STUDIA ECOLOGIAE ET BIOETHICAE

2025, 23, 2: xx-yy
p-ISSN 1733-1218; e-ISSN 2719-826X
DOI: http://doi.org/10.21697/seb.5848

The Paradox of Keeping Exotic Animals as Pets

Paradoks trzymania zwierząt egzotycznych jako zwierząt domowych

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Received: 13 Jan, 2025; Revised: 18 Mar, 2025; Accepted: 24 Mar, 2025,
Pre-published: 24 Mar, 2025

Abstract: In the European Union (as elsewhere), there are many activities that involve animals and which must, as such, be subject to regulation. These include trade, livestock farming, fishing or for the purpose of environmental protection. Some of these regulations also cover the definition of "pet animals" which includes both domestic and exotic pets- whether from the natural environment (wild animals) or bred in captivity from originally wild animals. Species that have adapted to or undergone a domestication process present a series of characteristics that are more favorable for or conducive to coexistence with humans. This article explores whether exotic species should be viewed as "pets," based on – by their very nature - being inherently incompatible with domestication, including their habitat/living requirements. In addition, it raises issues around, and rationale or drivers of, the practice of trading and acquiring exotic species as pets, when there is the alternative of keeping a domestic animal for this purpose instead.

Keywords: domestication, companion animal, wildlife trade, legislation, welfare

Streszczenie: Na terytorium Unii Europejskiej (podobnie jak w innych krajach na świecie) istnieje wiele obszarów działalności człowieka związanych ze zwierzętami, które wymagają odpowiednich regulacji prawnych. Dotyczy to, między innymi, handlu, hodowli zwierząt gospodarskich, rybołówstwa, czy też ochrony środowiska. Część z tych regulacji odnosi się do pojęcia "zwierząt domowych" i obejmuje zarówno zwierzęta udomowione, jak i egzotyczne, pochodzące bezpośrednio ze środowiska naturalnego (zwierzęta dzikie) lub wyhodowane w niewoli jako potomstwo zwierząt pierwotnie dzikich. Gatunki, które przystosowały się do życia w obecności człowieka lub zostały udomowione, wykazują szereg cech predysponujących je do współistnieniu z ludźmi. Niniejszy artykuł stawia pytanie, czy można traktować gatunki egzotyczne jako "zwierzęta domowe" w świetle tego, że nie posiadają one cech wrodzonych, które sprzyjałyby procesowi udomowienia na przykład w zakresie ich wymagań

środowiskowych, czy potrzeb życiowych. Ponadto, artykuł porusza kwestie związane z handlem i nabywaniem gatunków egzotycznych jako zwierząt domowych, w sytuacji gdy istnieje alternatywa w postaci trzymania w tym celu zwierząt już udomowionych.

Słowa kluczowe: udomowienie, zwierzę towarzyszące, handel dzikimi zwierzętami, ustawodawstwo, dobrostan

Introduction

Demand for exotic pets is not new; the collection of wild animals for human entertainment and companionship has been part of human culture since prehistory (Driscoll and Macdonald 2010). Podberscek et al. (2005) refer to a diverse range of companion animals in Ancient Greek and Roman culture. However, their behavioural and physical characteristics have not been the effect of a selective process carried out by man.

One of the greatest conundrums concerning domestication itself is related to the wide variety of traits that are modified by this selective process (Wright 2015). Behavioural and physiological traits are also often modified. In particular, tameness, also referred to in the literature as a reduced fear of human beings, is increased (Price 2002; Jensen and Wright 2022), aggression is decreased, and activity level and explorative tendencies are altered (Schutz and Jensen 2001). An earlier onset of sexual maturity (Boitani and Ciucci 1995; Schutz et al. 2002; Wright et al. 2010; Wright et al. 2012), increased reproduction (number of estruses, egg production, and the like) and altered adrenal development are also observed. In wild animal species, it has been posited that selection for tameness was the initial primary focus of domestication (Wright 2015).

In recent times, non-domesticated animals such as reptiles, exotic mammals (e.g., degus), amphibians and exotic birds (usually parrot species) have become popular as pets (Mitchell and Tully 2008). Around the world, a high volume and range of wild animals are traded both legally and illegally in response to an increasing demand for exotic pets to be kept in homes or used in commercial entertainment venues (Collard 2020; Lockwood et al. 2019). Primarily, but not exclusively, to supply markets in the northern hemisphere, the exotic pet and aquarium trades source a wide taxonomic variety of animals from countries on all continents (e.g., Bush et al. 2014). A proportion of these are taken directly from the wild (e.g., Andrews 1990; Harrington et al. 2021; Auliya et al. 2016; D'Cruze et al. 2020a, 2020b), a fact which the general public may not be aware of. Conservative estimates indicate that approximately 8 million reptiles are kept as pets in the European Union alone (Toland et al. 2020). In the EU, “ornamental” birds were the third most common type of pet when fish were not counted individually (Davis 1998; Graham 1998). As such, the exotic pet trade is a multibillion-dollar

global industry (Smith et al. 2017). The global ornamental fish trade is a multibillion-dollar industry, with legal trade estimated to be worth between $15 and $20 billion per annum (King 2019; Pouil et al. 2019).

The transport of animals for purposes other than commercial intent is regulated in European legislation through the establishment of a list of "accepted" or "sanctioned" pet animals. This list includes entire classes such as, among others, reptiles or amphibians, none of which are domestic species. The regulations can be somewhat in conflict with one another. Indeed, the Instrument of Ratification of the European Convention for the Protection of Pet Animals (Strasbourg, November 13, 1987) states that "…the keeping of specimens of wild fauna as pet animals should not be encouraged". Similarly, while on the one hand restrictive lists protect certain species, they may also inadvertently increase the vulnerability of those that are not listed. Or they could make the listed species more desirable for procurement. Due to human nature, the implementation of this list of pets is unlikely to deter most individuals who are intent on keeping an exotic animal as a pet, nor those who would be supplying them with such animals.

Here, the legislation of the European Union will be examined with emphasis on the legalization and legal scope of exotic species being perceived and kept as companion animals. A bibliographic review of domestication and the reasons for keeping exotic animals is also offered, with the underlying aim of evaluating the ethics of keeping non-domesticated animals with emphasis on welfare, both perceived and actual, and whether the term "pet animal" is applicable to exotic animals.

1. Methodology

This article arises from an exhaustive review of the legislation from the European regulations applicable at a national level by the Member States of the European Union, using the search engine of the Official State Bulletin of Spain (BOE, as translated into Spanish).

After the legislative review, several advanced bibliographic searches were carried out using the Web of Science database, focusing on the reasons for ownership of exotic animals. The keywords used in the different searches were: "pets AND human AND relation* AND exotic", "pets AND human AND relation* AND (wild* OR exotic)" and "animal AND exotic AND human AND psycholog*". This way, the aim was to find the most relevant articles for review regarding the relationship between exotic animals and humans.

2. Legislation

The diverse regulations affecting the member countries of the European Union (hereinafter "European legislation") refer to "pet animals" and incorporate different definitions for a more comprehensive description. The evolution of the "pet animal" concept is reflected in the following pieces of legislation, provided in chronologic order.

Council Directive of 29 November 1984 amending Directive 70/524/EEC concerning additives in feedingstuffs defines "pet animals" as "animals belonging to species normally nourished and kept, but not consumed, by man, except animals bred for fur."

At the beginning of this century, the European Union, through the Commission Decision of 27 December 2000 prohibiting the use of certain animal by-products in animal feed, defined pet animals as "animals belonging to species normally bred and maintained, but not consumed, by man for purposes not related to livestock. This new definition does not include possession but rather maintenance and extends the exceptional nature of fur-bearing animals to all livestock.

However, later legislation did not include this definition, continuing with that of the *Council Directive of 29 November 1984 which modifies Directive 70/524/EEC on additives in animal feed*, although there were other pieces of legislation which adopted the definition from the Decision.

The EU legislation sought to address health border issues through legislation such as *Council Directive 92/65/EEC of 13 July 1992 laying down animal health requirements governing trade in and imports into the Community of animals, semen, ova and embryos not subject to animal health requirements laid down in specific Community rules referred to in Annex A (I) to Directive 90/425/EEC.*

Rabies and its dissemination are of great concern to the European Union and sanitary measures have been established within both borders and within the Union to prevent the entry of live animals with the disease.

Subsequently, *Regulation (EC) No 998/2003 of the European Parliament and of the Council of 26 May 2003 on the animal health requirements applicable to the non-commercial movement of pet animals and amending Council Directive 92/65/EEC* aims to harmonise animal health measures concerning pet animals as regards movement between Member States and from third countries.

It adds that "This Regulation concerns the movement of live animals covered by Annex I to the Treaty." Some of its provisions, in particular, concern rabies.

It thus defines pet animals as: "animals of the species listed in Annex I which are accompanying their owners or a natural person responsible for such animals on behalf of the owner during their movement and are not intended to be sold or transferred to another owner." Annex I includes dogs, cats, ferrets, invertebrates (except bees and crustaceans), ornamental tropical fish, amphibia, reptiles, birds: all species (except poultry covered by Council Directives 90/539/EEC (1) and 92/65/EEC), and mammals: rodents and domestic rabbits.

Two aspects of the reference to pets in Regulation 998/2003 should be highlighted. The first is that the regulation was created to address animal health concerns that could arise around transport for non-commercial purposes. The second corresponds to the concept of "animal pet" as defined in the regulation, whereby animals in this category are accompanying a person who *may* (but also may not) be their owner or the person assigned responsibility for them. The regulation establishes animal health rules applicable to the transportation of this type of animals but seems to imply or equate accompaniment with animals having a companionship status, which is not always the case. Indeed, these regulations do not pertain to, or seek to assign rationale for, companionship but rather they *only* apply to the specific circumstances of transit and transportation of animals.

Subsequently, other legislation adopts the Annex to Regulation 998/2003 when defining pet animals and again all fall within the scope of animal health in the movement of animals.

The *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)* is applied in the European Union through different regulations, including the *Commission Regulation (EC) No 865/2006 of 4 May 2006 laying down detailed rules concerning the implementation of Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein.* This regulation does not mention companion animals as such, but it does assign a series of codes to CITES specimens according to their purpose within the scope of the transaction and/or their intended usages. Among these purposes is the code "P" which means "personal." In this context even a CITES specimen could be considered as a pet animal.

The *Regulation (EC) No 767/2009 of the European Parliament and of the Council of 13 July 2009 on the placing on the market and use of feed, amending European Parliament and Council Regulation (EC) No 1831/2003 and repealing Council Directive 79/373/EEC, Commission Directive 80/511/EEC, Council Directives 82/471/EEC, 83/228/EEC, 93/74/EEC, 93/113/EC and 96/25/EC and Commission Decision 2004/217/EC* states: "'pet' or 'pet animal' means any non-food producing animal belonging to species fed, bred or kept, but not normally

used for human consumption in the Community." Among the definitions offered by European legislation, it is the one that best fits what a pet means to society. As it is formulated, the definition does not exclude exotic animals.

Subsequent legislation again incorporates an annex as an element to describe the species covered by the term "pet animal," as can be seen in *Regulation (EU) No 576/2013 of the European Parliament and of the Council of 12 June 2013 on the non-commercial movement of pet animals and repealing Regulation (EC) No 998/2003.*

This regulation, in addition to an annex, provides a definition of pet animal as: "animal of a species listed in Annex I as accompanying its owner or an authorised person during non-commercial movement, and which remains for the duration of such non-commercial movement under the responsibility of the owner or the authorised person.

> "As can be seen, this is very similar to Regulation 998/2003, which repeals this regulation. Annex I is also similar to the one included in Regulation 998/2003: dogs, cats, ferrets, invertebrates (except bees and bumble bees covered by Article 8 of Directive 92/65/EEC and molluscs and crustaceans referred to respectively in points (e)(ii) and (e)(iii) of Article 3(1) of Directive 2006/88/EC), ornamental aquatic animals as defined in point (k) of Article 3 of Directive 2006/88/EC and excluded from the scope of that Directive by point (a) of Article 2(1) thereof, amphibia, reptiles, birds: specimens of avian species other than those referred to in Article 2 of Directive 2009/158/EC., mammals: rodents and rabbits other than those intended for food production and defined under 'lagomorphs' in Annex I to Regulation (EC) No 853/2004."

The regulation states: "When drawing up that list, account should be taken of their susceptibility to or role in the epidemiology of rabies." Therefore, as pointed out in the subsequent regulations presenting this type of annex, rabies plays a key role in the listing of species or groups of animals. More precisely, the regulation goes on in its expository phase to explain the division of the list.

This explanation is rooted in animal health, in accordance with the nature of the regulation, but again, as such, it does not offer any guidance on any basic reasons why an animal is (or would be) considered to be a pet animal.

Both Regulation 576/2013 and 998/2003 are used as reference standards for European regulations on health certificates for dogs, cats and ferrets identified as pet animals.

Following the timeline, "Regulation (EU) 2016/429 of the European Parliament and of the Council of 9 March 2016 on transmissible animal diseases and amending and repealing certain acts in the area of animal health ('Animal Health Law') refers again in its definition of 'pet animal' to an annex ('an animal of any of the species listed in Annex I, which is kept for personal non-commercial purposes')."

In this case. it points towards personal non-commercial purposes as a cause for an animal to be considered a pet. Personal purposes can be diverse. However, these are not detailed here, so the definition of pet animal is again unclear, and only allows for checking whether (or not) the animal/species is on a list and confirming that it is not used or intended for commercial purposes.

The annex cited in the definition follows the line of establishing two groups of pet animals for which different health control measures are carried out, as was the case in Regulation 576/2013: dogs, cats, ferrets, invertebrates (except bees, molluscs belonging to the phylum Mollusca and crustaceans belonging to the subphylum *Crustacea*), ornamental aquatic animals, amphibians, reptiles, birds: specimens of avian species other than fowl, turkeys, guinea fowl, ducks, geese, quails, pigeons, pheasants, partridges and ratites (*Ratitae*), mammals: rodents and rabbits other than those intended for food production. This definition was incorporated into subsequent European legislation.

3. Exotic Animals as Pets

By designating personal purposes (i.e., not for trade or food production) as a criterion of possession, both domestic and exotic animals can be considered as pets under the current legislation. This allows some leeway to explore the motivations for keeping an exotic animal for companionship purposes.

A variety of reasons - ranging from experiential (e.g., in pursuit of hedonistic pleasure) to social (e.g., desire to further social relations), functional (e.g., around people's livelihood), financial (e.g., to generate profit) and spiritual (e.g., to fulfil personal beliefs), can explain motivations to "consume" and "acquire" wildlife across markets (Thomas-Walters et al. 2021).

For example, when asked about their motivations, some of the reasons that reptile owners provided were: rescuing of animal(s) from the pet shop, fulfilling a childhood dream, reprising a habit from childhood, entertainment, "exceptional characteristics" of these animals, past experiences with reptiles, beauty, intelligence, mysterious nature, and unusual behaviours, stimulating challenge, manageable, independent, low-maintenance, high longevity pets, absence of irritating noises, shedded hair, or allergies and interactive creatures (Azevedo 2022).

Other studies have been carried out in some countries on the motivation of people who decide to keep an exotic animal as a pet. In Russia, "lifesavers," "accidental owners," "new experience seekers" and "collectors" were the four declared types of exotic pet owners (Shukhova and MacMillan 2020). In South Africa, using generalized additive models, it was shown that venomous and expensive species are traded in low numbers, whereas species that

are easy to breed and handle or are large, colourful or patterned are preferred (van Wilgen et al. 2010). An Australian study found that smaller-bodied, drabber species were less expensive than larger, more colourful species, or species of native birds that were mostly exempt from regulations to their keeping and trading - and those easier to keep in captivity - tended to be cheaper (Vall-llosera and Cassey 2017).

In relation to motivations of owning exotic pets, the statements that received the highest scores were on average those related to caring, learning and being passionate about the species. The statements that received the lowest scores were those related to getting financial benefits, cultural reasons, and personal beliefs. Scores differed among biodiversity groups. Species rarity was mostly chosen as the best attribute when purchasing exotic pets, followed by source and market scarcity (Hausmann et al. 2023).

Regarding the motivations for keeping a pet reptile in a Brazilian study, 30% of the keepers declared more than one motivation. Most declared they keep pet reptiles for emotional reasons, others maintain reptiles as pets for entertainment, some keep them because of convenience, 6% were accidental owners, while 4% keep them for educational purposes, and 1.1% for conservation. Keepers described their motivations for keeping pet reptiles using several words, the most often cited were “like,” “animals,” “love,” “passion,” “different,” “hobby,” “admiration,” “beautiful,” “exotic,” “interesting,” “easy,” “beauty,” among others (De la Fuente et al. 2023).

Exotic pet owners preferred species that do not reach a large adult size (van Wilgen et al. 2010; Toomes et al. 2022). Although most pet owners (56.1%) tended to be neutral about purchasing a pet that breeds easily, 17.4% of pet owners disliked this trait. Interestingly, the likelihood that respondents would purchase an exotic pet was positively correlated with the price they paid for a pet in the same taxa. Pet owners are likely to be attracted by colourful, patterned animals with distinctive morphological features that are of medium size, especially if these animals are inexpensive to purchase (Pienaar and Sturgeon 2024).

Another aspect that seems to influence the purchase of exotic species as pets is the viewing of films and series in which they appear. For example, the popularity of red-eared terrapin or slider (*Trachemys scripta elegans*) has been influenced by crazes amongst children coinciding with cartoons featuring Teenage Mutant Ninja Turtles (Teenage Mutant Ninja Hero in the UK; Ramsay et al. 2007). The rise in popularity of wild-caught owls as pets in Indonesia, both in absolute numbers and relative to the numbers of other birds offered for sale, reportedly arose following the release of the Harry Potter series (Nijman and Nekaris 2017). Panter et al. (2019) recently reported an increase in global international trade in owls towards the end of the

1990s and early 2000s, coinciding with the release of the first Harry Potter books and film, but noted that this occurred coincidentally with a general increase in the international and global raptor trade. Nevertheless, the rise of the internet and various social media platforms are likely to facilitate both the legal and illegal trade in raptors and owls providing direct contact between sellers and buyers (Panter et al. 2019).

Several studies have taken a comprehensive, alternative approach that focused on the role of social media platforms on wildlife demand or perceptions towards keeping wild animals as pets, where response to wildlife content was strategically analysed on platforms such as YouTube and X, formerly Twitter (Nekaris et al. 2013; Clarke et al. 2019). These studies showed that a species' exoticness has a strong influence on creating "viral" content. An example of this trend is the "uncritical" sharing of exotic pet or wildlife content on the Internet that may lead to misperceptions about wild animals (Siriwat et al. 2020).

In this context, it is worth specifically highlighting the title of the paper by Nekaris et al. (2013): "Tickled to Death: Analysing Public Perceptions of 'Cute' Videos of Threatened Species on Web 2.0 Sites", which reports on wild, non-domesticated animals like the slow loris being harmed because we misperceive their behaviour as a positive response to an unwanted interaction with us, when in fact it causes them terrible stress and could result in a bite or other defensive response from the animal. This perfectly encapsulates the contrast between domesticated and wild animal interactions with humans.

Indeed, in a posting from 2017 titled "Tortured, Not Tickled", the US-based Cleveland Zoological Society states that: "Slow lorises are the only venomous primate in the world, and their bite can kill a human. Before it bites, a slow loris will raise its arms above its head in order to mix its saliva with venom secreted from its underarm glands. In viral videos, a slow loris raising its arms when approached by a person could look like it is being tickled or enjoying the attention. But in fact, the opposite is true. A loris with its arms raised is terrified and attempting to defend itself. Slow loris videos have circulated the internet, and their popularity has only encouraged them to proliferate. In fact, a quick Google search of 'slow loris tickle video' pops up more than 27,000 video links." (Clevelandzoosociety.org 2017).

Although we have primarily highlighted how digital media potentially contributes to the demand for wildlife as pets, it is essential to also emphasize potential benefits. If shared strategically between the conservation community and the movie industry digital media can be used positively for conservation and benefit of animal welfare (Siriwat et al. 2020).

4. Discussion

Careful review of European legislation reveals the absence of a concrete definition of what constitutes a pet animal. The current Regulation 2016/429, which allows for the keeping of pets on the basis of personal, non-commercial purposes, offers only vague guidance. In a logical sense, the designation of a pet animal should be justified by arguments and existence of behaviours and aptitudes, including a desire to engage with humans, that would be conducive to such companionship.

Previously to Regulation 2016/429 *Regulation (EC) No 1523/2007 of the European Parliament and of the Council of 11 December 2007 banning the placing on the market and the import to, or export from, the Community of cat and dog fur, and products containing such fur* (in force) states in its first recital that "In the perception of EU citizens, cats and dogs are considered to be pet animals and therefore it is not acceptable to use their fur or products containing such fur."

It is somewhat contradictory that other species considered pet animals within the current legislation (such as reptiles) are not covered by this regulation, as their trade would be equally unacceptable. Regulation (EU) No 576/2013 contains in its explanatory memorandum criteria for the inclusion of in its Annex I: "This Regulation should establish a list of animal species to which harmonised animal health requirements should apply when animals of those species are kept as pet animals and are subject to non-commercial movement."

There seems to be a misperception or implication throughout the regulations that the fact of captive-breeding a species somehow bestows upon it the status of a companion animal. Using this logic, carrying out such breeding would transform the offspring of an exotic species into companion animals. But willingness to cohabitate or engage with humans is not an expected or automatic outcome of captive-breeding, just as domestication is not tantamount to "tameness". The act of captive-breeding itself is not based on any set of principles that would show us how to impart companion animal traits, nor does it adequately define what a companion animal represents.

In this sense, beyond keeping a particular animal for companionship, domestication offers certain changes to animals that can add value to owning them. The foundation of domestication is linked to the cultural progression from hunting to farming in ancient civilizations during the Neolithic period, possibly with the exclusion of dogs, which were the earliest domesticated animals (Savolainen et al. 2002). Since the Neolithic period, humans have struggled to domesticate wild animals and use them as food sources (milk and meat), commodity manufacturers (silk and wool), protection, and transportation (Ahmad et al. 2020).

There are three pathways described for domestication: commensal, prey, and direct pathways (Zeder 2012).

The dog is perhaps the ultimate example of a companion animal, due to the domestication process that originated its species. As a result of this process of domestication, some aspects of the social-cognitive abilities of dogs have converged, within the phylogenetic constraints of the species, with those of humans through a phylogenetic process of enculturation (Tomasello and Call 1997). Domestic dogs are heavily encultured in that they usually live as part of human families, and they have been selectively bred for their ability to relate socially to humans (Hare et al. n.d.). Given that dogs' abilities to use human social cues originated during the process of domestication, it is likely that individual dogs that were able to use social cues to predict the behaviour of humans more flexibly than could their last common wolf ancestor (which was only capable of using human social cues at low levels, like primates) were at a selective advantage (Hare et al. 2002).

With regard to the socio-cognitive abilities of domestic mammals, five of these have been reviewed (discriminating and recognizing individual humans; perceiving human emotions; interpreting our attentional states and goals; using referential communication (perceiving human signals or sending signals to humans); and engaging in social learning with humans (e.g., local enhancement, demonstration and social referencing) and appear in cat, cattle, dog, ferret, goat, horse, pig and sheep, although not all of them have been described in every species (Jardat and Lansade 2022). It should be noted that cognitive capacities have now also been described in domestic birds. For example, pigeons can learn to locate hidden food on the basis of information contained within a rectangular apparatus (Kelly et al. 1998).

Furthermore, a population of domesticated fox kits (bred experimentally over 45 years) were also found to be more adept at following human directional gestures than fox kits from a control population (Hare et al. 2005). These findings indicate that, in line with previous research results on dogs, domestication as a special evolutionary process leads to increased susceptibility to human communication (Hernádi et al. 2012).

In contrast to wild Mustela, domestic ferrets will show similar behavioural patterns as dogs in socio-cognitive tests. Both domestic species will show (i) increased tolerance of eye contact with their owner vs. a stranger, (ii) preference towards their owner as opposed to a stranger when they have to decide from whom to get a piece of food and (iii) utilization of human pointing gestures in order to locate hidden food (Hernadi et al. 2012). Indeed, domestication is thought to be the reason for high socio-cognitive skills at least in dogs (McKinley and Sambrook 2000; Hare et al. 2002).

While, as has been pointed out, domestic species have socio-cognitive aspects that bring them closer to people, this is not the case for exotic animal species, which have not been domesticated. In contrast to domesticated animal pets, exotic pets are adapted to a specific environment in the wild and, despite their presence in captivity, they retain complex social, physical and behavioural needs inherent in wild animals (Grant et al. 2017).

The reasons for owning a domestic or exotic pet may coincide. That is to say, both domestic and exotic pets can be acquired because we like the way they look, for social reasons, because we want to look for a living being to take care of or even after watching a film in which the animal in question appears, to give examples. The difference is that their habitats are not the same. The habitat of the exotic animal is not a domestic residence, as their species has not been selected to live with humans. Rather, coexistence with human beings is forced upon them.

In this regard, it should be borne in mind that the *Treaty on the Functioning of the European Union (30 March 2010)* states in Article 13: "In formulating and implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage." This caveat includes exotic animals.

In light of the above, it is considered necessary to assess whether the activity of breeding wild animals in captivity or removing them from their habitat to be traded as pets is justifiable in the European Union. Even if they were to develop socio-cognitive aspects with their human custodian, it would always be preferable for them to remain in their natural environment, all other factors being equal.

The majority of animals permitted to travel through CITES for personal use were declared captive bred. It was perhaps more surprising that as many as 20% of birds and 10% of reptiles were declared wild caught or of wild parents, including some Appendix I listed species (Bush et al. 2014). The short-beaked echidna provides a further case in point, wherein animals sold under the auspices of having been captive-bred were in fact removed from the wild in order to be traded, which in turn generated a high demand (Vince 2025). And, while unfortunately outside the scope of this work, we encourage readers to apprise themselves of an important parallel issue: release into the wild of exotic (non-native) animals, formerly pets but now unwanted, and the repercussions of their proliferation on local biodiversity and ecosystems (see, e.g., Lockwood et al. 2019; Beltrán 2019). We also note the existence of complimentary mechanisms like the *EU Biodiversity Strategy for 2030: Bringing nature back into our lives*

(European Parliament Resolution of June 9, 2021) which, among other things, *identifies* the exotic pet trade as a primary source of non-native species introductions and recommends strategic actions to protect biodiversity and imperilled species. Other repercussions, around emerging infectious diseases (EIDs (see, e.g., Daszak et al. 2000; Comité Nacional de Prevención de Lesiones 2020) are also relevant.

In parallel, it would also be appropriate to reflect on whether the trade and possession of wild animals involves a possible offence of animal abuse by removing them from their natural habitat. Situations of mistreatment in some countries can lead to this offence in the trade and possession of exotic animals.

According to the Spanish Penal Code, in its article 340 bis, it is established that:

> "A prison sentence of three to eighteen months or a fine of six to twelve months and a special disqualification penalty of one to three years for the exercise of a profession, trade or commerce related to animals and for the possession of animals shall be imposed on anyone who, outside the legally regulated activities and by any means or procedure, including acts of a sexual nature, causes injury to a domestic animal, tamed, domesticated or living temporarily or permanently under human control, that requires veterinary treatment for the restoration of its health.
> If the injuries in the preceding paragraph are caused to a vertebrate animal not included in the preceding paragraph, the penalty of imprisonment of three to twelve months or a fine of three to six months shall be imposed, in addition to the penalty of special disqualification of one to three years for the exercise of the profession, trade or commerce that is related to animals and for the possession of animals."

This article of the Spanish Penal Code could raise serious doubts about keeping exotic animals as pets. This could also be the case in other countries.

Conclusions

The consulted bibliography shows that it is neither environmentally sustainable nor appropriate for public and/or animal health to remove wild animals from their natural habitats. However, it must be emphasized that the first to suffer are the animals themselves, as they are the ones who endure directly the consequences of their change of environment. This should be sufficient reason to question the keeping of exotic animals at home.

European legislation could consider establishing a specific motivation when defining a pet animal. Furthermore, it should not exclude animals that are the object of commercial activity, but should establish conditions for keeping them, such as a limit on their number, monitoring and inspection measures, etc.

Another aspect to consider is the appropriateness of the term “pet animal” in the case of an exotic species. It is neither appropriate nor realistic to equate companionship between domestic and exotic. Exotic animals should be sold as such and defined as those directly taken from the wild or bred in captivity from originally wild animals. In this way, the potential buyer would have information beforehand about the type of animal they are buying.

Education in the keeping of exotic animals should be provided by the competent authorities involved in this activity. From animal inspection bodies to educators, teachers and even those responsible for overseeing commercial conditions. Aspects such as care, feeding, behaviour and origin must be known.

Despite being a commercial sector, the keeping of exotic animals should be evaluated, as perhaps we are not being responsible when acquiring an exotic animal to keep in our home, based on criteria such as the fact that there is sufficient space. This criterion is covered by current legislation. The lack of coherence between scientific knowledge and formulation of legislative statements has contrived and contributed to the paradox of keeping exotic animals as pets.

Regarding the potential for criminal sanction, it is possible that there are situations compatible with it that should be studied by the competent authorities and, where appropriate, adopt measures consistent with the provisions of criminal legislation.

Finally, Beck and Katcher (2003) proposed Wilson’s Biophilia Hypothesis which states that humans are evolutionarily predisposed to benefit from proximity to nature and animals. With that in mind, we have a moral imperative to consider whether exotic species benefit when they are forced into proximity with humans and deprived of nature.

Author Contributions: Conceptualization, R.A.D.F., and N.R.; Methodology, R.A.D.F.; Investigation, R.A.D.F., and N.R.; Writing – Original Draft, R.A.D.F., and N.R.; Writing – Review and Editing – R.A.D.F., and N.R.; Supervision, M.I.S.A.L., V.B.D. and P.B.C. The authors have read and agree to the published version of the manuscript.

Institutional Review Board Statement: Not Applicable.

Funding: The research received no external funding.

Conflict of Interests: The authors declare no conflict of interests.

Acknowledgements: Authors thank Isabel Lorenzo and Christina Davidson Richards, for their helpful and sharp comments.

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