

# **The Impacts of Social Media Platforms on Animal Conservation**

A Research Paper submitted to the Department of Engineering and Society

Presented to the Faculty of the School of Engineering and Applied Science  
University of Virginia • Charlottesville, Virginia

In Partial Fulfillment of the Requirements for the Degree  
Bachelor of Science, School of Engineering

**Rishi Vanga**  
Spring 2025

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Advisor  
Kent Wayland, Department of Engineering and Society

## Introduction

If you were active on social media in late 2024 you might have heard of the baby pygmy hippo Moo Deng who went viral. This virality led to a massive increase in visitation to the zoo where she lived to the point where the staff were unable to properly regulate visitors, many of whom were throwing things into the hippo enclosure to try to get their attention. The zookeepers posted regular pictures and videos of their animals on social media, the internet just chose this specific one to latch onto and it's highly unlikely that the zookeepers ever predicted this level of engagement and just wanted to make a few posts with pictures of a cute baby hippo. So what is the point of posts like these made by zoos and conservationists? Are they just trying to provide you with some entertaining content to consume or is there a greater message they want to convey? A lot of these posts likely are just for entertainment and education but posts like these have shown conservation organizations a new avenue for education. Whereas in the past conservationists did most of their outreach through published articles, physical mail or posters, and word of mouth, nowadays the ready availability of social media and video streaming platforms provides an easy avenue for education and marketing.

This shift towards digital mediums raises some ethical questions about the portrayal of animals in digital spaces. The structure of social media prioritizes engagement in the form of eye-catching or compelling content over pure education, often with the goal of going viral. This leads to increased use of animals in content that blurs the lines between conservation education and entertainment, often at the expense of the animals. While some people and organizations hold themselves to ethical standards, others prefer to prioritize views, engagement, or donations over animal well-being. Viral content often has unintended consequences such as an increase in tourism that leads to animal harassment, the spread of misinformation, or the glorification of exotic animals as pets. In the case of the Thailand zoo where Moo Deng lived, the situation ultimately led to the zoo having to limit visitation to only three days a week, severely hurting their income. This is a perfect example of animal harassment but also an example of unintentional spread of misinformation. Most of the videos of Moo Deng showed her being active, running around, and playing, which gave viewers the impression that if they went to the zoo in person they'd be able to see her like that. However, as with almost any baby animal, Moo Deng spent a large part of her day resting or sleeping and visitors to the zoo grew frustrated at not being able to see her in person. Aside from the misinformation and animal harassment, the exotic pet trade has a large basis on social media as discussed in a 2023 study by Salas-Picazo et al. Their study found dozens of species of animals being sold through social media, showcasing its importance as a marketplace for species that may be near impossible to acquire otherwise.

Traditional conservation ethics have always emphasized minimal human interference in natural animal behavior (Landim et al, 2023), however modern digital conservation practices rarely adhere to this principle strictly. Current digital conservation involves close animal-human interactions to create compelling, cute, or viral content which brings into question whether the

benefits of increased awareness and potential funding justify the ethical tradeoff in the form of potential harm and misinformation it can bring. Additionally, while ethical conservation guidelines and laws have existed for many years, enforceable policies relating to digital animal portrayal remain outdated or nonexistent.

Given these shifts, it is important to examine how animals are represented online and examine whether existing ethical standards and legal frameworks adequately address new challenges posed by digital conservation efforts to better understand the evolving relationship between social media, conservation, and animal welfare.

Given these changes, it is important to examine digital animal representation and address whether existing ethical and legal frameworks adequately address challenges introduced by digitization.

### **Background and Context**

Traditional conservation ethics have long emphasized the protection of wildlife through principles of non-interference, habitat preservation, and the minimization of human impact on animal behavior (Van Dooren et al., 2023; Duffield, 2006). Rooted in ecological science and reinforced by ethical frameworks, these values prioritize the autonomy of animals in their natural environments and seek to limit human intrusion, even when motivated by good intentions such as education or research (Banks, Lunney, & Dickman, 2012). This approach often resists close, prolonged contact between humans and wild animals, cautioning against domestication, habituation, or the use of animals in performative roles. As highlighted by Cinková and Bičík (2013), even within zoological settings, excessive socialization or manipulation of animals can disrupt natural behaviors and social structures, threatening both individual well-being and species integrity. These ethical foundations continue to shape legislation, such as the Animal Welfare Act, and inform institutional guidelines for wildlife handling, but they are increasingly being tested by the demands and incentives of the digital age.

Social media especially has quickly transformed how we interact with and consume information, particularly on large global platforms like Twitter, Twitch, Youtube, and more. These platforms have become an integral part of how we inform ourselves on real issues and serve as effective tools for outreach, activism, and education. Those seeking to educate the general public have in turn realized that they can use these platforms to spread their message. One such group is animal conservationists who have begun using social media to educate the public, raise funds, and garner support for wildlife protection efforts. However, this rising digital landscape brings up ethical concerns around the portrayal of animals online, the extent to which animals should be used for digital content, and the adequacy of laws protecting wildlife in an age of social media.

Animal sanctuaries and zoos especially have embraced social media as a way to get public engagement, usually leveraging the animals in their care to make posts trying to go viral. For example, Alveus Sanctuary, an animal sanctuary based in Texas, has a youtube channel dedicated to animal conservation education that has amassed tens of millions of views with most of their videos featuring various animals in their care. This level of engagement brings up the important question of where the line between education and entertainment at the expense of the animals lies. The main consideration to be made is what determines whether this is or is not ethical, is it about what the money from the social media and video platforms is used for or does it not matter because any human interference in animal lives is unacceptable. Traditional conservation ethics dictate that humans should do everything in their power to not interfere in an animal's natural behaviors (Van dooren et al., 2023) but this is often ignored in modern conservation ethics.

While some conservation ethics come from generally accepted guidelines, many stem from laws governing animal welfare. These laws rarely account for welfare in a digital context since many, such as the Animal Welfare Act of 1966, have barely changed in decades. Laws referencing digital media were usually written in the context of films where it was required that any depicted harm to animals be simulated. These laws were never updated to account for social media which has allowed harm and harassment of animals to remain largely unregulated today. As mentioned earlier, Moo Deng the baby hippo is a great example of this, showing us how not only can social media be a platform for poor treatment of animals, it can also encourage it further.

While some consequences of conservation efforts shifting to social media have been negative like the harassment of animals online, some have also been positive. Digital platforms allow conservationists to reach a much wider audience for educational outreach and provide an alternative source of funding to relying purely on donations. While platforms like youtube provide a space for educational content about animals, the content on these platforms often prioritizes aesthetics over pure education which can lead to misleading portrayals of wildlife and unrealistic expectations on their behavior and needs (Bergman et al, 2022). Social media has the ability to spread accurate conservation education as the potential to spread misinformation, promote inappropriate interactions with wildlife, and even promote illegal wildlife fur or pet trade (Salas-Picazo, 2022). While conservation efforts have adapted to digital spaces, lawmakers have failed to keep pace, creating a moral gray area where animals have increasingly become digital commodities.

One of the central concerns in conservation ethics is the fine line between protecting animals and using them for human benefit. Social media has enabled people to capture wildlife interactions under the guise of education or protection, often blurring this line. This reflects a much larger debate in the world of animal conservation where many experts argue that even small and well intentioned interactions with animals can have unintended negative effects (Rocheleau, 2017).

This is only compounded by the lack of proper legal oversight which allows genuine education and potential exploitation to coexist.

Actor-Network Theory(ANT) can give us a good framework to look at the role of social media by highlighting the main connections between the different groups involved in this issue. In the context of digital animal representation, conservation organizations, the animals themselves, social media users, lawmakers, and social media platforms play important, interconnected roles. For example, viral animal videos don't just spread because someone posts them, the platform they're posted on and the viewers seeing them are a big contributing factor to a post's virality. In addition, if a post directly violates laws or guidelines, it could be taken down by the platform, halting it from gaining virality. Understanding that the portrayal of animals online is not purely shaped by the intentions of the poster but also by several interconnected actors lets us examine the importance of each one individually while not taking away from how they relate.

As social media continues to reshape conservation efforts, it is important for us to look at how animals are portrayed, how digital content shapes public perceptions, and what policies and regulations surrounding digital animal welfare exist to ensure digital engagement with animals remains ethical. Despite the undeniable increase in awareness and support for conservation on social media, it is important not to ignore the challenges it presents.

## **Methods**

In order to understand the ethical implications of digital animal portrayal, I found evidence that showcases how animals are framed in online content, how audiences interpret and engage with that content, and how policies either support or fail to protect animal welfare in these digital contexts. My goal was to identify patterns, motivations, and consequences across different actors in the digital conservation landscape. I conducted qualitative and quantitative analysis of social media content, policy documents, and academic literature to detail the ethical implications of how animals are portrayed and protected in digital media. To analyze social media content, I collected a range of posts from major conservationists, conservation organizations, and some from regular people, all with a varying range of engagement and virality across Twitter, Youtube, Twitch, and Instagram. I chose the posts based on engagement metrics including likes, shares, and comments, or views with a focus on posts that gained significant attention. I categorized them into main themes to differentiate between educational, entertainment, and exploitative. Additionally, I documented user discourse by going through comments to measure user response and identify potential patterns in public perception and engagement.

I also conducted some review of policy by examining publicly available guidelines of the social media platforms. I looked for sections of policy related specifically to wildlife protection and ethical considerations in animal content as well as the levels of enforcement. This let me conduct a comparative analysis of the regulation policies on several platforms to compare the difference

in how they address portrayal of animals as well as whether these policies even include meaningful protections against unethical digital portrayal of animals.

In addition to social media content and policy analysis, I reviewed some scholarly literature, conservation reports, and some policy documents more centered on legality than content guidelines. I selected the sources from peer-reviewed journals, academic publishers, and legally recognized conservation ethics. While some of the sources were found through structured searches for documents directly related to my topic, others were drawn from my previous familiarity with conservation literature. The review provided some insight into traditional conservation ethics as well as the evolving role of social media in shaping wildlife narratives and the intersection of digital media with conservation policies.

## **Results**

Looking through social media posts(as shown in Appendices) revealed three primary categories of animal content. Educational content, Entertainment focused content, and Exploitative posts. These categories are differentiated by the perceived intent behind them. Educational posts primarily provide information about animal safety or conservation and possibly encourage viewers to donate to a cause whereas entertainment content usually shows off ‘cute’ behaviors or pictures and exploitative content focuses on unethical interactions with animals which can involve showing off exotic pets, encouraging the purchase of exotic pets, and harassing animals. For example, youtube posts from Alveus Sanctuary (Appendix [number]) emphasize conservation education, highlighting facial information about the various animals in their care and connecting viewer engagement directly to fundraising for the sanctuary to help take care of the animals (Alveus Sanctuary 2023). However, these categories are not mutually exclusive and often overlap. In the case of Alveus Sanctuary, they overlap education and entertainment by showing off cute animals while talking about conservation information about those same animals. In addition, they provide 24 hour live cams of their animals that let viewers see how the animals act naturally in their enclosures without direct human interaction and provide fully released financial statements showing how much money they make and what the money is put towards. All this combines to create a social media presence that seems to emphasize ethical interaction with animals; however, most education oriented posts still focus on showing ‘cute’ or active behaviors rather than the less exciting, natural behavior patterns (Shaw et al. 2022).

As discussed earlier, posts featuring Moo Deng, the baby pygmy hippopotamus from a zoo in Thailand, were almost entirely entertainment focused, primarily aiming to maximize viewer attention, engagement, and interaction. Analysis of twitter and instagram comments, exemplifying viewer response to these types of posts, mainly showed responses of widespread excitement and desire for more of this cute baby hippo. However, after caretakers of the hippo had it choose between two cakes featuring the faces of the two different US presidential candidates for 2024, several posts with tens of millions of views were created attacking the hippo

as if it was a human being with its own views in addition to the previously mentioned physical abuse animals at the zoo experienced. Being one of many similar examples, this showcases how attached people can get to arbitrarily chosen animals on the internet for little reason other than them being a viral sensation.

Additionally, a number of exploitative posts were observed, particularly related to the exotic pet trade. Social media platforms provide an unintentional extensive marketplace for exotic pets, showcasing visually appealing and ethically problematic images of animals outside their natural contexts. The reviewed literature described a study showing that these practices significantly contribute to illegal wildlife trafficking with social media being directly involved in facilitating sales that would otherwise be very difficult to make and find (Bush et al.). Some of this illegal sale is done through sale websites like facebook marketplace and some is simply done through the direct message feature on apps like twitter, tiktok, and instagram. Seeing so much readily available access to illegal, exotic animals begs the question of why these posts aren't more regulated

Policy analysis across the platforms of Twitter, Instagram, Youtube, and Tiktok reveals' relatively weak and inconsistent guidelines surrounding animal welfare and its digital portrayal. Regulations exist to address explicitly depicted physical harm but often neglect more subtle forms of harassment or the spread of unrealistic expectations caused by unrealistic portrayals which can in turn lead to harassment as discussed with Moo Deng. In line with the weak policies, enforcement of these policies was rare and usually only in response to large amounts of public backlash or extreme violations of broader animal cruelty guidelines. Even in cases where guidelines are enforced, the platforms rarely have the power or willingness to do anything beyond just removing the content from the platforms meaning that the perpetrators often go largely unpunished. (Salas-Picazo et al, 2022)

### **Discussion/Analysis**

These findings underscore a large ethical dilemma within digital animal representation. Traditional conservation ethics prioritize minimal human interaction, allowing animals to maintain their natural behaviors (Van dooren et al.); however, social media and the algorithms behind it largely prioritize viewer engagement which clashes with the traditional idea of minimizing interaction and encourage creators to create visually engaging rather than strictly educational content. This creates a fundamental shift in the communication mediums of conservation and general wildlife portrayal, where viewer attention is prioritized at the expense of animal welfare.

As social media grows more broad and easy to access, it also becomes easier to access otherwise illegal or unethical content such as the sale of wildlife and the exotic pet trade. Social media contributes both to increased desire for exotic pets via increased exposure to them through videos

and ease of access to them. This fundamentally undermines one of the largest goals of conservation; eliminating the exotic pet trade, largely due to a lack of stronger legal and platform based response.

While connections between the various actors exist, they are far too weak to be enforceable. Conservation organizations lack any real power on digital platforms beyond just spreading their own message. Users lack motivation to seek out and report unethical posts or push lawmakers to create new laws since the users seeing those posts are generally the ones who don't consider the ethics of it. Lawmakers are far too slow to keep up with the shifting digital landscape and fair to update laws. Platforms lack the manpower and technology to enforce their own policies strictly and often rely on users to do so for them. Every single one of these groups have the potential to solve the issue of unethical social media portrayal by working together but they all individually lack the motivation or understanding of potential consequences to do anything about it.

## **Conclusion**

The shift towards digital communication through the medium of social media provides both opportunities for animal conservationists and new ethical challenges. Although digital platforms offer the potential for education, outreach, and fundraising, they also incentivize portrayals of animals that prioritize engagement rather than welfare and accuracy. This is in large part due to the lack of enforcement or legal regulations for digital mediums caused by a failure of regulations to keep up with constantly advancing digital technology.

Current regulations prove inadequate for protecting animals from subtler forms of harm perpetuated through social media. Updated policies would need to address the ethical implications of anyone being able to post their own content portraying animals by creating an avenue for legal punishments or repercussions. Having stricter regulations would discourage the spread of animal cruelty, the exotic pet trade, and the spread of misinformation. Further research could explore ongoing policy development specific to digital platforms with an emphasis on ethical frameworks that balance the needs of animal conservation, education, and animal welfare in a digital age. Such an approach would help increased public engagement turn into direct, meaningful support for wildlife protection rather than harm.



## References

- Alveus Sanctuary. (2023, December). 2023: Annual reports: Alveus Sanctuary. 2023 | Annual Reports | Alveus Sanctuary. <https://www.alveussanctuary.org/about/annual-reports/2023>
- Banks, P., Lunney, D., & Dickman, C. (2012). Science under siege: Zoology under threat. Royal Zoological Society of New South Wales.
- Bergman, J. N., Buxton, R. T., Lin, H.-Y., Lenda, M., Attinello, K., Hajdasz, A. C., Rivest, S. A., Tran Nguyen, T., Cooke, S. J., & Bennett, J. R. (2022). Evaluating the benefits and risks of Social Media for wildlife conservation. *FACETS*, 7, 360–397. <https://doi.org/10.1139/facets-2021-0112>
- BUSH, E. R., BAKER, S. E., & MACDONALD, D. W. (2014). Global Trade in exotic pets 2006– 2012. *Conservation Biology*, 28(3), 663–676. <https://doi.org/10.1111/cobi.12240>
- Cinková, I., & Bičík, V. (2013). Social and reproductive behaviour of critically endangered northern white rhinoceros in a zoological garden. *Mammalian Biology*, 78(1), 50–54. <https://doi.org/10.1016/j.mambio.2012.09.007>
- Duffield, J. (2006, September). Wolves and people in Yellowstone - Adirondack Wildlife Refuge. Adirondack Wildlife. [http://www.adirondackwildlife.org/wolves\\_and\\_people\\_in\\_yellowstone.pdf](http://www.adirondackwildlife.org/wolves_and_people_in_yellowstone.pdf)
- Fischer, H. A., Bernard, M. L., Kemppinen, K., & Gerber, L. R. (2022). Conservation awareness through social media. *Journal of Environmental Studies and Sciences*, 13(1), 23–30. <https://doi.org/10.1007/s13412-022-00795-5>
- National Academy of Engineering(2017). *Frontiers of Engineering: Reports on Leading-Edge Engineering from the 2016 Symposium*. National Academies Press.
- Landim, A.S., de Menezes Souza, J., dos Santos, L.B. et al. (2023) Food taboos and animal conservation: A systematic review on how cultural expressions influence interaction with wildlife species. *Journal of Ethnobiology & Ethnomedicine* 19, 31. <https://doi.org/10.1186/s13002-023-00600-9>

Harrington, L. A., Auliya, M., Eckman, H., Harrington, A. P., Macdonald, D. W., & D'Cruze, N. (2021). Live wild animal exports to supply the exotic pet trade: A case study from Togo using publicly available social media data. *Conservation Science and Practice*, 3(7), e430. <https://doi.org/10.1111/csp2.430>

Richardson, L., & Lewis, L. (2022). Getting to know you: Individual animals, wildlife webcams, and willingness to pay for brown bear preservation. *American Journal of Agricultural Economics*, 104(2), 673–692. <https://doi.org/10.1111/ajae.12249>

Rocheleau, B. A. (2017). *Wildlife politics*. Cambridge University Press.

Shaw, M. N., Borrie, W. T., McLeod, E. M., & Miller, K. K. (2022). Wildlife Photos on social media: A quantitative content analysis of conservation organisations' instagram images. *Animals*, 12(14), 1787. <https://doi.org/10.3390/ani12141787>

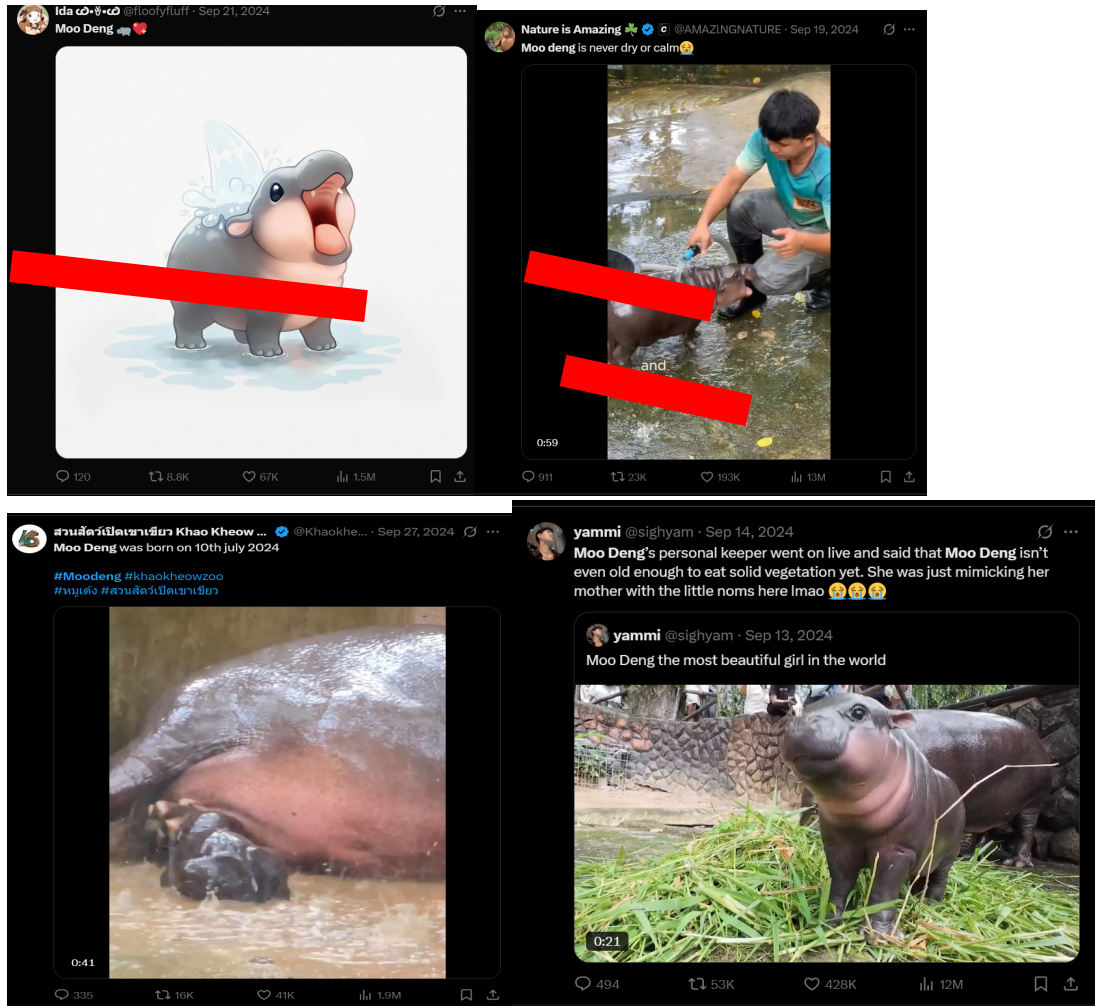
Tapper, S., & Reynolds, J. (1996). The wild fur trade: Historical and ecological perspectives. In V. J. Taylor & N. Dunstone (Eds.), *The Exploitation of Mammal Populations* (pp. 28–44). Springer Netherlands. [https://doi.org/10.1007/978-94-009-1525-1\\_3](https://doi.org/10.1007/978-94-009-1525-1_3)

Van Dooren, T., Price, C. J., Banks, P. B., Berger-Tal, O., Chrulew, M., Johnson, J., Lajeunesse, G., Lynch, K. E., McArthur, C., Parker, F. C. G., Oakey, M., Pitcher, B. J., St. Clair, C. C., Ward-Fear, G., Widin, S., Wong, B. B. M., & Blumstein, D. T. (2023). The ethics of intervening in animal behaviour for conservation. *Trends in Ecology & Evolution*, 38(9), 822–830. <https://doi.org/10.1016/j.tree.2023.04.011>

Salas-Picazo, R. I., Ramírez-Bravo, O. E., Meza-Padilla, I., & Camargo-Rivera, E. E. (2023). The role of social media groups on illegal wildlife trade in four Mexican states: A year-long assessment. *Global Ecology and Conservation*, 45, e02539. <https://doi.org/10.1016/j.gecco.2023.e02539>

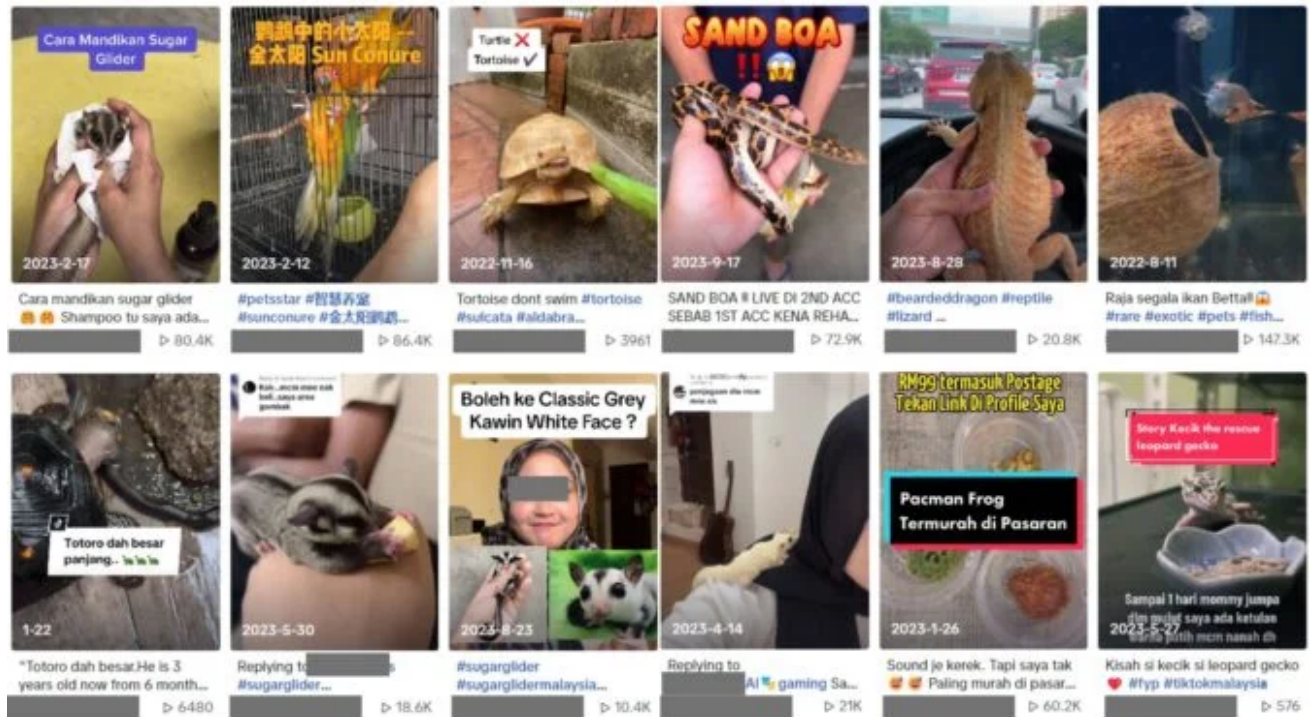
## Appendix

Figure 1



Twitter posts showcasing the viral popularity of Moo Deng in late 2024

Figure 2



“Cute” pictures of exotic animals shared on social media lead to increasing sales