



**GLOBAL  
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# ONLINE ILLEGAL TRADE IN HIGHLY ENDANGERED PARROTS IN INDONESIA

Gaps in private sector enforcement

Wahyu Nurbandi

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Cover: A rescued yellow-crested cockatoo. © Wawan Kurniawan/  
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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.

## Summary

The illegal bird trade in Indonesia is a long-standing problem involving organized networks that buy trapped birds and transport them to buyers in Indonesian cities and abroad, despite strong legal protections for species. This places unsustainable pressure on the country's endemic bird population and undermines the rule of law.

This research is aimed at helping policymakers, law enforcement, civil society organizations and the private sector by showing the extent of the trade online and identifying the online spaces where markets are prevalent and their dynamics. The five bird species selected for the study are the endemic Tanimbar corella, the palm cockatoo, the salmon-crested cockatoo and the yellow-crested cockatoo – all of which are listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) and are challenging to breed in large quantities in closed environments – as well as the non-endemic African grey parrot – which is also in CITES Appendix I and whose commercial use, including breeding in captivity and trading, requires a licence. Any trade in these species is illegal unless the specimens are bred in captivity (F2 or above<sup>1</sup>) with legal documentation.

Manual monitoring techniques were used to search social media platforms and e-commerce sites for posts advertising these species for sale. We found 1 147 advertisements primarily on social media with some on e-commerce platforms. Of those, 88% (1 012 adverts) were found in Facebook groups, almost 8% (91 adverts) on Instagram and only 3.8% (44 adverts) on three e-commerce platforms (Tokopedia, Shopee and Bukalapak). This study outlines the characteristics of the illegal markets, how buyers are inducted into completing covert sales and how the services provided by private sector actors facilitate the trade. It reveals that Facebook hosts the largest number of adverts on its platform despite its attempts to enforce its policy banning the trade in endangered species, and that 14 courier companies appear to provide delivery services, despite their own policies banning such transport.

Many endangered birds in Indonesia are highly sought after for their colourful plumage, intelligence and singing abilities, making them popular as ornamental pets and among collectors. This trade has helped drive down their population numbers. In addition to the risk of biodiversity loss, the illegal trade also poses risks to human populations, the most prominent of which is the possibility of zoonotic diseases due to increased contact between humans and wildlife. The global spread of both H5N1 avian influenza and COVID-19 demonstrates the devastating effect zoonotic diseases can have on human populations. Furthermore, the trade fosters illegality as traders and associated criminal actors rely on illegal activities, including corruption and money laundering, to facilitate their crimes.

Indonesia is a party to CITES, having joined as a member state in 1978. Since then, the government has legislated against the illegal bird trade and developed enforcement units mandated to combat it. Of the five species studied for this research, only one is not covered by national legislation – African grey parrots, which are not endemic. The government has also developed specialized units to address online crimes, including the online wildlife trade.



These interventions seem to have been successful at reducing the number of physical markets for illegal birds, but those sellers appear to have moved to virtual markets, where they have an extensive presence on social media platforms (though a minimal one on e-commerce sites). It is therefore necessary to understand the extent of these markets and how they operate so that existing laws can be adapted and appropriate interventions developed.

This study finds that these species command a higher price than other illegally traded birds (e.g., some protected songbird species that are also very common in the illicit trade). This is likely to be because some buyers and collectors value their rarity: the prices normally exceeding the average Indonesian annual salary. With the illegal trade now predominantly hosted online, the sellers have significantly increased their reach, with the internet connecting urban consumers with supply chains that stretch into remote areas where the birds are illegally captured. The online traders appear to be spread across Indonesia, though there are hotspots, namely Java, which hosts the largest number of traders, due to its history of trading birds.

This study identifies 62 buy-and-sell groups on Facebook as the locus of the online trade problem, despite Facebook's strictly worded Community Standards policy against the trade in endangered species. However, the dynamics of this trade also highlight that there are challenges to straightforward post moderation as a regulation tactic. There is evidence of sellers using evasive tactics, including utilizing private mode, vetting new members who join the groups and using code words to evade automated text-based monitoring. This has made the moderators of these groups crucial figures who allow traders and buyers to conduct their activities on Facebook with near impunity. However, Instagram appears to predominantly host what are believed to be scam advertisements, judging by the use of copied low-resolution pictures and the rapid posting of adverts. E-commerce sites, despite only making up 3.8% of the detections, provide more detailed information than adverts on Facebook and Instagram. This includes price, seller location, the payment method and shipping method, giving insights into how the trade operates.

Though social media platforms and e-commerce sites promote the species to buyers, payment platforms and delivery companies are essential for allowing the trade to operate. There are multiple payment methods used, which are normally detailed in the adverts, with the preferred method of payment on Facebook and Instagram being escrow accounts. The delivery companies listed in the posts have banned the transportation of live and dead animals, especially protected species. However, this does not appear to deter the sellers who use these services to transport the species to the buyer by land or sea, depending on location.

Though efforts to curtail the trade through legislation and enforcement have been successful in cracking down on physical markets, the displacement of sellers to the online sphere has created new markets that are enabled by the private sector. This report uses original research to shed light on the extent of this trade so that the various actors involved, including law enforcement and the private sector, can take the necessary steps to help curtail it.



## INTRODUCTION

**T**he MMFU's latest study looks at the market for five globally and locally traded bird species in Indonesia, based on manual monitoring of e-commerce platforms and social media, including Facebook. This research effort focused on a selection of five species (the African grey parrot and Tanimbar corella as well as the palm, salmon-crested and yellow-crested cockatoo), which were selected because they enjoy strong national and international protections.

Given this strong protection, the open sale of such species is able to tell us a range of things about the dynamics of the online illegal bird trade in Indonesia. Below we use data to explore the characteristics of the markets for these birds, how buyers are inducted into covert sales by bird-trade group moderators and the ways that different private sector actors facilitate this illegal trade, from courier companies to financial service providers.

The insights from this report can be used by a range of actors – government authorities, NGOs and the private sector – to improve their enforcement of existing laws, behaviour-change interventions and responses to this trade. Finally, data gathered on companies and actors identified in the course of this research will be used to assist private actors in implementing robust anti-illegal wildlife trade (IWT) safeguards and law enforcement agencies (at the national, regional and international levels) to ensure that criminal groups profiteering from the gradual extinction of endangered species are held accountable.

▲  
Captured Tanimbar  
corellas. © Algi Febri  
Sugita via Shutterstock

## Illegal trade patterns and the digital context

Indonesia has a significant, long-standing problem with illegal and unsustainable wildlife trade that has already contributed<sup>2</sup> to the higher risk of extinction of some species, including certain birds.<sup>3</sup> Indonesia's birds are particularly sought after because their physical features make them attractive as pets or as contestants in competitions, both locally<sup>4</sup> and internationally.<sup>5</sup> Within Indonesia, parrots were the most frequently illegally traded birds from 2015 to 2020, with a total number of 61 identified incidents involving 187 birds.<sup>6</sup>

Indonesian birds are routinely traded within Indonesia and across the whole of South East Asia, as shown in Figure 1. For the domestic market, Java (including Bali and Lombok) has become a

primary hotspot for the bird trade.<sup>7</sup> Recent analysis shows that Jakarta remains the main bird-trading hub in Indonesia and constitutes a key transit point for domestic and international trade.<sup>8</sup> Another important transit point is East Java – the main point of entry (via its ports) for birds into Java from eastern Indonesia and Lampung, where birds caught or bred in Sumatra make their way into Java.<sup>9</sup>

In addition to the local market, birds are routinely traded abroad via several key routes. Parrots caught or bred in Indonesia are trafficked directly to the Philippines (to Papua, North Maluku or Manado) or to Indonesia (mostly to Sumatra, Java-Bali and Kalimantan) and Singapore. These illegal trade routes shift following crackdowns by Indonesian law enforcement agencies.<sup>10</sup>



**FIGURE 1** Key domestic and export routes in the Indonesian illegal bird trade.



Within this broader trade, online illicit markets, though they largely cater to the retail phase of the trade chain, have come to play an important role in Indonesia. The government has recognized this and created specific laws and law enforcement units specifically focusing on online crimes. This online shift has been driven both by trends in the regulation of the wildlife trade and the growing importance of digital platforms in people's lives.

## From offline to online

Once, large, popular bird markets in Indonesian cities were common, but because of increased pressure from Indonesian law enforcement agencies, trade is increasingly moving online, both to social media and e-commerce platforms.<sup>11</sup> Online platforms have substantially removed the barriers to entry into criminal markets, and, as a consequence, the traders can easily expand their networks and reach a wider consumer audience.<sup>12</sup> This shift is also supported by improved transport and connectivity, which has made online purchases easier, more accessible and faster.<sup>13</sup>

This development can be understood within the broader context of significant growth in internet access and the use of digital platforms for commerce in Indonesia. Indonesia has the fourth highest number of smartphone users globally, and this figure is likely to rise in the future, as only 160 out of 273 million Indonesians (58.6%) had a smartphone in 2020.<sup>14</sup> Social media and e-commerce platforms also saw their number of users significantly increase in 2020, from 75 to 80 million people.<sup>15</sup> These trends may well have been exacerbated by lockdowns in response to COVID-19, which saw millions of people confined to their homes and relying on digital systems for basic commerce.<sup>16</sup>

But online markets are even more effective than physical markets at increasing sellers' marketing reach, and they have also pulled new actors into wildlife-trade supply chains, such as courier companies and digital payment systems.<sup>17</sup>



▲ Indonesia endemic birds are highly sought after in the country and internationally.

© Dikkyoesin1 via Getty Images

## THE HARMS OF THE ILLEGAL BIRD TRADE IN INDONESIA

The illegal bird trade in Indonesia causes various types of harm at local and global levels. These harms range from those affecting the natural world to those affecting humans directly (through disease) and indirectly (through the corrosive societal effects of criminality and corruption). We set out the three main types of harm below.

### Biodiversity loss

As mentioned above, Indonesia endemic bird species – in particular parrots – are highly sought after in the country and internationally. In Indonesia, illegal trade has been identified as being – along with habitat loss<sup>18</sup> – the primary conservation threat to endemic birds.<sup>19</sup> Globally, parrots – like the African grey, which is endemic to several African countries – are similarly highly threatened by trade,<sup>20</sup> which has contributed to massive global declines in their populations and may in fact eclipse habitat loss as the leading threat.<sup>21</sup>

## Zoonotic disease

Many birds involved in the illegal trade are harvested from the wild without any sanitary inspection, and many wild birds are potential carriers of zoonotic diseases.<sup>22</sup> At any point in the supply chain, close contact between humans and wild birds could lead to the spread of zoonotic diseases.<sup>23</sup> Passeriformes are highly likely to carry bacterial, viral or parasitic/fungal diseases. There are already several examples of zoonotic diseases transmitted from pet birds, including salmonellosis, tuberculosis, avian influenza, cryptococcosis and blood-sucking mites.<sup>24</sup> For example, although highly pathogenic avian influenza (HPAI) H5N1 is primarily a problem on poultry farms, a recent study has shown that wild-bird movements could increase the rate of reassortment<sup>25</sup> of circulating HPAI virus.<sup>26</sup> Parrots are also the main vector of psittacosis (parrot fever), which can directly infect people who are in proximity with birds, including pet shop owners, veterinarians and bird keepers, and may also occur in people who have not had direct contact with birds.<sup>27</sup> The markets studied in this report may be facilitating encounters that will lead to new outbreaks of zoonosis.

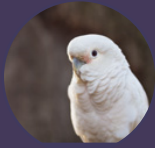
*The illicit trade in parrots has contributed to massive global declines in their populations.*

## Criminal networks and corruption

As mentioned, between 2015 and 2020, there were over 60 recorded trafficking incidents concerning protected bird species in Indonesia – this is a strong indication that organized networks are involved. The bird-trafficking networks in Indonesia have proven able to adapt to major supply chain disruption, such as the closure of main transportation routes.<sup>28</sup> Researchers have argued elsewhere that wildlife-trade networks in Indonesia are well organized, dynamic, open and redundant, with many actors playing similar roles.<sup>29</sup> This study has looked at retail markets for birds in Indonesia and is not able to draw strong conclusions about the nature of their links to transnational organized traffickers, but such markets do – ultimately – bring in profits that keep everyone in a criminal network employed.

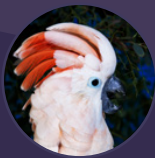
Criminal networks – whether organized or loosely structured – also rely on corruption to function. For example, the smuggling of various protected birds from Papua to Jakarta in May 2021 involved an airline pilot and others from the Indonesian National Military.<sup>30</sup> Corruption is an integral part of any IWT supply chain and may occur during the physical transportation of protected birds from sellers to buyers, the laundering of proceeds or the bribing of law enforcement officers during the prosecution process.<sup>31</sup> Corruption is a serious problem in Indonesia and, although the government has bolstered several institutions tasked with eradicating corruption, progress has been slow.<sup>32</sup> According to a review conducted by the Corruption Eradication Commission, the principal anti-corruption body in Indonesia, the risk of corruption within the customs department is considered 'high'.<sup>33</sup> This affects the integrity of safeguards against the trafficking of wildlife species within and out of Indonesia. Online markets such as those discussed in this report create the profits and the motives that enable and incentivize corruption.

## Overview of the threat posed by trade to the five monitored species



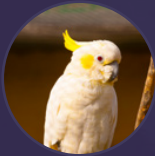
### **Tanimbar corella (*Cacatua goffiniana*)**

The Tanimbar corella is native to the Banda Sea Islands of Yamdena and Larat (Tanimbar) with an introduced population in Kai, Indonesia. Their population in Yamdena Island is estimated to be 231 500 individuals.<sup>34</sup> Unfortunately, their populations are now threatened by heavy trapping for the pet trade and habitat loss.<sup>35</sup>



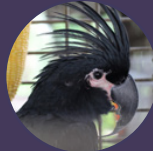
### **Salmon-crested cockatoo (*Cacatua moluccensis*)**

The salmon-crested cockatoo is endemic to Seram, Ambon, Saparua and Haruku in South Maluku, Indonesia, but it appears to have disappeared from Saparua and Haruku. Unsustainable trapping for the caged-bird market has threatened the population, and, between 1981 and 1990, at least 74 509 individuals were exported from Indonesia.<sup>36</sup>



### **Yellow-crested cockatoo (*Cacatua sulphurea*)**

This species is endemic to the Nusa Tenggara Islands (Bali to Timor). It has undergone a dramatic population decline due to illegal trapping and unsustainable trade.<sup>37</sup> A recent study shows that of 144 locations on 30 islands where the species was known to



have existed in 1950, the species is only present in 76 locations on 27 islands, while another 68 islands experienced extinctions between 1986 and 2000, with the current populations estimated to be 3 000 to 3 500 individuals.<sup>38</sup>

### **Palm cockatoo (*Probosciger aterrimus*)**

The palm cockatoo is native to the eastern region, specifically the Papua Islands. Some of the posts linked to the sale of this species in this study were linked to seller-avatar accounts based in these eastern regions, where trapping may be occurring. Previous studies have reported that this species is vulnerable to smuggling from eastern regions of Indonesia to the Philippines.<sup>39</sup>



### **African grey parrot (*Psittacus erithacus*)**

This species is one of the most popular pet birds in Europe, the United States and the Middle East. The populations are threatened by the annual harvest for international trade and by habitat loss. Although the rate of decrease is difficult to quantify, considering the massive rate of capture for trade and forest loss, the range of population decrease is likely to be about 50–79% over three generations (43 years).<sup>40</sup>



# INSTITUTIONAL AND LEGAL FRAMEWORKS TO COUNTER WILDLIFE TRAFFICKING IN INDONESIA

▲ Indonesian birds rescued from smugglers in East Java, Indonesia. © Shalsah/Anadolu Agency via Getty Images

**A**uthorities in Indonesia are aware of the scale and severity of the illegal trade in birds and have taken steps to regulate and counter it. After ratifying CITES in 1978, the government has developed institutional and legal frameworks to combat wildlife trafficking in Indonesia (see box on the next page). These include laws against both the harvesting of endangered species in the wild and their trafficking and trade. The existing legal framework also recognizes the threat of online markets: laws passed in 2014 and 2019 have sought to address crimes that use digital platforms, and they extend trade regulations to the virtual realm.<sup>41</sup> Apart from African grey parrots, all the species monitored in this study are protected by Indonesian law. Therefore, all activities related to capturing, selling, keeping, storing and transporting them, especially wild-caught specimens, are illegal. Capturing and storing these birds are only permitted in special circumstances for research, science and conservation, but a government certificate is required. This trade is permitted if there is legal proof the specimens are captive bred (F2 generation or above).



The Ministry of Environment plays a central role in governing wildlife trade and conservation, and two of its directorates are directly tasked with dealing with wildlife trade, the Directorate General of Nature Resources and Ecosystem Conservation (KSDAE) and the Directorate General of Law Enforcement (GAKKUM). KSDAE focuses on regulating natural-resource management and conservation policies, such as determining harvesting quotas and what species are protected;<sup>42</sup> GAKKUM implements environmental law and policies.<sup>43</sup>

The legal frameworks regulating wildlife trade, conservation and internet use in Indonesia at the national level are:

- **Act of the Republic of Indonesia No. 5/1990 on the conservation of natural resources and their ecosystems.** Article 21 prohibits capturing, destroying, storing, trading and transporting protected plant (21.1) and animal (21.2) species within and outside of Indonesia. Those found violating this article can be penalized with up to five years in prison and fines of IDR 100 000 000 (US\$6 963).<sup>44</sup>
- **Government Regulation No. 7/1999 on preserving flora and fauna species, including those on the protected species list.** This list is regularly amended and provided to the Ministry of Environment and Forestry.
- **Government Regulation No. 8/1999 on harvesting flora and fauna species, including the administrative procedure for doing so and allowable quota.** The quota on harvesting and trading species is periodically updated by decree of the Directorate General of Nature Resources and Ecosystem Conservation, Ministry of Environment and Forestry.
- **Act of the Republic of Indonesia No. 7 of 2014 on trade.** This law regulates trading activities using both online and offline markets. Article 36 outlines a prohibition on trading goods and services that have been determined harmful by other regulations. For example, the trade in all protected plant and animal species referred to in the decree of the Ministry of Environment and Forestry is banned. Further, penalties for violating this article include custodial sentences of up to five years and fines of up to IDR 5 000 000 000 (US\$348 150) (Article 110).
- **Government Regulation of the Republic of Indonesia No. 80/2019 on trade through electronic systems.** It outlines the general rules regulating trade on digital platforms, including the prohibition on trading harmful goods or services as determined by other regulations (Article 10), which includes all protected plant and animal species by decree of the Ministry of Environment and Forestry. Violations of this regulation could result in administrative sanctions (Article 80).



## METHODOLOGY

▲  
© Wrangel via Getty  
Images

**T**o determine the scope and focus of this study, we undertook a literature review to choose species for monitoring (identified in Figure 2 by their scientific and common names). To capture the dynamics of these trends in a market study, we chose to focus on five key bird species protected by CITES Appendix I (all five) and by national law (four out of five). These are the highest levels of legal protection, and exceptions allowing the capture of or trade in these species are rare. Therefore, advertisements for these birds are most likely to be linked to illegal trade, transport and trapping. Not only does this trade harm these bird populations, but by violating these provisions it cultivates criminal activity. We focused on parrot species based on past experience studying these species and in order to continue ongoing work on live-pet markets online. From a longer list of species that met our requirements for legal protections, we generated this list in discussion with parrot-trade experts.

	COMMON NAME	SCIENTIFIC NAME	THE IUCN RED LIST STATUS	CITES STATUS	NATIONAL STATUS
	Tanimbar corella	<i>Cacatua goffiniana</i>	Near threatened	Appendix I	Protected
	Salmon-crested cockatoo	<i>Cacatua moluccensis</i>	Vulnerable	Appendix I	Protected
	Yellow-crested cockatoo	<i>Cacatua sulphurea</i>	Critically endangered	Appendix I	Protected
	Palm cockatoo	<i>Probosciger aterrimus</i>	Least concern	Appendix I	Protected
	African grey parrot	<i>Psittacus erithacus</i>	Endangered	Appendix I	N/A

**FIGURE 2** Bird species monitored for this study.

NOTE: The African grey parrot was monitored although it is not protected by Indonesian conservation law, which accommodates native species. This endangered bird is heavily traded worldwide, especially through online markets. We did not include Bali Myna – listed under CITES Appendix I and protected by Indonesian conservation law – because the current specimens in the markets are largely captive-bred birds.

SOURCES: Data from the CITES-listed species database (<https://checklist.cites.org/#/en>), the IUCN Red List of Threatened Species (<https://www.iucnredlist.org/>) and the Indonesian conservation law on protected species ([https://jdih.go.id/files/146/P\\_106\\_2018\\_JENIS\\_TSL\\_menlhk\\_07252019152513.pdf](https://jdih.go.id/files/146/P_106_2018_JENIS_TSL_menlhk_07252019152513.pdf)).

This literature review shaped the research protocols that would guide this study, which relied on searching for keywords related to the selling and buying of parrots.<sup>45</sup> A series of preliminary monitoring sorties across a wide array of platforms and search-engine queries determined the online platforms that would be monitored.

Subsequently, we began data collection, which was conducted from 1 June to 29 September 2021 on weekdays, for approximately three hours each day (174 hours in total). During the monitoring process, once an advertisement was detected, we coded it in a spreadsheet that recorded details such as basic advert information (date, link, the name of the group/e-commerce site, wording and a screenshot); seller details (account name, account link and location at the province and regency levels); commodity details (species, volume and price); contact details (phone number and social media accounts), and transaction details (payment method and shipping method).

Monitoring was conducted on Facebook, Instagram and e-commerce sites. However, as described below, the Instagram market was cluttered with potential scams and produced relatively few reliable data points, and there was a very low volume of trading on e-commerce platforms. The bulk of the data comes from Facebook, which also presents the challenge of closed groups. Unlike public groups, which could be monitored directly, closed groups required the moderators' approval for us to join before we could observe the groups' dynamics. We also identified the moderators of each group by their profiles and examined their role in controlling the groups.

Facebook monitoring required the most effort as new bird advertisements were posted hourly. Because the groups were at high risk of being shut down and owners often deleted their posts shortly after someone took an interest in the birds, we had a short window of access to these advertisements and had to monitor the site daily. Monitoring Instagram and e-commerce sites, on the other hand, tended to require less time because the advertisements did not come in regularly.





▲ A salmon-crested cockatoo. This bird species was the most commonly traded in the advertisements consulted for this study. © Sanatana via Shutterstock

## MARKET MONITORING RESULTS

**T**he data collected in the course of this research provides insights into several key aspects of IWT. The discussion below introduces key data points gathered during the monitoring of the online illegal trade in birds in Indonesia. It first analyzes trade-related dynamics (the most frequent species for sale, prices, sellers' locations, etc.), and then addresses the service providers that are facilitating this illicit trade (platform hosting, payment systems and courier delivery services).

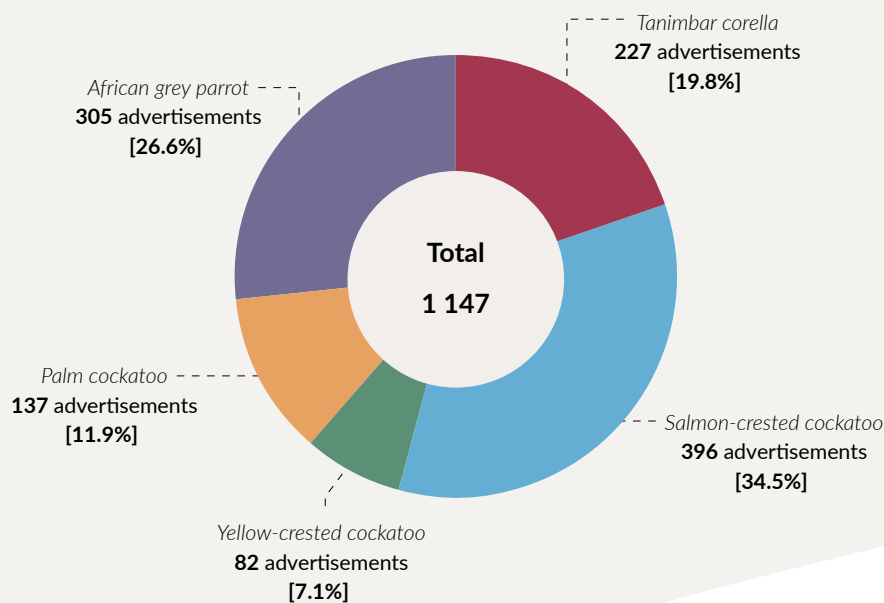
### Data on trade dynamics

In this section, we look at data from our market monitoring that sheds light on the trade in these the five species studied. The high prices that some of these species command may help define the size of illicit flows in this market, and location data may help to reveal transport routes across the country or be used to identify where to target enforcement actions or behaviour messaging for major consumer markets.

#### Species

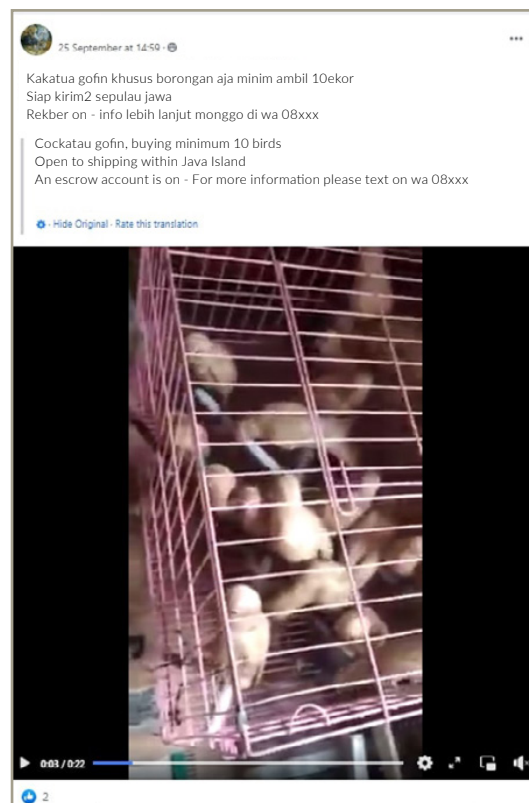
This study found 1 147 advertisements of five parrot species on five platforms. The highest number recorded was of salmon-crested cockatoos while the lowest was of yellow-crested cockatoos. Figure 3 shows the number of adverts for each species.





**FIGURE 3** Number of advertisements recorded from the monitoring, by species.

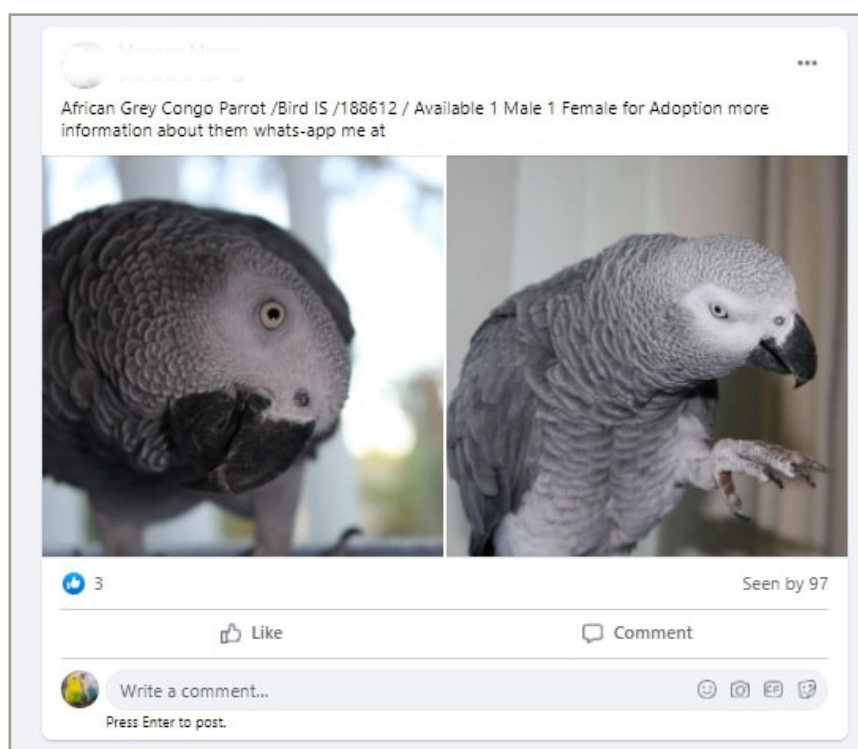
The majority of sellers were only advertising one bird (72.3%).<sup>46</sup> The remaining listings offered more than one bird for sale, and one advertised 40 Tanimbar corella birds. The sale of multiple birds would appear to suggest that the sellers were established, professional traders.



Screenshot of a video in which the trader advertised 40 Tanimbar corellas. © Facebook

The relative distribution of species in the sample may be due to their popularity or supply dynamics (e.g. the ease of trapping and/or availability in the wild). Salmon-crested cockatoos, for example, are high in demand because of their colourful plumage and ability to mimic sounds.<sup>47</sup> The presence of African grey parrots – in the second position, at 26.6% – raises several questions, as this species is non-native to Indonesia. Due to threats from the international trade, this species was given the highest international protection from CITES in 2017, moving from Appendix 2 to 1. Fairly stringent conditions must be met for legal sale: either birds must have entered the country through international import from CITES-registered captive-breeding facilities or, if bred from stock imported previous to the Appendix 1 listing in Indonesia, that must have been done at a facility registered according to local laws.<sup>48</sup>

According to the CITES database, Indonesia imported 5 944 African grey parrots taken from various sources between 1985 and 2017, when such trade was less regulated – these birds are long-living and may still be circulating among local bird owners. Indonesia has also legally imported 524 African grey parrots, all specimens captive-bred in South Africa, between 2018 and 2020 after the species was up-listed. While this does allow some legal routes to acquiring and selling African grey parrots in Indonesia, none of the advertisements we found mentioned any of the necessary documentation or proof of sustainable origin.<sup>49</sup> This itself shows, if not a legal violation, a worrying lack of norms around providing evidence of sustainable sourcing for a highly protected species. The fact that African grey parrots are not nationally protected in Indonesia may also cause platforms to overlook them in their monitoring and removal efforts.



An overseas trader from Cameroon advertises two African grey parrots in an Indonesia-based Facebook group.

© Facebook

## Price

SPECIES	N	LOWEST		HIGHEST	
		IDR	US\$	IDR	US\$
Tanimbar corella	46	800 000	56	2 500 000	174
Salmon-crested cockatoo	43	1 500 000	104	28 000 000	1 950
Yellow-crested cockatoo	12	1 500 000	104	12 500 000	870
Palm cockatoo	14	1 900 000	132	15 000 000	1 045
African grey parrot	41	11 625 000	810	27 555 000	1 919

**FIGURE 4** Price range of birds sold in detected advertisements.

NOTE: US\$1 = IDR14 361.60. Not all advertisements mentioned prices, so *n* represents the number of advertisements in which the price was available.

The data in Figure 4 allows us to venture several explanations regarding price variations. Species that are at higher risk of extinction or depletion (and have officially been designated threatened) tend to have higher market prices – and also higher demand from parrot collectors, who value rarity.<sup>50</sup> However, within species, price is also affected by the traits of individual birds: traders often include a physical description that mentions if the bird is flawless or has any defect, its sex, if it is already tamed or not and the type of food it needs. Likewise, buyers often ask for these details when making sales inquiries. Consumers typically look for ‘tame’ and ‘flawless’ parrots but rarely show any interest in where or how they have been sourced.

The African grey parrot is the most expensive. This may be due to the costs to sellers of procuring them or the high demand for an exotic (and, globally, highly valued) bird, or a combination of the two. It also may be due to the lack of major breeding centres of this species in Indonesia, which reduces supply.

It is not clear why Tanimbar corellas command a price that is so much lower than the other

protected birds. However, it may be because Tanimbar corellas are still trapped and traded in large numbers, creating high availability. Moreover, according to experts in the bird hobbyist market consulted for this study, it has the simplest – and thus least attractive – physical features out of these parrots but is popular because it is easier for beginners to care for.<sup>51</sup> African grey parrots, by contrast, especially when taken from the wild, are extremely difficult to care for adequately as pets and often have behavioural problems. Buyers seeking African grey parrots are often breeders seeking to breed and hand-rear their offspring because they are aware that it is worth the trouble given the high price they can sell them for. Their preference for breeding stock is for birds who are wild-caught, rather than captive bred.<sup>52</sup>

The prices these birds are advertised at are high. For example, the sale of two salmon-crested cockatoos at the lowest price of IDR 1 500 000 (US\$104) exceeds the average salary in Indonesia, IDR 2 756 345 (US\$191) in 2020.<sup>53</sup>

## Location

This study aimed to determine where sellers were based. Location information was sometimes directly indicated in the post caption, but it could also be deduced from comments, or, in one case, from further investigation into the account behind the posts. We have mapped these locations based on administrative boundaries at two levels: 'province' and 'city/regency' (henceforth 'city').<sup>54</sup> While information about locations is provided by platform users and is likely to be accurate, we have not been able to consistently verify it.

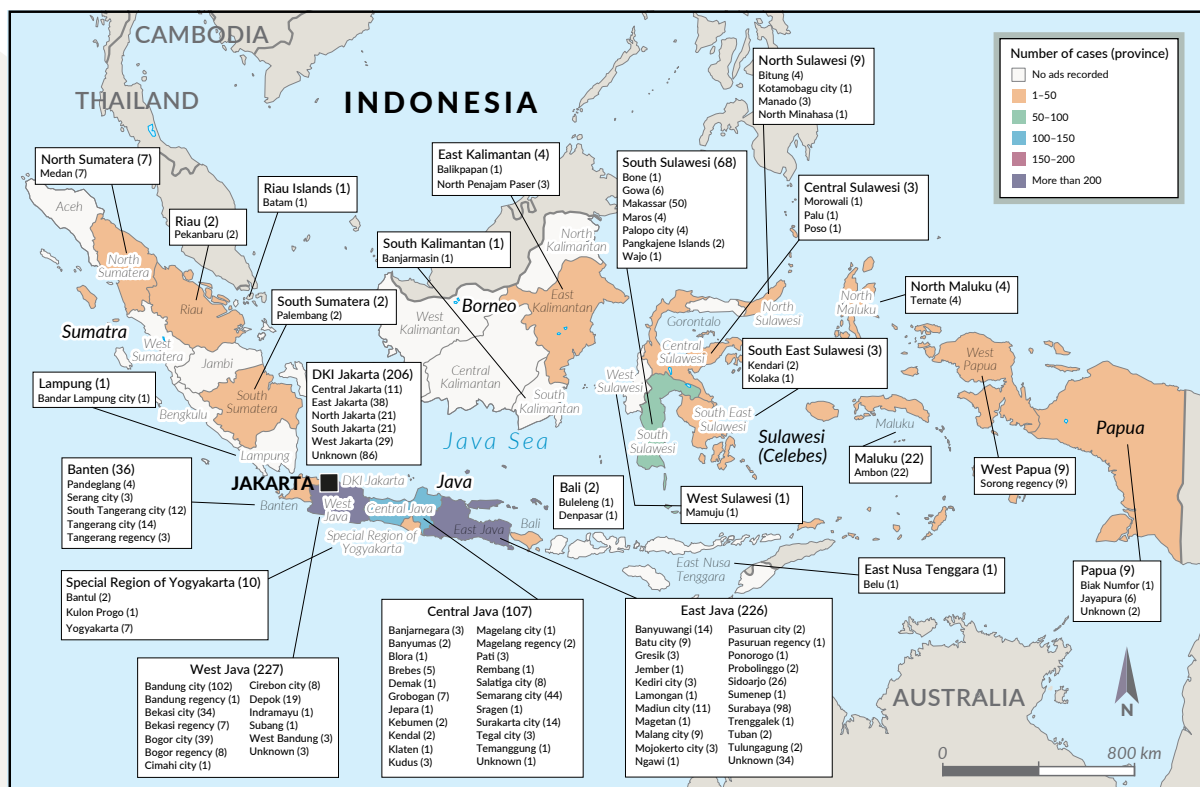
There are two notable features of this data: (1) clear hotspots emerge at the province and city levels, but there is nonetheless fairly wide distribution of sellers overall, and (2) hotspots of online trade do not correspond to species range, which suggests that online traders are not close to the source range of the species.

Online posts were detected from sellers based in 24 of the country's 34 provinces (and one non-Indonesia province, Yaoundé, in Cameroon). Among these provinces, the top three are West Java (19.8%), East Java (19.7%) and DKI Jakarta (18.0%), which made up 57.5% of the total advertisements. In fact, in our

data the island of Java emerges clearly as a key hub of the online parrot trade in Indonesia, with the six provinces on the island accounting for 70.9% of the recorded advertisements.

We identified a total of 101 cities as sellers' locations. The top three were Bandung City (West Java province), Surabaya (East Java province) and Makassar (South Sulawesi province), which accounted for 21.8% of the locations listed in all posts.<sup>55</sup>

Java's strong presence in the data is probably related to compounding factors of economics, demographics and cultural traditions. The Javanese have a long-standing cultural tradition of keeping and trading birds,<sup>56</sup> and it is also the most densely populated, wealthiest region with the best transport connections to other regions,<sup>57</sup> all of which facilitate trade. Birds are popular as pets as well as for songbird contests, and, together with economic drivers, this contributes to a dynamic bird market, for parrots and other species.<sup>58</sup> This demand was traditionally met through sales at physical bird markets, but as enforcement increased, civil society monitors have noticed a switch to online markets, which offer greater protection for sellers of protected species.<sup>59</sup>



**FIGURE 5** Key trade hotspots in the illegal bird trade in Indonesia.

The data also shows that the internet is connecting urban consumers with supply chains that are likely to stretch back to illegal wild harvesting in Indonesia's more remote areas. Overall, only a small number of advertisements (3.6% – n=30) were advertised in the same province as the species range.<sup>60</sup> None of the advertisements for Tanimbar corellas were advertised by sellers living in the species' range, Maluku. The number of advertisements with overlap between range and seller location was 19 (out of 396) for salmon-crested cockatoos, seven (out of 82) for yellow-crested cockatoos and four (out of 137) for palm cockatoos.

This may be due to captive breeding near the seller locations, though most of these species are difficult to breed commercially in captivity.<sup>61</sup>

Traders would turn much higher profits selling wild-caught birds, which are cheaper and easier to obtain. 'Closed' breeding systems, which breed from the F2 generation and above, are more expensive and difficult to run, as captive-bred birds need to be kept for several years before breeding. For example, although a captive female palm cockatoo reaches sexual maturity at between seven and eight years, she will lay her first egg once she is over 30 years old.<sup>62</sup> Therefore, it is unlikely that breeders are using captive-bred birds as breeding stock for sale.<sup>63</sup> Since the sellers' locations are mostly outside of the species' habitat, there are probably previous stages of the trade chain happening offline and a considerable amount of transport of birds across provincial borders before sale to online consumers.

## Data on private sector dynamics

In this section, we discuss data regarding the role of private sector services in the market for illegal birds in Indonesia. The data provides insight into which platform is the most widely used – Facebook, by far – and discusses some of the dynamics that allow the trade to take place there, despite strict policies by

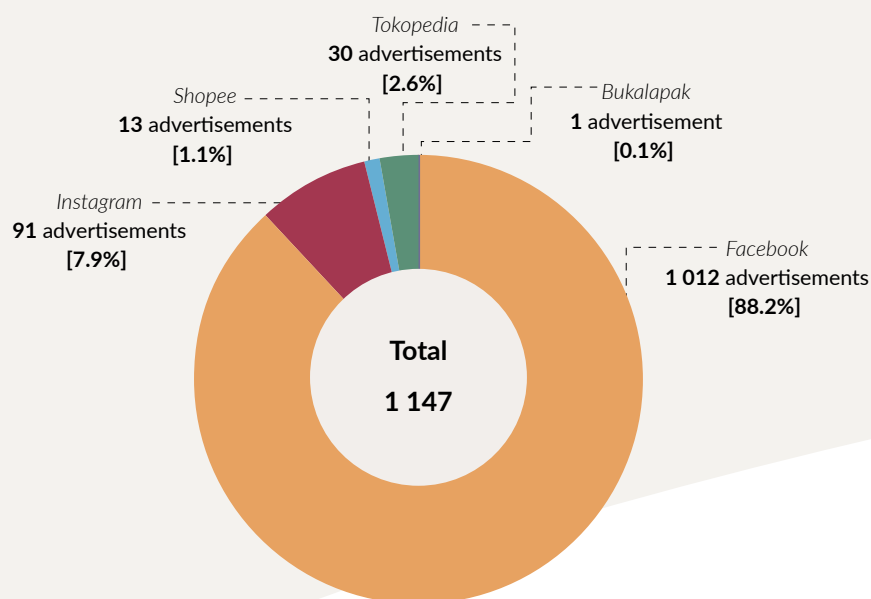
the platform that should prevent it. We then discuss the role of payment services and delivery companies, drawing primarily on post text and comments from Facebook buy-and-sell groups. The services provided by these private sector actors, such as escrow accounts, are crucial to the current functioning of the market.

### Hosting platforms







Figure 6 presents the number of advertisements detected across all platforms, showing that Facebook is clearly the most popular, with the highest number of parrot advertisements across all species. All platforms have included a prohibition on selling

endangered animals in their terms and conditions (see Figure 7). The e-commerce companies refer to the list of protected species under Indonesian law, while Instagram and Facebook have an even broader bans on the sale of any endangered species.





**FIGURE 6** Number of advertisements detected on each platform.

PLATFORM	PROHIBITION	REFERENCE
Bukalapak	Products made from protected species and all kinds of animals as pets.	 <a href="https://www.bukalapak.com/terms#strict-terms">https://www.bukalapak.com/terms#strict-terms</a>
Shopee	All protected animals and plants according to Indonesian conservation law.	 <a href="https://shopee.co.id/docs/3000">https://shopee.co.id/docs/3000</a>
Tokopedia	All products of live animals and animal body parts from the list of protected species in Indonesian conservation law.	 <a href="https://seller.tokopedia.com/edu/produk-yang-dilarang/">https://seller.tokopedia.com/edu/produk-yang-dilarang/</a>
Facebook	Listings may not promote the buying or selling of animals or animal parts. Specifically, selling and buying animals are not allowed on Facebook Marketplace or in buy-and-sell groups. This includes animal postings about animals for adoption.	 <a href="https://www.facebook.com/policies_center/commerce">https://www.facebook.com/policies_center/commerce</a>
		 <a href="https://www.facebook.com/help/130910837313345/?helpref=uf_share">https://www.facebook.com/help/130910837313345/?helpref=uf_share</a>
Instagram	The sale of live animals between individuals, or of endangered species or their parts.	 <a href="https://help.instagram.com/477434105621119?helpref=faq_content">https://help.instagram.com/477434105621119?helpref=faq_content</a>

**FIGURE 7** Platform commitments to ban products advertising animals or protected species.

## Facebook

As Facebook is the most popular social media platform in Indonesia,<sup>64</sup> with a well-established role in facilitating trade between communities and individuals, it is perhaps not surprising that parrot traders would make extensive use of the site. Our data suggests there are numerous traders advertising on Facebook – we counted 587 unique ‘seller avatars’ (see below) operating in the Facebook groups we monitored, far more than on other platforms and social media.

The majority of this trade takes place in buy-and-sell groups, which are often private groups. Even though Facebook also offers a dedicated marketplace site for people to post advertisements and also the option to create business pages for trading companies, there is very little trade in the species we looked at taking place there. While the sale of live animals is banned in all these locations, buy-and-sell groups both provide privacy and give moderators more control over users’ posts, making detection less likely than on business pages or

Marketplace. It is also easier to reach and influence their target market in a buy-and-sell group – which is established to build a community around the bird trade – than by posting advertisement to Marketplace, where there is more ‘noise’ from other trades, which dilutes this sense of community.<sup>65</sup>

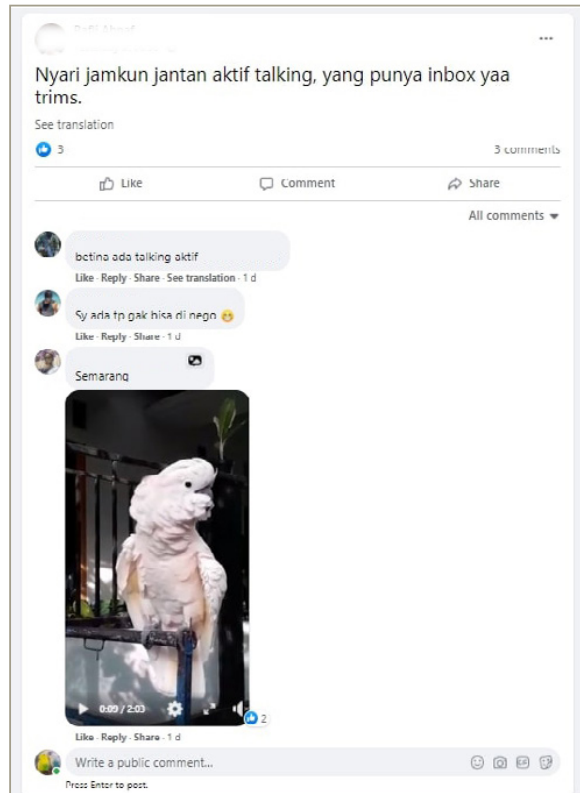
Facebook groups allow traders to reach a targeted market – and in Indonesia, a large one. In total, we monitored 62 groups to capture 1 012 adverts. Some groups we monitored had over 13 000 members, and the average membership was 1 998 people. The groups have wide geographic coverage, and traders living in eastern regions are able to deliver their birds, often via maritime routes, to buyers in western regions, specifically Java, where many bird hobbyists live.<sup>66</sup>

Traders are able to advertise with very little text – they may simply post a photograph or image of their bird with a short caption. Potentially buyers respond in the comments.



A seller advertises two salmon-crested cockatoos with the caption *Molu cari majikan baru* ('Two salmon-crested cockatoos are looking for a new keeper'). Six people showed interest in the first 48 hours. © Facebook

Similarly, when people are looking for birds, they simply post a short sentence expressing their desire for a particular species. Traders reply in the comments, conversations move from comments to private messaging apps (including Facebook's own) or phone conversations, and these transactions appear to conclude fairly quickly.



Post of a buyer seeking a bird. Three sellers advertise their birds in the comments section, including photographs and videos. © Facebook

We do see that Facebook is attempting to enforce its policy of banning the trade in animals by regularly shutting down buy-and-sell groups, informed usually by intelligence shared by NGO monitoring groups. During our monitoring of Facebook groups selling parrots, we observed group moderators taking a number of actions to evade enforcement:

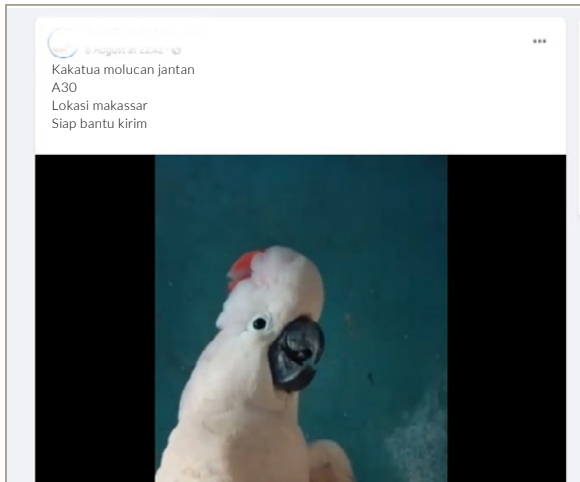
- Groups were switched from public to private mode, which means that new members are only granted entry after vetting by the groups' moderators.
- Group moderators often gave new members a set of questions and terms and conditions for group membership. Questionnaires typically ask if someone is a parrot hobbyist, for their current location, a list of owned parrots and commitment to follow the group's rules.
- Group moderators actively monitor the posts that users put up. If they find posts likely to be flagged by Facebook, they will take them down. Each post may be checked by the administrator to see whether it follows the group's rules before being posted publicly in the discussion room. This moderation aims to prevent the group from being shut down, not to prevent illegal trade.

- Group moderators also police the language used in the group so that their conversations do not trigger automatic detection by Facebook's text-based algorithms. They train users to use code words that are only understood within the group or within the bird-hobbyist world more generally.

As an example of this last point, prices are rarely directly mentioned in Facebook groups, as it would increase the risk of being shut down by Facebook moderators. The groups instead use codes that combine letters and numbers to indicate prices. Generally, a letter corresponds to denomination, and the number indicates how many of that note make up the total sum. For example, A15B1 = (100 000 x 15) + (50 000 x 1) = IDR 1 550 000.

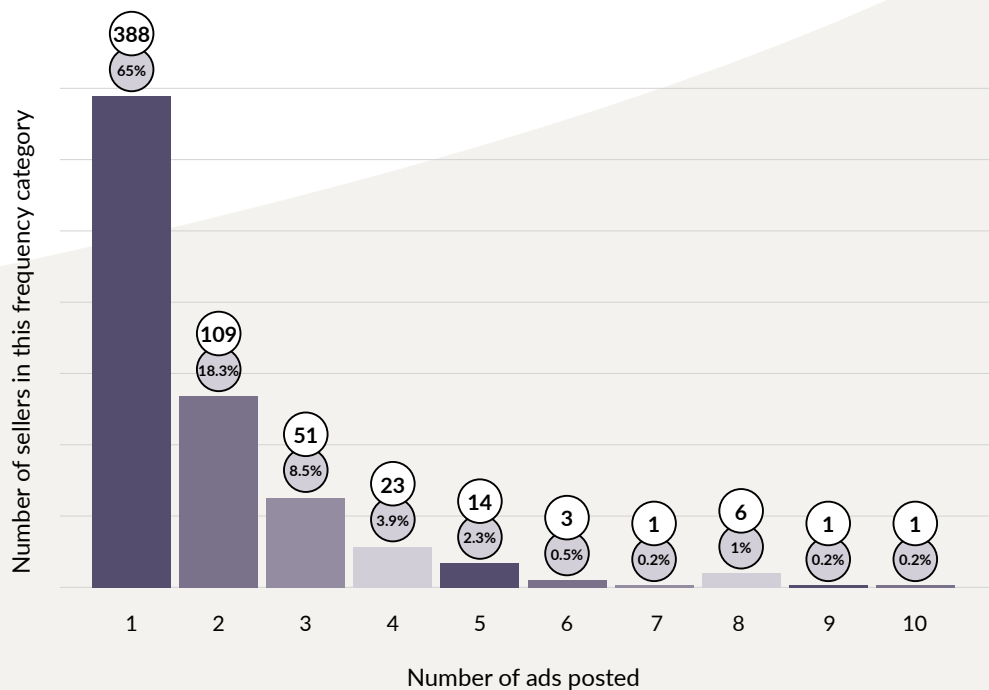


**FIGURE 8** The unique codes that are used in the bird trade. A: IDR 100 000, B: IDR 50 000, C: 20 000, D: 10 000 and E: 5 000.



An advertisement using a price code. The text can be broken down as follows: *Kakatua molucan jantan*: salmon-crested cockatoo (species); 'A30': IDR 3 000 000 (price); *Lokasi makassar*: the seller lives in Makassar (location); *Siap bantu kirim*: the seller is willing to help with delivery. © Facebook

Advertisements have been posted by 578 unique 'seller avatars', although some traders use several avatars, presumably to disguise the volume of their trade and appear to be more 'amateur'.<sup>67</sup> These avatars varied in their advertising frequency, with most (65%) posting one advertisement during our monitoring period and only a few (2%) posting more than five advertisements (see Figure 9).



**FIGURE 9** Advertising frequency of members in Facebook groups.



Given the above dynamics – where users are taught how to evade detection – moderators emerge as being crucial figures allowing traders and buyers to conduct their activities despite Facebook’s policies and enforcement activities. We identified the moderator avatars of a total of 31 groups by looking at each group’s information. It is important to note that we identified the group moderators in the middle of the research after ads monitoring was started. As a result, not all groups were identified because many of them were already closed. Of the identified groups, we found that 13 groups (42%) were moderated by just

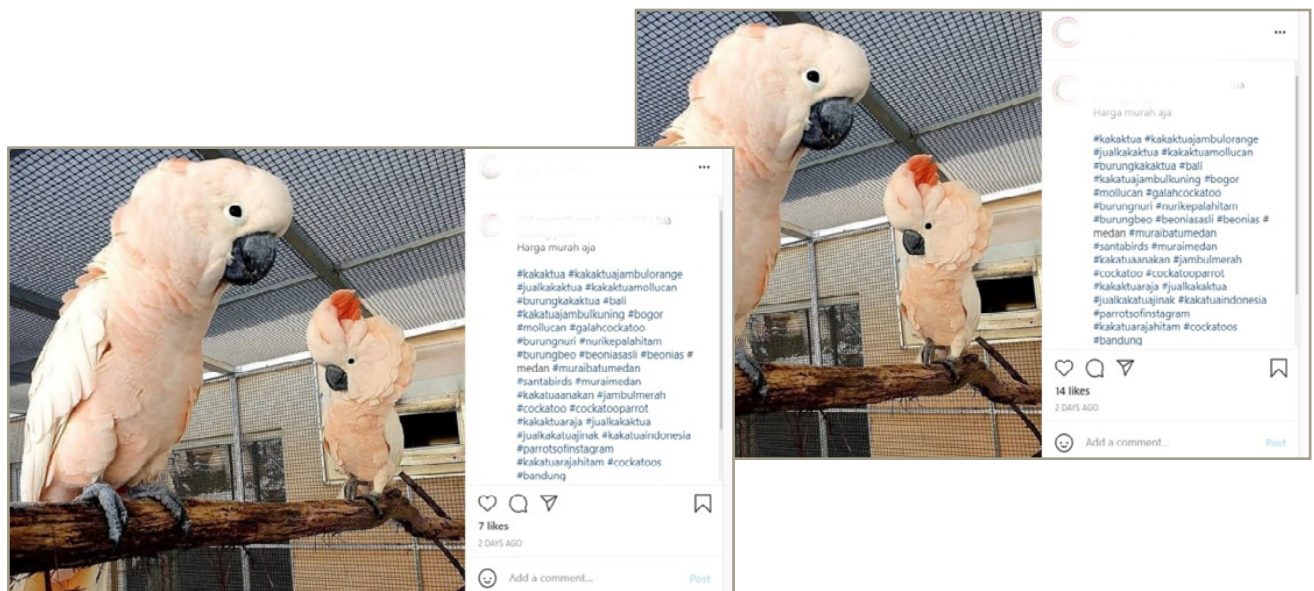
one avatar, but slightly more (18 groups or 58%) were moderated by more than one avatar. In three cases, people were detected as being moderators for two different groups, and in one extreme case, a group was controlled under nine moderators’ avatars.

While there was high trade activity in Facebook groups, the platform also poses the risk of scams, which can usually be detected when birds are being offered for low prices. Group members would warn others about suspected scammers or share their own experiences of being scammed.

## Instagram

The total number of parrot advertisements found on Instagram is 91, around 7.9%, once scams and posts from fake accounts are deducted from the total data. Bird trading on Instagram is characterized by the high volume of what are likely to be scams, which may make it seem unreliable to buyers – especially when compared to the controlled environment created in Facebook’s moderated buy-and-sell groups. The posts that were identified as

scams usually presented a photograph of a bird that had been copied from other accounts. They also tended to post many pictures in a short time frame, along with captions that gave them away, including incorrectly identifying the species or using a single caption or similar captions for all posts. Another sign of scams are low-resolution photographs, which posters attempt to make more convincing by adding a watermark.



Two posts from fake accounts. Both images are from different accounts that posted the same low-resolution photograph and the same caption, which makes the seller seem unreliable. © Instagram

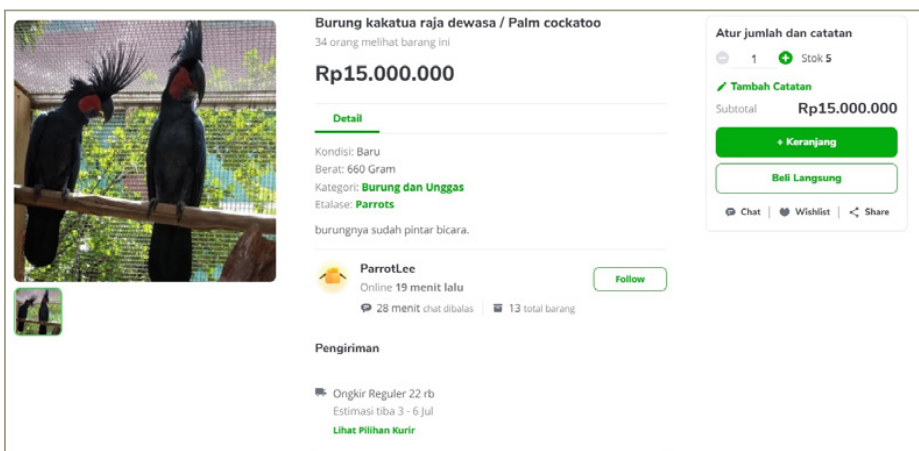
Nevertheless, some accounts on Instagram do actively promote the trade in protected birds. Using more authentic-seeming photographs in their posts, these sellers usually include a short caption that states the species name and physical condition of the bird(s). Some also provide a contact number for further enquires, and price and delivery are discussed through direct message or by phone.



A post from a real account that sold a bird. The seller included the species name and provided a phone number. The hashtags are related to the parrot trade and the species, including #bamsbreeder (the account name), #kakakua (parrot) and #mollucan (salmon-crested cockatoo). © Instagram

### E-commerce platforms

We discovered relevant advertisements on three e-commerce platforms (Bukalapak: 1 advert, Shopee: 13 adverts and Tokopedia: 30 adverts). While advertisements posted on e-commerce platforms only constitute 3.8% (44 adverts) of the detection sample, they often provide more detailed information than social media posts, such as price, seller location, payment method and shipping method. In general, Indonesian e-commerce platforms have implemented restrictions on the trade in protected species. For example, Bukalapak, Shopee and Tokopedia have made statements in their terms and conditions to forbid the sale of protected animal and plant species.<sup>68</sup>



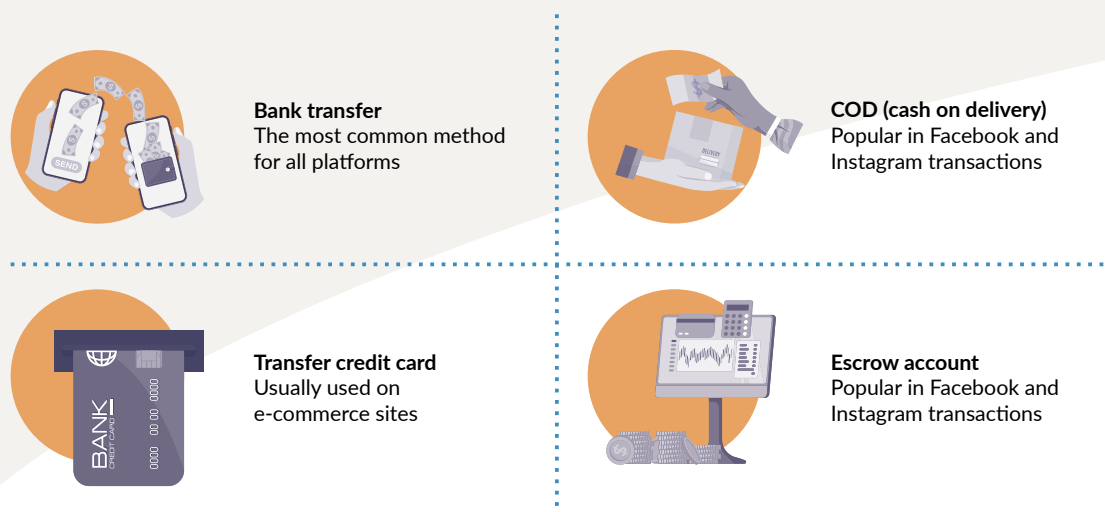
Two palm cockatoos advertised on Tokopedia. The shipping and payment methods use the options provided by the platform (the courier services GoSend and JNE, and payments by transfer or credit). © Tokopedia

## Payment services and intermediaries

Traders use various payment methods to conduct transactions online, usually mentioned directly in the advertisements. Figure 10 details the most common payment methods used on each platform. The bargaining process is usually conducted through private message, typically WhatsApp or Facebook chat.

Interestingly, within Facebook and Instagram, escrow accounts appear to be the preferred

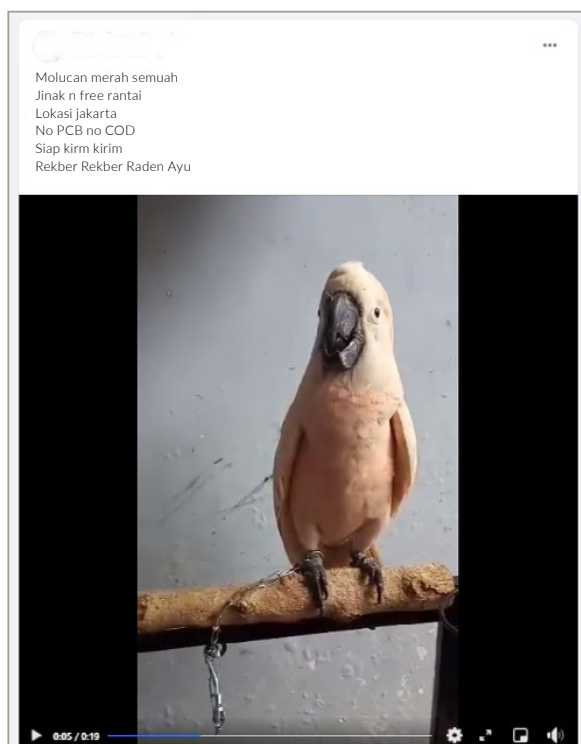
payment method of both sellers and buyers. Escrow accounts are temporary accounts held by a third party during the process of a transaction between two parties; in the Indonesian context, they are typically known as 'rekber', the abbreviation for *rekening bersama* (escrow account). This method is prevalent on Facebook and Instagram, while, in contrast, e-commerce platforms have their own payment methods built into the platform.



**FIGURE 10** Payment methods commonly used for the illegal bird trade.

When sellers offer use of an escrow account, they will usually use a trusted third party who is most likely well known by the seller and buyer. These people appear to only provide escrow-account service; there is no indication they are engaged directly in bird-trade transactions. Other users in the

group often testify to the trustworthiness of the third party and reassure buyers that the transaction cost is low. The use of escrow accounts in the bird trade in Indonesia has been popular for at least four years – it is a continuation of a trend in payment methods noted as early as 2018.<sup>69</sup>



An advertisement for a salmon-crested cockatoo mentioning 'rekber', an escrow account. © Facebook

## The rise of escrow accounts

It is not clear when an escrow account was first used in the bird trade, but it may have been around 2010. According to information from OmKicau.com, one of the most popular websites for the bird business in Indonesia, an escrow account was introduced by a user named 'Om Dwi Lovebird'. He and other bird hobbyists

proposed using an escrow account because there were frequent scams in online bird trading. Om Dwi Lovebird began handling the first escrow account, specifically for online bird trading, on the bird-trading site OmKicau.com.<sup>70</sup> Figure 11 provides examples of the transaction fee generated for trading through escrow accounts.

TRANSACTION AMOUNT	TRANSACTION FEE
IDR	
≤1 million	10%
1–2 million	9%
2–3 million	8%
4–5 million	7%
5–6 million	6%
6–7 million	5%
7–10 million	4%
≥ 10 million	3% (or negotiable)

**FIGURE 11** Transaction fee of the escrow account service by Om Dwi Lovebird.

SOURCE: OmKicau.com, <https://omkicau.com/2010/12/17/dibuka-rekening-bersama-jual-beli-burung-online-om-dwi-lovebird-jogja/>

Some escrow accounts have become particularly popular among bird and animal hobbyists, including one operated by Rekber Raden Ayu.



The image above is an advertisement for Rekber Raden Ayu's escrow account services.<sup>71</sup> It displays the steps for using this service: (1) seller and buyer agree to use the service; (2) seller, buyer and Rekber Raden Ayu set up a WhatsApp group for communication; (3) the buyer transfers the agreed-upon price to Rekber Raden Ayu;

(4) after Rekber Raden Ayu receives the money, the seller transports the birds or other commodities to the buyer; (5) after the buyer confirms that the shipment has been received, Rekber Raden Ayu will transfer the money to the seller. The transaction fee charged by Rekber Raden Ayu is detailed in Figure 12.

TRANSACTION AMOUNT	TRANSACTION FEE	
IDR	IDR	US\$
10-100 000	5 000	0.35
100 000-1 million	10 000	0.70
1-10 million	15 000	1.04
10-20 million	25 000	1.74
20-50 million	50 000	3.48
50-100 million	100 000	6.96
≥ 100 million	Negotiable	0.35

**FIGURE 12** Transaction fee charged by Rekber Raden Ayu.



## Delivery services

While advertisement and sales agreements take place virtually, live birds ultimately have to be physically delivered to customers. Delivery methods are often mentioned in advertisements. Generally, sellers use land shipment for delivery within the same island and sea shipment if the buyer and seller are on different islands. Occasionally, sellers only accept buyers who live on the same island, aiming to make the delivery process easier. When the buyers are located near the sellers, inter-city local shipments (for instance, GOSEND and Grab Express that work with motorcycle drivers) or face-to-face transfer is preferred.

Figure 13 shows some of the courier companies that are often mentioned in the advertisements (it is not clear which are the most popular as often several delivery options are mentioned). Transporting protected live or dead animal or plant species is prohibited by the terms and conditions of each courier company.<sup>72</sup> However, transporting live or dead animals and plants is allowed if they are accompanied by health certificates issued by the relevant institution.<sup>73</sup> Twelve out of 14 companies have included prohibitions in their terms and conditions stating that drivers may not transport any live or dead animals, and this prohibition is even stricter when involving protected species.

SERVICE NAME	COMPANY NAME	PROHIBITION ON TRANSPORTING LIVE ANIMALS
Anteraja	PT. Tri Adi Bersama	Yes
GOSEND	PT. Aplikasi Karya Anak Bangsa	Yes
Grab Express	PT. Solusi Transportasi Indonesia (GRAB)	Yes
Indah Logistik Cargo	PT. Indah Logistik	Yes
Indopak	Indopak	Yes
J&T Express	PT. Global Jet Express	Yes
JNE Express	PT. Tiki Jalur Nugraha Ekakurir (JNE)	Yes
Lion Parcel	PT. Lion Express	Yes
Ninja Xpress	PT. Andiarta Muzizat	No
Pos Indonesia	PT. Pos Indonesia (Persero)	Yes
REX Kiriman Express	PT. Royal Express Indonesia	Yes
Sicepat Ekspres	PT. SiCepat Ekspres	Yes
TIKI	PT. Citra Van Titipan Kilat	No
Wahana Express	PT. Wahana Prestasi Logistik	Yes

**FIGURE 13** Courier companies frequently mentioned in advertisements.



## CONCLUSION

**T**his study has presented original data on the online marketing of five highly endangered and protected parrot species in Indonesia. These species are commodities in illegal trades that are connected to organized criminal networks that engage in corruption and whose activities pose risks of species extinction and zoonotic-disease spillover. This data also serves as a bellwether for the extent of the online trade in protected birds in Indonesia.

For these five species, the core of the online-trade problem lies in Facebook's buy-and-sell groups. This is evident not just in the frequency of advertisements on Facebook as compared to other e-commerce and social media platforms but in the number of members in each group, the number of groups, the sophistication of the illicit culture within them (for example, training new members to use code words) and the ease with which moderators can start new groups and re-form their community of members after their old groups are shut down. This happens despite Facebook's strict ban on the sale of endangered species and despite its membership in the Coalition to End Wildlife Trafficking Online. This raises serious questions about whether its existing regulation of illicit wildlife trade on the platform is adequate.

The study also highlights the role of shipment companies in transporting bird specimens, and potentially other species, and the role of third parties in enabling escrow transactions to take place. These actors have previously been recognized as playing a role in online trade in wildlife in Indonesia and their centrality in that trade should also be acknowledged.

▲ Captive yellow-crested cockatoos and other birds, Bandung regency, Indonesia.

© Algi Febri Sugita/  
NurPhoto via Getty  
Images

All the parrot species monitored in this study enjoy the highest level of national and international protection. Despite specific legislation and enforcement in Indonesia to tackle this threat, if the trade in these species is widespread online, it suggests that there are gaps in the response, which will affect many other species.<sup>74</sup>

We hope these findings will feed into more effective responses to the online trade in birds and all protected wildlife in Indonesia.

## Recommendations

### **To government agencies:**

Since 2015, the Directorate General of Law Enforcement (GAKKUM) has made significant progress in combating wildlife crime, including through the prosecution of a number of wildlife crimes linked to online markets.

We encourage GAKKUM and other government bodies to continue to monitor wildlife trade on online platforms and to investigate the most serious offenders and those who enable the markets to thrive. These measures should be publicized in the forums where trade takes place.

GAKKUM should also explore the role of escrow accounts in the wildlife trade, both as entry points into investigating traders and as means of facilitating illicit financial flows in the trade itself.

### **To civil society:**

Civil society plays an active role in identifying and responding to online trade threats. We encourage civil society actors to use this data to hold actors to account, and we are happy to offer the data in this study for further studies and the collation of shared baselines on the levels of IWT present on online platforms.

GAKKUM also has provided an online platform<sup>75</sup> for civil society reports of wildlife crime, which the agency responds to. Civil society actors and members of the public should proactively and promptly report wildlife crime, particularly when witnessing illegal wildlife trade on online platforms.

### **To courier companies:**

In the online wildlife trade, courier services play a key role in transporting the specimens from trader to buyer. Many of the advertisements we monitored actively recommended using courier companies for safe delivery of illegal wildlife – specifically live birds, which are hard to hide. Yet the majority of the courier companies have a prohibition on delivering live or dead animal and plant specimens. Courier companies should take action to understand why their services are considered ‘friendly’ to wildlife traders and take action to close these gaps.

**To Facebook:**

Our study shows that Facebook is a prominent platform for trading endangered birds, despite the fact that Meta has outlined community standards that include a restriction on the posting of endangered species (animals and plants) and live non-endangered species. We are aware of Meta's efforts to enforce their policies through technological monitoring and review teams.<sup>76</sup>

Unfortunately, our study documents the widespread abuse of Facebook groups for illegal activities. One aspect of this problem that needs careful attention is the role of moderators who control buy-and-sell groups on Facebook. They play a simple but important role in ensuring that the trading activity in the group can be adapted to sidestep enforcement and moderation efforts. There must be a dedicated enforcement strategy targeting these moderators.

**To e-commerce companies:**

Our study found far fewer suspicious advertisements on Indonesian e-commerce platforms. In our communications with e-commerce platforms, they detailed measures undertaken to comply with national legislation that prohibits trading in protected wildlife species. In this vein, we encourage them to keep monitoring their platforms and take further actions when advertisements for protected species appear, and to share lessons learned with other platforms.

**To CITES:**

CITES has acknowledged the threat of wildlife crime linked to the internet in resolution 11.3 (Rev CoP18), on compliance and enforcement, and decisions 18.81 to 18.85 on wildlife crime tied to the internet.

We encourage CITES to take note of these findings, especially the particular problems that arise in online communities for selling live animals on social media, and the size and popularity of markets both for highly endangered endemic birds and non-endemic African grey parrots in Indonesia.

*The widespread online trade in these birds suggests that there are gaps in the response, which will affect many other species.*

## NOTES

- 1 F2 is the generation resulting from interbreeding among F1 generation individuals. F1 is the generation of hybrids resulting from a cross between genetically different individuals called 'parents'.
- 2 For example, the Javan pied starling (*Gracupica jalla*, endemic to Java and Bali) has been declared extinct in the wild in 2021. Their population in the wild is very low, 49 individuals at most, and they mostly exist in captivity. This bird has become one of the most sought-after species among bird hobbyists in Indonesia in the past decades, leading to the massive cage-bird trade that brutally destroyed its population. It is not clear how many wild birds were sold in the market, but an estimated 80 000 birds are traded annually. Vincent Nijman et al., Large-scale trade in a songbird that is extinct in the wild, *Diversity* 13, 238, 1, <https://doi.org/10.3390/d13060238>. See also Dudi Nandika et al., Wildlife trade influencing natural parrot populations on a biodiverse Indonesian island, *Diversity*, 13, 483, 1, <https://doi.org/10.3390/d13100483>.
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# GLOBAL INITIATIVE

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