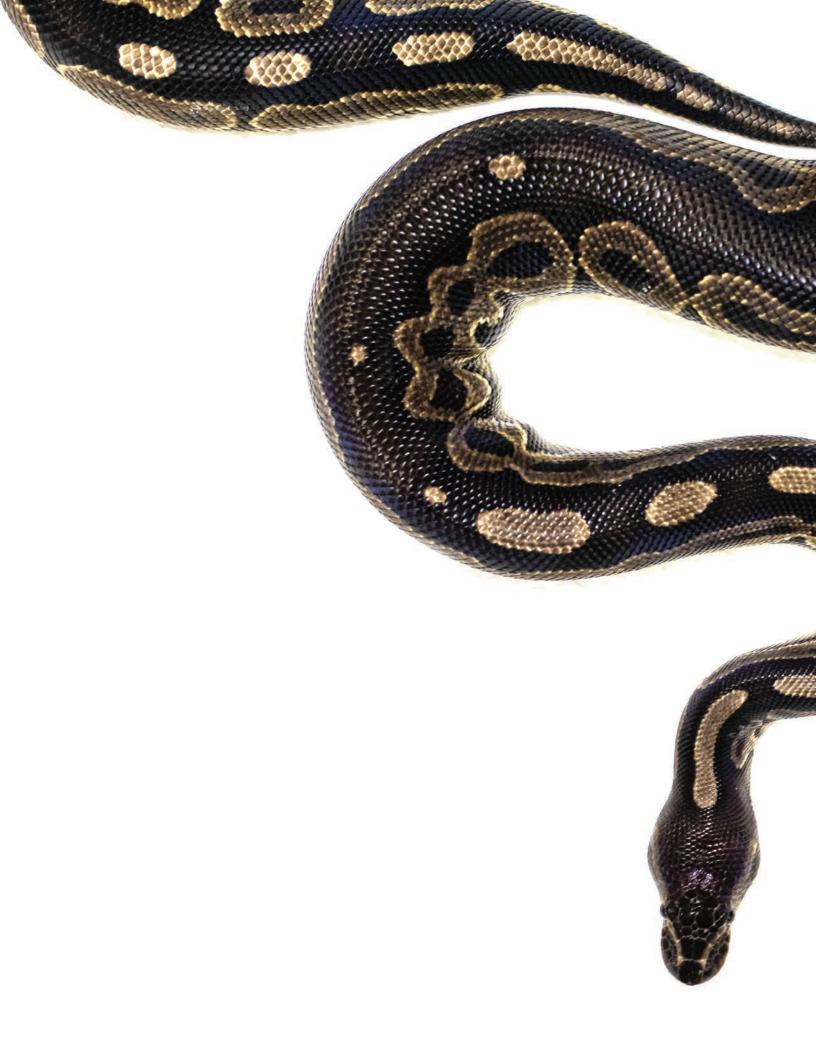


# Suffering in silence



Uncovering the cruelty of the global trade in Ball pythons







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Photo left: Ball python, Czech Republic

Front cover: Ball python after hunting, Ghana

 $<sup>^{\</sup>star}$ This is according to species listed on the Convention on the Trade of Endangered Species (CITES) database.



# **Executive Summary**

Hundreds of millions of birds, mammals, fish and reptiles are today traded worldwide as exotic pets. World Animal Protection's Wildlife. Not Pets campaign aims to disrupt this industry in order to protect wild animals from being poached or taken from the wild or from being cruelly bred in captivity, just to become someone's pet.

In 2019, World Animal Protection exposed the illegal poaching and welfare abuses being inflicted on wild African grey parrots in the Democratic Republic of Congo to supply the international demand of the exotic pet trade. As a result of public pressure by World Animal Protection supporters, Turkish Airlines, identified as one of the main carriers of illegally smuggled parrots, issued a global embargo for all African grey parrots being flown on their planes.

But this is just one species, in one country. The rapid growth of wildlife as pets requires global solutions. Online e-commerce platforms and social media are key drivers in the trade of wildlife for pets by increasing both the accessibility to and the acceptability of owning a wild animal as a pet. The Wildlife. Not Pets campaign is working to bring an end to the cruelty and abuse these animals suffer by reversing this trend.

The recent outbreak of the deadly novel coronavirus highlights how diseases can be transferred to humans from wild animals that have been subjected to the cruelty of the wildlife trade. Action is needed to end the exotic pet trade not only for animal welfare and biodiversity, but also to protect human health.

In many ways, the Ball python is the poster child of the exotic pet trade. It's the single most traded live animal legally exported from Africa. This report highlights all that is wrong with the global system that enables the trade of this species.

Reptiles are thought to make up around 20% of the global exotic pet trade, yet they are perhaps one of the most misunderstood type of animal, with broad misconceptions that they are not sentient. This leads owners to often misjudge the level of care they need and wrongly conclude what they require to meet even their minimum needs with respect to space, nutrition, environment and enrichment. These myths result in unintentional cruelty and neglect, and are used to justify a massive global trade that threatens the survival of these animals in the wild.

It is time to turn the tide on the exotic pet trade and keep wild animals in the wild, where they belong.



# Global problems require global solutions

World Animal Protection is calling for the following to protect these snakes and to disrupt the international trade in wildlife.

#### We call on:

- The West African countries of Benin, Togo and Ghana, the main exporters of Ball pythons, to introduce a suspension on the global export of Ball pythons.
- The US, Europe, Canada, and China, the main importers of Ball pythons, to introduce an import ban on all Ball pythons and to review respective domestic captive breeding programs.
- The public to join our call to end the trade of wild animals, including Ball pythons, across the globe.

Photo left: A female Ball python is captured during Ghana's hunting season. She is just one of the tens of thousands exported from West Africa each year to fuel international demand for the exotic pet trade.

## Introduction

Reptiles comprise about 20% of the global live animal trade<sup>23</sup>. Though data is lacking, there are thought to be tens of millions of exotic reptile pets in homes, if not more around the globe. One estimate for 2017-2018 placed about 9.4 million reptiles in US homes<sup>4</sup>, and another estimate for 2018-2019 placed about 0.8 million reptiles kept as pets in the UK<sup>5</sup> (though these numbers could be much higher due to incomplete record-keeping and widespread illegal activity throughout the industry).<sup>6</sup>

Historically, reptiles have also been one of the most misunderstood types of animals, subject to many misconceptions. Though it's widely accepted that they are sentient (able to feel positive and negative emotions and states<sup>7</sup>), because they are less like us in both their biology and behaviour than, say, dogs and cats or other mammals, we as humans tend to relate to or identify with them less<sup>8</sup>. For this and other reasons, it seems to be often accepted perception, often based on non-scientific "folklore" in the trade and among owners, that reptiles do not need much space or require stimulating environments compared to other categories of pets.

Meanwhile, the scientific research is filled with references to reptiles' capacity to feel anxiety, stress, distress, excitement, fear, frustration, pain and suffering, as well as direct evidence to their capacity to feel pleasure, and emotion.<sup>10</sup>

...even a 1% mortality rate equates to millions of animals given the size and scale of the industry.

In truth, reptiles are far more complex than people often realize. For example, some species are far more social than once thought — a fact that is increasingly being identified in different reptile species like some Australian skinks.<sup>11</sup> Also, claims that reptiles are naturally sedentary are often greatly exaggerated. Large home ranges for many reptiles make limited space provisions in captivity seriously problematic, and false claims of their limited intelligence, emotional capacity, and minimal welfare needs can mean that they suffer considerably in captivity.<sup>12</sup>

The result of this disconnect between claims and reality is that we are often less likely or willing to consider their well-being along all the stages of their life, from their capture to the time they are brought into someone's home as a pet. Mortality rates are difficult to determine and are subject to debate. For example, estimates for overall mortality rate of reptiles in UK homes in the first year of ownership vary between  $4\%^{13}$  and  $75\%^{14}$ . However, it is important to note that even a 1% mortality rate during transport alone represents millions of animals given the size and scale of the industry.  $^{15\,16}$ 

Photo right: Often billed as a good "starter" pet, it is not uncommon to see children holding and handling Ball pythons at pet expos in North America.







# Spotlight on the Ball python — Africa's most traded live wild animal

The Ball python, named for its tendency to curl into a tight ball when stressed, is currently the single most legally-traded live African species under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).<sup>17</sup> Over three million of them have been exported off the African continent since 1975.

Also called Royal pythons, these relatively small snakes hail from East to West Africa, with the majority of international trade originating from Benin, Togo and Ghana. <sup>18</sup> They are nocturnal land animals, sheltering in burrows during the day and sometimes climbing trees during the night. <sup>19</sup> <sup>20</sup> Females typically lay eggs from mid-February to the beginning of April, during the latter half of the dry season, and the eggs tend to hatch about two months later<sup>21</sup>. Mothers incubate their eggs, remaining tightly coiled around their eggs until birth. <sup>22</sup> <sup>23</sup>

According to CITES over three million individual Ball pythons have been exported from West Africa since the first recorded live commercial export in 1975. Ball pythons are ambush predators that feed primarily on birds and rodents, and therefore serve as important pest controllers in many rural communities<sup>24</sup>. In the wild, their lifespan is thought to be around 10 years.<sup>25</sup> In captivity, they can live about 20 years, with a longevity record of 47 years<sup>26</sup>. In addition to being hunted for the international exotic pet trade, they are caught and killed for meat, leather, and traditional medicines<sup>27 28</sup>. They are currently listed as a species of "Least Concern" by the International Union for Conservation of Nature (IUCN) but the huge numbers of animals being caught to meet the variety of consumer demands is considered a major potential<sup>29</sup> threat. According to CITES, over three million individual Ball pythons have been exported from West Africa since the first recorded live commercial export in 1975<sup>30</sup>. Annual exports peaked at around 250,000 in 2005 and have averaged 100,000 since 200731. In total, through the 1980s, 1990s and 2000s, more than 99% of these exports originated from just three countries: Togo, Benin and Ghana<sup>32</sup>.

Hunters find and catch Ball pythons by breaking open hollow palm trunks or termite mounds, digging up burrows found in piles of leaves or grass, or following tracks<sup>33</sup>.

They are wildly popular around the world as exotic pets, particularly in Europe and North America<sup>34</sup>, yet concerns are growing about the conservation impacts of this trade, and about the welfare impacts of the capturing, trading and keeping of Ball pythons as pets.<sup>35 36</sup>

Their small size and relatively docile nature make them popular, and inappropriately perceived to be a good 'starter pet'<sup>37 38</sup>. They are also likely popular due to the common misconception that they require relatively little specialized care.<sup>39</sup>

Photo left: Hunted, caught, born into captivity and sold. The West African countries of Benin, Togo and Ghana are the main source countries for 'ranched' exports.



# Ball python exports: cruelty and commerce

Photo left: Snakes on display at a pet expo in Memphis.

**Photo bottom:** Vendor with a 'designer' Ball python.

In many ways, the Ball python is the poster child of the exotic pet trade. Millions of Ball pythons have been exported out of Africa over the past 40 years, with the largest importing markets being North America (the USA and Canada), followed by Europe (Germany, UK and France) and Asian countries, notably Japan. 40 41



## Welfare concerns

For wild Ball pythons that become exotic pets, concerns about welfare begin the moment they are captured<sup>42</sup>. Stress and potential for illness and injury can result at every stage: capture, transportation and handling before they are exported and subsequently imported, through to their arrival in the hands of a breeder or vendor.<sup>43</sup> After that point, their quality of life can diminish even further – they are often made to endure inappropriate long-term storage, intensive captive breeding, captivity stress, and are exposed to further risk of injury and disease.<sup>44</sup>

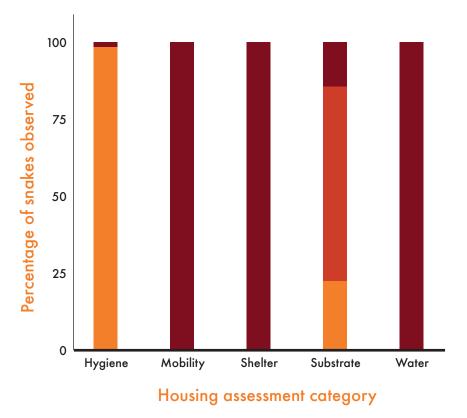
Unfortunately, one of the things that makes Ball pythons popular is the misconception that they require little specialized care. 45 46 But the reality is that snakes, including Ball pythons, have complex and specific requirements to meet even their most basic needs in captivity. 47 48 Most Ball python owners are not fully aware of the needs around the appropriate provision of water, shelter, floor material, hygiene levels, enrichment, places to hide/burrow, and the room to move — including the ability to extend to

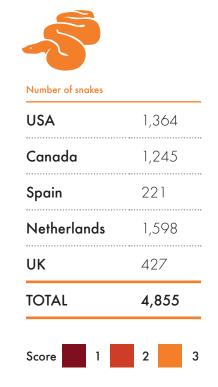
the full length of its body<sup>49</sup>. If one or more of these basic needs is lacking, the suffering of the pythons will increase, and could lead to injury, disease or even death. It is important to note that the only place that can meet their full range of behavioural and biological needs is in the wild.

It's generally advised that snakes, especially those that are more reclusive, be provided with more cover such as multiple hiding spots that allow them to avoid stress.<sup>51</sup>

For Ball pythons in particular, their tendency to curl up into a tight ball and hide their heads is an example of a reclusive behaviour<sup>50</sup>.

Figure 1. Housing assessment for the 4,855 Ball pythons observed at exotic pet expositions in North America and Europe during the study. Criteria score (see Figure 2) is based on the minimum recommended requirements (1-2 = below minimum requirements; 3 = adequate i.e. minimum requirements met).





A recent study of the housing conditions of more than 5,000 Ball pythons at six exotic pet expos that took place in Canada, Netherlands, Spain, the US, and UK, and 113 YouTube videos showed that most breeders and vendors use small, highly restrictive enclosures with dimensions that prevent occupants from extending their bodies to full length.<sup>52</sup>

At the pet expos specifically, of the nearly 5,000 animals that were assessed, every single one was held in substandard conditions for mobility, shelter and water, and only four animals, or less than 0.1%, had any access to enrichment (e.g. material for climbing).

Because very few vendors actually give purchasers appropriate care instructions to meet even the snakes, basic welfare needs, it's quite possible that this mistreatment doesn't end after the animal is brought home, even with the most well-meaning of new owners. A study of 57 websites and Facebook vendors shows that only eight provided any online care instructions at all.

- Only two vendors provided information on life span and size in captivity
- Only three provided information on how they should be fed
- Only seven provided instructions about water supply
- Only five stated that the snakes needed enough water to bathe themselves
- Only four provided information on humidity
- Not one provided information on lighting
- Only seven provided information on temperature maximums and minimums
- Only one suggested providing enrichment to allow snakes to climb
- Only two recommended that the snakes should be able to stretch out to their full length<sup>53</sup>

**Figure 2.** Ball python environmental assessment criteria, which was developed based on the minimum recommended requirements.

No.	Category/Score	1	2	3
1	Mobility/ Space	Length of enclosure = less than length of snake.	Length of enclosure = length of snake.	Length of enclosure = approx. 1.5 X length of snake.
2	Shelter	No shelters present.	Shelter present, which does not cover 100% of snake when coiled up.	Shelter present, which covers 100% of snake, when coiled up.
3	Water	No water present.	Clean water available. Water bowl is too small to allow the snake to soak its entire body.	Clean water available. Water bowl is large enough to allow the snake to soak its entire body.
4	Substrate	No substrate present (covers 0% of enclosure floor).	Inadequate substrate present (covers < 75% of enclosure floor)	Adequate substrate present (covers > 75% of enclosure floor).
5	Hygiene	Unacceptable level of hygiene. Detritus liberally present.	Intermediate between 1 and 3.	Acceptable level of hygiene. Detritus minimally present /absent.

### Conservation concerns

#### Hunting

There are no official wild population estimates for Ball pythons in West Africa which makes it virtually impossible to establish just how much of a negative impact this type of hunting is having on the conservation of wild snake populations<sup>54</sup>. However, concerns are growing. A recent study in Togo has revealed that a majority of hunters reported that there were fewer snakes compared to five years ago when asked<sup>55</sup>. To make matters worse, additional large scale domestic use as bush-meat and as traditional medicine could increase the numbers of animals caught well beyond the numbers reported to the authorities.<sup>56</sup> <sup>57</sup>

There are also concerns that this type of hunting is not being carried out in line with national and international laws set in place to protect these snakes. For example, in Togo, unregulated cross border hunting activity, a lack of awareness by hunters regarding quotas, and ambiguity regarding the proportion of hunters that possess the relevant permits create doubt as to whether official export records provide an accurate picture of the scope and scale of the trade.  $^{58}$   $^{59}$   $^{60}$ 

There are also severe animal welfare concerns related to hunting practices: since we know that reptiles are sentient and therefore capable of feeling distress, fear, and pain<sup>61</sup>, it's safe to assume that they suffer distress during capture (being physically dug out and removed from burrows), and transport (stuffed live into sacks often filled with other snakes), and that they can sustain physical injuries. Distress and injury both may result in death or increased susceptibility to disease and/or infection.<sup>62</sup>

Another pressure on the population is the use of pythons in traditional medicine, for both spiritual and medicinal purposes. An investigation of the traditional medicine market in Togo revealed that pythons are among the most profitable wild animal derivatives sold there. They are sold whole and for parts: blood, intestines, scales and tails all having purported uses. Vendors reported that python body parts believed to be effective in protecting against voodoo and serving as an antivenom.<sup>63</sup>







**Photo above:** Ball python 'ranching' facility, Ghana.

Photo top: Python in the wild.

Photo bottom: Ball python heads used in Voodoo, Benin.

# 'Ranching:' Does it really protect the species?

Perhaps in an attempt to try and reduce the negative conservation and animal welfare impacts of the trade in wild caught Ball pythons, a system that some refer to as reptile 'ranching'\* has evolved.<sup>64</sup> In these management programs, hunters bring pregnant females, eggs or juveniles caught in the wild to 'farms,' or 'ranches,' where offspring are hatched and reared so they can be sold into the international exotic pet trade.

At least in theory, the exotic pets exported from a 'farm' or 'ranch' should be surplus to wild populations because they would likely have suffered naturally higher mortality rates in the wild. Some of these management programs require the release of all adult females and a proportion of their offspring back into nature to help safeguard wild populations. It's reported that Togo, for example, releases about 20% of the number of live snakes they export back into the wild each year. In theory, this type of approach has been viewed by some as a 'silver bullet' approach to unsustainable over-exploitation of wild reptile populations.

Hunters and ranchers must have realized some significant benefits from this approach pretty quickly, if the virtual explosion of this type of management activity is any indication: 1996 to 2012 saw an extraordinary, 50-fold increase in global imports of reptiles declared as 'ranched,' dominated by the Ball python trade from West Africa<sup>66</sup>. Likewise, since the early 2000s the vast majority of Ball python exports from Togo, Benin and Ghana have been declared as 'ranched.' In the past 10 years, 95% of live exports from Togo were declared by the importing countries as 'ranched,' with the majority destined for the United States. 68 69 70

Unfortunately, in reality, this type of management production system is far from perfect and there is no quick fix. In theory, the Ball python management programs in West Africa are supposed to aid the conservation of local populations.<sup>71</sup> But a number of factors seem to be undermining the intended benefits.

As and when consumer demand for Ball pythons in key markets like the US shifts away from snakes sourced from West Africa, the search for sustainable alternative livelihood initiatives<sup>72</sup> may be useful in helping hunters to find new viable sources of income. While recognizing that there is a current financial value to hunters in the trade of Ball pythons, direct monetary compensation [e.g. payments for ecosystem services<sup>73</sup> may also help minimize any unintended negative economic impacts on local communities. Ultimately, economic benefit should never come at the cost of cruelty, finding solutions for both animals and people is better for communities and the environment.

## Recent research carried out in the region has found that:

#### Collection and Export

- Some hunters report targeting all snakes, rather than just the females, juveniles and eggs.
- Many hunters are not aware that their harvest is subject to national quotas, calling into question the accuracy of quota data.
- Some hunters cross borders to collect and trade in nearby states; this illegal and unregulated activity further compromises the accuracy of quota reporting.
- There is anecdotal evidence from hunters that some exports declared as 'ranched' actually mix in wild-caught animals, meaning 'ranching' can potentially be used as a cover for less sustainable practices.
- Recent studies raise concerns that Ball python exports declared as 'ranched' for use as exotic pets may be linked to the trade in their body parts as traditional medicine and bush meat.<sup>74,75</sup>

#### Improper Wild Release

- Recent studies raise concerns that the release of all female Ball pythons, in addition to the release of a proportion of offspring produced on the farms, is not being carried out in a safe and responsible way.<sup>76</sup>
- Snakes being improperly placed back into the wild in an area far from where they were caught could also decrease their chances of survival, and could be contributing to the population decline reported by many hunters<sup>77</sup>. This could be because the habitat is unfamiliar and inhospitable, because of disease introduction due to a lack of proper biosecurity measures, or because of mixing with animals that have different characteristics or genetic profiles that they would not have otherwise naturally encountered.

Overall there is a lack of data that clearly demonstrates that ranching represents an effective and sustainable substitute for wild sourced animals, and whether the snake farms are successfully preventing the over exploitation of wild populations.<sup>78</sup>

<sup>\*</sup>Please note definitions of "ranching" and the particular criteria that must be met for a given system to qualify formally as this type of commercial production method currently vary at a national / international level and are subject to policy review under CITES.



## The problem with morphs

As if the issues around welfare for 'ranched' snakes being sold for pets weren't concern enough, Ball pythons with specific colour or pattern characteristics – frequently referred to as "colour morphs" – are increasingly popular with prospective snake owners, and many breeders are willing to selectively breed snakes in captivity to meet this demand.

There is growing concern, however, with several genetic disorders associated with the breeding of these 'morphs.' For example, "wobble head" syndrome is a nervous system disorder that occurs in "spider" morph Ball pythons.<sup>79 80 81 82</sup> Side-to-side head tremors, lack of coordination, erratic corkscrewing of the head and neck, poor muscle tone and loose tail grip are among the symptoms.<sup>83 84</sup>

Other conditions that arise due to selective breeding include spinal deformities, skull deformities, and "bug eyes." 85 86 87 88

Photo left: A breeder in Europe inspects his Ball python. The shelves that hold the snakes are referred to as a racking system.

At the exotic pet expos we investigated, where morph type was recorded, 94% of the animals appeared to be captive bred 'designer' morphs rather than 'wild-type' individuals.<sup>69</sup>

The breeding and selling of morphs is lucrative, where depending on the characteristics they can sell for tens of thousands of dollars.

If conversations with retailers are any indication, it's possible that a very large proportion of Ball pythons exported from Africa are being purchased by breeders for the purpose of discovering and breeding new morphs. Many unsuspecting owners may think they have purchased a captive-bred snake, not realising that their "pet" was quite possibly sourced directly from the wild or via "ranching" operations in West Africa. The retailers our investigators spoke with seemed to reinforce the unfounded notion that captive-bred animals make more ethical, sustainably sourced, pets. Add that to the other elements of their sales pitch: they live longer and are perceived to be healthier animals.



### What is a morph?

The term "morph" refers to a type of appearance or phenotype of an organism. In the case of the Ball python, it refers to the varieties of colour and scale patterns that can result from selective, commercial, captive, breeding.

A "designer morph" Ball python is the creation of a breeder who has combined two or more "wild morphs" to create something never seen in nature. 91 Some breeders view wild-sourced Ball pythons from Africa as potentially valuable new genetic "stock" that can aid them in their efforts.



**Photo above:** Ball python designer morphs on display at a pet expo, Memphis, USA.

### Disease transfer to humans

In addition to conservation and welfare impacts, another major concern about reptiles as pets is their capacity to become vectors for disease, including diseases that can be transmitted from animals to humans, also known as zoonotic diseases. Captive reptiles are well-documented as potential carriers of pathogens, such as parasites and viruses, and in particular of human illness-causing bacteria. The pathway for this transmission can start back at the 'ranch,' in transport to the ranch, where they can be stuffed in sacks after being captured, at the 'ranch,' they are often housed in overcrowded enclosures, and sometimes in rooms that are filled with many other reptile species<sup>92</sup> that lack adequate biosecurity protocols.



#### Coronavirus

While still unconfirmed, there is a suspicion that the trade in snakes may have played some role in this latest outbreak in China, and aided the transmission of the virus from wildlife to humans.<sup>99</sup>

Snakes that are sold at markets like that which was reported in the city of Wuhan, China have suffered horrendous conditions before they get there. They've either been captured in the wild, stuffed together in bags or small cages for transportation to the market, or intensively bred in ranches and farms where they are kept in overcrowded containers. Either way, these conditions are incubators for the transmission of disease and the evolution of more virulent pathogens.

Previous global epidemics have also been associated with wildlife markets. Severe Acute Respiratory Syndrome (SARS), which in 2002-2003 resulted in more than 8,000 human cases across 26 countries (according to WHO), is reported to have spread to humans via wild mammals commonly traded live in Chinese markets. <sup>93</sup> The Ebola virus epidemics in West and Central Africa are also thought to have originated from bats, with primates and other wild mammals believed to be intermediate hosts through which people were infected; many such animals are also traded live in wildlife markets in the countries in which the outbreaks first occurred. <sup>94</sup>

Of samples collected during a recent scoping study of one Ball python farm in West Africa, all but one of the 20 samples analysed contained at least one type of bacterium of potential zoonotic concern.<sup>95</sup>

In short, there is a risk that intensive captive conditions in these farms have the potential to encourage the transmission of disease, and the evolution of more virulent pathogens that can be passed to other reptiles in captivity or in wild populations if animals are released into the wild without the proper quarantine measures being in place. It's important to note that snakes and other reptiles can become vectors of zoonotic diseases that can also make humans sick while seeming perfectly healthy and unaffected themselves.

The conditions that foster infectious disease transmission and evolution are not just found on ranches, however.

Our investigations team also found at one snake breeding and trading depot a medium-sized room containing 200-300 Ball pythons, in addition to other snake breeds. The same facility had a main warehouse room with an estimated tens of thousands of reptiles stored within. The occurrence of disease and associated mortality rates at all stages of the Ball python trade chain are an urgent research priority.

Once these animals are sold for pets, owners, and anyone who comes into contact with their pets, is at risk of contracting illnesses like Salmonella. A recent outbreak in Canada led Canadian health officials to reveal that several individuals had come into contact with pet snakes before they became ill. 98

## Reducing acceptability around the world

Given the complexity of the trade chain for pythons from West Africa to other parts of the world, we need to disrupt the trade from many angles – from transportation and government agencies to online sales and pet shops.

In the US, the largest importer of Ball pythons from West Africa and with an increasing domestic captive-breeding program, an estimated 14.6% of the 9 million households who own an exotic pet is a snake. <sup>100</sup> As one of the largest shipping companies in the world, UPS should be a leader in wildlife protection. Instead, UPS is a key link in the supply chain transporting wild animals across the United States to a life of suffering in captivity. We are calling on UPS to stop shipping live wild animals.

Social media platforms in China have become one of the most convenient and highest-volume trading channels for exotic pets. With a quick search, you are able to find Ball pythons for sale on Baidu. The sellers post ads for free, and trade privately. We will be engaging with online market and social media platforms to reduce the number of live animals for sale online as pets.

Reptiles dominate the trade in wild animals for pets in the UK. An estimated 800,000 are kept as exotic pets, including approximately 200,000 snakes.<sup>101</sup> The International

Herpetological Society's breeders' meetings, held quarterly at Doncaster Racecourse, make up a major acquisition channel for Ball pythons in the UK, as well as being important events for the 'hobby' breeding community. We are calling on Doncaster Racecourse to stop allowing reptile markets to take place at its venue.

In Ghana, Kenya, and Uganda we are working with youth groups to educate them on the problems of the trade of Ball pythons and the importance of ending the exports out of Africa. We are asking them to join our call to stop the live export of Ball pythons from West Africa. Changing attitudes and beliefs around this highly-traded species is key to protecting these snakes, and long term survival.

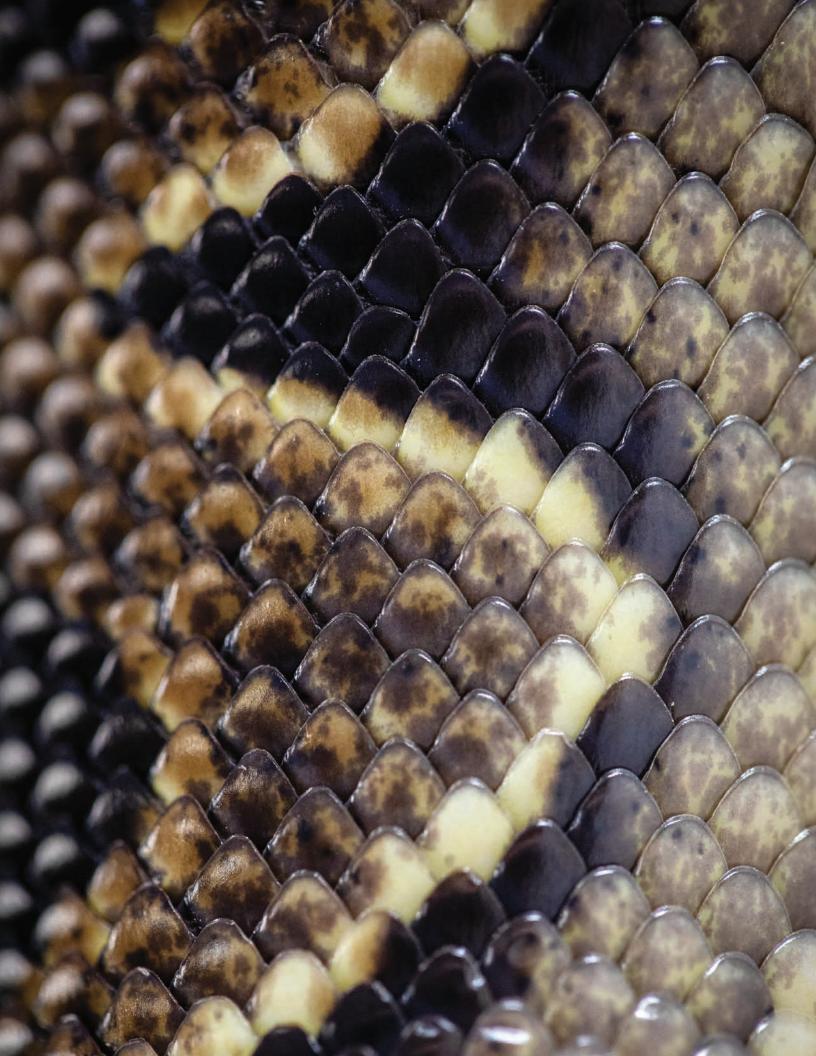
In Canada, an estimated 28,000 Ball pythons are kept in households as pets. <sup>102</sup> Their popularity in the pet industry is in part driven by pet stores, who contribute to the perception that the keeping of these animals is safe and simple. This misconception leads to tremendous suffering. Realizing that "most first-time buyers will purchase their exotic animal in a pet store and with 43% of first-time buyers admitting that their initial purchase was driven by impulse, <sup>103</sup> it is essential that we disrupt their purchasing journey before they take the first step.



**Photo left:** Snakes kept for days in small, plastic containers while on display at a pet expo.



Photo right: At pet expos, Ball pythons are kept in small, tight containers, and handled by many visitors – a welfare nightmare for these animals.



## Conclusion

The trade of Ball pythons for exotic pets is a massive global market that has impacted millions of animals over the last several decades. There are increasing concerns that the export of these snakes from West Africa is unsustainable, and that the 'ranching' system has not had the positive impact on conservation it was intended to have. To make matters worse, the welfare conditions that both 'ranched' and captive-bred Ball pythons experience at the hands of ranch owners, breeders, and pet expo vendors is unacceptable.

Photo left: Natural "wild type" Ball python scale colouration.

Ball pythons experience suffering at every stage of the journey from capture to a lifetime of captivity. They can experience:

- Stress
- Injury
- Malnutrition
- Disease
- Premature death
- Deformities and abnormalities created by selective breeding of morphs
- Failure to meet minimum standards for captivity (i.e. space, stimulation, water)

And the pressures on the natural habitat of Ball pythons will only continue to increase. According to the UN, more than half of human global population growth between now and 2050 is expected to occur in Africa, growing at a pace of 2.55 percent annually in 2010-2015.<sup>104</sup>

In light of these predicted human population trends alone, it is clear that the Africa region will play an increasingly central role in shaping the scope and scale of wildlife trade, and its impact on the animals involved, in the decades to come.

Whether stolen from the wild or bred in captivity, Ball pythons feel pleasure, distress, excitement, fear and pain. A life as a pet is a life sentence of suffering. Ball pythons are wild animals and belong in the wild, not in our homes.



World Animal Protection is calling for the following to protect these snakes and to disrupt the international trade in wildlife:



The West African countries of Benin, Togo and Ghana, the main exporter of Ball pythons, to introduce a suspension on the Global export of Ball pythons.



The US, Europe, Canada, and China, the main importers of Ball pythons, to introduce an import ban on all Ball pythons and to review respective domestic captive-breeding programs.



The public to join our call to end the trade of wild animals, including Ball pythons, across the globe.

## References

- CITES (2019) Trade Database <a href="https://trade.cites.org">https://trade.cites.org</a>. Downloaded on 19 Feb. 2020.
- <sup>2</sup> Engler M, Parry-Jones R (2007) Opportunity or threat: The role of the European Union in global wildlife trade. TRAFFIC Europe.
- <sup>3</sup> Robinson JE, St. John FAV, Griffiths RA, Roberts DL (2015) Captive reptile mortality rates in the home and implications for the wildlife trade. PLoS ONE, 10, e0141460
- <sup>4</sup> APPA (2019) American Pet Products Association's 2017-2018 National Pet Owners Survey <a href="https://www.iii.org/fact-statistic/facts-statistics-pet-statistics">https://www.iii.org/fact-statistic/facts-statistics-pet-statistics</a>. Accessed on 19 Feb. 2020.
- <sup>5</sup> PFMA Pet Population 2019. Available online: <a href="https://www.pfma.org.uk/pet-population-2019">https://www.pfma.org.uk/pet-population-2019</a> (accessed on 6 May 2019).
- Green J, Coulthard E, Megson D, Norrey J, Norrey L, Rowntree JK, Bates J, Dharmpaul B, Auliya M, D'Cruze N (2020) Blind trading: A literature review of research addressing the welfare of ball pythons in the exotic pet trade. Animals 10: 193. <a href="https://doi.org/10.3390/ani10020193">https://doi.org/10.3390/ani10020193</a>.
- <sup>7</sup> Lambert H, Carder G, D'Cruze N (2019) Given the cold shoulder: A review of the scientific literature for evidence of reptile sentience and cognition. Animals 9: 1-22. doi:10.3390/ani9100821
- 8 https://www.nature.com/articles/s41598-019-56006-9
- Veterinary Practice (2020) Many animals across all classes are increasingly becoming victims of folklore husbandry <a href="https://veterinary-practice.com/article/many-animals-across-all-classes-are-increasingly-becoming-victims-of-folklore-husbandry.">https://veterinary-practice.com/article/many-animals-across-all-classes-are-increasingly-becoming-victims-of-folklore-husbandry.</a> Accessed on 19 Feb. 2020.
- Lambert H, Carder G, D'Cruze N (2019) Given the cold shoulder: A review of the scientific literature for evidence of reptile sentience and cognition. Animals 9: 1-22. doi:10.3390/ani9100821
- 11 Chapple DG (2003) Ecology, life-history, and behavior in the Australian Scincid genus Egernia, with comments on the evolution of complex sociality in lizards. Herpetological Monographs 17: 145-180.
- <sup>12</sup> Lambert H, Carder G, D'Cruze N (2019) Given the cold shoulder: A review of the scientific literature for evidence of reptile sentience and cognition. Animals 9: 1-22. doi:10.3390/ani9100821
- <sup>13</sup> Robinson JE, St. John FAV, Griffiths RA, Roberts DL (2015) Captive reptile mortality rates in the home and implications for the wildlife trade. PLoS ONE, 10, e0141460
- <sup>14</sup> Toland, E., Warwick, C., & Arena, P.C. (2012) The exotic pet trade: pet hate. The Biologist 59(3);14-18.
- Robinson JE, St. John FAV, Griffiths RA, Roberts DL (2016) Correction: Captive Reptile Mortality Rates in the Home and Implications for the Wildlife Trade. PLoS ONE 11(6): e0157519. https://doi.org/10.1371/journal.pone.0157519
- <sup>16</sup> Toland, E., Warwick, C., & Arena, P.C. (2012) The exotic pet trade: pet hate. The Biologist 59(3);14-18.
- World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.
- <sup>18</sup> Auliya M, Schmitz A. (2010) Python regius. The IUCN Red List of Threatened Species: e.T177562A7457411. <a href="https://dx.doi.org/10.2305/IUCN.UK.20104.RLTS.T177562A7457411.en">https://dx.doi.org/10.2305/IUCN.UK.20104.RLTS.T177562A7457411.en</a>. Downloaded on 19 Feb. 2020.





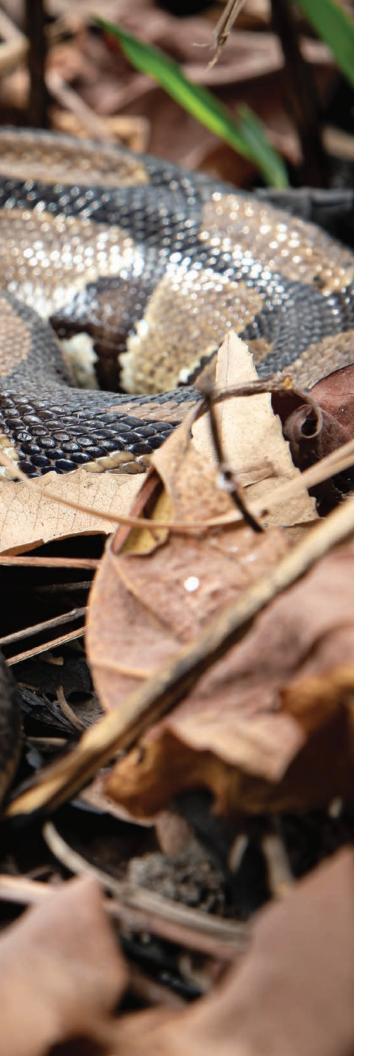
- <sup>19</sup> Barker D, Barker TM (2006) Ball pythons: Their history, natural history, care and breeding. Barker Published by VPI Library.
- Toudonou CAS (2015) Ball python (*Python regius*). Species trade and conservation. Snake trade and conservation management (Serpentes spp.). An assessment of the impact of the pet trade on five CITES-Appendix II case studies. AC28 Inf. 4. <a href="https://cites.org/sites/default/files/eng/com/ac/28/Inf/E-AC28-Inf-04.pdf">https://cites.org/sites/default/files/eng/com/ac/28/Inf/E-AC28-Inf-04.pdf</a>
- <sup>21</sup> Aubret F, Bonnet X, Shine R, Maumelat S (2003) Clutch size manipulation, hatching success and offspring phenotype in the ball python (*Python regius*). Biological Journal of the Linnean Society 78: 263-272.
- World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.
- <sup>23</sup> Aubret F, Bonnet X, Shine R, Maumelat S (2003) Clutch size manipulation, hatching success and offspring phenotype in the ball python (*Python regius*). Biological Journal of the Linnean Society 78: 263-272.
- Toudonou CAS (2015) Ball python (*Python regius*). Species trade and conservation. Snake trade and conservation management (Serpentes spp.). An assessment of the impact of the pet trade on five CITES-Appendix II case studies. AC28 Inf. 4. <a href="https://cites.org/sites/default/files/eng/com/ac/28/Inf/E-AC28-Inf-04.pdf">https://cites.org/sites/default/files/eng/com/ac/28/Inf/E-AC28-Inf-04.pdf</a>
- 25 IBID
- <sup>26</sup> Conant R (1993) The oldest snake. Bulletin Chicago Herpetological Society 28: 77-842.
- <sup>27</sup> Auliya M, Schmitz A. (2010) *Python regius*. The IUCN Red List of Threatened Species: e.T177562A7457411. <a href="https://dx.doi.org/10.2305/IUCN.">https://dx.doi.org/10.2305/IUCN.</a> UK.2010-4.RLTS.T177562A7457411.en. Downloaded on 19 Feb. 2020.
- D'Cruze N, Délagnon P, Coulthard E, Norrey J, Megson D, Macdonald DW, Harrington L, Ronfot D, Segniagbeto GH, Auliya M (in prep) Snake oil and pangolin scales: Insights into wild animal use at "marché des fétiches" traditional medicine market, Togo. Nature Conservation.
- <sup>29</sup> Auliya M, Schmitz A. (2010) *Python regius*. The IUCN Red List of Threatened Species: e.T177562A7457411. <a href="https://dx.doi.org/10.2305/IUCN">https://dx.doi.org/10.2305/IUCN</a>. <a href="https://dx.doi.org/10.2305/IUCN">UK.2010-4.RUTS.T177562A7457411.en</a>. Downloaded on 19 Feb. 2020.
- 30 World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.
- 31 IBID
- 32 IBID
- 33 IBID
- <sup>34</sup> D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- 35 D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- <sup>36</sup> World Animal Protection (2020) A Review of ball python trade from Togo, West Africa. Unpublished report.
- <sup>37</sup> Green J, Coulthard E, Megson D, Norrey J, Norrey L, Rowntree JK, Bates J, Dharmpaul B, Auliya M, D'Cruze N (2020) Blind trading: A literature review of research addressing the welfare of ball pythons in the exotic pet trade. Animals 10: 193. <a href="https://doi.org/10.3390/ani10020193">https://doi.org/10.3390/ani10020193</a>.
- <sup>38</sup> Paré JA (2006) An overview of pet reptile species and proper handling. In Proceedings of the North American veterinary conference 20: 1657-1660
- 3° D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.

- <sup>40</sup> D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- <sup>41</sup> World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.
- <sup>42</sup> Green J, Coulthard E, Megson D, Norrey J, Norrey L, Rowntree JK, Bates J, Dharmpaul B, Auliya M, D'Cruze N (2020) Blind trading: A literature review of research addressing the welfare of ball pythons in the exotic pet trade. Animals 10: 193. <a href="https://doi.org/10.3390/ani10020193">https://doi.org/10.3390/ani10020193</a>.
- 43 IBID
- <sup>44</sup> D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- <sup>45</sup> D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- <sup>46</sup> Green J, Coulthard E, Megson D, Norrey J, Norrey L, Rowntree JK, Bates J, Dharmpaul B, Auliya M, D'Cruze N (2020) Blind trading: A literature review of research addressing the welfare of ball pythons in the exotic pet trade. Animals 10: 193. https://doi.org/10.3390/ani10020193.
- <sup>47</sup> Lambert H, Carder G, D'Cruze N (2019) Given the cold shoulder: A review of the scientific literature for evidence of reptile sentience and cognition. Animals 9: 1-22. doi:10.3390/ani9100821
- <sup>48</sup> Green J, Coulthard E, Megson D, Norrey J, Norrey L, Rowntree JK, Bates J, Dharmpaul B, Auliya M, D'Cruze N (2020) Blind trading: A literature review of research addressing the welfare of ball pythons in the exotic pet trade. Animals 10: 193. <a href="https://doi.org/10.3390/ani10020193">https://doi.org/10.3390/ani10020193</a>.
- <sup>49</sup> D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- <sup>50</sup> Barker D, Barker TM (2006) Ball pythons: Their history, natural history, care and breeding. Barker Published by VPI Library.
- 51 D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- 52 IBID
- 53 IBID
- <sup>54</sup> World Animal Protection (2020) A review of cross border Ball python trade in West Africa, Unpublished report.
- 55 IBID
- <sup>56</sup> Auliya M, Schmitz A. (2010) *Python regius*. The IUCN Red List of Threatened Species: e.T177562A7457411. <a href="https://dx.doi.org/10.2305/IUCN">https://dx.doi.org/10.2305/IUCN</a>. <a href="https://dx.doi.org/10.2305/IUCN">UK.2010.4.RLTS.T177562A7457411</a>. Downloaded on 19 Feb. 2020.
- <sup>57</sup> D'Cruze N, Délagnon P, Coulthard E, Norrey J, Megson D, Macdonald DW, Harrington L, Ronfot D, Segniagbeto GH, Auliya M (in prep) Snake oil and pangolin scales: Insights into wild animal use at "marché des fétiches" traditional medicine market, Togo. Nature Conservation.
- 58 World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.
- 59 IBID
- 60 IBID
- <sup>61</sup> Lambert H, Carder G, D'Cruze N (2019) Given the cold shoulder: A review of the scientific literature for evidence of reptile sentience and cognition. Animals 9: 1-22. doi:10.3390/ani9100821
- Overld Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.

- O'Cruze N, Délagnon P, Coulthard E, Norrey J, Megson D, Macdonald DW, Harrington L, Ronfot D, Segniagbeto GH, Auliya M (in prep) Snake oil and pangolin scales: Insights into wild animal use at "marché des fétiches" traditional medicine market, Togo. Nature Conservation.
- <sup>64</sup> Robinson JE, Griffiths RA, St. John FAV, Roberts DL (2015) Dynamics of the global trade in live reptiles: Shifting trends in production and consequences for sustainability. Biological Conservation 184: 42-50. doi: 0.1016/j. biocon.2014.12.019 57.
- <sup>65</sup> Auliya M, Hofmann S, Segniagbeto GH, Assou D, Ronfot D, Astrin JJ, Forat S, Ketoh GKK, D'Cruze N (in prep) The first genetic assessment of wild and farmed Ball pythons (Reptilia: Serpentes: Pythonidae) in Togo. Nature Conservation.
- Robinson JE, Griffiths RA, St. John FAV, Roberts DL (2015) Dynamics of the global trade in live reptiles: Shifting trends in production and consequences for sustainability. Biological Conservation 184: 42-50. doi: 0.1016/j. biocon.2014.12.019 57.
- <sup>67</sup> World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report
- 68 IRIC
- Of Auliya M, Hofmann S, Segniagbeto GH, Assou D, Ronfot D, Astrin JJ, Forat S, Ketoh GKK, D'Cruze N (in prep) The first genetic assessment of wild and farmed Ball pythons (Reptilia: Serpentes: Pythonidae) in Togo. Nature Conservation.
- 70 World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.
- 71 IBID
- D'Cruze N, Kumar Sarma U, Mookerjee A, Singh B, Louis J, Prasanna Mahapatra R, Prasad Jaiswal V, Kumar Roy T, Kumari I, Menon V (2010) Dancing bears in India: A sloth bear status report. Ursus 22(2): 99-105. https://doi.org/10.2192/URSUS-D-10-00033.1.
- <sup>73</sup> Clements T, JohnA, NielsenK, AnD, TanS, Milner-GullandEJ (2010) Payments for biodiversity conservation in the context of weak institutions: Comparison of three programs from Cambodia. Ecological Economics 69(6): 1283-1291. https://doi.org/10.1016/j.ecolecon.2009.11.010.
- <sup>74</sup> World Animal Protection (2020) A Review of ball python trade from Togo, West Africa. Unpublished report.
- 75 IBII
- <sup>76</sup> World Animal Protection (2020) A review of cross border Ball python trade in West Africa. Unpublished report.
- 77 IBID
- <sup>78</sup> World Animal Protection (2020) A Review of ball python trade from Togo, West Africa. Unpublished report.
- <sup>79</sup> Green J, Coulthard E, Megson D, Norrey J, Norrey L, Rowntree JK, Bates J, Dharmpaul B, Auliya M, D'Cruze N (2020) Blind trading: A literature review of research addressing the welfare of ball pythons in the exotic pet trade. Animals 10: 193. <a href="https://doi.org/10.3390/ani10020193">https://doi.org/10.3390/ani10020193</a>.
- BO D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- <sup>81</sup> Rose M, Williams D (2014) Neurological dysfunction in a ball python (*Python regius*) colour morph and implications for welfare. Journal of exotic pet medicine 23: 234-239.
- <sup>82</sup> Bennett R.A, Mehler SJ, (2006) Neurology in Mader DR (ed): Reptile medicine and surgery (ed 1). Published by Saunders/Elsevier.
- B3 D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.

- Rose M, Williams D (2014) Neurological dysfunction in a ball python (Python regius) colour morph and implications for welfare. Journal of exotic pet medicine 23: 234-239.
- 85 D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- Rose M, Williams D (2014) Neurological dysfunction in a ball python (Python regius) colour morph and implications for welfare. Journal of exotic pet medicine 23: 234-239.
- 87 OWAL Reptiles (2020) Morph issues <a href="https://www.owalreptiles.com/issues.php">https://www.owalreptiles.com/issues.php</a>.
  Accessed 19 Feb. 2020.
- 88 Scherz M (2020) Duckbill mutation in snakes <a href="https://markscherz.tumblr.com/post/84960749508/what-is-the-duckbill-mutation">https://markscherz.tumblr.com/post/84960749508/what-is-the-duckbill-mutation</a>. Accessed 19 Feb 2020.
- 89 D'Cruze N, Paterson S, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G (in press) Dropping the Ball? The welfare of Ball pythons traded in the EU and North America. Animals.
- World Animal Protection (2020). An investigation of the ball python trade in North America. Unpublished report.
- <sup>91</sup> Barker D, Barker TM (2006) Ball pythons: Their history, natural history, care and breeding. Barker Published by VPI Library.
- O'Cruze N, Barber J, Délagnon P, Ronfot D, Segniagbeto GH, Auliya M, Megson D, Rowntree J (in prep) A preliminary assessment of bacteria in ranched Ball pythons, Togo, West Africa. Nature Conservation.
- 93 WHO. https://www.who.int/ith/diseases/sars/en/
- 94 WHO. https://www.who.int/health-topics/ebola/#tab=tab\_1
- 95 D'Cruze N, Barber J, Délagnon P, Ronfot D, Segniagbeto GH, Auliya M, Megson D, Rowntree J (in prep) A preliminary assessment of bacteria in ranched Ball pythons, Togo, West Africa. Nature Conservation.
- 96 IBID
- <sup>97</sup> World Animal Protection (2020). An investigation of the ball python trade in North America. Unpublished report.
- <sup>98</sup> Government of Canada (2019) Public health notice: Outbreak of Salmonella infections linked to snakes and rodents https://www.canada.ca/en/public health/services/publichealth-notices/2019/outbreak-salmonella-infectionssnakes-rodents.html. Accessed on 19 Feb. 2020.
- PCNN (2020) Snakes could be the source of the Wuhan coronavirus outbreak <a href="https://edition.cnn.com/2020/01/22/health/snakes-wuhan-coronavirus-outbreak-conversation-partner/index.html">https://edition.cnn.com/2020/01/22/health/snakes-wuhan-coronavirus-outbreak-conversation-partner/index.html</a>. Accessed on 19 Feb. 2020.
- 100 World Animal Protection US Exotic Survey
- <sup>101</sup> PFMA (2019) Pet food manufacturers association, pet population survey <u>https://www.pfma.org.uk/pet-population-2019</u>. Accessed 19 Feb. 2020.
- <sup>102</sup> World Animal Protection (2019). Risky Business: The unregulated exotic pet trade in Canada.
- 103 World Animal Protection (2019). Risky Business: The unregulated exotic pet trade in Canada.
- <sup>104</sup> United Nations (2018) Population <a href="https://www.un.org/en/sections/issues-depth/population/index-2.html">https://www.un.org/en/sections/issues-depth/population/index-2.html</a>. Accessed on 19 Feb. 2020.





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