The reptile trade and law enforcement in Norway and the Netherlands: time for a ban?

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Abstract

This article presents research on wildlife trafficking, more specifically the illegal trade in live reptiles and its enforcement in two countries: Norway and the Netherlands. Based on broad datasets that cover more than a decade and semi-structured interviews with police, customs, environmental authorities, food safety authorities and experts, the implications of the current regulation regime of wildlife trade through the Convention on International Trade in Endangered Species of Wild Fauna and flora (CITES) are discussed. A specific problem connected to CITES is the emergence and persistence of parallel legal and illegal markets. The empirical findings of this study show that the regulatory framework invites the laundering of illegal, wild-caught reptiles into the legal trade, increasing the risk of extinction for many species. The laundering issues will be discussed in the Norwegian context, where a reptile ban was lifted recently, and in the Dutch setting, historically known as a reptile trade hub. An important question is, therefore, whether the existing regulation actually serves to protect species from extinction or whether it rather legitimises and encourages trade, leading to extinction. A ban on the trade of live reptiles is discussed, since research data suggest a ban would be easier to enforce than the current regulation regime.

Keywords: reptile trafficking, laundering, wildlife ban, green criminology, enforcement.

Introduction: the global reptile trade

The wildlife trade is devastating to exotic species across the world. Large trade flows of endangered species have become embedded in the global economy for a wide variety of purposes. Products derived from wildlife species are used as medicines, meat and eggs are served as food, skins are used for leather products, and live animals are bought, sold and kept as domestic pets, including mammals, birds and reptiles (Pires and Clarke, 2012; Sollund,

2019; Van Uhm, 2016a; Wyatt, 2022). The trade of wildlife species contributes to a severe global defaunation that has extensive consequences (Dirzo et al., 2014; Hooper et al., 2012; IPBES, 2019).

Reptiles are one of the most heavily traded taxa of exotic animals in the world. They are traded for the 'pet' industry, and this threatens many reptile species (Warwick, 2014). Marshall et al. (2020) found that 35 % of reptile species are traded online and that much of this trade in reptiles is unsustainable and endangers many species' survival. Three quarters of this trade is in species that are not (yet) covered by CITES ([46]). The reptile trade involves numerous endangered or range-restricted species, especially from hotspots within Asia; approximately 90 % of traded reptile species and half of traded individual reptiles are abducted from the wild. Exploitation can occur immediately after scientific description, leaving newly discovered endemic species especially vulnerable (Marshall et al., 2020, p. 1).

A consequence of the reptile trade is species loss, but also the destruction of ecosystems, as reptiles and amphibians are vital in sustaining ecosystems through plant pollination (Schlaepfer et al., 2005; Valencia-Aguilar et al., 2013). The International Union for Conservation of Nature's (IUCN) Red List has assessed 45 % of the 10 272 currently recognised reptile species: 180 reptile species are critically endangered; 361 reptile species are threatened; and 403 reptile species are vulnerable (Puritz and Weller, 2018). More than one in five reptile species is threatened with extinction (Böhm et al., 2013). Cox et al. (2022) conducted a comprehensive extinction risk assessment of reptiles and showed that at least 1 829 out of 10 196 species (17,9 %) are threatened. Auliya et al. (2016) conducted case studies in a whole range of countries, including Australia, Indonesia, Japan and New Zealand, and countries in Central America, the EU, Europe and West Africa. They found that many species are threatened because there is no monitoring of the number of animals that are subjected to trade or their populations.

Worldwide, 36 % of reptile species are being traded, and many of them come from wild populations (Marshall et al., 2020). The countries that export the largest number of reptiles are in Meso-America, which is the largest exporting region, closely followed by sub-Saharan Africa. South America is the third largest exporting region, followed by southern Asia and South-East Asia and western and central Asia (Robinson et al., 2015). The EU is a major importer of reptiles (Van Uhm, 2016a): between 2004 and 2014, 20 788 747 live reptiles were imported to EU Member States, including reptiles that are protected by CITES regulations and species that are not. However, a minimum of 79 % of traded reptile species are not subject to CITES regulations (Auliya et al., 2016; Marshall et al., 2020, p. 6).

The greatest importers of live reptiles to the EU in 2004–2014 were Germany, with roughly 6 million imported, the United Kingdom, with almost 3 million, Czechia, with almost 2 million, and Italy, with almost 1.8 million reptiles imported. Germany and the Netherlands have been the main players in the transnational reptile trade for decades (Dominguez et al., 2024; Stefes, 2024). The value of the import of live reptiles to the EU was EUR 7 million in 2005. While the EU has a large reptile market, the United States' is even larger, accounting for 56.1 % of the total market in the import of live reptiles compared with the EU's 18.2 % (Auliya et al., 2016). Norway is a newcomer in the legal reptile market, as, since a partial lift of a ban on exotic reptiles in 2017, trade in 19 species has been permitted (Sollund, 2019, 2021).

Europe is also one of the biggest markets for illegal reptiles. Most live exotic animal seizures are reptiles, with more than 30 000 live reptiles confiscated between 2001 and 2010 in the European Union. Based on information from

([46]) CITES is a multilateral treaty to regulate the trade in endangered plant and animal species.

CITES reports, it has been determined that, between 2010 and 2014, 95 % of the live wild vertebrates seized were reptiles (D'Cruze and Macdonald, 2016). The confiscated reptiles included mainly tortoises, followed by chameleons and turtles (Van Uhm, 2016b). While some of the seizures concern reptile species from Europe, the majority are first imported from outside Europe (Gussow, 2009; Sollund and Maher, 2015; Mărginean et al., 2018).

In this article, we discuss issues related to law enforcement associated with the reptile trade using two countries as case studies, Norway and the Netherlands, and discuss the risks of reptile laundering, the challenge of enforcement and the advantages and disadvantages of a ban on trade in live reptiles.

Methodology

In this article, empirical data from research on the reptile trade in Norway and the Netherlands were analysed to unravel overlapping themes and synthesise the findings. The data collection in Norway was conducted in two stages between 2010 and 2020. The first stage of the data collection took place between 2010–2013, the second part took place between 2019–2021. The data consist of 42 interviews with people working for the authorities involved in the enforcement of CITES: police, customs, the managing authority of CITES, the Norwegian Environmental Agency and the Food Safety Authority (FSA), whose veterinarians often carry out the first control of wildlife in transit at borders. In addition, 340 penal case files dated up to 2017 were subject to analyses (Sollund, 2019, 2021, 2025). In addition, informants who had kept and trafficked reptiles illegally were interviewed. These data were triangulated with seizure reports from customs between 2008 and 2020, with the most recent data from 2017 to 2020.

The research in the Netherlands was conducted between 2013 and 2020, based on empirical data collected for three research projects (Dominguez et al., 2024; Van Uhm, 2016a). In these research projects, police files were analysed, experts were interviewed, seizures were analysed, reptile traders were interviewed, and network analysis was conducted. The 34 experts interviewed included police officials, specialists from the Dutch Food and Consumer Product Safety Authority (NVWA), customs officials, biologists and employees of conservation organisations, including the RAVON Foundation, Herpetofauna Foundation, IUCN, International Fund for Animal Welfare, the Wildlife Justice Commission and CITES Netherlands.

The research is situated within the field of green criminology. Green criminology focuses on environmental harms and crimes against humans and non-human species (e.g. Sollund, 2015; Van Uhm, 2024; White, 2013), including studies on wildlife crimes and harms (e.g. Sollund, 2019; Van Uhm, 2016b; Wyatt, 2013). Justice concepts are central in such studies, such as those connected to environmental (human) rights, animal rights and species justice, and ecosystem sustainability and eco-justice (Benton, 1998; White, 2013).

Findings: the problem with parallel legal and illegal markets

The reptile trade is characterised as trend-sensitive; it is influenced by social media and film releases that cause new reptile species to become popular. The existence of parallel legal and illegal markets entails the risk of laundering illegal goods/products/animals into the legal market (Lyons and Natusch, 2011; Sollund, 2019; Sosnowski and Petrossian, 2020; Van Uhm, 2018). In the wildlife trade, the problem of verifying an animal or animal product is

generally connected to the documentation, such as export and import permits ([47]) issued by the exporting country and the importing country's CITES managing authorities. The CITES documents may be subject to fraud and loopholes, and the lack of control provides opportunities for wildlife laundering (e.g. Sollund, 2019; Warchol et al., 2003).

During the process of laundering wildlife, the illegal origin of an animal is concealed. For instance, the animal is declared as being bred in captivity instead of abducted from nature. Thus, a wildlife trader or breeder may order illegal wildlife from a poacher. The poacher provides the illegal wildlife, and then the dealer declares that the wildlife is captive bred and thus mixes it with the legal wildlife trade. Subsequently, the wildlife is laundered and can enter the legal economy (Figure 2.1).

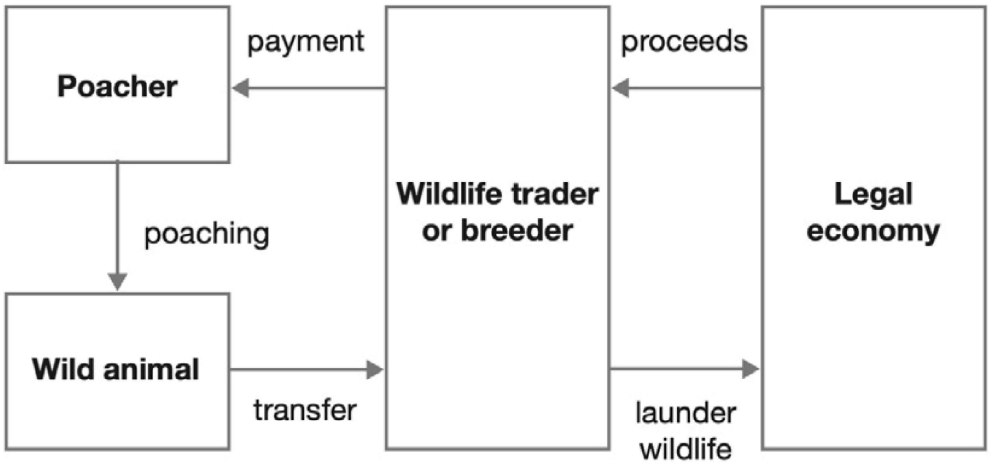

Figure 2.1. Wildlife laundering.

Numerous examples demonstrate the involvement of commercial wildlife traders in fraudulent activities, including the use of forged documentation and other deceptive practices to misrepresent wild-caught animals as captive-bred (Nijman et al., 2012; Nowell, 2009; Wong, 2017). In addition, breeding farms for endangered wildlife have been promoted to aid biodiversity conservation by alleviating the pressure on wild populations. However, they also provide a perfect cover for obtaining illegally caught wildlife and the appropriate documents (Lyons and Natusch, 2011; Nijman and Shepherd, 2009; Van Uhm and Zhang, 2022). Furthermore, zoos have a special position in that they are able to import wildlife easily for conservation or education purposes. However, this role also allows illegal entrepreneurs to launder wildlife and use breeding programmes to explain the appearance of new (illegally obtained) animals (Stiles et al., 2013). Zoos are also beneficiaries when wildlife is seized, since they can pick and choose the animals they are willing to rehome and reject others (Sollund, 2019).

Laundering reptiles and lifting the ban in Norway

With the lift of the ban on trading exotic reptiles in Norway, opportunities for laundering illegal reptiles have surged; however, the justifications put forward as the basis for this decision need some elaboration. The FSA argued for a lift of the general ban on exotic reptiles, since it was estimated that there were already more than 100 000 reptiles

([47]) This may become less of a problem with the introduction of digitalised documentation.

kept illegally in the country (Sunde, 2010). The FSA worried about salmonella and the welfare of these animals, as it suspected that owners would not take their reptiles to the vet due to the ban, and that they could suffer harm. The Norwegian positive list includes species that the FSA regards as fit to be held in captivity. Of the 19 reptile species, 15 are either listed in the CITES II appendix (requiring export and import permits) or listed by the IUCN as vulnerable. However, with the reverse of the 40-year-old ban on reptiles as pets and the introduction of the positive list for reptiles, other issues have arisen.

One requirement is that the animals should not be caught in the wild, and, thus, the person selling the animal should provide the buyer with a document stating that the animal had been bred in captivity. Rather than customs officers, who are usually responsible for controlling goods that enter the country, in the case of live animals this has become the responsibility of the border veterinarians of the FSA, who are not CITES experts. Consequently, reptiles (and other animals) may enter the country without being subject to proper CITES controls (Sollund, 2019). The FSA border veterinarians underline that the documents that reptile owners produce to prove the legality of their animals are easily subject to fraud, and can take the form of all sorts of hand-scribbled auto declarations. This means that illegal wild-caught animals may be laundered into the legal reptile trade in Norway and elsewhere.

Another issue concerns non-EU countries. The interview data showed that cardboard boxes with reptiles inside arrived in Norway from the Netherlands or Germany; however, it appears they did not embark on their journey from either of these countries, but from China, since the packages were marked with Chinese script. Once a package has arrived in an EU Member State, it can legally cross borders within the EU and the European Economic Area without being subject to further control, thus facilitating the illegal wildlife trade. This is also an animal welfare issue. On several occasions, the border veterinarians have unpacked boxes containing dead fish and reptiles. This reflects the extremely high mortality rates in wildlife trafficking generally (e.g. Maher and Sollund, 2016).

Laundering reptiles in the Netherlands

Reptile species that are in high demand or reptiles that are difficult or expensive to breed in captivity risk becoming part of laundering schemes in the Netherlands (Janssen and Chng, 2018; Lyons and Natusch, 2011; Nijman and Shepherd, 2015). One example is the African spurred tortoise (*Centrochelys sulcata*), since breeding this turtle to a significant size takes several years, which makes it unprofitable for traders. Dutch inspectors revealed that a large shipment of African spurred tortoises was reported as being captive bred, but the animals' physical appearance proved otherwise. These African spurred tortoises had a much larger carapace than would have been plausible for captive-bred African spur tortoises; it takes the tortoises many years to grow a shell of such a large size. This illustrates how traders declare reptiles as captive bred, while in reality they have been caught in the wild.

Reptile laundering also occurs through countries that are not members of CITES. A reptile expert in the Netherlands explained that many are suspicious that reptiles from the wild are being passed of as captive bred by using a non-EU country as a stopover. For instance, several Horsfield's tortoise (*Testudo horsfieldii*) range states are not a party to CITES, which probably adds to the illegal trade in the species by complicating the differentiation between legal and illegal trade streams (Smith and Porsch, 2015). This facilitates laundering practices in source countries that are a party to CITES. The Netherlands is considered both a transit and a destination country in the international trade of Horsfield's tortoises trade; they account for 91 % of the wild-caught reptiles imported by the Netherlands and about 12 % of all CITES-listed reptiles that are exported from the Netherlands (Janssen and Leupen, 2019).

Finally, in many cases authorities have no idea what reptile species they are dealing with, so they write down everything the trader in question says. According to our respondents, reptiles from Indonesia destined for the United States make a detour via the Netherlands, after which they are indicated as captive-bred reptile species and offered for sale online. However, although traders' knowledge of reptile species may provide opportunities for laundering, many reptile traders in the Netherlands are unaware of trade restrictions and reptile-laundering practices, in particular when it concerns non-CITES species. Therefore, trade in laundered reptile species also occurs due to a lack of awareness.

Problematic law enforcement

Since both Norway and the Netherlands are part of the Schengen area and the EU single market, which allows goods to be moved freely among Member States, reptiles can be traded completely legally in Europe. As soon as the reptiles have been illegally smuggled from the country of origin into Europe, this poses significant challenges for law enforcement agencies. According to law enforcement officials, this makes tackling the illegal reptile trade in Norway and the Netherlands very difficult.

In addition, uncovering laundered reptiles presents a major challenge for Dutch and Norwegian law enforcement agencies. In the Netherlands, law enforcement officials explained that it can be a challenge to identify illegal reptile species, particularly when the appropriate paperwork has been submitted, and to distinguish between the legal and illegal reptile trade. This is confirmed by law enforcers in Norway. While FSA vets may be trained to distinguish the 19 legal species from illegal species, customs inspectors and police officers often do not have such skills. Therefore, according to the interviews, they will desist from establishing the species of a reptile when they are found during house searches and take offenders' claims that the reptiles are on the positive list at face value. It has become too complicated to enforce CITES, since it requires skills that are lacking in law enforcement agencies (LEAs).

If an illegal reptile is detected on the border of Norway or the Netherlands and the offender is duly reported to the police, customs may impose an administrative sanction, which means that if such cases are not simply dismissed by the police, which happens frequently, they often result in rather insignificant fines. This means that the punishment for illegal reptile trade has little deterrent effect, both on an individual level and as a general preventative measure. The fact that such punishment is seldom made public also means that the general public assumes that reptiles for sale in Norway and the Netherlands have a legal origin and are unaware of the risks of reptile species brought into the EU illegally with false, forged or no paperwork.

A ban on the trade of live reptiles?

Generally, reptile trafficking offences are under-enforced and punishments are lenient, and, given the rate of extinction we are currently witnessing, with more than one out of five reptile species threatened (IPBES, 2019), this gives rise to concerns about the effectiveness of the regulations in their current form, since they do not appear to be protecting reptiles from going extinct (Dickson, 2003; Sollund, 2023; Wyatt 2019). Whether a ban on the trade of live reptiles would stop the trade is doubtful, according to our respondents, since high profits may attract illegal entrepreneurs, even when it is banned, such as in the case of the Adelaide pygmy blue-tongue skink (*Tiliqua*

adelaidensis) ([48]). The effect of a ban also depends on the risk of being detected and the severity of the punishment that would be imposed should offenders get caught. Currently, in both Norway and the Netherlands, punishment for involvement in reptile trafficking is lenient, if any punishment is imposed at all (Sollund 2019, 2025; Dominguez et al., 2024); reptile trafficking is still a crime that involves low risk and high pay (Van Uhm, 2023) ([49]).

A ban could also have the undesired effect of making live reptiles even more attractive. In the Netherlands, several drug traffickers became involved in the illegal reptile trade in the 1990s, and, in Norway, much of the illegal reptile trade was linked to offenders involved in multiple types of crimes who had a fetishist relationship with the then illegal reptiles (Collard, 2020; Sollund, 2019; Van Uhm, 2016b). It is possible they held an attraction not only because they looked scary (Janovcová et al., 2019) but also because they were illegal, thus adding to the status of the offender in their social subgroups.

Research also suggests that when CITES introduces a ban on a species, in the interval between when the proposal is made and when it comes into effect, there may be an increase in trade (Rivalan et al., 2007). Currently, roughly 6 610 species of animal and 34 310 species of plant are listed in the CITES appendices. The number of species is constantly increasing because more species become endangered, due to the increase in climate change and the nature crisis generally, but also because more species are offered protection or stricter protection ([50]). When a potential CITES listing or uplisting is announced, traders try to obtain as many animals as possible, illegally or not, before the stricter regulations come into effect (Dominguez et al., 2024; Rivalan et al., 2007). However, this argument would probably be less valid if all trade in live reptiles was banned, since law enforcement would probably increase.

Some respondents argued that a ban on trade in live reptiles would affect the livelihoods of local people in poor source countries. Many rural households in economically developing countries depend heavily on wildlife resources (Duffy, 2010; Roe, 2002). However, hunting reptiles is often part-time work, undertaken by poorer members of the community, and is perceived as opportunistic, risky and financially unreliable (Robinson et al., 2018). Therefore, the implications of regulations and bans on reptiles for local livelihoods should be better contextualised to understand the real effects.

Finally, if the trade of live reptiles was banned, respondents argued that more of it would go underground and take place on the internet – so-called crime displacement. Should LEAs start monitoring the internet and social media properly, perhaps crime groups would turn to the dark web. At the same time, those who constitute the largest part of the market – ordinary citizens – will abstain from participating in the reptile trade because it is no longer openly available and is more complicated, and thus less tempting. However, research focusing on wildlife trade on the dark web has found that it is not as prevalent as the trade that goes on in open internet channels, such as through social media (Stringham et al., 2023; see also Harrison et al., 2016).

It is important to note that, due to the complications of enforcing the trade regulations, several respondents from law enforcement agencies in Norway and the Netherlands argued that a ban would make it easier to react to

([48]) At the 19th meeting of the Conference of the Parties (COP 19) to CITES in Panama, the reptile *Tiliqua adelaidensis* (Adelaide pygmy blue-tongue skink) was listed under Appendix I as threatened after being heavily commercialised for the pet trade (CITES, 2022).

([49]) An important requirement for a potential punishment to have a deterrent effect, is not only its severity and certainty, but also that these aspects of the potential punishment become generally known among potential offenders. As mentioned, these circumstances lack in the case of Norway and the Netherlands.

([50]) An example of this was the uplisting from Appendix II to Appendix I of the African grey parrot in 2016 as a consequence of unsustainable trade (CITES, 2016). It was estimated that this trade involved more than 1.3 million birds prior to the ban (IFAW, 2022).

illegal reptile trade. For instance, the findings from the Norwegian study clearly show that enforcement agencies, customs, police and border vets regard a ban as far easier to enforce than the partial legislation that exists today, and that the introduction of the positive list has entailed difficulties in the enforcement of CITES (Sollund, 2019; 2021).

In addition to the complications implicit in enforcing a regulation rather than a ban is the issue of animal welfare and the role of reptiles in their ecosystem. Undoubtedly, millions of animals suffer in the wildlife trade, whether this is legal or illegal (Sollund, 2011, 2019, 2025; Van Uhm, 2016a; Wyatt et al., 2022). With the increase in aetiological, psychological and biological studies of animals (e.g. Ackerman, 2017; Bekoff, 2006; Pepperberg, 2000), more insights into the cognitive and other abilities of reptiles will be provided in the future. From a biocentric perspective, reptiles that are abducted from their habitat and traded so that they must live the rest of their lives in captivity should they survive would benefit from a ban on the trade. Several respondents added, from an ecocentric perspective, that the intrinsic value of reptiles, as well as the role of reptiles in their ecosystems, should be considered by CITES, rather than their trade value and objectification (Sollund, 2023, 2025). CITES can be accused of being an outdated convention based on econocentric values (Goyes, 2023). It has been suggested that it legitimises and encourages wildlife trade, which, consequently, harms wildlife and contributes to animal harm and species extinction (Sollund, 2019; 2023; 2025).

Our empirical findings highlight the importance of reconsidering the effectiveness of the regulation of the reptile trade and taking into account biocentric and ecocentric approaches when considering a general ban on the trade in live reptiles.

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