TREND REPORT

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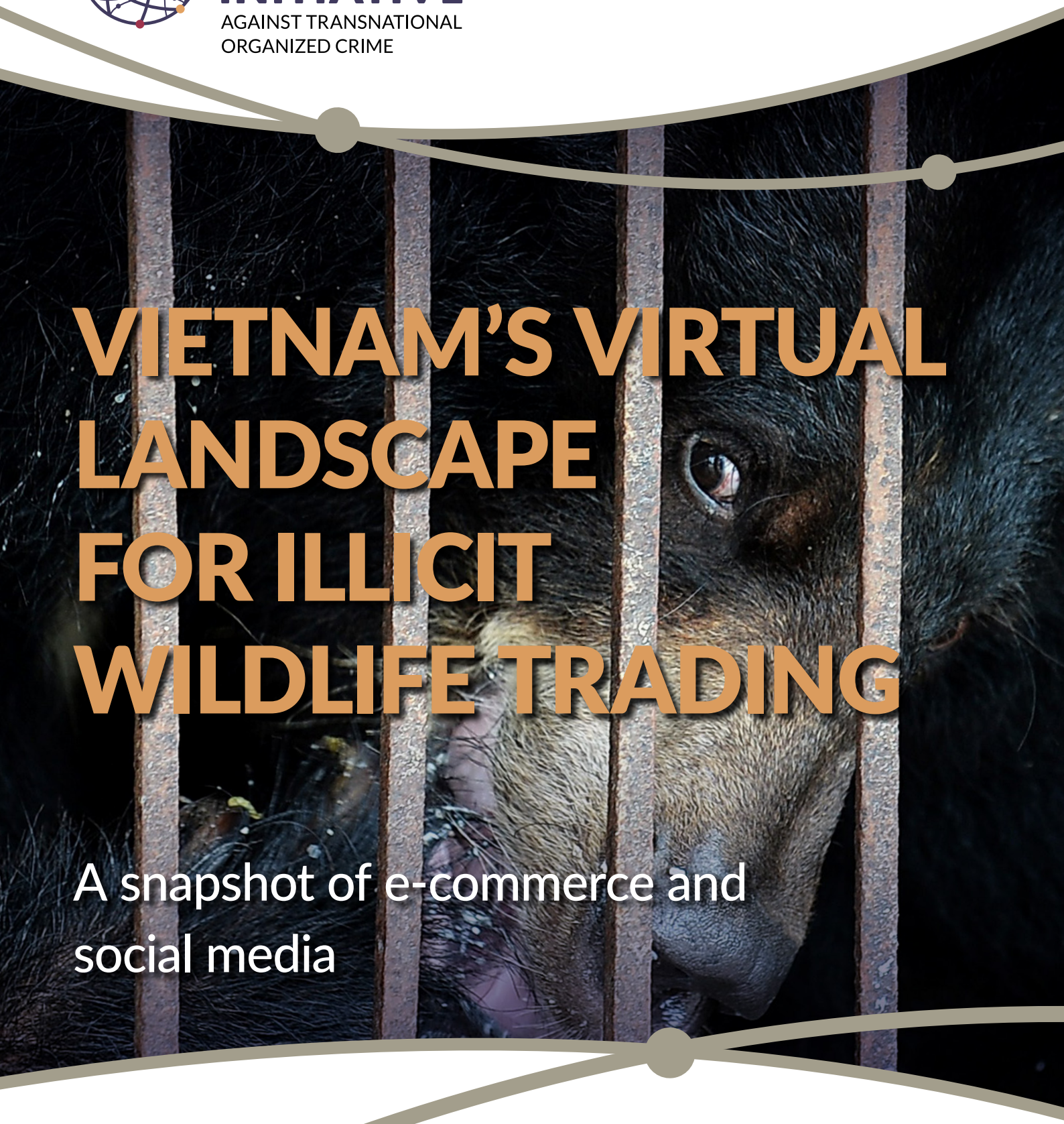

VIETNAM'S VIRTUAL LANDSCAPE FOR ILLICIT WILDLIFE TRADING

A snapshot of e-commerce and social media

Théo Clément | Sam Inglis

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Cover: Captive moon bear inside a metal cage. © *Hoang Dinh Nam via Getty Images*

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Market Monitoring and Friction Unit

The Market Monitoring and Friction Unit (MMFU) is a team within the Global Initiative Against Transnational Organized Crime (GI-TOC) dedicated to monitoring online markets of endangered wildlife species and working towards innovative, effective strategies for disrupting them. The Unit collaborates with civil society organizations and mandated authorities to shut down online illicit wildlife markets.

Websites on the open web – sites that people can access and use every day – host some of the biggest online markets for endangered species. Evidence of wildlife crime is widespread across the internet and private platforms and law enforcement agencies are either unwilling or unable to mount an adequate response.

This mirrors a broader challenge in combating cyber-enabled crime, namely that criminals are on the web, but the police are not. Reasons for this include responses to cybercrime being under-resourced, a lack of explicit mandates to address it and the absence of investigatory authorities. This situation manifests unequally around the world.

While rich countries have the largest internet-using populations, they also have the most resources to combat online harms. The greatest challenges are found in developing countries with the least resources for regulating cyberspace or implementing strategies to combat cybercrime.

Within this broader crisis, the online trade in endangered species is easily overlooked, leaving a gap in the global response that allows wildlife traders to openly seek customers online, market goods, conduct transactions and stimulate demand. This contributes to the wider problem of the illicit wildlife trade, which can lead to extinction of species and heightened risk of outbreaks of zoonotic diseases; it also encourages corruption while enriching highly organized criminal networks.

The MMFU's investigation into the illicit online trade in endangered species grew from the recognition that innovative responses were needed to combat this type of crime. The unit's aim is to make the open web a space where there are fit-for-purpose laws protecting us – and endangered species – and that they are respected in letter and spirit.

With trend reports such as this one, the MMFU intends to share its knowledge with the various communities responding to the harms caused by illicit online wildlife trade. It is hoped that such reports will help to scale the lessons learnt and multiply the number of effective interventions to rein in illicit wildlife markets.

INTRODUCTION

▲ Animal parts being transported in Hanoi. Vietnam is a major hub for wildlife trafficking in South East Asia. *© Rio Helmi/ LightRocket via*

Vietnam is known for its highly diverse tropical fauna and is considered to be a major hub for wildlife trafficking in South East Asia – and globally for certain highly trafficked species, such as rhinoceros and tiger.[1] The country has a globalized, export-driven economy with extensive trade links and has been identified as a key node in the wildlife trafficking chain in previous research.[2] Vietnamese networks abroad have been found to be involved in the poaching of at least 18 000 elephants, 111 000 pangolins and nearly 1 000 rhinoceroses since 2010. However, these investigations have led to only a few prosecutions.[3]

Since 2018, Vietnamese authorities have strengthened their anti-wildlife-trade legislation.[4] Nevertheless, current evidence suggests that trading in illegal wildlife continues despite travel restrictions imposed to tackle the COVID-19 pandemic.

Over the last decade, reliable internet infrastructure provision and increased accessibility in Vietnam have enabled international networks of wildlife traders to reach a broadening, online customer base with their products.[5] This report explores the landscape of Vietnam's online illegal wildlife trade (IWT) and the dynamic, changing relationship between physical-shop traders and online networks.

The online IWT landscape uncovered during this study is cause for concern. The internet and social media are used at nearly every level of the supply chain, from rural hunters and sellers to urban manufacturers of finished products and their distributors. In contrast to other illicit markets, where the internet is used as a mean of obfuscation or to provide the cover of anonymity, online IWT, this report finds, often takes place openly. Moreover, online trading supports an apparently extensive physical, offline market. Meanwhile, social media are routinely used for brand-building purposes by wildlife traffickers, who engage on various platforms prolifically (Facebook in particular) to share information about their activities.

This report is intended to contribute to a wider discussion about what safeguards Vietnamese authorities can introduce to rein in this prolific online trade and to curb the physical wildlife flows that sustain it. The findings allow for a better understanding of how physical and online markets intersect and provide insights into how they can be disrupted.

Methodology

This study uses a methodology that combines open-source intelligence (OSINT) gathering and machine-learning-enabled searches to provide a picture of how digital technologies make contact with illicit wildlife markets in Vietnam. For practical and scientific reasons, both data-collection methods were implemented separately to limit cross-contamination of the data and any biases in manual data collection. Both were undertaken between June and October 2021.

Our OSINT findings were drawn from a broader investigation into a particular network of wildlife traders. This investigation began with a small set of individual profiles on Facebook that were prolific advertisers of jewellery made from parts of endangered species. The research findings encompassed both established, successful traders as well as low-level, newly recruited or loosely involved sellers (more of which later in the report). Visual and text posts allowed GI-TOC researchers to draw out specific data points (e.g. age, type of commodities traded, location) from these profiles to compare suspected traders. This data collection took place over several months in 2021 but drew on posts on personal profiles going back several years. These formed the basis of our findings about recruitment, the development of trading businesses and modus operandi in the world of wildlife-product retailing in Vietnam.

The automated data collection was performed by a machine-learning-based application called the Cascade, which is operated by our partners at the Centre for the Analysis of Social Media. The Cascade uses a detailed list of keywords to automatically scrape the internet and produces a large-scale collection of candidate 'detections' of instances of illicit trade through an iterative process of generating and expanding search queries. It uses a number of machine-learning-based and keyword-based search classifiers to filter out irrelevant content and produce a set of candidate detections deemed most likely to contain a target illicit product or animal for sale. These detections are assessed for relevance within the context of this study, and then fully coded by analysts to obtain a coherent set of data about all detections (such as price, quantity, location and type of sale).

The keywords used by the Cascade were based on a list of items and species that are known to be trafficked on Vietnamese-language websites. Initial consultations with NGOs and experts monitoring the trade produced a list of species that are commonly traded in Vietnam. For this study, we selected six species that fit three criteria: they are part of a highly lucrative (often transnational) supply chain, and hence are more likely to attract criminal networks; organized criminal networks are known to be involved in the trade chains leading to retail sales of the species; and they are listed in Appendix 1 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and therefore are not permitted to be traded across international borders. This analysis produced a shortlist of five species known to be used primarily for medicinal purposes and in jewellery: elephant, pangolin, tiger, rhinoceros and moon bear (also known as Asiatic black bear). African grey parrots were added as a representative of the live pet market,[6] which has flourished globally on the internet, and because they also meet the three criteria given above.

These species provide a good sample of the overall levels of wildlife criminality in Vietnam. Many are extinct or highly endangered in Vietnam, so their presence in local markets suggests international

trafficking, despite the protection that CITES should provide. The domestic trade in these species is also often illegal, though legislation can be interpreted in a way that allows for grey areas.[7] That these products are openly advertised online therefore indicates either a low-risk environment for their illegal trade or wilful exploitation of legal loopholes.

The data gathered during both collection processes was analyzed to gain insights into how offline wildlife traders (i.e. those who sell in physical retail settings) also exploit the internet and digital technology for illicit trade. This study explores this topic in relation to the product and market information obtained from the automated search. The findings on the career trajectories and networks of wildlife traders were obtained from the open-source monitoring.

This study does not aim to provide a comprehensive picture of Vietnam's online wildlife dynamics, but rather to present an illustrative impression of the illicit trade in wildlife by mapping the effects of virtual worlds on wildlife trafficking drawn from data on highly relevant platforms. Due to time and resource constraints, we did not systematically monitor all social media platforms. The research suggests that there are platforms besides Facebook that may also be used in this illegal trade, and that messaging apps such as Zalo and Telegram are also utilized, although they were not considered here. A very large number of live animals and animal parts are advertised online in Vietnam, and specific consideration of any of these markets could yield important commodity-specific insights.

Data at a glance

The automated data collected for this study consists of 930 detected advertisements, all of them in Vietnamese. Of these, 582 were for medicinal products, 328 were for jewellery and 20 dealt with live animals (mostly African grey parrots).

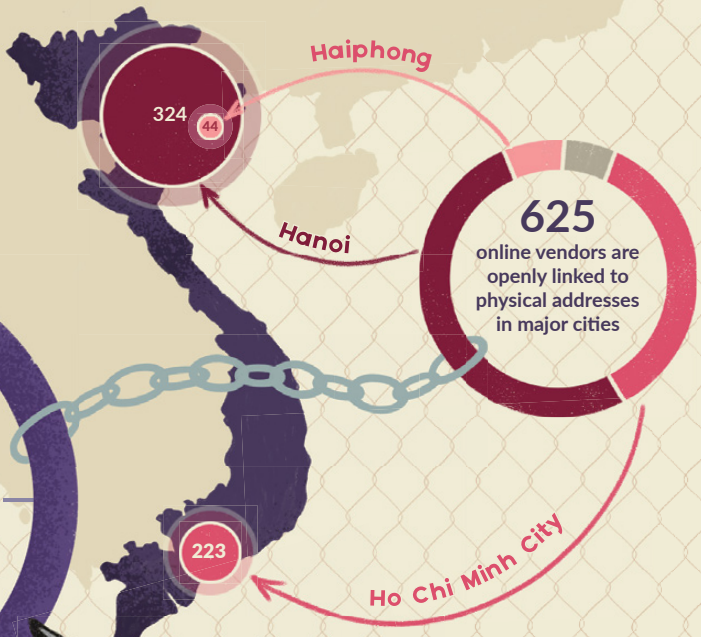
The detections showed that a high number (625) of online vendors also run physical shops, predominantly in large cities such as Hanoi (324), Ho Chi Minh City (223) and Haiphong (44).

Advertisements for pangolin-derived products (including their scales) were the most frequent, with 328 advertisements, followed by products made of tiger parts (319), bear parts (179), ivory and elephant products (78), and rhinoceros horn (8).

Only a small number of these advertisements disclosed how the animal parts were sourced, either from the wild in Vietnam (15), from abroad (4), or from breeding centres and farms (12).

Vietnam's illicit online wildlife trade: a snapshot

In Vietnam, online impunity results in a large online trade and clear connections between physical shops and websites selling products from endangered species.



In an automated data collection,

930

detections

were made of items and products of **SIX** different species

Only 3% of these detections disclosed how these animal parts were sourced.

Breakdown by species

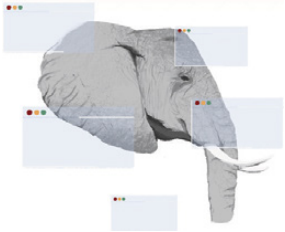
Breakdown by product type

key takeaways

The internet allows vendors to reach a large audience. Social media enables traders of all kinds to advertise their products, and the rise of e-commerce platforms have made the sale of illicit products easier.

Wildlife traders are using private profiles on social media to network and recruit.

Wildlife traders use social media to portray themselves as successful and aspirational people, enabling them to market to affluent clientele.



The ease with which consumers can find products from highly endangered species on all digital platforms makes buying them seem socially acceptable.

The extensive use of social media, e-commerce platforms and company websites to advertise these products raises questions about the effectiveness of private sector regulation and the police's role in deterrence and enforcement.

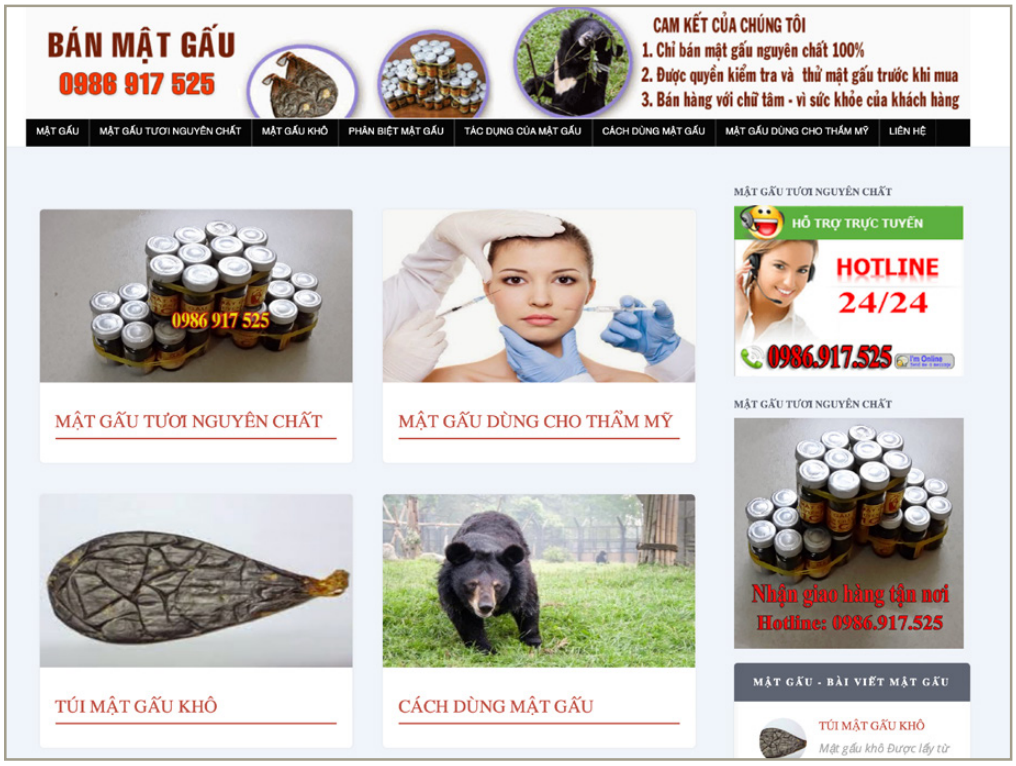
▲ A traditional Chinese medicine pharmacy in Ho Chi Minh City. In Vietnam, medicinal products containing wildlife-derived components are the most commonly found online. © *Godong/ Universal Images Group via Getty Images*

MARKET INFORMATION OBTAINED FROM AUTOMATED SEARCHES

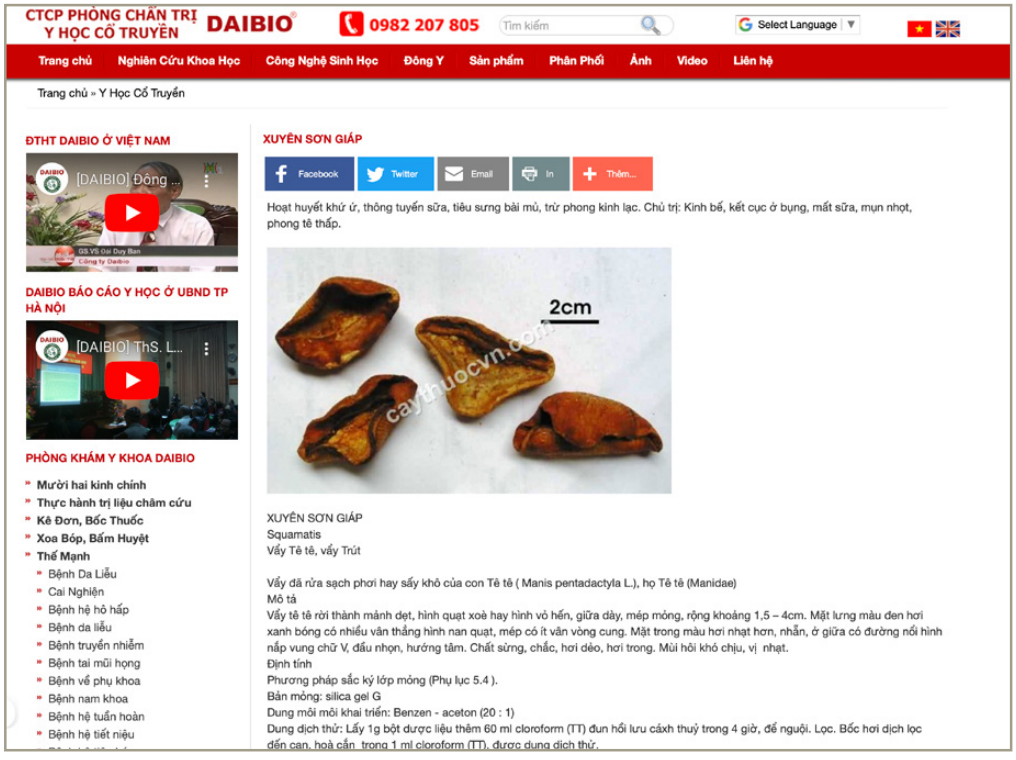
The Cascade extracted 930 relevant detections, from July to October 2021. These offer insights about the products available to online consumers, the structure of the platforms that host them and efforts made by traders to disguise their activity.

Platforms

The overwhelming majority of online trade detected in this study was found to occur on retail websites. Of the sample, 76% (711 out 930) were advertisements posted on retail websites, 4.7% were found on forums and blogs, and 4.6% were posted on classifieds websites. Results showed that 8.16% of detections were posted on social media, although in this context 'social media' refers only to publicly accessible parts of Facebook and YouTube. In addition, 5.91% were found on websites that do not fit within any of these categories, such as webpages of traditional-medicine schools or informational websites.



A website advertising bear bile. The product is used in traditional medicine as an anti-inflammatory or antimicrobial medicine. © *https://matgautuoi-0986917525.blogspot.com/*



Indirect advertisement for pangolin scales, mentioning their presumed health benefits and including a contact number, but not offering the possibility of purchasing them directly from the platform. © *https://daibio.com.vn/xuyen-son-giap-1928.daibio*

Compared to other studies conducted by the GI-TOC using a similar methodology,[8] the proportion of advertisements posted on retail websites is significantly higher in this study. Although the previous research on pangolin-derived products did not include scraping social media platforms (among other significant methodological differences) only 31% of the advertisements collected for that study were found on retail websites, as opposed to 76% in this study.

Products

Of the 930 detections, 328 were advertisements for pangolin scales, 319 dealt with tiger parts and 179 were for bear products. Elephant ivory was detected 71 times (there were additional detections of advertisements for elephant hair), African grey parrots were detected 20 times and rhinoceros horn appeared eight times.

Products relevant to the scope of this study were found in various forms. Although pangolin detections were all of sellers advertising unprocessed scales, our aggregated results offer a more detailed picture of which body parts are being traded the most. Bear bile, for instance, appears in 96 of all bear-product detections, followed by claws (73) and teeth (10).

The most traded tiger derivative is tiger-bone glue (150 detections), followed by teeth (100) and claws (69). This data is interesting to consider when we look at the trajectories of wildlife traders who are active online, as discussed later.

Consultations with experts on this distribution of species across the data set suggest that the relative size of each sample is most likely to be influenced not just by varying levels of supply and demand, but also by perception of illegality. For example, there is sustained enforcement attention on the rhinoceros-horn trade, which is subject to clear criminal penalties.[9] By contrast, the legal conditions for trade in ivory, tiger and bear products are more ambiguous.

Traditional-medicine products

Medicinal products are the items most commonly found online in Vietnam, accounting for 63% of the total sample (582 out of 930 items detected). Items sold for the jewellery trade were mostly in their final form, but medicinal products were sold in a range of forms: some were sold unprocessed, to be prepared by consumers or retailers, and others were processed and packaged as finished products. Pangolin scales made up the bulk of these detections (328), and are likely to be used either in traditional Asian remedies made on demand (in Vietnam or abroad) or in larger-scale manufacturing of pangolin-based drugs, most likely in China. The second most traded medicinal product is tiger-bone glue (150 detections), followed by bear bile (96) and rhinoceros horn (8). Tiger-bone glue is exclusively used in various traditional Asian medicines, and Vietnam has been identified in previous research as a breeding base for captive tigers for the tiger-bone-glue market.[10] Bear bile is most often harvested from live animals in farms and used in traditional medicine as an anti-inflammatory or antimicrobial medicine. Rhinoceros horn is sometimes used in jewellery, but in the East Asian market it is more often turned into powder and used in traditional remedies.

Although tiger-bone glue is expensive by local standards, it remains relatively affordable compared to jewellery made of tiger or elephant parts. Therefore, lower-tier wildlife vendors can access and sell it relatively easily. Few online vendors involved in black market activities display fixed prices for their products as they may be open to bargaining, but at least one detected advertisement offered a 600-gram pack of tiger-bone glue for US$287. Vietnamese bear bile appears to be more expensive, with a 100-gram phial costing nearly US$180. Facebook profiles of vendors in this category of products often also sell other items that are relatively common within the wildlife-product sphere, including snake wine, deer antlers or non-medicinal animal products, such as bear claws.

Jewellery

Of the six species and items used in jewellery in Vietnam and detected by the Cascade, tiger teeth are the most commonly found on online sales platforms, with 100 detections, followed by bear claws (73), elephant ivory (71), tiger claws (69) and bear teeth (10). Tiger teeth are a sought-after material for gold-plated pendants and are sold between US$60 (for a molar) and US$220 (for a canine).

A pendant crafted from a tiger's claw, featured on a Vietnamese website. © *https://nanhmongho.com/mong-ho-hop-voi-tuoi-nao-menh-nao/*

Information given in advertisements

Contact details

Direct contact by telephone is by far the preferred method of communication, with 672 advertisements featuring seller telephone numbers. A relatively large share of online sellers (91) stated that they prefer to be contacted via Zalo, an online messaging platform that is mostly used in Vietnam. Zalo offers the same features that WeChat does in China, including messaging and creating posts visible to your networks. Although Zalo does not require any form of identification, a traditional cell phone number is required to register on the platform, which users will have needed identification to obtain.

Location

The research showed that physical and online wildlife markets are clearly linked, as a significant proportion of online sellers also provide physical addresses: 625 online sellers (67% of total detections) also sell their products in physical stores or at their home addresses. These sales locations are most often in large urban centres, such as Hanoi (324 detections), Ho Chi Minh City (223) or Haiphong (44).

That this information is openly available online would appear to suggest that sellers do not feel there is a risk of raids or other legal repercussions.

Physical and online wildlife markets are clearly linked: the majority of online sellers provide physical addresses.

Direct evidence of intention to engage in illegal trade

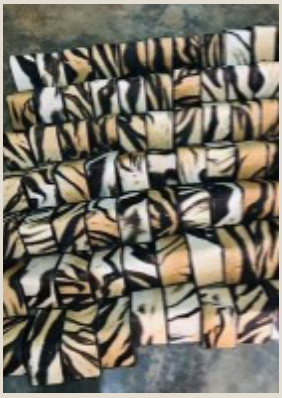
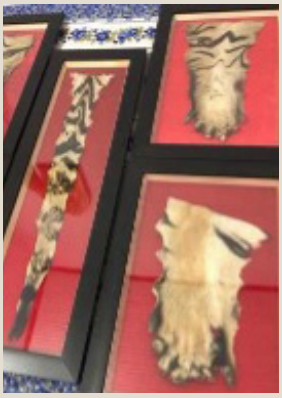
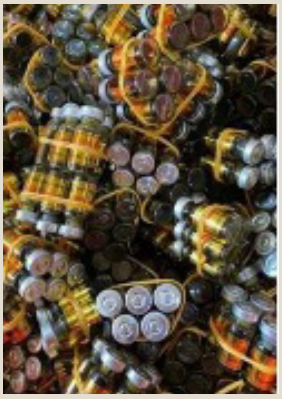
In direct advertisements, sellers clearly state their intention to sell the product advertised and, as above, often include contact information and the location of physical stores. The study detected 508 advertisements where the intent to sell is overt. However, the remaining advertisements seem to employ various tactics to evade either platform moderators or law enforcement agencies: we determined that 141 of the postings detected by the Cascade are examples of such indirect advertising. Some indirect advertisements describe products in great detail and may even provide certification documents, but do not explicitly state their intention to sell. In these cases, the vendor's contact details appear somewhere in the listing, and the transaction would probably take place in physical stores, on another platform or through messaging apps. Some indirect advertisements are rather blatant attempts at selling wildlife-derived items, but others are much more subtle, making the intention to sell difficult to establish.

The existence of this form of advertising suggests that a subset of sellers are taking measures to avoid identification or accusations that they are trading illegally.

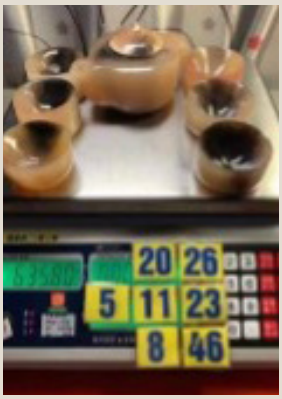
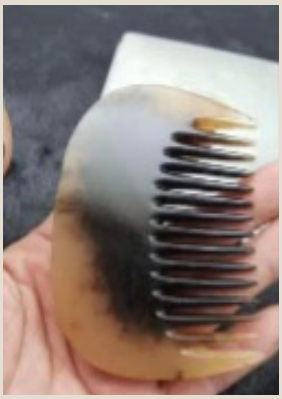
Wildlife products for sale on Vietnamese social media

The images below were collected from the Facebook profiles of a selection of Vietnamese wildlife traders between June and October 2021. This OSINT process fed into the typologies of traders' online careers in the following section and shows the diversity of products advertised online.

Boar tusk	Boar skull	Live-boar cage	Unprocessed crocodilian skins
			
Crocodilian skin	**Crocodilian wallets**	**Crocodilian sandals**	**Taxidermized crocodilians**
			
Tiger canine	**Tiger claw**	**Tiger molar**	**Tiger glue**
			

Tiger skin	Tiger wallets/purses	Tiger-skin offcuts	Taxidermized tiger
			
Taxidermized tiger head	**Bear claw**	**Bear bile**	**Bear gallbladder**
			
Raw ivory tusks	**Ivory – plain panels**	**Cut ivory section**	**Ivory bangles (thin)**
			
Ivory bangles (thick)	**Ivory ring (plain)**	**Ivory ring (carved)**	**Circular ivory pendant**
			

Ivory pen	Ivory ‘snorters’	Ivory chopsticks	Ivory Chinese checker tiles
			
Carved ivory teapot	**Ivory figures**	**Carved ivory tusk**	**Polished ivory tusks**
			
Elephant hair	**Elephant tail**	**Elephant skin**	**Carved elephant bone**
			
Full-sized raw rhino horn	**Raw rhino horns**	**Raw cut rhino horn**	**Cut rhino-horn panel**
			

Rhino-horn pendants	Carved rhino-horn pendants	Assorted rhino-horn products	Rhino-horn tea set
			
Rhino-horn comb	**Intricately carved full rhino horn**	**Rhino-horn offcuts**	**Rhino-horn offcut fragments**
			
Ginseng liquor	**Cobra liquor**	**Pangolin liquor**	**Deer antler**
			

▲
Turtles for sale at a street market in Hanoi. © *Panther Media GmbH via Alamy*

WILDLIFE TRADERS AND THEIR SOCIAL MEDIA CAREERS

The advertisements detected by the Cascade give us a degree of insight into the nature of the products being sold and the virtual environment hosting this illicit trade. Our other method of collecting data, OSINT gathering, sheds light on how wildlife traders develop their skills and businesses. OSINT gathering allows for remote monitoring and extensive data collection on wildlife traders in Vietnam and their use of online networks for advertising, showcasing their skills and networking. This helped us develop insights into the patterns of how wildlife retail traders develop their businesses, skills and public image.

These insights were derived from evidence drawn from hundreds of personal Facebook profiles of traders and members of their networks that offer jewellery and medicinal products containing animal parts for sale. We looked at posts going back to December 2012 and drew data points from the comments and photographs they posted of workshops, rudimentary stalls and established retail stores, as well as the products they advertised and relationships they have with one another.

Early-stage traders

Early-stage wildlife traders are those who are relatively new to the sector or who sell lower-grade products. They typically appear to enter the market with products such as boar tusks and teeth, and claws from tigers and bears. Bear products such as bile (which comes in small phials) are not uncommon. Many of the products are relatively unprocessed.

Traders from more rural areas appear to remain in this tier, trading lower-level products at smaller venues, such as market stalls and non-specialized stores, or out of cafés. They often sell wildlife products alongside other goods (e.g. war memorabilia, weapons, jewellery or semi-precious minerals). Rural traders also appear to be closely connected to hunters, who acquire and sell local wildlife (e.g. boar or birds). They are often prolific posters and do not appear to be necessarily tethered to specific physical premises. Many of these traders sell wholesale and in bulk, often appearing to congregate at cafés and carrying their wares in nondescript shopping bags.

An early-career trader at a market in Vietnam. © *Facebook*

As they gain experience, they seem to begin to acquire rings and bangles made of ivory – a higher value material. These particular ivory items require the least amount of skill to fabricate.

Some low-level traders may be ivory carvers themselves; they are typically less active on social media, selling fewer wares. Some appear to market their goods as wholesale products for more established traders to purchase and resell.

Animal hunters and traders who live in rural regions also use Facebook to sell animals to traders in cities, who aggregate and sell on captured live animals. Numerous *hwamei* (melodious laughing thrush) catchers were found to be selling the species to those in the songbird trade. Other hunters, of boar especially, were found to be butchering and selling parts of the animals' bodies to different types of traders.

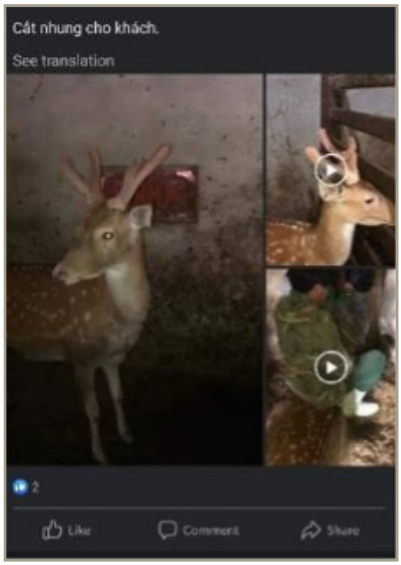
Several traders appear not to have been sufficiently successful in selling wildlife or wildlife products and have gone on to advertise all manner of consumer goods through their Facebook profiles. These include fashion items, shoes, phone cards and vehicles. Some of these traders may retain loose links to the wildlife trade, occasionally advertising crocodile-skin products. Such shifts indicate that lower-level traders are predominantly motivated to make money, rather than having any particular affinity for or interest in wildlife products.

Mid-level traders

Mid-level traders are those who have spent several years in the trade and appear to have established themselves in the field. They frequently offer abundant goods and products, such as unworked boar tusks, but often try to more consistently sell professionally fabricated or prepared wildlife products and rarer items (e.g. elephant hair and tails, and tiger-bone glue). As they gain wealth and expertise, they may become more involved in selling and creating more valuable pieces, such as tiger teeth with precious-metal inlays, necklaces with gold settings to hold the tiger-teeth and claw pendants or ivory pendants with more valuable chains and settings.

These traders may work in back rooms, but they appear to increasingly take on customer-facing roles and to be linked to specific premises. They may also begin to post products with their phone numbers, shop details and names. Occasionally, traders at this level appear to have access to more prized wildlife products, such as intricately carved ivory, rhinoceros and hornbill casques (also called 'red ivory'). However, these items do not appear to be especially common.

A less common but parallel professional track appears to be trading in traditional medicine. Some accounts have diversified into products like tiger-bone glue and have begun to offer 'medicinal' products. These range from low-grade goods, such as cat glue and horse glue, to more prized materials, such as deer antler or velvet, elephant skin, bear bile and paws, tiger meat and bones, and *yartsa gumba* (a caterpillar parasitized by a particular fungus). Liquors made from ginseng, snakes (e.g. cobras) and lizards (e.g. monitors and Tokay geckos) are common. They may also stock products made of agarwood. At the lower end, ox gallstones may also be advertised. Some of these specialists also appear to keep animals in sheds, warehouses or other enclosures.



Live deer kept in enclosures in Vietnam. © *Facebook*

These mid-level sellers are involved in both business-to-consumer trade (in the case of jewellery) and business-to-business trade (in the case of medicinal products), and they are most often located in urban centres. In contrast to rural and small-scale traders who only distribute goods online through their personal, already-established networks, these mid-tier traders often operate physical stores and use online platforms to market to a larger audience, providing their contact details for prospective customers to contact them directly.

Established and high-volume traders

Later-stage wildlife traders appear to have more established niches and to operate from established premises. Traders at this level have more prominent and better-equipped operations with well-curated stores. Teams of workers and sellers operate under them, and they have access to rarer or more finely worked wildlife products, such as ivory, rhinoceros horn and hornbill casques.

The ivory marketed at this level of the trade is mostly intricately carved, including jewellery (e.g. pendants, bangles), display items (e.g. figures, polished tusks) and more functional products (e.g. ashtrays, tea sets). These traders often sell wildlife products with inlays of precious metals and may also sell their wildlife products alongside more legitimate, valuable products. Jewellery and precious minerals are common in such stores.

The most highly valued goods sold by these traders include rhinoceros horn in all forms, large and/or intricately carved ivory pieces, and hornbill casques.

These actors use online networks in two main ways: to advertise their products to a large audience, and to reach out directly to a more select clientele of affluent buyers who have very specific tastes in rare or unique prestige pieces.[11] These may be large wildlife products, and their high sales price plays an important part in maintaining the seller's 'prestige'. These goods are very likely to be traded through direct contact between sellers and prospective buyers but not shared on open-source or semi-open-source platforms like social media.

An established wildlife trader shows off his wealth and collection on social media. © *Facebook*

▲ Blossom-headed parakeets *(Psittacula roseata)* for sale in a market in Hanoi. *© Wildlife in Trade via Alamy*

THE ROLE OF ONLINE NETWORKS IN THE ILLICIT WILDLIFE TRADE IN VIETNAM

Both data sets used in this study provide insights into the use of online networks in wildlife trafficking supply chains in Vietnam. Data collected by the Cascade, in particular, reveals that sellers' websites and social media are routinely used to market live animals and animal parts to domestic consumers. This vibrant online trade seems to coexist with an important physical market, where goods advertised online are also sold in physical shops, overwhelmingly located in larger cities. This suggests that, in contrast to other markets where wildlife traders use the internet for greater anonymity, in Vietnam it is mainly used to reach a larger audience. The branding strategy of established traders on social media also clearly underlines that online networks are used for advertising rather than for remaining anonymous.

Qualitative research on traders' professional trajectories suggests that closed or semi-open online networks play an important role in business-to-business transactions along the supply chain. Inhabitants of rural areas and low-level wildlife traders do not directly market the live animals or animal parts they source from the wild or from breeding centres; instead, they use messaging apps or social media to sell their products to more specialized actors, such as jewellers or traditional-medicine practitioners. Information gleaned from this study suggests that established traders use messaging apps for targeted marketing to affluent buyers interested in specific, rare or prestigious pieces.

CONCLUSION

▲ Two rescued tiger cubs at a police station in the province of Ha Tinh. © *STR/AFP via Getty Images*

This research shows that digital technology and virtual platforms are deeply embedded in illicit wildlife trade dynamics in Vietnam. The scale of open or barely concealed trade in products containing highly endangered species is concerning, as is how criminals use social media to build their businesses, network with one another and reach consumers. The internet allows vendors to advertise their products to a larger audience, with low barriers to entry.

Even small-scale rural traders use social media to advertise their goods, often marketing unprocessed materials to other actors in their networks (such as urban vendors, jewellers and more established and connected traders). At high levels in the trade, established sellers can continually advertise illicit products through their personal social media profiles. Wildlife products are also readily available on e-commerce platforms, including those that sell legal products (such as licit medicinal items). Only a small percentage of the advertisements we found though automated detection showed any attempt to disguise their intentions to sell. The availability of all types of products (including medicinal products and jewellery of high or low value) on all platforms (i.e. forums, social media and e-commerce) contributes more generally to making wildlife consumption seem socially acceptable and aspirational.

Private-sector companies – in particular, Facebook – should be doing far more to ensure that their platforms do not support traders profiting from illegal commerce that threatens many species with extinction.

Private-sector companies should do more to ensure that their platforms do not support traders profiting from illegal commerce that threatens species with extinction.

This situation also raises questions about enforcement. The openness with which traders operate on social media and e-commerce sites in Vietnam indicates that they are either ignorant of or unafraid of the laws prohibiting this trade and that they perceive low levels of enforcement and surveillance. The fact that our sample of advertisements included many sites linked to physical addresses suggests that this complacency could also extend to the offline trade in wildlife products.

The silver lining of this situation is that there are some easily accessible gains for enforcement action. Online content provides a wealth of starting points for enforcement actions; these could be as simple as visiting stores to discuss legal requirements for trade and verify that objects advertised online are not genuine, obtaining permissions and warrants for stock inspections (in physical stores and private homes) or more complex interventions such as using this data as a starting point for launching investigations. NGOs within Vietnam are working with law enforcement to take a range of deterrence actions.

These findings also point to avenues for reaching consumers and understanding their motivations. The GI-TOC is currently engaged in efforts to change behaviour among wildlife consumers in Vietnam, building upon a series of semi-structured interviews with wildlife consumers. Online communications are an important component of this work, and they reflect the fact that the internet can also be used for positive social change.

NOTES

1 T. T. Pham et al, The economic value of the wildlife trade in Vietnam, Center for International Forestry Research, 2021, https://doi.org/10.17528/cifor/008098.

2 Environmental Investigation Agency, Vietnam's footprint in Africa: An analysis of the role of Vietnamese criminal groups in wildlife trafficking, November 2021, https://eia-international.org/wp-content/uploads/EIA-Vietnams-Footprint-in-Africa-FINAL.pdf.

3 Environmental Investigation Agency, Vietnam needs urgent international help to fight wildlife crime and reduce its impact on Africa, 24 November 2021, https://eia-international.org/news/vietnam-needs-urgent-international-help- to-fight-wildlife-crime-and-reduce-its-impact-on-africa/.

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5 See The World Bank, Individuals using the Internet (% of population) – Vietnam, https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=VN.

6 The pet trade has successfully made the switch to online marketing in many countries, and we wanted to include a species that would illuminate this phenomenon in Vietnam.

7 For example, the trade in pangolin parts is entirely banned, while the new penal code allows only elephant ivory pieces purchased before 2018 to be legally traded, if ownership can be proved. This loophole has been used by criminals to launder recently imported tusks in Vietnam.

8 See, for example, Théo Clément, Simone Haysom and Jack Pay, Online markets for pangolin-derived products: Dynamics of e-commerce platforms, GI-TOC, July 2022.

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