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## **Research Article**

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# Assessing the trade of Chinese Hwamei *Garrulax* canorus in the USA

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#### Summary

The trade in Asian songbirds is contributing to declining populations of many species in the wild. The Chinese Hwamei Garrulax canorus is a popular songbird endemic to Asia that is traded both domestically and internationally. The songbird trade in the USA, particularly involving Asian songbirds, has not been well studied. We hypothesised that despite Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix II regulations, Chinese Hwamei are traded illegally in the USA. We scrutinised the CITES Trade Database, US seizure and confiscation records, publicly available records, and websites to assess the imports and availability of Chinese Hwamei in the USA. Since the species was first listed in CITES Appendix II in 2000, there have been three reports of Chinese Hwamei imports into the USA, one of which included four live birds, compared with approximately 40 records of illegally imported birds. Online advertisements of Chinese Hwamei for sale show that both wild-caught and captive-bred birds are easily available. We believe this indicates that there is both legal and illegal trade of the species in the USA. Based on these findings we concluded that more research into the songbird trade, and specifically songbird trade in the USA, is warranted. We recommend additional assessments of CITES and non-CITES songbird species and encourage additional species protection when illegal trade is occurring. We also recommend that the relevant authorities in the USA better scrutinise the trade in non-native songbirds and take meaningful action against anyone found unlawfully importing and trading in illegally sourced songbirds. Finally, we recommend that the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species includes international trade as a threat to the Chinese Hwamei in order to raise concern and motivate action for this songbird.

## Introduction

The demand for Asian songbirds, like the Chinese Hwamei Garrulax canorus has led to the overharvesting and exploitation of many species. The decline of songbird species, specifically in Southeast Asia, has been called the "Asian songbird crisis" by conservationists who are monitoring these trends and population declines. While songbirds represent approximately half of all avian taxa, very few songbird species are listed in the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the international trade in songbirds remains poorly regulated, and poorly understood. The Chinese Hwamei, native to China, Lao People's Democratic Republic (PDR), and Vietnam, is a popular cage bird amongst bird hobbyists (BirdLife International 2018). While the species is assessed as being of Least Concern by the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species, little is actually known of its status in the wild (BirdLife International 2018). Once included in Timaliidae (Collar 2006) and grouped with Taiwan Hwamei Garrulax taewanus, it was split from the Taiwan Hwamei and both species are now included in family Leiothrichidae (Collar and Robson 2018). Both species were listed in CITES Appendix II in 2000 and are the only laughingthrushes and one of the few Asian songbirds to be listed in CITES. Valued for its beautiful and melodious song, justification for listing the species included both the domestic and international trade as threats, including its popularity as a cage bird in countries outside its native range, including Thailand, Malaysia, and Singapore.

While still considered common and widespread in parts of China, it is nearing extirpation in Vietnam and its status in Lao PDR is unknown, but it is assumed to be scarce (Duckworth *et al.* 1999, BirdLife International 2018). Although the IUCN Red List does not specifically mention international trade as a threat to this species, it is known to be traded internationally, both legally and illegally (Shepherd 2010, Shepherd *et al.* 2016, 2020, Eaton *et al.* 2017a,b).

According to the CITES species listing proposal for Chinese Hwamei, there were 125,826 authorised exports of Chinese Hwamei from China to CITES Parties, including the USA, from 1990 to 1998. In August 1998 China stopped issuing export permits for Chinese Hwamei. Inclusion in a CITES appendix alone without additional trade monitoring does not implicitly

guarantee an understanding of trade dynamics. We therefore provide a detailed examination of the trade and availability in the USA of the Chinese Hwamei, which is critical to facilitating the use of CITES to limit trade-based threats to this species and potentially other songbirds.

Wildlife trade in the USA is regulated by various laws, including the Wild Bird Conservation Act of 1992 (WBCA) (H.R. 5013. 16 USC 1901-4916), the Endangered Species Act of 1973 (ESA), and the Lacey Act of 1900. It is through enforcement of these national laws and regulations that CITES is implemented in the USA. In 2016, the End, Neutralise, and Disrupt Wildlife Trafficking Act of 2016 (END Act) was established to curb illegal wildlife trade and trafficking for the purpose of, among others, protecting and conserving species threatened by illegal wildlife trade. The ESA, while a domestic law, has been called the most useful law in the USA to protect endangered species from extinction (Wilcove et al. 1993). It protects non-US native species by requiring permits to import certain species or products, or by banning the importation of certain non-native wildlife or wildlife products altogether. The Lacey Act is particularly useful as it pertains to the regulation of trade in wildlife not native to the USA (Anderson 1995) and applies to all wildlife, whether they are dead, alive, parts, or offspring (Webb 2013). This law works in conjunction with CITES to regulate the importation, and the movement across US state borders, of any species that is protected by international or domestic regulations. Due to its encompassing scope, both in species covered and activities prohibited, the Lacey Act is frequently used to address illegal wildlife trade of non-native species in the USA (Anderson 1995). The WBCA aims to limit the import into the USA of exotic bird species that are listed in the CITES appendices to ensure that wild populations are not negatively impacted by international trade. Some wild bird import exemptions are allowed through the WBCA for captive-bred birds. In order to meet the exemption criteria, wild birds imported under the WBCA must be captive-bred and must not have been removed from the wild for commercial purposes. As of 2019, neither Chinese Hwamei nor any other Garrulax species are exempted under the WBCA. As such, any Chinese Hwamei declared as personal pets and approved for import into the USA would not be able to be used for commercial purposes and sold once in the USA. These combined laws serve to protect wildlife, regulate imports of species into the USA, and enforce penalties for wildlife trafficking crimes; understanding these legislations is necessary when evaluating domestic US trade of non-native species, such as the Chinese Hwamei.

The USA is among the several countries involved in the trade in Chinese Hwamei. As a CITES-listed species that is frequently seen for sale in aviculture, Chinese Hwamei is a useful case study species to assess the trade of popular Asian songbirds in North America. The USA has a large but unquantified songbird trade involving species from around the world, though the dynamics of this trade have not been well studied and the trade in individual species has received little attention.

#### **Methods**

We queried the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) CITES Trade Database (https://trade.cites.org downloaded November 2019 and May 2021) to assess reported exports of Chinese Hwamei from all CITES Parties to the USA and imports reported by the USA from 1999 to 2018. This database compiles the records of listed species that are

annually reported by participating Parties. Importation records reported by the USA from 2010 to 2018 were requested and assessed using the US Law Enforcement Management Information System (LEMIS) through Freedom of Information Act (FOIA) requests. The LEMIS database, managed by the US Fish and Wildlife Service, compiles information on all wildlife including CITES and non-CITES imported into and exported from the USA, including seizures and confiscations (Livengood et al. 2014, Smith et al. 2017). The authors submitted three FOIA requests to obtain LEMIS data to review imports, seizures, and confiscations of songbirds imported into the USA for the time periods between 2010 and 2019. The first request was submitted on 28 October 2019. The authors noted there were known confiscations missing from the first dataset received and therefore submitted a second request on 4 February 2020. The data received from the first two requests indicated that no Chinese Hwamei were imported, confiscated, or seized for the requested timeframe. It is important to note that other research suggests that the LEMIS reports received may be inaccurate or incomplete since different government resources such as webbased monthly bulletins and press releases had records of confiscations or seizures. The authors submitted a third request to receive a full LEMIS report of imported, seized, confiscated birds including live and dead specimens. The response from the final LEMIS request on 8 July 2020 indicated an indefinite timeframe to receive results, leading the authors to be uncertain when the requested dataset would be received; therefore they were not included in this analysis.

We searched the US Department of Justice's (DOJ) *Environmental Crimes Monthly Bulletins* and press releases to investigate whether any songbird trafficking reports were reported: https://www.justice.gov/enrd/selected-publications/environmental-crimesmonthly-bulletins. This bulletin summarises criminal environmental cases prosecuted by the DOJ and is organised by month and year. The authors searched the active (2013–2019) and archived (2010–2012) bulletins using the search terms "songbird", "Asian songbirds", "birds", and "Chinese Hwamei". Any reports of Asian songbird smuggling attempts including Chinese Hwamei were catalogued including year, offender information, and number of individuals reported.

Lastly, we conducted an online survey for Chinese Hwamei for sale on popular websites and forums to search for any indication of availability and interest of this species in the USA. Search terms were "songbird" and "Asian songbird" and included specific terms such as "Chinese Hwamei", "Hwamei", and "Hoa mi". These terms were selected based on language used to advertise this species. The word "Hoa Mi" was used in multiple advertisements with pictures of Chinese Hwamei, therefore was included as a search term. Monthly monitoring of specific websites known to the authors to advertise songbirds were reviewed including active and archived listings for calendar years 2017 to 2019. Posts or listings were documented and categorised by common name, number of individuals, sex, date of listing, phone number associated with listing, price, and origin (wild caught, captive bred, or unknown).

## Results

The CITES Trade Database holds no records of Chinese Hwamei being imported into the USA from any exporting country for commercial purposes (Purpose Code T) since the species was first listed in the appendices of CITES in 2000. Only three imports of this species into the USA are reported in the CITES Trade Database

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under other Purpose Codes; four live birds were imported for personal purposes (Purpose Code P) from China in 2005, three feathers were imported from Vietnam for scientific purposes (Purpose Code S) in 2012, and one carcass was imported from China for educational purposes (Purpose code E) (Table 1). The four live birds were declared to be from the wild (Source Code W) and the feathers and carcass were seized by authorities (Source Code I).

LEMIS data received from the first two FOIA requests indicated that no Chinese Hwamei were imported, seized, or confiscated between 2010 and 2019.

Searches of the DOJ *Environmental Monthly Crimes Bulletin* and press releases yielded approximately 40 Chinese Hwamei that were seized or confiscated at US ports of entry since 2009.

Online advertisements from one website included 29 Chinese Hwamei listed for sale between 2017 and 2019. Fourteen were listed as male, four were listed as female, four listed as unknown sex, and the remaining seven either had no sex information or were listed as pairs. Of the 29 birds listed for sale, five were described as "wild caught". Two advertisements described the birds as males with "wild song", but did not explicitly state if they were wild caught.

#### **Discussion**

As people emigrate and move around the world, so do customs, traditions, and practices (Romagosa 2015). The Chinese Hwamei, also called Melodious Laughingthrush, has been a popular cage bird in China for years, and considered by some to be the most popular cage songbird of the worldwide Chinese community (Li *et al.* 2006). The popularity of the species is also considered to be contributory to the introduction of the species outside its natural range, including intentional and accidental introduction to the Hawaiian Islands in the USA (Moulton *et al.* 2001, Pyle and Pyle 2009). We have found no indication that the source of reported wild birds available for sale in the USA are from the domestic trade via the Hawaiian Islands. However, we have found ample evidence from published and unpublished records to indicate they are coming into the USA from Southeast Asia.

The trade in Chinese Hwamei has been documented and observed in areas of its native range as well as outside this range. Dai and Zhang (2017) estimated that in Guiyang, China approximately 2,000 birds were sold in one year and concluded that such a high volume of trade could lead to over-harvesting of wild birds and pose a threat to the wild population in south-west China. Chinese Hwamei have also been documented in markets in other parts of Asia, such as the Mong La market on the Myanmar–China border (Shepherd and Nijman 2007), in Vietnamese cities like Hanoi and Ho Chi Minh (Eaton *et al.* 2017a,b), and in Singapore (Eaton *et al.* 2017a). Although the Chinese Hwamei is not native to Indonesia, market surveys between 2014 and 2015 in Java, Indonesia revealed that Chinese Hwamei were the second most numerous laughing-thrush species and the third most expensive in the surveyed markets (Shepherd *et al.* 2016).

The price of Chinese Hwamei in the USA appears to be higher than the prices observed outside the USA, and when comparing the price of a single male bird in Indonesia with the price of a single male in the USA, there is approximately a 10-fold difference. Individual birds for sale in the USA ranged in price from US\$750 to US\$1,600. Prices for pairs ranged from US\$750 to US\$2,200, males ranged from US\$850 to US\$1,600, and females from US\$750 to US\$1,400. One listing indicated the seller purchased a bird for US\$1,800 but was selling it for US\$1,500. Male Chinese Hwamei tend

**Table 1.** Records of imports of Chinese Hwamei into the USA, 2000–2018, from the CITES Trade Database.

							Comparativ	Comparative Tabulation Report	Report .						
Year	Арр.	Year App. Taxon	Class	Class Order	Family	Genus	Importer	Exporter	Origin	Importer reported Exporter reported Constantity Team Unit Purpose Source	Exporter reported quantity	Team	Unit	on pose	Source
2005		II Garrulax canorus	Aves	Aves Passeriformes Muscicapidae	Muscicapidae	Garrulax US CN	SN	N		4		live		Ь	M
2012	=	2012 II Garrulax canorus	Aves	Aves Passeriformes Muscicapidae Garrulax US VN	Muscicapidae	Garrulax	SN	N		ъ		feathers		S	_
2018	=	2018 II Garrulax canorus	Aves	Aves Passeriformes Muscicapidae Garrulax US	Muscicapidae	Garrulax	SN	CN		1		bodies		Е	_

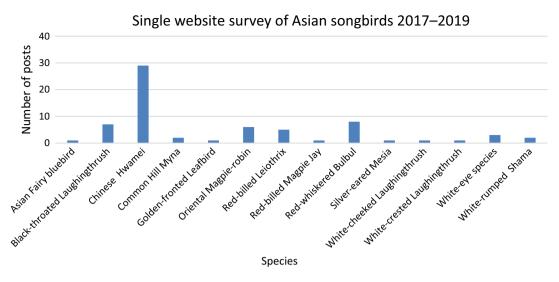


Figure 1. Single website search of available Asian songbirds for sale from 2017 to 2019.

to be more heavily prized due to their singing abilities, while females are not as highly valued. In some countries where they are traded and kept as pets, females may be discarded, sold for food, or simply released as has been documented in Taiwan and Singapore (Li *et al.* 2010). Released birds into new or different habitats may be maladapted to acclimate to novel settings and may not have the skills to successfully adapt to a new environment. Furthermore, releasing individuals into non-native habitats or ecosystems can have various impacts on those local ecosystems and native species (Su *et al.* 2014). For example, introduced Chinese Hwamei in Taiwan have hybridised with Taiwan Hwamei, which can have conservation implications for both species (Li *et al.* 2010).

Of the monthly website searches for Asian songbirds listed for sale for this study, Chinese Hwamei, Red-whiskered Bulbul *Pycnontus jocosus*, Black-throated Laughingthrush *Garrulax chinensis*, Oriental Magpie-robin *Copsychus saularis*, Red-billed Leiothrix *Leiothrix lutea*, White-crested Laughingthrush *Garrulax leucolophus*, and White-rumped Shama *Copsychus malabaricus* were the most frequently listed Asian songbirds (Figure 1).

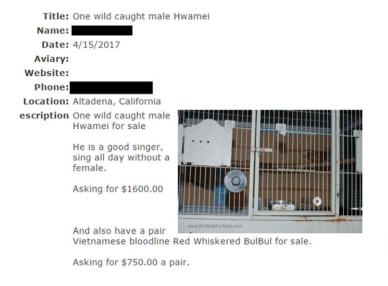
While Chinese Hwamei are among the numerous songbird species sold online in the USA, the most significant finding is the number of birds listed with the term "wild caught" as the origin (Figure 2). It is also possible that there may have been other wild-caught birds available, but that information may have been omitted from advertisements to avoid potential investigation, seizure, or confiscation. If wild-caught individuals were declared as pets and imported into the USA, then selling them after importation would be a violation of the WBCA. Additionally, this information regarding wild-caught status, if factual, presents obvious conflicts with data in the CITES Trade Database which showed no imports into the USA for commercial purposes. Eskew *et al.* (2020) discovered through an analysis of LEMIS data that 450 live Chinese Hwamei were exported from China to the USA in January 2000, four months prior to the decision to include the species in Appendix II.

The CITES Trade Database is a useful tool when assessing the legal trade species listed in the CITES appendices. While it provides some details regarding the scope of trade, however, not all records, or the absence of records, may be a true representation of the legal trade among parties, due to potential errors during transactions. For example, Berec *et al.* (2018) reported such challenges when they found 96% of records in the database for their study were

incomplete. However, the CITES Trade Database can be used in conjunction with alternative sources to compare legal and illegal trade of species.

Searching the DOJ press releases and Environmental Crimes Monthly Bulletins, for example, the authors were able to identify smuggling attempts and prosecuted cases against a repeat USA smuggler. In this case, the wildlife trafficker was convicted and pled guilty to smuggling Asian songbirds into the USA in 2010 (United States v. Sony Dong et al. 2010). Six years later, the same offender was convicted of smuggling more Asian songbirds, including 30 Chinese Hwamei into the USA (United States v. Sony Dong et al, 2017, US Department of Justice. Attorney's Office 2016, 2018). In 2017, 93 Asian songbirds were trafficked from Vietnam into the USA including nine Chinese Hwamei and other CITES listed species, such as Bali Myna Leucopsar rothschildi, Silver-Eared Mesia Leiothrix argentauris, and Red-billed Leiothrix (Mrozek 2017). In all three cases, the fines ranged from US\$2,000 to US \$5,000 in each case. The black-market value of just the nine Chinese Hwamei of the 93 Asian songbird smuggling attempt ranged from US\$6,750 to over US\$14,000. One could infer that the financial gain of illegally importing birds into the USA with the intention of selling them far outweighs the risks of getting caught. Even when caught, the penalties and fines incurred after being found guilty may not be enough to deter future smuggling behav-

This investigation into the trade of Chinese Hwamei in the USA is an important step into understanding the role the USA plays in songbird trade, and specifically the trade of species with CITES protection. While the scope of the trade observed in this case study may be minimal, it indicates illegal trade is occurring in the USA. This research can be used as a model to investigate other Asian songbird trade trends in the USA by following similar methods and utilising multiple data sources. This process can contribute to our broader understanding of the scope of international trade, both legal and illegal, of songbirds in the trade in the USA. This research also highlights the need to use non-traditional data sources, such as social media accounts, court records, popular media outlets, and government reports to understand the scope and scale of the trade. Missing data or discrepancies between different data sets and records may be due to human error, redactions for legal reasons, or simply incomplete records. Therefore, illegal trade may not be Bird Conservation International 5



## Male Hwa Mei



Super nice Hwa Mei. Sings different songs. Wild caught. Two years old, loves other females Hwa Mei. Ready to breed. Perfect from head to toe. Great eating habit. he doesn't waste or play with his foods, clean eater. Loves baths. Paid \$1,800 for him last year. Will sell for \$1,500. Will s...

View Details

Figure 2. Chinese Hwamei are openly advertised online with some dealers clearly stating the birds are wild caught.

easily quantified by using a single source, but should include multiple sources as exemplified by the difference between the CITES Trade Database records of four live Chinese Hwamei imports into the USA versus the more than 40 birds found through other sources.

Based on this research, there is an obvious demand for the species in the USA for both captive-bred and wild-caught individuals and birds are openly advertised for sale. Assuming the demand is based on the availability of birds and trends in popularity, it is likely that Chinese Hwamei will continue to be imported legally and illegally into the USA. Reducing the demand for wild-caught birds and ensuring commercial trade is limited to captive-bred birds should be a priority. Consumers should be made to understand the implications of purchasing wild-caught individuals and should be aware of the legal ramifications of acquiring wild-caught, illegally imported individuals. It is also important to note that penalties do not appear to deter serial wildlife traffickers, who smuggle birds into the USA even after being previously prosecuted for the same crime. Therefore, we recommend that stricter penalties of fines and imprisonment be regularly and consistently applied during sentencing to be a true deterrent and to reduce recidivism. We also recommend investigating other forms of deterrent. Additionally, we recommend a revision to the IUCN Red List assessment to include international trade and wildlife trafficking as a threat to this species.

CITES needs to be more effectively utilised and enforced to prevent illegal and unsustainable trade in songbirds. The USA has multiple laws in place to help reduce and minimise illegal wildlife trade. Listing species in CITES appendices is a prerequisite for bird protections under the WBCA, therefore listing additional songbird species affected by international trade would extend the species protections in the USA. The listing of the Chinese Hwamei in Appendix II of CITES does not equate to a ban in trade in this species but it does provide a mechanism through which countries can better control, regulate, and monitor the international trade with the cooperation of all CITES Parties. It also provides a means for all Parties to obstruct illegal trade. While the volume of trade in the USA may not seem significant, the international trade of Chinese Hwamei occurs in several other countries including

Indonesia, Thailand, and Singapore (Shepherd *et al.* 2020). Although a 2020 study concluded that the inclusion of the Chinese Hwamei in Appendix II has contributed to a reduction of birds in international trade due to legislative efforts in China, the authors acknowledged that significant illegal trade in the species continues in countries outside China (Shepherd *et al.* 2020). It is our recommendation that collaboration between the USA and other CITES Parties should be increased to reduce illegal trade in Chinese Hwamei. Fines and other penalties should also be revaluated by US prosecutors and judges to deter would-be smugglers and reduce recidivism of convicted smugglers. Other songbird species threatened by illegal international trade should also be considered for listing in the appendices of CITES to reduce the threat of illegal and unsustainable trade to songbirds overall.

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### **References**

Anderson, R. S. (1995) The Lacey Act: America's premier weapon in the fight against unlawful wildlife trafficking. *Public Land Law Rev.* **16**: 27.

Berec, M., Vršecká, L. and Šetlíková, I. (2018) What is the reality of wildlife trade volume? CITES Trade Database limitations. *Biological Conservation*. 224: 111–116

BirdLife International (2018) *Garrulax canorus*. The IUCN Red List of Threatened Species 2018. Accessed online 01 November 2019 from T22735076A132036519. http://doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22735076A132036519.en.

Collar, N. J. (2006) A partial revision of the Asian babblers (Timaliidae). *Forktail* **22:** 85–112.

Collar, N. J. and Robson, C. (2018) Chinese Hwamei (*Garrulax canorus*). In J. del Hoyo, A. Elliot, J. Sargatal, D.A. Christie and E. De Juana eds. *Handbook of the birds of the world alive*. Barcelona, Spain: Lynx Edicions.

Dai, C. and Zhang, C. (2017) The local bird trade and its conservation impacts in the city of Guiyang, Southwest China. *Reg. Environ. Change* 17: 1763–1773.
Duckworth, J. W., Salter, R. E. and Khounboline, K. (compilers) (1999) *Wildlife in Lao PDR: 1999 status report.* Vientiane, Lao PDR: International Union for the Conservation of Nature.

- Eaton, J. A., Leupen, B. T. C. and Krishnasamy, K. (2017a) Songsters of Singapore: an overview of the bird species in Singapore pet shops. Petaling Jaya, Selangor, Malaysia: TRAFFIC Southeast Asia.
- Eaton, J. A., Nguyen, M. D. T., Willemsen, M., Lee, J. and Chng, S. C. L. (2017b) Caged in the city: an inventory of birds for sale in Ha Noi and Ho Chi Minh City, Vietnam. Petaling Jaya, Selangor, Malaysia: TRAFFIC Southeast Asia.
- Eskew, E. A., White, A. M., Ross, N., Smith, M. K., Smith, K. F., Rodriguez, J. P., Zambrana-Torrelio, C., Karesh, W. B. and Daszak, P. (2020) United States wildlife and wildlife product imports from 2000–2014. Sci. Data 7: 22.
- Li, S. H., Li, J. W., Han, L. X., Yao, C. T., Shi, H., Lei, F. M. and Yen, C. (2006) Species delimitation in the Hwamei Garrulax canorus. Ibis 148: 698–706.
- Li, S. H., Yeung, C. K. L., Han, L., Le, M. H., Wang, C. X., Ding, P. and Yao, C. T. (2010) Genetic introgression between an introduced babbler, the Chinese hwamei *Leucodioptron c. canorum*, and the endemic Taiwan hwamei *L. taewanus*: a multiple marker systems analysis. *J. Avian Biol.* 41: 64–73.
- Livengood, E. J., Funcielli, N. and Chapman, F. A. (2014) The applicability of the U.S. Law Enforcement Management System (LEMIS) database for the protection and management of ornamental fish. Aquac. Aquar. Conserv. Legis. 7: 268–275
- Moulton, M. P., Miller, K. E. and Tillman, E. A. (2001) Patterns of success among introduced birds in the Hawaiian Islands. Pp. 31–47 in J. M. Scott, S. Conant and van Riper III, C. eds. Evolution, ecology, conservation, and management of Hawaiian birds: a vanishing avifauna. Lawrence, KS, USA: Cooper Ornithological Society (Studies in Avian Biology No. 22).
- Mrozek, T. (2017) Fountain Valley man arrested for attempted smuggling of nearly 100 Asian songbirds from Vietnam – most of which died in transit. Washington DC, USA: US Department of Justice (Press Release: 17-092).
- Pyle, R. L. and Pyle, P. (2009) *The birds of the Hawaiian Islands: occurrence, history, distribution, and status.* Honolulu, HI, USA: B. P. Bishop Museum (Version 1).
- Romagosa, C. M. (2015) Contribution of the live animal trade to biological invasions. Pp. 116–134 in *Biological invasions in changing ecosystems*. Warsaw, Poland: Sciendo.

- Shepherd, C. R. (2010) Observations on trade in laughingthrushes (*Garrulax* spp.) in North Sumatra, Indonesia. *Bird Conserv. Internatn.* **21:** 86–91.
- Shepherd, C. R., Eaton, J. A. and Chng, S. C. L. (2016) Nothing to laugh about the ongoing illegal trade in laughingthrushes (*Garrulax* species) in the bird markets of Java, Indonesia. *Bird Conserv. Internatn.* 26: 524–530.
- Shepherd, C. R., Leupen, B. T. C., Siriwat, P. and Nijman, V. (2020) International wildlife trade, avian influenza, organised crime and the effectiveness of CITES: the Chinese hwamei as a case study. Glob. Ecol. Conserv. 23: e01185.
- Shepherd, C. R. and Nijman, V. (2007) An assessment of wildlife trade at the Mong La Market on the Myanmar-China Border. TRAFFIC Bull. 21: 85–88.
- Smith, K. M., Zambrana-Torrelio, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., Lopez, K., Wolf, T. M., Daszak, P., Travis, D. A. and Karesh, W. B. (2017) Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. *Ecohealth* 14: 29–39.
- Su, S., Cassey, P., Blackburn, T. M. (2014) Patterns of non-randomness in the composition and characteristics of the Taiwanese bird trade. *Biological Invasions*. 16: 2563–2575.
- US Department of Justice. Attorney's Office. (2016) Orange County Man Convicted of Smuggling Asian Songbirds Into the US. https://www.justice.gov/usao-cdca/pr/orange-county-man-convicted-smuggling-asian-song birds-us.
- US Department of Justice. Attorney's Office. (2018) Orange County Man Sentenced to Federal Prison for Second Conviction of Illegally Importing Protected Asian Songbirds. USA v. Sonny Dong et al., Nos. 2:16- CR-00823, 00827 (C.D. California) 2018. https://www.justice.gov/usao-cdca/pr/orangecounty-man-sentenced-federal-prison-second-conviction-illegally-importing-0.
- Webb, J. (2013) Prosecuting wildlife traffickers: important cases, many tools, good results. Vermont J. Environ. Law 2: 1–12.
- Wilcove, D. S., McMillan, M. and Winston, K. C. (1993) What exactly is an endangered species? An analysis of the US endangered species list: 1985–1991. Conserv. Biol. 7: 87–93.