



THEIR LIVES FOR YOUR LIKES:

The Exploitation of Wild Animals on Social Media



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TABLE OF CONTENTS

INTRODUCTION3

JUSTIFICATION5

WHY THIS MATTERS7

METHODS8

RESULTS9

DISCUSSION13

CONCLUSION16

SOURCES18

▶ INTRODUCTION

Since its inception, social media has developed a reputation as a “double-edged sword.” While possessing the ability to instantly educate, entertain, and disseminate beneficial information with one tap, it can simultaneously distribute harmful, false, or otherwise problematic content to millions of people at once. Sadly, animals frequently fall victim to the darker side of social media and the internet in general.

While animal posts on social media may seem harmless, many representations of wild animals, particularly those involved in the private trade for pet or entertainment purposes, are extremely harmful. By propagating videos that actively exploit animals solely for social media users’ entertainment, this

content fuels species population declines in the wild, animal cruelty/abuse, public safety hazards, and the decline of native species via exotic animal releases or escapes. These effects are further exacerbated when celebrities and influencers promote exotic animal content (Nekaris et al., 2013; Moloney et al., 2021; Svensson et al., 2022).

Without proper controls, social media outlets provide an arena like a virtual circus or roadside zoo; often depicting animals in inappropriate conditions that significantly compromise their individual welfare. These platforms allow millions of accounts to entertain viewers with extremely stressed,

traumatized, and mistreated animals, virtually undetected and without consequence. Interestingly, while there has been significant public support for bans on the use of wild animals in circuses and other entertainment venues, the same people who would refuse to visit a circus subscribe to, “like,” and share social media posts that perpetuate the same animal welfare concerns as the outdated circus shows. What is clear from “like” trends and comments on posts is that the public often fail to recognize that this content is problematic.

SOCIAL MEDIA USERS MUST ASSUME A RESPONSIBILITY TO EDUCATE THEMSELVES IN THE EXPLOITATIVE NATURE OF THIS ANIMAL CONTENT, AS EVERY VIEW, CLICK, COMMENT, SHARE, AND REACTION CONTRIBUTE TO THE PERPETUATION OF HARM TO ANIMALS



According to YouTube’s “violent or graphic content policies,” any “content depicting the malicious infliction of physical harm causing an animal to experience suffering” is prohibited (YouTube, 2022). Although it may not be immediately evident, videos featuring wild animals living in any environment outside of their natural habitats (other than a legitimate rescue or rehabilitation center); separated from their own species (particularly infants separated from their mothers); interacting with species other than their own (especially humans); or exhibiting unnatural behaviors (including trained behaviors not included in a species’ natural behavioral repertoire or the expression of stereotypies), all cause a wild animal to experience suffering and distress. What is important to understand is that overt cruelty – striking an animal, killing an animal, or otherwise inflicting bodily harm – is not the only way in which suffering is caused. More nuanced forms of abuse or cruelty also create significant stress and long-term impacts, which might not be immediately obvious from a 30 second video clip.

Therefore, social media users must assume a responsibility to educate themselves in the exploitative nature of this animal content, as every view, click, comment, share, and reaction contribute to the perpetuation of harm to animals, as well as the influential expanse and monetary gain of the individuals

benefitting from this exploitation (i.e. exotic animal breeders and dealers). Individual user responsibility is especially important, as most social media sites fail to adequately surveil and remove harmful content themselves due to unclear policy guidelines and the sheer volume of available content rendering timely response nearly impossible (SMACC, 2021; Moloney, 2021).

To better understand the nature of the most influential social media content featuring wild animals

currently circulating and develop a strategy to educate the public accordingly, we analyzed 50 YouTube videos of five of some of the most popular exotic pets in the United States in 2022: pythons, wolf-dogs, tigers, marmosets, and grey parrots. By publicizing such information, we aim to decrease the demand for exotic animals in the private trade, reduce the number of animals entering this trade, improve individual animal welfare, and protect public health and safety by increasing social media user awareness on the fundamental animal conservation and welfare concerns associated with engaging in this exploitative content online.



JUSTIFICATION

Globally, the United States and China are the leading importers of exotic animals and their derivative products (Morgan, 2015). A substantial percentage of these imports go directly towards the private pet trade, as interest in exotic pet ownership continues to increase each year. Exotic pets include animals without an extensive history of domestication that are not traditionally viewed as companion animals (Moloney et al., 2021). Non-domesticated animals have specific needs that cannot be met in captivity and, as such, keeping them as pets causes them suffering. In the U.S., approximately 50% of all pets are exotic animals (APPA, 2018). Even if the global per capita demand for exotic pets remains stable, a growing human population and expanding middle class will ultimately continue to increase demand for exotic pets each year (Shepherd et al., 2007).

According to the U.S. Fish and Wildlife Service, more than one billion live animals were imported into the United States between 2000 and 2004. Nearly 90% of these animals were sold into the pet trade, while the remaining were distributed among research facilities, game ranches, and zoos. More than 300 types of invasive species, including venomous snakes, rodents, and exotic birds, were included in this total (Morgan,

2015). Globally, while carnivores and primates are the most frequently traded mammals, birds and reptiles are the most frequently traded animals overall (Bush et al., 2014). Troublingly, studies documenting reptiles exported from several countries indicate an illegal trade rate between 10 and 100 times the volume of the legal trade. Coupled with the known legal exports, the projected illegal exports could have a detrimental effect on wild populations of countless species (Scarffe, 2021).

The most updated estimates as of 2022 suggest that, in the U.S. alone, at least 10,000 large cats, 8.8 million reptiles (Captive Wild Animal Protection Coalition, 2022), 7.5 million birds (American Veterinary Medical Association, 2018), 250,000 wolf-dogs (Kain-Woods, 2020), and 15,000 primates (~3,000 of which are great apes) are kept as pets (Mott, 2021; Captive Wild Animal Protection Coalition, 2022). These animals enter the pet trade via both legal and illegal import from international locations and captive breeding within the U.S. Legality of exotic animal ownership varies across the country despite the grave public safety risks and compelling animal

welfare concerns of owning such animals. While owning most species of exotic animals may be legal in some states and counties, others may require registration, permit acquisition, or have no restrictions whatsoever.

BURMESE PYTHONS

Between 2001 and 2006, the U.S. imported more than 144,000 Burmese pythons, with hatchlings selling for as little as \$20 USD each. In 2018, researchers discovered that most reptile listings online sold for under \$100 USD (Stringham & Lockwood, 2018).



Breeders often fail to disclose how large the snakes, who can grow up to 20 feet long, will get to interested buyers. Their especially large size has been cited as one of the main reasons pet owners release them into the wild, causing invasive populations to develop and thrive, which harm native wildlife by taxing local ecosystems (Brown, 2006).

TIGERS

Approximately 5,000 tigers are kept as pets in the U.S. (Guynup, 2019); double the number of tigers remaining in the wild (approximately 2,500 individuals) (Goodrich et al., 2015). Tigers are protected under the Convention on the International Trade in Endangered Species (CITES) Appendix I listing, which only applies to the species most threatened by extinction. This listing prohibits all international trade for commercial purposes. Therefore, theoretically, most exotic pet owners source captive-bred tigers from dealers within the U.S.

GRAY PARROTS

Although an exact estimate for the number of pet grey parrots in the U.S. remains unknown, since the early 2000s, parrots have become the third most common pet in the U.S., only second to dogs and cats (Polverino et al., 2015). In 2014, the African grey parrot was one of the most frequently exported species alongside other native African birds, including lovebirds and parakeets. African grey parrot

populations are in decline throughout Central and West Africa in large part due to trapping for the pet trade (Bush et al., 2014). African grey parrots have since transitioned to a CITES Appendix I species listing in 2017, but interest in parrot ownership remains prolific despite the import restrictions and animal welfare concerns.

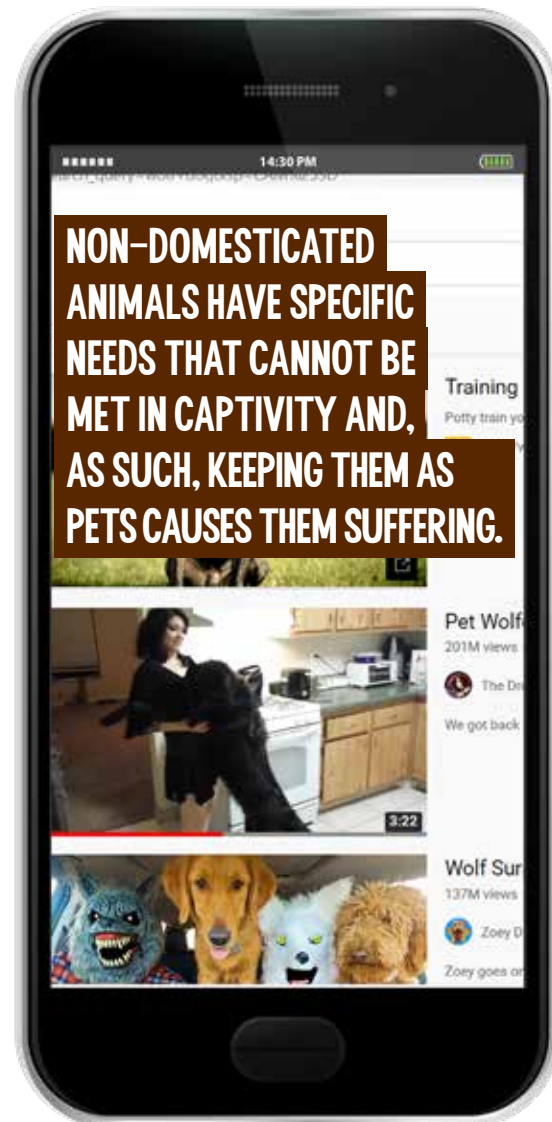
MARMOSETS

Similarly, an exact estimate for the number of pet marmosets kept in the U.S. remains unknown, but a study conducted in 2021 indicated that marmosets were the most frequently sold primate in a sample of U.S.-based exotic pet trade websites, compared to lemurs, capuchins, and squirrel monkeys. The authors counted 551 total primates for sale from 2019-2020 on just six pet trade websites (Seaboch & Cahoon, 2021). Several marmoset species have been placed under CITES Appendix I protection, including Goeldi's, buffy-tufted ear, and white-headed marmosets, but the captive breeding and sale of marmosets within the U.S. for the pet trade continues.

WOLF-DOGS

The term "wolf-dogs" refers to animals that are the offspring of a breeding between a wolf and a domesticated dog. Breeders often guess the proportion of wolf to domesticated dog in the genetic makeup of puppies. Breeders sell wolf-dogs with a believed higher proportion of wolf DNA at a higher price, despite the wolf-inherited

traits producing larger, more aggressive, and unpredictable animals (Davis, 2011). Within the U.S., an estimated 250,000 wolf-dogs live as pets. Popular reasons for ownership include as "guard dogs," trophy animals, and the commonly held yet false belief that wolf-dogs make a more loyal pet than a domestic dog (Kain-Woods, 2020).



▶ WHY THIS MATTERS

While the keeping of wild animals as pets creates serious welfare concerns for the individuals, it may seem that simply sharing these animal videos on social media is harmless. There are over 4 billion social media users worldwide (Dean, 2021), so it stands to reason that we might question what real harm we, as individual users, “liking” a post could do – particularly when doing so with the best of intentions. But studies have indicated that showing wild animals like chimpanzees and slow lorises in unnatural environments results in people perceiving them as less dangerous and less threatened in the wild (Ross et al., 2011; Nekaris et al., 2013). Online, these harmful depictions frequently include animals used as photo props for “selfies,” training wild animals to perform tricks, showing a wild animal in an urban/home environment, wearing human clothing, using human objects, or humans having any other type of physical interaction with the animals.

These effects become increasingly compounded when visualized on social media platforms. For example, according to Moloney et al. (2021), YouTube’s algorithm enhances user engagement by directing users to suggested videos based on previously viewed videos. Therefore, once a user has shown an interest in exotic animal videos, they are more likely to be directed towards similar content. The website has been redesigned to focus less on advertising the most popular videos overall to tailoring suggested content to the individual.

The monetization of social media through advertisements perpetuates the development and popularity of exploitative animal content. The impact of these monetized advertisements cannot be overstated: by 2017, it was estimated that one third of all global advertising spending was conducted via digital channels (Stephen, 2016). Further, Dinner et al. (2014) discovered that digital ads are more effective than offline ads in driving consumer behavior.

According to a Social Media Animal Cruelty Coalition (SMACC) report published in 2021, in videos logged over a period of three months in 2020, YouTube earned up to an estimated \$12 million from sharing animal cruelty videos, with the content creators themselves earning nearly \$15 million. Companies profit from this cycle by embedding advertisements in exploitative animal content that has been monetized by advertising companies. The more popularity a video gains (by increased Likes, views, comments, shares, etc.), the more money the video will generate for advertisers, the content creator, and the platform. Notably, companies do not consent to the advertisement placement and are usually unaware that their advertisements appear in animal cruelty videos. Herein lies the responsibility of the consumer.

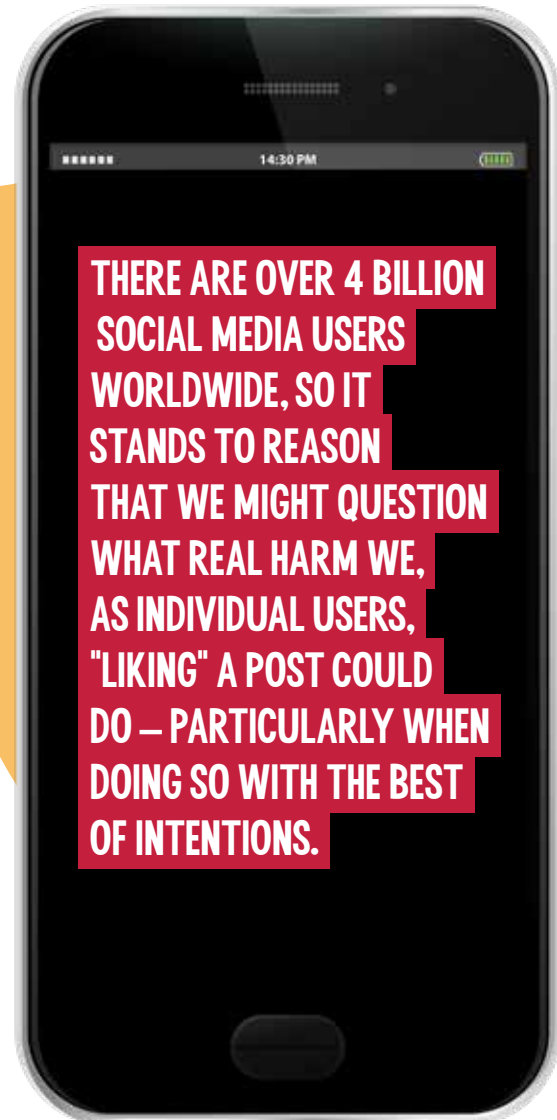


METHODS

To assess how exotic animals are predominantly depicted online, we evaluated the content of 50 videos on YouTube in April 2022 that featured five of the most popular exotic pets in the U.S. We chose YouTube because a 2021 SMACC report that analyzed the portrayal of exotic animals on YouTube, Facebook, and TikTok found incidences of animal exploitation and/or cruelty to occur most frequently on YouTube (in 89.2% of the total videos observed) (SMACC, 2021). We evaluated 10 videos each for the following exotic animals: pythons, wolf-dogs, tigers, marmosets, and grey parrots.

To find the videos included in the dataset, we simply used the animals' common name as the search term, and then filtered the results by the number of view counts. We only included the top ten videos with the highest number of views per animal. We excluded videos that did not directly portray the physical animals; therefore, we excluded all animated videos. We collected data on the following variables: video title, view count, number of account subscribers, number of advertisements shown during the video, number of "Likes," number of "Dislikes," video length, animal species, country of origin, setting (inside, outside), human interaction (animal making physical contact with a human one or more times coded as present, including feeding), year of publication, and animal category (wild or kept in captivity at a zoo, "sanctuary," captive wildlife park, as an entertainer, or as a pet).

All videos in the sample ranged from 14 seconds to 24 minutes in duration and were published between 2008 and 2022. We watched all videos until completion. We recorded data on the location of the video whenever possible, which only occurred when the account provided the location in the video title, description, or user account information. "Like" and "Dislike" values were obtained by noting the value (in thousands) to the right of the "thumb up" or "thumb down" icons directly below the video screen. We obtained the number of account subscribers by noting the number underneath the username.



RESULTS

Overall, videos depicting exotic pets comprised most of the total dataset at 64.6% (n=31), followed by wild animals at 14.6% (n=7); animals in zoos or captive wildlife parks at 12.5% (n=6), and animals in “sanctuaries” at 8.3% (n=4). Within each of their respective categories, marmosets demonstrated the highest number of pet videos (90% of all videos, n=9), followed by grey parrots (89%, n=8), tigers (60%, n=6), wolf-dogs (50%, n=5), and pythons (33%, n=3). We were unable to determine the animal category in two videos (one python, one parrot), bringing the sample size to 48 videos for this variable. Pythons were the only animal depicted more frequently in the wild than as pets, with wild pythons appearing in 67% of videos (n=6) and pet pythons in 33% of videos (n=3).

The averages for each of the following variables were as follows: 34 million views per video (range: 461,000 to 199 million); 11,400 comments (240 to 55,000); 4 million subscribers (1,023 to 81 million); video length of four minutes and 44 seconds (14 seconds to 24 minutes); and two advertisements per video (0 to 11). “Likes” substantially outnumbered the “Dislikes” on every video in the dataset; for example, in the wolf-dog videos, “Likes” were, on average, 39 times higher than the number of “Dislikes.” The lowest discrepancy between “Likes” and “Dislikes” occurred in pythons, where “Likes” were nine times higher than the “Dislikes.” Overall, 26 videos (52%) demonstrated animals inside without any apparent outdoor access.

Eighty one percent (n=39) of all videos showed direct physical interaction with a human. Direct interaction appeared in 100% (n=10) of all marmoset videos; 90% of all tiger videos (n=9); 89% (n=8) of all grey parrot videos; 70% (n=7) of all wolf-dog videos; and 56% (n=5) of all python videos. In the tenth most-viewed tiger video at 41 million views, titled—“Quick bite from a tiger!”—a person placed their hand in a tiger’s mouth, laughing as the tiger softly chewed their hand while growling. The video displayed a warning in caption that read “please don’t ever do this, never even stand within 1 meter of a tiger enclosure.” This video had 39 times more “Likes” than “Dislikes” and 1.1 million followers (Figure 1).



Figure 1. Screenshot taken from YouTube video, “A Quick bite from a tiger!”

The tiger category demonstrated the highest average number of view counts with 64 million total views, followed by pythons (56 million), wolf-dogs (36 million), grey parrots (13 million), and marmosets (900,000). The tiger videos also had the highest average number of subscribers and comments (13 million and 22,121

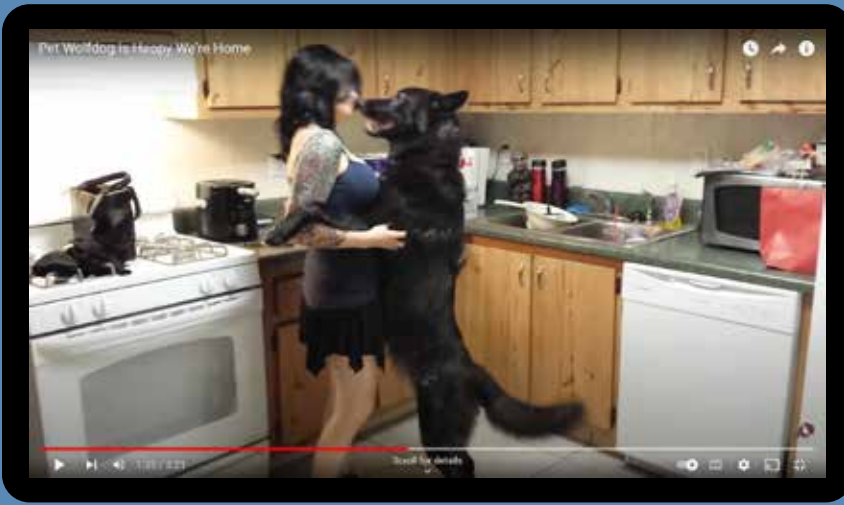


Figure 2. Screenshot taken from YouTube video, “Pet Wolfdog is Happy We’re Home.”



Figure 3. Screenshot taken from YouTube video, “Vlad and Mama at sleeping tiger farm.”



Figure 4. Screenshot taken from YouTube video, “Living With Tigers: Family Share Home With Pet Tigers.”

respectively). The video with the highest view count overall, however, was a wolf-dog video entitled “Pet Wolfdog is Happy We’re Home,” with 199 million total views, which showed a woman being greeted by a wolf-dog in her kitchen upon arriving home (Figure 2).

The third-most viewed tiger video (at 75 million views) featured a family taking a trip to a zoo with their young children. The family then engaged in a cub petting experience with several tiger cubs, where the children entered an enclosure to openly interact with the tigers. Comments were disabled on this video, but the account responsible for posting it had 81 million followers, which primarily featured content geared towards young children. Still, the “Likes” on this video were more than double the “Dislikes.” This account had the highest number of subscribers overall (Figure 3).

The fourth-most viewed tiger video (74 million views) depicted a family living with several tigers; they kept the tigers on chain leashes, swam with them, played with them, and even allowed their infant child to sit on one of their backs. The “Likes” on this video were eight times the “Dislikes” (Figure 4). In the sixth-most viewed tiger video, entitled “Tiger attack, why You should not turn Your back!”, the pet tiger owner enters the enclosure with two tigers to bottle-feed a juvenile white tiger. When he turns his back, both tigers attempt to attack him. The man leaves the enclosure before the tigers attempt to charge him again. Of the tiger videos, 40% (n=4) showed a white tiger and/or lion.



Figure 5. Screenshot taken from YouTube video, “BIT BY A 20 FOOT PYTHON.”



Figure 6. Screenshot taken from YouTube video, “Python BITES and STRIKES!”

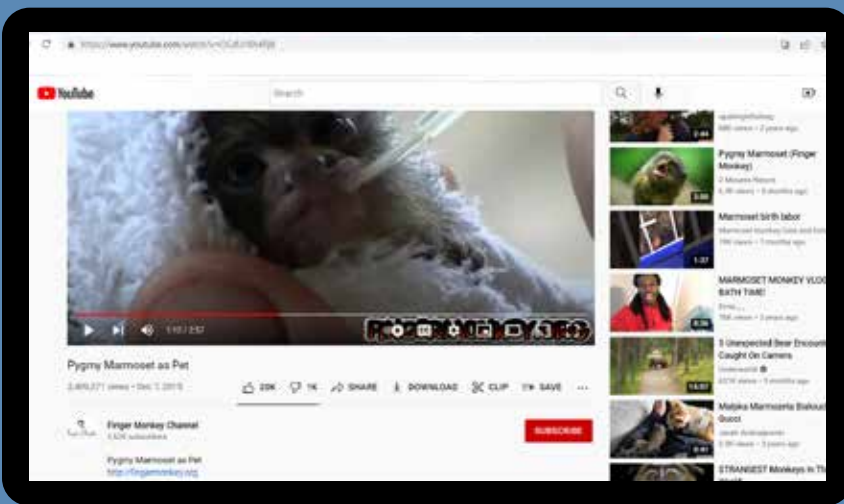


Figure 7. Screenshot taken from YouTube video, “Pygmy Marmoset as Pet.”

Notably, the top two videos of pythons with the most views (154 million and 130 million views, respectively) showed invasive species of pythons fighting with and constricting prey. The fifth-most viewed video (30 million views) demonstrated an animal handler at a zoo attempting to harvest eggs from a mother snake by harassing her for 24 minutes to film a promotional video recorded by a young YouTube influencer. The python bit the handler in the face, attempted to bite him several more times throughout the video, and struck out towards the handler and others multiple times. The handler continued to provoke and prod her with a tool while on-lookers filmed and laughed, intentionally prolonging her stressful state. This video had 16.9 times more “Likes” than “Dislikes,” the posting account had almost 3.5 million subscribers, and provided a link to an exotic reptile store (Figure 5).

The sixth-most viewed python video (28 million views) showed a clip from the Animal Planet show, “Coyote Peterson: Brave the Wild,” in which an animal handler attempted to catch a wild snake while the snake repeatedly tried to escape. Even after being bitten on the hand, the handler continued to provoke and handle the snake. This account had 20 million subscribers and “Likes” outnumbered “Dislikes” by 28.5 times (Figure 6).

Similarly, despite the obvious safety concerns, the seventh-most popular wolf-dog video, with 10 million views, entitled “Wolf dog sings to a baby to stop his cry,” depicted a wolf-dog howling right next to a human infant inside a house. “Likes” outnumbered “Dislikes” on this video by 113 times.

Several videos that portrayed exotic pets also linked to an exotic animal distributor or breeder: four videos of the sample, including one python and three marmoset videos, provided a link to purchase these animals (Figure 7; Figure 8).

Additionally, when we first searched “grey parrot,” an advertisement to buy them appeared. The ad said: “African grey for sale \$500 - African greys for sale cheap” (Figure 9). Similarly, when we searched “wolf dog,” the first ads that appeared read: “Training your Wolfdog- Stop Bad Behavior in 2 Weeks” and “Methods specific to this breed” (Figure 10).

Sixteen percent (16%, n=8) of all videos showed multiple animal species sharing the same space (not including a predator/prey scenario): four wolf-dog videos, two tiger videos, and two parrot videos demonstrated these inter-species interactions.

The U.S. was the most frequently reported country of origin over all videos (48%, n=24), and the most frequently reported country for four out of the five animals (only excluding the tiger category, where South Africa was the most frequently reported country of origin). The second most reported countries of origin other than South Africa (n=2) included Thailand (n=2) and Russia (n=2). Seven video countries of origin were unknown.

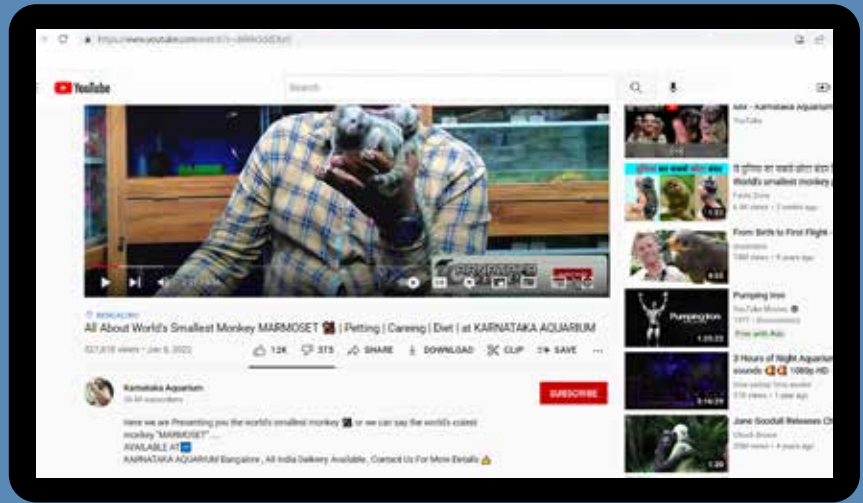


Figure 8. Screenshot taken from YouTube video, “All About World’s Smallest Monkey MARMOSET Petting Caring Diet at KARNATAKA AQUARIUM.”

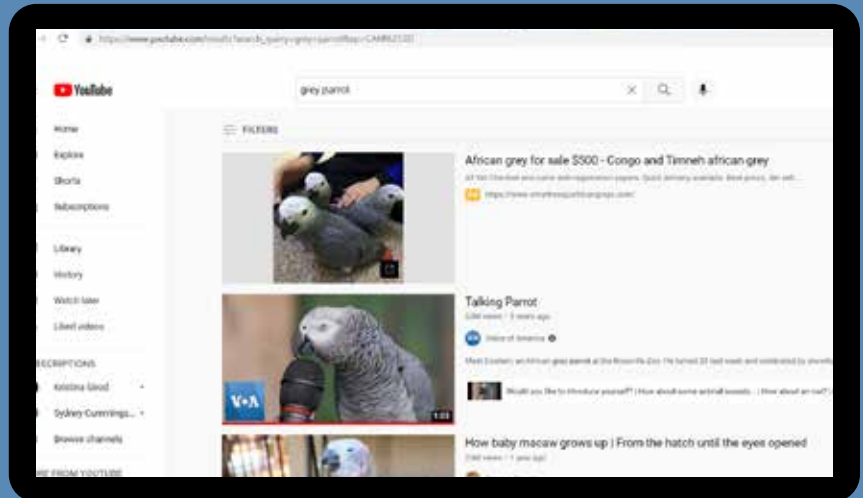


Figure 9. Screenshot taken from YouTube search term “grey parrot.”

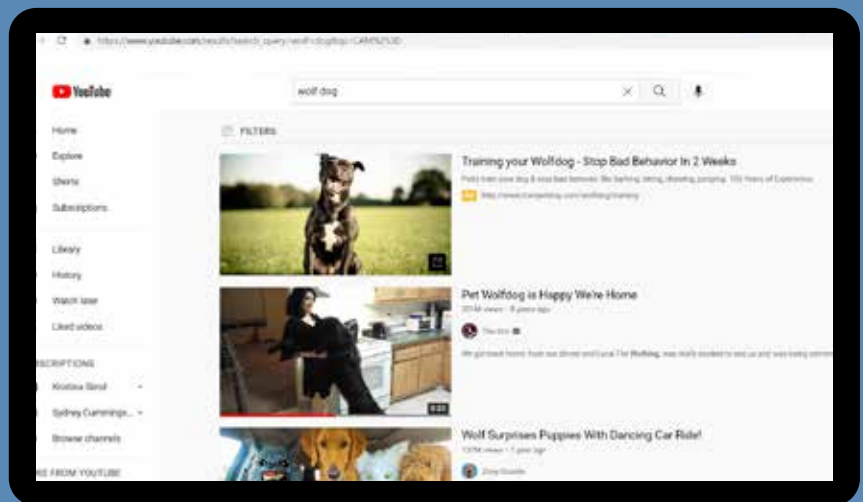


Figure 10. Screenshot taken from YouTube search term “wolf dog.”

DISCUSSION

Overall, 64.6% of all videos featured exotic pets, while a striking 81% of all videos demonstrated unnatural and unsafe human interactions with these animals. The high prevalence of exotic pet videos on YouTube indicates a strong preference for this content online, with an extremely high tendency towards videos featuring human/animal interaction. The consistently higher “Like” to “Dislike” ratio observed on all videos confirms that most viewers perceive this content positively despite the extreme safety and animal welfare concerns presented.

The high frequency of human/animal interaction in the videos suggests that viewers may incorrectly perceive these wild animals as domesticated or “tame,” and thus safe to interact with, thereby endorsing the desirability of exotic pets (Moloney et al., 2021). Further, not only does YouTube simply provide a platform to broadcast these videos, but also actively promotes and endorses the content with targeted advertisements, which enables viewers to access similar content at a higher rate and even acquire exotic animals for themselves more easily.

Although we did not analyze the comments in this report, several studies indicate that most comments on exotic animal videos

express a positive sentiment, meaning that most viewers support the content (Morgan & Chng, 2017; Svensson et al., 2022). Positive comments on videos likely normalize keeping exotic pets in captivity and increase the demand for these species in the pet trade (Moloney et al., 2021).

ANIMAL WELFARE CONSEQUENCES

Promoting these types of videos implicates several factors that harm animal welfare, conservation, and public health and safety. Firstly, the private trade of exotic animals severely compromises individual welfare at every stage of the process, from capture to transit. For example, based on conservative estimates, three animals die for every one animal traded (Baker et al., 2013), while up to 75–90% of wild-caught birds die before the point of sale (Peng & Broom, 2021).

Stereotypies are abnormal repetitive behaviors expressed by wild animals in captivity typically indicative of extreme stress, mental trauma, boredom, an inability to perform natural behaviors, and/or an impoverished environment. These behaviors often indicate a state of poor welfare in which psychological and physical suffering occurs chronically (Mason, 1991). More research is needed to determine the prevalence of

stereotypies in reptiles, especially in snakes (Michaels et al., 2020).

In parrots, biting, aggression, loud vocalizations, obsessive water and food consumption, regurgitation, escape attempts, and feather-picking exemplify several stereotypies directly associated with captivity, where natural behavioral needs often cannot be satisfied. Sadly, attempts to escape often become stereotypies, manifesting as feather chewing, self-mutilation, and increased aggression. Keeping a single bird, which is commonly practiced with pets, plays a major role in the development of these abnormal behaviors. In grey parrots, hand-rearing (also common in the pet trade) precipitates a higher incidence of behavioral disorders (Peng & Broom, 2021).

PUBLIC SAFETY AND HEALTH CONCERNS

Interacting with all wild animal species poses significant dangers, primarily including:

- 1) The unpredictability and aggression of wild animals leads to significant risk of injury, or even death, to humans and other animals and
- 2) The handling of wild animals increases risks of transmitting and contracting zoonoses (Moloney et al., 2021).

For example, between 1990 and 2020, at least 400 dangerous incidents involving captive big cats (including tigers) have occurred in 46 states and the District of Columbia. Big cats killed five children and 20 adults and caused serious injuries to others, including mauling, lost limbs, and other traumatic injuries (HSUS, 2020).

The Born Free USA Exotic Animal Incident Database has chronicled almost 500 similar dangerous incidents involving captive primates, including those that resulted in human or animal injury or death. These incidents include those at accredited zoos (sometimes with fully trained zookeepers and veterinarians), with animals contained inside an enclosure, and escaped or released animals.

In addition to physical injury due to attacks and escapes, wild animals can pose a danger to human health. Nonhuman primates can transmit more than 200 known diseases to humans, many of which can be fatal and relatively easy to contract, including Herpes B, Ebola (Brown, 1997), and SARS (Greator et al., 2016). Untreated in humans, Herpes B is fatal in up to 80% of cases (Tan, 2021).

Certain species of snakes entering the U.S. pet trade, especially highly venomous snakes imported from international locations, pose

a particularly deadly threat to owners and their communities. In 2021, Born Free USA interviewed Tim Harrison, a retired first responder from Ohio, who dealt with numerous exotic animal escapes. First responders mostly handle emergency dangerous animal incidents, yet little or no training is provided on how to handle these situations by police or firefighting academies. Harrison recalled several devas-



tating rescue attempts, including when first responders received a call from a house in Cincinnati, Ohio, where a 13-foot pet python was constricting the owner. They were unable to remove the python before the owner was killed. In another incident in North Carolina, Harrison and local police officers wrangled a “green snake” that got loose in a parking lot, which turned out to be a green mamba, a snake native to East Africa and one of the deadliest snakes in the world. If anyone had been bitten, they would have died; in most of the

U.S., no readily available antivenom exists to treat a bite from a green mamba or the majority of other non-native venomous snakes.

Psittacosis, also known as parrot fever and ornithosis, is a bacterial infection that occurs in humans caused by *Chlamydia psittaci* (a form of chlamydia) that can cause severe pneumonia among other serious health problems. From 2005 to 2009, 66 human

cases of psittacosis were reported to the Centers for Disease Control and Prevention. Generally, these cases occurred after exposure to infected pet birds, including cockatiels, parakeets, parrots, and macaws. Infected birds shed the bacteria through feces and nasal discharge. Humans can become infected from exposure to these materials through physical contact with their pets or waste materials during cage cleanings (Smith et al., 2011).



THREATS TO LOCAL ECOSYSTEMS

Many exotic pets escape or are released intentionally by their owners. The considerable cost of pet care, large adult body mass, pervasive availability in the market (the animal's perceived value by the owner), and long lifespan reflect some of the biggest predictors of pet reptile release (Stringham & Lockwood, 2018), which can likely be extrapolated to other species as well.

Free-roaming exotic animals previously kept in captivity as pets have been documented to survive and breed, which can lead to the proliferation of invasive species. While the red lionfish in the Caribbean sea and the Burmese python in south Florida remain the most renowned examples of disruptive invasive species caused by the pet trade (Lockwood et al., 2019), non-native chameleons, geckos, alligators, frogs, toads, turtles, tortoises, iguanas, bearded dragons, corn snakes, rat snakes, pythons, and/or boa constrictors have been discovered in both suburban and rural areas in Hawaii, Alabama, Louisiana, Georgia, South Carolina, Florida, Texas, and California in locations in which exotic pet ownership of these animals was common (California Herps1, 2022). Some of these animals are known to have established self-sustaining breeding populations (California Herps2, 2022), which threaten native wildlife by driving these species towards extinction (Stringham & Lockwood, 2018).

As is the case for many other wild animal species, the canine rabies vaccine is not approved for preventing rabies in wolf-dogs. Despite their partly shared heritage with domesticated dogs, the administration of the rabies vaccine in wolf-dogs remains “experimental,” or even illegal for veterinarians to administer in some cases, and thus poses significant danger to those interacting with these animals. Therefore, if a wolf-dog bites a person, they would be immediately killed to conduct rabies testing (Davis, 2011).

PROLIFERATION OF TRADE

Exploitative exotic animal content online encourages unsustainable trade of animal species, where the impact of wild population depletion due to supplying the private trade is largely unknown. In a study that monitored five Facebook groups involved in trading exotic animals in Thailand, of those species classified on the IUCN Red List as Least Concern, almost half of the mammals and over three-quarters of the amphibians observed for

sale had either unknown or declining population trends. Images and posts found online depicted ten threatened species, including one Critically Endangered species, one Endangered species, and eight Vulnerable species (Siriwat & Nijman, 2018). Similarly, a study that evaluated two Facebook accounts of wildlife exporters in Togo, West Africa, discovered that up to several thousand animals were shipped, at least monthly, to North America, Europe, Asia, and elsewhere in Africa, via several major airlines. Among the vertebrates observed, approximately one-third had not yet been evaluated on the IUCN Red list, and three quarters were not CITES-listed (Harrington et al., 2021).

CONCLUSION

Educational campaigns, primarily from public health and law enforcement perspectives, are most effective in improving social media user awareness (Moorhouse et al., 2016). Separate campaigns designed to target individual species may have the most success in ultimately changing the perception of social media users (Nekaris et al., 2015).

USING TECHNOLOGY TO CRACK DOWN ON HARMFUL ANIMAL CONTENT

To enable better surveillance of harmful animal content online, adaptation of artificial intelligence systems that can accurately identify threatened exotic species depicted in public social media content, such as “Wildbook” software, should be

explored. As suggested by Moloney et al. (2021), this technology could be linked to an automated notification that overviews a particular species’ conservation

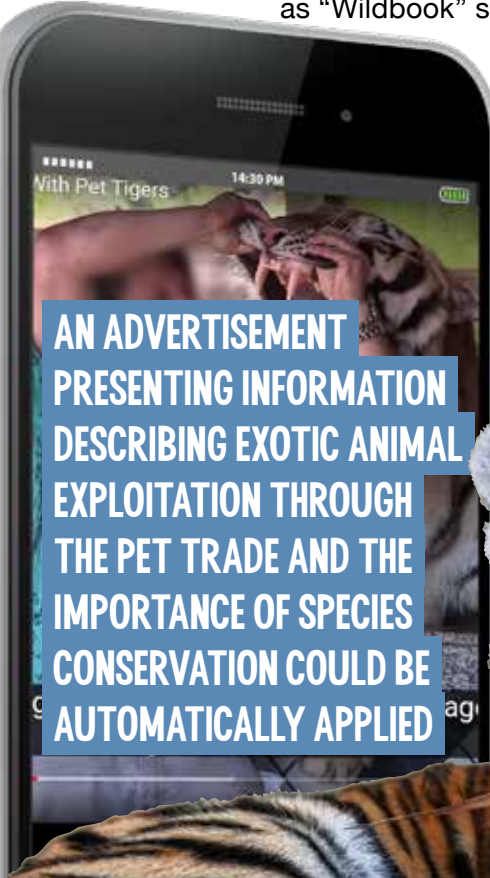
status and risks associated with the exotic animal trade before enabling users to view such videos.

Additionally, YouTube could employ software to automatically detect key terms including species names within video titles or descriptions to flag them for immediate review and corresponding risk assessments. Further, an advertisement presenting information describing exotic animal exploitation through the pet trade and the importance of species conservation could be automatically applied before all exotic animal videos to discourage support from viewers (Moloney et al., 2021). Perhaps YouTube could also disallow the monetization of this content by removing any advertisements on these videos to help decrease the financial incentive that posters of harmful animal content gain through social media.

THE ROLE OF SOCIAL MEDIA USERS

Social media users recognizing animal abuse and exploitation online is imperative to mitigate the substantial negative consequences of promoting harmful wild animal content on social media, including jeopardizing animal welfare, contributing to the decline of species in the wild, and urgent public health and safety concerns.

Individual surveillance of one’s user activity on social media, primarily including mindful post engagement regarding any wild animal content, remains the most effective method in attempts to regulate and minimize any negative outcomes caused by social media content; primarily including inadvertently fueling demand for the pet trade.



AN ADVERTISEMENT PRESENTING INFORMATION DESCRIBING EXOTIC ANIMAL EXPLOITATION THROUGH THE PET TRADE AND THE IMPORTANCE OF SPECIES CONSERVATION COULD BE AUTOMATICALLY APPLIED



Unless and until social media outlets become successful in moderating the amount of harmful wild animal content themselves, to protect wild animals, we ask that users commit to the following:

Identify exploitative videos by asking the following questions:

Does this video show a wild animal in direct physical contact (or unnaturally close proximity) to humans?

Is the animal outside of their natural environment?

Is the animal alone, in an unnatural social grouping, or in contact with an animal of a different species that strikes you as an unusual pairing?

Is the animal depicted with human objects that do not appear to be for the animal's benefit? (For example, a baby monkey wearing a diaper or clothing, wild animals in people's homes.)

Does the video feature infant animals without their mothers? (These videos are often accompanied with narratives of "rescue" but where the poster does not appear to be operating a legitimate rescue center or sanctuary.)

If the answer to any of these questions is "Yes," do not interact with the post and report it or scroll by. Additionally, the following actions can be taken:

- a. Report any abusive or exploitative content directly to the website.
- b. Petition social media outlets to modify their definition of harmful animal content to reflect the definition outlined in this report (e.g., add a category for wild animals and include non-physical harm in the definition).
- c. Do not view, like, comment on, save, post, or share the content. Even "dislikes" or "angry" reactions or comments add to the overall popularity of the posts.
- d. Educate others on recognizing harmful animal content and how to decrease its impact. If a friend or contact shares a problematic video, message them privately to share your concerns. Do so politely and thoughtfully. Example text for what you might say is included at the end of this document.

Here is an example text to send someone in your network who shares problematic animal content:

Dear [Name],

I saw your post depicting [short description]. I know you are a great animal lover and so wanted to reach out to let you know that the post you shared might be harmful to the animals shown. Born Free USA recently released a report that explained a lot about how wildlife trade, animal welfare concerns, and even deliberate animal abuse for "Likes" are rife on social media. I would love you to check it out so you can learn with me. I hope you find the information as useful as I did!

You can find resources here: bornfreeusa.org/theirivesyourlikes

Thank you for reading!

[Your name]



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