

Report

January 2023

Abstract

The EU is known to be one of the world's largest wildlife markets and a central hub for the exotic pet trade. Millions of exotic pets are estimated to be owned in private households, including among others mammals, birds and reptiles. Wild animals traded to be kept as pets are either taken from the wild, or captively bred inside and outside of the EU, with alarming negative impacts on animal welfare, biodiversity, and public health. Data on import numbers of wild animals kept as pets is lacking, as is the number of animals traded and kept as pets in the EU in general. Moreover, there is a wide variety of MS laws on the keeping and trading of pets within the EU Internal Market, and it is unknown how these laws might affect imports, or cause potential distortions in trade of pet animals between MS. This research provides some insight into the scale of the pet market in the EU in selected Member States (MS), as well as an overall estimation of the number of, CITES listed, wild animals imported into the EU as pets over the last ten years. Using the CITES trade database, it highlights that millions of reptiles, tens of thousands of mammals and birds were imported to ten MS, mostly destined for the pet trade. The study discusses legislation in each MS in reference to import data and results suggest that countries presenting stronger restrictions may tend to display fewer imports while countries with fewer restrictions present more imports. These results provide initial evidence of a potential "internal market barrier" resulting from disparities in the laws. The recommendation is that more detailed analysis is conducted to establish evidence of the full extent of internal market distortions because, where there is smoke, there is fire. An EU positive list is recommended as an effective tool to harmonise the legislations on the trading of animals to be kept as pets.

Key words: exotic pets, trade, European Union, market distortion

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1. Introduction

At the European Union level, millions of exotic pets are estimated to be owned in private households, including small mammals, birds, reptiles, and ornamental fish (FEDIAF, 2021). A large number are imported from outside Europe, taken from the wild or bred in captivity in their origin country (Altherr & Freyer, 2001; Nijman, 2010; Bush et al., 2014). This trade has a negative impact on animal welfare, biodiversity both in the EU and the rest of the world, as well as on public health (Engler & Parry-Jones, 2007). Although the current pet trade in the EU is known to be large, specific data on the numbers of pets in different Member States (MS) is lacking. Moreover, records and controls are lacking for these animals' movement when crossing borders due to regulations on free movement of goods and people in the single market and Schengen area respectively. Therefore, it is essential to be able to evaluate the EU market size in order to understand the scale of the exotic pet trade issue. Indeed, the EU is known to be one of the world's largest wildlife markets and a central hub for wildlife trade (Altherr & Lameter, 2020; EU Commission, 2022). As an example, between 2007 and 2016, more than 300 million individual specimens of exotic animals were imported into the EU (Engler & Parry-Jones, 2007). As studies showed, the EU plays a major role in the global pet trade, and wildlife decline (Nijman & Shepherd, 2009; Janssen & de Silva, 2019; Altherr et al., 2022). Therefore, this research aims to give a snapshot of of the scale of the EU pet in selected MS in the FU.²

¹ The European Commission's main goal in the EU single market for goods is to ensure the free movement of goods within the market, and to set high safety standards for consumers and the protection of the environment (European Commission, 2022). The Schengen Area is defined as an area comprising 26 European countries that have officially abolished all passports and all other types of border control at their mutual borders (Schengen Visa Info, 2022).

² From the data collected, exotic pets can be defined as animals kept as companions in private households. These are rare pets, usually non-domesticated, that were taken from the wild or are captive-bred species, non-native to EU. Exotic pets vary from wild predators, reptiles, small mammals, primates or ornamental birds.

The review also aims to give an overall estimation of the number of exotic pets imported into the EU and take into account the varying laws on the trading or keeping of pets between the different EU Member States. This study, therefore, provides initial evidence of an "internal market barrier" resulting from disparities in the laws, regulations or administrative provisions of the Member States.³ This barrier is present as some EU MS have already implemented a positive list or are in the process of doing so, while others have negative lists, or no discernable laws on the keeping/trading of pets. These disparities can obstruct the freedom of movement of goods (in this case animals unfortunately are recognised as goods), and may result in unequal opportunities in different MS, or competition within the internal market. In short, where rules are enforced, different MS and even different regions within MS in the single market will have different opportunities to access goods. Trade flows of pet animals may therefore be more difficult for some MS compared to others based on their geographical locations. According to a recent legal opinion and settled case law⁵; demonstrating "internal market barriers" is one of three conditions that must be fulfilled in order to rely upon Article 114 TFEU as a legal basis.

2. Methods and Results

This research first investigates an estimate of the current scale of the number of exotic pets kept in EU private households; then moves on to investigate the current exotic pet trade including imports from outside the EU. The discussion analyses potential links between the data and varying national legislation on the trading of exotic pets in different EU Member States.

The scope of research includes the following ten MS: Belgium, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Spain and the Netherlands. These countries were selected because they represent a large part of the market and differ in their national legislation concerning the trading and keeping of exotic animals.

³ Measures that can be adopted under Article 114 must have the specific object of improving the conditions for the establishment and functioning of the internal market; they must be designed to remove genuine obstacles to free movement or appreciable distortions of competition, not purely abstract risks.

⁴ The EU internal market is a single market where the free movement of goods, services, capital and persons is assured (Eur-lex, 2022).

Fratini Vergano 2022 available at: https://www.eurogroupforanimals.org/files/eurogroupforanimals/2023-01/1820-82022.12.02820EU820positive e%20list%20-%20Feasible%20legal%20basis.pdf

Indeed, some countries present a negative or positive list while others have few or no restrictions. Some of these countries are also known to be transit countries or pet trading hubs, and, therefore play a prominent role in the exotic pet trade (Auliya et al., 2016; Shiraishi et al., 2020). Moreover, this research focuses on the legal trade of mammals, birds and reptiles⁶ for private ownership, noting that there is a link between the legal and illegal trade (European Commission, 2016; Janssen & de Silva, 2019; Altherr, et al., 2022). Also, an apparent data gap is present, where some MS with few regulations show few or no imports of CITES listed species. The question remains as to the reason for this, however the disparity between some estimates in the pet trade means that more in depth investigations should be conducted in this regard.

2.1. Database and limitations

Regarding the database used in this investigation, some research limits have been imposed. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) trade database is the main database used, as it provides the most accurate data on species and imports into the EU of exotic animals. This database is reliable since it concerns threatened animals for which the trade is monitored and controlled. When using the CITES trade database, the exotic pets may be sourced directly from the wild, taken from the wild as eggs, born in captivity from wild parents, reared in captivity, or bred in captivity which depend on the species. Therefore, the codes used for "source" of the animals are "wild caught, captive bred, and unknown". The purpose codes of animal movement selected were "commercial" and "personal" (CITES Secretariat & UNEP-WCMC, 2022). It is assumed that data used under these parameters provides a sound representation of live exotic animals traded as pets.

2.1.1. Data disclaimers and limitations

The CITES trade database is a useful indicator to estimate the number of exotic animals imported into the EU but present inconsistencies and knowledge gaps. Indeed, according to Berec (2019), the use of this database has some limitations related to data processing and the lack of data. There is "an inconsistent transcription of data from exporter to importer permits (e.g., purpose and/or source, units (individuals versus

⁶ In this research, some groups of animals have been decided not to be included in the scope of focus. For example, fish are not included since their assessment for imports as pets is very complicated and data is lacking. The same can be observed for amphibians and invertebrates.

kilograms) that do not allow for the matching of exporter and importer reports of the same trade into the same row". This might be explained by the fact that only exports are obliged to be recorded and not imports. Moreover, based on the Pro Wildlife, HSI and IFAW report by Altherr et al. (2022), while range states could request a listing of their nationally protected species on CITES Appendix III without the consent of other CITES Parties, the current EU legislation neither prohibits nor imposes penalties for the sale, purchase and ownership of illegally sourced animals listed on CITES Appendix III. Only illegal imports into or exports from the EU can be sanctioned. Given that such illegally sourced animals have been smuggled out of their country of origin, **imports into the EU are generally neither declared nor recorded**, and there are no sanctions for post-import activities. Moreover, since only a small proportion of species in the pet trade (mostly reptiles, amphibians and invertebrates), are CITES-listed species, a large number of pets imports leave unrecorded.

Interestingly, Hughes (2021) demonstrated that most wildlife trade regulated by CITES concerns species for which unmanaged commercial trade was regarded as a potential threat to their long-term viability. Therefore, CITES only regulates high-value or high volume wildlife trade. However, species traded in smaller numbers are often neglected by international regulation. Moreover, a very few species sold for the pet trade are CITES listed species. Only 2.5% of amphibians and 9% of reptile species are listed in CITES appendices but more than 17% of amphibians and 36% of reptiles are traded for pets (Andersson et al., 2021). Indeed, thousands of species are traded as pets but the lack of harmonised regulation makes it difficult to monitor the exact number. Moreover, various reptiles and birds are traded at high volumes and diversities without accompanying licences since these are not CITES listed species. Finally, CITES covers a total of 987 reptiles species, leaving many species without detailed records. Indeed, more than 4.000 species of snakes, 7.300 of lizards, 336 turtles and 27 crocodilian species exist (Uetz et al., 2022). Therefore, the CITES trade database gives a small snapshot of the exotic pet trade.

Given the above, conclusions made in this report are only able to demonstrate potential, rather than definitive links between the number of imports and national MS laws. It can, however, demonstrate a clear lack of consistency between MS' role in the pet trade, highlight knowledge gaps, and show that if MS laws are implemented effectively, a clear difference in the potential markets would become apparent.

2.2. The EU pet market size

2.2.1. Exotic pet ownership in EU private households

According to the European pet food Industry (FEDIAF, 2021), 62 million exotic pets were kept in private households in the ten MS of focus in 2021 (Fig. 1). In their report, exotic pets refers to small mammals, ornamental birds, aquaria and terraria. In the ten MS selected, Italy presents the most exotic pets owned in private households with 17.5 million exotic pets in 2021. Germany and France are following with more than 11 million. It is not clear as to the exact methodology used in these data, therefore in order to fully understand the scale of the exotic pet trade, other research techniques and in depth investigations should be used.⁷

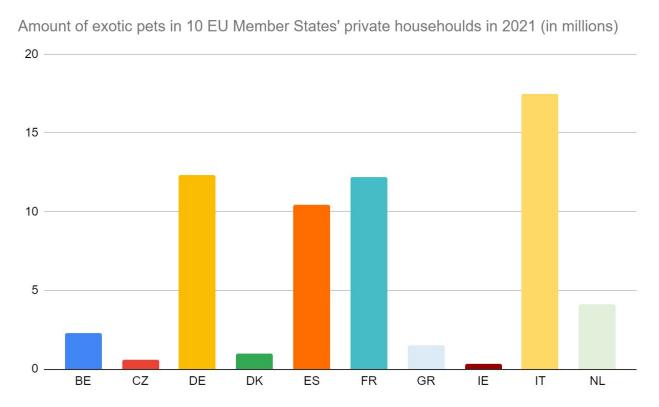


Figure 1: Compiled data, representing the amount of exotic pets in 10 EU Member States kept in private households in 2021, according to the FEDIAF (2021). The 10 MS are the following: Belgium (BE), Czech Republic (CZ), Germany (DE), Denmark (DK), Spain (ES), France (FR), Greece (GR), Ireland (IE), Italy (IT) and the Netherlands (NL).

⁷ See recent research conducted by Sapience which includes various official sources and investigation techniques to provide a snapshot of, and corroborate the scale of the EU pet trade. Available at: https://www.eurogroupforanimals.org/files/eurogroupforanimals/2023-01/Final%20Pets%20in%20the%20EU %20scale%2C%20protocols%20and%20anline%20apprehension%20%28Sapience%29%20FV%20.pdf

Moreover, these numbers should be used with caution as they might not represent the actual size of the exotic pet populations in the EU. Indeed, this data does not estimate how many animals are kept in the terraria and aquaria which can vary from one to dozens of individuals. However, more than one fish or reptile individual is usually expected.

2.2.2. Wild animal pet Markets in the EU

In the ten MS selected for this research, 88 pet fairs registered on websites have and will occur between October 2022 and October 2023. Most of them are occurring in Germany, Denmark, Czech Republic, France and Italy. A review of investigations of the live pet market can be found here.

2.3. The current pet trade

The presentation of these results begins with a broad scope to have an overview of the market and potentially show differences in the number of live animals, destined for the pet trade, entering MS in the EU, and then narrows down a few species case studies which illustrate these differences. The first section concerns the live, international trade of animals into the EU and focuses on the live exotic animals imported from the rest of the world to the EU (both 27 MS and 10 MS that have been selected for the research). The second section focuses on the trade of some specific species, between several Member States with different legislations.

2.3.1. International trade

Literature demonstrates that a large amount of live exotic animals are imported each year in the EU. According to Auliya et al. (2016), between 2004–2014, the EU MS officially reported the import of 20.788.747 live reptiles (CITES and non-CITES species), an average of more than two millions reptiles per year. Germany was the largest importer with 6.101.040 individuals, followed by Spain (2.912.171), Czech Republic (1.899.420), and Italy (1.780.546). This section aims to give an initial picture of the international imports into the EU of exotic animals for the pet trade using the CITES trade database.

CITES species are estimated to represent only 20% of the total number of species imported to the EU according to Marshall et al. (2020).

Additionally, Altherr and colleagues (2020) demonstrated that only 15 to 20% of the reptiles imported in Germany were CITES listed species. Regarding amphibians, 98% were not listed on the CITES appendices either. Therefore, this section only gives a brief overview, and likely an underestimate of the total number of animals imported into the EU Member States for the exotic pet trade.

Reptiles

According to the CITES trade database (CITES, 2022), 3.291.714 live reptiles were imported to EU MS from the rest of the world only for the commercial trade in the EU between 2010 and 2021, based on the exporter reports (Fig. 2). Between 2017 and 2021, 1.097.208 live reptiles have been imported to the EU MS for the same reasons. These amounts are reported by the exporters countries and only concerns CITES listed species which are captive bred or wild caught in their origin countries. During the 2010-2021 period, Germany represented the largest importer with 30.8% of imports (1.015.454 individuals), closely followed by Italy with 29.3% (966.477 individuals), and then, Portugal with 10.5% (345.722). In 2017-2021, most imports were made by Italy (506.164) and Germany (350.481). Moreover, for live reptile imports in the EU during this period, commercial and personal trade purposes represented 99.5% of the EU imports (Fig. 3).

In ten years, more than three million reptiles have been imported into the EU for what is assumed to be for the exotic pet trade. An extrapolation of Marshall et al. (2020) research, would mean that a possible 15 million reptiles could have been imported in the EU since 2010.

These numbers should be used with caution as some of these reptiles might be imported to be used for goods using their skins. Although it is complicated to evaluate the proportion of reptiles that are imported to be used for this purpose, a large part of the CITES reptiles imports are for "commercial" reasons so it can be assumed that a part of the imports are for the skin trade.

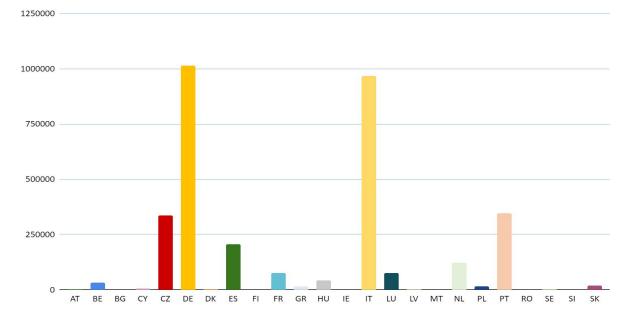


Figure 2: Compiled data, from CITES (2022), showing the imports of CITES listed live reptiles in the 27 EU MS between 2010 and 2021. These animals were imported for commercial and personal reasons.

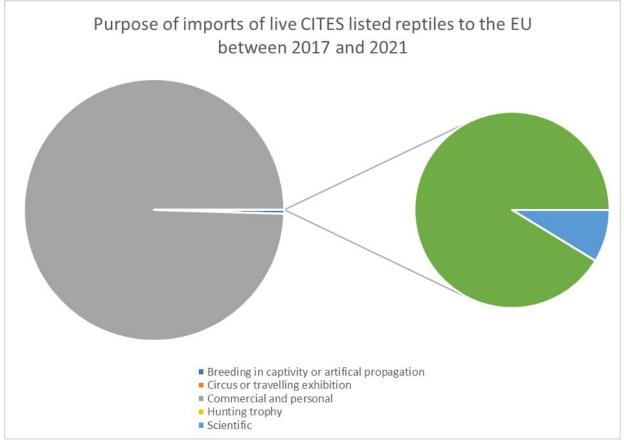


Figure 3: Compiled data, from CITES (2022), showing the reason for listed live reptiles in the 27 EU MS between 2017 and 2021.

Other studies have shown that Germany plays a leading role in the exotic pet trade and, especially in reptiles. Moreover, for a long-term period, Germany has been, by far, the largest importer of reptiles within the EU (Altherr & Lameter, 2020). Another study conducted by Altherr et al. (2020) provided by the veterinary authorities at the Frankfurt Airport, has shown that, between 2012 and 2016, 372.962 and 702.562 live reptiles (CITES and non-CITES) imports were recorded per year. On a global scale, Auliya et al. (2016) research demonstrated that the EU imported 4.2 million live reptiles within the period within four years, according to Eurostat. Reptiles are the only taxonomic group for which the EU has a defined custody group and aim to record all imports, which gives an overview of the reptile trade in the EU (UNEP-WCMC, 2020).

Mammals

According to the current investigation of the CITES trade database, between 2010 and 2021, 26.543 live mammals have been imported to the EU countries for commercial and personal reasons, based on the exporter reports (Fig. 4). Germany is the largest importer with 43.7% imports (11.600), followed closely by France which accounts for 34.9% of imports (9.265). The Netherlands is the third largest importer of mammals with 13.02% imports (3.455). Between 2017 and 2021, 9.926 mammals were imported. Moreover, 58% of them were imported in the EU for the commercial trade, which can be used as a proxy for the pet trade as specified earlier, and 35% for the medical such as biomedical research. Species of imported mammals were mainly macaques and felines. Regarding macaques, they can be used in science and although there is a specific CITES code for "scientific purpose" as a reason for imports, it is difficult to assess the real purpose of macaque trade.

Between 2010 and 2021, more than 26.000 mammals have been imported into the EU for what is expected to be the exotic pet trade. This could mean that, as 26.000 individuals are only CITES species, a larger number of mammals could be expected to be imported for exotic pets in the EU (extrapolating from Marshall et al., 2020). Also, an increase in imports for commercial purposes has been noticed between 2012 and 2016, in particular the imports of primates in the EU. More specifically, in Germany, imports of CITES listed predators increased, which is interesting as they are a leading mammal importer in the EU (Altherr et al., 2020).

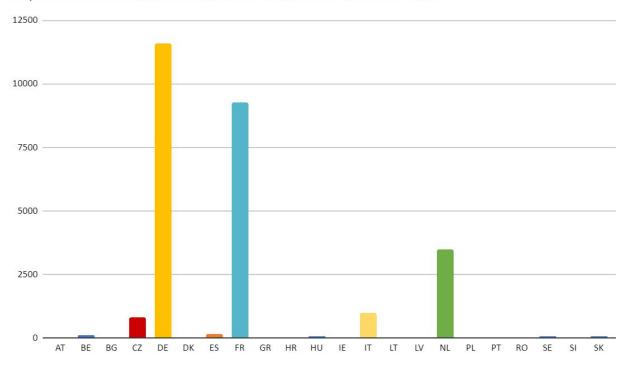


Figure 4: Compiled data, from the CITES (2022), showing the imports of CITES listed live mammals in the 27 EU MS between 2010 and 2021. These animals were imported for commercial and personal reasons.

Birds - Psittaciformes

Concerning CITES listed psittaciformes birds such as parrots or macaws⁸, the CITES trade database recorded that 10.209 individuals have been imported to the EU MS for commercial and personal reasons, based on the exporter reports. The main importer is Spain with 1.575 imports between 2010 and 2021. According to Engebretson (2006), the pet trade impact on wild psittaciformes cause this order to be more globally threatened with extinction than any other major group of birds.

The reason for fewer imports for birds, in this case psittaciformes, than for other group of animals are being seen is because this species are protected in the EU. Indeed, in 2005, the EU implemented an import ban for all wild birds in the directive on the conservation of wild birds (Eur-lex, 2009). Some exceptions exist regarding captive-bred specimens from registered breeding operations.

⁸ In the CITES Appendices (2022), the psittaciformes include the following species: cacatuidae (cockatoos); loriidae (lorries and lorikeets); psittacidae (amazons, macaws, parakeets and parrots).

This legislation explains why lower imports of wild birds are being observed.

2.3.2. Species specific trade

Three different species, a family and a genus have been selected as focussed case studies to evaluate the potential MS laws that might result in more limited trade, present barriers to trade, or show signs of distortion in the size of markets compared with other MS. The following species have been selected because their trade regulations vary in different MS and it was interesting to observe the potential impact on the exotic animals imports. Additionally, they are CITES listed species, which made species specific data available. They are traded for commercial and personal purposes, and were either taken from the wild or captive bred (CITES, 2022) and are known to be kept as pets meaning their trade gives a snapshot of the exotic pet trade.

It should be noted that these case studies are not intended to prove obstructions to freedom of movement or "distortion of competition" within the internal market. Instead this data paints an interesting picture that, if similar patterns were presented with many non-CITES listed species, it would show significant undermining of the functioning of the internal market, since markets for many species could exist in some MS and not in others, due to differences in the rules. The lack of data makes further analysis of non-CITES species impractical, meaning that harmonised rules are needed to remove existing obstacles to the free movement of pet animals and prevent likely future obstacles to harmonisation within the internal market. Furthermore, the species shown here are limited in trade. The intention is not to show a large scale, but to highlight that MS rules may play a key role in the possibility to import. In fact, the wording of Article 114 TFEU¹¹ does not reveal a requirement that the EU legislature can only be put in place if the trade in the products concerned is large.

⁹ In the CITES Appendices (2022), the psittaciformes include the following species: cacatuidae (cockatoos); loriidae (lorries and lorikeets); psittacidae (amazons, macaws, parakeets and parrots).

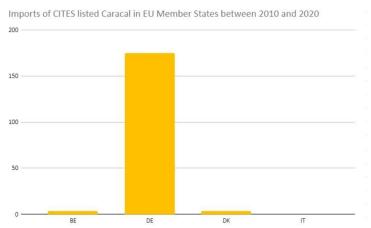
¹⁰ It must be noted that there are other countries that are not included in these case studies that show limited or no trade. There remains the possibility to attribute trade differences to other factors; however, this does not remove the fact that MS laws if properly implemented will play a large role.

¹¹ "...adopt the measures...which have as their object the establishment and functioning of the internal market." (Eur-lex, 2008).

Caracal - Caracal caracal - Table 1

Caracal



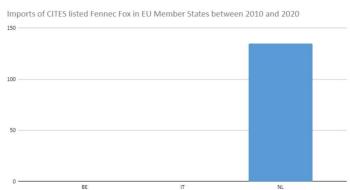


Between 2010 and 2020, 183 CITES listed caracals (*Caracal caracal*) have been imported to four MS for commercial reasons. Caracal's imports vary between the MS which is very likely explained by the differences in national trade and keeping legislations of exotic animals and pets. No caracals were imported to Italy, since caracals are on the 1996 negative list of animals that can be kept as pets (Gazzetta Ufficiale, 1996). Meanwhile, Belgium imported only 4 individuals in 2010 which correlates with the implementation of a positive list forbidding the keeping of most mammals, including caracals, in 2009 (Arrêté royal, 2009). Denmark also presented small imports, only four before 2015, when a negative list was implemented (Retsinformation, 2015). Finally, the main importer was Germany with 175 individuals, which can be explained by the fact that Germany does not forbid the trading or keeping of caracals as pets (BMUV, 2005).

Fennec fox - Vulpes zerda - Table 2

Fennec fox



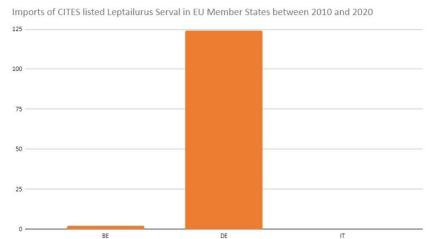


In the 2010-2020 period, 135 CITES listed fennec foxes (*Vulpes zerda*) have been imported to three MS for commercial reasons. As for caracals, the import and trade of this species might vary between the MS due to the differences in their national trade and keeping legislations of exotic animals and pets. As observed on the figure above, of these three MS, the Netherlands was the only importer of fennec foxes and presented no restrictions in their negative list regarding the trading or keeping of this species (Overheid; updated 2022 version). However, other countries, such as Belgium, that presents a positive list did not report any imports since fennec foxes cannot be kept as pets (Arrêté royal, 2009). Also, the italian's negative list does not allow the keeping of this species which can explain why no imports were reported either in Italy (Gazzetta Ufficiale, 1996).

Serval - Leptailurus serval - Table 3

Serval



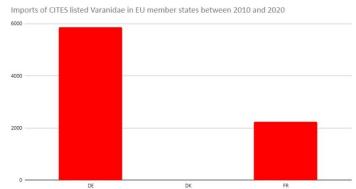


Between 2010 and 2020, 126 CITES listed servals (*Leptailurus serval*) have been imported to three MS for commercial reasons with imports varying between the MS, likely because of the differences in the national trade and keeping legislations of exotic animals and pets. Indeed, no servals were reported to be imported to Italy, since, as for caracals, these species are listed on the 1996 negative list of animals that can be kept as pets (Gazzetta Ufficiale, 1996). Also, Belgium reported only two imports although this country implemented a positive list of mammals in 2009, forbidding the keeping of servals (Arrêté royal, 2009). However, there is a huge gap with Germany, which reported 124 imports of servals. This country is the only of the three that presented no restrictions on the trading and keeping of servals and is the biggest importer (BMUV, 2005).

Varanidae - Family - Table 4

Varanidae



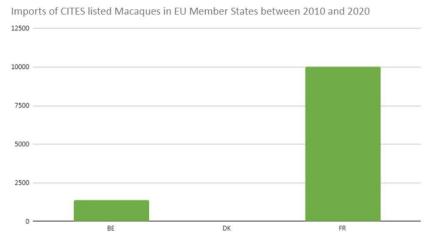


In the 2010-2020 period, 8.098 CITES listed individuals from the Varanidae family have been imported to three MS for commercial reasons. As for the other species, the import and trade of the Varanidae may vary between the MS due to the differences in their national trade and keeping legislations of exotic animals and pets. Germany was the main importer of varanids with 5.855 individuals imported and did not forbid their trading or keeping as pets (BMUV, 2005). Also, France was the second main importer in the three MS with 2.239 varanids imported. However, since 2018, a certificate was required for the keeping of the Varanidae which may have caused a decrease in the number of individuals imported (Légifrance, 2018). Indeed, before 2018, 1.956 animals were imported, an average of 280 varanids for 283 animals after 2018. Meanwhile, Denmark reported four individuals before 2015. The Danish negative list has exactly been implemented in 2015 and forbids the keeping of varanids, which can explain why no imports occurred after this period (Retsinformation, 2015).

Macaques - Table 5

Macaques





Between 2010 and 2020, 11.410 CITES listed individuals macaques (*Macaca* Genus) have been imported to three MS for commercial reasons. As stated earlier in this report, it is difficult to assume that these macaques were traded for being kept as pets since they are widely used in science. Althought there is a specific CITES code for "scientific purpose", caution must be placed when drawing conclusions. However, as for the previous species, different national trade and keeping legislations of exotic animals and pets are very likely influencing macaques imports in the MS. No macaques were reported to be imported in Denmark, since this species was listed on the Danish negative list (Retsinformation, 2015). Meanwhile, Belgium reported 1.385 imports between 2010 and 2014 which were very likely to be for scientific use since the positive list enacted in 2009 forbid the keeping of macaques as pets (Arrêté royal, 2009). Finally, France was the largest importer, with 10.205 imports of macaques in 10 years and is the only one that did not present any restrictions on the trading or keeping of macaques (Légifrance, 2018).

3. Discussion

Based on the results of the current study and literature research, a clear variation of the number of imports have occurred from outside the EU to different MS. While not definitive, it is the case that MS in the EU have high variation in their pet trade laws and this is likely to have an effect on the number of individuals, and the number of different species traded. This would may have an impact in the size of the pet markets in different MS. However, based on the functioning of the internal market, there should be an "internal market barrier" resulting from disparities in the laws. Indeed, the different legislation in the EU Member States appears to correlate with an internal market variation, though it must be noted that correlation does not mean causation. On the one hand, MS with stronger restrictions tend to display lower numbers of imports with possible implications in the EU market. On the other hand, weaker restrictions may allow more freedom to MS, resulting in more imports.

Additional factors to the differences in legislations may influence this internal market distortion. For example, the freedom of movement of people and goods makes it difficult to determine the full scale of this internal market distortion, and may undermine the existing rules in MS. Indeed, much of the trade within the EU remains unnotified and, therefore, not recorded. Also, commercial trades are often undeclared, since no controls occur at MS borders. Therefore, the commercial trade for the exotic pet market is complicated to monitor. Additionally, the gap between CITES and non-CITES listed species data is causing problems to understand this internal market distortion since data is missing and a proper assessment of the EU pet trade cannot be made. It is important to note that a large risk to the welfare of animals, zoonotic disease transfer and Invasive Alien Species introduction are exacerbated by this lack of knowledge.

This discussion is divided into three sections that aims to demonstrate that the difference in MS legislations is linked to disparities in the trade within the internal market, which would be mitigated through rules harmonisation in the EU. The first section presents the pet trade in MS with few or no restrictions on trade, the second section analyses MS with weak restrictions or a negative list, and the last section presents MS with strong restrictions or a positive list. A brief overview of the following ten MS legislations can be found in the Annex I of this report.

The following analysis makes comparisons between the numbers of exotic animals kept in private households and the numbers of exotic animals imported in each MS. However, caution must remain as not all animals that are kept as pets are imported from outside the EU and a significant number of common exotic pets are captive-bred within the EU.

3.1. Member States presenting few restrictions

<u>Ireland</u>

In Ireland, no existing restrictions on the private keeping of animals exist. The only legislation concerning the negative list has been established by a prohibition on the keeping of certain species of perching birds (Eurogroup for Animals, 2020). However, the private keeping of exotic pets theoretically represents a large market. Indeed, the pet food industry estimates almost 300.000 of exotic animals to be kept as pets in 2021 (FEDIAF, 2021).

However, very poor data is available in Ireland on the number of imported exotic animals per year. This begs the question, what is the reason for the discrepancy of the pet trade estimation and CITES data?

Greece

There are no restrictions on the import or the private keeping of animals in Greece (Eurogroup for Animals, 2020). Therefore, as for Ireland, this might justify why there are no border controls and records on the number of exotic animals that enter the country. However, 1.48 million exotic pets were estimated by the FEDIAF (2021) to be kept as pets. Moreover, research such as GAWF & Animal Action Greece (2015) has shown that exotic birds and mammals are very popular species in Greece, often sold in flea markets. Although these exotic animals must enter Greece somehow, almost no data is available. Once again, the lack of restrictions might potentially explain the lack of data, which is problematic for the assessment of the exotic pet trade in the EU.

Czech Republic (Czechia)

More than 560.000 exotic pets were estimated to be owned in Czechia's private households in 2021 (FEDIAF, 2021). Although this is a large number, very little data is available on Czechia's imports of exotic animals for commercial reasons. However, Czechia is in the top five countries of CITES listed reptile imports in the EU between 2010 and 2021. This lack of data might be explained by different factors. Potentially, the existence of leading bird and reptile trade shows with European-wide catchment area such as in Hamm (DE), Houten (NL), Exopoterra (Es) or Ziva Exotica (CZ) (Eurogroup for Animals, 2023). Another influencing factor may be the presence of leading traders in the country. As it has been observed in Germany, France or Spain, these countries are among the top importers but might not be the final destination country for exotic pets. Therefore, even if they are not imported in the first place to Czechia, exotic pets might still end their journey in this country. Another factor might be the legislative framework of Czechia. Indeed, there are few restrictions on the private keeping of exotic animals (Eurogroup for Animals, 2020). All these factors added together might provide an explanation on why data is missing for Czechia although it remains a very complex question to answer. Similarly, questions remains for Greece and Ireland.

3.2. Member States presenting some restrictions or a negative list

Denmark

Denmark's negative list concerns a number of species (Retsinformation, 2015). However, considering that more than 995.000 exotic pets are estimated to be owned in Denmark, this country is expected to import a considerable amount of pets (FEDIAF, 2021). However, according to this research, Denmark is not a principal actor in the reptiles or mammals trade, based on the CITES trade database. It has to be noted that this country implemented a negative list in 2015 forbidding the keeping, and therefore imports, of highly demanded exotic pets. Nevertheless, negative lists are reactionary in nature, constantly shifting as new science becomes available, species are discovered or become popular in trade and leave an important number of species out of regulation (Toland et al., 2020).

France

Regarding the exotic pet trade, France is an important actor. Indeed, more than 11 million of exotic pets are estimated to be owned in private households. Concerning the import of pet animals, France accounted for almost 35% of CITES listed mammal imports between 2010 and 2021, the second largest importer after Germany (CITES, 2022). However, regulations towards the trading and private keeping of exotic animals were recently implemented. Indeed, a negative list for some species or a certain number of kept individuals of a species that cannot be kept without exception, while others either require a declaration of keeping, or authorisation (Légifrance, 2018). Moreover, although authorisation is compulsory for various protected species, it is still possible to keep almost any animals as pets in France (Eurogroup for Animals, 2020). For example, as table 5. showed, macaques' imports are important in France since no legislations forbid their trade while they are forbidden to be kept as pets in many other EU MS. However, for varanids, a reduction in the number of imports can be observed when the legislation regarding their keeping has been implemented in 2018.

As this report's data showed, France is in the top five import countries in the EU for the exotic animals trade (CITES, 2022). Indeed, as Germany, it is a hub for imports and exports from and to the rest of the European countries. The regulations in France are quite relaxed which implies that France may have more freedom to participate in the exotic pet market.

Germany

As for France, more than 11 million of exotic pets are estimated to be owned in Germany's private households as stated earlier in this report. Germany plays a leading role in the exotic pet trade. Data shows that Germany is the main importer for, CITES listed, reptiles and mammals for the exotic pet trade in the EU. As data showed, 30.8% of CITES listed reptiles and 43.7% of CITES listed mammals imported in the EU went to Germany (CITES, 2022). Moreover, whether it be reptiles, mammals, or birds, Germany is also a trade hub for the other EU countries (Altherr et al., 2020). Indeed, Mundy-Taylor (2013) demonstrated that most exports of reptiles from Germany to other countries were to Italy, Spain and France. The central role of Frankfurt Airport must be noted as a point of EU-entrance as well Terraristika in Hamm, Europe's largest reptile trade show, which both place Germany as a central leader of the pet trade. Also, it is the main transit country to the Netherlands, and Czech Republic (Altherr et al., 2020). Additionally, on a species level, some examples in this paper show Germany as the main and only importer of CITES species highly demanded as pets compared to other two or three MS selected (see section 2.3.2). This might be explained by the fact that few restrictions are implemented in Germany regarding the trading and keeping of exotic animals as pets. Indeed, a "negative list" was implemented in 1999, restricting the trading and keeping of four species¹² based on their invasiveness, before the EU IAS regulations were enacted. On the federal state level, some states have enacted ordinances regarding the keeping of potentially dangerous or poisonous species. However, these animals are not prevented from being imported and the listed animals are just under certain restrictions to be kept in private households (BMUV, 2005).

Germany displays weak regulations regarding the trading and keeping of exotic animals as pets which might explain why Germany is prominent and active in the international and EU market compared to other MS that display stronger regulations. This lack of restrictions may provide a competitive advantage to Germany compared to the other MS.

<u>Italy</u>

According to this study, Italy presents the most exotic pets owned in private households with 17.5 million exotic pets in 2021 and is definitely an important leader in the EU exotic

¹² The four species are the american beaver (Castor Canadensis), common snapping turtle (Chelydra serpentine), alligator snapping turtle (Macroclemys temminckii) and Grey squirrel (Sciurus carolinensis) (BMUV, 2005).

pet trade (FEDIAF, 2021). Regarding the imports, during the 2010-2021 period, Italy with 29.3% was the third largest importer of CITES listed reptiles and was responsible for 29.3% of total imports. Between 2017 and 2021, most reptile imports were made by Italy (CITES, 2022).

In Italy, a negative list was implemented in 1996 and forbids the keeping of primates, large mammals such as felines and venomous snakes (Gazzetta Ufficiale, 1996). This regulation is quite weak regarding reptiles compared to other MS, which might help explain why Italy is prominent in the reptiles trade. Importantly, a new positive list, in Italian law from 2022 may drastically affect the number of imports of animals taken from the wild. There is also a strengthening of an existing negative list of dangerous animals (Gazzetta Ufficiale, 2022). If this is found to be the case, it would represent strong evidence that MS laws affect the number of imports, and potentially the size of markets, which would likely cause barriers within the internal market.

Spain

In 2021, ten million exotic pets were estimated to be kept in Spain's private households (FEDIAF, 2021). Indeed, this research found out that Spain was the largest importer in the EU of psittaciformes birds and was responsible for a large proportion of reptiles imports each year (CITES, 2022). Spain present few restrictions on the trading and private keeping of animals. Some primates and wild species keeping restrictions are made on the regional level, which makes the controls and trade more complicated to monitor. Moreover, the keepers of dangerous animals only require a specific licence (Eurogroup for Animals, 2020). Therefore, the keeping of exotic pets is more accessible than in other MS, which is reflected in the number of exotic pet imports each year to Spain.

An example of how Spain restrictions implementation impacted the trade in exotic pets can be found in the Annex II of this report. The case study reviews a study conducted on wild birds imported as pets in Spain, and highlights that banning their trading and keeping drastically reduced their imports in the country.

The Netherlands

In 2021, more than four million exotic pets were reported to be owned in Dutch private households (FEDIAF, 2021). Regarding the trade, the Netherlands is the third largest importer of CITES listed mammals with 13.02% imports (CITES, 2022).

The only regulation is a negative list regarding the keeping of some primates and large felines, but the country allows most of the mammals keeping (Overheid, 2022). Therefore, the Netherlands present an advantage regarding the exotic pet trade since they have weaker regulations than their neighbourhood countries and other MS. Moreover, in July 2022, the Netherlands introduced a positive list for mammals (30 species) that should be implemented in 2024 (Eurogroup for Animals, 2022).

3.3. Member States presenting strong restrictions or a positive list

<u>Belgium</u>

Belgium was the first EU country to create and implement a positive list. This list concerns mammal species identified as potentially hazardous, including large terrestrial mammals and carnivores, and entered into force in 2009 (Arrêté royal, 2009; Di Silvestre & van der Hoeven, 2016). As displayed on the graphs of live exotic reptiles (Fig. 2) and mammals (Fig. 4) imports for commercial trade in the EU, it can be observed that Belgium has imported far fewer animals than other border countries such as Germany or France, much below the expected differences in population. Moreover, the "species specific trade" section in this report demonstrates that since Belgium implemented its positive list, imports in mammals have significantly reduced to almost zero (CITES, 2022).

Therefore, regarding mammals, since the implementation of a positive list, Belgium reduced its imports significantly (Di Silvestre & van der Hoeven, 2016). It represents not only a disadvantage of the overall market entering Belgium, but also a strong barrier to trade to the movement of goods, for the mammals not on the Belgian positive list, which is likely contributing to distortion in the EU internal market.

4. Conclusion

These results demonstrate initial evidence that the different rules in different MS, may affect the number of imports of exotic pets into the EU. This may present an potential internal market barrier, meaning some MS that have more restrictive rules, may be at a disadvantage compared to other less restrictive MS. Additionally, it represents a barrier to the free movement of pet animals if rules are enforced. This can result in unequal conditions for trade between members of the same single (internal) market and put some MS at a competitive advantage compared to others. Namely, some MS with less restrictive regulations, such as Germany or France, present more imports of live exotic animals and are more active in the trade than countries with more restrictions on the trading of exotic animals presenting long negative lists or short positive lists. The large variety of rules in different MS creates a confusing legal framework, where animals can be traded legally in some countries and moved into areas illegally, with very few monitoring possibilities, further undermining the legal market for pets. This research only scratches the surface of the true scale of the pet trade, but highlights that there is significant trade in exotic animals in the EU. This research was conducted with the CITES trade database, and as previous studies have highlighted, CITES species represent only a small proportion of the total exotic animals imports. Therefore, many more animals are expected to be imported each year to the EU MS, while a large proportion of the pet trade is likely from breeders in the EU.

A potential and effective solution to maintain the functioning of the internal market would be a simplified and harmonised regulation to ensure a level playing field for all MS, with the added advantage that the welfare conditions of all companion (pet) animals can be ensured. These issues can be solved by an EU positive list to harmonise the legislations on the trading of companion animals. Moreover, it has the added value of easing the training requirements of customs officers, which would aid enforcement

and control methods. Harmonisation will also facilitate the identification of animals internally by easing monitoring of movements across borders.

Additionally, this might potentially help solve the problem of large data inconsistencies. Indeed, there are data gaps as this report has shown. The number of companion animals in private households is not officially known, as well as the number exotic animals traded each year externally to and internally within the EU. However, the EU should fill these data gaps. It is essential to take preventive measures for animal welfare, health and biodiversity reasons, as an EU wide positive list of allowed pets would provide.

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6. Annex

I. A brief overview of the EU ten Member States legislations regarding the trading and keeping of companion animals/exotic pets.

To restrict and monitor the pet trade, some countries have enacted a positive list, which is a list of animal species that are allowed to be traded as companion (pet) animals. Animals not on the list are not allowed to be traded or kept. Others present a negative list, a list where the animals listed are not allowed to be traded as companion animals. Animals not on the list are technically allowed to be traded or kept. Each MS has a specific legislation, and therefore, this annex aims to briefly give an overview of the ten MS situation regarding the trading of exotic pets.

<u>Legislations in 10 EU Member States on the private trading and keeping of companion animals between 2010 and 2021</u> - Table.

Although some legislations have been updated since 2021, it has been decided to not be included in this table as the data used in the report concerned the 2010-2021 period.

Member State	Official law and related legislation	National legislation explained (2010 - 2021)	Has the national legislation changed between 2010 and 2021?	References
Belgium		country to create and implement a Positive List in 2009. This list concerns mammal species identified as potentially hazardous animals, including large terrestrial mammals and carnivores. Since this period,	No.	Arrêté royal (2009); Di Silvestre & van der Hoeven (2016); Eurogroup for Animals (2020).

Member State	Official law and related legislation	National legislation explained (2010 - 2021)	Has the national legislation changed between 2010 and 2021?	References
Czech Republic	Act of the Czech National Council on the Protection of Animals Against Cruelty No. 246/1992 (last amend. 2017) Act on Protection of Nature and the Landscape No. 114/1992 (last amend. 2017); Decree No. 395/1992 Coll. implementing provisions of the Act on Protection of Nature and the Landscape (last amend. 2018); Decree 411/2008 Coll. on animal species requiring special care (last amend. 2011); Decree 346/2006 Coll. on detailed conditions of keeping and training of animals	A few restrictions exist in the Czech Republic regarding the private keeping of exotic pets. There is a list specifying animal species requiring special care lists species for which an authorisation is required. The list includes venomous reptiles, crocodiles, various bird species such as falcons and owls, primates, carnivores (including pinnipeds), elephants, etc.	No.	Eurogroup for Animals (2020).
Denmark	Animal Welfare Act No. 20 of 11 January 2018 BEK No. 1261 of 17 November 2015 prohibiting the keeping of certain animals; Act on the Keeping of Animals No. 1 of 2 January 2019	Denmark's negative list entered into force in 2015 and concerns a number of species. The list includes marsupials, anteaters, kangaroos, bats, beavers, flying squirrels, seals, cetaceans, elephants, ungulates, primates, storks, sharks, turtles, crocodiles, vipers etc. Keeping these animals privately is forbidden as they are considered as dangerous, difficult to retain or keep in a friendly manner.	Yes.	Retsinformation (2015); Eurogroup for Animals (2020).

Member State	Official law and related legislation	National legislation explained (2010 - 2021)	Has the national legislation changed between 2010 and 2021?	References
France	Chapter IV (on Animal Protection) of the Rural and the Maritime Fisheries Code (last modified 22 May 2019); article 1 of Order of 8 October 2018 laying down general rules for the keeping of nondomestic animals; article R. 214-17 of the Rural Code and article R. 654-1 of the Criminal Code Order of 8 October 2018; articles L. 413-1 and seq., L. 413-3 and seq., R. 413-1 and seq. and R. 413-1 and seq. of the Environmental Code; section No. 2140 of the regulation on classified installations for the protection of the environment	trading and private keeping of exotic animals exist, they are still very recent. Indeed, there is a	Yes.	Eurogroup for Animals (2020); Légifrance (2018).
Germany	Animal Welfare Act (TSchG) of 18 May 2006 (BGBII p.1206, last amend. 17 December 2018) Federal Ordinance on the Conservation of Species (BArtschV 2005, last amend. 21 January 2013); Act on Nature Conservation and Landscape Management (Bundesnaturschutzges etz, BNatSchG 2009, last amend. 13 May 2019)	implemented in 1999 in Germany, restricting the trading and keeping of four species based on their invasiveness, before the EU IAS regulations were enacted. The four species are the american beaver (Castor Canadensis), common snapping turtle (Chelydra serpentine), alligator snapping turtle (Macroclemys temminckii) and Grey squirrel (Sciurus carolinensis).	No.	BMUV (2005); Eurogroup for Animals (2020).

Member State	Official law and related legislation	National legislation explained (2010 - 2021)	Has the national legislation changed between 2010 and 2021?	References
Greece	Law on domesticated and stray companion animals and the protection of animals from exploitation for profit, 4039/2012 (last amend. 4235/2014)	There are no restrictions on the import or the private keeping of animals in Greece.	No.	Eurogroup for Animals (2020).
	Provisions of Law 604/1977; Presidential Decree 463/1978			
Ireland	Animal Health and Welfare Bill 2013(last amend. May 2019) Number 39 of 1976 Wildlife Act (last amend. December 2018)	A very few restrictions on the private keeping of animals exist. The only legislation similar to a negative list has been established by a prohibition on the keeping of certain species of perching birds Moreover, the Wildlife Act 1976 includes restrictions on capturing or killing a protected wild animal which require a licence. The protected animals are the following: buzzards, eagles, harriers, hawks, kites, ospreys, owls, pine martens, red deer, seals, whales, badgers, bats, hares, hedgehogs, otters, red squirrels, dolphins, porpoises and Natterjack toads.	No	Eurogroup for Animals (2020).
Italy		animals for reasons of risks to public health or because the species are endangered. The list includes marsupials, primates, large wild cats, elephants, peccaries, hippopotami, deer, elk, antelopes, buffaloes, various	No.	Eurogroup for animals (2020); Gazzetta Ufficiale, (1996); Gazzetta Ufficiale (2022).

Member State	Official law and related legislation	National legislation explained (2010 - 2021)	Has the national legislation changed between 2010 and 2021?	References
Spain	Animal Welfare Act 32/2007 (last amend. June 2017) Natural Heritage and Biodiversity Act 42/2007 (last amend. July 2018); RD 630/2013 on invasive alien species; Ownership of Potentially Dangerous Animals Act 50/1999 (last amend. November 2001); Autonomous Regions (AR) Laws	restrictions. Restrictions on the private keeping of some primates and wild species are made on the regional level. Moreover, the keepers of dangerous animals only require a	No.	Eurogroup for Animals (2020).
The Netherlands	Animals Act of 19 May 2011 (last amend. April 2019) Decree of 5 June 2014 containing rules for keepers of animals; Regulation of 23 June 2014 containing rules for keepers of animals; Nature Conservation Act of 16 December 2015; Nature Conservation Decree of 11 October 2016; Nature Conservation Regulation of 16 October 2016	The only regulation is a negative list regarding the keeping of some primates and large felines, but allows most of the mammals, reptiles and birds keeping.	No.	Eurogroup for Animals (2020); Overheid (2022).

II. Case study

Monk and Ring-necked parakeets imports in Spain

Souviron-Priego and colleagues conducted a study¹³ aiming to evaluate the relationship between the number of invasive parrots imported and the establishment of non-native populations in Spain. From this study, several relevant key results can be retrieved:

- In the last century, a rise in the pet trade boosted wild animals imports. Birds are among the most popular pets but, as they are successful invasive species, they can threaten natural environments where they are released by owners.
- Monk parakeets (*Myiopsitta monachus*) were popularized as pets in Spain in the 1980s and 1990s. Data shows that between 1989 and 1995, almost **20.000** individuals were imported each year.
- As recorded on the CITES trade database, 190.000 monk parakeets were legally brought from Uruguay and Argentina to Spain between 1975 and 2015. For the same time span, 63.000 ring-necked parakeets (Psittacula krameri) were imported from Pakistan and Senegal. These two species were the second and fifth-most traded species respectively to meet the demand for pet animals.
- One in every four parrots that entered in Spain belonged to these two species.

<u>Legislations impacts on the trade</u>

- In 1997, monk parakeets imports were affected by the European Law "On the protection of species of wild fauna and flora by regulating trade therin" (Council Regulation EC 338/97). This regulation imposed limitation on imports of live specimens that could be a threat to wild species, as the monk parakeet was at this time. After this time, a decrease in the species imports was observed. The monk parakeets were replaced on the market by the ring-necked parakeet.
- In 2005, the EU temporarily banned wild birds imports, and this regulation became permanent in 2007 (Carette & Tella, 2008). Meanwhile, in Spain, more restrictive law entered into force regarding invasive species and, therefore, banning the trading and keeping of monk and ring-necked parakeets. Following these regulations, the last monk parakeet was reported in 2008.

¹³ Souviron-Priego, L., Roman Munoz, A., Olivero, J. Vargas, J.M., & Fa, J. E. (2018). The Legal International Wildlife Trade Favours Invasive Species Establishment: The Monk and Ring-Necked Parakeets in Spain. *Ardeola*, 65(2), 233-246. https://doi.org/10.13157/arla.65.2.2018.ra3

• The imports of both birds species have been impacted by the implementation of EU and national regulations as the results highlights (Fig. 5). After 2007, these wild birds were forbidden to be traded or kept as pets in Spain.

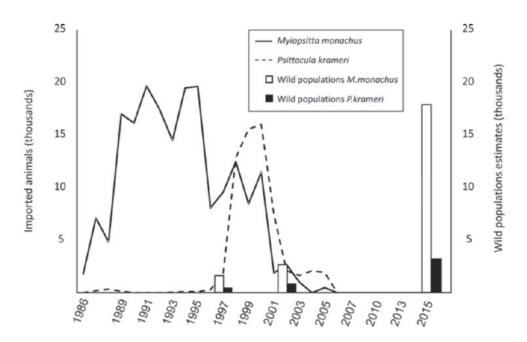


Figure 5: As stated in the original report: "Comparison between the number of individuals of Monk and Ring-necked Parakeets legally introduced each year with the growth of their wild populations in Spain during the same study period. Lines represent the import of individuals mainly intended for commercial purposes, and bars represent population estimates and censuses for Monk and Ring-necked Parakeets, respectively".

This study highlights the impacts that a Member State's, in this case Spain, trade regulations can have on the imports of wild animals used as pets. The complete study can be accessed here. This supports the notion that Member State laws on the trading and keeping of animals as pets can affect imports, as discussed in this report.

EUROGROUP EANIMALS

