohibit the captive breeding of threatened species for commercial purposes and extend the ban on consumption of threatened wild animals as food to other forms of consumption, such as medicinal and ornamental use

- As an interim step, urgently issue a State Council order to prohibit the use of parts and derivatives (including from captive sources) of Asian big cats, pangolins and rhinos for any consumptive, medicinal or ornamental use in clear and unambiguous terms.
- Implement and report upon CITES Recommendations and Decisions in effect on conservation and trade in Asian big cats, pangolins and rhinos
- Promote sustainable TCM practices both domestically and abroad, including stipulations for the use of alternatives to medicinal preparations which currently use threatened wild animal species
- Implement measures which enable public oversight and independent verification of the quantity and origin of the wild animal parts (including from captive sources) currently held in stockpiles

To the World Health Organisation:

- Issue a position statement to recommend that traditional medicines should not use threatened wild animal species
- Support efforts to advance and promote sustainable alternatives to medicinal preparations which currently use threatened wild animal species

To academic institutions and researchers:

- Contribute to the evidence base on sustainably sourced plant-origin substitutes for threatened wild animal species materials (including from captive-bred specimens) used in TCM preparations
- Generate robust and evidence-based research to assess the effectiveness of demand-reduction campaigns for threatened wild animal species and inform future policy design

Appendix I: List of TCM products documented as stated to contain leopard, pangolin, tiger and rhino

Product (Chinese)	Product (Romanised)	Company (Chinese)	Company (English)	NMPA permit number	Stated to contain	Product screenshot	Highlighted ingredients
人參再造丸	Renshen zaizao wan [ginseng restoration balls]	吉林一正药业集团有限公司	Jilin Yizheng Pharmaceutical Industry Group Co., Ltd	Z05232206	Leopard		风、制何首乌、川蝎、 豹骨(制) 僵制)、当归、草豆蔻
人參再造丸	Renshen zaizao wan [ginseng restoration balls]	北京同仁堂科技发展股份有限公司制药厂	Beijing Tongrentang Technology Development Co. Ltd Pharmaceutical Factory	Z11020060	Leopard		制)、黄芩、茯苓、赤芍、全蝎、 豹骨(制) 、粉草、白术(麸炒)、当归、草豆蔻、威灵、朱砂、血竭、人工麝香
同仁大活络丸	Tongren da huoluo wan	北京同仁堂股份有限公司同仁堂制药厂	Beijing Tongrentang Company Limited by Shares Tongrentang Pharmaceutical Factory	Z11020090	Leopard		附子(制)、天南星(炙)、 豹骨(制) 附天麻、熟地黄、人工水牛角浓缩粉等50味
健步强身丸	Jian bu qiang shen wan	北京同仁堂股份有限公司同仁堂制药厂	Beijing Tongrentang Company Limited by Shares Tongrentang Pharmaceutical Factory	Z11020137	Leopard		独活、秦艽、 豹骨(油制) 、本品为黑褐苦、微甜
再造丸	Zaizao wan	北京同仁堂股份有限公司同仁堂制药厂	Beijing Tongrentang Company Limited by Shares Tongrentang Pharmaceutical Factory	Z11020189	Leopard and pangolin		穿山甲(制)、豹骨(制) 、川芎、葛根、麻黄、肉桂、芍药、片姜黄、血竭、三七、黄、玄参、黄连、大黄、化附(醋制)、两头尖(醋制)、
利咽灵片	Liyangling Pian	北京同仁堂科技发展股份有限公司制药厂	Beijing Tongrentang Technologies Co. Ltd's Pharmaceutical Factory	Z11020295	Pangolin		子细阅读说明书并份 穿山甲(制) 、玄参。
壮骨药酒	Zhuanggu yaojiu [bone-strengthening medicinal wine]	北京同仁堂股份有限公司同仁堂制药厂	Beijing Tongrentang Company Limited by Shares Tongrentang Pharmaceutical Factory	Z11020460	Leopard		酒、鹿茸、虎骨、没药、骨碎补、白芷、生地黄、熟地黄、白术(麸炒)、粉草、全蝎、 豹骨(制) 、威灵、朱砂、血竭、人工麝香、冰片、体外浓缩粉。
活络丸	Huoluo wan	北京同仁堂股份有限公司同仁堂制药厂	Beijing Tongrentang Company Limited by Shares Tongrentang Pharmaceutical Factory	Z11020546	Leopard		1. 黄、羌活、独活、威灵、骨碎补、白芷、生地黄、熟地黄、白术(麸炒)、粉草、全蝎、 豹骨(油炙) 、威灵、朱砂、血竭、人工麝香、冰片、体外浓缩粉。【性状】本品为薄膜衣片
茴香橘核丸	Huixiang Juhe Wan	北京同仁堂股份有限公司同仁堂制药厂	Beijing Tongrentang Company Limited by Shares Tongrentang Pharmaceutical Factory	Z11020704	Pangolin		青皮(醋炒)、 穿山甲(制) 、本品为黄褐色至辛、苦。治)散寒行气，消肿症见丸坠胀痛
再造丸	Zaizao Wan	北京宝树堂科技有限公司	Beijing Baoshutang Technology Pharmaceutical Co., Ltd	Z11021182	Leopard and pangolin		鹿角、 穿山甲(制) 、虎骨(油炙)、人鹿甲、赤芍、天麻、制何首乌、羌活、独活、威灵、朱砂、血竭、人工麝香、冰片、体外浓缩粉。

Product (Chinese)	Product (Romanised)	Company (Chinese)	Company (English)	NMPA permit number	Stated to contain	Product screenshot	Highlighted ingredients
通络生乳糖浆	Tongluo Shengru Tangjiang	天津中新药业集团股份有限公司隆顺榕制药厂	Jinyao Darentang Group Co., Ltd. Longshunrong Pharmaceutical Factory	Z12020270	Pangolin		瓜络、 穿山甲(醋制) 、味微苦而甜。
京万红痔疮膏	Jingwanhong Zhichuang Gao	天津达仁堂京万红药业有限公司	Tianjin Darentang Jingwanhong Pharmaceutical Industry	Z12020346	Pangolin		(地黄、 穿山甲 、木瓜、栀子、桃仁、苦参、黄柏、槐米、金银花、紫草
生乳汁	Sheng Ru Zhi	河北扁鹊制药有限公司	Hebei Bianque Pharmacy Co., Ltd	Z13020634	Pangolin		、鹿角、 穿山甲(制) 、知母。【性状】本品为棕红色的液体。味甜。
参桂再造丸	Shengui Zaizao Wan	药都制药集团股份有限公司	Yaudu Pharmacy Co., Ltd	Z13020674	Pangolin		(炒)、黄芩(麸炒)、苍术(炒)、 穿山甲(炒) 、关白附(炒)、白芷、天南星(制)【性状】本品为棕色的
生乳汁	Sheng Ru Zhi	药都制药集团股份有限公司	Yaudu Pharmacy Co., Ltd	Z13020685	Pangolin		、党参、 穿山甲(制) 、玄参、川芎、白芍、熟地黄、天麻、白术、茯苓、泽泻、黄芩、甘草、地黄、当归、桃仁、苦杏仁、薏苡仁、骨碎补、白芷、生地黄、熟地黄、白术(麸炒)、粉草、全蝎、 豹骨(制) 、威灵、朱砂、血竭、人工麝香、冰片、体外浓缩粉。
生乳汁	Sheng Ru Zhi	河北金牛原大药业科技有限公司	Hebei Jinniu Yuanda Pharmacy Technology Co., Ltd	Z13021680	Pangolin		【成 份】当归、地、 穿山甲(制) 、知母。【性 状】本品为棕【功能主治】补气养血
龟龄集	Guiling Ji	山西广誉远国药有限公司	Shanxi Guangyuyuan Sinopharm Co., Ltd	Z14020687	Pangolin		穿山甲 、鹿角、天麻、白术、茯苓、泽泻、黄芩、甘草、地黄、当归、桃仁、苦杏仁、薏苡仁、骨碎补、白芷、生地黄、熟地黄、白术(麸炒)、粉草、全蝎、 豹骨(制) 、威灵、朱砂、血竭、人工麝香、冰片、体外浓缩粉。
茴香橘核丸	Huixiang Juhe Wan	太原大宁堂药业有限公司	Taiyuan Daningtang Pharmaceutical Co., Ltd	Z14021044	Pangolin		、橘核80g延胡索(醋20g桃仁16g 穿山甲
茴香橘核丸	Huixiang Juhe Wan	内蒙古天奇中蒙制药有限公司	Inner Mongolia Tianqi Mongolian Medicine Group Co., Ltd	Z15020246	Pangolin		补骨脂20g 肉桂16g 川楝子80g 16g 穿山甲(制) 20g
人參再造丸	Renshen zaizao wan [ginseng restoration balls]	包头中药有限责任公司	Baotou Traditional Chinese Medicine Co., Ltd	Z15021497	Leopard		醋制)、青皮、豆蔻、甘草、黄连、茯苓(炒)、全蝎、 豹骨(制) 、乳香、豆蔻、威灵、乌药、人工麝香、冰片、体外浓缩粉。
正骨膏	Zhenggu Gao	河南华峰制药有限公司	Henan Huafeng Pharmaceutical Co., Ltd	Z19983065	Pangolin		花、降香、五加皮、巴戟天、黄、乳香、 穿山甲 、龙骨、
大活络胶囊	Da huoluo capsules	江西药都樟树制药有限公司	Jiangxi Yaodu Zhangshu Pharmaceutical Co., Ltd	Z19990044	Leopard		骨、肉桂、两头尖、人工麝香、威灵、朱砂、血竭、 豹骨(油制) 、威灵、朱砂、血竭、人工麝香、冰片、体外浓缩粉。
生乳汁	Sheng Ru Zhi	贵州良济药业有限公司	Guizhou Liangji Pharmaceutical Co., Ltd	Z19993249	Pangolin		拼音: Sheng ru zhi、地黄、黄芪(炙)、党参、玄参、麦冬、 穿山甲(制) 、为棕红色的液体。味甜。
威灵骨刺膏	Wei Ling Gu Ci Gao	河北万岁药业有限公司	Hebei Wansui Pharmaceutical Industry Co., Ltd	Z20000038	Pangolin		、防风、骨碎补、白芷、生花、 穿山甲(炮) 、阿胶
雪上花搽剂	Xueshanghua Chaji	株洲康圣堂药业有限公司	Zhuzhou Kangshengtang Pharmaceutical Co., Ltd	Z20020138	Pangolin		穿山甲(炒)
金甲排石胶囊	Jin Jia Pai Shi Jiao Nang	吉林海通制药有限公司	Jilin Haitong Pharmaceutical Co., Ltd	Z20025831	Pangolin)、没药(炒)、赤芍、枳壳、厚朴、 穿山甲(制) 、广
金甲排石胶囊	Jin Jia Pai Shi Jiao Nang	吉林吉春制药有限公司	Jilin Jichun Pharmaceutical Co., Ltd	Z20025832	Pangolin		、角刺、白芷、枳壳、厚朴、 穿山甲(制) 、广
健步丸	Jianbu wan	兰州佛慈制药有限公司	Lanzhou Foci Pharmaceutical Co., Ltd	Z20026260	Leopard		牛膝、 豹骨(制) 、龟

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风湿关节炎片	Fengshi Guanjieyan Wan	河南省奥林特药业有限公司	Henan Aolinte Drug Co.,Ltd	Z20033067	Pangolin		归、苍术、续断、桃 桂枝、穿山甲、木瓜 三风湿痹痛、腰腿疼痛
麝香脑脉康胶囊	Shexiang Nao Mai Kang Jiaonang	哈尔滨圣泰生物制药有限公司	Harbin Shengtai Biopharmaceutical Co., Ltd	Z20040131	Pangolin		参、地龙、穿山甲、川芎
抗栓胶囊	Kang Shuan Jiao Nang	郑州韩都药业集团有限公司	Zhengzhou Handu Pharma Co., Ltd	Z20043756	Pangolin		(制) 乌梢蛇、酒制穿山甲(炒炭)
抗栓胶囊	Kang Shuan Jiao Nang	长春海外制药集团有限公司	Changchun Haiwai Pharmaceutical Group	Z20044206	Pangolin		马钱子(制)、人工麝香(去翅) 穿山甲(炒炭)
抗栓胶囊	Kang Shuan Jiao Nang	陕西康惠制药股份有限公司	Shaanxi Kanghui Pharmaceutical Co., Ltd	Z20053293	Pangolin		蜈蚣、水蛭、虻虫、地龙、马钱子(制) 穿山甲(炒炭)
大活络丸	Da huoluo wan	南京同仁堂药业有限责任公司	Nanjing Tongrentang Pharmaceutical Co., Ltd	Z20054333	Leopard		、豆蔻、安息香、黄芩、葛根、豹骨(油酥)、当归、牛黄、冰片、红参、制草乌
人参再造丸	Renshen zaizao wan [ginseng restoration balls]	吉林龙泰制药股份有限公司	Jilin Longtai Pharmaceutical Co., Ltd	Z20054809	Leopard		黄、桑寄生、葛根、麻黄、全蝎、豹骨(制)、炒僵蚕、琥珀、醋龟甲、粉萆薢
风湿关节炎片	Fengshi Guanjieyan Wan	山西澳迈药业有限公司	Shanxi Aoer Pharmaceutical Co., Ltd	Z20055513	Pangolin		穿山甲(制)
前列回春片	Qian Lie Hui Chun Pian	湖北纽兰药业有限公司	Hubei Niulan Pharmaceutical Co., Ltd	Z20060152	Pangolin		蒺藜、穿山甲(炮)、蜈蚣、菟丝子、淫羊藿、甘
大活络丸	Da huoluo wan	江西药都樟树制药有限公司	Jiangxi Yaodu Zhangshu Pharmaceutical Co., Ltd	Z20093043	Leopard		少)、天南星(制)、青黛、葛根、豹骨(油酥)、当
再造丸	Zaizao Wan	辽宁汉草堂中药有限公司	Liaoning Hancotang Traditional Chinese Medicine Co., Ltd	Z21020069	Pangolin		地龙、炒僵蚕、穿山甲、角浓缩粉、人工牛黄、雄黄、防风、羌活、白芷、川芎、桂枝、细辛、附子(附片)、生、骨碎补(炒)、威灵仙
参桂再造丸	Shengui Zaizao Wan	辽宁朝花药业有限公司	Liaoning Chao Hua Drug Co.,Ltd	Z21020137	Pangolin		补、葛根、穿山甲(炒炭)、关白附
大活络丸	Da huoluo wan	葫芦岛国帝药业有限责任公司	Huludao Guodi Pharmaceutical Industry Co.,Ltd	Z21020336	Leopard		穿山甲(制)
人参再造丸	Renshen Jaizao Wan	葫芦岛国帝药业有限责任公司	Huludao Guodi Pharmaceutical Industry Co.,Ltd	Z21020340	Leopard		风、制何首乌、川芎、豹骨(制)、(醋制)、当归、
再造丸	Zaizao Wan	辽宁朝花药业有限公司	Liaoning Chao Hua Drug Co.,Ltd	Z21021004	Pangolin		穿山甲(制)、豹骨(制)、木瓜、桂枝、乳伸(炭)、防风
腰腿痛丸	Yaotuitong wan [lower back and leg pain balls]	辽宁东方人药业有限公司	Liaoning Dongfangren Pharmaceutical Co.,Ltd	Z21021500	Leopard		穿山甲(制)、豹骨(制)、木瓜、桂枝、乳伸(炭)、防风
腰腿痛丸	Yaotuitong wan [lower back and leg pain balls]	锦州汉宝药业有限公司	Jinzhou Hanbao Drug Co.,Ltd	Z21022042	Leopard		穿山甲(制)
风湿关节炎片	Fengshi Guanjieyan Wan	吉林省银诺克药业有限公司	Jilin Province YNK Pharmaceutical Group	Z22020398	Pangolin		桂枝、穿山甲、木瓜

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前列回春胶囊	Qian Lie Hui Chun Jian Nang	吉林双星药业有限公司	Jilin Shuangxing Pharmaceutical Co., Ltd	Z22020700	Pangolin		菟、穿山甲(炮)、蜈蚣、菟丝子、淫羊藿
回天再造丸	Huitian Zaizao Wan	长春人民药业集团有限公司	Changchun People Pharmaceutical Group Co., Ltd	Z22021097	Pangolin, tiger bone, rhino horn		穿山甲(制)、豹骨(制)、天南星(制)、羌活、白芷、川芎、桂枝、细辛、附子(附片)、生、骨碎补(炒)、威灵仙
中风再造丸	Zhongfeng Zaizao Wan	吉林敖东集团金海发药业股份有限公司	Jilin Aodong Group Jinhaifa Pharmaceutical Co., Ltd	Z22021227	Pangolin		穿山甲(制)、豹骨(制)、天南星(制)、羌活、白芷、川芎、桂枝、细辛、附子(附片)、生、骨碎补(炒)、威灵仙
催乳丸	Cuiruwan	通化永基药业股份有限公司	Tonghua Yongji Pharmaceutical Co., Ltd	Z22021447	Pangolin		穿山甲(制)
人参再造丸	Renshen zaizao wan [ginseng restoration balls]	白山健宁药业有限公司	Baishan Jianning Pharmaceutical Co., Ltd	Z22021519	Leopard and/or pangolin		穿山甲(制)
参茸壮骨丸	Shenrong zhuanggu wan [ginseng and deer antler bone-strengthening balls]	吉林国药制药有限公司	Jilin Guoyao Pharmaceutical Co., Ltd	Z22021595	Leopard		当归、豹骨(醋制)、(毛)、棕褐色；味酸、微苦、
抗栓再造丸	Kang Shuan Zaizao Wan	吉林国药制药有限公司	Jilin Guoyao Pharmaceutical Co., Ltd	Z22021599	Pangolin		天南星、穿山甲(炮)、人工麝香、丹参、三混、葛根、穿山甲、
大活络丸	Da huoluo wan	吉林一正药业集团有限公司	Jilin Yizheng Pharmaceutical Industry Group Co., Ltd	Z22022602	Leopard		去毛)、豆蔻、安息香、豹骨(油酥)、当归
风湿关节炎片	Fengshi Guanjieyan Wan	吉林省密之康药业有限责任公司	Jilin Minzhikang Pharmaceutical Co., Ltd	Z22024044	Pangolin)、没药(制)、桂枝、穿山甲(制)、除去糖衣后显棕褐色
中风再造丸	Zhongfeng Zaizao Wan	吉林恒金药业股份有限公司	Jilin Hengjin Pharmaceutical Co., Ltd	Z22024162	Pangolin		龙、丹参、血竭、三、穿山甲(炮)、钩藤、制化、防风、西砂)、绵萆薢、
人参再造丸	Renshen Jaizao Wan	吉林省正辉煌药业有限公司	Jilin Zhenghuihuang Pharmaceutical Co., Ltd	Z22025411	Leopard		甘草、黄连、茯苓、豹骨(制)、炒僵蚕、天麻、肉桂、白
阿魏化痞膏	Awei Huapi Gao	黑龙江吴氏济民制药有限公司	Heilongjiang Wu Shi Ji Min Pharmacy Co.,Ltd	Z23020044	Pangolin		穿山甲(制)
回天再造丸	Huitian Zaizao wan	哈药集团世一堂制药厂	Harbin Pharmaceutical Group Shiyitang Co. Ltd	Z23020199	Leopard and pangolin		穿山甲(制)
大活络丸	Da huoluo wan	哈药集团中药三厂	Harbin Pharmaceutical Group Co., Ltd Traditional Chinese Medicine Factory No.3	Z23020583	Leopard		穿山甲(制)
拔毒膏	Ba Du Gao	哈尔滨力强药业有限公司	Harbin Liqiang Pharmaceutical Co., Ltd	Z23021567	Pangolin		穿山甲、没药、
人参再造丸	Renshen zaizao wan [ginseng restoration balls]	牡丹江灵泰药业股份有限公司	Mudanjiang Lingtai Pharm Co., Ltd	Z23021956	Leopard		穿山甲(制)

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人参再造丸	Renshen zaizao wan [ginseng restoration balls]	上海雷允上药业有限公司	Shanghai Lei Yunshang Pharmaceutical Co., Ltd	Z32021128	Leopard		
人参再造丸	Renshen zaizao wan [ginseng restoration balls]	杭州胡庆余堂药业有限公司	Hangzhou Huqing Yutang Pharmaceutical Co., Ltd	Z33020061	Leopard		七、乳香(醋制)、 豹骨(制) 、仙、乌药、羌活、
回天再造丸	Huitian Zaizao Wan	杭州胡庆余堂药业有限公司	Hangzhou Huqing Yutang Pharmaceutical Co., Ltd	Z33020074	Tiger bone and rhino horn		
五香伤膏	Wu Xiang Shang Gao	杭州朱养心药业有限公司	Hangzhou Zhuyangxin Pharmaceutical Co., Ltd	Z33020236	Pangolin		穿山甲 乳香 27味。
万灵五香膏	Wan Ling Wu Xiang Gao	杭州朱养心药业有限公司	Hangzhou Zhuyangxin Pharmaceutical Co., Ltd	Z33020534	Pangolin		穿山甲 、乳
回生再造丸	Huisheng zaizao wan	东芝堂药业(安徽)有限公司	Toshibado Pharmaceutical (Anhui) Co., Ltd	Z34020744	Leopard		
麝香壮骨膏	Shexiang zhuanggu gao [musk bone-strengthening plaster]	安徽安科余良卿药业有限公司	Anhui Anke Yu Liang Qing Pharmaceutical Co., Ltd	Z34020904	Leopard		朱黄、白芷、苍术、 豹骨 、硫磺、为橡胶、氧化钙
独角膏	DuJiao Gao (Plaster)	江西地康药业有限公司	Jiangxi Dikang Pharmaceutical Industry Co., Ltd	Z36020191	Pangolin		
大活络丸	Da huoluo wan	江西药都樟树制药有限公司	Jiangxi Yaodu Zhangshu Pharmaceutical Co., Ltd	Z36021745	Leopard		
下乳涌泉散	Xiaru Yongquan San	山东中健康桥制药有限公司	Shandong China Health Bridge Pharmaceutical Group Co., Ltd	Z37020383	Pangolin		穿山甲(烫)
腰腿痛丸	Yaotuitong wan [lower back and leg pain balls]	山东中健康桥制药有限公司	Shandong China Health Bridge Pharmaceutical Group Co., Ltd	Z37020391	Leopard		
东方活血膏	Dongfang Huoxue Gao	山东明仁福瑞达制药股份有限公司	Shandong Mingren Freda Pharmaceutical Co., Ltd	Z37020953 (website)/ Z27020063 (box)	Pangolin		份】生川乌、生草乌、 穿山甲(制) 、黑木耳、雄黄、川草、熟地黄
正骨膏	Zheng gu gao	滕州锐志药业有限责任公司	Tengzhou Ruizhi Pharmaceutical Industry Co., Ltd	Z37021562	Leopard and pangolin		人 豹骨 、海桐
拔毒膏	Ba Du Gao	安阳中智药业有限责任公司	Anyang Zhongzhi Yaoye Co., Ltd	Z41020378	Pangolin		蜈蚣、樟脑 穿山甲 、没药
风湿关节炎片	Fengshi Guanjieyan Wan	安阳诺美药业有限公司	Anyang Nuomei Drug Co., Ltd	Z41020646	Pangolin		钱子(调制粉)麻黄、当、 穿山甲 、木瓜
三甲散	San Jiasan	乐氏同仁三门峡制药有限公司	Leshi Tongren Sanmenxia Pharmacy Co., Ltd / Yue's Tongren Sanmenxia Pharmaceutical Manufacturing Co., Ltd	Z41021198	Pangolin		

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大活络丸	Da huoluo wan	国药集团中联药业有限公司	Sinopharm Zhonglian Pharmaceutical Co., Ltd	Z42020821	Leopard		天南星(制)、青、 豹骨(油酥) 、葛根、松香、体外培育牛
佛山人参再造丸	Foshan renshen zaizao wan [Foshan ginseng restoration balls]	国药集团佛山冯了性药业有限公司	Sinopharm Foshan Fengliaoqing Pharmaceutical Co., Ltd	Z44022957	Leopard		
生乳灵	Sheng Ru Ling	贵州三仁堂药业有限公司	Guizhou Sanrentang Pharmaceutical Co., Ltd	Z52020014	Pangolin		
杜仲壮骨丸	Duzhong zhuanggu wan	贵阳德昌祥药业有限公司	Guiyang Dechangxiang Pharmaceutical Co., Ltd	Z52020210	Leopard		冬、 穿山甲(制) 、知
生乳汁	Sheng Ru Zhi	贵州光正制药有限公司	Guizhou Guangzheng Pharma Co., Ltd	Z52020346	Pangolin		冬、 穿山甲(制) 、知
大活络丸	Da huoluo wan	云南腾药制药股份有限公司	Yunnan Tengyao Pharmaceutical Co., Ltd	Z53020275	Leopard)、葛根 豹骨 、制草乌、天麻
豹骨木瓜酒	Leopard bone papaya wine	云南梁河民族制药有限公司	Hongyun Zhiyao (Lianghe) Co., Ltd	Z53020597	Leopard		成份 豹骨(制) 、天
生乳汁	Sheng Ru Zhi	甘肃省金羚集团药业有限公司	Gansu Jinling Group Pharmaceutical Co., Ltd	Z62020106	Pangolin		冬 穿山甲(制) 、知
抗栓胶囊	Kang Shuan Jiao Nang	青海省格拉丹东药业有限公司	Qinghai Geladandong Pharmaceutical Co., Ltd	Z63020181	Pangolin		延胡索(醋制)、骨、 穿山甲(砂烫) 、胶囊剂，内容物为黄、抗栓通脉。用于
大活络丸	Da huoluo wan	杭州胡庆余堂药业有限公司	Hangzhou Huqing Yutang Pharmaceutical Co., Ltd	Z33020136	Tiger bone and rhino horn		
大活络丸	Da huoluo wan	天津中新药业集团股份有限公司达仁堂制药厂	Jinyao Darentang Group Co., Ltd. Darentang Pharmaceutical Factory	Z12020620 [as identified in previous research, not entirely visible in 2023 research]	Leopard		两头尖、麻黄、 豹骨(油酥) 、气微香，味苦。

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