THE DARKNESS BEHIND THE SPOTLIGHTS

Trauma in former circus animals

AAP

AAP (Animal Advocacy and Protection) is dedicated to a better future for exotic animals in Europe, such as primates, lions and serval cats amongst many other species. Currently, millions of exotic mammals are illegally trafficked, kept as pets or used in circuses and other forms of entertainment. This causes an unimaginable amount of animal suffering. Our goal is to end this misery, by saving animals in need and by ensuring that the suffering of millions of others is prevented. In our specialised shelters in the Netherlands and Spain, we rescue and rehabilitate animals in need. Once they have recovered, we find these animals suitable accommodation. But rescuing alone is not enough. Based on 50 years of rescue expertise, we campaign for better animal welfare legislation for exotic animals across Europe. Only by tackling the causes, future animal suffering can be sustainably prevented. AAP, saving animals today, preventing their suffering of tomorrow!

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** Not working for AAP anymore.*

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Introduction

In January 2018, AAP encountered a scene that the circus industry doesn't want people to see. Inside a small and decrepit circus trailer crouched Govani; a severely malnourished lion. Govani had chewed off the end of his own tail and the bloodied stump kept slamming against the rusty panels. The wound on his hind leg looked painfully infected. His nails had been pulled from his paws, his teeth were beaten out, and he was so starved and dehydrated that he barely had any muscle left. He couldn't get a grip on the trailer floor, which was slippery with blood, excreta and filth, and he kept falling down, struggling to pick his bony body back up. The only thing more unbearable than the stench was the defeated look in his eyes.

Govani was just one of several maltreated animals that were owned by a circus stationed in Murcia, Spain. The animals had been deprived of veterinary attention since 2011 and even the most basic paperwork was lacking. Once their formal owner passed away, the animals became further neglected and starved. AAP rescued Govani, together with another lion (Silas) and a tiger (Keni), who were owned by the same circus. All three animals were diagnosed with multiple physiological and psychological trauma upon arrival at AAP's rescue centre.

These rescue scenes are sadly not exceptional.

These rescue scenes are sadly not exceptional. In the past six years alone, AAP has rescued dozens of wild animals from European circuses that were in similarly horrible shape. To add grass-root data to the existing body of evidence of animal suffering in circus environments, AAP has conducted an in-depth analysis of the veterinary and behavioural issues encountered in former circus animals that were rescued from various EU Member States. The following section provides an overview of the existing scientific literature on the negative impacts of circus environments on the health and welfare of wild animals. Section 2 presents the findings of AAP's veterinary and behavioural analysis of former circus animals. Section 3 discusses the current legislative state of affairs within the EU, followed by our conclusions and recommendations.

Lion Govani *(Panthera leo)*

The science on animal suffering in circus environments

Numerous scientific studies have exposed the adverse effects of circus environments on the health and welfare of wild animals. This negative impact is caused by a multitude of factors that are inherent to circuses. Each of these factors alone impairs the health and welfare of wild animals, but cumulatively, they have a particularly devastating effect.

Frequent transportation

One such detrimental factor is the near-constant transportation of circus animals.[1] The life of a circus animal is defined by travel, which can happen weekly if not daily, often spanning several hours and long distances. Transportation trailers are usually cramped and barren, as circuses compromise cage size and enrichment for maximum portability. Travel often continues unabated when the animals are old, in poor health condition or pregnant. During transport, the animals need to continually adjust their posture to maintain balance in the movements of driving, causing both physical and mental stress.[2] Scientific studies have associated the transport of wild animals with numerous physiological and psychological issues, including an increased heart rate, a rise in body temperature, a lowered immunity, occurrence of injuries, changes in hormone levels that are known to affect pregnancies, weight loss and increased aggression and stereotypic behaviours such as pacing.[3] Transportation is also known to cause a disruption of eating, drinking, resting, REM (rapid eye movement) sleep and circadian activity patterns, the effects of which are likely to be exacerbated by the irregular schedules of traveling circuses and insufficient recovery periods between travels.[4] These negative impacts persist over time, indicating that wild animals do not grow accustomed or adapted to regular transport. Wild animals also need more time to acclimatize to new environments than is allowed for by circus schedules, and having no control over the change in location is known to cause these animals distress.[5] Despite being transported so frequently, circus animals do not receive the same level of protection during transport as some other animals do.[6] Many EU countries for example have heat-protocols in place for the transport of farm animals during high temperatures, while such protocols do not exist for circus animals.

Scene after a highway crash of a circus vehicle loaded with five circus elephants in Spain in 2018. One elephant did not survive the crash and two were seriously injured (Photo: El País newspaper)

Confined and unsuitable housing

The confinement of circus animals does not end when travel is over. It is estimated that circus animals can spend over 90% of their lives confined to chains or cages.[7] These severe space limitations make it impossible for circus animals to express their natural behaviours, such as browsing, grazing, climbing or running. Wild animals need complex, dynamic, stimulating and enriched environments, which allow them to make natural behavioural choices. The provision of environmental enrichment is extremely limited or completely non-existent in circuses, as their focus is on creating a practical environment conducive to portability and easy handling of the animals.[8] Furthermore, circuses are unable to provide and maintain the appropriate climatic conditions to accommodate the species-specific lighting, temperature and humidity needs of wild animals. Oftentimes, trailers lack appropriate substrate for thermoregulation and camouflage, enclosures are not climate-controlled, and the animals do not have continuous access to bathing and drinking water or shade.[9] All of these spatial limitations can lead to abnormal behaviours such as stereotypies and increased aggression towards other animals, insufficient physical activity, increased susceptibility to disease, increased levels of stress and an overall greater mortality risk.[10]

The provision of environmental enrichment is extremely limited or completely non-existent in circuses

Lions *(Panthera leo)* displayed to visitors

Inappropriate social environment and human-animal interactions

The social groupings to which circus animals are exposed have a serious impact on their health and welfare. Many animals that naturally live in social groups, such as elephants, are kept in isolation in circus environments, whereas naturally solitary animals, such as tigers, are frequently kept in groups. Sometimes different and incompatible animal species are housed together, or predators and prey are kept in such close proximity that they can hear, smell or see each other. Animals subjected to such unsuitable social environments tend to display a range of behavioural and physiological abnormalities, such as a decreased interest in surroundings, anxiety or hyper-alertness, stereotypic behaviours, an increased heart rate, increased vocalizations, increased aggression, nervous system changes, suppression of feeding, unnatural grooming and breeding behaviours, and early mortality.[11] Wild animals also require adequate resting periods, away from any form of human interaction, which is extremely difficult if not impossible to achieve in circus environments. Visitor-induced stress is very common in circus animals, as they have no control over their interactions with spectators and staff.[12] Visitors tend to ignore or misinterpret the animals' communicative cues and the animals are frequently handled and disturbed during their physiological resting times. Circus animals are also exposed to a wide spectrum of both ultrasonic and infrasonic sounds, including those that humans cannot even hear. Exposure to such sudden and unexpected sounds, is a well-known stressor for these animals, especially when the exposure is of a chronic nature.[13]

Zoonotic infections and health factors

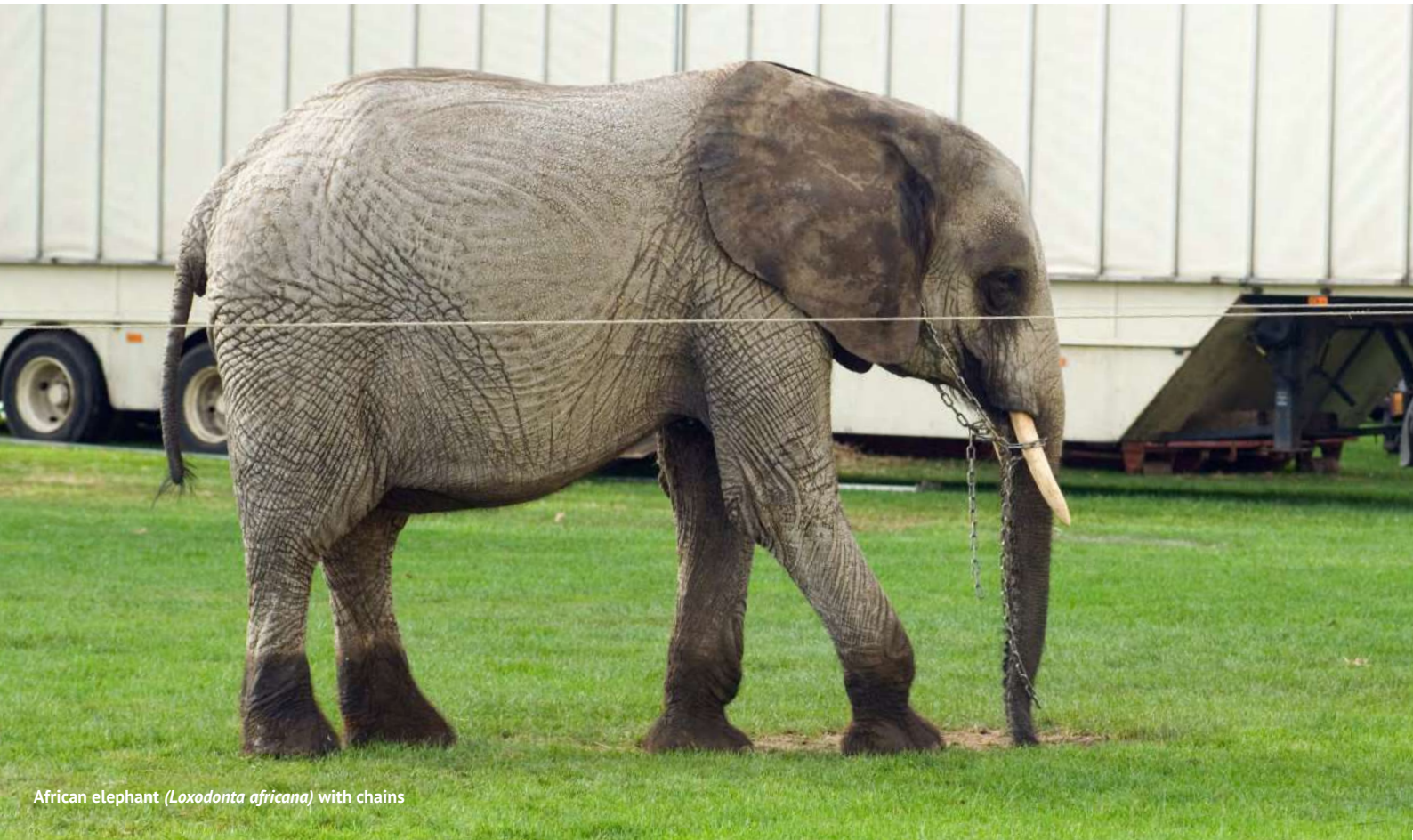
Wild animals are known to be a major vector for both known and unknown zoonotic pathogens. Scientists estimate that 75% of emerging infectious diseases are zoonotic in nature, with the majority of them originating in wildlife.[14] Nonetheless, circuses bring a variety of wild animals into close proximity or even direct contact with humans and other animals, while regularly moving these animals across regions and countries. This constitutes a zoonotic spillover risk, especially since circus animals do not receive regular screening of zoonotic pathogens.[15] Public records have for example shown that elephants infected with tuberculosis have been used in circus performances in the US[16] and that a circus trainer in Germany contracted a cowpox virus infection from a circus elephant.[17] As a result of contact with soil at different venues, and close proximity to other species, wild circus animals themselves can also be exposed to various parasites and pathogens they wouldn't normally have interacted with.[18] Due to the lack of diagnostic pathogen screening and quarantining of these animals, potential zoonotic infections in circus animals can remain largely undetected, especially since wild animals often do not display any signs of illness when infected. On top of that they require specialized diagnostic testing to ascertain infection, which is not readily accessible across the EU. Reports of circus animals being seen in a terrible state of health are commonplace, and sometimes animals disappear without a trace and are suspected to have died. Such reports raise strong indications that circus animals do not receive regular veterinary screening, or extremely surface-level screening at best, and that circus operations fail to adhere to their most basic animal health and biosecurity responsibilities. An additional health concern are the differences in opinion among circus owners, handlers, trainers and wildlife experts about the level of knowledge of the specific physiological needs of wild animals. In addition there are practical challenges that circuses face in providing species-specific food sources, and to store these sources appropriately.[19] This can lead to nutritional imbalances and related health problems.[20]

Lion cub Bruno *(Panthera leo)* carried multiple zoonotic pathogens

Coercion and invasive techniques

The welfare of circus animals is also negatively impacted by coercive training methods. Circus animals are required to frequently perform complex and unnatural tricks on cue. A certain breaking of the spirit is often part of a training method, required to get a wild animal to behave in an unnatural manner for the species. Since the circus custom is not equipped to provide only positive reinforcement training, these trainings rely heavily on punishment techniques, especially for complex tricks.[21] Bullhooks, whips, tight collars, muzzles, electrical prods and water- and food-deprivation are commonly used as 'training instruments' despite the suffering they cause.[22] These trainings can never be considered enriching for the animals, as they are involuntary, consist of negative stimulation and offer no continuous, new learning opportunities.[23] In the EU, circus trainers are also not subject to any form of animal handling certification. This means there is no quality assurance on their treatment and training of animals, nor any obligation to keep their animal health and welfare knowledge up-to-date. Circus animals also frequently undergo additional invasive measures that mutilate the animals to make them less likely to inflict injury or discomfort onto their trainers, handlers or group members. These invasive techniques often consist of (partly) removing the teeth and claws or – in the case of skunks – anal glands, all of which are considered highly painful for the animal. While many countries only allow invasive interference with sensitive tissue and bone structures for the purpose of strictly necessary medical procedures, circus animals are still frequently found subjected to these mutilations.

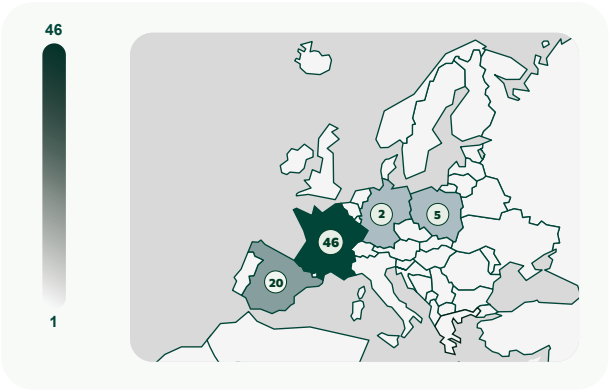
In the EU, circus trainers are also not subject to any form of animal handling certification.



African elephant *(Loxodonta africana)* with chains

Veterinary and behavioural trauma in former wild circus animals rescued by AAP

In an effort to add more comprehensive and grass-root evidence of the negative health and welfare impacts described in scientific literature, AAP has conducted an analysis of the veterinary and behavioural problems encountered in rescued circus animals. The analysis covers 73 former circus animals that were rescued by AAP between 2015 and 2021 from circuses in EU Member States.[24] Forty-six (46) of these animals came from France, 20 from Spain, 5 from Poland and 2 from Germany *(See map 1)*. The analyzed group was comprised of 39 big cats[25], 32 primates[26] and 2 large mammals.[27] The analysis was done on the basis of AAP's extensive veterinary and behavioural assessments of the animals during intake and quarantine.



Map 1: ***Countries of origin of rescued circus animals***

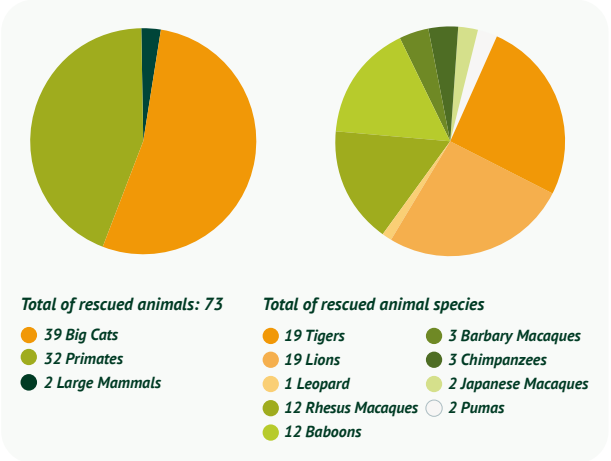


Figure 1: ***Rescued animal species with a circus background***

The analysis revealed a very high number and wide variety of physiological and psychological trauma, which are described in table 1. Overall, 65 out of 73 circus animals (89%) suffered from veterinary and/or behavioural problems upon arrival at AAP. Fifty-eight (58) of these animals (79.5%) suffered from multiple trauma. Veterinary or behavioural problems were present in all the animal species that were represented in the group of 73 rescued circus animals (*See figure 2*), meaning there were no animal species that remained free from incurring trauma. Twenty (20) animals (27.4%) suffered from marked to severe veterinary and behavioural issues. Fifteen (38.5%) of the big cats and all of the large mammals (2) suffered from such marked to severe trauma and most of them required multiple veterinary treatments. Three (3; 4.1%) of the rescued animals (2 big cats and 1 primate) had to be euthanized shortly after arrival at AAP, due to their irreversible suffering from severe trauma *(See figure 2)*.

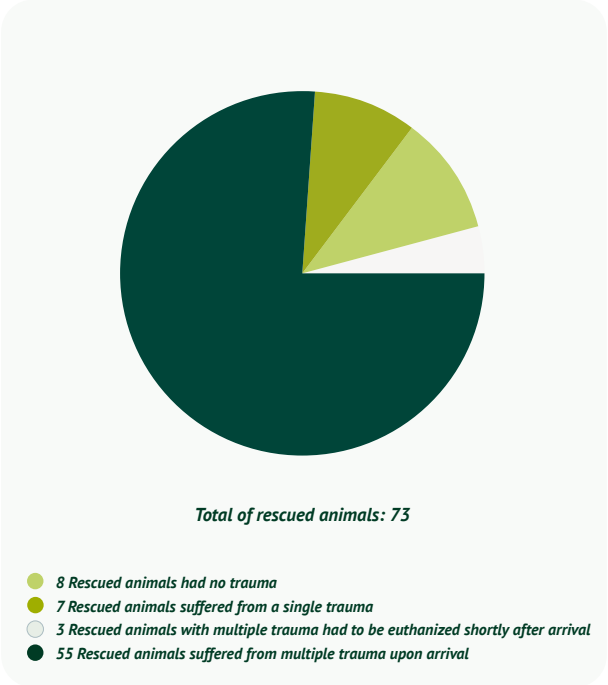
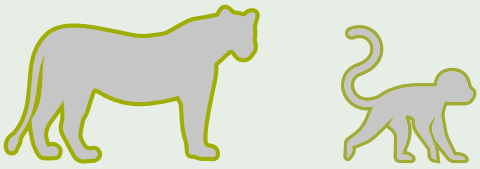


Figure 2: ***Analysis of physiological and psychological trauma in 73 rescued circus animals***

Analysis of physiological and psychological trauma in 73 rescued circus animals

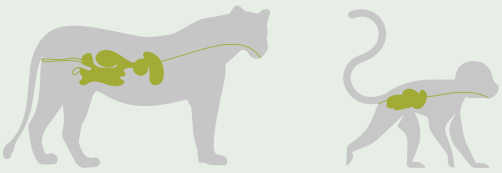


34 animals (46.6%) incurred a trauma to the **integumentary system** (which comprises skin, fur, paws and nails), such as abscesses, ulcers, fistula or declawing. Sixteen (16) big cats (41% of all big cats) had suffered from claw extraction.

Left: x-ray chronic bone infection after amputated claw of leopard Mohani (Panthera pardus)
Right: self-mutilated tail of lion Silas (Panthera leo)

41 animals (56.2%) languished from an abnormal body condition, of which 28 animals were (severely) underweight and 13 (severely) overweight[28]. Seventeen (17) (51%) of the primates rescued from circuses suffered from such abnormal body conditions. An abnormal body condition increases the likelihood of the development of other health problems - such as cardiac problems, arthritis, diabetes, musculoskeletal conditions and allergies to name a few - which can remain present even after the body weight has normalised.[29]

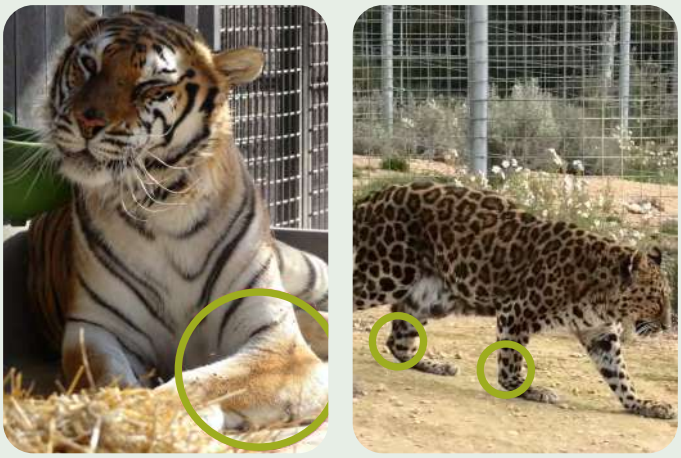
Left: tiger Suzu (Panthera tigris) with severe lack of muscles
Right: lion Zoula (Panthera leo) with severe overweight



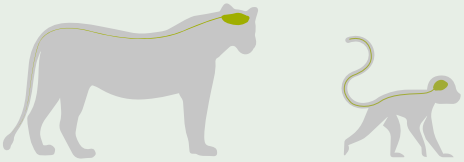
36 animals (49.3%) were found to have **abnormalities to their digestive system** (which comprises the mouth, oesophagus, stomach, small intestine, large intestine, rectum and anus). 29 animals (39,7%) had teeth that were in very poor shape and 19 big cats had fractured or flattened canines. 10 animals suffered from gastrointestinal trauma such as oesophagus stenosis, difficulties swallowing food and/or (severe) diarrhoea.

Left: broken teeth and inflammation of tiger Chetan (Panthera tigris)
Right: neglected dentition of Japanese macaque Yukio (Macaca fuscata)

21 animals (28.8%) suffered from **skeletal trauma**, including skeletal deformation, skeletal disease related to malnutrition, chronic limping, arthritis, arthrosis, lack of mobility and lameness. Skeletal trauma were found in 14 of the big cats (35.9% of all big cats), of which 4 suffered from bone fractures.



Left: arthrosis, swollen and inflamed elbow in leg of tiger Kyra (Panthera tigris)
Right: abcess in paw and claws extracted from leopard Mohani (Panthera pardus)



10 animals (13.7%) had **neuromuscular trauma**, which varied from generalised muscular weakness to muscular atrophy. The neuromuscular system (comprising motor neurons, sensory neurons and skeletal muscle fibers) is essential for the movements of the body, the control of posture, and breathing.

Left: lack of muscles in tiger Carlito (Panthera tigris)
Right: muscular weakness in lion Govani (Panthera leo)

10 animals (13.7%) suffered from trauma to the **urogenital system** (which comprises the kidneys, ureters, bladder, urethra and genitals). Examples of encountered abnormalities are polycystic kidney disease, kidney failure, urinary incontinence and paraphimosis (tight foreskin).

Exaggerated genital swelling with wounds of olive baboon Lalita (Papio anubis)

29 animals (39.7%) suffered from **parasitic, bacterial and/or viral infections**. 7 animals tested positive for a viral or bacterial pathogen, 15 animals for a parasitic pathogen, and 7 animals both for viral and parasitic pathogens. All the larger mammals (2) and 44.8% of the primates carried parasitic pathogens. 8 big cats (20.5%) tested positive for either feline calicivirus (FCV) or feline immunodeficiency virus (FIV).

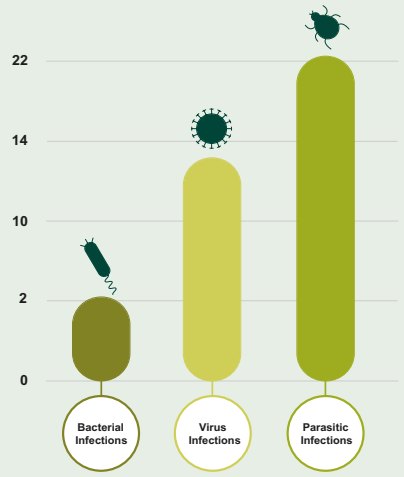
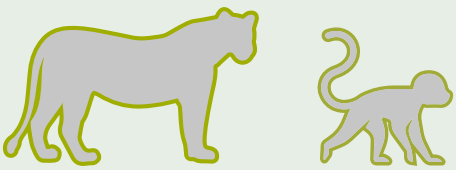
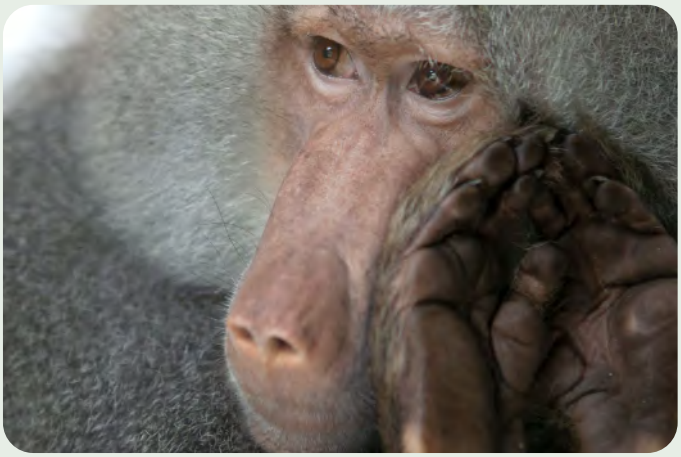


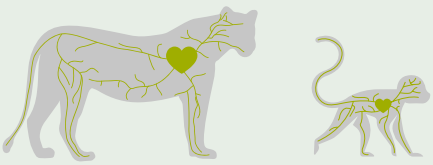
Figure 3: *Number of former circus animals with at least one detected bacterial, viral and/or parasitic infection*



19 animals (26,0%) showed abnormal **deviant behaviour** impairing their welfare of which 15 displayed severely abnormal behaviours. This included, amongst others, stereotypic behaviours (such as pacing and rocking) and self-directed or self-injurious behaviours (such as compulsive licking, hair-plucking or self-biting).

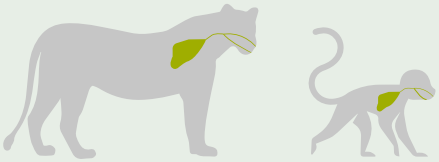


Baboon Chiko (Papio hamadryas) suffered from abnormal behavior, like rocking and pacing, upon arrival

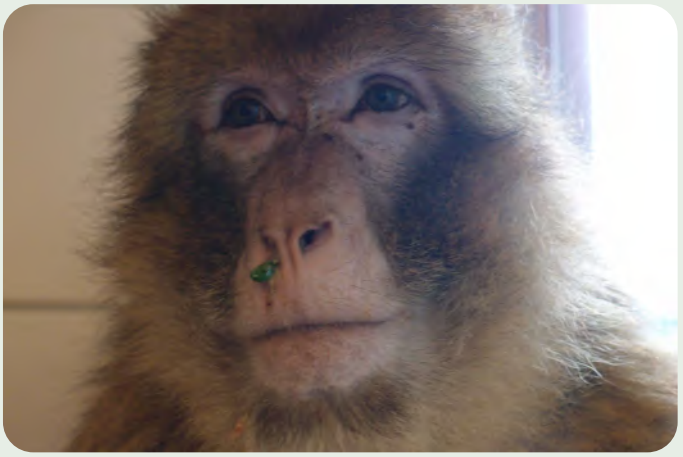


3 animals suffered from **cardiovascular** problems. This included valvular insufficiency, high and low blood pressure, cardiac failure and bradycardia.

Puma Anori (Puma concolor) suffered from a cardiac failure



3 animals had trauma to their **respiratory system**. This included abnormal lung functioning, purulent rhinitis and larynx luxation.



Barbary macaque Oulad (Macaca sylvanus) with chronic purulent rhinitis

2 animals have been diagnosed with (multiple) **malignant neoplasia,** upon arrival.

Tiger Brine (Panthera tigris) with malignant tumor

Tigers (Panthera tigris) in a circus

In-depth stories

Barbary macaque Oulad

Right across from a nursery school in the Somme region of France lies a 7.000 m2 terrain filled with small trailers and boxes. This is the 'winter-base', where all sorts of animals used in circuses and other types of entertainment are kept during the off-season. Here, Oulad, a Barbary macaque used in circus performances, was kept all by himself, before the authorities confiscated him from his owner in 2017 due to terrible husbandry conditions, lack of proper paperwork and public safety risks. When AAP subsequently took in Oulad, he was underweight and suffering from numerous trauma. Since Oulad was suffering so severely without any perspective of recovery, he had to be euthanised shortly after arrival. After post-mortem examination the following abnormalities were found; scarring on his liver (liver cirrhosis), an enlarged spleen (splenomegaly), degeneration in his spine (spondylosis vertebrae), a weakened bone density (osteomalacia), degenerated pelvic bone tissue (osteolysis pelvis), respiratory issues (purulent rhinitis), muscle atrophy, adrenal cysts and an *Escherida coli* infection.

Lion cub Mojito

Just several days after his birth, lion cub Mojito was taken away from his mother and sold to a Spanish circus owner. He was sold by a French veterinary clinic that also engaged in the breeding and selling of lion cubs. Mojito's new owner fed him only bread and yoghurt, so he would remain small and could be used as a circus photo prop for as long as possible. This abusive diet had severely detrimental effects on Mojito's bone and muscular structures and overall development. He developed a condition called oesophageal stenosis, which is a narrowing of the esophagus that rendered it impossible for him to ingest food normally. The circus owner took Mojito to a veterinary clinic in Spain to be put down because of his difficulties swallowing. The veterinarian refused to do so, as Mojito could likely recover from his condition with an operation. Mojito was subsequently confiscated by the Spanish authorities and is now recovering in AAP's care.

Lion Govani

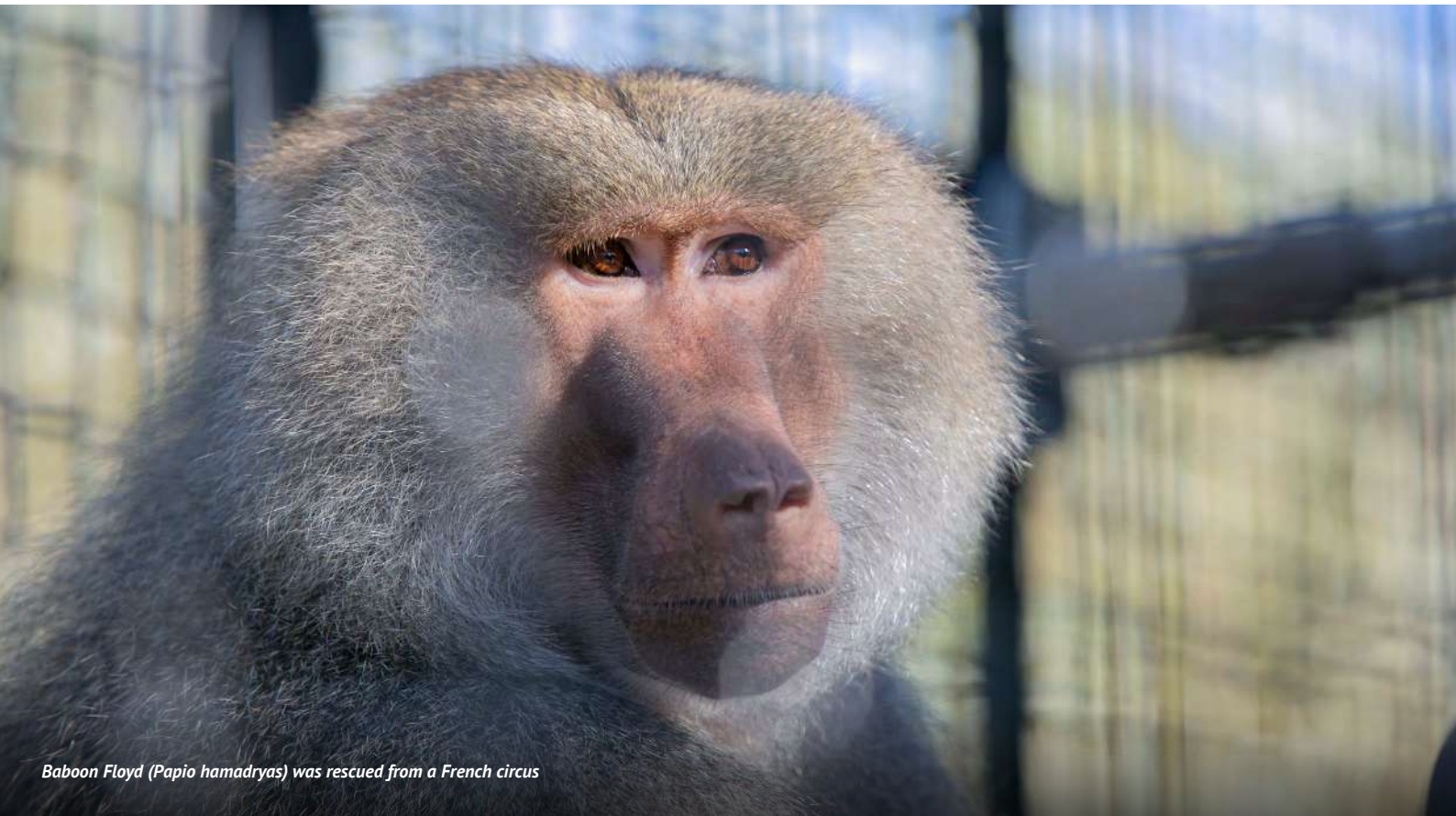
Upon arrival at AAP, lion Govani, who was mentioned in the introduction, was diagnosed with numerous veterinary and behavioural issues. Govani was severely underweight, with a bodyweight 30-40% below its optimal weight. He hardly had any muscles left, an ulcer was found on his left foot, and overall, his skin and fur were in poor condition. His claws had been extracted, his lower canines were flattened and his upper canines broken. Govani had also engaged in abnormal self-directed behaviours, by inflicting injuries to his tail. Wounds were found all over his body, with a major one on his left ankle. He furthermore suffers from arthrosis, which prevents him from walking stably. Govani is still recovering from his severe trauma in AAP's rescue centre.

The legislative context in Europe, 'How can this happen in the EU?'

As a result of the growing recognition that it is cruel, dangerous[30] and unnecessary to use wild animals in circuses, many EU Member states have taken legislative actions. Currently, 25 out of 27 EU Member States have adopted national restrictions on the use of wild circus animals. Three (3) EU Member States have outlawed the use of all animals, both wild and domesticated, in circuses.[31] Eleven (11) EU Member States have banned the use of all wild animals in circuses[32], while 8 EU Member States have outlawed some wild animal species in circuses.[33] In 3 EU Member States (France, Italy and Lithuania), national laws have recently been adopted, but these still need to be further specified in implementation decrees. Germany has not adopted any legislation on this topic yet. In Spain, 12 out of 17 autonomous regions have enacted regional bans and about 500 municipalities have declared themselves free from circuses with wild animals, but there is no national ban in place yet.

While these regulations are important steps in the right direction, loopholes remain. Since these national laws are not harmonized across Europe, and not every EU country has adopted national bans, hundreds of circuses continue to travel with thousands of wild animals across Europe, to the few places where they are still allowed to perform[34]. Circuses that use wild animals travel across territories that have already outlawed their use, thereby continuing the public safety concerns and animal suffering that those countries had intended to resolve. This situation also leads to increased travel time, as locations permitting the use of wild animals in circuses are few and far between, which prolongs the transportation-related suffering of circus animals.

At EU level, hardly any restrictions exist when it comes to the use of wild animals in circuses. EU Regulation 338/97 on the protection of species of wild fauna and flora by regulating trade therein, prohibits or restricts the use of critically endangered species that have been harvested from the wild. This still allows for a completely unhindered use of captive-bred wild animals in EU circuses. Furthermore, EU Regulation 2016/429 on transmissible animal diseases (EU Animal Health Law) and Commission Regulation 1739/2005 on the animal health requirements for the movement of circus animals between

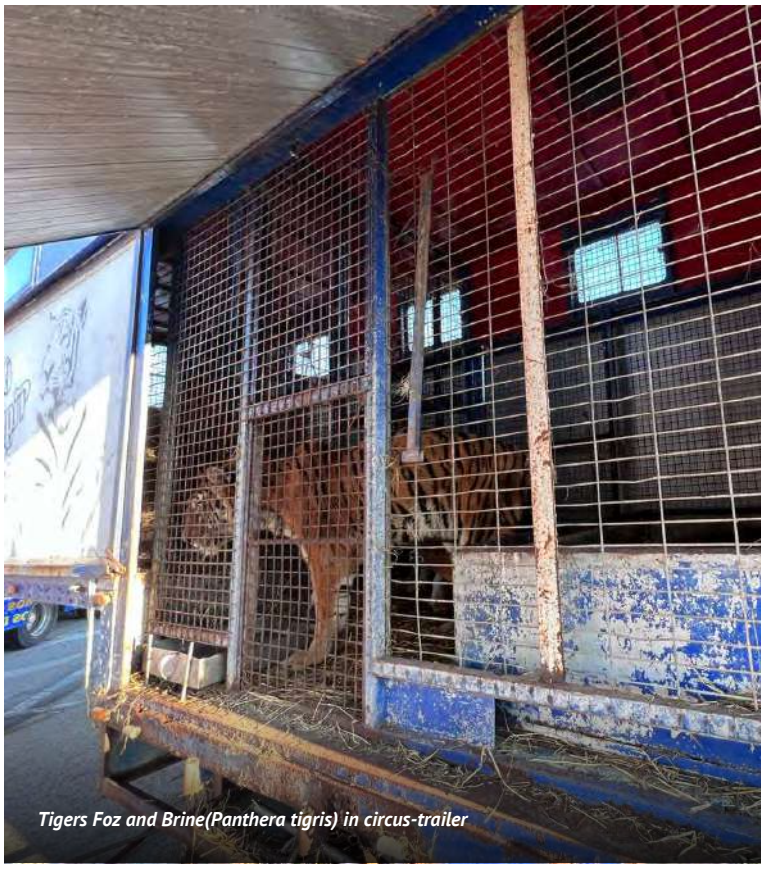


Baboon Floyd (Papio hamadryas) was rescued from a French circus

Member States, place limited (procedural) requirements on the movement of circus animals across EU borders. Veterinary checks usually comprise of checking whether the animal displays symptoms of disease, but wild animals can be asymptomatic carriers for many zoonotic diseases and are notoriously known for not showing symptoms of illness even when they are infected. The specialized diagnostic and quarantining capacity required to accurately screen wild animals for potentially dangerous pathogens is not readily available in EU Member States. Furthermore, many potentially dangerous pathogens that can be carried by wild animals are not included in the listed diseases of the EU Animal Health Law. The extremely poor health status that many circus animals are found in, presents a highly compelling signal that the required veterinary inspections are either carried out extremely superficially or are not carried out at all. Furthermore, no such veterinary inspection requirements exist for circus animals that are constantly being transported across borders and regions, but still remain within the territory of one EU Member State. The poor health state of circus animals also raises serious concerns over the lack of adherence of circus operators to their basic animal health and biosecurity responsibilities. All in all, the animal welfare protection offered by these regulations is virtually non-existent, while the animal health protection is extremely patchy at best.

Meanwhile, the consensus among European experts and citizens, that wild animals suffer unacceptably in circuses and that their use should be outlawed within the entire EU, is ever-increasing.

The Federation of Veterinarians Europe (FVE) has for example indicated that the physiological, mental and social needs of wild mammals can never be adequately met within a traveling circus and that this practice has no educational, conservational, research or economic benefit that might justify their use.[35] They recommend that all European and national competent authorities prohibit the use of wild mammals in travelling circuses across Europe.[36] The European Association of Zoos and Aquaria (EAZA) has also taken a clear stance on this issue. No entities performing circus-type shows are permitted to become a member of this association and any members that do engage in circus-type shows on their premises are liable to sanctions, including expulsion.[37] Furthermore, renowned ethological, zoological and veterinary experts have published statements that the ethological needs and welfare of wild animals are compromised in circus environments.[38] Psychologists have underscored that the use of animals in circuses has no pedagogical value and is actually harmful to the cognitive development of children.[39] EU citizens are also increasingly speaking out in favor of an EU ban on the use of wild animals in circuses, as evidenced by petitions on this topic that have garnered over a million signatures within Europe.[40] In 2021, public opinion polls also showed that 62% of EU citizens thought the EU should ban the use of all wild animals in circuses, and 83% agreed the EU should guarantee that cruel uses of animals are not allowed.[41] This lack of public acceptance of the use of wild animals in circuses has led some EU circuses to move away from this practice for ethical and/or financial reasons, and to successfully reinvent themselves.[42]



Tigers Foz and Brine(Panthera tigris) in circus-trailer

Chimpanzee Yimmy (Pan troglodytes) was rescued from a French circus

Lion (Panthera leo) performing in circus ring

Conclusions and recommendations

The detrimental impacts of circus environments on the health and welfare of wild animals have been widely documented in scientific publications. A multitude of characteristics that are inherent to circuses lead to serious animal health and welfare impairments. These characteristics include: (i) the frequency and nature of circus animal transportation, (ii) the near-constant confinement of circus animals to chains, cages or trailers; (iii) the lack of species-appropriate, thermo-regulated and enriched environments; (iv) inappropriate social groupings; (v) exposure to human interactions and noise; (vi) lack of specialised veterinary care and pathogen screening; (vii) lack of knowledge of or respect for the physiological and nutritional needs of the animals; (viii) coercion to perform and negative training methods; and (ix) mutilating procedures to remove claws, teeth or glands. Each of these factors inhibit wild circus animals' ability to make natural behavioural choices and have been shown to lead to stress, abnormal behaviours, physiological disorders and injuries. Cumulatively, they have a particularly devastating effect. This is corroborated by the findings of AAP's analysis of veterinary and behavioural problems found in former circus animals rescued between 2015 and 2021 from EU Member States. The analysis revealed that 65 out of 73 circus animals (89%) suffered from veterinary and/or behavioural problems upon arrival at AAP. Fifty-eight (58) of these animals (79.5%) suffered from multiple trauma. Three (3) animals had to be euthanized because of inhumane and irreversible suffering. All of the animal species rescued incurred trauma. Only 8 (11%) individual animals remained free from incurring trauma. 38.1% of the big cats and all of the larger mammals suffered from marked to severe trauma and required multiple veterinary treatments.

While many EU Member States have taken legislative actions to restrict the use of wild animals in circuses on their territories, this is by no means watertight. These national laws cover different species in different countries, and not every EU Member State has adopted such bans. As a result, too many European circuses that still perform with too many wild animals,

continue to travel across the continent to the few places where they are allowed to perform. They traverse territories that have already outlawed the use of wild animals in circuses, thereby continuing the public safety concerns and animal suffering that those countries had intended to resolve. In recent years, more and more European veterinary, ethological, psychological an zoological experts, as well as EU citizens, have expressed the view that wild animals suffer unacceptably in circuses and that their use should be outlawed within the entire EU. We urge the European Union to heed this call by enacting an EU-wide ban on the use of wild animals in circuses. We call on all EU Member States to adopt bans or adapt their implemented bans to cover the use of all (wild) animals in circuses in the meantime. It's time to end these outdated shows and to stop the immense darkness behind the spotlights.

Chimpanzee Congo (Pan troglodytes) was rescued from a French circus

Appendices

Type of Trauma	Number of animals (# =73)	Percentage (in %) of total
Integumentary system	34	46,6
Abnormal body condition	41	56,2
Digestive system	36	49,3
Skeletal system	21	28,8
Neuromuscular system	10	13,7
Urogenital system	10	13,7
Parasitic, bacterial and/or viral infections	29	39,7
Abnormal behaviour	19	26,0
Cardiovascular system	3	4,1
Respiratory system	3	4,1
Cancerous tumors	2	2,7
Multiple trauma and abnormalities	58	79,5
Euthanised upon arrival	3	4,1
No trauma / abnormality	8	11

Table 1: Overview of physiological and psychological abnormalities in 73 rescued circus animals by AAP between 2015 - 2021

Trauma	Expressions of trauma	Caused by	Location of trauma in body animal / Most affected organs
Integumentary system trauma	Poor skin condition, fur-damage, wounds, baldness, torn ears, cut paws, claws extracted	Claws extracted, self-mutilation, excessive licking	Whole body
Abnormal body condition	Emaciation, heavy underweight, obesity, heavy overweight	Wrong diet, nutritional deficiency, inactivity, lack of movement	Whole body
Digestive system trauma	Dental issues, canines missing, incisors removed, gingivitis, tartar, cheek fistula, dislocated teeth, fractures, infected roots	Invasive human measures, lack of dental care	Mouth
Skeletal system trauma	Dislocations of bones, arthritis, arthrosis, vertebral spondylosis, malformation radius ulna (osteomalacia), osteolysis, hindlimb lameness, unstable walking	Many causes among which: tiny enclosures, transport injuries	Skeletal system
Neuromuscular system trauma	Poor muscle development, muscle weakness, muscular atrophy	Many causes among which: tiny enclosures, coercive training methods	Brain, spinal cord, nerves, muscles
Urogenital system trauma	Perineal swelling wounds	Many causes among which: infection due to low immunity, untreated injury and wounds	Perineum
Parasitic / bacterial / viral infection	Parasites, bacteria, and viruses in and on body	Many causes among which: poor hygiene, poor health status	Whole body
Cardiovascular system trauma	Valvular insufficiency, high/ low blood pressure, systolic cardiac murmur, bradycardia	Poor condition, poor diet, infection due to low immunity	Heart and blood vessels
Respiratory system trauma	Abnormal lung functioning, purulent rhinitis, larynx luxation	Many possible causes	Nose, trachea, lungs
Neoplasia	Malignant growths	Many causes among which: exposure to viruses, stress, trauma, irradiation, and low genetic diversity	Various organs, Whole body
Other trauma	Abnormal behaviour, stereotypic (e.g. pacing, rocking), self-directed or self-injurious behaviours (e.g. compulsive licking, hair-plucking or self-biting) and other abnormal behaviours	Many possible causes	Whole body

Table 2: ***Description of trauma and diseases found in rescued circus animals by AAP (2015-2021)***

Endnotes

[1] *See for example Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483. This technical report, commissioned by the Welsh government, reviewed 1,274 peer-reviewed scientific studies, conference proceedings and independent reports, as well as 177 non-peer-reviewed texts, on this topic.*

[2] *The movements of driving (acceleration, braking, gear changes, uneven road surfaces, etc.) can have a major negative influence on the welfare of animals by increasing risks of injury and disturbing the ability of the animals to rest during the journey. Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483, p. 40.*

[3] *Research for example indicates that circus elephants and circus tigers spend more time performing stereotypies during transport compared with when they are not being transported.(Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at:*
10.13140/RG.2.1.2404.2483, p. 40. See also: Nevil, C. H. & Friend, T.H.. 'The behavior of circus tigers during transport' (2003) Applied Animal Behavior Science. 82: 329-337.) Captive cheetahs have also been shown to suffer diseases that do not occur in their wild counterparts and these diseases worsen after transport. One study showed that when cheetahs were being transported, many of them suffered an increase in corticoid concentration and exhibited a prolonged stress response. Corticoid responses also increased when the animals were put on public display, and they decreased away from public view, thus indicating a negative welfare response to such exposure (Wells, A., Terio, K.A., Ziccardi, M.H. & Munson, L., 'The stress response to environmental change in captive cheetahs (acinonyx jubantus)' (2004) Journal of Zoo and Wildlife Medicine, 35(1)). See also ADI, Stop Circus Suffering USA (2008), Section 4: The Scientific Evidence,
available at: https://www.stopcircussuffering.com/get-involved/stop-circus-suffering-usa-4-scientific-evidence/

[4] *Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483, p. 40.*

[5] *Ibid, p. 41.*

[6] *Letter European Commission Health and Consumers Directorate-General; title : Application of Regulation (EC) 2005/1 to circus animals, dd 18 January 2010, SANCO A2/GG/fda D(2009)121092*

[7] *Worldwide studies of circus practices show horses and ponies spend up to 96 percent of their time tied with short ropes in stalls, or tethered to trailers. Tigers and lions spend between 75 and 99 percent of their time in severely cramped cages on the backs of trailers. Elephants spend 58 to 98 percent of their time chained by at least one leg, and generally both a front and hind leg. (ADI, Stop Circus Suffering USA (2008), Section 4: The Scientific Evidence, available at: https://www.stopcircussuffering.com/get-involved/stop-circus-suffering-usa-4-scientific-evidence/)*

[8] *Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483, p. 44.*

[9] *Ibid, pp. 40 and 44.*

[10] *Animals in circuses often exhibit higher rates of stereotypy than conspecifics in other captive environments. They can also suffer from capture myopathy - a syndrome that occurs in captured wild mammals and birds – which is associated with the stress of capture, restraint and transportation, and which can cause clinical depression, muscular stiffness, lack of coordination, paralysis, metabolic acidosis and death. ADI, Stop Circus Suffering USA (2008), Section 4: The Scientific Evidence, available at: https://www.stopcircussuffering.com/get-involved/stop-circus-suffering-usa-4-scientific-evidence/*

[11] *Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483, pp. 38-39. See also ADI, Stop Circus Suffering USA (2008), Section 4:*
The Scientific Evidence, available at: https://www.stopcircussuffering.com/get-involved/stop-circus-suffering-usa-4-scientific-evidence/

[12] *All groups of experts interviewed by Dorning et al. agreed that adequate resting opportunities away from humans were extremely important for good animal welfare. Visitor-induced stress in circus animals was reported in 63% of the studies reviewed. Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483, pp. 38 and 44.*

[13] *Ibid, p. 38. Many animals are capable of detecting sound outside of the range detectable by humans, and wild animals in travelling circuses and mobile zoos will be exposed to a wide spectrum of both ultrasonic and infrasonic sounds. Cars, heavy goods vehicles and buses produce high levels of infrasound, up to and over 100 dB, and road surface conditions can add to the levels of infrasound.*

[14] *See for example: UNEP (2020) 'Preventing the next pandemic - Zoonotic diseases and how to break the chain of transmission', available at: https://www.unep.org/resources/report/preventing-future-zoonotic-disease-outbreaks-protecting-environment-animals-and; Jones, K., Patel, N., Levy, M. et al., 'Global trends in emerging infectious diseases', Nature (2008) 451, 990–993 (2008). https://doi.org/10.1038/nature06536 ; Louise H. Taylor, Sophia M. Latham, Mark E.J. Woolhouse, 'Risk factors for human disease emergence', The Royal Society (2001) 356(1411):983-9. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1088493/pdf/TB010983.pdf*

[15] *Circus animals are covered by EU Regulation 2016/429 on transmissible animal diseases (EU Animal Health Law) and Commission Regulation 1739/2005 on the animal health requirements for the movement of circus animals between Member States. These regulations are far from a watertight system to prevent zoonotic infection and spillover risks from wild animals kept in captivity. Many potentially dangerous pathogens that can be carried by wild animals are not included in the listed diseases of the Animal Health Law. Veterinary inspection requirements also only apply to the cross-border movements of animals. These inspections tend to assess if an animal displays symptoms of disease, while wild animals are*

notorious for not showing symptoms of illness even when they are infected. The diagnostic capacity required to accurately screen wild animals for dangerous pathogens is not readily available in most EU Member states. EU circus animals are frequently found to be in a poor health state, which raises serious concerns over the lack of adherence of circus operators to their basic animal health and biosecurity responsibilities.

[16] *Twelve circus elephant handlers at an exotic animal farm in Illinois were infected with M. tuberculosis, and 1 had signs consistent with active disease after 3 elephants died of tuberculosis. Medical history and testing of the handlers indicated that the elephants had been a probable source of exposure for most of the infected persons (B. Chomel, A. Belotti, F.X. Meslin, 'Wildlife, Exotic Pets and Emerging Zoonoses', Emerg Infect Dis. (2007) 13(1): 6–11. Available at: 10.3201/eid1301.060480 ; Souza, M.J., 'Bacterial and Parasitic Zoonoses of Exotic Pets', Veterinary Clinics of North America: Exotic Animal Practice (2009) 12:3, pp. 401-415. https:// www.sciencedirect.com/science/article/abs/pii/S109491940900036X?via%3Dihub)*

[17] *C.J. Hemmer et al., 'Human cowpox virus infection acquired from a circus elephant in Germany' (2010) International Journal of Infectious Diseases 145, pp. 338-340.*

[18] *Performing animals are exposed to new pathogens at each new venue and grazing on common land exposes circus animals to unknown pathogens. Frequent and close human contact propagates zoonotic Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483, p. 39.*

[19] *Ibid, p. 40.*

[20] *See for example: Clauss, M., Loehlein, W., Kienzle, E. & Wiesner, H., 'Studies on feed digestibilities in captive Asian elephants (Elephas maximus)' (2003) Journal of Animal Physiology and Animal Nutrition, 87, 160-173; and Crissey, S., 'The complexity of formulating diets for zoo animals: a matrix' (2005) International Zoo Yearbook, 39, 36-43.*

[21] *Training methods commonly used in circuses, where trainers are in direct contact with potentially dangerous animals, do not facilitate the minimal use of negative reinforcement, coercion, force and aggression required for good welfare. Training that facilitates the use of positive reinforcement, i.e. distance training and especially protected contact, requires specialist facilities such as strong barriers that are unlikely to be feasible in travelling environments. Jo Dorning, Stephen Harris and Heather Pickett, The welfare of wild animals in traveling circuses (2016), available at: 10.13140/RG.2.1.2404.2483, p. 45.*

[22] *ADI, Stop Circus Suffering USA (2008), Section 4: The Scientific Evidence, available at: https://www.stopcircussuffering.com/get-involved/stop-circus-suffering-usa-4-scientific-evidence/*

[23] *Studies have shown that stereotypical behaviours of circus tigers increased prior to circus performances. See for example P.D. Krawczel, T.H. Friend, A. Windom, 'Stereotypic behavior of circus tigers:Effects of performance' (2005) Applied Animal Behaviour Science 95, pp. 189–198*

[24] *Between 2015 until 2021, AAP rescued 79 animals with a circus background. 6 of these were excluded from the analysis, because they were either very shortly kept by circuses or it was unknown how long they had been kept by circuses. The 73 animals included in the analysis spent the majority of their lifespan (prior to rescue by AAP) in circuses. The birth year of almost all of these rescued animals ranges from 2001 till 2015.*

[25] *These 39 big cats comprised 19 tigers, 19 lions and 1 leopard.*

[26] *These 32 primates included 12 rhesus macaques, 12 baboons, 3 barbary macaques, 3 chimpanzees and two japanese macaques*

[27] *These 2 large mammals were 2 pumas.*

[28] *A normal body condition score is 5. A score of 4 and 6 is a mildly deviating body condition, a score of 3 and 7 is a moderate abnormal body condition, and the score 1,2 and 7, 8 are indicating severe abnormal body conditions.*

[29] *See for example Teng, Kendy, et al., 'Associations of body condition score with health conditions related to overweight and obesity in cats' (2018) Journal of Small Animal Practice, issue 59:10, available at: https://doi.org/10.1111/jsap.12905*

[30] *478 public safety incidents involving 889 wild animals have been recorded in EU circuses in the past 24 years.(Eurogroup for Animals, Wild animals in EU circuses: Problems, risks and solutions (2021), available at: https://www.eurogroupforanimals.org/files/eurogroupforanimals/2021-12/E4A-Circus_Report-09-08-2021.pdf*

[31] *EU countries that banned the use of all animals, both wild and domesticated, in circuses are Greece, Malta and Cyprus.*

[32] *EU countries that banned the use of wild animals in circuses are Austria, Belgium, Croatia, Denmark, Ireland, Latvia, Luxembourg, Portugal, Romania, Slovakia, Slovenia,*

[33] *EU countries that banned the use of some wild animals in circuses are Bulgaria, Czech Republic, Estonia, Finland, Hungary, the Netherlands, Poland and Sweden.*

[34] *Eurogroup for Animals, 'Wild animals in EU Circuses, Problems, Risks and Solutions, Updated version', 5.4 Database of Wild Animals in EU circuses, 2021*

[35] *Federation of Veterinarians Europe, FVE position on the use of animals in travelling circuses' (2015) FVE/013/pos/007, available at: https://fve.org/cms/wp-content/uploads/FVE-position-on-the-travelling-circuses_adopted.pdf*

[36] *Ibid.*

[37] *European Alliance of Zoos and Acquaria, EAZA Position Statement on Circus Membership of the Association (2017), available at: https://www.eaza.net/assets/Uploads/Position-statements/EAZA-Position-statement-Circus-membership.pdf*

[38] *Annex 2: Statement on the Ethological Needs and Welfare of Wild Animals in Circuses, Eurogroup for Animals, Wild animals in EU circuses: Problems, risks and solutions (2021), available at: https://www.eurogroupforanimals.org/files/eurogroupforanimals/2021-12/E4A-Circus_Report-09-08-2021.pdf*

[39] *Annex 3: Psychologists' Statement on the Anti-Pedagagogical Value of the Abuse of Animals in Circuses and Performances, Eurogroup for Animals, Wild animals in EU circuses: Problems, risks and solutions (2021), available at: https://www.eurogroupforanimals.org/files/eurogroupforanimals/2021-12/E4A-Circus_Report-09-08-2021.pdf*

[40] *https://www.euractiv.com/section/agriculture-food/news/1-million-eu-citizens-ask-commission-to-ban-wild-animals-in-circuses/*

[41] *These polls were commissioned by Eurogroup for Animals and conducted by Savanta ComRes. Savanta ComRes interviewed 7,425 adults across the Czech Republic, France, Germany, Hungary, Italy, Poland and Spain online from 8th to 17th February 2021. Data were weighted in each country to be demographically representative of all adults by age, gender and region. Results are available at: https://comresglobal.com/polls/eurogroup-for-animals-wild-animals-in-circuses-mar-2021/*

[42] *The well-known French circus owner André-Joseph Bouglione has for example ceased all wild animal acts to create a more ecological and humane circus experience. (https://www.liberation.fr/france/2018/04/02/andre-joseph-bouglione-pour-les-animaux-la-cage-c-est-la-prison-a-perpetuite_1640561/) Circus Roncalli, based in Cologne in Germany, also introduced an animal friendly alternative for the real use of wild animals in circuses by using three-dimensional holograms of wild animals instead. (https://www.nationalgeographic.com/science/article/holographic-circus-elephants-naked-man-orchid-and-more-breakthroughs)*

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