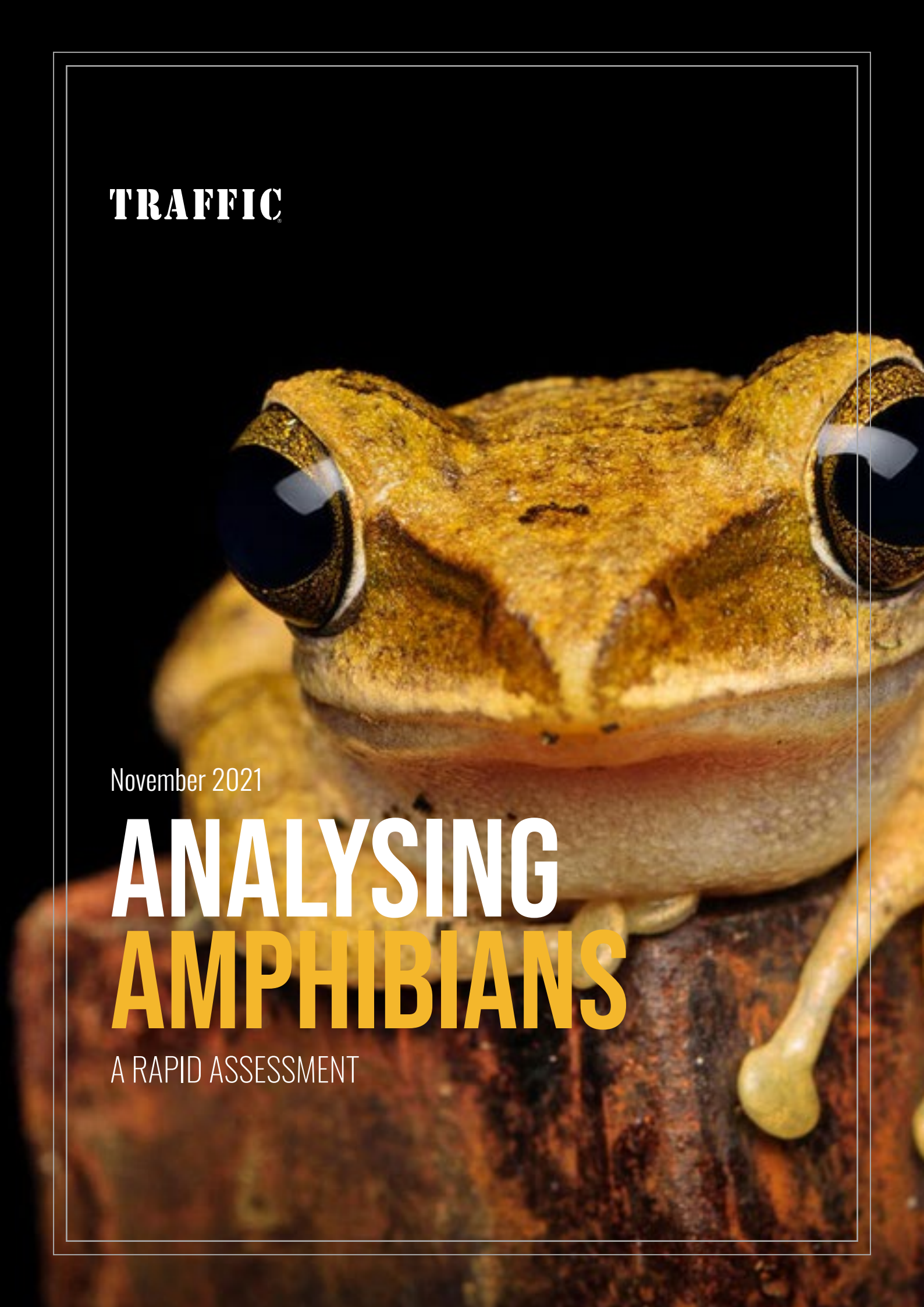
TRAFFIC



November 2021

ANALYSING AMPHIBIANS

A RAPID ASSESSMENT

TRAFFIC REPORT

ABOUT US

TRAFFIC is a leading non-governmental organisation working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

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CONTENTS

RECOMMENDATIONS

This rapid assessment has highlighted a selection of high-risk species (Annex 1), which could be candidates for consideration for future conservation actions. While this assessment does not provide a comprehensive evaluation of whether each species meet the criteria for CITES listings in Appendix I and II in Resolution 9.24, and the needs of each of these would need to be carefully assessed on a species-by-species basis, there are several recommendations which could be considered:

AMPHIBIANS IN ANNEX 1 SHOULD BE EXPLORED AS CANDIDATES FOR FUTURE CONSERVATION WORK AND REGULATION

For trade at the national and international levels.

NGOs should consider this list and highlight the species on it as species of concern to representatives of Parties that may be interested in putting forward these species for a CITES listing.

Parties, particularly the range states of the species highlighted in Annex I, should consider putting forward the highlighted species for consideration for CITES listing as a listing proposal.

Parties should consider protecting the species identified in Annex I under appropriate national legislation. National legislation is key to species conservation, both to support CITES, and as a standalone measure.

Parties and experts are recommended to consider the findings of this review when undertaking the study and activities put forward in CITES Decision 18.194.

HIGHER TAXONOMIC CITES LISTINGS COULD BE CONSIDERED

For groups where taxonomy is evolving, where there are difficulties in identifying species within a group, or where multiple species in the same group are already listed or would benefit from listing as they are likely to face similar trade pressures.

NGOs and Parties should consult expert groups like the IUCN specialist group to determine which higher taxonomic listings for amphibians would most benefit amphibian conservation through better regulation of the trade of species where the taxonomy is evolving and where multiple species in the same group face similar pressures.

CHANGES TO CUSTOMS CODES SHOULD BE CONSIDERED

To enable customs data to be used to monitor the trade in amphibians better.

NGOs should engage with governments broadly (not just including those explored in this study) to highlight and provide training to show how customs trade data can be used for monitoring species of conservation interest.

Governments (not just those explored in this study) should consider how amphibians are represented in national customs trade data and consider how changes to national customs data reporting could improve national regulation of amphibians.

Governments should also consider how amphibians are represented in international customs trade data and lobby the World Customs Organization to change the international H.S. code system.

IGOs should consider how they can engage with NGOs and governments to lobby the World Customs Organization for changes to the H.S. code system to improve monitoring of amphibians.

INTRODUCTION

THE AMPHIBIAN TRADE INVOLVES THE INTERNATIONAL MOVEMENT OF MILLIONS OF AMPHIBIANS EVERY YEAR

These are traded predominantly for food, scientific and biomedical purposes, and the pet trade. For an estimated 98% of amphibian species, international trade is not covered by the regulations of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This lack of regulation is concerning given the number of amphibian species threatened by direct impacts of trade through the unsustainable wild collection and indirect effects of trade, including the spread of disease[1,2,3].

Red-eyed Tree Frog Agalychnis callidryas

Disease is one of the primary drivers of the ongoing global declines of amphibians, and the spread of many lethal amphibian diseases is inextricably linked to the trade in amphibians, including the live trade[3]. It was estimated in 2019 that 90 species of amphibians[4] had been driven to extinction following the outbreaks of the chytrid fungus *Batrachochytrium dendrobatidis* (known as Bd). This fungus has spread rapidly across the globe, most likely originating in Asia[4] through the trade of infected individuals.

Infected animals may spread diseases rapidly during trade as individuals may be kept or transported in close proximity to many other individuals or even other species. Diseases may then spread into wild wildlife populations as infected individuals from trade could infect wild individuals[5], either directly, through accidental or intentional release, or indirectly through improper disposal of contaminated bedding or water. This infection of wild individuals may lead to a disease outbreak. Disease outbreaks in amphibians can be rapid and devastating, like the trade-associated outbreak of a chytrid fungus closely related to Bd, Batrachochytrium salamandrivorans (Bsal), which wiped out 99.9% of Fire Salamander *Salamandra salamandra* populations in the Netherlands within seven years[1]. There are serious concerns that continued trade of amphibians will lead to further disease outbreaks.

As well as the indirect risks of disease, for many amphibians, the trade itself also poses a direct threat to species survival. The demand for animals for the pet trade is met, at least in part with wild-caught individuals[6]. International demand, particularly for rare or newly discovered amphibians, coupled with unsustainable collection practices and poor national regulation, has caused the declines of many species, including iconic groups like the Mantellidae, with severe declines[7]. To reduce the impact of trade on wild amphibian populations, international collaboration and monitoring are needed. However, differences in the trading patterns and regulation of amphibians between countries complicate this effort.

AIM OF THIS STUDY

This study aims to provide a rapid assessment of the status and trade in amphibian species which are not currently listed in the CITES Appendices in three major trading countries (the USA, Japan, and Germany). Parties can use the findings to identify species they may wish to consider proposing for listing in Appendix I or II at future meetings of the Conference of the Parties, to include at any time on Appendix III, or for regulation at the national level. This study highlights species that may benefit most from further regulation.

THE ROLE OF CITES IN REGULATING TRADE

Species should be considered for listing in CITES Appendices I and II if they meet the criteria outlined in Resolution Conference 9.24 (Rev. CoP17):

- **Appendix I:** the species is or may be affected by trade and meets specific criteria outlined in the Resolution related to population size, distribution, and decline.
- **Appendix II:** regulation of trade is necessary to avoid the species being eligible for inclusion in Appendix I or regulation is required to ensure that harvest is not threatening the survival of the species in the wild.

Species can be included at any time by a Party on Appendix III if the species is subject to regulation within its jurisdiction to prevent or restrict exploitation, and the Party requires the co-operation of other Parties in the control of trade.

Species listed in Appendix I and II are regulated to ensure that international trade is sustainable and legal. Data from the CITES Trade Database provides some of the only species-level trade data available for the international trade of amphibians. In 2021, approximately 201 species of amphibians are included in the three CITES Appendices[8].

While this study aims to focus on non-CITES listed species, CITES data can be a valuable tool for understanding broad country-level trade patterns in amphibians, which in turn can be used to inform trade studies on non-listed species.

Salamander Salamandra salamandra

TRADE IN THE USA

26 million+ specimens
of live amphibians imported into the USA for commercial trade between 2006 and 2014

The USA is an important destination country for amphibians and the largest importer of CITES-listed amphibians[9]. One study which included both CITES and non-CITES listed species reported imports of 26 million+ specimens of live amphibians plus four million+ kilograms of live amphibians into the USA for commercial trade between January 2006 and December 2014[10].There are concerns about this trade, with questions raised about the accuracy of the reported "captive" status of most imports and data deficiencies about wild population sizes, making it challenging to assess the sustainability of trade levels[10]. A variety of laws cover the trade of amphibians into the USA. These include the USA being a signatory of CITES, the Endangered Species Act being in place which regulates a number of amphibians[12], and the Lacey Act. Under the Lacey Act the USA regulates imports of animals that are traded in violation of foreign or State law (Lacey Act, 16 USC §§ 3371–3378)[11], also under the Lacey Act the imports of a range of salamanders are banned due to the risk of spreading Bsal to native species.

TRADE IN JAPAN

Japan
is both a source country and destination country for the trade in amphibians

Japan is both a source country and a destination country for the trade in amphibians[13]. Work on the online trade of amphibians has highlighted Japan's role as a destination country for the trade in South Asian Newts[6], while a 2020 survey of Japan's involvement in the illegal pet trade highlighted the role of Japan as a source country of endemic amphibians from the Nansei Islands[13]. While according to 2010-2020 CITES data, Japan reported imports of the second-highest number of live CITES-listed amphibian specimens imported into a country or territory during this time as reported by the importing country[14]. These findings suggest an important role of Japan in the trade of amphibians.

As well as being a signatory of CITES, Japan regulates trade in amphibians under the Law for Conservation of Endangered Species of Wild Fauna and Flora. Once the animals have crossed Japan's border, species listed in CITES Appendix I, but not Appendix II or III, are listed under the Law for Conservation of Endangered Species of Wild Fauna and Flora[15]. The Invasive Alien Species Act regulates the import of designated non-native species deemed harmful to ecosystems, human safety, and primary industries[16]. Fifteen amphibian species (frogs), including the North American Bullfrogs *Rana catesbeiana*, are banned from import as of November 2020.

TRADE IN GERMANY

Within the EU, Germany is a leading destination for traded animals, with a high demand for exotic pets, including amphibians[17]. One 12-month survey of select physical and online marketplaces in Germany found 352 amphibian species offered for sale[18]. Concerningly, several recently discovered species for sale included the Cloaked Moss Frog *Theloderma palliatum*, which was recorded in trade in Germany in 2020 despite only being described in 2011 in Viet Nam[17]. It has been suggested that amphibians and reptiles may be laundered through European pet markets and then imported by the USA[17].

Germany regulates the import of animals from outside the E.U. through the E.U. Wildlife Trade Regulations[19], under which species are included in four Annexes (A-D). While Annexes A-C largely follows the CITES Appendix-I to III listings, Annex D regulates the trade in some non-CITES listed species. In addition, the E.U. has legislation to control the trade in species which may pose an ecological threat to species in the E.U. (Council Regulation (E.C.) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein)[19], including the import ban of North American Bullfrogs *Rana catesbeiana* (EU 338/97). Additionally, imported salamander specimens need to be certified as free of Bsal (E.U. 2018/320)[20], and there are requirements for veterinary checks at borders; this is covered under (E.U. 2017/625)[21].

In 2020 a thorough assessment by Altherr *et al.* (2020)[18] was published on the exotic pet trade in Germany which provided key insights into the species in trade. In this study surveys for the sale of exotic pets were carried out of both online marketplaces and physical shops. These surveys were then compared to data from other sources like trade data from CITES and EUROSTAT[18]. These surveys highlighted the diversity of species involved in the exotic pet trade, including a high number of amphibian species. The species identified in this study will be used in this assessment instead of customs trade data from Germany, as German Customs data with species-level recording of non-CITES listed amphibians is not currently available.

Germany is a leading destination for exotic pets within the EU

Himalayan Crocodile Newt - Tylototriton verrucosus

METHODOLOGY

DATA SOURCES

The USA customs analysis is based on USA data through the Law Enforcement Management Information System (LEMIS), while the Japan analysis is based on Japan customs data. Additional information is derived from a study of amphibian trade in Germany[18] and a survey of amphibian markets in Japan (in prep.). Contextual information about each species was downloaded from the CITES, Species+, and the IUCN Red List websites in May-June 2021.

USA import data from LEMIS covered the period 2008-2018. Data were included in the present analysis if at least one of the following were met:

1. The wildlife category was **recorded as an amphibian**
2. The specimens were described as **"live"**
3. The generic name was reported as **"amphibians," "salamander," or "frog"**
4. Class was reported as **Amphibia**

The data were then cleaned, and the reported names of the species were standardized to IUCN recognized taxonomy. Species already listed in the CITES Appendices (I, II, and III) were removed. Information was downloaded from the IUCN Red List regarding category, range countries, and whether the species were identified as being threatened by intentional use (where species is the target). Species that were reported as traded for "commercial purposes" (T) were selected for analysis as this category represented the majority of the trade (see Figure 1). However, for the risk score species traded for any reported purpose would receive a risk score of 1 for being in trade. Quantities in Annex 1 therefore include specimens traded under all purpose codes.

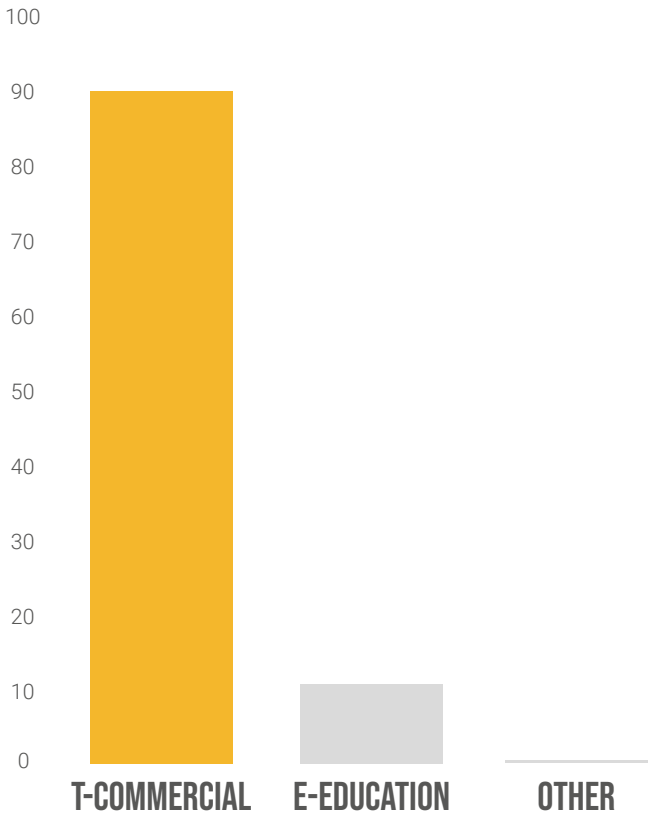
Risk scores were calculated to provide a metric of risk based on:

1. **Countries observed in trade (max score 3):** One point was assigned for each one of the three countries it was found in trade (Germany, Japan, USA)
2. **Red List status (max score 4):** The IUCN Red List category was scored in the following way: Least Concern (L.C.)=0, Near Threatened (N.T.)=1, Vulnerable (V.U.)=2, Endangered (EN)=3, Critically Endangered (C.R.) =4, Data Deficient (D.D.) = 2.
3. **Population trend (max score 2):** The IUCN population trend was scored in the following way: Increasing=-2, Stable=0, Decreasing=2, Unknown =2.
4. **Use (max score 2):** Intentional use (5.1.1) in IUCN Red List assessment identified as a threat = 2. (IUCN threats 5.4.1 and 5.4.2 (fishing and harvesting of aquatic resources) were also considered, but use was decided against due to the lack of species in trade which were recorded to have this as a threat).
5. **The timing of threat (max score 1):** Timing of threat according to IUCN Red List assessment: Unknown=1, Blank*=0, Past unlikely to return= -1, Ongoing =1, Future=1. *Blank is only used in assessments when trade is not identified as a threat.

These individual factors added up to a maximum score of 12. The highest risk scores were used to identify species candidates which may benefit from further regulation. It must be noted that while other risk metrics could be used for this rapid assessment, this method was deemed to be sufficient to suggest potential candidates. For Annex I, only amphibians that scored seven or above were included. It must be noted that while these have been identified as being conservation priority from this rapid assessment, it was outside the scope of this study to investigate in depth the conservation status of each. Therefore some species of lower conservation concern may be included.

FIGURE 1

Chart showing the percentage of imported non-CITES listed amphibians reported as live specimens which were (1) T - Reported as traded for commercial reasons (2) E- Reported as traded for educational reasons (3) Other- Traded for one of the following reasons: B - Breeding in captivity or artificial propagation/S- Scientific/* - Unknown/M - Biomedical research/P – Personal/Y - Reintroduction/introduction into the wild/H - Hunting Trophies / Q- Circuses/traveling exhibitions/Z – Zoos. LEMIS data 2008-2018.*



CAVEATS

Some limitations should be considered for these data sources. For example:

- The LEMIS dataset which was available for this analysis did not indicate the shipment's control number, which meant that provenance or final destination were not available. Additionally, these data do not distinguish whether the shipment was using U.S. ports as transit points or as final destinations. The analysis is only able to depict data on wildlife products that are imported to and exported from the U.S. at the federal level but does not necessarily demonstrate the entire trade flow of wildlife from origin to final destination.
- In the LEMIS data, inconsistencies were found in the taxonomy used. For example, different species were considered synonyms of the same species according to the IUCN Red List taxonomy. In some cases, it was not possible to match a reported species name to a species name recognized by the IUCN.
- The Japan customs data does not report to species level. Therefore, it was not possible to identify and remove imports of CITES-listed specimens. Also, small shipments under a specific value are exempt from being declared on import or export, so not all trade will be recorded in the customs data.
- The IUCN Red List threat "Intentional use (species being assessed is the target)" was used to measure trade as a threat. It should be noted that this threat covers domestic and international use.

RESULTS

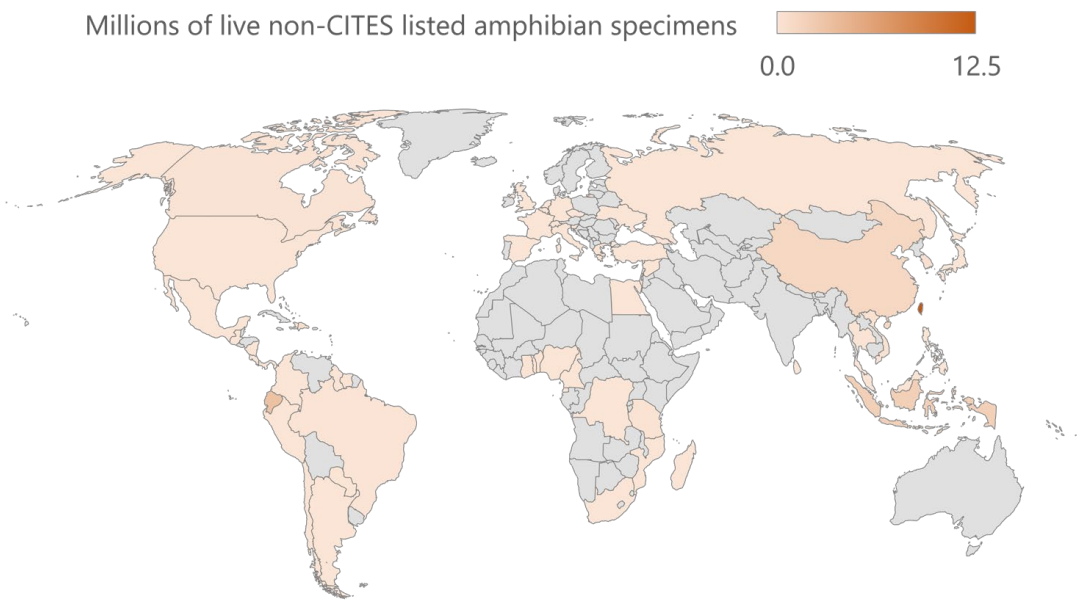
IT IS CLEAR FROM THIS STUDY THAT A LARGE VOLUME OF NON-CITES-LISTED AMPHIBIAN SPECIES ARE CURRENTLY IN TRADE.

Phyllomedusa hypochondrialis

US LEMIS DATA

FIGURE 2

Quantities of live amphibians reported to be imported into the USA between 2008 and 2018. Only the number of specimens is shown here. Specimens reported by mass are not shown (LEMIS data).



According to LEMIS data, in total, approximately 27 million live non-CITES listed individuals plus about 4 million kg of live non-CITES listed amphibians were reportedly imported into the USA for commercial reasons between 2008 and 2018.

27 million
live, non-CITES-listed amphibians were imported into the USA between 2008-2018

Within these, it was possible to match 267 species with an IUCN recognized species name. However, this is likely to underestimate the number of species in trade. There are likely species not reported to species level or not matched with their IUCN taxon I.D. (an individual identifier for each taxon) due to the name being misspelled or the use of unrecognized synonyms, or the species not having been assessed by the IUCN. The top exporter of non-CITES-listed live amphibians to the USA was Taiwan PoC (97% of live non-CITES listed amphibians reported by mass, and 40% of amphibians reported by the number of individuals). However, 99% of reported imports from Taiwan were made up of American Bullfrogs *Rana catesbeinana,* and the second most significant reported exporter was Hong Kong, SAR. Taiwan PoC first imported American Bullfrogs in 1950 as an alternative species for aquaculture. Since then, it has become one of the major global exporters of live American Bullfrogs and the legs of this species[18]. American Bullfrogs are traded for consumption and scientific and medical purposes. Exporters to the USA are shown in Figure 2.

Approximately 25% of live individuals of non-CITES listed species reported in kilograms, and 29% of live individuals of non-CITES listed amphibians reported by number were reported to be from wild sources, while the rest were from captive sources (born in captivity/ranched/bred in captivity/commercially bred) (Figure 3). Some of those reported as captive-bred may be from the wild, as laundering wild-caught individuals has previously been reported in amphibians[1]. Additionally, there was a report of 4kg of non-CITES-listed amphibians being introduced from the sea; however, this could have been a reporting error.

Approximately 97.5% of USA imports of non-CITES listed amphibians for commercial trade were of amphibian species categorized as Least Concern by the IUCN Red List (more

than 26 million specimens and more than 4 million kilos of live individuals) (Table 1). Threatened categories (NT, VU, EN, CR) made up approximately 0.5% of reported imports. Also, around 10% of specimens were reported by the IUCN Red List to be from species undergoing population declines. In comparison, the population trend for approximately 20% of specimens was reported to be unknown.

Additionally, there was a significant number of specimens for which the IUCN Red List category could not be determined. This was primarily due to a lack of reporting of LEMIS data to species level: more than 10,000kg, and 400,000 individuals of live non-CITES listed amphibians could not be linked to an IUCN taxon I.D.

around 10%
of specimens were reported by the IUCN Red List to be from species undergoing population declines

FIGURE 3

Reported source of live non-CITES listed amphibians imported into the USA between 2008 and 2018 for commercial purposes (LEMIS data). Specimens taken from the wild - W, Animals bred in captivity- C, Animals born in captivity- F, Specimens originating from a ranching operation - R, Source unknown - U, Commercially bred – D, Introduction from the sea - X

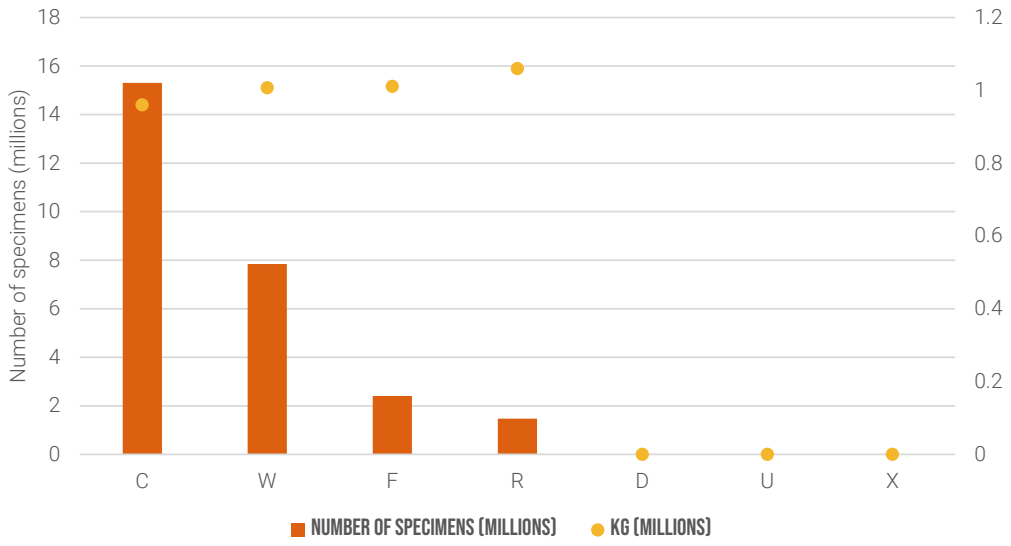


TABLE 1

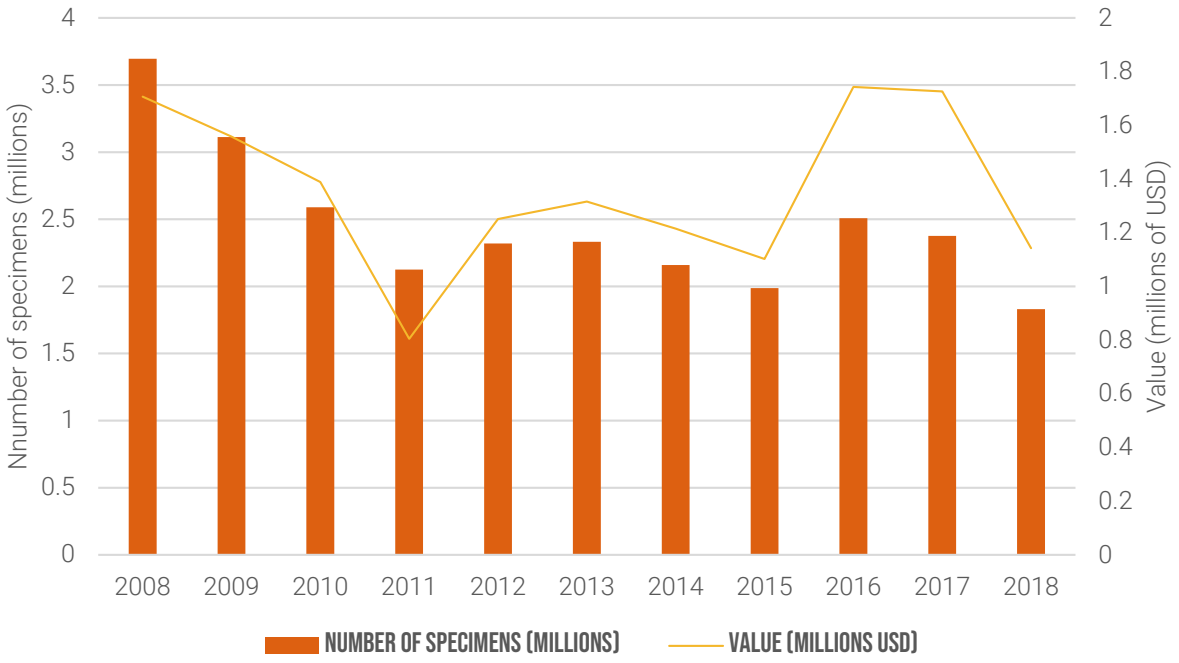
IUCN Red List Categories of live non-CITES listed amphibians imported into the USA between 2008 and 2018 for commercial purposes (LEMIS data). (*) For many incidents, the species could not be linked to an IUCN taxon id. In most cases, this was due to amphibians not being reported to species level.

IUCN CATEGORY	MASS (KG)	PERCENT OF MASS (KG) (%)	NUMBER OF SPECIMENS	PERCENT OF NUMBER OF SPECIMENS (%)
Data Deficient			25,515	0.1
Least Concern	4,024,933	99.7	26,370,632	97.5
Near Threatened			129,707	0.5
Vulnerable			7,243	0.0
Endangered			1,838	0.0
Critically Endangered			140	0.0
Not reported	12,056	0.3	498,245	1.8

The reported quantities of non-CITES-listed amphibians imported into the USA for commercial purposes have remained largely consistent over time (Figure 4). Imports peaked in 2008 before declining to an average of 2.2 million between 2010 and 2018. The value of imports peaked in 2016/2017. Further information is required to determine if these changes are due to fluctuations of species in trade or changes in reporting.

FIGURE 4

Quantities and values of live non-CITES listed amphibians imported into the USA between 2008 and 2018 for commercial purposes over time. Only the number of specimens is shown here, not imports reported in mass (LEMIS data).



JAPAN CUSTOMS DATA

During the period of 2005-2020, Japan imported a total of nearly 130,000 amphibians worth approximately JPY 385 million (~USD 3.7 million). Japan reported importing the highest number of amphibians from the USA (more than 27,000 individuals) (Figure 5).

While it was not possible to determine what species are in trade from the customs data, more than 80% of imports of live specimens were in the order Anura (frogs and toads), whereas the remainder was Caudata (salamanders and newts). Imports under "other" was negligible (Table 2).

TABLE 2

Orders of live amphibians reportedly imported into Japan between 2005 and 2020 (Japan customs data).

	NUMBER OF LIVE SPECIMENS	VALUE (JPY 1,000)
Anura	105,949	319,946
Caudata	23,546	63,235
Other	314	1,818
TOTAL	**129,809**	**384,999**

FIGURE 5

Quantities of live amphibians reported to be imported into Japan between 2005 and 2020, by reported country of export. Only the number of specimens is shown here. Specimens reported by mass are not shown (Japan customs data).

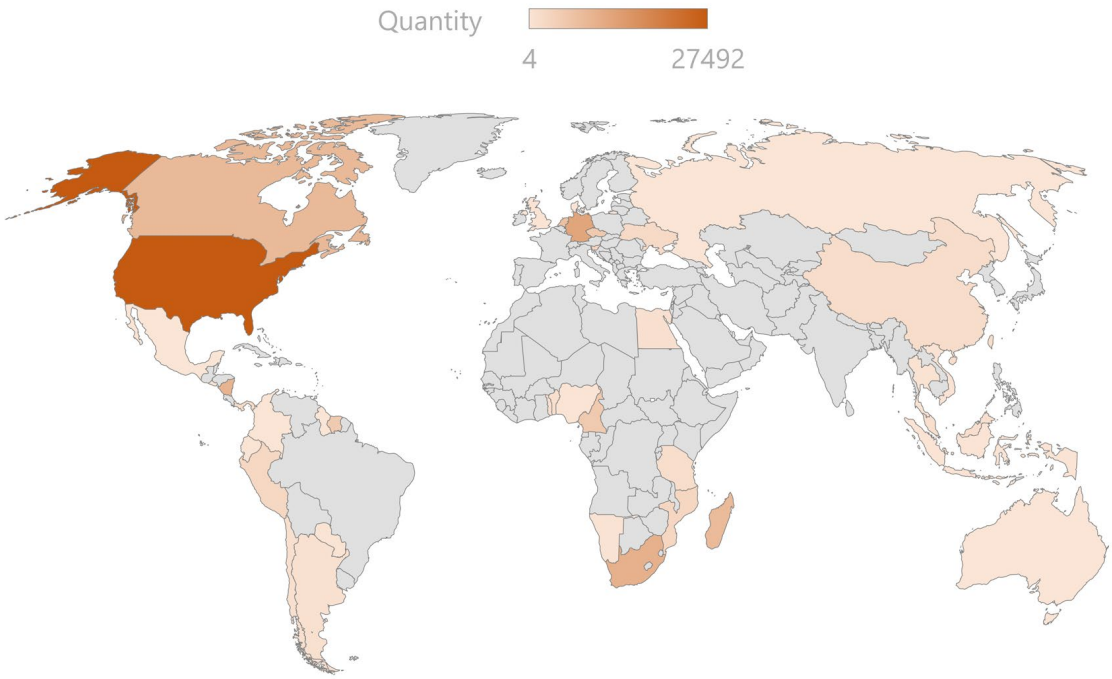
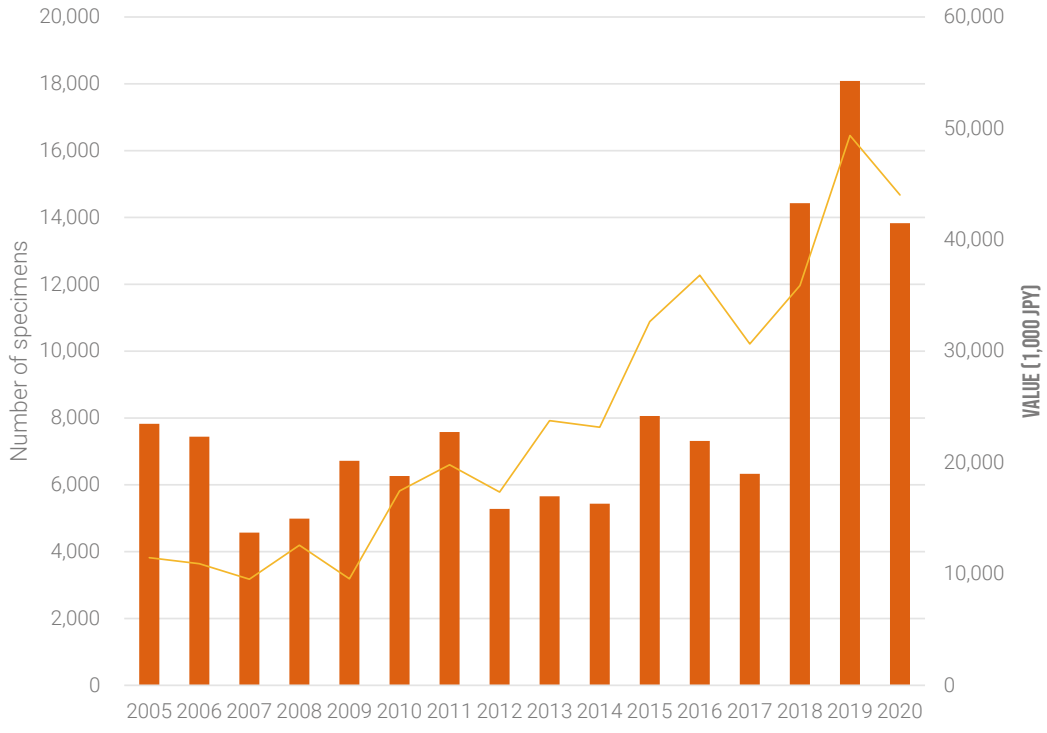
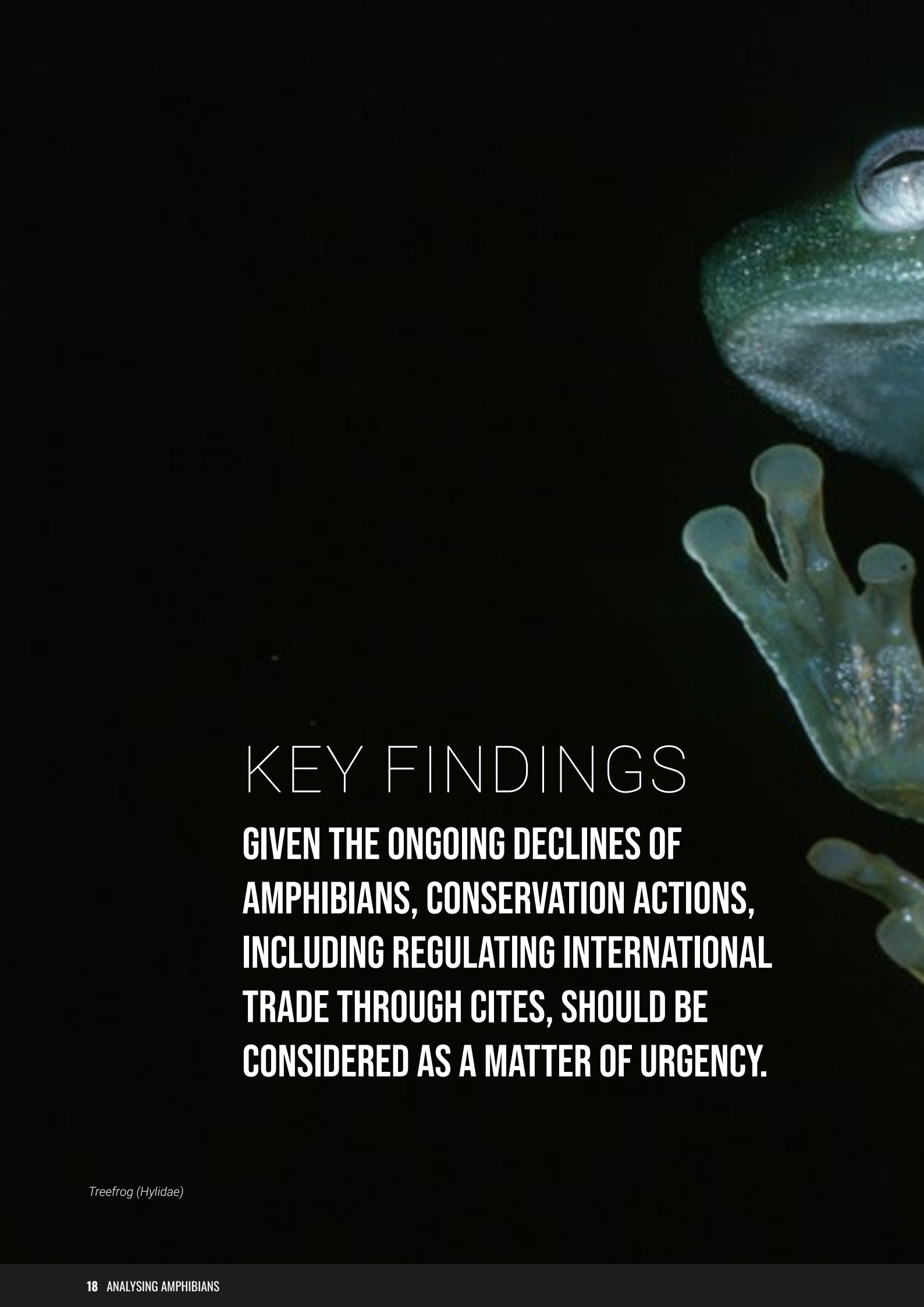


FIGURE6

Quantities and values of live amphibians reported to be imported into Japan between 2005 and 2020. Only number of specimens is shown here, specimens by mass are not shown (Japan customs data).





KEY FINDINGS

GIVEN THE ONGOING DECLINES OF AMPHIBIANS, CONSERVATION ACTIONS, INCLUDING REGULATING INTERNATIONAL TRADE THROUGH CITES, SHOULD BE CONSIDERED AS A MATTER OF URGENCY.

Treefrog (Hylidae)

It is clear from this study that a large volume of non-CITES-listed amphibian species are currently in trade.

At least 267 non-listed species are commercially traded, of which 0.5% were from IUCN threatened categories (NT, VU, EN, CR), and 29% are sourced from the wild (by the number of reported individuals). While reported trade levels appear steady for the U.S., the trade in amphibians in Japan has potentially increased. The findings of high numbers of non-CITES listed species in trade in this study are supported by the 2020 review of the trade of exotics in Germany,[18] which found a high number of amphibian species in trade, including some species from IUCN threatened categories. Together the findings highlight that there is a high volume of non-CITES listed species in trade, some of which may be of conservation concern.

29%
of commercially traded non-CITES listed species are sourced from the wild

There are challenges to monitoring the trade in non-CITES-listed amphibians. In many cases, their trade is not recorded to a level that would be usable for guiding conservation policy. For example, under the widely used international customs code system (Harmonized System), amphibians are traded under customs codes for "tropical fish or "other", which makes species highly challenging to trace, and the scale of the amphibian trade hard to determine. The only available data are, therefore, trade data collected at a national level. Better monitoring and regulatory systems are therefore needed to manage the trade in non-CITES-listed amphibians.

Given the ongoing declines of amphibians, conservation actions, including regulating international trade through CITES, should be considered as a matter of urgency. This study highlights candidates for consideration for CITES listing. These candidate species are included in Annex 1. With so many amphibian species in trade and limited budget and resources available for conservation actions, a targeted approach is needed to ensure the best conservation outcomes are achieved from the available resources. It is hoped that the findings of this rapid review will feed into the amphibian study being undertaken through CITES Decision 18.194.

Rhacophorus gongshanensis

APPLYING CITES LISTINGS

Care must be taken to ensure that any regulation put in place will not have unintended consequences.

CITES listing of species is an invaluable tool for regulating the international trade of wildlife. However, there is a risk that listing may have unintended consequences. In cases where demand is inelastic (constant regardless of the price), regulation such as a CITES listing may lead to a black market[23]. Additionally, costs associated with regulating a species to both range states and traders must be considered. However, in many cases, regulation can be critical to species conservation and can significantly outweigh the risks. Therefore, it is essential that potential negative consequences of regulation are considered on a species-by-species basis[24].

There should also be consideration of what a listing means for other species. For example, Laotian Newt *Laotriton laoensis*, previously considered a synonym of *Paramesotriton laoensis*, were not included along with the listing of the newt genera Paramesotriton spp. and Tylototriton spp. in Appendix II. Prior to listing these genera, it was highlighted that if these genera were listed, it might increase trade pressures on unlisted species such as the Laotian Warty Newt *Laotriton laoensis*[25]. However, in many cases, the lack of trade data for non-CITES-listed species can make tracking whether demand has changed following the listing of similar species challenging.

Species in trade, classified as threatened by intentional use, warrant consideration for listing in Appendix I or II. Appendix I may be appropriate for species with a restricted range, decreasing population trend, or high threat category. These types of listing can only be adopted at one of the CITES Conferences of the Parties but can provide comprehensive regulation when fully implemented.

Countries with national legislation already in place to protect the species may benefit from a CITES Appendix III listing. This type of listing is aimed to support range states who have protected species but require support from other countries in ensuring protection is effective. A species can be listed in Appendix III at any time by a range State and can be particularly effective when the species range is restricted to a limited number of countries. Listing a species in Appendix III can be a useful way of collecting information on trade volumes to support any future listing proposals for inclusion in Appendix I or II.

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ANNEX I

LIST OF AMPHIBIAN SPECIES IDENTIFIED AS HIGH CONSERVATION PRIORITY FROM THE RAPID ASSESSMENT

COMMON NAME	SPECIES	SPECIMENS (NUMBER REPORTED IN LEMIS DATA)	KG	WILD SPECIMENS (NUMBER)	KG WILD	OFFERED FOR SALE IN JAPAN (TRAFFIC STUDY, UNPUB.)	OFFERED FOR SALE IN GERMANY 18	EU LISTING	RED LIST CATEGORY	POPULATION TREND	RANGE	TRADE THREAT	TIMING	YEAR IUCN RED LIST ASSESSMENT PUBLISHED	RISK SCORE
Achoque, Anderson's Salamander	*Ambystoma andersoni*	60				Yes	Yes		Critically Endangered	Decreasing	Mexico	Yes	Ongoing	2015	11
Giant Ditch Frog, Mountain Chicken	*Leptodactylus fallax*	9				No	Yes		Critically Endangered	Decreasing	Montserrat, Martinique, Saint Kitts and Nevis, Guadeloupe, Dominica	Yes	Ongoing	2017	10
Laos Warty Newt	*Laotriton laoensis*	282		252		No	Yes	D	Endangered	Decreasing	Lao People's Democratic Republic	Yes	Ongoing	2014	9
Azerbaijan Newt, Lake Urmia Newt, Azarbaijan Mountain Newt	*Neurergus crocatus*	385				Yes	Yes		Vulnerable	Decreasing	Turkey, Iraq, Iran	Yes	Ongoing	2009	9
Limosa Harlequin Frog	*Atelopus limosus*	79		79		Yes	Yes		Critically Endangered	Decreasing	Panama	No		2019	9
Sword-tailed Newt, Shiriken-Imori	*Cynops ensicauda*	14				Yes	Yes	D	Vulnerable	Decreasing	Japan	Yes	Ongoing	2021	9
Helen's Tree Frog	*Rhacophorus helenae*	76		76		No	Yes		Endangered	Unknown	Viet Nam	Yes	Ongoing	2014	9
Nihon Imori, Japanese Fire-bellied Newt	*Cynops pyrrhogaster*	93951		34879		Yes	Yes		Near Threatened	Decreasing	Japan	Yes	Ongoing	2021	8
Hispaniolan Giant Treefrog	*Osteopilus vastus*	3891		3891		No	Yes		Vulnerable	Unknown	Haiti, Dominican Republic	Yes	Ongoing	2013	8
Argentinean Horned Frog, Bell's Ceratophrys, Ornate Horned Frog, Sapo-boi	*Ceratophrys ornata*	22368		412		Yes	Yes		Near Threatened	Decreasing	Uruguay, Brazil, Argentina	Yes	Ongoing	2004	8
Amani Forest Treefrog	*Leptopelis vermiculatus*	261		260		Yes	Yes		Endangered	Unknown	Tanzania	No		2014	8
Ech cay san hai mau, ech cay san sa pa, Chapa Bug-eyed Frog	*Theloderma bicolor*	479		479		Yes	Yes		Endangered	Unknown	Viet Nam	No		2004	8
Riobamba Marsupial Frog, Riobamba Pouched Frog, Rana Marsupial Andina	*Gastrotheca riobambae*	43		6		Yes	Yes		Endangered	Decreasing	Ecuador	No		2004	8

COMMON NAME	SPECIES	SPECIMENS (NUMBER REPORTED IN LEMIS DATA)	KG	WILD SPECIMENS (NUMBER)	KG WILD	OFFERED FOR SALE IN JAPAN (TRAFFIC STUDY, UNPUB.)	OFFERED FOR SALE IN GERMANY18	EU LISTING	RED LIST CATEGORY	POPULATION TREND	RANGE	TRADE THREAT	TIMING	YEAR IUCN RED LIST ASSESSMENT PUBLISHED	RISK SCORE
Oriental Bell Toad, Oriental Fire-bellied Toad	*Bombina orientalis*	2003723		1097104	411	Yes	Yes		Least Concern	Decreasing	Republic of Korea, Russia, Democratic People's Republic of Korea, Mainland China	Yes	Ongoing	2020	7
Chinese Dwarf Newt,Chinese Fire-bellied Newt, Oriental Fire-bellied Newt	*Cynops orientalis*	541937		162093		Yes	Yes		Least Concern	Decreasing	Mainland China	Yes	Ongoing	2020	7
Chacoan Horned Frog, Cranwell's Horned Frog	*Ceratophrys cranwelli*	17552		1635		Yes	Yes		Least Concern	Decreasing	Paraguay, Bolivia, Brazil, Argentina	Yes	Ongoing	2004	7
African Bullfrog	*Pyxicephalus adspersus*	11716		10256		Yes	Yes		Least Concern	Decreasing	Kenya, Angola, Tanzania, Namibia, Zimbabwe, Democratic Republic of the Congo, Zambia, Eswatini, Mozambique, South Africa, Malawi, Botswana	Yes	Ongoing	2013	7
Congo Caecilian	*Herpele squalostoma*	1920		1920		Yes	Yes		Least Concern	Decreasing	Nigeria, Gabon, Equatorial Guinea, Congo, The Democratic Republic of the Congo, Central African Republic, Cameroon, Angola	Yes	Ongoing	2018	7
Common Fire Salamander, Fire Salamander	*Salamandra salamandra*	11029		912		Yes	Yes		Least Concern	Decreasing	Albania, Liechtenstein, Netherlands, Spain, Austria, Czechia, Germany, Belgium, North Macedonia, Montenegro, Bulgaria, France, Hungary, Turkey, Romania, Croatia, Luxembourg, Slovenia, Slovakia, Italy, San Marino, Bosnia and Herzegovina, Poland, Portugal, Serbia, Ukraine, Andorra, Switzerland, Greece				

COMMON NAME	SPECIES	SPECIMENS (NUMBER REPORTED IN LEMIS DATA)	KG	WILD SPECIMENS (NUMBER)	KG WILD	OFFERED FOR SALE IN JAPAN (TRAFFIC STUDY, UNPUB.)	OFFERED FOR SALE IN GERMANY18	EU LISTING	RED LIST CATEGORY	POPULATION TREND	RANGE	TRADE THREAT	TIMING	YEAR IUCN RED LIST ASSESSMENT PUBLISHED	RISK SCORE
Tonkin Bug-eyed Frog	*Theloderma corticale*	656		307		Yes	Yes		Least Concern	Decreasing	Viet Nam, Lao, Mainland China	Yes	Unknown	2017	7
Doflein's Mushroomtongue Salamander, Doflein's Salamander	*Bolitoglossa dofleini*	14		14		Yes	No	D	Near Threatened	Decreasing	Honduras, Guatemala, Belize	Yes	Ongoing	2020	7
Olm, Proteus, Proteo	*Proteus anguinus*	3				No	No		Vulnerable	Decreasing	Bosnia and Herzegovina, Italy, Croatia, Slovenia, Montenegro, France, Serbia	Yes	Ongoing	2009	7
Great Crested Newt, Northern Crested Newt,	*Triturus cristatus*	14				Yes	Yes		Least Concern	Decreasing	Denmark, Moldova, Germany, Belgium, France, Hungary, Norway, Romania, United Kingdom, Lithuania, Luxembourg, Belarus, Latvia, Czechia, Austria, Sweden, Slovakia, Poland, Ukraine, Serbia, Russia, Switzerland, Netherlands, Liechtenstein, Estonia	Yes	Ongoing	2009	7
Horned Frog, Javan Horned Frog, Asian Spadefoot Toad	*Megophrys montana*	80		80		Yes	Yes		Least Concern	Decreasing	Indonesia	Yes	Ongoing	2018	7
Blotched Burrowing Frog, Orange Burrowing Frog, Striped Spadefoot Frog, Burmese Squat Frog	*Glyphoglossus guttulatus*	2551		2333		Yes	Yes		Least Concern	Decreasing	Myanmar, Lao People's Democratic Republic, Thailand, Viet Nam, Cambodia, Malaysia	Yes	Ongoing	2016	7
Volcano Clawed Frog	*Xenopus amieti*	400		400		No	No		Vulnerable	Decreasing	Cameroon	Yes	Ongoing	2018	7
Taylor's Bug-Eyed Frog	*Theloderma stellatum*	18		12		Yes	Yes		Least Concern	Decreasing	Thailand, Cambodia, Myanmar	Yes	Unknown	2016	7
Savanna Clawed Frog, Lake Oku Clawed Frog	*Xenopus longipes*	42		41		No	No		Critically Endangered	Decreasing	Cameroon	No		2020	7
Brazilian Horned Frog	*Ceratophrys aurita*	156				Yes	Yes		Least Concern	Decreasing	Brazil	Yes	Ongoing	2004	7
Marbled Newt, Jaspeado	*Triturus marmoratus*	16		16		Yes	Yes		Least Concern	Decreasing	Spain, France, Portugal	Yes	Ongoing	2009	7
Cameroon Slippery Frog	*Conraua robusta*	20		20		No	No		Vulnerable	Decreasing	Nigeria, Cameroon	Yes	Ongoing	2019	7
La Palma Glass Frog	*Hyalinobatrachium valerioi*	50				Yes	Yes		Least Concern	Decreasing	Panama, Colombia, Costa Rica, Ecuador	Yes	Ongoing	2020	7

Emperor newt Tylototriton shanjing

NOVEMBER 2021

WORKING TO ENSURE THE TRADE IN WILD PLANTS AND ANIMALS IS NOT A THREAT TO THE CONSERVATION OF NATURE

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